City Council
Meeting Agenda
May 28, 2024
6:00 PM
Bentonville City Hall

Note – The public, members of the City Council, and City staff, may have the option to attend this meeting by remote means. For public health reasons, those who attend in person should keep in mind hygiene, the use of facial coverings, and social distancing.

Bentonville residents can make public comments in the following ways:

- Public comments can be made in person at the meeting which is held at 305 SW A Street in Council Chambers.
- Public comments can be submitted by email to cc.comments@bentonvillear.com by at least 4:00 p.m. on the day of the meeting. This email includes the Mayor and City Council email addresses.
- Public comments can be made virtually by registering for the Council meeting at the Zoom link listed below. This requires you to register with your name, address, phone number and email address. The pre-existing limitations (3 minutes) and procedures concerning oral public comments will still apply.

*If you would like to attend virtually, please register at the following link by 4:00 p.m. on May 28, 2024:
https://us02web.zoom.us/webinar/register/WN_c_ciVftUSt6zIlgNuldHdA

Council Questions/Discussion Concerning the Business Meeting

Call to Order

Pledge of Allegiance

Moment of Silence

Roll Call

Approval of Minutes: May 14, 2024

I. New Business - Public Comment to be Heard with Agenda Item

1. **Proclamation recognizing May as "ALS Awareness Month"** — **Proclamation**

   Proclamation recognizing the month of May as "ALS Awareness Month."

2. **Resolution Authorizing a Ground Lease Transfer at 2550 SW Aviation Suite 6** — **Resolution**

   Resolution approving a ground lease transfer between Gary Powell on behalf of the Enfield Trust to Josh and Mallory Breeden at 2550 SW Aviation Suite 6. No budget adjustment is needed.

3. **Resolution to Award Bid IFB-24-39 for the Purchase of (2) Police Vehicles from Superior Auto Group** — **Resolution**

Resolution awarding bid IFB-24-39 to Superior Auto Group in Siloam Springs, AR in the amount of $106,734.00 for the purchase of (2) 2024 Chevrolet Tahoes Special Service Vehicles (4WD), as specified. No budget adjustment is needed.

4. **Resolution Setting Public Hearing for a Drainage Easement Vacation (VAC24-0004)** — **Resolution**

Resolution to set Public Hearing for June 11, 2024 for a Drainage Easement Vacation located at Outlot A of Been Road Villas Subdivision (VAC24-0004).

5. **Resolution amending PIIP22-0029 Rainbow Curve - Jacob's PSA Amendment 1** — **Resolution**

Staff recommends approval of Resolution to amend the original Professional Service Agreement for the Rainbow Curve Intersection Project to account for the addition of Electric relocation design. No budget adjustment is needed.

6. **Resolution Approving RFP-23-47 to Crossland Heavy - for construction on 2 Walton Intersections** — **Resolution**

Staff recommends Mayor and City Clerk to enter into an agreement with Crossland Heavy Contractors as the General Contractor for the Walton Blvd Intersection Improvement bond projects. No budget adjustment is needed.

II. Utility Board

1. **Ordinance Approving a Bid Waiver to Purchase 750 Underground Wire** — **Ordinance***

Approval of an Ordinance to waive competitive bidding to purchase 750 UG Wire from AECI, Unit Prices and estimated quantities attached, plus applicable taxes. Approved by Utility Board 5-0. No budget adjustment is needed.

2. **Resolution to Declare Certain L+G Meters as Surplus** — **Resolution**

With the electric AMI upgrade, there is no longer a need for the City to use L+G Meters. The meters will be declared surplus and submitted for auction. Approved by Utility Board 5-0. No budget adjustment is needed.

3. **Resolution to Award Bid IFB-24-36 to Stuart Irby Company for Transmission Insulators** — **Resolution**

Award Bid for transmission insulators to the low bidder. Approved by Utility Board 5-0. No budget adjustment is needed.

III. Planning

1. **Lot Split - Lots 35, 36, 37, & 38 of Limestone Ranch Subdivision - Southwest Ranch Road (LS24-0002)** — **Ordinance***

The Planning Commission voted 5-0, recommending approval.

An Ordinance Accepting A Lot Split Of Lot 32 Of Limestone Ranch Subdivision Creating New Lots 35-38 Of Limestone Ranch Subdivision To The City Of Bentonville, Arkansas; And For Other Purposes.

2. **Lot Split - Lots 31, 32, & 33 of Deming's Addition - 411 Northwest 5th Street (LS24-0018)** **Ordinance***

The Planning Commission voted 5-0, recommending approval.

An Ordinance Accepting A Lot Split Of Lot 5, Block 6 Of Deming's Addition Creating New Lots 31, 32, And 33 Of Deming's Addition To The City Of Bentonville, Arkansas; And For Other Purposes.

3. **Lot Split - Lots 34, 35, & 36 of Deming's Addition - 409 Northwest 5th Street (LS24-0019)** **Ordinance***

The Planning Commission voted 5-0, recommending approval.

An Ordinance Accepting A Lot Split Of Lot 4, Block 6 Of Deming's Addition Creating New Lots 34, 35, And 36 Of Deming's Addition To The City Of Bentonville, Arkansas; And For Other Purposes.

4. **Amendment - Benco 12, LLC for Parc Flex, The Parc at Bentonville (Amendment) - Southwest Regional Airport Boulevard & Southwest Prime Avenue (PUD24-0001)** **Ordinance***

The Planning Commission voted 5-0, recommending approval.

An Ordinance Amending Ord 2015-004; And For Other Purposes.

IV. Other Business/Announcements/Comments

Adjournment

Public Comments Concerning Matters of City Related Business

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	5/28/2024	**Submitted By:**	Mayor Stephanie Orman
Phone:	479-271-5966	**For Department(s):**	Administration
Email:	sorman@bentonvillear.com		

Item Type (Check all that apply)

☑ **Informational** ☐ **Bid Award** ☐ **Enter into an Agreement** ☐ **Change Order**
☐ **Recognizing Funds** ☐ **Budget Adjustment** ☐ **Waiver of Bid** ☐ **Emergency Clause**
☐ **Ordinance** ☐ **Resolution** ☑ **Informational**

Title, Recommendation & Justification

Title:	Proclamation recognizing May as "ALS Awareness Month"
Action Recommendation & Justification:	Proclamation recognizing the month of May as "ALS Awareness Month."
Additional Comments for Consideration (Optional):	Attachment: Proclamation
Amount for Approval:	$

Budget Impact

Is this Item Budgeted? ☐ **YES** ☐ **NO** ☐ **ITEM HAS NO COST** ☐ **OTHER:**_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ **General Fund** ☐ **Utility Fund** ☐ **Street Fund** ☐ **Other(s):**_____

Budget Impact Notes for Consideration (Optional):

PROCLAMATION

WHEREAS: Amyotrophic lateral sclerosis (ALS), known by many as Lou Gehrig's disease, is a progressive fatal neurodegenerative disease in which a person's brain loses connection with the muscles, slowly taking away their ability to walk, talk, eat, and eventually breathe; and

WHEREAS: every 90 minutes someone is diagnosed with ALS and someone passes away from ALS; and

WHEREAS: on average, patients diagnosed with ALS only survive two to five years from the time of diagnosis; and

WHEREAS: ALS has no cure; and

WHEREAS: people who served in the military are more likely to develop ALS and die from the disease than those with no history of military service; and

WHEREAS: securing access to new therapies, durable medical equipment, and communication technologies is of vital importance to people living with ALS; and

WHEREAS: clinical trials play a pivotal role in evaluating new treatments, enhancing quality of life, and fostering assistive technologies for those living with ALS; and

WHEREAS: we celebrate the 10th Anniversary of the Ice Bucket Challenge through a renewed commitment to galvanize public awareness and support funding leading to significant investments in ALS research; and

WHEREAS: the ALS Association, as the largest philanthropic funder of ALS research globally, has committed over $154 million to support more than 550 projects across the United States and 18 other countries; and

WHEREAS: our commitment to accelerating the pace of discovery remains unwavering, fueled by the hope that one day, ALS will be a livable disease for everyone, everywhere, until we can cure it.

WHEREAS: ALS Awareness Month increases the public's awareness of people with ALS' dire circumstances, and acknowledges the terrible impact this disease has, on the person and on his or her family and community, and recognizes the research being done to eradicate this disease;

NOW, THEREFORE, I Stephanie Orman, Mayor of the City of Bentonville do hereby proclaim the month of May 2024, as **"ALS Awareness Month"** in the City of Bentonville, I call upon all to support ALS research, advocate for increased funding, and stand in solidarity with those affected by this relentless disease.

Given this 28th day of May 2024, in Bentonville, in the great State of Arkansas, in the United States of America.

[redacted]

Stephanie Orman, Mayor
City of Bentonville

CITY OF BENTONVILLE CORPORATE SEAL ARKANSAS

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	5/28/2024	**Submitted By:**	Debbie Griffin
Phone:	4792542028	**For Department(s):**	Municipal Airport
Email:	dgriffin@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☐ Bid Award ☑ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause
☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution Authorizing a Ground Lease Transfer at 2550 SW Aviation Suite 6
Action Recommendation & Justification:	Resolution approving a ground lease transfer between Gary Powell on behalf of the Enfield Trust to Josh and Mallory Breeden at 2550 SW Aviation Suite 6. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	This transfer was approved at the August 3, 2023 Airport Advisory Board meeting a 5-0 vote. The Council resolution was delayed until trustee paperwork could be presented reflecting Gary Powell as successor trustee for Enfield trust. That document was sent to the city in April, 2024.
Amount for Approval:	$

Budget Impact

Is this Item Budgeted? ☐ YES ☐ NO ☑ ITEM HAS NO COST ☐ OTHER:_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s):_____

Budget Impact Notes for Consideration (Optional):

Assignment of Hangar Lease Agreement

The assignment of a certain Lease Agreement (the "Assignment") is made this 1st day of August, 2023 between **Gary Powell on behalf of Bill Enfield** (the "Assignor") and **Josh and Mallory Breeden** (the Assignee")

Effective this 1st day of August 2023, the Assignor assigns his Lease Agreement with the City of Bentonville dated March 26, 2001 (the "Assignment") to the Assignee. (South T-Hangar, Suite 6)

The Assignee fully agrees to and accepts all terms and conditions of the Agreement and agrees to honor and adhere to these terms and conditions for the duration of the agreement.

By: [redacted] Date: 08-01-2023
Gary Powell on behalf of Bill Enfield (Assignor)

By: [redacted] Mallory Breeden Date: 08-01-2023
Josh and Mallory Breeden (Assignee)

This Assignment is with the Permission of the City of Bentonville and is in accordance with the "Assignment" paragraph of the Agreement, attached.

By: _____ Date: _____
Stephanie Orman, Mayor
City of Bentonville

Notary Stamp [redacted]

Shannon L. Roberts
my Commission Expires: September 27, 2028

SHANNON L. ROBERTS
Notary Public - Arkansas
Benton County
Commission # 12705494
My Commission Expires Sep 27, 2028

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING BENTONVILLE MUNICIPAL AIRPORT HANGAR GROUND LEASE ASSIGNMENT FOR HANGAR SUITE #6 OF 2550 SW AVIATION STREET; AND FOR OTHER PURPOSES.

WHEREAS, Gary Powell, on behalf of Enfield Trust, wishes to assign the Bentonville Municipal Airport Hangar Ground Lease Agreement for hangar suite #6 of 2550 SW Aviation Street, to Josh and Mallory Breeden; and

WHEREAS, the Airport Advisory Board recommended approval of this assignment during its regular meeting on August 3, 2023.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS THAT:

Section 1: The Mayor and City Clerk are hereby authorized execute the assignment agreement for the Bentonville Municipal Airport Hangar Ground Lease for suite #6 of 2550 SW Aviation Street;

Section 2: This assignment assigns the interest of Gary Powell, on behalf of Enfield Trust, to Josh and Mallory Breeden;

Section 3 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 4 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED this _____ day of _____, 2024.

APPROVED:

_____
STEPHANIE ORMAN, Mayor

ATTEST:

_____
MALORIE MARRS, City Clerk

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	5/28/2024	**Submitted By:**	Chief Ray Shastid
Phone:	479-271-3170	**For Department(s):**	Police Department
Email:	ray.shastid@bentonville.arkansas.gov		

Item Type (Check all that apply)

☐ Informational ☑ Bid Award ☐ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause
☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution to Award Bid IFB-24-39 for the Purchase of (2) Police Vehicles from Superior Auto Group
Action Recommendation & Justification:	Resolution awarding bid IFB-24-39 to Superior Auto Group in Siloam Springs, AR in the amount of $106,734.00 for the purchase of (2) 2024 Chevrolet Tahoes Special Service Vehicles (4WD), as specified. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	Superior Auto Group of Siloam Springs, AR was the only responsive bid received. Though this is a budgeted item, the estimated cost for the two vehicles exceeds the projected purchase price listed as a line item in the 2024 budget. Savings in our capital vehicles account will cover the remaining balance with no budget adjustment needed.
Amount for Approval:	**$** 106,734.00

Budget Impact

Is this Item Budgeted? ☑ **YES** ☐ **NO** ☐ **ITEM HAS NO COST** ☐ **OTHER:**_____

Budget Adjustment *(to be completed by Finance when applicable)*

Account Number (ORG-OBJECT)	Account Description	$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description	$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description	$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description	$ Expense	$ Revenue

Fund(s) Impacted (check all that apply) ☐ **General Fund** ☐ **Utility Fund** ☐ **Street Fund** ☐ **Other(s):**_____

Budget Impact Notes for Consideration (Optional):

CITY OF BENTONVILLE, ARKANSAS PURCHASING DEPARTMENT

FORMAL SEALED BID TABULATION

Date of Bid Opening:	**5/8/2024**	**Time of Bid Opening:**	**3:00 PM**	**Solicitation ID Number:**	**IFB-24-39**

Solicitation Title: Two (2) 2024 Chevrolet Special Service Tahoe 4WD

				Bidder:	**Superior Auto Group**
Line Item	**Quantity**	**Unit of Measure**	**Description**	**Per Unit Price**	**Extended Price**
1	2	EA	New 2024 Chevrolet Tahoe Special Service, 4WD, 4Door, as specified	$53,367.00	$106,734.00
			Total Bid Price	**$106,734.00**	

purchasing@bentonvillear.com - (479) 271-3115

RESOLUTION NO. _____

A RESOLUTION AWARDING BID IFB 24-39 TO SUPERIOR AUTO GROUP FOR THE PURCHASE OF TWO (2) 2024 CHEVROLET TAHOES SPECIAL SERVICE VEHICLES (4WD), FOR THE BENTONVILLE POLICE DEPARTMENT, IN THE AMOUNT OF ONE HUNDRED SIX THOUSAND SEVEN HUNDRED THIRTY-FOUR DOLLARS ($106,734.00); AND FOR OTHER PURPOSES.

WHEREAS, Superior Auto Group is the only responsive bid received for bid IFB-24-39;

WHEREAS, this contract covers the purchase of two (2) 2024 Chevrolet Tahoe's Special Service Vehicles (4WD), as specified, for the Bentonville Police Department; and

WHEREAS, this will be paid with budgeted funds.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS THAT:

Section 1: The Mayor and City Clerk are authorized to enter into a contract with Superior Auto Group for the purchase of two (2) 2024 Chevrolet Tahoe's Special Service Vehicles (4WD) for the Bentonville Police Department, in the amount of one hundred six thousand seven hundred thirty-four dollars ($106,734.00); and

Section 2 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Resolutions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED and APPROVED this _____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, MAYOR

ATTEST:

_____
Malorie Marrs, CITY CLERK

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	5/28/2024	**Submitted By:**	Tracy Billings
Phone:	479-696-0229	**For Department(s):**	Transportation
Email:	tbillings@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☐ Bid Award ☐ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause
☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution Setting Public Hearing for a Drainage Easement Vacation (VAC24-0004)
Action Recommendation & Justification:	Resolution to set Public Hearing for June 11, 2024 for a Drainage Easement Vacation located at Outlot A of Been Road Villas Subdivision (VAC24-0004).
Additional Comments for Consideration (Optional):	Resolution and GIS Vicinity Map attached.
Amount for Approval:	$ 0

Budget Impact

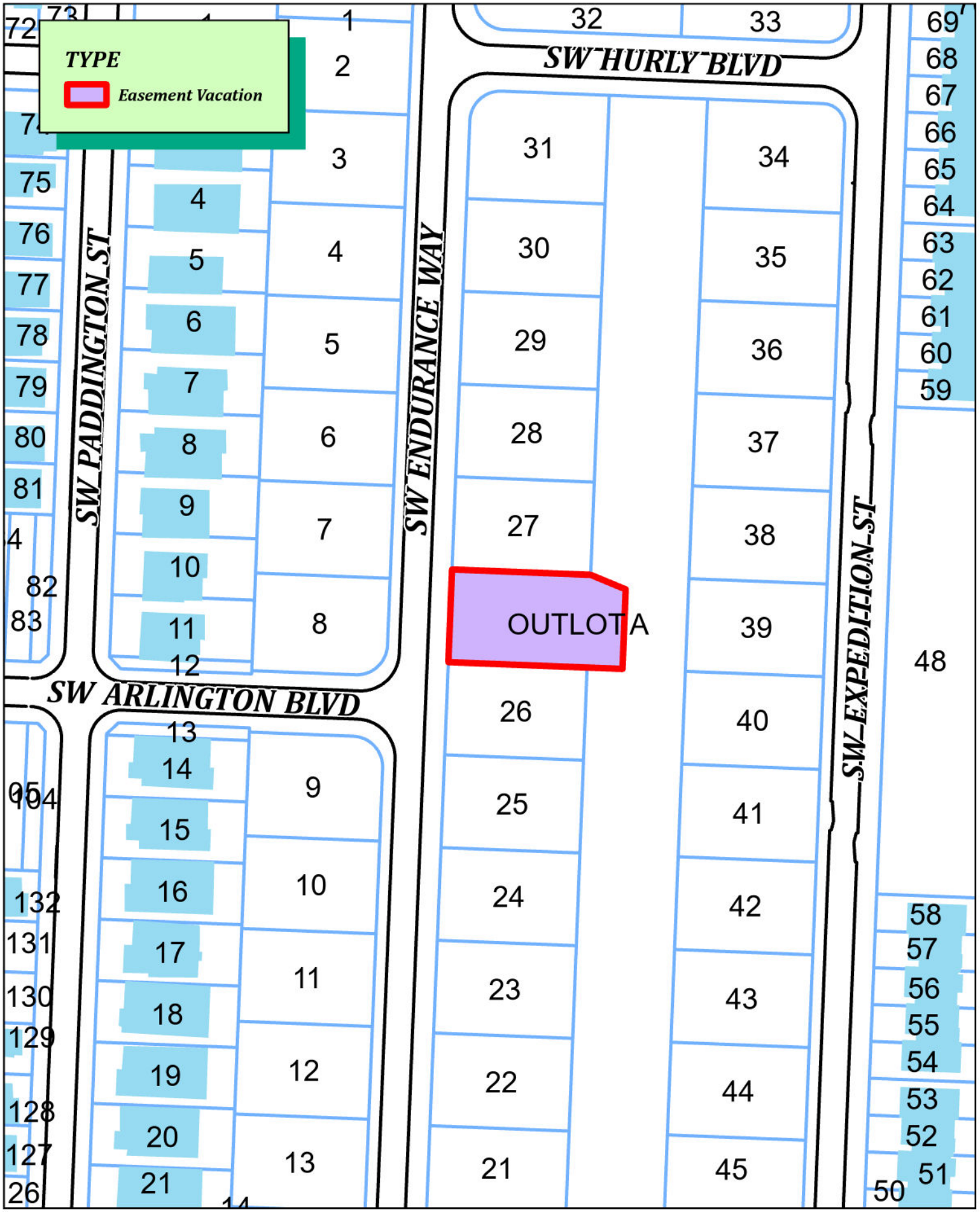
Is this Item Budgeted? ☐ YES ☐ NO ☐ ITEM HAS NO COST ☐ OTHER:_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s):_____

Budget Impact Notes for Consideration (Optional):



VAC24-0004
Proposed Easement Vacation

RESOLUTION NO._____

IN THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

WHEREAS, a petition was duly filed with the City Council of Bentonville, Arkansas by BBG Property Development, LLC requesting a drainage easement vacation (VAC24-0004) within the City of Bentonville, Arkansas be vacated, which said drainage easement is described as follows:

A PART OF THE NE1/4 OF THE SE1/4 OF SECTION 02, TOWNSHIP 19 NORTH, RANGE 31 WEST IN BENTON COUNTY, ARKANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING FROM THE SW CORNER OF OUTLOT A; THENCE N 02°13'06" E A DISTANCE OF 541.50' TO A FOUND 5/8" IRON REBAR BEING THE POINT OF BEGINNING; THENCE N 87°46'37" W A DISTANCE OF 112.96' TO A FOUND 5/8" IRON REBAR; THENCE N 02°16'20" E A DISTANCE OF 75.50' TO A FOUND 5/8" IRON REBAR; THENCE S 87°46'37" E A DISTANCE OF 112.89' TO A FOUND 5/8" IRON REBAR; THENCE S 67°24'37" E A DISTANCE OF 30.82' TO A SET 5/8" IRON REBAR; THENCE S 02°16'20" W A DISTANCE OF 64.77' TO A SET 5/8" IRON REBAR; THENCE N 87°46'37" W A DISTANCE OF 28.84' TO THE POINT OF BEGINNING, CONTAINING 10,551 SQ. FEET, 0.24 ACRES, MORE OR LESS. SUBJECT TO ANY EASEMENTS AND/OR RIGHT-OF-WAYS OF RECORD.

WHEREAS, Ark. Code Ann. Section 14-301-302(c) provides that the City Council shall by resolution fix a day for the hearing of the petition and shall direct the City Clerk and Recorder to give notice of the meeting, by publication, once per week for two (2) consecutive weeks in some newspaper published in and having general circulation in Bentonville, Benton County, Arkansas.

NOW, THEREFORE, BE IT RESOLVED, by the City of Bentonville, Arkansas, that the petition to close the above described utility easement is set for a hearing June 11, 2024 at 6:00 p.m. in the City Council Room of the City of Bentonville, Arkansas, and the Bentonville City Clerk and Recorder is directed to give notice of this meeting by publication as set forth by Ark. Code Ann. Section 14-301-302(c).

The above and foregoing resolution was passed, approved, and adopted the _____ day of _____, 2024 at a regular meeting of the City Council of the City of Bentonville, Arkansas.

_____
Malorie Marrs, City Clerk
Bentonville, Arkansas

_____
Stephanie Orman, Mayor
City of Bentonville, Arkansas

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	5/28/2024	**Submitted By:**	Dennis Birge
Phone:	479-271-6840	**For Department(s):**	Transportation
Email:	dbirge@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☐ Bid Award ☑ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause
☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution amending PIIP22-0029 Rainbow Curve - Jacob's PSA Amendment 1
Action Recommendation & Justification:	Staff recommends approval of Resolution to amend the original Professional Service Agreement for the Rainbow Curve Intersection Project to account for the addition of Electric relocation design. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	This amends the agreement to remove the Bridge design fee and add Electric relocation fee. This results in no change to the fee amount. Electric and Transportation worked together to allow the Jacobs Group to design the electric relocation as this is more timely than designing in house. The original Professional Service Agreement for the Rainbow Curve Intersection Project with Jacobs Engineering Group was approved by City Council on July 13, 2021.
Amount for Approval:	$ 0

Budget Impact

Is this Item Budgeted? ☐ YES ☑ NO ☐ ITEM HAS NO COST ☐ OTHER: 2021 Bond

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s): _____

Budget Impact Notes for Consideration (Optional):

Amendment 1

City of Bentonville
RAINBOW CURVE IMPROVEMENTS
MUNIS #21ST0005
PIIP22-0029

Date _____

WHEREAS, the City of Bentonville "City" and Jacobs Engineering Group Inc. "Engineer" entered into a Professional Services Agreement for Rainbow Curve Improvements on July 26, 2021 ("the Agreement"); and,

WHEREAS, representatives of the City requested Engineer revise the services described below and as reflected in Amendment 1 to Attachment C of the Agreement, attached hereto and,

NOW THEREFORE, the following modifications will be made to the services of the Agreement:

MODIFICATIONS: Delete the bridge design engineering services scope and replace it with the electric relocation design scope and work provided by the subconsultants Ground Penetrating Radar Systems (GPRS) and Badger for utility locations.

I. APPENDIX A – PROJECT DESCRIPTION is replaced with the attached.
II. APPENDIX C – SCHEDULE OF FEES AND SERVICES, KEY MILESTONES, AND DURATIONS FOR MAJOR TASKS is replaced with the attached.

IN WITNESS WHEREOF, the parties execute this Amendment 1 to the Agreement is effective upon the date set out above.

JACOBS ENGINEERING GROUP INC. CITY OF BENTONVILLE

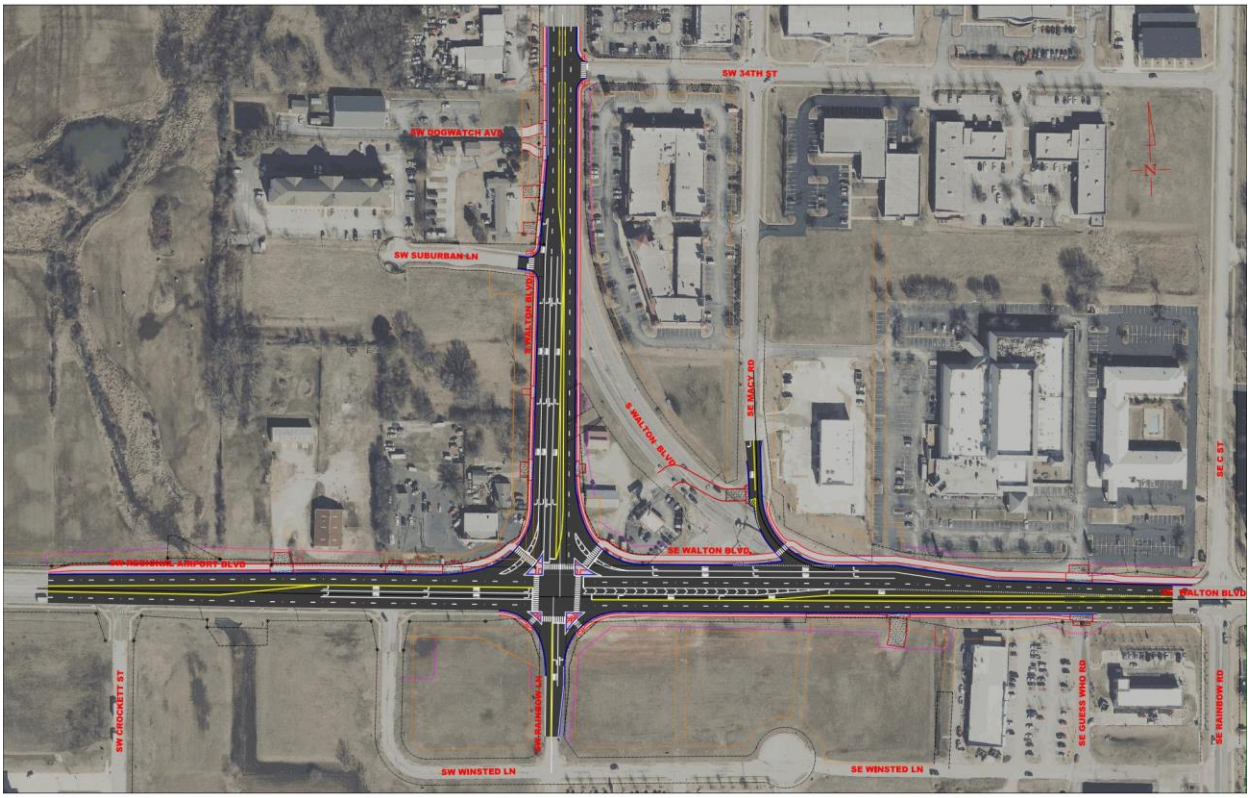
BY: _____ BY: _____
Mark Asher, Manager of Projects Stephanie Orman, Mayor

Date_____ Date_____

APPENDIX A
PROJECT DESCRIPTION

BASIC PROJECT INFORMATION:

The existing intersection of South Walton Boulevard and Highway 12, commonly known as Rainbow Curve, operates at an overall Level of Service (LOS) E. This project proposes to realign the intersection to improve traffic flow and add additional turn lanes.



Updated traffic counts were taken, and the intersection LOS checked for the existing traffic and for the design year to evaluate the originally proposed improvements including the flyover bridge with three other alternatives. Roadway design will be as depicted above including a new traffic signal. No environmental impacts are anticipated with a stormwater permit from ADEQ required. Utility impacts are anticipated to include water and City owned electric line relocations, as well as, coordination with fiber optic utilities. The electric line relocation includes the design plans necessary to include the relocation of pole 2251, providing an underground connection from junction box 746 to the customers east of SW Rainbow Lane, and the relocation of F35 feeder across SW Rainbow Lane and S Walton Blvd. These electric line relocation plans will be included in the main set of construction plans for this project. Right of way takes are anticipated for up to 17 parcels. Construction phase services will be performed to verify conformance to the plans and specification utilizing an onsite inspector for the critical construction activities with an assumed construction duration of 12 months, review of material certifications/tickets and shop drawings.

APPENDIX C

SCHEDULE OF FEES AND SERVICES, KEY MILESTONES, AND DURATIONS FOR MAJOR TASKS

TITLE I SERVICES	HOURS	LABOR	EXPENSES	TOTAL
PROJECT MANAGEMENT	370	$74,684	$775	$75,459
PLANNING	515	$82,620	$0	$82,620
ENVIRONMENTAL	104	$17,288	$400	$17,688
TRAFFIC DESIGN & PLANS	274	$28,440	$0	$28,440
UTILITIES	824	$115,872	$515	$116,387
SURVEY	1,051	$122,147	$48,544	$170,691
ROADWAY	1,679	$236,516	$400	$236,916
ROW DESIGN & PLANS	478	$67,390	$258	$67,648
ELECTRIC RELOCATION	1,013	$171,526	$2,402	$173,928
BIDDING	152	$26,472	$511	$26,983
SUBTOTAL TITLE I	6,460	$942,955	$53,805	$996,760
SUBCONSULTANTS TITLE I				
Grubbs, Hoskyns, Barton & Wyatt, Inc. (Geotechnical)				$50,500
The Traffic Group (Traffic Counts)				$5,850
WACO				$120,000
Ground Penetrating Radar System (Utility Locates)				$3,075
Badger (Utility Pot Holing)				$61,319
SUBTOTAL SUBCONSULTANTS TITLE I	0	$0	$0	$240,744
TOTAL TITLE I	6,460	$942,955	$53,805	$1,237,504
TITLE II SERVICES	4,322	$515,652	$38,180	$553,832
TOTAL TITLE II	4,322	$515,652	$38,180	$553,832
TOTAL PROJECT	10,782	$1,458,607	$91,984	$1,791,335

PROJECT MANAGEMENT

MANHOURS								
TASK	PD	PM	PE	DE	DSR	TECH	ADMIN	TOTAL
General								
Kick of meeting		2	2					4
Project Procedures Manual and Qaulity Plan	**4**	16						20
Stake-holder/ City Dept. coordinations		16	24					40
Project Setup	4	8					4	16
Administration	4	36						40
Right of Entry		4					16	20
Update Reports		62	24				24	110
Internal Coordination								0
Planning		12						12
Environmental		12						12
Traffic		12						12
Utilities		12						12
Survey		12						12
Roadway		12						12
Bridge		12						12
Right-of-Way Plans		12						12
Subconsultants								0
Geotechnical		8						8
Traffic Counts		8						8
Right-of-Way Acquisition		8						8
TOTAL MH - PROJECT MANAGEMENT	12	264	50	0	0	0	44	370

LABOR COSTS			
Category - Description	Rate	MH	Amount
PD - ProjectDirector	$248.00	12	$2,976
PM - Project Manager	$223.00	264	$58,872
PE - Senior Engineer	$174.00	50	$8,700
DE - Enigneer II	$149.00	0	$0
DSR - EIT/Designer	$124.00	0	$0
TECH - Technician I and II	$112.00	0	$0
ADMIN - Administrative Assistant	$94.00	44	$4,136
	Subtotal Labor Costs		**$74,684**

EXPENSES				
ITEM	Quantity	Unit	Rate	Amount
Printing (8 1/2 x 11 B&W)		each	$0.10	$0
Printing (11 x 17 Color)		each	$0.30	$0
Mileage (2 trips at 460 miles)	920	mile	$0.56	$515
Lodging (1 nights / 2 persons)	2	each	$130.00	$260
			$0.00	$0
		Subtotal Expenses		$775
TOTAL COSTS - PROJECT MANAGEMENT				**$75,459**

PLANNING

MANHOURS								
TASK	PD	PM	PE	DE	DSR	TECH	ADMIN	TOTAL
Data coordination			5	5				10
CAD Layout		40	5	5	80			130
Meetings and Coordination		10	10	10	10			40
Synchro Modeling (used for signal timing)			10	20				30
VISSIM No-Build (minimal / no calibration)			10	30				40
VISSIM Model Validation			10	20				30
VISSIM Alternatives (DDI, DLT, Bridge, Rndbt)			20	80				100
Reporting and Documentation			40	80				120
Crash trends (ACAT)			5	10				15
								0
TOTAL MH - INTCHNG. JUST. REPORT	0	50	115	260	90	0	0	515

LABOR COSTS			
Category - Description	Rate	MH	Amount
PD - ProjectDirector	$248.00	0	$0
PM - Project Manager	$223.00	50	$11,150
PE - Senior Engineer	$174.00	115	$20,010
DE - Enigneer II	$155.00	260	$40,300
DSR - EIT/Designer	$124.00	90	$11,160
TECH - Technician I and II	$112.00	0	$0
ADMIN - Administrative Assistant	$94.00	0	$0
	Subtotal Labor Costs		**$82,620**

EXPENSES				
ITEM	Quantity	Unit	Rate	Amount
Printing (8 1/2 x 11 B&W)	0	each	$1.00	$0
Printing (11 x 17 Color)		each	$0.00	$0
Mileage (3 trips at 500 miles, 3@50, 6@30)		mile	$0.00	$0
Lodging (3 nights / 2 persons)		each	$0.00	$0
			$0.00	$0
		Subtotal Expenses		$0
		TOTAL COSTS - PLANNING		**$82,620**

ENVIRONMENTAL

MANHOURS									
TASK	EPM	ES	PE	PLN	GIS	DSR	TECH	ADMIN	TOTAL
Data Collection									0
ADEQ Coordination			8						8
ARDOT Coordination			16						16
									0
									0
Public Meeting (1) (Recorded PowerPoint)			24		16				40
Public Meeting (2) (Recorded PowerPoint)			24		16				40
									0
									0
									0
									0
									0
TOTAL MH - ENV. CLEAR. DOC.	0	0	72	0	32	0	0	0	104

LABOR COSTS									
Category - Description							Rate	MH	Amount
EPM - Sr. Environmental Scientist							$212.00	0	$0
ES - Environmental Scientist							$162.00	0	$0
PE - Project Engineer							$185.00	72	$13,320
PLN - Planner							$160.00	0	$0
GIS - GIS Specialist							$148.00	0	$0
DSR - Designer							$124.00	32	$3,968
TECH - Technician							$96.00	0	$0
ADMIN - Administrative Assistant							$84.00	0	$0
							Subtotal Labor Costs		**$17,288**

EXPENSES									
ITEM					Quantity		Unit	Rate	Amount
Permits					2		each	$200.00	$400
Printing (8 1/2 x 11 B&W)							each	$0.30	$0
Printing (11 x 17 Color)							each	$1.00	$0
Boards							each	$30.00	$0
Scrol Plots							each	$20.00	$0
Mileage (2 trips at 50 miles)							mile	$0.56	$0
Meals							each	$50.00	$0
Vehicle Rental							day	$50.00	$0
Lodging (3 nights / 2 persons)							each	$100.00	$0
Air Fare (RT Denver to Little Rock)							each	$750.00	$0
								Subtotal Expenses	$400
					TOTAL COSTS - ENVIRONMENTAL				**$17,688**

TRAFFIC DESIGN & PLANS

MANHOURS								
TASK	PD	PM	PE	DE	DSR	TECH	ADMIN	TOTAL
30% Design Phase			10			100		110
Preliminary Plan Review			8					8
60% Design Phase			10			50		60
Preliminary Plan Review			8					8
90% Design Phase			5			50		55
Final Plan Review			8					8
100% Design Phase			5			20		25
								0
TOTAL MH - TRAFFIC DESIGN & PLANS	0	0	54	0	0	220	0	274

LABOR COSTS			
Category - Description	Rate	MH	Amount
PD - ProjectDirector	$248.00	0	$0
PM - Project Manager	$223.00	0	$0
PE - Senior Engineer	$160.00	54	$8,640
DE - Enigneer II	$149.00	0	$0
DSR - EIT/Designer	$124.00	0	$0
TECH - Technician I and II	$90.00	220	$19,800
ADMIN - Administrative Assistant	$94.00	0	$0
	Subtotal Labor Costs		**$28,440**

EXPENSES				
ITEM	Quantity	Unit	Rate	Amount
Printing (11x17 B&W)		each	$0.00	$0
Mileage (0 trips at 0 miles)		miles	$0.00	$0
Lodging (0 nights / 0 persons)		each	$0.00	$0
			$0.00	$0
		Subtotal Expenses		$0
TOTAL COSTS - TRAFFIC DESIGN & PLANS				**$28,440**

UTILITIES

MANHOURS								
TASK	PD	PM	PE	DE	DSR	TECH	ADMIN	TOTAL
Design Criteria								0
30% Design Phase								0
Water, Conceptual Design, GIS figures			6	40	12		62	120
Sewer Conceptual DesignGIS figures			5	25	40		35	105
60% Design Phase								0
Water Line Design			9	30	50			89
Fiber Obtec Cable			4		8			12
Power poles & Lighting		8		16		16		40
Sewer Design			9	20	53			82
90% Design Phase								0
Water Line Design		12	20		39		4	75
Fiber Obtec Cable Coordination		2	4		4			10
Power poles & lighting Coordination		2	4			8		14
Sewer Design			12	13	60			85
Horizontal Boring Design Water & Sewer)			70	2	20			92
Easements								0
Figures and Agreement Editing				10	90			100
TOTAL MH - UTILITIES	0	24	143	156	376	24	101	824

LABOR COSTS			
Category - Description	Rate	MH	Amount
PD - ProjectDirector	$248.00	0	$0
PM - Project Manager	$223.00	24	$5,352
PE - Senior Engineer	$186.00	143	$26,598
DE - Enigneer II	$161.00	156	$25,116
DSR - EIT/Designer	$124.00	376	$46,624
TECH - Technician I and II	$112.00	24	$2,688
ADMIN - Administrative Assistant	$94.00	101	$9,494
	Subtotal Labor Costs		**$115,872**

EXPENSES				
ITEM	Quantity	Unit	Rate	Amount
Printing (11x17 B&W)		each	$0.00	$0
Mileage (2 trips at 460 miles)	920	miles	$0.56	$515
Lodging (0 nights / 0 persons)		each	$0.00	$0
			$0.00	$0
		Subtotal Expenses		$515
		TOTAL COSTS - UTILITIES		**$116,387**

SURVEY

MANHOURS								
TASK	PD	PM	PE	PS	PC	TECH	ADMIN	TOTAL
Project Control				60	50	16		126
Topography, Terrain, and Utility Mapping				120	100	16		236
DTM Model				5		16		21
Boundary and Right of Way Survey				140	100	40		280
Acquisition Staking				60	50			110
CE&I				64	64			128
Utilities				30	25			55
R/W and Property Line Staking				35	30			65
Calculations & Data Analysis				5		4		9
Publication of boundary survey results				5		16		21
TOTAL MH - SURVEY	0	0	0	524	419	108	0	1,051

LABOR COSTS			
Category - Description	Rate	MH	Amount
PD - ProjectDirector	$248.00	0	$0
PM - Project Manager	$223.00	0	$0
PE - Senior Engineer	$174.00	0	$0
PS - Surveyor I	$124.00	524	$64,976
PC - Surveyor II	$105.00	419	$43,995
TECH - Technician I and II	$122.00	108	$13,176
ADMIN - Administrative Assistant	$94.00	0	$0
	Subtotal Labor Costs		**$122,147**

EXPENSES				
ITEM	Quantity	Unit	Rate	Amount
Mileage (13 trips at 460miles)	5,980	miles	$0.56	$3,349
Lodging (2 rooms x 40 nights)	80	nights	$130.00	$10,400
Per-di-um (2 men x 53 days)	106	days	$45.00	$4,770
Rebar	20	each	$2.50	$50
Rebar Caps	20	each	$2.50	$50
Flagging	1	each	$20.00	$20
Guard Stakes	1	each	$100.00	$100
ARKUPS	1	each	$800.00	$800
Title Search, Closing, and Conveyance	17	parcels	$1,365.00	$23,205
Survery Equipment	2	months	$2,900.00	$5,800
			Subtotal Expenses	$48,544
			TOTAL COSTS - SURVEY	**$170,691**

ROADWAY

MANHOURS								
TASK	PD	PM	PE	DE	DSR	TECH	ADMIN	TOTAL
Design Criteria								
Design Criteria		2	4					6
30% Design Phase								
Horizontal and Vertical Design		16	40	40	40			136
Drainage Design			40		40			80
Pavement Design Report		4	8			12		24
Title Sheet			4		8			12
Typical Sections of Improvement		8	16		24	24		72
Plan and Profiles		8	40		40	32		120
Construction Cost Estimate		4	16					20
60% Design Phase								0
Incorporate 30% comments			8	16		40		64
Title Sheet			2			4		6
Typical Sections of Improvement			3			24		27
Special Detials		4	8	8	16	24		60
Survey Control Details			8		32			40
Plan and Profiles			16		80	40		136
Maintencance of Traffic		4	24		40	80		148
Permanent Pavement Markings Details			8		16	24		48
Overhead and Roadside Sign Details			8		16	20		44
Temporary Erosion Control			8		16	24		48
Cross Sections			40		100	60		200
Construction Cost Estimate			16					16
90% Design Phase								0
Incorporate 60% comments			4	16		40		60
Index of Sheets			8	8				16
Governing Specifications and General notes			8	8				16
Special Provisions			24	8				32
SWPPP			16					16
Quantities			40		40	32		112
Construction Cost Estimate			8					8
Final Plan Review		16	24					40
100% Design Phase								0
Incorporate 90% comments		16	16	16		24		72
TOTAL MH - ROADWAY	0	82	465	120	508	504	0	1,679

LABOR COSTS			
Category - Description	Rate	MH	Amount
PD - ProjectDirector	$248.00	0	$0
PM - Project Manager	$223.00	82	$18,286
PE - Senior Engineer	$174.00	465	$80,910
DE - Enigneer II	$149.00	120	$17,880
DSR - EIT/Designer	$124.00	508	$62,992
TECH - Technician I and II	$112.00	504	$56,448
ADMIN - Administrative Assistant	$94.00	0	$0
	Subtotal Labor Costs		**$236,516**

EXPENSES				
ITEM	Quantity	Unit	Rate	Amount
Printing (11x17 B&W)	50	each	$0.30	$15
Mileage (1 trips at 460 miles)	460	miles	$0.56	$255
Lodging (1 nights / 1 persons)	1	each	$130.00	$130
			$0.00	$0
		Subtotal Expenses		$400
	TOTAL COSTS - ROADWAY			**$236,916**

ROW DESIGN & PLANS

MANHOURS								
TASK	PD	PM	PE	DE	DSR	TECH	ADMIN	TOTAL
Stage 1 - 60% Strip Map		8			32			40
Stage 2					-			0
Stage 3					-			0
Stage 4 - 90% Plans (Up to 17 Parcels)		68			340			408
Stage 5 - Final Plans (Up to 17 Parcels)		6			24			30
								0
TOTAL MH - ROW DESIGN & PLANS	0	82	0	0	396	0	0	478

LABOR COSTS			
Category - Description	Rate	MH	Amount
PD - ProjectDirector	$248.00	0	$0
PM - Project Manager	$223.00	82	$18,286
PE - Senior Engineer	$174.00	0	$0
DE - Enigneer II	$149.00	0	$0
DSR - EIT/Designer	$124.00	396	$49,104
TECH - Technician I and II	$112.00	0	$0
ADMIN - Administrative Assistant	$94.00	0	$0
	Subtotal Labor Costs		**$67,390**

EXPENSES				
ITEM	Quantity	Unit	Rate	Amount
Printing (11x17 B&W)		each	$0.30	$0
Mileage (1 trips at 460 miles)	460	miles	$0.56	$258
Lodging (0 nights / 0 persons)		each	$130.00	$0
			$0.00	$0
		Subtotal Expenses		$258
	TOTAL COSTS - ROW DESIGN & PLANS			**$67,648**

ELECTRIC RELOCATION

MANHOURS								
TASK	PD	PM	PE	DE	DSR	TECH	ADMIN	TOTAL
Project Meetings (Including Kick-Off)	12	20	22	20				74
Field Visit		16	20	20			1	57
30% Design Phase								0
30% Design Drawings			36	30	60			126
Equipment Spec			8	16				24
Engineering			30	70				100
60% Design Phase								0
60% Design Drawings			28	30	80			138
Cable Ampacity Calculation (1 no.)			2	12				14
Cable Pulling Calculations (10 no.)			4	36				40
Pole Loading Calculations (2 no.)			6			80		86
Engineering			10	30				40
90% Design Phase								0
90% Design Drawings			26	30	60			116
Updates to Pulling Calculations			12					12
100% Design Phase								0
Address 90% Comments		2	20	20	40			82
IFC Drawings			16	8	20			44
Submit Final signed & Sealed Plans		20	40					60
TOTAL MH - ELECTRIC RELOCATION	12	58	280	322	260	80	1	1,013

LABOR COSTS			
Category - Description	Rate	MH	Amount
PD - ProjectDirector	$248.00	12	$2,976
PM - Project Manager	$223.00	58	$12,934
PE - Senior Engineer	$212.00	280	$59,360
DE - Enigneer II	$161.00	322	$51,842
DSR - EIT/Designer	$136.00	260	$35,360
TECH - Technician I and II	$112.00	80	$8,960
ADMIN - Administrative Assistant	$94.00	1	$94
	Subtotal Labor Costs		**$171,526**

EXPENSES				
ITEM	Quantity	Unit	Rate	Amount
Printing (11x17 B&W)		each	$0.30	$0
Travel	2	people	$1,201.00	$2,402
			$0.00	$0
		Subtotal Expenses		$2,402
TOTAL COSTS - ELECTRIC RELOCATION				**$173,928**

** Description of Work: Design will include relocation of pole 2251, providing an underground connection from junction box 746 to customers east of SW Rainbow Ln., and relocation of F35 feeder aross Rainbow Lane & S Walton Blvd.

BIDDING

MANHOURS								
TASK	PD	PM	RE	DE	DSR	TECH	ADMIN	TOTAL
Project Manual								
Develop front end and incorperate SPs		16					32	48
Advertisement								
Bid invitations		2					2	4
Preconstruction								
Pre-Bid Meeting		8	16					24
Respond to Bid queries		16	32					48
Bid Openning								
Bid Openning		8	8					16
Bid Analysis								
Review of bid document		4						4
Bid Tab		2	6					8
TOTAL MH - BIDDING	0	56	62	0	0	0	34	152

LABOR COSTS								
Category - Description						Rate	MH	Amount
PD - ProjectDirector						$248.00	0	$0
PM - Project Manager						$223.00	56	$12,488
RE - Resident Engineer						$174.00	62	$10,788
DE - Enigneer II						$149.00	0	$0
DSR - EIT/Designer						$124.00	0	$0
TECH - Technician I and II						$112.00	0	$0
ADMIN - Administrative Assistant						$94.00	34	$3,196
							Subtotal Labor Costs	**$26,472**

EXPENSES								
ITEM					Quantity	Unit	Rate	Amount
General Printing (11x17 B&W)						each	$0.30	$0
General Mileage (2 trips at 460 miles)					920	mile	$0.56	$511
General Lodging (3 nights / 2 persons)						each	$130.00	$0
Advertisement					0	each	$0.00	$0
Express Deliveries						each	$25.00	$0
							Subtotal Expenses	$511
					TOTAL COSTS - BIDDING			**$26,983**

Title II CONSTRUCTION PHASE SERVICES

MANHOURS								
TASK	PM	RE	PE	PS	INSP I	INSP II	ADMIN	TOTAL
Project Setup	8	56			40		24	128
Inspection and Management		576		120	2,880	40	160	3,776
Engineering Support	40		120					160
Project Close Out	8	100			100		50	258
Title II CONSTRUCTION PHASE SERVICES	56	732	120	120	3,020	40	234	4,322

LABOR COSTS								
Category - Description						Rate	MH	Amount
PM - Project Manager						$223.00	56	$12,488
RE - Resident Engineer						$174.00	732	$127,368
PE - Senior Engineer						$174.00	120	$20,880
PS - Surveyor I						$124.00	120	$14,880
INSP I - Inspector I						$104.00	3,020	$314,080
INSP II- Inspector II						$99.00	40	$3,960
ADMIN - Administrative Assistant						$94.00	234	$21,996
						Subtotal Labor Costs		**$515,652**

EXPENSES								
ITEM					Quantity	Unit	Rate	Amount
General Printing (11x17 B&W)						each	$0.00	$0
Survey Mileage (10 trips at 460 miles)					4,600	mile	$0.56	$2,553
Survey Lodging (10 nights / 1 persons)					10	each	$130.00	$1,300
Survey Meals (20 days / 1 persons)					20	each	$55.00	$1,100
Inspector I Truck					18	Month	$750.00	$13,500
Inspector I Lodging					18	Month	$950.00	$17,100
Inspector II Mileage (5 trips at 460 miles)					2,300	mile	$0.56	$1,277
Inspector II Lodging (5 nights / 1 persons)					5	each	$130.00	$650
Inspector II Meals (10 days / 1 persons)					10	each	$55.00	$550
Express Deliveries					6	each	$25.00	$150
						Subtotal Expenses		$38,180
	TOTAL COSTS - Title II CONSTRUCTION PHASE SERVICES							**$553,832**

DURATIONS		
TASK	DURATION	UNITS
Traffic Counts and Planning	5	Weeks
Survey	3	Weeks
30% Design	8	Weeks
60% Design	8	Weeks
Utility Coordination	8	Weeks
Right-of-Way	52	Weeks
90% Design	16	Weeks
Electrical Relocation Design	16	Weeks
100% Design	3	Weeks
Bidding	4	Weeks
Construction	52	Weeks
TOTAL DURATION (not including reviews)	**148**	**Weeks**

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING THE MAYOR AND CITY CLERK TO ENTER INTO AN AMENDED AGREEMENT WITH JACOBS ENGINEERING GROUP INC., FOR PROFESSIONAL SERVICES ON THE RAINBOW CURVE INTERSECTION PROJECT; AND FOR OTHER PURPOSES.

WHEREAS, the City of Bentonville previously entered into an agreement with Jacob's Engineering Group Inc.., for professional services related to the Rainbow Curve Intersection Project (PIIP22-009);

WHEREAS, the City requests this amendment to account for the addition of Electric relocation design which would otherwise be performed by City staff;

WHEREAS, this amendment will remove the bridge design fee and add the electric relocation fee which results in no change to the fee amount, and is more timely; and

WHEREAS, this amendment is being funded by 2021 Bond monies.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS.

Section 1: That the Mayor and City Clerk are hereby authorized to enter into Amendment #1 with Jacob's Engineering Group Inc., for professional services for the Rainbow Curve Intersection Project. (PIIP22-0029);

Section 2 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Resolutions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED and APPROVED this _____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, MAYOR

ATTEST:

_____
Malorie Marrs, CITY CLERK

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	5/28/2024	**Submitted By:**	Dennis Birge
Phone:	479-271-6840	**For Department(s):**	Transportation
Email:	dbirge@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☐ Bid Award ☑ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause
☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution Approving RFP-23-47 to Crossland Heavy - for construction on 2 Walton Intersections
Action Recommendation & Justification:	Staff recommends Mayor and City Clerk to enter into an agreement with Crossland Heavy Contractors as the General Contractor for the Walton Blvd Intersection Improvement bond projects. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	The two bond projects are located at SE Walton & SE J Street Intersection (PIIP22-0036) and SE Walton & SE Medical Center Parkway Intersection (PIIP22-0037). This company was selected following the City's standard RFP solicitation and selection process for the procurement of professional services in accordance with the City's Purchasing Policy. This is funded with bond monies.
Amount for Approval:	**$** 8,261,694.75

Budget Impact

Is this Item Budgeted? ☐ YES ☐ NO ☐ ITEM HAS NO COST ☑ OTHER: 2021 Street Bond

Budget Adjustment *(to be completed by Finance when applicable)*

		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue

Fund(s) Impacted (check all that apply) ☐ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s): _____

Budget Impact Notes for Consideration (Optional):

Administrative Services
Purchasing Department
1000 SW 14th Street
Bentonville, AR 72712

City Hall
305 SW A Street
Bentonville, AR 72712

CITY OF BENTONVILLE, ARKANSAS

SERVICE CONTRACT: RFP-23-47-General Contractor for the Walton Blvd. Intersection Improvements Project

THIS CONTRACT is made in Benton County, Arkansas, by and between the City of Bentonville, Arkansas, hereinafter "City," and Crossland Heavy Contractors, hereinafter "Contractor" (collectively, the "Parties"), Witnesseth:

1. DESCRIPTION. This Contract has been awarded to Contractor as a result of Contractor's Proposal Submission (attached hereto as **Exhibit A**) to the City's Request for Proposal-23-47-General Contractor for the Walton Blvd. Intersection Improvements Project (attached hereto as **Exhibit B**). The work shall consist of performing the services, including all labor, material, equipment, products and all other items necessary to perform the work, as set forth in this Contract and all attached Exhibits.

2. PRIMARY CONTACTS. The primary contact for the Contractor shall be _____. The primary contact for the City shall be the City of Bentonville Transportation Director, or designated assignee.

3. CONTRACT TERM. The term for this Contract shall be five hundred (500) days, commencing on the effective date of this Contract.

a. Effective Date: The Effective Date of this Contract shall be defined as the executed date on the Signature Page of this Contract.

b. Engineers Agreement, excluding signature pages, attached hereto as **Exhibit C**, has been included in the Contract.

a. Construction Timeline:

1. **Preconstruction Meeting:** The Parties shall meet prior to work beginning to review the Scope of Work.
2. **Work Beginning:** Work shall begin within ten (10) days from Notice to Proceed.

3. **100% Completion:** Work shall be 100% complete within four hundred eighty (480) consecutive calendar days from work beginning.

b. Any changes to the Term of this Contract or to the Construction Timeline shall be agreed upon by the Parties in writing and shall be in accordance with this Contract and all applicable procurement laws and the City of Bentonville Purchasing Policy.

4. WORK PROCEDURES. All work procedures shall be in accordance with this Contract and with the Exhibits attached hereto.

a. Specifications. All work shall be performed in accordance with industry standards and best practices, and as specified in this Contract and in the Exhibits attached hereto.

b. Change Orders. Any changes to the Scope of Work shall be handled via Change Order to this Contract. No Change Order shall be approved unless approved in writing by the City. All Change Orders must be pre-approved prior to any work commencing, any materials being purchased, or any other fee being incurred related to the Change Order. The City shall not be responsible for Change Orders unless the Change Order is pre-approved in writing by the City.

1. **Owner's (City's) Contingency:** Owner (City) Contingency Funds shall not be used unless pre-approved by City in writing, and in accordance with the 4-b. Change Orders Section of this Contract.

c. Unsatisfactory Results. Contractor agrees to remedy any unsatisfactory results, within the terms of this Contract.

d. General. The Contractor shall conduct their operations in such a manner that does not cause damage to property owned by the City or other individual. In the event damage occurs, Contractor shall replace or repair the damaged area(s) or item(s) at no cost to the City and as directed by the City. In the event that Contractor fails to make the necessary repairs, the City may use City staff or outside vendors to repair any damage. Any costs the City incurs for repairing damage or replacing items resulting from Contractor's operations may be deducted from monies due to Contractor.

5. FEES, EXPENSES, AND SCHEDULE. The City agrees to pay Contractor based upon the per unit cost as defined in **Exhibit A** of this Contract for actual work performed or material stored on-site. Contractor agrees to only perform the type of services outlined in this Contract and the Exhibits attached hereto. Fees and contingencies shall be as follows:

a. Total Fee for Construction: $8,261,694.75 (Eight million two hundred sixty-one thousand six hundred ninety-four dollars and seventy-five cents).

1. The Total Fee for Construction is subject to change based on final quantities.

b. All schedules shall be in accordance with the Exhibits attached hereto.

c. Owner's Contingency: Owner (City) Contingency Funds shall not be used unless pre-approved by City in writing, and in accordance with the 4-b. Change Orders Section of this Contract.

1. Bid Schedule 1 contingency allowance: $250,000.00 (two hundred fifty thousand dollars and zero cents)
2. Bid Schedule 2 contingency allowance: $250,000.00 (two hundred fifty thousand dollars and zero cents)

6. ADDITIONAL SERVICES. Any service outside of the services stated herein and in the Exhibits attached hereto, must be pre-approved by the City, in writing, and in accordance with the City of Bentonville Purchasing Policy prior to any additional work proceeding.

7. INVOICING. Contractor shall submit an invoice (or Pay Application), for work performed or materials stored on-site, to the City's Contact for review. Invoices approved for payment will be processed by the City the following week, on Thursdays. Payment will only be made for actual work completed and approved by the City's Contact.

a. The Contractor may choose to submit progress invoices (for actual work performed or materials stored on site) or one invoice after 100% completion and the Contractor has furnished the one (1) year warranty Bond.

b. All invoices shall include the company name, address, remittance information, and taxes, and shall be in accordance with the Unit Prices in **Exhibit A**.

c. All invoices shall include RFP-23-47 pertaining to work performed for this contract.

d. Invoices submitted correctly and in accordance with these procedures are paid within thirty (30) days of approved Invoice Submission. Failure to adhere to the invoicing requirements will result in delayed payment.

8. PAYMENT.

a. Inaccurate Invoicing. In the event that the City becomes credibly informed that any representations of Contractor provided in its invoicing are wholly or partially inaccurate, the City may withhold payment of sums then, or in the future, otherwise due to Contractor until the inaccuracy and the cause thereof is corrected to the City's reasonable satisfaction.

b. Service Failure. In the event of a service failure, where the service performed is not in accordance with the specifications set forth by the City, or otherwise not in accordance with this Contract, the City may withhold sums otherwise due to Contractor that are specifically for the area in which the service failure occurred, until correction of the service failure is confirmed. In the event that Contractor fails to correct the service failure within forty-eight (48) hours of being notified, or if the Contractor fails to correct the service failure in a manner which brings the work into specification as approved by the City's contact, the City reserves the right to cancel the Contract immediately.

9. TERMINATION FOR LACK OF FUNDS. If, for whatever reason, adequate funding is not made available by City to support or justify continuation of the level of services to be provided by Contractor under this Contract, City may terminate or reduce the amount of services to be provided by Contractor under this Contract. In such event, City will notify Contractor in writing at least thirty (30) days in advance of such termination or reduction of services for lack of funds.

10. DISPUTE RESOLUTION. City and Contractor agree that disputes relative to the Services will first be addressed by negotiations between the Parties. If direct negotiations fail to resolve the dispute, the Party initiating the claim that is the basis for the dispute may take such steps as it deems necessary to protect its interests; provided, however, that notwithstanding any such dispute, Contractor will proceed with the services as per this Contract as if no dispute existed, and City will continue to make payment for Contractor's completed services; and provided further that no dispute will be submitted to arbitration without both Parties' express written consent.

11. SUBCONTRACTING. Contractor may not subcontract or assign any of the services to be performed under this Contract, except for those originally submitted in their Proposal Submission (**EXHIBIT A**), without first obtaining the written approval of the City. The following Subcontractor has been identified by Contractor in their Proposal Submission to RFP-23-47:

a. APAC – Central

1. Work to be performed: Asphalt Paving/Milling
2. Does Subcontractor's portion exceed $50,000.00: Yes

b. All – Service Electric, Inc.

1. Work to be performed: Traffic Signals/Electric
2. Does Subcontractor's portion exceed $50,000.00: Yes

c. Time Stripping, Inc.

1. Work to be performed: Traffic Control/Striping
2. Does Subcontractor's portion exceed $50,000.00: Yes

d. Second Nature Landscapes, Inc.

1. Work to be performed: Erosion Control/Seed & Sod/Landscape
2. Does Subcontractor's portion exceed $50,000.00: Yes

Unless otherwise stated in the written consent to an assignment, no assignment will release or discharge Contractor from any obligation under this Contract. Any person or firm proposed for subcontracting services under this Contract will maintain throughout the duration of the Contract, insurance as provided in **Exhibit B**.

12. INSURANCE. Contractor will maintain, throughout the duration of this Contract and any subsequent renewal year, insurance as set forth in **Exhibit B**, which includes Workers' Compensation insurance, as required by Arkansas Statute, for all Contractor's employees or independently contracted workers. In the event that any interruption or change in insurance coverage may occur, the Contractor shall provide the City with thirty (30) days written notice of

any such interruptions or changes. Failure to maintain the required insurance, as set forth in **Exhibit B** will result in the direct breach of this Contract and subsequent termination.

13. BONDS. Contractor shall be responsible for providing the following Guarantee Bonds to the City:

a. Performance and Payment: Upon time of signing this Contract, or at a time prior to the City executing this Contract, Contractor shall provide City with original files of an approved Performance Bond, and approved Payment Bond, each in an amount at least equal to the Total Proposed Price ($8,261,694.75), as specified and in accordance with the Bonds Section of **Exhibit B** attached hereto.

b. Maintenance Bond/Guarantee Bond: Upon City's approval of 100% completion, Contractor shall provide City with a Maintenance Bond/Guarantee Bond, in an amount at least equal to the final Contract Price (inclusive of any approved Change Orders) for the one (1) year guarantee/warranty of the workmanship and materials.

14. INDEMNIFICATION AND HOLD HARMLESS. For purposes of this Contract, Contractor agrees to indemnify, defend and hold harmless the City, its officers, appointees, employees, and agents from any and all loss, damage, liability or expense, of any nature whatsoever caused or incurred as a result of the negligence or other actionable fault of Contractor, its affiliates, subsidiaries, employees, agents, assignees, and subcontractors and their respective employees and agents. Contractor is not required hereunder to defend the City, its officers, appointees, employees, or agents from assertions that they were negligent, nor to indemnify and hold them harmless from liability based on the City's negligence.

15. SAFETY AND SUPERVISION. The Contractor shall be solely responsible for the safety, supervision and direction of Contractor's employees and personnel while performing the work pertaining to this Contract. The Contractor shall utilize their best skills and general industry best practices to ensure a safe work environment for the Contractor, Contractor's employees and personnel, and the civilians that may be located within work site(s) at the time when work is being performed. The Contractor shall, at all times, enforce strict discipline and good order

among his employees and personnel, and shall not employ or contract any person to perform the services to be provided to the City that is not skilled or is unfit for providing such services.

16. TAXES, LICENSES AND PERMITS. The Contractor shall pay all Local, State and Federal taxes required by law and shall secure all permits and licenses necessary for the execution of the services described herein.

17. DAMAGES. All operations pertaining to the services described herein shall be confined to the areas awarded to Contractor as set forth herein and as are described in the Exhibits attached hereto, unless otherwise permitted by written communication from the City. The Contractor shall be solely liable for any damages caused by Contractor, or Contractor's employees or personnel, to such premises or otherwise in performance of this Contract.

18. ENTIRE CONTRACT. This Contract, including all documents and Exhibits included by reference herein, constitutes the entire Contract between the Parties and supersedes all prior agreements, whether oral or written, covering the same subject matter. This Contract may not be modified or amended except in writing mutually agreed upon and accepted by both Parties to this Contract.

19. NO THIRD PARTY BENEFICIARIES. Nothing contained herein will create a contractual relationship with, or any rights in favor of, any Third Party.

20. INDEPENDENT CONTRACTOR. Contractor is an independent contractor and is not an agent or employee of City.

21. COMPLIANCE WITH LAWS. Contractor will abide by all applicable federal, state and local laws, ordinances and regulations applicable at the time the services are rendered.

22. APPLICABLE LAW, JURISDICTION, VENUE. Interpretation of this Contract and disputes arising out of or related to this Contract will be subject to and governed by the laws of the State of Arkansas. Jurisdiction and venue for any suit arising out of or related to this Contract will be in the District Court of Benton County, Arkansas.

23. SEVERABILITY. If any provision of this Contract is determined to be void, invalid, unenforceable or illegal for whatever reason, such provision(s) will be null and void; provided, however, that the remaining provisions of this Contract will be unaffected and will continue to be valid and enforceable.

24. AMBIGUITY. If any ambiguity, inconsistency or conflict arises in the interpretation of this Contract, the same will be resolved by reference first to the terms and conditions of this Contract and then to **Exhibit B.**

[Signature Page Follows]

Administrative Services
Purchasing Department
1000 SW 14th Street
Bentonville, AR 72712

City Hall
305 SW A Street
Bentonville, AR 72712

CITY OF BENTONVILLE, ARKANSAS

SIGNATURE PAGE

The Parties hereto have caused this Contract to be executed this _____(day) of _____(month), 2024.

CITY OF BENTONVILLE, ARKANSAS

By: _____

Stephanie Orman, Mayor

By: _____

(Signature)

Name (*printed*):_____

Title:_____

Crossland Heavy Contractors

Address:_____

_____

Administrative Services
Purchasing Department
1000 SW 14th Street
Bentonville, AR 72712

CITY OF BENTONVILLE, ARKANSAS

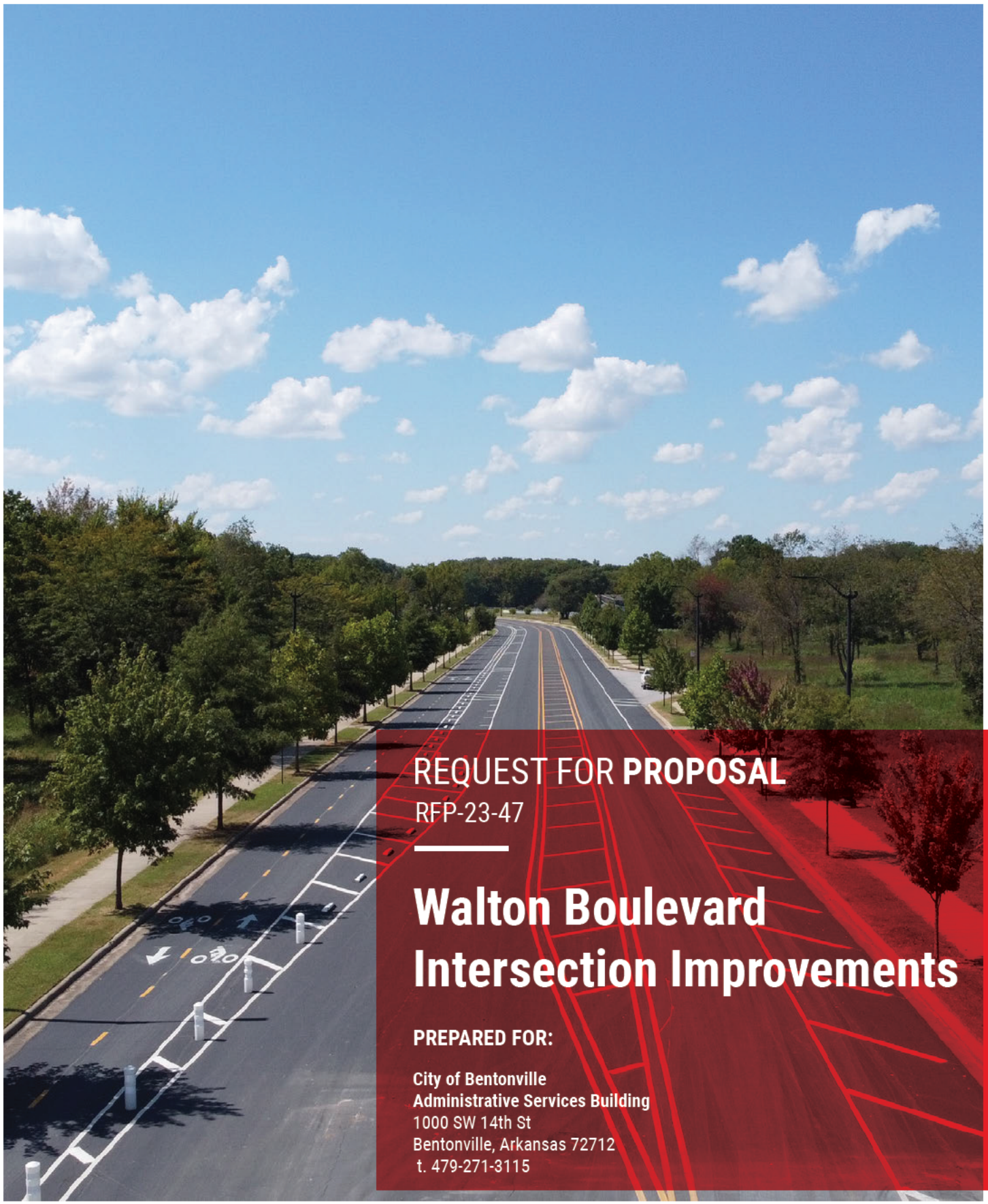
City Hall
305 SW A Street
Bentonville, AR 72712

EXHIBIT A

CONTRACTOR'S PROPOSAL SUBMISSION TO RFP-23-47

CROSSLAND
HEAVY CONTRACTORS

Arkansas Office
Dan Thompson, President
1800 S 52nd St. Suite 410
Rogers, Arkansas 72758
t. 479.464.7077



REQUEST FOR **PROPOSAL**

RFP-23-47

Walton Boulevard Intersection Improvements

PREPARED FOR:

City of Bentonville
Administrative Services Building
1000 SW 14th St
Bentonville, Arkansas 72712
t. 479-271-3115



01 pg 03
Execution of Proposal + Acknowledgement of Addenda

02 pg 05
Submitting Firm

03 pg 06-09
Project Experience

04 pg 10-11
Corporate Resolution + Arkansas Contractors License

05 pg 12-13
Insurance

06 pg 15
Non-Collusion Affidavit

07 pg 16-35
Statement of Bidder's Qualifications

08 pg 36-37
Proposed Method of Doing Work

09 pg 38-39
Additional Information

CITY OF BENTONVILLE, ARKANSAS
PURCHASING DEPARTMENT
2ND FLOOR ADMINISTRATIVE SERVICES BUILDING
1000 SW 14TH ST
BENTONVILLE, ARKANSAS 72712
RFP-23-47

EXECUTION OF PROPOSAL & ACKNOWLEDGEMENT OF ADDENDA
(REQUIRED RESPONSE FORM)

EXECUTION OF PROPOSAL (REQUIRED)

Upon signing this Proposal, the proposer certifies that he or she has read and agrees to the requirements set forth in this Proposal including specifications, conditions and pertinent information regarding the articles being proposed on. *Unsigned Proposals will be rejected without exception.*

NAME OF FIRM: Crossland Heavy Contractors	PHONE NUMBER: 479-464-7077	FAX NUMBER: 479-464-7077	EMAIL: dthompson@heavycontractors.com
BUSINESS STREET ADDRESS: 1800 S 52nd St Suite 410	CITY: Rogers	STATE: Arkansas	ZIP: 72758
SIGNATURE OF AUTHORIZED PERSON:		DATE: October 11, 2023	
PRINTED OR TYPED NAME: Dan Thompson		TITLE: President	

ARKANSAS SALES OR USE TAX NUMBER (if applicable):	
Motor Carrier (MC) Number:	

ACKNOWLEDGEMENT OF ADDENDA (REQUIRED WHEN ADDENDA ISSUED)

Addendum Number	Initials to Acknowledge
1	DT
2	DT
3	DT
4	DT



A SUCCESSFUL PROJECT STARTS WITH THE RIGHT TEAM

Our team knows the ins and outs of road projects and are here to help you through the *entire* process. They will be an extension to your team, listening, evaluating, and meeting challenges head-on. **Choosing our team means getting your projects done right the first time and on time.**

CROSSLAND HEAVY CONTRACTORS

OFFICE LOCATIONS

Headquarters (Principal Office)
501 S. East Avenue
Columbus, Kansas 66725
t. 620.429.1410

Rogers, AR (Local Office)
1800 S 52nd St. Suite 410
Rogers, Arkansas 72758
t. 479.464.7077

PRIMARY CONTACT

Dan Thompson
President/AR Division Manager
479.366.1637
dthompson@heavycontractors.com

DATE OF ESTABLISHMENT

April 1993

GENERAL DESCRIPTION

Crossland Heavy Contractors, Inc. is a heavy civil and environmental construction firm currently ranked in the top 200 largest environmental firms in the nation by Engineering News Record (ENR).

We're Real Builders
We take pride in knowing we are more than just managers - we're Real Builders that self-perform over 70% of our work. With over 425 employees and located in five offices, we have the expertise and resources to deliver exceptional projects. Our people strive to make a difference, every day. We continue to serve under the belief that if you dream big, remain humble, and work hard - great things are possible.

OUR SERVICES

Preconstruction
General Contracting
Design-Build
Design-Bid-Build
Construction Management

EXPERIENCE MODIFIER RATING (EMR)

2023 - 0.69
2022 - 0.77
2021 - 0.77
2020 - 0.73
2019 - 0.65

BONDING CAPACITY + RATE

$3,000,000,000

LEGAL STRUCTURE

C Corporation



PARK STREET INTERSECTION IMPROVEMENTS

PROJECT LOCATION
Springdale, AR

CLIENT
City of Springdale
Brad Baldwin
479-750-8135

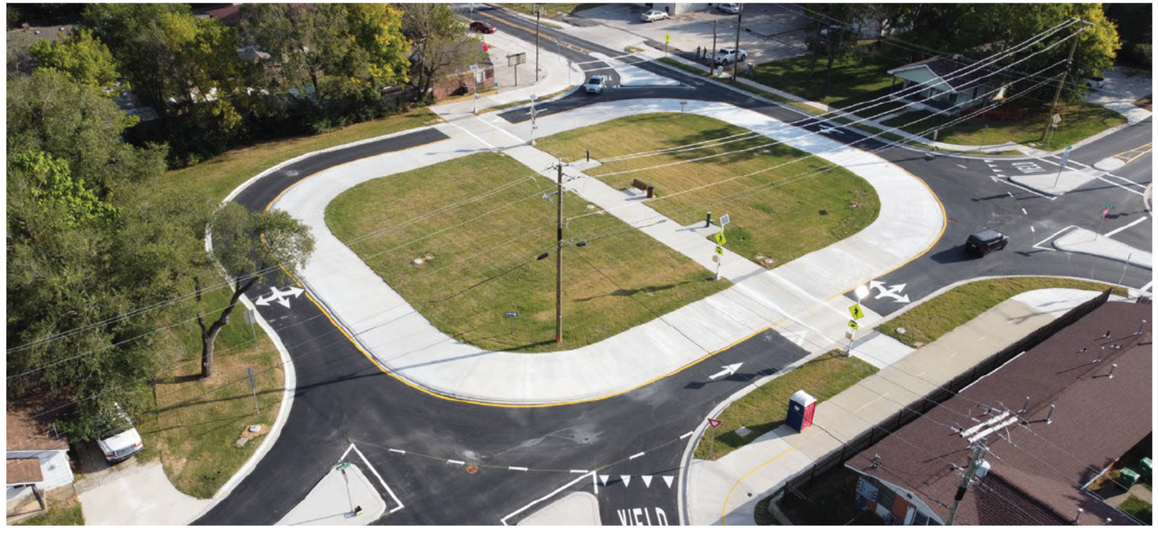
CONTRACT AMOUNT
$2,804,691

ENGINEERS
Garver, LLC
Jeff Webb
479-871-1937

Improving traffic flow to Historic Downtown Springdale

The City of Springdale embarked on their Downtown Master Plan in 2015 with a goal of building on Downtown Springdale's unique character to return it to a vibrant center of commerce and creativity. Crossland Heavy Contractors constructed the next step of that Master Plan, the Park Street Intersection Improvements project to reconstruct, align, and improve two busy intersections. The scope of the rehabilitation work included water-line relocation, curb and gutter, concrete sidewalk and intersection, asphalt pavement, drainage improvements, and site furnishings. The improvements not only improve traffic flow but also elevate the aesthetics of the intersections, bringing more rustic charm to Downtown Springdale.







7TH AND 8TH STREET ARTERIAL REHABILITATION

PROJECT LOCATION
Tulsa, OK

CLIENT
City of Tulsa
Ryan McKaskle
918-596-9565

CONTRACT AMOUNT
$3,781,322

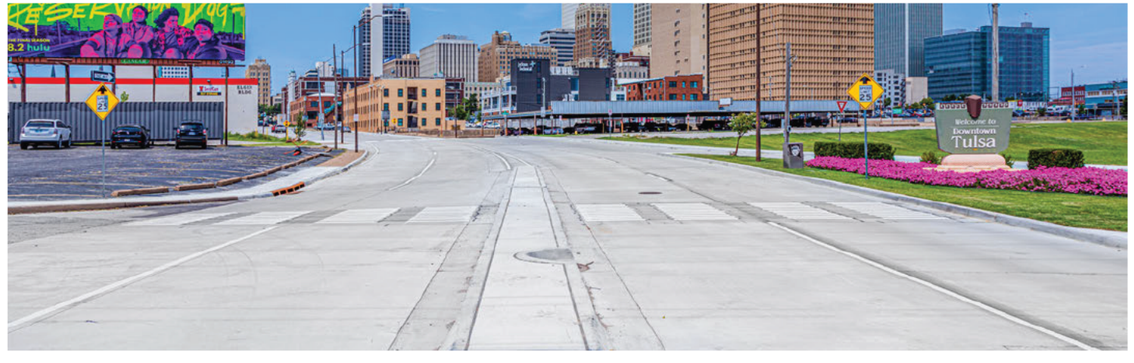
ENGINEER
Poe & Assoc.
Rusty Akerman
918-665-8800

Improving the highly trafficked access point to Downtown Tulsa

A portion of the Improve our Tulsa initiative, the 7th and 8th Street Arterial Project sought to improve a highly trafficked area of Downtown Tulsa by re-paving the streets, upgrading utilities and storm drainage, and constructing ADA- compliant sidewalks, ramps, and driveways. The majority of the work occurred on 7th street, as this street begins directly from the off-ramp of Highway 75 and is subsequently a highly trafficked access point to downtown.

Across both streets, the project scope included 7,246 square yards of asphalt paving, 7,541 square yards of concrete paving, 1,085 square yards of sidewalk, 2,721 linear feet of curb & gutter, 582 linear feet of storm drain piping, 1,406 linear feet of waterline, 12 manholes, 22 inlets & storm structures, and 304 driveways. The scope of this project is largely in Crossland Heavy's wheelhouse, so we were able to self-perform 70% of the work, including all concrete paving, curb & gutter, sidewalks & ramps, storm drainage, and waterline installation. We called on the talented subcontractors in Tulsa's construction community to complete asphalt paving, street striping, landscaping, and traffic control scopes of work.







S ARKANSAS STREET GATEWAY OAK ST. TO CHESTNUT ST.

PROJECT LOCATION
Rogers, AR

CLIENT
City of Rogers
Lance Jobe
479-586-0889

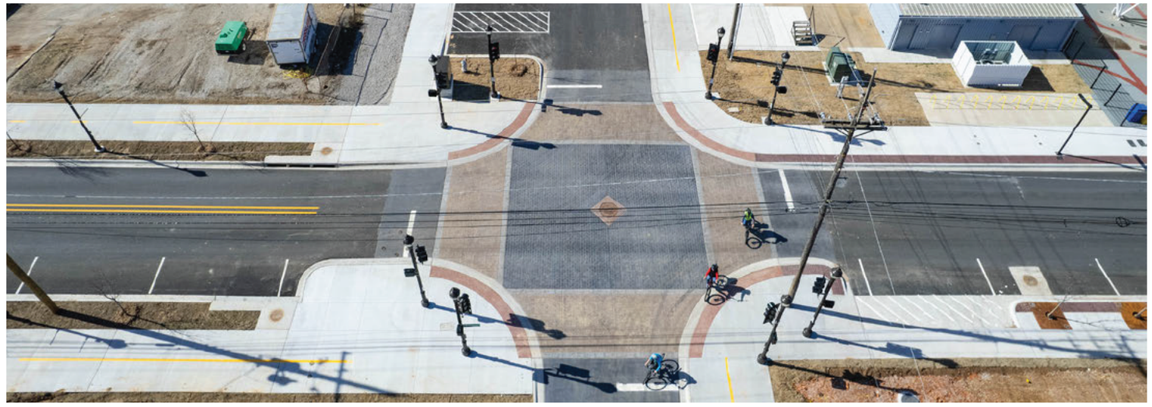
CONTRACT AMOUNT
$9,649,998

ENGINEERS
CEI Engineering
Associates, Inc.
479-273-9472

Making Downtown Rogers safer, healthier & more sustainable

The S. Arkansas Street Gateway Project was one of the many projects of the City of Rogers' Downtown Revitalization Plan, which aims to make downtown Rogers more walkable, bikeable, and livable, and—by extension—safer, healthier, and more sustainable. Our project, which revitalized Arkansas Street from Oak Street to Chestnut Street, consisted of approximately 5,880 linear feet of roadway, water, sewer, and storm utilities, and multi-use trail construction. Our team re-paved the roadway and added stamped concrete walkways and intersections to enhance both the beauty and the safety of the roadway. Overall, this project improved access to Downtown Rogers' amenities, provided bike and pedestrian connectivity, and restored the beauty of Historic Downtown Rogers.







8TH STREET CORRIDOR IMPROVEMENTS, IN PROGRESS

PROJECT LOCATION
Bentonville, AR

CLIENT
City of Bentonville
Dennis Birge
479-271-6840

CONTRACT AMOUNT
$27,802,588

ENGINEER
Burns & McDonnell
Steven Beam
479-725-5460

Widening the roadway to provide easier access to Downtown Bentonville

Once complete, 8th Street Corridor Improvements will consist of reconstruction of approximately 7,273 linear feet of 8th Street from Southwest I-Street to Southeast. J-Street in Bentonville, Arkansas. The reconstruction will widen the roadway to 4 and 5 lanes, provide new traffic signals, and replace the storm drainage systems for the length of project. The widened roadway will include vehicular lanes, a cycle-track or shared-use paths, and sidewalks. Minor utility relocations will be required to facilitate the work.





COPORATE RESOLUTION

CROSSLAND
HEAVY CONTRACTORS
501 S. East Avenue • P.O. Box 350
Columbus, KS 66725
tel 620.429.1410
fax 620.429.2977

Corporate Resolution

BE IT RESOLVED: that at the monthly meeting of the Board of Directors of Crossland Heavy Contractors, Inc., held on the 28th day of July 2023, the Board of Directors did, by unanimous decision, authorize Mark Sell, Chris Walters, Justin Lillie, Dan Thompson or Ivan Crossland, Jr. to sign on behalf of said Corporation all documents and papers pertaining to the business of said Corporation.

All documents signed by Mark Sell, Chris Walters, Justin Lillie, Dan Thompson or Ivan Crossland, Jr. on behalf of Crossland Heav[redacted] on Crossland Heavy Contractors, Inc. and thei[redacted]

[redacted]
Mark Sell, Executive Chairman

ATTEST: [redacted]
Holly Rhodes, Secretary

State of Kansas, County of Cherokee:

Before me, the undersigned Notary Public in and for the County and State aforesaid, personally appeared Mark Sell, Executive Chairman of Crossland Heavy Contractors, Inc. a corporation duly organized and existing in the State of Kansas, and he acknowledged the same on behalf of said Corporation.

In witness thereof I have set my hand and a[redacted]ugust 2023.

[redacted]
Notary Public

My Commission Expires: 4-16-25

KAYLA I. O'BRIEN
Notary Public - State of Kansas
My Appt. Expires 4-16-25

ARKANSAS CONTRACTORS LICENSE

License No. 0067301123 ID #8600

State of Arkansas

Commercial Contractors Licensing Board

CROSSLAND HEAVY CONTRACTORS, INC.
501 S EAST AVENUE
COLUMBUS, KS 66725

This is to Certify That CROSSLAND HEAVY CONTRACTORS, INC.

is duly licensed under the provisions of Ark. Code Ann. § 17-25-101 et. seq. as amended and is entitled to practice Contracting in the State of Arkansas within the following classifications/specialties:

HEAVY CONSTRUCTION
MUNICIPAL & UTILITY CONSTRUCTION

This contractor has an unlimited suggested bid limit.

from October 14, 2022 **until** November 30, 2023 **when this Certificate expires.**

Witness our hands of the Board, dated at North Little Rock, Arkansas:

GREAT SEAL OF THE STATE OF ARKANSAS

[redacted]
CHAIRMAN

[redacted]
SECRETARY

October 14, 2022 - dsa

INSURANCE

September 29, 2023

City of Bentonville
Garver, LLC
1000 SW 14th Street
Bentonville, AR 72712

Re: Undertaking of Insurance

Dear City of Bentonville and Garver, LLC:

This communication is provided to meet the requirements contained within the Walton Boulevard Intersection Improvements Request for Proposal (RFP-23-47)-. The insurance carriers retained by Crossland Heavy Contractors, Inc. intend to provide the insurance specified in the Contract Documents subject to the policy terms and conditions and in line with the laws and regulations specified by the State of Arkansas.

Per RFP Section GC.8 Contractor's Insurance, an Acord 25 Certificate of Insurance is being submitted with the bid proposal demonstrating the coverages and limits of insurance specified in the documents meet the requirements, subject to policy terms and conditions. Please note that Owner's and Contractor's Protective Liability Insurance and Railroad Protective Liability Insurance coverage would be bound when the contract is awarded. Certificates for those policies can be provided at that time.

Insurance policies are legal documents and are subject to the policy terms and conditions with regards to coverage. With regards to contractual liability, the liability insurance will respond to bodily injury, property damage, and/or personal injury caused by the negligent act(s) of the insured per the policies' terms and conditions. There may be items in the contract agreement that will not be covered insurance.

Sincerely,

[redacted]

Mark Wilkerson
Senior Vice President
IMA, Inc.

Risk Management, Insurance, Surety and Employee Benefits

www.imacorp.com
Protecting Assets. Making a Difference.SM
IMA, Inc. dba IMA Insurance Services, CA Lic #0H64724

51 Corporate Woods
9393 W. 110th Street, Suite 600
Overland Park, KS 66210
Phone: 913.982.3650
Fax: 913.982.3495

INSURANCE

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 9/27/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER IMA, Inc. - Kansas City 9393 W. 110th Street Suite 600 Overland Park KS 66210 License#: PC-1210733	CONTACT NAME: IMA Wichita Team PHONE (A/C, No, Ext): 316-267-9221 FAX (A/C, No): E-MAIL ADDRESS: certs@imacorp.com
INSURED CROSCON-03 Crossland Heavy Contractors, Inc. PO Box 45 833 S. East Avenue Columbus KS 66725	INSURER(S) AFFORDING COVERAGE / NAIC # INSURER A : Zurich American Insurance Company 16535 INSURER B : Atlantic Specialty Insurance Company 27154 INSURER C : Indian Harbor Insurance Company 36940 INSURER D : American Guarantee and Liability Insurance 26247 INSURER E : INSURER F :

COVERAGES CERTIFICATE NUMBER: 695600319 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT X LOC OTHER:			GLO859600803	4/30/2023	4/30/2024	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 5,000,000 $ 2,000,000 $ 15,000 $ 5,000,000 $ 10,000,000 $ 10,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY / SCHEDULED AUTOS X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY			BAP859615303	4/30/2023	4/30/2024	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 5,000,000 $ $ $
D	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 0			AUC425515002	4/30/2023	4/30/2024	EACH OCCURRENCE AGGREGATE	$ 10,000,000 $ 10,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBEREXCLUDED? Y/N N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		WC859600703	4/30/2023	4/30/2024	X PER STATUTE / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 2,000,000 $ 2,000,000 $ 2,000,000
C B B	Professional & Pollution Liab. Builders Risk - Reporting Installation Floater - Reporting			CEO744688607 7900130720010 7100337760011	4/30/2023 4/30/2023 4/30/2023	4/30/2024 4/30/2024 4/30/2024	See Below Any One Job Site Any One Job Site	$125,000,000 $2,500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
-Professional Liability: $5,000,000 Each Claim, $10,000,000 Aggregate; Pollution Liability: $10,000,000 Each Claim, $10,000,000 Aggregate.
-2nd Layer Excess Liability: Policy #UXP3000009001, Effective 4/30/2023 - 4/30/2024, Insurer: Arch Insurance Company, NAIC #11150, $15,000,000 Each Occurrence, $15,000,000 Aggregate.
-3rd Layer Excess Liability: Policy #1000588349231, Effective 4/30/2023 - 4/30/2024, Insurer: Starr Indemnity & Liability Company, NAIC #38318, $15,000,000 Each Occurrence, $15,000,000 Aggregate.
Re: Insurance qualification for Walton Boulevard Intersection Improvements RFP-23-47. If awarded this contract City of Bentonville would be included as Primary Non-Contributory Additional Insured on the General Liability, Automobile Liability and Umbrella Liability policies if required by written contract, subject to policy terms and conditions. If awarded this contract Garver, LLC would be included as Additional Insured on the General Liability, Automobile Liability and See Attached...

CERTIFICATE HOLDER	CANCELLATION
City of Bentonville and Garver, LLC Administrative Services Building 1000 SW 14th St. Attn: Purchasing Department Bentonville AR 72712	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. [redacted]

© 1988-2015 ACORD CORPORATION. All rights reserved.

ACORD 25 (2016/03) The ACORD name and logo are registered marks of ACORD



NON-COLLUSION AFFIDAVIT

NON-COLLUSION AFFIDAVIT

BID INVALID IF THIS AFFIDAVIT IS NOT SIGNED AND NOTARIZED AND SUBMITTED WITH THE BID

State of Kansas

County of Cherokee

I Mark Sell (Printed Name of Authorized Representative/Agent) of lawful age, being first duly sworn, on oath says that:

1.They are the duly authorized representative/agent of the Bidder and/or contractor submitting the Competitive Bid and/or procuring the contract which is attached to this statement, for the purpose of certifying the facts pertaining to the existence of collusion among Bidders and between Bidders and City officials or employees, as well as, facts pertaining to the giving or offering of things of value to government personnel in return for special consideration in the letting of any contract pursuant to the Invitation for Bids to which this statement is attached;

2. They are fully aware of the facts and circumstances surrounding the making of the Bid and/or the procurement of the contract to which this statement is attached and have been personally and directly involved in the proceedings leading to the submission of such Bids;

3. Neither the Bidder/contractor nor anyone subject to the Bidder/contractor's direction or control has been a party;

a. to any collusion among Bidders in restraint of freedom of competition by agreement to bid at a fixed rate or to refrain from submitting;

b. to any collusion with any City official or employee as to quantity, quality or price in the prospective contract, or as to any other terms of such prospective contract, nor

c. in any discussions between Bidders and any City official concerning exchange of money or other thing of value for special consideration in the letting of a contract;

d. to paying, giving, donating or agreeing to pay, give or donate to any officer or employee of the City of Bentonville, any money or other thing of value, either directly or indirectly in procuring the contract to which their statement is attached.

To be completed by Company (Authorized Rep

Signature of Authorized Representative/Agent: [redacted]

Title (of Authorized Representative/Agent): Executive Chairman

To be completed by Notary (include Seal):

Subscribed and sworn before me this: 16th day of October, 2023

Notary Public Signature: [redacted] My commission expires: 9/1/27

Seal: HOLLY RHODES Notary Public - State of Kansas My Appt. Expires 9/1/27

HEAVY CONTRACTORS, INC. CROSSLAND CORPORATE SEAL KANSAS 1963

STATEMENT OF BIDDER'S QUALIFICATIONS

010420 - STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. **Name of Bidder.** Crossland Heavy Contractors, Inc.
2. **Permanent main office address.** 1800 S 52nd St. Suite 410 Rogers, AR 72758
3. **When organized.** April 1993
4. **If a corporation, where incorporated.** Kansas
5. **How many years have been engaged in the contracting business under your present firm or trade name?** 30 Years
6. **Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion).** See attached.
7. **General character of work performed by your company.** Bridges + Roads, Water + Wastewater Treatment Plants, Lift + Pump Stations, Water + Sewer Lines, Storm Drainage, Earthwork, Concrete
8. **Have you ever failed to complete any work awarded to you?** No
9. **Have you ever defaulted on a Contract?** No

   If so, where and why?
10. **Have you ever been fined or had your license suspended by a Contractor's Licensing Board?** No

    If so, where and why?
11. **List the more important projects recently completed by your company, stating the approximate cost for each, and the month and year completed.** See attached.
12. **List your major equipment available for this Contract.** See attached.
13. **Experience in construction work similar in importance to this project.** See attached.
14. **Background and experience of the principal members of your organization, including the officers.** See attached.
15. **Credit available:** $ $4,000,000.00
16. **Give Bank reference:** Cameron Nave 913-327-1212 — CrossFirst Bank 4707 W 135th St. Leawood, KS 66224
17. **Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner?** Yes
18. **The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner, in verification of the recitals comprising this statement of Bidder's Qualifications.**
19. **The Bidder shall provide a brief description of any litigation or administrative proceeding of the following types, either pending or concluded within the preceding year, to which the Bidder (and the** See attached.

STATEMENT OF BIDDER'S QUALIFICATIONS

ultimate controlling person, if different from the Bidder) or any of its directors or executive officers was a party or of which the property of any such person is or was the subject; the names of the parties and the court or agency in which such litigation or proceeding is or was pending shall be given:

(a) Administrative or judicial proceedings of any state federal agency or authority concerning environmental violations;
(b) Proceedings which may have a material effect upon the solvency of the ultimate holding company, including but not necessarily limited to, bankruptcy and receivership; and
(c) Criminal proceedings.

Dated at Columbus, KS this 16th day of October, 2023.

Crossland Heavy Contractors [redacted]

Title Executive Chairman

STATE OF Kansas)
) SS.
COUNTY OF Cherokee)

Mark Sell being duly sworn deposes and says that he is

Executive Chairman of the Board of Crossland Heavy Contractors Inc. (Name of Organization)

and that the answers to the foregoing questions and all statements therein contained are true and correct.

SUBSCRIBED AND SWORN TO BEFORE ME this 16th day of October, 2023.

[redacted] (Notary Public)

My Commission Expires: 9/1/27

HOLLY RHODES
Notary Public - State of Kansas
My Appt. Expires 9/1/27

CROSSLAND HEAVY CONTRACTORS, INC. CORPORATE SEAL KANSAS 1993

CONTRACTS ON HAND

PROJECT	OWNER	CONTRACT AMOUNT	EST COMPLETION
Kill Creek WRRF Design Build	City of Gardner	$35,000,000	TBD
Lake Fayetteville Ballfield Renovations CMAR	City of Fayetteville	$2,800,000	3/24
Vertical Well Field Improvements CMAR	City of Olathe	$5,000,000	TBD
NW A St. CMAR	Trailblazers	$7,000,000	2/24
Midtown Corridor CMAR	City of Fayetteville	$15,000,000	TBD
Decatur WWTP Improvements Design Build	City of Decatur	$11,500,000	TBD
Solids Handling Facility Phase 2 CMAR	Rogers Water Utilities	$30,000,000	TBD
Hochatown Offsite Improvements CMAR	Choctaw Nation	$10,000,000	1/24
2022 Wastewater Treatment Facility Improvements	City of Osawatomie	$2,538,564.00	12/23
2 Inch Waterline Replacement - NW Tulsa	Tulsa Metropolitan Utility Authority	$1,538,000.00	9/23
8th St Corridor Improvements	City of Bentonville	$28,193,021.80	7/24
AB Jewell Clarifier No. 3 Improvements	Tulsa Metropolitan Utility Authority	$12,717,000.00	7/23
AB Jewell WTP Maint and Rehab	City of Tulsa	$1,912,000.00	7/23
AB Jewell Sodium Hydroxide Improvements	Tulsa Metropolitan Utility Authority	$1,763,623.00	3/24
Airport Fire Pump Replacement	Johnson County	$97,000.00	12/23
Alpena Wastewater System Improvements	Town of Alpena, Arkansas	$4,284,865.81	11/23
American Airlines TUL Base Power Supply	American Airlines	$3,500,000.00	12/23
Bartlesville Effluent Pump Station	City of Bartlesville	$1,738,000.00	11/23
Black Bob Pipe Abandonment	City of Olathe	$10,000.00	8/23
BWD Raw Water Main Improvements	Lowell, AR	$576,000.00	9/23
BWD Western Corridor Pump Station	Lowell, AR	$38,373,465.00	12/25
Clear Creek Lift Station Upgrades	City of Springdale	$2,868,238.00	8/23
Contracto 4 High Service Pump Station & Clearwell	City of Lexington	$1,304,114.00	9/23
COT 2 INCH Waterline TMUA-W 11-08, C5	Tulsa Metropolitan Utility Authority	$1,897,000.00	7/23
COT 2 Waterline 31st to Howard	Tulsa Metropolitan Utility Authority	$2,162,000.00	7/23
COT 7th and 8th St Aerterial Rehab	City of Tulsa	$3,510,904.00	11/23
COT NA 8063	City of Tulsa	$3,870,000.00	12/23
COT NA MZ 1153	City of Tulsa	$4,784,000.00	11/23
COT NA ZONE 4031	City of Tulsa	$12,534,085.97	7/23
DLSMB InDense Pilot	Johnson County Wastewater	$55,394.00	9/23
Eagle Bend Irrigation System Improvements	City of Lawrence	$723,000.00	8/23
Facility 2 Filer No. 27 Rebuild	WaterOne	$239,000.00	10/23
Har-Ber Ave. Ext. - 40th St. to Gutensohn Rd.	City of Springdale	$9,985,694.00	7/23
Hefner Surge Enhancements	City of Oklahoma City Water Utilities Trust	$2,109,985.00	11/23
Hefner WTP Ozone Expansion	City of Oklahoma City Water Utilities Trust	$44,432,000.00	7/25
Jenks WWTP	City of Jenks, Oklahoma	$11,917,000.00	8/23
Junction City WTP Improvements Phase 2	City of Junction City	$14,099,012.00	12/23
Kaw Point Control Room Stairs Replacement	Unified Government of Wyandotte County	$63,759.00	12/23
Kaw WTP Electrical & Mechaincal Imps Contract 2	City of Lawrence	$4,457,000.00	10/23
Larson Building Demo	Johnson County Wastewater	$105,940.00	2/23
Lime Silo Slaker Addition	City of Independence Water Department	$3,748,400.00	2/25
Little Cedar Creek Stabilization	City of Olathe	$484,500.00	11/23
Little Osage Trib 2 Drainage Improvements	City of Bentonville	$3,392,063.00	10/23
LLWWTP UV Disinfection Improvements	Broken Arrow Municipal Authority	$5,841,000.00	8/23
Main Lift Station & Forcemain Improvements	City of Eudora	$26,066,450.00	12/23

CONTRACTS ON HAND

PROJECT	OWNER	CONTRACT AMOUNT	EST COMPLETION
Marshalltown - Armstrong Earthwork & Storm Drain	Crossland Const. Co.	$1,226,759.00	10/23
Middle Basin Misc Electrical Improvement	Johnson County Wastewater	$203,459.00	11/23
Missouri River Intake HVAC Improvements & Roof Repl.	Water District No. 1 of Johnson County	$1,560,000.00	12/23
Mohawk WTP - RAW Water Bldg Augur Removal	Tulsa Metropolitan Utility Authority	$181,000.00	10/23
NA St Rehab and WL Repl in MZ 4021	Tulsa, OK	$2,908,000.00	5/24
NE J Street Early Site Preparation	Bentonville, AR	$716,963.00	9/23
Nelson WWTP Improvements Package 4	Mission, KS	$1,744,000.00	11/23
Northland II Pump Station Impr Phase I and II	City of Topeka	$1,092,955.00	10/23
NSWWTP Digester Improvements Project	Tulsa Metropolitan Utility Authority	$2,589,000.00	12/23
NW 9th and D Street	Bentonville, AR	$6,529,392.00	5/24
Olathe Sodium Hypo Tank Replacement	City of Olathe	$349,815.00	11/23
Olathe WTP 1 Demolition	City of Olathe	$743,000.00	10/23
Olathe WTP2 Chemical Feed	Olathe, KS	$14,150,000.00	5/24
Osage Bartlesville	Crossland Construction Company	$1,621,749.00	12/23
Owasso 116th and Garnett Intersection	City of Owasso	$4,284,000.00	12/23
Owasso 116th Widening Garnett to 129th	City of Oswasso	$8,603,000.00	12/23
Owasso WWTP & Main Lift Station	Owasso Public Works Authority	$21,187,879.00	8/23
Pinnacle Hills Roundabouts and Uptown Street Impr.	City of Rogers	$10,857,450.00	8/24
Prairie Grove WWTP Expansion	City of Prairie Grove	$7,358,000.00	7/23
RMUA WPC 22-2	Regional Metropolitian Utility Authority	$484,000.00	8/23
S. Dixieland Rd. Ext.	Lowell, AR	$7,741,107.00	1/24
South Canadian WWTP Improvements	City of Oklahoma City Water Utilities Trust	$213,851,000.00	1/27
South Cedar Creek Elliptical Pipe	City of Olathe	$333,512.00	9/23
Springdale Water Utilities Wastewater TF Phase 1 Impr.	City of Springdale Water and Sewer	$51,394,137.00	2/25
Topeka WTP West Plain Basin Rehab	City of Topeka	$10,249,300.00	11/23
Turkey Creek WWTF Miscellaneous Improvements	Johnson County Wastewater	$2,145,500.00	11/23
Warner WTP Filter Medial Replacement	Warner Utilities Authority	$48,610.00	7/23
Wastewater Treatment Plant Improvements Phase 2	Junction City, KS	$56,406,000.00	12/25
WaterOne Misc. Improvemen	City of Kansas City	$1,373,123.00	10/23
WMHO 10th Street Pedestrian Tunnel Retainage Walls	APAC-Central, Inc.	$240,413.00	7/23
WRWA Landside Wayfinding	Oklahoma City Airport Trust	$5,570,110.00	11/23
Wyss Pumping Station Engine Generator Facilities	WaterOne	$5,776,500.00	12/23

RECENTLY COMPLETED PROJECTS

PROJECT	OWNER	CONTRACT AMOUNT	EST COMPLETION
Oak Street & Uptown Overpass Imps	City of Rogers	$20,701,144.00	04/23
Har-Ber Ave. Ext. - 40th St. to Gutensohn Rd	City of Springdale	$11,386,350.00	07/23
Prairie Grove WWTP Expansion	City of Prairie Grove	$7,358,000.00	07/23
Junction City WTP Improvements Phase 2	City of Junction City	$12,210,000.00	12/22
Main Lift Station & Forcemain Improvements	City of Eudora	$26,066,450.00	12/22
Topeka WTP West Plant Basin Rehab	City of Topeka	$10,249,300.00	05/23
Joplin High Service PS Replacement	Missouri American Water Company	$6,402,100.00	12/22
Ada Main Street Improvements	City of Ada	$7,491,316.00	01/23
Owasso WWTP & Main Lift Station	Owasso Public Works Authority	$21,187,879.00	02/23
Jenks WWTP	City of Jenks	$11,917,000.00	01/23
2ND &Bryant	City of Edmond	$7,478,800.00	06/22
AB Jewell Clarifier No. 2 Improvements	Tulsa Metropolitan Utility Authority	$8,922,000.00	11/22
Owasso 116th Widening Garnett to 129th	City of Owasso	$8,603,000.00	02/21
Kessler Mountain Regional Park	City of Fayetteville	$6,387,494	10/22
LLWWTP UV Disinfection Improvements	Broken Arrow Municipal Authority	$5,841,000	08/23

LITIGATIONS + PROCEEDINGS

Matter	Case No.	Court	Description	Status
Kenneth Wayne Brooks and City of Refuge, Inc. v. Crossland Heavy Contractors, Inc., Crossland Construction Company, Inc. and JR and B Construction Services, LLC	CJ-2022-697	District Court of Tulsa County, Oklahoma	Personal Injury suit filed 3/8/2022 by third-party for injury alleging negligent work by Crossland Subcontractor related to sidewalk during construction project.	Pending
Owasso Masonic Lodge Number 545 v. Crossland Heavy Contractors, Inc.	CJ-2022-1918	District Court of Tulsa County, Oklahoma	Suit filed 6/22/2022 by third party alleging trespass and damage to property during construction on a project.	Pending
City of the Village v. Crossland Heavy Contractors, Inc., Markwell Paving Company, and Fidelity and Deposit Company of Maryland	CJ-2023-300	District Court of Oklahoma County, Oklahoma	Suit filed 1/17/2023 against Crossland by project owner alleging asphalt failure due to Subcontractor work on a project.	Pending
Bazelle-Kays Lanudry Services, LLC v. The City of Springdale, John Doe Employee(s), and Crossland Heavy Contractors, Inc.	72CV-22-2566	Circuit Court of Washington County, Arkansas	Suit filed 4/21/2023 by third party company alleging work Crossland performed for the City of Springdale on the road outside its business location amounted to tortious interference with business expectancy.	Pending

SIMILAR PROJECT EXPERIENCE, PARTIAL LIST



Park Street Intersection Improvements

PROJECT LOCATION
Springdale, AR

CONTRACT AMOUNT
$2,804,691

CLIENT
City of Springdale
Brad Baldwin
479-750-8135

ENGINEER
Garver, LLC
Jeff Webb
479-871-1937



7th & 8th Street Arterial Rehabilitation

PROJECT LOCATION
Tulsa, OK

CONTRACT AMOUNT
$3,781,322

CLIENT
City of Tulsa
Ryan McKaskle
918-596-9565

ENGINEER
Poe & Associates
Rusty Akerman
918-665-8800



S Arkansas St. Gateway - Oak to Chestnut

PROJECT LOCATION
Rogers, AR

CONTRACT AMOUNT
$9,649,998

CLIENT
City of Rogers

ENGINEER
CEI Engineering
Associates, Inc.
479-273-9472



8th Street Corridor Improvements, *in progress*

PROJECT LOCATION
Bentonville, AR

CONTRACT AMOUNT
$27,802,588

CLIENT
City of Bentonville
Dennis Birge
479-271-6840

ENGINEER
Burns & McDonnell
Steven Beam
479-725-5460

MAJOR EQUIPMENT

Category/Equip#	Description	Purchase Date
Aggregate Processing		
27-0061	(2018) CRUSHER, KLEEMAN IMPACT	01/05/22
27-0085	CONVEYOR, 30" X 80'	01/27/09
27-0348	SCREEN, MCCLOSKEY S130 TRIPLE DECK	02/04/09
27-0610	CRUSHER, METSO LOKOTRACK LT1213S	02/04/09
27-0694	CONVEYOR, 36" X 80'	05/31/12
27-0838	(2011) ROCK SCREEN, G14-12 Z SCREEN	03/15/12
27-0910	(2011) CONVEYOR, PEERLESS	12/31/11
26-1832	(2011) G12-3 Z SCREEN	08/31/11
Air Compressor		
18-0315	(2007) COMPRESSOR, ENGINE DRIVEN AIR	02/29/12
17-1989	(2004) INGERSOL RAND P185WIP CFM COMP	07/18/07
18-0123	COMPRESSOR, IR PORTABLE	09/07/21
Backhoe		
06-0132	(2016) BACKHOE, 420F2 IT (LIGE WYNN)	08/16/16
06-0202	(2012) BACKHOE, CAT 416F 4WD	11/30/14
06-0209	(2012) BACKHOE, CAT 416F 4WD EXC CONTROLS	11/30/14
06-0327	(2008) BACKHOE, CAT 416E 4WD	10/28/13
06-0489	(2016) BACKHOE, JD 310SL (JOE ABARCA)	02/28/17
06-0684	(2016) BACKHOE, CASE 580SN	08/25/16
06-0906	(2012) BACKHOE, 420F	02/19/16
06-0078	(2015) BACKHOE, CAT 420F (5 BCKTS, FORKS)	01/21/16
06-0781	(2012) BACKHOE, CAT 420F IT (BUCKET, FORKS)	03/28/16
06-0964	(2013) BACKHOE, CAT 420F IT	02/22/16
06-0994	(2015) BACKHOE, CAT 420F (FORKS)	01/21/16
Boom/Misc Truck		
03-0057	(1997) TRUCK, W/ TREE SPADE FORD L85	12/01/21
03-0085	(2012) TRUCK, YARD DOG, CAPACITY	09/28/18
03-0101	(2008) TRUCK, FUEL & OIL SERVICE	10/17/07
03-0819	(1998) TRUCK, BOOM 18 TON TEREX BT3670	01/20/17
03-0897	(2006) TRUCK, YARD DOG, KALMER (OFF ROAD)	03/31/15
03-0900	(2006) TRUCK, BOOM W/ TEREX 3470 17-TON CRANE	02/28/06
03-0951	(1992) TRUCK, BOOM 12 1/2 T W/556B CRANE	07/31/99
03-1794	(2011) TRUCK, BOOM 26 TON NATL 900A	07/05/17
03-0022	(2000) DUMP TRUCK, SINGLE AXLE FORD F650	07/25/22
03-0645	(2004) DUMP TRUCK, SINGLE AXLE 5 YD	04/21/22
Concrete Batch Plant		
19-0210	(2023) CONCRETE PLANT, 12CY #2 (CCC)	12/20/22
19-0211	(2023) 400 BBL SILO	12/20/22
19-0409	(2023) 36in x65ft RADIAL STACKER	12/20/22
19-0649	(2023) SILO, HORIZONTAL CONC STORAGE #3 (PIG)	09/20/22
19-0650	(2023) SILO, HORIZONTAL CONC STORAGE #4 (PIG)	09/20/22
22-0823	(1987) GENERATOR, 750 KW, 480V 3 PHASE	09/02/22
26-0047	(2023) HEATER, 1.7 BTU PROPANE WATER	09/22/22
45-0345	(2022) CONEX, 8X20 (BATCH HOUSE PLANT #2)	11/10/22
03-0021	(2001) TRUCK, CONCRETE MIXER, KENWORTH W900	02/17/22
03-0023	(2001) TRUCK, CONCRETE MIXER, KENWORTH W900	02/17/22
03-0164	(2005) TRUCK, CONCRETE MIXER, KENWORTH W900	07/29/22
03-0358	(2005) TRUCK, CONCRETE MIXER, KENWORTH W900	07/29/22

MAJOR EQUIPMENT

Category/Equip#	Description	Purchase Date
Concrete Batch Plant		
03-0394	(2002) TRUCK, CONCRETE MIXER, KENWORTH W900	02/17/22
03-0401	(2002) TRUCK, CONCRETE MIXER, KENWORTH W900	02/17/22
03-0402	(2002) TRUCK, CONCRETE MIXER, KENWORTH W900	02/17/22
03-0465	(2002) TRUCK, CONCRETE MIXER, KENWORTH W900	02/17/22
03-0716	(2023) TRUCK, CONCRETE MIXER, KENWORTH W900	08/14/23
03-0717	(2023) TRUCK, CONCRETE MIXER, KENWORTH W900	08/14/23
03-0718	(2023) TRUCK, CONCRETE MIXER, KENWORTH W900	08/14/23
03-0719	(2023) TRUCK, CONCRETE MIXER, KENWORTH W900	08/14/23
03-0720	(2023) TRUCK, CONCRETE MIXER, KENWORTH W900	08/14/23
03-0871	(2005) TRUCK, CONCRETE MIXER, KENWORTH W900	07/29/22
03-1346	(2005) TRUCK, CONCRETE MIXER, KENWORTH W900	07/29/22
04-0015	(2000) TRAILER, PORTABLE FRAC TANK, BATCH PLANT	03/21/22
04-0283	(2002) TRAILER, WESTMARK 5K GAL T/A SP/A INS	07/29/22
04-0374	(2023) TRAILER, 40 FT CONTAINER T/A	04/18/22
19-0122	(2023) 300Bbbl Low Pro Silo	01/19/23
19-0160	(2023) SILO, HORIZONTAL CONCRETE STORAGE (PIG)	05/16/22
19-0413	(2014) CONCRETE MIXER, 10 YD HS RIBBON MIXER	12/02/21
19-0414	(2014) CONVEYOR, 48 IN X 50 FT WET BELT	12/02/21
19-0802	(2013) CONCRETE PLANT, 12 YD (CHC)	09/17/21
19-0817	(2021) CONVEYOR, 30 IN X 65 FT RADIAL STACK BIN	12/17/21
19-0818	(2021) CONVEYOR, 30 IN X 65 FT RADIAL STACK BIN	12/17/21
19-0882	(2022) CHILLER, AIR COOLED LIQUID W/PUMP	08/04/22
19-1134	(2023) SILO, HORIZONTAL CONCRETE STORAGE (PIG)	03/28/22
22-0748	(2020) GENERATOR, 700 KW, 277/480V 3 PHASE	01/04/22
45-1107	(2022) CONEX, 8 X 20 BATCH PLANT #1 (CHEM STOR)	03/18/22
45-1436	(2021) GENERATOR HOUSE (8X40 BATCH HOUSE #1)	12/14/21
45-1991	(2021) CONEX, OFFICE 8 X 20 (BATCH HOUSE #1)	12/14/21
Crane		
12-0062	(2018) CRANE, GROVE 165 TN HYDRAULIC	12/15/20
12-0087	(2007) CRANE, GROVE 60 TN RT	05/24/10
12-0099	(2000) CRANE, MANITOWOC 200 TN CRAWLER	10/22/13
12-0102	(2015) CRANE, TEREX 70 TON RT	12/31/15
12-0106	(2011) CRANE, GROVE 135 TN HYDRAULIC	03/23/16
12-0126	(2010) CRANE, TEREX HC110 CRAWLER	12/20/17
12-0132	(2010) CRANE, TEREX HC110 CRAWLER	12/20/17
12-0136	(2019) CRANE, TADANO MANTIS 88 TN HYD. CRAWLER	01/04/22
12-0137	(2004) CRANE, MANITOWOC 200 TN (ESN 30232288)	06/30/14
12-0159	(2006) CRANE, TEREX 110 TN CRAWLER	09/14/06
12-0255	(2015) CRANE BOOM DOLLY (12-0062)	03/31/16
12-0271	(2010) CRANE, KOBELCO 85 TN CRAWLER	08/26/16
12-0386	(2011) CRANE, TEREX 55 TN RT	02/29/16
12-0436	(2008) CRANE, TEREX 110 TN CRAWLER	12/08/08
12-0491	(2013) CRANE, TEREX 80 TN RT	07/07/17
12-0512	(2008) CRANE, TEREX 55 TN RT	03/31/16
12-0582	(2009) CRANE, GROVE 110 TN HYD (ESN 35250900)	04/15/15
12-0597	(2008) CRANE BOOM DOLLY (12-0106)	10/22/21
12-0612	(2011) CRANE, TEREX 80 TN RT	08/16/13
12-0624	(2017) CRANE, TOWER LINDEN COMANSA	12/05/17

MAJOR EQUIPMENT

Category/Equip#	Description	Purchase Date
Crane		
12-0783	(2006) CRANE, TEREX 55 TN RT	05/01/07
12-0940	(2006) CRANE, TEREX 55 TN RT	05/01/07
12-0214	(2021) CRANE, GROVE 140 TN HYD. CRAWLER	11/09/21
12-0378	(2023) CRANE, LIEBHERR 200 TN CRAWLER	03/10/23
12-0515	(2019) CRANE, LIEBHERR 330 TN CRAWLER	10/24/19
39-1221	(2007) CRANE, TEREX HC165	06/30/07
39-1336	(2009) CRANE, KOBELCO 160TN	03/31/10
39-1428	(2011) CRANE, TEREX HC80	03/31/11
Dozer		
05-0025	(2022) DOZER, CAT D6 LGP, RIPPERS GPS	01/04/22
05-0079	(2015) DOZER, CAT D6N XL GPS	07/31/17
05-0204	(2015) DOZER, CAT D5K2XL RIPPERS GPS	10/06/15
05-0212	(2011) DOZER, CAT D5KXL RIPPERS GPS	07/26/11
05-0298	(2009) DOZER, CAT D9T GPS	07/15/09
05-0332	(2019) DOZER, CAT D6T VPAT GPS (TRIMBLE)	01/03/20
05-0333	(2012) DOZER, CAT D6K XL GPS	04/30/16
05-0353	(2016) DOZER, JD 750K LGP, WINCH GPS	12/16/20
05-0392	(2015) DOZER, CAT D6TXL GPS (KIP BURROWS)	11/23/15
05-0424	(2015) DOZER, CAT D6T XL, RIPPERS, GPS	10/12/17
05-0526	(2014) DOZER, CAT D6T XL, W RIPPER GPS	01/19/16
05-0579	(2013) DOZER, CAT D5K2 XL, WINCH	12/18/15
05-0590	(2013) DOZER, CAT D5K2 XL GPS, WINCH	12/18/15
05-0602	(2012) DOZER, CAT D6N XL GPS	04/30/16
05-0629	(2021) DOZER, JD 850L GPS, 2-WAY RADIO, GPS	12/10/21
05-0664	(2019) DOZER, CAT D5K 2XL GPS (M DAVIS)	03/13/20
05-0712	(2016) DOZER, CAT D6N LGP GPS WINCH	12/16/20
05-0714	(2017) DOZER, JD 700K LGP GPS	11/22/17
05-0739	(2011) DOZER, CAT D6TXW GPS (WINCH)	01/17/14
05-0760	(2014) DOZER, CAT D5K2 XL GPS, WINCH	12/18/15
05-0785	(2017) DOZER, JD 700K, RIPPERS, GPS	12/05/17
05-0808	(2013) DOZER, CAT D6T XL, W RIPPER, 2-WAY RADIO	01/19/16
05-0826	(1997) DOZER, CAT D9R, RIPPERS	12/10/21
05-0885	(2011) DOZER, CAT D8T GPS	12/28/12
05-0997	(2015) DOZER, CAT D6N XL GPS	07/31/17
05-0632	(2016) DOZER, CAT D5K W/ RIPPERS	03/23/16
05-0920	(2022) DOZER, CAT D3 ARO RIPPERS GPS	12/17/21
05-0937	(2022) DOZER, CAT D3 ARO GPS, RIPPERS	12/17/21
5-1266	(2011) DOZER, CAT D5K, RIPPERS	06/14/11
Excavator		
13-0019	(2020) EXCAVATOR, CAT 305E (C,TC,HT)(3 BUCKETS)	10/20/20
13-0026	(2022) EXCAVATOR, JD 470G	09/28/22
13-0029	(2021) EXCAVATOR, CAT 352 TB LINKAGE W/ QC,AUX	12/22/00
13-0057	(2015) EXCAVATOR, JD 135G (C,TC,HT)	03/17/17
13-0059	(2020) EXCAVATOR, CAT 305E (C,TC,HT)(3 BUCKETS)	10/14/20
13-0070	(2015) EXCAVATOR, JD 27D (HT) (3 BUCKETS)	06/20/18
13-0073	(2015) EXCAVATOR, JD 135G (C,TC,HT)	02/28/17
13-0074	(2020) EXCAVATOR, CAT 305E (C,TC,HT)(3 BUCKETS)	10/14/20
13-0100	(2020) EXCAVATOR, CAT 305E (C,TC,HT)(3 BUCKETS)	10/14/20

MAJOR EQUIPMENT

Category/Equip#	Description	Purchase Date
Excavator		
13-0161	(2017) EXCAVATOR, JD 85G (WOODCOCK)	12/05/17
13-0179	(2020) EXCAVATOR, JD 350G (C,TC,GRINDER)	01/06/20
13-0186	(2015) EXCAVATOR, CAT 335F (C,TC) AUX -20 JIC	10/24/17
13-0219	(2014) EXCAVATOR, CAT 320 EL (TC,C) 20 JIT M	04/30/17
13-0222	(2014) EXCAVATOR, CAT 316 EL (C)	04/30/17
13-0261	(2021) EXCAVATOR, CAT 336 (TC) DB AUX -20 JIC	10/21/21
13-0379	(2020) EXCAVATOR, CAT 304E CR	10/01/20
13-0465	(2008) EXCAVATOR, CAT 385CL (NO AUX)	10/30/13
13-0482	(2021) EXCAVATOR, CAT 336 (TC) DB AUX -20 JIC	10/21/21
13-0535	(2014) EXCAVATOR, CAT 329 EL (C,TC)AUX-20 JIC M	10/12/15
13-0547	(2019) EXCAVATOR, JD 135G (C,TC,HT)	01/06/20
13-0558	(2019) EXCAVATOR,JD 135G (C,TC,HT)AUX 16 JIC M	01/06/20
13-0573	(2014) EXCAVATOR, CAT 314 EL CR (C,TC) RT ZT	04/30/17
13-0574	(2021) EXCAVATOR, CAT 305 (QC,HT)	03/30/22
13-0575	(2021) EXCAVATOR, CAT 305 (QC,HT)	03/30/22
13-0582	(2020) EXCAVATOR, CAT 336F DB LINKAGE W/ QC,AUX	12/22/20
13-0593	(2021) EXCAVATOR, CAT 305 (QC,HT)	03/30/22
13-0605	(2013) EXCAVATOR, CAT 320EL (C,TC)AUX -20 JIC M	04/30/16
13-0616	(2016) EXCAVATOR, CAT 301.7D CR (4 BUCKETS)	03/31/16
13-0671	(2014) EXCAVATOR, CAT 336E (C,TC) VIBE HAMMER	01/26/16
13-0709	(2023) JOHN DEERE 26G (HT) (12,18 BUCKET)	03/28/23
13-0714	(2012) EXCAVATOR, CAT 336 EL (C) NO AUX	12/31/13
13-0728	(2020) EXCAVATOR, CAT 336F DB LINKAGE W/ QC,AUX	12/30/20
13-0808	(2012) EXCAVATOR, 336 EL (NO AUX) GPS	12/31/13
13-0959	(2020) EXCAVATOR, JD 210G (C,TC,HT)	01/06/20
13-1558	(2005) EXCAVATOR, CAT 345 CL-FG	01/21/22
07-0020	(2013) EXCAVATOR, CAT 308E (C,TC,HT,SB)	10/14/15
07-0360	(2012) EXCAVATOR, CAT 321 DL(C,TC) AUX-20 JIC M	06/26/15
07-0663	(2012) EXCAVATOR, CAT 308E (C,TC,SB)	10/14/15
07-1048	(2012) EXCAVATOR, CAT 308E (C,TC,SB)	12/31/12
07-1061	(2013) EXCAVATOR, JD 245 GLC (C) NO AUX	11/30/14
07-1266	(2012) EXCAVATOR, CAT 312 EL (C) RT	11/30/14
07-1410	(2013) EXCAVATOR, CAT 321 (C,TC)	08/31/12
07-1602	(2012) EXCAVATOR, CAT 349EL (C,TC)	06/27/14
13-0012	(2018) EXCAVATOR, CAT 305E (C,TC,2W,4 BUCKETS)	12/31/17
13-0047	(2018) EXCAVATOR, CAT 305E (C,TC,2W)	12/17/18
13-0058	(2012) EXCAVATOR, CAT 308E (C,TC,SB)	07/26/16
13-0124	(2021) EXCAVATOR, CAT 315F (RT,TC)	01/04/22
13-0182	(2021) EXCAVATOR, CAT 315F(RT,TC,HT)AUX JIC-16M	04/20/21
13-0240	(2021) EXCAVATOR, CAT 315F (RT,TC)	04/20/21
13-0254	(2017) EXCAVATOR, CAT 316F (C,TC) AUX -16 JIC	11/14/17
13-0275	(2022) EXCAVATOR, CAT 336 GC (QC) AUX -20 JIC M	04/27/22
13-0306	(2020) EXCAVATOR, CAT 315F (C,TC) AUX -16 JIC	09/23/20
13-0363	(2021) EXCAVATOR, CAT 308 (QC,HT,CD,ST)	08/18/21
13-0364	(2021) EXCAVATOR, CAT 308 (QC,HT,CD,ST)	08/18/21
13-0401	(2022) EXCAVATOR, CAT 325 (TC) AUX -	10/28/22
13-0425	(2017) EXCAVATOR, CAT 305E (C,TC,4W)	12/31/17
13-0472	(2013) EXCAVATOR, CAT 320 EL (C,TC) -20 JIC M	06/29/16

MAJOR EQUIPMENT

Category/Equip#	Description	Purchase Date
Excavator		
13-0493	(2014) EXCAVATOR, JD 210G (C,TC)	05/30/17
13-0522	(2022) EXCAVATOR, 315F TC AUX -16 JIC	11/07/22
13-0588	(2022) EXCAVATOR, CAT 335 (C,TC) AUX-20 JIC M	08/05/22
13-0594	(2021) EXCAVATOR, CAT 305 (QC,HT)	03/30/22
13-0595	(2021) EXCAVATOR, CAT 305 (QC,HT)	03/30/22
13-0819	(2021) EXCAVATOR, CAT 325 (TC) AUX -20 JIC MALE	04/20/21
13-0848	(2018) EXCAVATOR, CAT 308E (C,TC,2W,SB,2 BCKTS)	12/31/17
13-0857	(2017) EXCAVATOR, JD 350G (C,TC) AUX -20 male	12/22/17
13-0902	(2012) EXCAVATOR, CAT 308E (C,TC,SB)	07/26/16
13-0950	(2017) EXCAVATOR, CAT 305.5E(C,TC,4W,4 BUCKETS)	12/31/17
13-1074	(2021) EXCAVATOR, CAT 325 (TC) AUX -20 JIC MALE	04/20/21
7-1250	(2005) EXCAVATOR, CAT 345C HT	08/31/09
Grader		
08-0159	(2010) GRADER, JOHN DEERE 770GP	10/14/15
08-0312	(2016) GRADER, JOHN DEERE 670GP, 2-WAY RADIO	09/16/19
08-0314	(2012) GRADER, JOHN DEERE 770G	08/31/15
08-0760	(2014) GRADER, CAT 140M	03/22/16
08-0963	(2006) GRADER, CAT 140H	03/24/14
08-0930	(2012) GRADER, JD 770GP	05/31/16
Light Plant		
43-0129	(2014) 4000W NARROW HORZ MAST LIGHT PLANT	01/13/21
43-1220	(2003) GENIE TML400 LIGHT PLANT	11/12/07
43-1773	(2005) GENIE TML 06 LIGHT PLANT	08/31/11
Loader		
10-0719	(2017) LOADER, WHEEL, CAT 950M	10/24/17
10-0768	LOADER, WHEEL CAT 972 H	01/27/09
10-0789	(2017) LOADER, WHEEL, CAT 950M	10/30/17
10-0864	(2017) LOADER, WHEEL CAT 950M	09/20/18
10-0220	(2015) LOADER, WHEEL JD 204K (BKT AND FORKS)	12/22/17
10-0360	(2020) LOADER, WHEEL JD 204L (BKT AND FORKS)	09/21/20
10-0422	(2020) LOADER, WHEEL JD 204L (BKT AND FORKS)	09/21/20
10-0511	(2014) LOADER, WHEEL CAT 930K	02/22/16
10-0671	(2014) LOADER, WHEEL CAT 930K	02/22/16
10-0685	(2014) LOADER, WHEEL CAT 930K	02/22/16
10-0880	(2015) LOADER, WHEEL JD 544K	12/05/17
29-0124	(2015) LOADER, WHEEL JD 204K (BKT AND FORKS)	06/29/15
29-0315	(2015) LOADER, WHEEL JD 204K (BKT AND FORKS)	06/30/15
29-1211	(2004) LOADER, WHEEL KOMATSU WA250L-5	11/28/06
29-1297	(2007) LOADER, WHEEL KOMATSU 320-5L	05/30/08
29-1428	(2006) LOADER, TRACK CAT 963	10/31/08
Off Road Truck		
07-0142	(2008) TRUCK, ART DUMP CAT 740	03/21/13
07-0191	(2008) TRUCK, ART DUMP CAT 740	03/20/13
07-0385	(2022) TRUCK, ART DUMP JD 410E-II	11/03/22
07-0399	(2022) TRUCK, ART DUMP JD 410E-II	11/15/22
07-0427	(2022) TRUCK, ART DUMP JD 410E-II	11/03/22
07-0429	(2022) TRUCK, ART DUMP JD 410E-II	11/03/22
07-0512	(2012) TRUCK, ART DUMP CAT 740B	05/25/12

MAJOR EQUIPMENT

Category/Equip#	Description	Purchase Date
Off Road Truck		
07-0520	(2008) TRUCK, ART DUMP CAT 740	03/20/13
07-0534	(2012) TRUCK, ART DUMP CAT 740B	05/25/12
07-0690	(2021) TRUCK, ART DUMP JD 410E-II	12/10/21
07-0781	(2022) TRUCK, ART DUMP JD 410E-II	09/28/22
07-0894	(2018) TRUCK, ARC DUMP CAT 745D	11/06/18
07-0926	(2018) TRUCK, ARC DUMP CAT 745D	11/06/18
07-0945	(2018) TRUCK, ARC DUMP CAT 745D	11/06/18
07-0967	(2021) TRUCK, ART DUMP VOLVO A40G	12/20/21
07-0979	(2021) TRUCK, ART DUMP VOLVO A40G	12/20/21
07-1000	(2018) TRUCK, ARC DUMP CAT 745D	11/06/18
Pavers		
19-0648	(2018) CURB MACHINE, POWER CURBERS 5700-C	01/07/19
19-0693	(2008) CURB MACHINE, GOMACO GT3600	04/21/08
28-0250	(2009) PAVER, BRIDGE ROLLER, TEREX BIDWELL 2450	08/31/16
19-0143	(2021) CURB MACHINE, GOMACO EXTREME GT-3600	03/23/21
28-0013	(2013) PAVER, BRIDGE ROLLER,TEREX BID-WELL 3600	04/09/15
28-0165	PAVER, GOMACO COMMANDER III	03/31/20
28-0182	(2016) PAVER, GOMACO GP2600	05/25/16
28-0191	TRIMMER/PLACER, GOMACO 9500	01/25/17
28-0272	(2016) TEXTURE CURE MACHINE, GOMACO TC600	12/30/16
28-0722	(2017) PAVER, TRIPLE ROLLER TUBE (14,18,24 ft)	08/15/17
41-1140	ALLEN TRIPLE TUBE SCREED(14,18,28 drums)	10/02/12
Roller		
11-0015	(2004) ROLLER, CS563D SOIL DRUM COMPACTOR	10/27/04
11-0097	(2004) ROLLER, CS563D VIBRATORY COMPACTOR	11/30/04
11-0126	(2014) ROLLER, CAT CP64 VIBRATORY PADFOOT	03/23/16
11-0135	(2003) ROLLER, CS-563D 88" SMOOTH DRUM	07/17/07
11-0139	(1999) ROLLER, CP-563D 88" SHEEPS FOOT	07/17/07
11-0151	(2003) ROLLER, CS-433E 66" SMOOTH DRUM	07/17/07
11-0162	(2005) ROLLER - PULL BEHIND	07/29/05
11-0192	(2011) ROLLER, SD, CAT CS44	12/21/16
11-0274	(2013) ROLLER, CAT CP56B PADFOOT W/ BLADE	01/26/16
11-0401	(2010) ROLLER, CS54 VIBRATORY COMPACTOR	02/19/16
11-0402	(2013) ROLLER, CS56B SMOOTH DRUM	11/30/15
11-0544	(1978) ROLLER, 815 SHEEPS FOOT COMPACTOR	08/31/11
11-0612	(2012) ROLLER, SD CAT CS56 84 IN	08/19/15
11-0639	(2012) ROLLER, PADFOOT 84 IN, CAT CP56	09/28/16
11-0711	(2015) ROLLER, CAT SD CS44	10/27/17
11-0983	(2006) ROLLER, 815F SOIL COMPACTOR	07/17/06
11-0137	(2011) ROLLER, CAT CS44 SD	02/24/16
11-0368	(2012) ROLLER, CAT CS44 SD	02/24/16
11-0502	(2013) ROLLER, CAT CS44 SD	02/24/16
11-1651	(2008) VOLVO SD70D 66" SOIL ROLLER	11/13/12
Scissor Lift		
15-0374	(1995) STOCKPICKER, ELECTRIC	01/16/18
15-0446	(2005) STOCKPICKER, ELECTRIC	01/16/18
46-1550	(2014) SCISSOR LIFT, SKYJACK 3226	07/24/14
46-1555	(2014) SCISSOR LIFT, SKYJACK 3226	07/24/14

MAJOR EQUIPMENT

Category/Equip#	Description	Purchase Date
Scraper		
07-0094	(2016) 745C ARTICULATED TRK W/ HITCH KIT, RADIO	12/15/20
07-0167	(2019) 745C ARTICULATED TRK W/ HITCH KIT, RADIO	12/15/20
07-0720	(2015) 745C ARTICULATED TRK W/ HITCH KIT, RADIO	12/15/20
09-0095	(2021) SCRAPER, MTS 28E PULL	03/08/22
09-0263	(2021) TRACTOR, MTS TR3630	03/08/22
09-0317	(2017) SCRAPER, TRUCK TOWED	12/15/20
09-0327	(2017) SCRAPER, TRUCK TOWED (07-0094)	12/15/20
09-0337	(2017) SCRAPER, TRUCK TOWED	12/15/20
09-0452	(2006) SCRAPER, 627G	07/17/06
09-0466	(2006) SCRAPER, 627G	07/17/06
09-0472	(2007) TRACTOR, JD 9520	04/07/08
09-0548	(2007) TRACTOR, JD 9520	04/07/08
09-0558	(2003) SCRAPER, 17E PULL (FRONT)	04/07/08
09-0562	(2003) SCRAPER, 17E PULL (REAR)	04/07/08
09-0602	(2003) SCRAPER, 17E PULL (FRONT)	12/15/08
09-0603	(2003) SCRAPER, 17E PULL (REAR)	12/15/08
09-0780	(2006) SCRAPER, 615CII	08/29/06
Skidsteer		
20-0050	(2015) CAT 246D SKID STEER	10/26/15
20-0055	(2015) CAT 246D SKID STEER	10/26/15
20-0056	(2015) CAT 246D SKID STEER	10/26/15
20-0141	(2015) CAT 259D SKID STEER, TRACKED	10/26/15
20-0152	(2015) CAT 259D SKID STEER, TRACKED	10/26/15
20-0156	(2015) CAT 259D SKID STEER, TRACKED	10/30/15
20-0189	(2015) CAT 246D SKID STEER	10/30/15
20-0194	(2023) CAT 249D3 SKIDSTEER, TRACKED	07/20/23
20-0195	(2023) CAT 249D3 SKIDSTEER, TRACKED	07/20/23
20-0212	(2015) CAT 246D SKID STEER	10/30/15
20-0248	(2016) CAT 259D SKID STEER, TRACKED (NEW ENG)	09/21/16
20-0292	(2014) CAT 259D SKID STEER, TRACKED	08/31/14
20-0363	(2020) CAT 289D3 SKIDSTEER, TRACKED	10/20/20
20-0377	(2015) CAT 246D SKID STEER	10/30/15
20-0379	(2021) CAT 289D3 SKID STEER, TRACKED	09/08/21
20-0385	(2021) CAT 289D3 SKID STEER, TRACKED	09/08/21
20-0387	(2019) CAT 289D SKID STEER, TRACKED CAB	06/21/19
20-0398	(2017) CAT 259D SKIDSTEER, TRACKED	11/02/17
20-0437	(2015) CAT 246D SKID STEER	10/31/15
20-0439	(2015) CAT 246D SKID STEER	10/31/15
20-0442	(2015) CAT 246D SKID STEER	10/31/15
20-0450	(2022) CAT 289D3 SKID STEER, TRACKED	06/15/22
20-0492	(2016) CAT 259D SKID STEER, TRACKED	09/19/16
20-0493	(2016) CAT 259D SKID STEER, TRACKED	09/21/16
20-0499	(2021) CAT 289D3 SKID STEER, TRACKED	12/08/21
20-0500	(2021) CAT 289D3 SKID STEER, TRACKED	12/08/21
20-0501	(2021) CAT 289D3 SKID STEER, TRACKED	12/08/21
20-0502	(2021) CAT 289D3 SKID STEER, TRACKED	12/08/21
20-0508	(2016) CAT 259D SKID STEER, TRACKED	09/21/16
20-0519	(2016) CAT 259D SKID STEER, TRACKED	09/19/16

MAJOR EQUIPMENT

Category/Equip#	Description	Purchase Date
Skidsteer		
20-0523	(2016) CAT 259D SKID STEER, TRACKED	09/21/16
20-0525	(2016) CAT 259D SKID STEER, TRACKED (NEW ENG)	09/21/16
20-0595	(2023) CAT 289D3 SKID STEER, TRACKED	02/09/23
20-0636	(2021) CAT 259D3 SKID STEER, TRACKED, CAB	08/27/21
20-0640	(2021) CAT 259D3 SKID STEER, TRACKED, CAB	08/27/21
20-0684	(2018) CAT 249D SKID STEER, TRACKED	12/05/18
20-0686	(2018) CAT 249D SKID STEER, TRACKED	12/05/18
20-0687	(2018) CAT 249D SKID STEER, TRACKED	12/05/18
20-0688	(2018) CAT 249D SKID STEER, TRACKED	12/05/18
20-0740	(2020) JD 317G SKIDSTEER, TRACKED	12/12/19
20-0743	(2016) CAT 259D SKID STEER, TRACKED	09/21/16
20-0758	(2021) CAT 289D3 SKID STEER, TRACKED	08/31/21
20-0774	(2016) CAT 259D SKID STEER, TRACKED	09/19/16
20-0776	(2016) CAT 259D SKID STEER, TRACKED	09/21/16
20-0792	(2018) CAT 249D SKID STEER, TRACKED	12/05/18
20-0828	(2023) CAT 289D3 SKIDSTEER, TRACKED	03/09/23
20-0851	(2020) JD 317G SKIDSTEER, TRACKED	12/12/19
20-0852	(2018) CAT 249D SKID STEER, TRACKED	12/05/18
20-0867	(2020) JD 317G SKIDSTEER, TRACKED	12/12/19
20-0880	(2020) CAT 249D SKIDSTEER, TRACKED	10/20/20
20-0881	(2020) CAT 249D SKIDSTEER, TRACKED	10/20/20
20-0884	(2020) JD 317G SKIDSTEER, TRACKED	12/12/19
20-0948	(2014) CAT 236D SKID STEER	09/11/14
20-0965	(2014) CAT 236D SKID STEER	09/11/14
20-0966	(2014) CAT 236D SKID STEER	09/11/14
20-0971	(2014) CAT 236D SKID STEER	09/11/14
20-0972	(2014) CAT 236D SKID STEER	09/11/14
20-0973	(2014) CAT 236D SKID STEER	09/11/14
20-0974	(2014) CAT 236D SKID STEER	09/11/14
20-0975	(2014) CAT 236D SKID STEER	09/18/14
20-0976	(2014) CAT 236D SKID STEER	09/11/14
20-1767	(2020) JD 317G SKIDSTEER, TRACKED	12/12/19
20-1829	(2023) CAT 289D3 SKIDSTEER, TRACKED	03/09/23
20-1917	(2022) CAT 289D SKID STEER, TRACKED CAB	10/24/22
20-0059	(2018) CAT 279D SKIDSTEER, TRACKED	12/22/17
20-0076	(2018) CAT 289D SKIDSTEER, TRACKED	12/22/17
20-0198	(2016) CAT 289D SKIDSTEER, TRACKED	12/29/16
20-0299	(2016) CAT 289D SKID STEER, TRACKED	10/31/16
20-0327	(2017) CAT 289D SKIDSTEER, TRACKED	12/22/17
20-0454	(2016) CAT 289D SKIDSTEER, TRACKED	12/29/16
20-0524	(2020) CAT 289D3 SKIDSTEER, TRACKED	12/29/16
20-0587	(2023) CAT 289D3 SKID STEER, TRACKED	02/09/23
20-0635	(2018) CAT 249D SKID STEER, TRACKED	11/30/18
20-0655	(2021) CAT 289D3 SKIDSTEER, TRACKED	06/22/21
20-0656	(2021) CAT 289D3 SKIDSTEER, TRACKED	06/22/21
20-0657	(2021) CAT 289D3 SKIDSTEER, TRACKED	06/22/21
20-0658	(2018) CAT 249D SKID STEER, TRACKED	11/30/18
20-0659	(2018) CAT 249D SKID STEER, TRACKED	11/30/18

MAJOR EQUIPMENT

Category/Equip#	Description	Purchase Date
Skidsteer		
20-0660	(2018) CAT 249D SKID STEER, TRACKED	11/30/18
20-0664	(2018) CAT 249D SKID STEER, TRACKED	11/30/18
20-0747	(2022) CAT 289D3 SKID STEER, TRACKED	09/22/22
20-0752	(2022) CAT 289D3 SKID STEER, TRACKED	09/22/22
20-0775	(2022) CAT 289D3 SKID STEER, TRACKED	09/22/22
20-0857	(2018) CAT 289D SKIDSTEER, TRACKED	12/22/17
20-0931	(2023) CAT 289D3 SKIDSTEER, TRACKED	03/09/23
20-1658	(2021) CAT 289D3 SKIDSTEER, TRACKED	06/22/21
20-1659	(2021) CAT 289D3 SKIDSTEER, TRACKED	06/22/21
20-1660	(2021) CAT 289D3 SKIDSTEER, TRACKED	06/22/21
20-1682	(2018) CAT 249D SKID STEER, TRACKED	11/30/18
20-1757	(2022) CAT 289D3 SKID STEER, TRACKED	09/22/22
20-1776	(2022) CAT 289D SKIDSTEER, TRACKED	10/21/22
29-1973	(2015) CAT 279D SKIDSTEER, TRACKED	12/31/15
Snorkel Lifts		
46-0005	(2020) BOOM LIFT, STRAIGHT, 60 ' W/JIB W/GEN	08/27/20
46-0012	(2019) BOOM LIFT, STRAIGHT, 85 ' W/JIB	12/12/19
46-0013	(2020) BOOM LIFT, STRAIGHT, 60 ' W/JIB W/GEN	08/27/20
46-0014	(2019) BOOM LIFT, STRAIGHT, 85 ' W/JIB	12/12/19
46-0027	(2021) BOOM LIFT, STRAIGHT, 85 ' W/JIB	06/29/21
46-0067	(2019) BOOM LIFT, STRAIGHT, 85 ' W/JIB	01/28/20
46-0107	(2019) BOOM LIFT, STRAIGHT, 85 ' W/JIB	01/28/20
46-0131	(2019) BOOM LIFT, STRAIGHT, 85 ' W/JIB	01/28/20
46-0184	(2019) BOOM LIFT, STRAIGHT, 60 '	01/28/20
46-1014	(2021) BOOM LIFT, STRAIGHT, 85 ' W/JIB	06/29/21
Sprayers/Cleaners		
04-0923	TRAILER, POWER WASHER, 3000 PSI	11/18/20
36-0272	PRESSURE WASHER, TOWABLE, 3500 PSI	10/22/18
36-0601	(2023) Truck Wheel Wash	04/24/23
04-1171	(1996) TRAILER, MAINT WASHER 7X16 HD	12/31/15
Telehandler		
14-0001	(2020) REACH FORKLIFT, XTREME XR1055	09/29/20
14-0010	(2020) REACH FORKLIFT, XTREME XR1055	09/29/20
14-0012	(2020) REACH FORKLIFT, XTREME XR1055	09/29/20
14-0018	(2013) REACH FORKLIFT, CAT 943C	04/29/16
14-0092	(2020) REACH FORKLIFT, XTREME XR1055	09/29/20
14-0095	(2012) REACH FORKLIFT, 944E-42RT	11/30/12
14-0150	(2013) REACH FORKLIFT, 644-42	02/19/16
14-0178	(2018) REACH FORKLIFT, XTREME XR842	12/12/18
14-0179	(2018) REACH FORKLIFT, XTREME XR842	12/12/18
14-0180	(2018) REACH FORKLIFT, XTREME XR842	12/12/18
14-0181	(2018) REACH FORKLIFT, XTREME XR842	12/12/18
14-0186	(2018) REACH FORKLIFT, XTREME XR842	12/12/18
14-0187	(2018) REACH FORKLIFT, XTREME XR842	12/12/18
14-0188	(2018) REACH FORKLIFT, XTREME XR842	12/12/18
14-0189	(2018) REACH FORKLIFT, XTREME XR842	12/12/18
14-0190	(2018) REACH FORKLIFT, XTREME XR842	12/12/18
14-0196	(2018) REACH FORKLIFT, XTREME XR842	12/12/18

MAJOR EQUIPMENT

Category/Equip#	Description	Purchase Date
Telehandler		
14-0244	(2021) REACH FORKLIFT, XTREME XR1055	12/10/21
14-0248	(2021) REACH FORKLIFT, XTREME XR1055	12/10/21
14-0251	(2021) REACH FORKLIFT, XTREME XR1055	12/10/21
14-0260	(2021) REACH FORKLIFT, XTREME XR1055	12/10/21
14-0261	(2021) REACH FORKLIFT, XTREME XR1055	12/10/21
14-0264	(2021) REACH FORKLIFT, XTREME XR1055	12/10/21
14-0265	(2021) REACH FORKLIFT, XTREME XR1055	12/10/21
14-0266	(2021) REACH FORKLIFT, XTREME XR1055	12/10/21
14-0309	(2013) REACH FORKLIFT, CAT 943C	12/21/16
14-0312	(2012) REACH FORKLIFT, 944E-42RT	11/30/12
14-0351	(2022) REACH FORKLIFT, XTREME XR1055	10/18/22
14-0353	(2022) REACH FORKLIFT, XTREME XR1055	11/28/22
14-0358	(2023) REACH FORKLIFT, XTREME XR1055	12/20/22
14-0360	(2023) REACH FORKLIFT, XTREME XR1055	12/20/22
14-0367	(2023) REACH FORKLIFT, XTREME XR1055	12/20/22
14-0369	(2012) REACH FORKLIFT, CAT 642	09/28/16
14-0393	(2012) REACH FORKLIFT, CAT 642	09/28/16
14-0401	(2013) REACH FORKLIFT, CAT 943C	06/29/16
14-0403	(2012) REACH FORKLIFT, CAT 642	09/28/16
14-0405	(2012) REACH FORKLIFT, CAT 642	09/28/16
14-0430	(2013) REACH FORKLIFT, CAT 943C (ENG CJG00780)	06/29/16
14-0460	(2014) REACH FORKLIFT, SKYTRAK 10042	11/30/14
14-0463	(2012) REACH FORKLIFT, 944E-42RT	12/28/12
14-0535	(2013) REACH FORKLIFT, 644E-42	03/20/13
14-0678	(2012) REACH FORKLIFT, 944E-42RT	12/28/12
14-0707	(2013) REACH FORKLIFT, 644-42	02/19/16
14-0748	(2012) REACH FORKLIFT, 644-42	02/19/16
14-0751	(2012) REACH FORKLIFT, 644-42	02/19/16
14-0783	(2014) REACH FORKLIFT, SKYTRAK 10042	11/30/14
14-0795	(2019) REACH FORKLIFT, XTREME XR1055	12/17/19
14-0796	(2019) REACH FORKLIFT, XTREME XR1055	12/12/19
14-0797	(2019) REACH FORKLIFT, XTREME XR1055	12/17/19
14-0801	(2019) REACH FORKLIFT, XTREME XR1055	12/17/19
14-0803	(2013) REACH FORKLIFT, CAT 943C	04/29/16
14-0812	(2013) REACH FORKLIFT, CAT 943C	04/29/16
14-0818	(2014) REACH FORKLIFT, SKYTRAK 10042	11/30/14
14-0867	(2013) REACH FORKLIFT, 644E-42	03/20/13
14-0929	(2014) REACH FORKLIFT, SKYTRAK 10042	11/30/14
14-0948	(2007) REACH FORKLIFT 944E-42	09/20/07
14-0952	(2014) REACH FORKLIFT, SKYTRAK 10042	11/30/14
14-0991	(2011) REACH FORKLIFT, 644-42	02/19/16
14-1013	(2020) REACH FORKLIFT, XTREME XR1055	09/29/20
14-1091	(2020) REACH FORKLIFT, XTREME XR1055	09/29/20
14-1094	(2020) REACH FORKLIFT, XTREME XR1055	09/29/20
14-1095	(2020) REACH FORKLIFT, XTREME XR1055	09/29/20
14-1622	(2014) REACH FORKLIFT, SKYTRAK 10042	11/30/14
14-1803	(2019) REACH FORKLIFT, XTREME XR1055	12/17/19
88-0950	(2007) REACH FORKLIFT 944E-42	12/17/19

MAJOR EQUIPMENT

Category/Equip#	Description	Purchase Date
Trench Equipment		
41-0015	(2008) ROCK HOPPER, 1.4 CY	01/29/19
41-0927	ROCK HOPPER, 2 CY	07/16/20
41-1144	(2009) ROCK HOPPER, GARBRO 2CY	08/25/16
41-1167	(2009) ROCK HOPPER, 2 CY	08/07/19
41-1458	ROCK HOPPER, 2 CY	01/21/13
41-1569	(2010) ROCK HOPPER, 6 CY	11/27/13
41-1965	(2013) ROCK HOPPER 2YD	01/28/13
42-0001	(2015) TRENCH BOX, MOD ALUM PANELS	08/20/15
42-0002	(2010) ROCK HOPPER, GARBRO 4 CY	10/14/15
42-0010	TRENCH BOX, 8 X 16, 4 IN WALL	12/31/15
42-0011	TRENCH BOX, 4 X 20 X 2 X 1/4 (ONE PC)	12/31/15
42-0012	TRENCH BOX, 8 X 24, 6 IN WALL	12/31/15
42-0022	TRENCH BOX, 8 X 24, 4 IN WALL	12/31/15
42-0053	TRENCH BOX, 8 X 8, 4 IN WALL	12/31/15
42-0117	TRENCH BOX, 8 X 24, 8 IN WALL	04/15/16
42-0175	TRENCH BOX, 8 X 20, 4 IN WALL, KNIFE EDG	03/31/16
42-0210	BEDDING BOX, 15 CY	01/31/16
42-0231	TRENCH BOX, 8 X 16	09/25/19
42-0234	TRENCH BOX, MANHOLE 8 X 10	09/25/19
42-0255	TRENCH BOX, 16 X 4, 4 INCH WALL	01/26/16
42-0323	TRENCH BOX, 8 X 24, 6 IN WALL	12/31/15
42-0328	(2005) TRENCH BOX, MANHOLE 8X12	12/16/15
42-0329	(2005) TRENCH BOX, MANHOLE 8X12	12/16/15
42-0336	TRENCH BOX, 8 X 8, 4 IN WALL	12/31/15
42-0372	TRENCH BOX, 8X20, 6 IN WALL, KNIFE EDGE	10/31/15
42-0383	(2014) TRENCH BOX, 8 X 24	07/31/15
42-0428	(2020) BEDDING BOX, 9 YD STEEL	11/10/20
42-0478	(2010) TRENCH BOX, 8 X 8, 4 IN WALL	12/31/15
42-0481	TRENCH BOX, 8 X 24, 6 IN WALL	12/31/15
42-0508	TRENCH BOX, 8 X 20, 4 IN WALL	12/31/15
42-0580	(2018) TRENCH BOX, MANHOLE 8 X 12	09/10/18
42-0581	(2018) TRENCH BOX, MANHOLE 8 X 12	09/10/18
42-0625	TRENCH BOX, 8 X 16 ALUMINUM	09/25/19
42-0708	(2022) NZ14-30" SSP sheet pile (41 sheets)	08/10/22
42-0730	(2019) TRENCH BOX, 8 X 12 ALUMINUM	12/13/19
42-0780	TRENCH BOX, 4 X 16, 4 INCH WALL	07/31/15
42-0847	BEDDING BOX, 12 CY	01/31/16
42-0880	(2014) TRENCH BOX, 8 X 24 6 IN WALL, KNIFE EDGE	07/31/15
42-0925	TRENCH BOX, 8 X 16, 4 IN WALL	04/15/16
42-1013	(2000) TRENCH BOX, 8 X 16, 4 IN WALL	11/13/07
42-1176	(2005) TRENCH BOX, 4 X 16, 4 IN WALL	11/13/07
42-1197	(2009) TRENCH BOX, 8 X 24, 4 IN WALL	08/31/09
42-1281	TRENCH BOX, 8 X 12, 4 IN WALL	11/13/07
42-1553	(2009) TRENCH BOX, 8 X 24, 4 IN WALL	11/13/07
42-1554	(2005) TRENCH BOX, 8 X 20, 4 IN WALL KNIFE EDGE	11/13/07
42-1574	(2007) BEDDING BOX, 9 CY	01/25/08
42-1575	(2004) TRENCH BOX, 8 X 20, 4 IN WALL	11/13/07
42-1637	(2016) TRENCH BOX, MANHOLE, 10 X 12	08/26/16

MAJOR EQUIPMENT

Category/Equip#	Description	Purchase Date
Trench Equipment		
42-1678	TRENCH BOX, 8 X 20, 4 IN WALL	04/15/16
42-1681	TRENCH BOX, 8 X 16, 4 IN WALL KNIFE EDGE	11/13/07
42-1712	(2007) TRENCH BOX, 8 X 16, 6 IN WALL	11/13/07
42-2013	TRENCH BOX, 4 X 24, 6 IN WALL	04/15/16
42-2481	TRENCH BOX, 8 X 24, 6 IN WALL BOX	11/13/07
42-2482	(2010) TRENCH BOX, 8 X 24, 6 IN WALL	11/13/07
42-2483	(2010) TRENCH BOX, 8 X 24, 6 IN WALL	11/13/07
42-2484	TRENCH BOX, 8 X 24, 4 IN WALL	11/13/07
Warehouse Fork Lifts		
14-0013	(2007) FORKLIFT, ELECTRIC	01/16/18
14-0195	(2006) FORKLIFT, INDUSTRIAL	11/30/14
14-0233	(1994) 586E FORKLIFT	03/27/00
14-0298	(2005) FORK LIFT, YALE GLC035VX 3350 LB	06/10/15
14-0510	(2005) FORK LIFT, MITSUBISHI GLC15 3000 LB	06/10/15
14-0638	(2005) FORK LIFT, YALE GLC035VX 3350 LB	06/10/15
36-0671	(2009) FORKLIFT, INDUSTRIAL CASE 586G	02/24/15
36-1269	(2008) TAYLOR 36000# LIFT	09/29/08
36-1430	(2004) FORKLIFT, YALE GLP050RGEUAE090 5000LB	11/20/12
36-1999	(2005) FORKLIFT, FG45T-6	12/31/09
Water Pumps		
20-1601	(2009) 6 IN PIONEER HYD SUB PUMP & HOSE SKID	08/13/09
20-1601B	HOSE SKID, 6 IN PIONEER PUMP	04/24/19
20-1602	(2009) 8 IN PIONEER HYD SUB PUMP & HOSE SKID	08/13/09
20-1602B	HOSE SKID, 8 IN PIONEER PUMP	04/24/19
20-1603	(2009) 12 IN PIONEER HYDRAULIC SUBMERSIBLE PUMP	08/13/09
20-1864	(1999) 6 IN WACKER TRASH PUMP W/ TRAILER	10/24/02
Water Trucks/Trailers		
03-0258	(2005) TRUCK, WATER 4000 GAL, MACK	05/25/12
03-0318	(2000) TRUCK, WATER 3500 GAL, MACK	10/28/13
03-0671	(2006) TRUCK, WATER 4000 GAL, FREIGHTLINER	05/27/14
03-0792	(1997) TRUCK, WATER 2000 GAL, FORD	07/31/01
03-0918	(2006) TRUCK, WATER 2000 GAL, FORD F650	07/12/17
04-0555	(2007) PORTABLE WATER TOWER, 12K GALLON	12/22/10
09-0785	(1990) SCRAPER, 613C WATERWAGON	05/14/02
09-0934	(2006) SCRAPER, 615CII WATERWAGON, 6000 GALLON	08/01/06
03-0794	(2006) TRUCK, WATER 2000 GAL	02/24/15
03-1831	(2011) TRUCK, WATER 2000 GAL, FORD F750 W/ HOSE	10/10/11
23-1050	(2012) WATER TRAILER, 1050 GALLON	12/31/12
4-9301	(2000) WATER TRAILER, LEDWELL 500 GALLON	11/13/07
4-9731	(1999) WATER TRAILER, LEDWELL 500 GALLON	11/13/07

CROSSLAND OFFICERS



MARK SELL

Executive Chairman

Education Bachelor of Science in Construction Science, Kansas State University

Present - 1993 **Crossland Heavy Contractors, Columbus, KS**

Started Crossland Heavy Contractors to pursue civil oriented projects including bridge work, water + wastewater treatment facilities, site utilities and pipe work.

1993 - 1982 **Peter Kiewit Sons, Inc., Omaha, NE**

Work history included numerous road & bridge projects throughout the Midwest. River intake pump station, sheet pile river weir across the Kansas River. Subway renovation and light commuter rail projects in Chicago. Lock & Dam #16 renovation in Muscatine, Iowa.



DAN THOMPSON

President

Education Bachelor of Science in Construction Engineering + Technology, Pittsburg State University

Present - 1995 **Crossland Heavy Contractors, Rogers, AR**

Started with Crossland as an Intern, promoted to field engineer, assistant superintendent, superintendent, estimator, project manager, chief estimating and division manager. Worked on a large number of heavy/civil projects including water + wastewater treatment plants, bridges, utilities, spillways and structural concrete. Promoted to Division Manager/VP in August 2015 to oversee the Northwest Arkansas operations and to President/Arkansas Division Manager in 2023.



CHRIS WALTERS

Vice President

Education Bachelor of Science in Construction Management Technology, Oklahoma State University

Present - 2005 **Crossland Heavy Contractors, Tulsa, OK**

Worked as a project engineer for one year and was then promoted to project manager, managing large projects and helping estimate projects. Then promoted to Division Manager in 2014 to oversee the Tulsa/Oklahoma City operations and Vice President/Tulsa Division Manager in 2023.

CROSSLAND OFFICERS



MATT KITCHEN

Corporate Treasurer

Education Bachelor of Business Administration, Accounting and Finance Pittsburg State University

Present - 2005 **Crossland Heavy Contractors, Columbus, KS**

Kansas licensed CPA responsible for overseeing all aspects of accounting & financing activities inlcuding financial strategic planning, fixed assets, credit, GL, payroll, loans, business tax, is responsible for cash flow, and closes books and prepares financial reports monthly and yearly.



HOLLY RHODES

Corporate Secretary

Education Bachelor of Business Administration, Accounting, Pittsburg State University

Present - 2008 **Crossland Heavy Contractors, Columbus, KS**

Work experience includes all accounting aspects, accounts payable and accounts receivable



DOUG WESTERVELT

Corporate Safety Director

Present - 2008 **Crossland Heavy Contractors, Columbus, KS**

As Corporate Safety Director, Doug is ultimately responsible for Crossland's adherence to all OSHA regulations, as well as for our adherence to all Department of Transportation regulations.

- Oversees adherences to OSHA regulations
- Oversees DOT operations, including training and adherences to DOT regulations
- Implements and maintains the company's STOP Safety Program
- Implements and maintains the company's Drive to Zero Program
- Teaches 10-hour and 30-hour OSHA classes
- Proctors NCCER/NACB crane certification exams

PROPOSED METHOD OF DOING WORK

Proposers should indicate by checking the box below if their method of performing the work will be as specified in this Response Packet and all appendixes. If Proposers check "No", it is the Proposer's responsibility to include detailed information and a narrative of their proposed method of performing the work, along with detailed information on the differences from the City's original specifications.

☑ **Yes, work will be performed AS SPECIFIED** ☐ **No, an alternate method of performing the work is proposed**

** Crossland Heavy will be bidding the work as specified, however, we have provided alternate options for the City.*



ALTERNATE OPTIONS

SOV 01

1. 8" Sanitary Sewer cross Medical Center Parkway (10-15' deep)
   - Bore sewer line which adds casing and would require MH A2 to be a drop manhole

2. Revise MOT
   - During phase 2, move all N-S traffic to the two west lanes of Medical Center Parkway. This allows all the work in the island as well as the NE corner to be completed during phase 2.

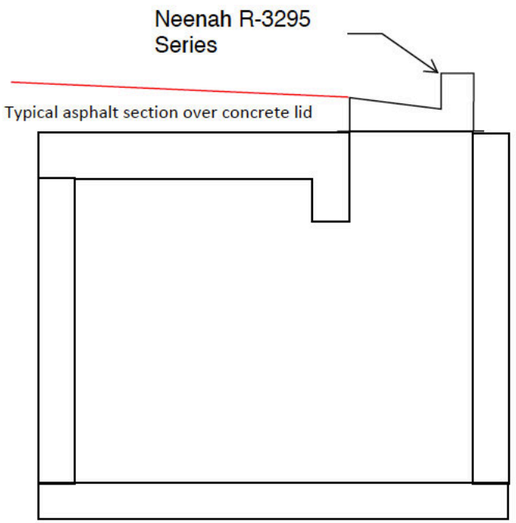
SOV 02

1. 8" Waterline across SE Dodson Road (10' deep)
   - Bore casing already shown

BOTH SOV

1. Revise Inlet Details
   - Use provided inlet detail with Neenah R-3295 in lieu of combination inlets shown on C-158, 159, 160, and 161.
   - This will keep structures in roadway, which typically avoids utilities found behind curb. The Neenah R-3295 also does not require supporting beams.
   - Pending final design, this alternate could potentially eliminate waterline D and E being relocated on SE J Street.

2. Reduce Typical Section to 10" of Select Fill
   - SOV 01 - 1,182 SY x 14" = 461 CY of Saved Unclassified Ex and Embankment
   - SOV 02 - 1,182 SY x 14" = 461 CY of Saved Unclassified Ex and Embankment



- Base Slab and Walls 8" thick, lid 10" thick with a 6" by 6" beam.
- Reinforcing #4 at 9" OCEW single mat in base and walls, double mat in lid of #5 at 6" OCEW
- 2 EA 3" weep holes on any face without a storm pipe. Cover hole with fabric and install minimum of 1 CF of clean rock at each hole.
- Design would need confirmed with engineer of record.



Award-Winning and Nationally Recognized Safety Program.

NATIONAL SAFETY AWARD WINNER
AGC Construction Safety Excellence

ABC PLATINUM STEP AWARD RECIPIENT
Safety Training and Evaluation Process

The success of Crossland's safety program is proven in our numbers. Crossland's annual safety record below the industry average — a record more astounding considering we have more construction hours than our competitors due to our self-performance capabilities.

EXPERIENCE MODIFICATION RATE [EMR RATING] **0.69**

INDUSTRY AVERAGE	1.0
CROSSLAND HEAVY	0.69

DRIVE TO ZERO
Plan Ahead. Stop Accidents. Zero Regrets.

→ Our mission is to have zero accidents and zero injuries on all Crossland jobsites each year. Our employees are family, and we are committed to their safety and success!

1 PLAN AHEAD
We conduct pre-task planning meetings every day to eliminate safety risks. This procedure allows us time to obtain safety equipment required for the day.

2 STOP ACCIDENTS
We empower and reward employees who work safely, as well as those who stop unsafe acts and report safety violations.

3 ZERO REGRETS
Our culture is to have each other's backs and make sure everyone on your team goes home safe each day.

EMPLOYEE SAFETY MEASURES

All employees are responsible for safety program compliance. We identify training, verification, communication, and reporting needs on every project. Our project Superintendents and Project Managers are responsible for safety training, investigations, and communication. Senior Management is responsible for overall program creation, evaluation, and support. Employees are responsible for following safety regulations, reporting unsafe acts or conditions, reporting all accidents, and maintaining safe work areas.

The Project Safety Coordinator and the project team will develop a site-specific safety plan to manage the day-to-day aspects of safety on every jobsite, including but not limited to

- Record Keeping
- Equipment Certifications + Inspections
- Incident Reporting
- Enforcement of Safety Rules
- Implementing + Enforcing Emergency Action Plan

SAFETY TRAINING & MEETINGS

Safety meetings are mandatory and held daily as a part of our overall safety program. Any potential safety problems are discussed and identified for the day ahead. This also allows our Superintendent and employees the opportunity to exchange information, discuss audit results, review new safety procedures, identify anything new introduced to the plan, and introduce any required training programs. Subcontractors will be instructed on their responsibilities for safety and held accountable for compliance with all federal, state, local, and other rules that may apply. We have a program to help our subs improve their safety and even provide training to those that need assistance.

SAFETY TECHNOLOGY

We use DBO2/Safety Net technologies to help us collect, analyze, and disseminate our safety inspections. Safety inspectors and field personnel use a handheld device to record observations in up to 20 specific safety and risk areas. We automatically review any observations against safety and risk parameters. They are then organized, prioritized, and summarized in associated reports for distribution to upper management, project team, and field leadership. We require our projects to have a 95% safe DBO2/Predictive Solutions Score with Consequences for not attaining. We require our Subs to have a 90% safe DBO2/Predictive Solutions Score with Consequences for not attaining.



> **SAFETY IS ALWAYS THEIR MAIN CONCERN, AND IT RESONATES IN THEIR OVERALL CULTURE.**
>
> - Miranda Cruttenden, Project Manager
> Jacobs CH2M

SAFETY TRAINING & EDUCATION

Crossland has a Nationally Recognized Award-Winning Education Program. Crossland has a State of Kansas registered Apprenticeship Program for training Carpenters and Iron Workers. We require all CHC employees to take 40 hours of training annually. We offer crane, rigging, and signaling training and National Certification. Concrete crews take the ACI (American Concrete Institute) Quality and Flatwork Certification courses; Superintendents earn Walmart SWPPP Storm Water Certifications; all onsite leadership has CPR and First Aid Certifications; Welders receive training and AWS Certification; and all drivers take the Smith Driving Certification class, which includes 8 hours on defensive driving. CHC provides training classes as needed for fall protection, confined space safety, excavation safety, flagger procedures and MSHA training. All employees receive the OSHA 10-hour class, and we provide the class free to all subcontractors that we work with. All Superintendents are required to have the OSHA 30-hour class as well and all company employees are required to take an OSHA Refresher every year.

Crossland Heavy has 40 best practices that cover safety, quality, and production that our foremen train our employees on continuously. Each employee is graded and rated on their abilities on each best practice. The Foremen, Field Engineers, Superintendents and Project Managers take a Lean class which introduces Lean methods to our management, as well as also receiving fundamental leadership training.

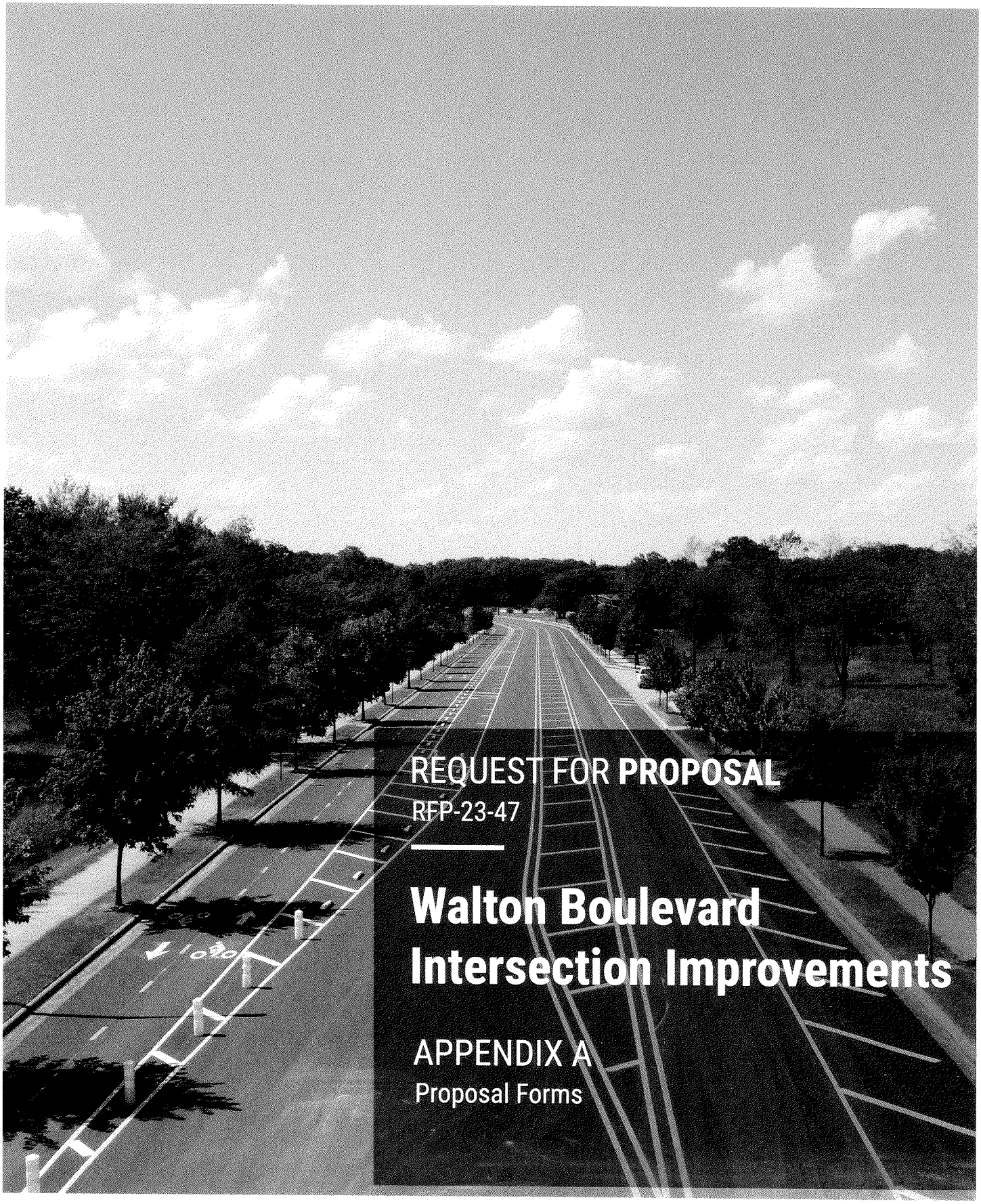
CROSSLAND

HEAVY CONTRACTORS

www.heavycontractors.com

CROSSLAND
HEAVY CONTRACTORS

Arkansas Office
Dan Thompson, President
1800 S 52nd St. Suite 410
Rogers, Arkansas 72758
t. 479.464.7077



REQUEST FOR **PROPOSAL**

RFP-23-47

Walton Boulevard Intersection Improvements

APPENDIX A

Proposal Forms

010400 - PROPOSAL

Place Columbus, Kansas

Date 10/12/2023

Proposal of Crossland Heavy Contractors,

a corporation organized and existing under the laws of the State of Kansas,

or

Proposal of N/A,

a partnership consisting of N/A

or

Proposal of N/A,

an individual doing business as N/A,

To: City of Bentonville

This proposal results from your Request of Proposal (RFP 23-47) for the construction of the **Walton Boulevard Intersection Improvements.**

The undersigned Contractor, having visited the site of the work, having examined the RFP, Plans, Specifications, and other Contract Documents including all Addenda, and being familiar with all of the conditions relating to the construction of the proposed project, hereby agrees to comply with all other conditions or requirements set forth in the Plans, Specifications, and other Contract Documents, and further proposes to; furnish all material, supplies, equipment, and appliances; to furnish all labor, tools, equipment and incidentals to complete the work in accordance with the Plans, Specifications, and other Contract Documents for the lump sum and unit prices included in the proposal.

The undersigned Contractor agrees to begin work within ten (10) calendar days after the issuance by, or on behalf of, the Owner of a "Work Order" or "Notice to Proceed" and to complete the work within **four hundred and eighty (480)** consecutive calendar days thereafter (except as modified in accordance with the GENERAL CONDITIONS of these Contract Documents). It is understood that additional time for the completion of the project is to be allowed only for delays as stipulated in GENERAL CONDITIONS of these Contract Documents.

Contractor acknowledges receipt of the following addendum (addenda):

1 and 2

3 and 4

_____ and _____

_____ and _____

The undersigned Contractor agrees that this proposal shall be good and shall not be withdrawn for a period of sixty (60) calendar days after the opening thereof. If written notice of the acceptance of this Proposal is mailed, telegraphed, or delivered to the undersigned within sixty (60) days after the opening thereof, or at any time thereafter before this Proposal is withdrawn, the undersigned agrees to execute and deliver an Agreement (Contract) in the prescribed form, and furnish the required Performance and Payment Bond, within ten (10) days after the Agreement is presented to him for signature.

It is understood by the undersigned respondent that the Owner reserves the right to reject any or all proposals.

Accompanying this Proposal as bid security is a certified check/bid bond (*strike one*)

in the amount of N/A Dollars ($_____), being not less than five percent (5%) of the total amount of the proposal. If the undersigned Respondent is selected, but fails or refuses to execute the contract and furnish the required bond within the prescribed ten (10) days of the notification of award, then this bid security is to become the property of the Owner as liquidated damages for the delay and additional expense to the Owner caused by such failure or refusal.

NAME OF COMPANY: *[Indicate correct name of proposal entity]*

Crossland Heavy Contractors

By:
[Signature] [redacted]

[Printed name] Dan Thompson

(If Respondent is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
[Signature] [redacted]

[Printed name] Amy Harlos

Title: Estimating Administrative Assistant

Submittal Date: 10/12/2023

Address for giving notices:

501 S East Ave. Columbus, KS 66725

Telephone Number: 620-202-0264

Contact Name and e-mail address: Cole Rink

crink@heavycontractors.com

Contractor's License No.: 0067301123
(where applicable)

NOTES: Sign in ink. Do not detach.

Items must be bid upon as specified in the Unit Price Schedule (UPC) or if the proposed method of performing the work entails additional or alternate line items, the proposer shall clearly indicate deviations from the UPC, attach additional information regarding the deviations along with the original UPC contained in the project manual.

CITY OF BENTONVILLE
WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS (BID SCHEDULE 1)
UNIT PRICES

					Crossland Heavy Contractors	
NO.	NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	E-1	Site Preparation	LS	1	$ 355,000.00	$ 355,000.00
2	E-2	Unclassified Excavation (Plan Quantity)	CY	1190	$ 35.00	$ 41,650.00
3	E-2	Embankment Construction (Plan Quantity)	CY	680	$ 43.00	$ 29,240.00
4	E-2	Undercut Excavation	CY	1100	$ 78.00	$ 85,800.00
5	E-2	Rock Excavation	CY	250	$ 250.00	$ 62,500.00
6	E-4	Trench and Excavation Safety Systems	LS	1	$ 16,000.00	$ 16,000.00
7	I-1	Maintenance of Traffic	LS	1	$ 240,000.00	$ 240,000.00
8	I-3	18" Class III R.C. Pipe	LF	85	$ 200.00	$ 17,000.00
9	I-3	24" Class III R.C. Pipe	LF	133	$ 215.00	$ 28,595.00
10	I-3	24" Class III R.C. Flared End Section	EA	1	$ 2,275.00	$ 2,275.00
11	I-3	Pipe Collar	EA	5	$ 1,850.00	$ 9,250.00
12	I-5	Single Grate Combination Inlet	EA	3	$ 14,700.00	$ 44,100.00
13	I-5	Double Grate Combination Inlet	EA	3	$ 24,000.00	$ 72,000.00
14	I-5	Triple Grate Combination Inlet	EA	1	$ 29,500.00	$ 29,500.00
15	I-5	Double Grate Combination Inlet With 4'x4' Junction Box	EA	1	$ 33,500.00	$ 33,500.00
16	I-5	Special Double Grate Combination Inlet With 4'x1'-6" Junction Box	EA	1	$ 32,000.00	$ 32,000.00
17	I-5	Triple Grate Combination Inlet With 8'x4'-6" Junction Box	EA	0	$ 46,500.00	$ -
18	I-5	4' Type MO Junction Box	EA	1	$ 15,500.00	$ 15,500.00
19	I-5	Additional Curb Openings	EA	3	$ 2,950.00	$ 8,850.00
20	I-8	Asphalt Pavement Repair	SY	35	$ 335.00	$ 11,725.00
21	I-8	Temporary Pavement Repair	SY	35	$ 260.00	$ 9,100.00
22	I-9	Guardrail	LF	277	$ 70.00	$ 19,390.00
23	I-12	Temporary Erosion Control	LS	1	$ 48,000.00	$ 48,000.00
24	I-13	Sodding	SY	2962	$ 7.00	$ 20,734.00
25	I-15	Concrete Island (4")	SY	2	$ 300.00	$ 600.00
26	I-15	Concrete Island (6")	SY	0	$ 250.00	$ -
27	I-16	4" Concrete Sidewalk	SY	255	$ 115.00	$ 29,325.00
28	I-16	6" Concrete Sidewalk	SY	0	$ 190.00	$ -
29	I-16	Handicap Ramp Concrete	SY	81	$ 450.00	$ 36,450.00
30	I-16	Retaining Wall Integral with 6" Thick Sidewalk	SY	60	$ 300.00	$ 18,000.00
31	I-16	Retaining Wall Integral with 6" Handicap Ramp Concrete	SY	5	$ 850.00	$ 4,250.00
32	I-17	Concrete Curb and Gutter (Type A) (1'-6")	LF	792	$ 50.00	$ 39,600.00
33	I-17	Concrete Curb and Gutter (Type A) (2'-0")	LF	130	$ 70.00	$ 9,100.00
34	I-18	Roadway Construction Control	LS	1	$ 125,000.00	$ 125,000.00
35	M-3	Cold Milling Asphalt Pavement	SY	3419	$ 12.50	$ 42,737.50
36	P-1	6" Aggregate Base Course (Class 7)	SY	1532	$ 28.00	$ 42,896.00
37	P-3	ACHM Surface Course (PG 70-22)	TON	564	$ 325.00	$ 183,300.00
38	P-3	ACHM Binder Course (PG 64-22)	TON	404	$ 362.00	$ 146,248.00
39	P-5	Concrete Driveways	SY	0	$ 160.00	$ -
40	P-5	Concrete Aprons	SY	0	$ 160.00	$ -
41	P-5	Asphalt Driveways	SY	0	$ 280.00	$ -
42	S-1	Concrete Retaining Wall	SF	771	$ 160.00	$ 123,360.00
43	T-1	Thermoplastic Pavement Marking - 6" Yellow	LF	1428	$ 3.50	$ 4,998.00
44	T-1	Thermoplastic Pavement Marking - 6" White	LF	1353	$ 3.50	$ 4,735.50
45	T-1	Thermoplastic Pavement Marking - 12" White	LF	836	$ 15.50	$ 12,958.00
46	T-1	Thermoplastic Pavement Marking (Words)	EA	8	$ 620.00	$ 4,960.00
47	T-1	Thermoplastic Pavement Marking (Arrows)	EA	19	$ 550.00	$ 10,450.00
48	T-2	Standard Street Sign Installation	EA	6	$ 500.00	$ 3,000.00
49	SP-2	6" Portland Cement Concrete Base	SY	138	$ 130.00	$ 17,940.00
50	SP-3	Washed River Rock Mulch, Installed	SY	169	$ 230.00	$ 38,870.00
51	SP-4	Remove, Salvage, and Reinstall Existing Handrail	LF	18	$ 100.00	$ 1,800.00
52	SP-5	Remove, Salvage, and Reinstall Existing Monument Sign	EA	2	$ 19,500.00	$ 39,000.00
53	SP & 701	System Local Controller-Fiber (8 Phases)	EA	1	$ 58,500.00	$ 58,500.00
54	SP	Ethernet Switch	EA	1	$ 4,830.00	$ 4,830.00
55	SP	GPS Preemption System	EA	1	$ 20,000.00	$ 20,000.00
56	SP	Battery Backup System	EA	1	$ 16,300.00	$ 16,300.00
57	SP	WIC Fiber Enclosure	EA	1	$ 1,305.00	$ 1,305.00
58	SP & 706	Traffic Signal Head, LED, (3 Section, 1 Way)	EA	18	$ 1,565.00	$ 28,170.00
59	SP & 706	Traffic Signal Head, LED, (4 Section, 1 Way)	EA	7	$ 1,762.00	$ 12,334.00
60	SP & 706	Traffic Signal Head, LED, (5 Section, 1 Way)	EA	3	$ 2,090.00	$ 6,270.00
61	SP	Relocation of Traffic Signal Head	EA	3	$ 460.00	$ 1,380.00
62	SP & 707	Central Control Unit	EA	1	$ 7,835.00	$ 7,835.00
63	SP & 707	Pole Mounted Assembly	EA	8	$ 2,615.00	$ 20,920.00
64	SP & 707	Infrared Programming Device	EA	1	$ 1,960.00	$ 1,960.00
65	SP & 707	Countdown Pedestrian Signal Head, Led	EA	8	$ 1,960.00	$ 15,680.00
66	708	Traffic Signal Cable (5C/14 A.W.G.)	LF	2920	$ 3.60	$ 10,512.00
67	708	Traffic Signal Cable (7C/14 A.W.G.)	LF	2632	$ 4.60	$ 12,107.20
68	708	Traffic Signal Cable (20C/14 A.W.G.)	LF	730	$ 7.20	$ 5,256.00
69	SP	Electrical Conductors-In-Conduit (1C/8 A.W.G., E.G.C.)	LF	903	$ 2.00	$ 1,806.00
70	SP	Electrical Conductors-In-Conduit (1C/12 A.W.G., E.G.C.)	LF	220	$ 1.65	$ 363.00

CITY OF BENTONVILLE
WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS (BID SCHEDULE 1)
UNIT PRICES

71	SP	Electrical Conductors-In-Conduit (2C/6 A.W.G.)	LF	37	$ 6.50	$ 240.50
72	SP	Electrical Conductors For Luminaires	LF	950	$ 3.90	$ 3,705.00
73	SP	Communication Cable, Fiber (12 Channel)	LF	72	$ 58.50	$ 4,212.00
74	SP	Fiber Tracer Wire, #14 AWG, Polyethlene Insulation Orange in Color	LF	72	$ 3.90	$ 280.80
75	SP	Fiber Optic Pigtail, 12 SM	LF	20	$ 97.50	$ 1,950.00
76	709	Galvanized Steel Conduit (2")	LF	37	$ 48.25	$ 1,785.25
77	709	Galvanized Steel Conduit (3")	LF	108	$ 58.50	$ 6,318.00
78	710	Non-Metallic Conduit (2")	LF	101	$ 19.50	$ 1,969.50
79	710	Non-Metallic Conduit (3")	LF	1063	$ 52.00	$ 55,276.00
80	SP & 711	Concrete Pull Box (Type 3)	EA	4	$ 2,100.00	$ 8,400.00
81	SP & 711	Concrete Pull Box (Type 1 HD)	EA	1	$ 1,950.00	$ 1,950.00
82	SP & 711	Concrete Pull Box (Type 3 HD)	EA	8	$ 3,250.00	$ 26,000.00
83	SP & 711	Pull Box For Fiber, DS-1609, 24"X36"X24"	EA	2	$ 5,200.00	$ 10,400.00
84	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (36')	EA	1	$ 57,500.00	$ 57,500.00
85	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (38')	EA	1	$ 58,500.00	$ 58,500.00
86	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (48')	EA	1	$ 60,750.00	$ 60,750.00
87	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (54')	EA	1	$ 67,500.00	$ 67,500.00
88	SP	LED Luminaire Assembly	EA	4	$ 5,875.00	$ 23,500.00
89	SP & 715	Traffic Signal Pedestal Pole With Foundation	EA	6	$ 9,775.00	$ 58,650.00
90	SP	Service Point Assembly (2 Circuits)	EA	1	$ 5,875.00	$ 5,875.00
91	SP	Removal of Traffic Signal Equipment	LUMP SUM	1	$ 13,050.00	$ 13,050.00
92	716	Treated Wood Pole (Class 2, 45')	EA	4	$ 13,050.00	$ 52,200.00
93	SP	18" Street Name Sign (Install Only)	EA	4	$ 450.00	$ 1,800.00
94	SP	Video Detector Rotation	EA	2	$ 450.00	$ 900.00
95	SP & 733	Video Detector Rack (16 Channel)	EA	1	$ 2,950.00	$ 2,950.00
96	SP & 733	Video Detector (IP)	EA	9	$ 11,100.00	$ 99,900.00
97	SP & 733	Video Cable (Exterior Cat 5E)	LF	1857	$ 5.25	$ 9,749.25
98	733	Video Monitor (CLR)	EA	1	$ 1,375.00	$ 1,375.00
99	SP & 733	Central Control Unit (4 Channel)	EA	2	$ 29,350.00	$ 58,700.00
100	SP	SDLC and Cables	LS	1	$ 650.00	$ 650.00
101	SP	Bluetooth System	EA	1	$ 8,500.00	$ 8,500.00
102	SP	Utility Mobilization	LS	0	$ 12,500.00	$ -
103	SP	Utility Trench Excavation Safety Systems	LS	0	$ 14,000.00	$ -
104	SP	Spot Dig and Verify Exiting Utility Locations	LS	1	$ 26,500.00	$ 26,500.00
105	SP	Bypass Pumping	LS	0	$ 30,000.00	$ -
106	SP	8" SDR-26 PVC Sewer Line	LF	0	$ 305.00	$ -
107	SP	4' ID San. Sewer Manhole, Cast-in-Place, 0' to 6' Depth	EA	0	$ 13,215.00	$ -
108	SP	4' ID San. Sewer Manhole Additional Depth, Over 6'	VF	0	$ 695.00	$ -
109	SP	6' ID San. Sewer Manhole with Watertight Ring and Lid, Cast-in-Place, 0' to 6' Depth	EA	0	$ 17,400.00	$ -
110	SP	6' ID San. Sewer Manhole Additional Depth, Over 6'	VF	0	$ 915.00	$ -
111	SP	Core Existing Manhole	EA	0	$ 2,500.00	$ -
112	SP	Raise Manhole Rim to Proposed Grade	EA	1	$ 4,600.00	$ 4,600.00
113	SP	Lower Manhole Rim to Proposed Grade	EA	1	$ 4,600.00	$ 4,600.00
114	SP	Fire Hydrant	EA	0	$ 10,800.00	$ -
115	SP	Salvage Fire Hydrant	EA	0	$ 1,550.00	$ -
116	SP	Relocate and Connect 1" Water Service Line and 1" Meter Set	EA	0	$ 2,700.00	$ -
117	SP	Adjust Valve Box to Proposed Grade	EA	0	$ 1,100.00	$ -
118	SP	Flowable Fill for Abandoned Pipe	CY	0	$ 275.00	$ -
119	SP	Trench Undercut and Backfill	CY	0	$ 120.00	$ -
120	SP	Rock Excavation for Utilities	CY	0	$ 380.00	$ -
121	SP	Bid Schedule 1 Contingency Allowance ($250,000)	LS	1	$ 250,000.00	$ 250,000.00
	SP	Utility Adjustment Delays (Rev. 1)	DAY	10	$ 3,000.00	$ 30,000.00
122	I-5	4' Curb Inlet Extension (Rev. 1)	EA	1	$ 2,800.00	$ 2,800.00

Bid Schedule 1 Items $ 3,419,851.50

CITY OF BENTONVILLE
WALTON BOULEVARD AND SE J STREET IMPROVEMENTS (BID SCHEDULE 2)
UNIT PRICES

					Crossland Heavy	
NO.	NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	E-1	Site Preparation	LS	1	$ 549,000.00	$ 549,000.00
2	E-2	Unclassified Excavation (Plan Quantity)	CY	1,616	$ 35.00	$ 56,560.00
3	E-2	Embankment Construction (Plan Quantity)	CY	634	$ 43.00	$ 27,262.00
4	E-2	Undercut Excavation	CY	1,340	$ 78.00	$ 104,520.00
5	E-2	Rock Excavation	CY	250	$ 250.00	$ 62,500.00

6	E-4	Trench and Excavation Safety Systems	LS	1	$	19,500.00	$	19,500.00
7	I-1	Maintenance of Traffic	LS	1	$	340,000.00	$	340,000.00
8	I-3	18" Class III R.C. Pipe	LF	12	$	225.00	$	2,700.00
9	I-3	24" Class III R.C. Pipe	LF	12	$	260.00	$	3,120.00
10	I-3	42" Class III R.C. Pipe	LF	0	$	395.00	$	-
11	I-3	30"x19" Class III R.C. Elliptical Pipe	LF	179	$	275.00	$	49,225.00
12	I-3	45"x29" Class III R.C. Elliptical Pipe	LF	0	$	305.00	$	-
13	I-3	53"x34" Class III R.C. Elliptical Pipe	LF	530	$	375.00	$	198,750.00
14	I-3	18" Class III R.C. Flared End Section	EA	1	$	2,500.00	$	2,500.00
15	I-3	Pipe Collar	EA	1	$	1,850.00	$	1,850.00
16	I-4	4'x2' Precast Reinforced Concrete Box Culvert	LF	112	$	650.00	$	72,800.00
17	I-4	8'x4' Precast Reinforced Concrete Box Culvert	LF	0	$	1,450.00	$	-
18	I-5	Single Grate Combination Inlet	EA	1	$	15,000.00	$	15,000.00
19	I-5	Double Grate Combination Inlet	EA	0	$	24,800.00	$	-
20	I-5	Quadruple Grate Combination Inlet	EA	1	$	39,500.00	$	39,500.00
21	I-5	Single Grate Combination Inlet With 3'x4' Junction Box	EA	1	$	26,500.00	$	26,500.00
22	I-5	Single Grate Combination Inlet With 3'x11.5' Junction Box	EA	1	$	37,950.00	$	37,950.00
23	I-5	Double Grate Combination Inlet With 6'-2"x4' Junction Box	EA	1	$	38,500.00	$	38,500.00
24	I-5	Double Grate Combination Inlet With 6'-2"x6'-6" Junction Box	EA	1	$	38,500.00	$	38,500.00
25	I-5	Special Double Grate Combination Inlet With 6'-2"x7' Junction Box	EA	1	$	58,500.00	$	58,500.00
26	I-5	Double Grate Combination Inlet With 6'-2"x7'-6" Junction Box	EA	1	$	50,350.00	$	50,350.00
27	I-5	Triple Grate Combination Inlet With 4'x4' Junction Box	EA	1	$	40,350.00	$	40,350.00
28	I-5	Additional Curb Openings	EA	6	$	2,950.00	$	17,700.00
29	I-5	4' Type MO Curb Inlet	EA	0	$	15,500.00	$	-
30	I-5	4' Type MO Junction Box	EA	0	$	14,500.00	$	-
31	I-5	4' Curb Inlet Extension	EA	0	$	2,800.00	$	-
32	I-5	9'x12' Type C Curb Inlet	EA	0	$	45,000.00	$	-
33	I-5	4'x13.5' Junction Box	EA	1	$	35,000.00	$	35,000.00
34	I-5	12.5'x5.5' Junction Box	EA	1	$	46,000.00	$	46,000.00
35	I-5	15'x4' Junction Box	EA	0	$	47,000.00	$	-
36	I-8	Asphalt Pavement Repair	SY	122	$	335.00	$	40,870.00
37	I-8	Temporary Pavement Repair	SY	50	$	260.00	$	13,000.00
38	I-12	Temporary Erosion Control	LS	1	$	52,500.00	$	52,500.00
39	I-13	Sodding	SY	3,206	$	7.00	$	22,442.00
40	I-15	Concrete Island (6")	SY	22	$	225.00	$	4,950.00
41	I-16	4" Concrete Sidewalk	SY	699	$	115.00	$	80,385.00
42	I-16	6" Concrete Sidewalk	SY	119	$	190.00	$	22,610.00
43	I-16	Handicap Ramp Concrete	SY	41	$	450.00	$	18,450.00
44	I-17	Concrete Curb and Gutter (Type A) (1'-6")	LF	1,383	$	50.00	$	69,150.00
45	I-17	Concrete Curb and Gutter (Type A) (2'-0")	LF	173	$	70.00	$	12,110.00
46	I-18	Roadway Construction Control	LS	1	$	220,000.00	$	220,000.00
47	M-3	Cold Milling Asphalt Pavement	SY	4,004	$	12.50	$	50,050.00
48	P-1	6" Aggregate Base Course (Class 7)	SY	1,546	$	28.00	$	43,288.00
49	P-3	ACHM Surface Course (PG 76-22)	TON	626	$	325.00	$	203,450.00
50	P-3	ACHM Binder Course (PG 70-22)	TON	313	$	362.00	$	113,306.00
51	P-5	Concrete Driveways	SY	76	$	160.00	$	12,160.00
52	P-5	Concrete Aprons	SY	228	$	160.00	$	36,480.00
53	P-5	Asphalt Driveways	SY	248	$	280.00	$	69,440.00
54	T-1	Thermoplastic Pavement Marking - 6" Yellow	LF	1,760	$	3.50	$	6,160.00
55	T-1	Thermoplastic Pavement Marking - 6" White	LF	1,568	$	3.50	$	5,488.00
56	T-1	Thermoplastic Pavement Marking - 12" White	LF	1,032	$	15.50	$	15,996.00
57	T-1	Thermoplastic Pavement Marking (Words)	EA	13	$	620.00	$	8,060.00
58	T-1	Thermoplastic Pavement Marking (Arrows)	EA	24	$	550.00	$	13,200.00
59	T-2	Standard Street Sign Installation	EA	4	$	500.00	$	2,000.00
60	SP-2	6" Portland Cement Concrete Base	SY	317	$	130.00	$	41,210.00
61	SP-2	7" Portland Cement Concrete Base	SY	17	$	180.00	$	3,060.00
62	SP-3	Remove, Salvage, and Reinstall Existing Monument Sign	EA	1	$	20,500.00	$	20,500.00
63	SP & 701	System Local Controller-Fiber (8 Phases)	EA	1	$	58,750.00	$	58,750.00
64	SP	Ethernet Switch	EA	1	$	4,850.00	$	4,850.00
65	SP	Gps Preemption System	EA	1	$	20,000.00	$	20,000.00
66	SP	Battery Backup System	EA	1	$	16,300.00	$	16,300.00
67	SP	WIC Fiber Enclosure	EA	1	$	1,305.00	$	1,305.00
68	SP & 706	Traffic Signal Head, LED, (3 Section, 1 Way)	EA	19	$	1,550.00	$	29,450.00
69	SP & 706	Traffic Signal Head, LED, (4 Section, 1 Way)	EA	6	$	1,750.00	$	10,500.00
70	SP & 706	Traffic Signal Head, LED, (5 Section, 1 Way)	EA	5	$	2,100.00	$	10,500.00
71	SP	Relocation of Traffic Signal Head	EA	3	$	450.00	$	1,350.00
72	SP & 707	Central Control Unit	EA	1	$	7,850.00	$	7,850.00
73	SP & 707	Pole Mounted Assembly	EA	8	$	2,600.00	$	20,800.00
74	SP & 707	Infrared Programming Device	EA	1	$	1,950.00	$	1,950.00
75	SP & 707	Countdown Pedestrian Signal Head, Led	EA	8	$	1,950.00	$	15,600.00
76	708	Traffic Signal Cable (5C/14 A.W.G.)	LF	2,884	$	3.60	$	10,382.40
77	708	Traffic Signal Cable (7C/14 A.W.G.)	LF	2,908	$	4.50	$	13,086.00

78	708	Traffic Signal Cable (20C/14 A.W.G.)	LF	705	$	7.25	$	5,111.25
79	SP	Electrical Conductors-In-Conduit (1C/8 A.W.G., E.G.C.)	LF	860	$	2.00	$	1,720.00
80	SP	Electrical Conductors-In-Conduit (1C/12 A.W.G., E.G.C.)	LF	220	$	1.50	$	330.00
81	SP	Electrical Conductors-In-Conduit (2C/6 A.W.G.)	LF	37	$	6.50	$	240.50
82	SP	Electrical Conductors For Luminaires	LF	925	$	3.90	$	3,607.50
83	SP	Communication Cable Fiber (12 Channel)	LF	549	$	58.75	$	32,253.75
84	SP	Fiber Tracer Wire, #14 AWG, Polyethlene Insulation Orange in Color	LF	549	$	3.90	$	2,141.10
85	SP	Fiber Optic Pigtail, 12 SM	LF	30	$	98.00	$	2,940.00
86	709	Galvanized Steel Conduit (2")	LF	37	$	45.50	$	1,683.50
87	709	Galvanized Steel Conduit (3")	LF	112	$	58.75	$	6,580.00
88	710	Non-Metallic Conduit (2")	LF	73	$	19.50	$	1,423.50
89	710	Non-Metallic Conduit (3")	LF	808	$	52.25	$	42,218.00
90	710	Non-Metallic Conduit (3" HDPE)	LF	235	$	52.25	$	12,278.75
91	711	Concrete Pull Box (Type 1 HD)	EA	1	$	1,950.00	$	1,950.00
92	SP & 711	Concrete Pull Box (Type 3 HD)	EA	7	$	3,250.00	$	22,750.00
93	SP & 711	Pull Box For Fiber, DS-1609, 24"X36"X24"	EA	6	$	5,225.00	$	31,350.00
94	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (44')	EA	1	$	60,200.00	$	60,200.00
95	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (46')	EA	1	$	61,600.00	$	61,600.00
96	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (58')	EA	1	$	66,750.00	$	66,750.00
97	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (66')	EA	0	$	74,250.00	$	-
98	SP	LED Luminaire Assembly	EA	4	$	5,875.00	$	23,500.00
99	SP & 715	Traffic Signal Pedestal Pole With Foundation	EA	4	$	9,800.00	$	39,200.00
100	SP	Service Point Assembly (2 Circuits)	EA	1	$	5,875.00	$	5,875.00
101	SP	Removal of Traffic Signal Equipment	LS	1	$	13,100.00	$	13,100.00
102	716	Treated Wood Pole (Class 2, 45')	EA	4	$	13,100.00	$	52,400.00
103	SP	18" Street Name Sign (Install Only)	EA	4	$	450.00	$	1,800.00
104	SP	Video Detector Rotation	EA	2	$	450.00	$	900.00
105	SP & 733	Video Detector Rack (16 Channel)	EA	1	$	2,950.00	$	2,950.00
106	SP & 733	Video Detector (IP)	EA	9	$	11,100.00	$	99,900.00
107	SP & 733	Video Cable (Exterior Cat 5E)	LF	2,399	$	6.00	$	14,394.00
108	733	Video Monitor (CLR)	EA	1	$	1,375.00	$	1,375.00
109	SP & 733	Central Control Unit (4 Channel)	EA	2	$	29,400.00	$	58,800.00
110	SP	SDLC and Cables	LS	1	$	650.00	$	650.00
111	SP	Bluetooth System	EA	1	$	8,500.00	$	8,500.00
112	SP	Utility Mobilization	LS	1	$	17,600.00	$	17,600.00
113	SP	Utility Trench Excavation Safety Systems	LS	1	$	16,800.00	$	16,800.00
114	SP	Spot Dig and Verify Existing Utility Locations	LS	1	$	26,500.00	$	26,500.00
115	SP	Bypass Pumping	LS	0	$	31,500.00	$	-
116	SP	12” C-900 DR-14 PVC Water Line	LF	112	$	278.00	$	31,136.00
117	SP	8" C-900 DR-14 PVC Water Line	LF	205	$	215.00	$	44,075.00
118	SP	8” SDR-26 PVC Sanitary Sewer Line	LF	0	$	205.00	$	-
119	SP	12”x12" Tapping Sleeve and Valve	EA	2	$	14,000.00	$	28,000.00
120	SP	12”x8" Tapping Sleeve and Valve	EA	0	$	9,850.00	$	-
121	SP	8”x8" Tapping Sleeve and Valve	EA	3	$	9,500.00	$	28,500.00
122	SP	Ductile Iron Fittings for Water Line	LB	900	$	35.00	$	31,500.00
123	SP	8" Gate Valve	EA	1	$	3,600.00	$	3,600.00
124	SP	Cut and Cap Ex.12” Water Line (Detail W13)	EA	2	$	5,850.00	$	11,700.00
125	SP	Cut and Cap Ex.12” Water Line with Anchor Collar (Detail GWS04)	EA	1	$	8,425.00	$	8,425.00
126	SP	Cut and Cap Ex. 8” Water Line with Anchor Collar (Detail GWS04)	EA	2	$	7,800.00	$	15,600.00
127	SP	Fire Hydrant Assembly	EA	1	$	10,800.00	$	10,800.00
128	SP	Salvage Fire Hydrant	EA	1	$	1,550.00	$	1,550.00
129	SP	Install and Reconnect 1" Water Service Line with Single 5/8" Meter Set	EA	1	$	3,400.00	$	3,400.00
130	SP	Install and Reconnect 1" Water Service Line with Double 5/8" Meter Set	EA	1	$	3,600.00	$	3,600.00
131	SP	Install and Reconnect 1" Water Service Line with 1" Meter Set	EA	1	$	3,500.00	$	3,500.00
132	SP	Install and Reconnect 2" Water Service Line with 2" Valve and 2" Meter Set	EA	1	$	8,650.00	$	8,650.00
133	SP	Adjust Valve Box to Proposed Grade	EA	2	$	1,200.00	$	2,400.00
134	SP	4’ ID San. Sewer Manhole, Cast-in-Place, 0’ to 6’ Depth	EA	0	$	13,215.00	$	-
135	SP	Core Existing Manhole	EA	0	$	2,500.00	$	-
136	SP	Raise Manhole Rim to Proposed Grade	EA	1	$	4,600.00	$	4,600.00
137	SP	Lower Manhole Rim to Proposed Grade	EA	1	$	4,600.00	$	4,600.00
138	SP	20" Steel Encasement by Open Cut	LF	0	$	425.00	$	-
139	SP	16" Steel Encasement by Open Cut	LF	40	$	375.00	$	15,000.00
140	SP	Flowable Fill for Abandoned Pipe	CY	2	$	275.00	$	550.00
141	SP	Trench Undercut and Backfill	CY	20	$	120.00	$	2,400.00
142	SP	Rock Excavation for Utilities	CY	10	$	380.00	$	3,800.00

143	SP	Bid Schedule 2 Contingency Allowance ($250,000)	LS	1	$ 250,000.00	$ 250,000.00
	SP	Utility Adjustment Delays (Rev. 1)	DAY	32	$ 3,000.00	$ 96,000.00
144	SP	Concrete Ditch Paving (Rev. 1)	SY	4	$ 190.00	$ 760.00
145	I-5	Triple Grate Combination Inlet (Rev. 1)	EA	1	$ 29,500.00	$ 29,500.00
146	I-5	Reconstruct 5'x17' Inlet Top (Rev. 1)	EA	1	$ 8,000.00	$ 8,000.00
147	I-5	Reconstruct Inlet and Extension Top (Rev. 1)	EA	1	$ 8,000.00	$ 8,000.00
148	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (76') (Rev. 1)	EA	1	$ 78,000.00	$ 78,000.00
149	SP	Remove, Salvage, and Reinstall Existing Street Light (Rev. 1)	EA	1	$ 5,700.00	$ 5,700.00

Bid Schedule 2 Items $ 4,841,843.25

Total Bid Price $ 8,261,694.75

010440 - LIST OF PROPOSED SUBCONTRACTORS

I, the undersigned General Contractor, hereby certify that proposals from the following Subcontractors were used in the preparation of my bid. I agree that if I am the successful Bidder and if the following subcontracts are approved, I will not enter into contracts with others for these divisions of the work without prior written approval from the Engineer and the Owner.

For Annual Gross Receipts:

- Enter 1 for Less than $1 Million
- Enter 2 for More than $1 Million, Less than $5 Million
- Enter 3 for More than $5 Million, Less than $10 Million
- Enter 4 for More than $10 Million, Less than $15 Million
- Enter 5 for More than $15 Million

Type of Work: Asphalt Paving / Milling

Subcontractor's Name: APAC-Central

Arkansas License No.: 0011840424

Address: 755 E. Millsap Rd, Fayetteville, AR 72703

Date Firm Established: 1946

Annual Gross Receipts (enter the range only): 5

Type of Work: Traffic Signals / Electric

Subcontractor's Name: All-Service Electric, Inc.

Arkansas License No.: 0036520524

Address: 182 Whited Farm Ln, Hot Springs, AR 71913

Date Firm Established: August 1983

Annual Gross Receipts (enter the range only): 3

Type of Work: Traffic Control / Striping

Subcontractor's Name: Time Striping, Inc.

Arkansas License No.: 0017280624

Address: 5439 Arkhola Rd, Van Buren, AR 72957

Date Firm Established: August 1988

Annual Gross Receipts (enter the range only): 5

Type of Work: Erosion Control / Seed & Sod / Landscape

Subcontractor's Name: Second Nature Landscapes, Inc.

Arkansas License No.: 0133430524

Address: 211 E Hwy 264, Springdale, AR 72764

Date Firm Established: January 2000

Annual Gross Receipts (enter the range only): 2

Bidder (General Contractor): Crossland Heavy Contractors, Inc.

Arkansas License No.: 0067301123

Address: 501 S. East Ave, Columbus, KS 66725

Date Firm Established: 1993

[redacted]nly): 5

*

Title: President

*Signature must be the same as on the Proposal form.

Notes:

(1) This form must be completed and submitted at the time of the bid opening.

(2) General contractor and subcontractors shall have a certificate of license with the proper classification from the State Contractors Licensing Board before his or her bid is submitted.

(3) Certificates of license shall be provided with this form at the time of the bid opening.

License No. 0011840424 ID #2781

State of Arkansas

Commercial Contractors Licensing Board

APAC-CENTRAL, INC.
PO BOX 9208
FAYETTEVILLE, AR 72703

This is to Certify That APAC-CENTRAL, INC.

is duly licensed under the provisions of Ark. Code Ann. § 17-25-101 et. seq. as amended and is entitled to practice Contracting in the State of Arkansas within the following classifications/specialties:

HIGHWAY, RAILROAD, AIRPORT CONSTRUCTION
MUNICIPAL & UTILITY CONSTRUCTION

This contractor has an unlimited suggested bid limit.

from April 14, 2023 **until** April 30, 2024 **when this Certificate expires.**

Witness our hands of the Board, dated at North Little Rock, Arkansas:

[redacted]

CHAIRMAN

[redacted]

SECRETARY

April 14, 2023 - dsa

License No. 0036520524 ID #5004

State of Arkansas

Commercial Contractors Licensing Board

ALL SERVICE ELECTRIC, INC.
182 WHITED FARM LN
HOT SPRINGS, AR 71913

This is to Certify That ALL SERVICE ELECTRIC, INC.

is duly licensed under the provisions of Ark. Code Ann. § 17-25-101 et. seq. as amended and is entitled to practice Contracting in the State of Arkansas within the following classifications/specialties:

ELECTRICAL

This contractor has an unlimited suggested bid limit.

from May 19, 2023 **until** May 31, 2024 **when this Certificate expires.**

Witness our hands of the Board, dated at North Little Rock, Arkansas:

GREAT SEAL OF THE STATE OF ARKANSAS

[redacted]

CHAIRMAN

[redacted]

SECRETARY

May 19, 2023 - dsa

License No. 0017280624 ID #3145

State of Arkansas

Commercial Contractors Licensing Board

TIME STRIPING, INC.
PO BOX 1236
VAN BUREN, AR 72956

This is to Certify That TIME STRIPING, INC.

is duly licensed under the provisions of Ark. Code Ann. § 17-25-101 et. seq. as amended and is entitled to practice Contracting in the State of Arkansas within the following classifications/specialties:

SPECIALTY

Base & Paving
Concrete
Grading & Drainage, Excavation
HRA Miscellaneous & Specialty Items
Painting, Wallcovering
Sandblasting, Hydroblasting, Dry Ice Blasting

This contractor has an unlimited suggested bid limit.

from June 9, 2023 **until** June 30, 2024 **when this Certificate expires.**

Witness our hands of the Board, dated at North Little Rock, Arkansas:

[redacted]

CHAIRMAN

[redacted]

SECRETARY

June 9, 2023 - dsa

GREAT SEAL OF THE STATE OF ARKANSAS

License No. 0133430524 **ID #16415**

State of Arkansas

Commercial Contractors Licensing Board

SECOND NATURE LANDSCAPES, INC.
211 E HWY 264
SPRINGDALE, AR 72764

This is to Certify That SECOND NATURE LANDSCAPES, INC.

is duly licensed under the provisions of Ark. Code Ann. § 17-25-101 et. seq. as amended and is entitled to practice Contracting in the State of Arkansas within the following classifications/specialties:

SPECIALTY

Erosion Control
Grading & Drainage, Excavation
HRA Miscellaneous & Specialty Items
Landscaping with Planting
Landscaping, Irrigation, Lawn Sprinklers, Streams
Retaining Walls

This contractor has an unlimited suggested bid limit.

from May 19, 2023 **until** May 31, 2024 **when this Certificate expires.**

Witness our hands of the Board, dated at North Little Rock, Arkansas:

GREAT SEAL OF THE STATE OF ARKANSAS

[redacted]

CHAIRMAN

[redacted]

SECRETARY

May 19, 2023 - dsa

NON-COLLUSION AFFIDAVIT

BID INVALID IF THIS AFFIDAVIT IS NOT SIGNED AND NOTARIZED AND SUBMITTED WITH THE BID

State of Kansas

County of Cherokee

I Mark Sell (Printed Name of Authorized Representative/Agent) of lawful age, being first duly sworn, on oath says that:

1.They are the duly authorized representative/agent of the Bidder and/or contractor submitting the Competitive Bid and/or procuring the contract which is attached to this statement, for the purpose of certifying the facts pertaining to the existence of collusion among Bidders and between Bidders and City officials or employees, as well as, facts pertaining to the giving or offering of things of value to government personnel in return for special consideration in the letting of any contract pursuant to the Invitation for Bids to which this statement is attached;

2. They are fully aware of the facts and circumstances surrounding the making of the Bid and/or the procurement of the contract to which this statement is attached and have been personally and directly involved in the proceedings leading to the submission of such Bids;

3. Neither the Bidder/contractor nor anyone subject to the Bidder/contractor's direction or control has been a party;

a. to any collusion among Bidders in restraint of freedom of competition by agreement to bid at a fixed rate or to refrain from submitting;

b. to any collusion with any City official or employee as to quantity, quality or price in the prospective contract, or as to any other terms of such prospective contract, nor

c. in any discussions between Bidders and any City official concerning exchange of money or other thing of value for special consideration in the letting of a contract;

d. to paying, giving, donating or agreeing to pay, give or donate to any officer or employee of the City of Bentonville, any money or other thing of value, either directly or indirectly, in procuring the contract to which their statement is attached.

To be completed by Company (Authorized Repre

Signature of Authorized Representative/Agent: [redacted]

Title (of Authorized Representative/Agent): Executive Chairman

To be completed by Notary (include Seal):

Subscribed and sworn before me this: 6th day of October, 2023

Notary Public Signature: [redacted] My commission expires: 9/1/27

Seal: HOLLY RHODES Notary Public - State of Kansas My Appt. Expires 9/1/27

HEAVY CONTRACTORS, INC. CORPORATE SEAL CHOSEN AND KANSAS 1993

010420 - STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. Name of Bidder. Crossland Heavy Contractors, Inc.

2. Permanent main office address. 1800 S 52nd St. Suite 410 Rogers, AR 72758

3. When organized. April 1993

4. If a corporation, where incorporated. Kansas

5. How many years have been engaged in the contracting business under your present firm or trade name? 30 Years

6. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion). See attached.

7. General character of work performed by your company. Bridges + Roads, Water + Wastewater Treatment Plants, Lift + Pump Stations, Water + Sewer Lines, Storm Drainage, Earthwork, Concrete

8. Have you ever failed to complete any work awarded to you? No

9. Have you ever defaulted on a Contract? No

   If so, where and why?

10. Have you ever been fined or had your license suspended by a Contractor's Licensing Board? No

    If so, where and why?

11. List the more important projects recently completed by your company, stating the approximate cost for each, and the month and year completed. See attached.

12. List your major equipment available for this Contract. See attached.

13. Experience in construction work similar in importance to this project. See attached.

14. Background and experience of the principal members of your organization, including the officers. See attached.

15. Credit available: $ $4,000,000.00

16. Give Bank reference: Cameron Nave 913-327-1212 CrossFirst Bank 4707 W 135th St. Leawood, KS 66224

17. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner? Yes

18. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner, in verification of the recitals comprising this statement of Bidder's Qualifications.

19. The Bidder shall provide a brief description of any litigation or administrative proceeding of the following types, either pending or concluded within the preceding year, to which the Bidder (and the See attached.

ultimate controlling person, if different from the Bidder) or any of its directors or executive officers was a party or of which the property of any such person is or was the subject; the names of the parties and the court or agency in which such litigation or proceeding is or was pending shall be given:

(a) Administrative or judicial proceedings of any state federal agency or authority concerning environmental violations;
(b) Proceedings which may have a material effect upon the solvency of the ultimate holding company, including but not necessarily limited to, bankruptcy and receivership; and
(c) Criminal proceedings.

Dated at Columbus, KS this 16th day of October, 2023.

Crossland Heavy Contractors
(N[redacted]
By [redacted]
Title Executive Chairman

STATE OF Kansas)
) SS.
COUNTY OF Cherokee)

Mark Sell being duly sworn deposes and says that he is
Executive Chairman of the Board of Crossland Heavy Contractors Inc.
(Name of Organization)

and that the answers to the foregoing questions and all statements therein contained are true and correct.
SUBSCRIBED AND SWORN TO BEFORE ME this 16th day of October, 2023.

[redacted]
(Notary Public)

My Commission Expires:
9/1/27

HOLLY RHODES
Notary Public - State of Kansas
My Appt. Expires 9/1/27

CROSSLAND HEAVY CONTRACTORS, INC. CORPORATE SEAL KANSAS

Administrative Services
Purchasing Department
1000 SW 14th Street
Bentonville, AR 72712

CITY OF BENTONVILLE, ARKANSAS

City Hall
305 SW A Street
Bentonville, AR 72712

EXHIBIT B

CITY OF BENTONVILLE SOLICITATION

RFP-23-47-General Contractor for the Walton Blvd. Intersection Improvements Project

CITY OF BENTONVILLE, ARKANSAS
PURCHASING DEPARTMENT
2ND FLOOR ADMINISTRATIVE SERVICES BUILDING
1000 SW 14TH ST
BENTONVILLE, ARKANSAS 72712
RFP-23-47

REQUEST FOR PROPOSAL

SOLICITATION INFORMATION			
Proposal Number:	**RFP-23-47**	Date of Issuance & Advertisement Dates:	**July , 2023** **July , 2023** **July , 2023** **July , 2023**
Brief Description:	Request for Proposals from Qualified General Contractors for the Walton Blvd. Intersection Improvements Project		
Agency:	The City of Bentonville, Arkansas Engineering & Transportation Department		

SUBMISSION DEADLINE FOR RESPONSE			
Proposal Submission Deadline: (Date)	**, 2023**	**Proposal Submission Deadline: (Time)**	**4:00PM CST**
Optional Solicitation Conference:		**, 2023, at 9:00AM – Room C105** **Municipal Complex 3200 SW Municipal Dr. Bentonville, AR**	

Proposals must be received by the Purchasing Department prior to 4:00 P.M. on JULY 28, 2023. In accordance with Arkansas Procurement Law and Rules, it is the responsibility of vendors to submit Proposals at the designated location on or before the Proposal submission deadline. Proposals received after the designated Proposal submission deadline will be considered late and will be rejected.

DELIVERY OF RESPONSE DOCUMENTS	
Delivery Address: *Prospective vendors assume all risk for timely, properly submitted deliveries.	City of Bentonville Administrative Services Building Attn: Purchasing Department – 2nd Floor 1000 SW 14th ST Bentonville, Arkansas 72712
Proposal's Outer Packaging:	Outer packaging must be sealed and properly marked with the following information: • Proposal Number: **RFP-23-47** • Vendor's name and return address Proposals which must be opened to be identified will be considered incomplete and may be rejected.
Number of Copies for Submission:	**(1) One signed original** of the Proposal is to be delivered by the specified date and time of the Proposal deadline listed herein. Failure to deliver the specified number of originals will be considered a late submission and will be rejected, without exception. Submissions may not be submitted via email; emailed or other digital copies received will be deleted upon receipt.

CITY OF BENTONVILLE, ARKANSAS PURCHASING OFFICE CONTACT INFORMATION			
Purchasing Manager:	Gladys Shoemake	Purchasing Email:	purchasing@bentonvillear.com
Purchasing Phone Number:	(479) 271-3115	Purchasing Address:	Administrative Services-2nd Floor 1000 SW 14th St. Bentonville, AR 72712

Questions regarding this Request for Proposals should be directed ONLY to the Purchasing Department via written communication (email or mail). The deadline for submitting questions related to this Request for Proposal is XXX, 2023 at 4:30 P.M., after this time the City will only provide clarifications or responses pertaining to items in the solicitation documents that do not result in a change or Addendum.

CITY OF BENTONVILLE, ARKANSAS
PURCHASING DEPARTMENT
2ND FLOOR ADMINISTRATIVE SERVICES BUILDING
1000 SW 14TH ST
BENTONVILLE, ARKANSAS 72712
RFP-23-47

EXECUTION OF PROPOSAL & ACKNOWLEDGEMENT OF ADDENDA
(REQUIRED RESPONSE FORM)

EXECUTION OF PROPOSAL (REQUIRED)

Upon signing this Proposal, the proposer certifies that he or she has read and agrees to the requirements set forth in this Proposal including specifications, conditions and pertinent information regarding the articles being proposed on. *Unsigned Proposals will be rejected without exception.*

NAME OF FIRM:	PHONE NUMBER:	FAX NUMBER:	EMAIL:
BUSINESS STREET ADDRESS:	CITY:	STATE:	ZIP:
SIGNATURE OF AUTHORIZED PERSON:		DATE:	
PRINTED OR TYPED NAME:		TITLE:	

ARKANSAS SALES OR USE TAX NUMBER (if applicable):	
Motor Carrier (MC) Number:	

ACKNOWLEDGEMENT OF ADDENDA (REQUIRED WHEN ADDENDA ISSUED)

Addendum Number	Initials to Acknowledge
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

CITY OF BENTONVILLE, ARKANSAS
PURCHASING DEPARTMENT
2ND FLOOR ADMINISTRATIVE SERVICES BUILDING
1000 SW 14TH ST
BENTONVILLE, ARKANSAS 72712
RFP-23-47

TABLE OF CONTENTS

ADVERTISEMENT REQUESTING PROPOSALS	**PAGE 1**
REQUEST FOR PROPOSALS COVER PAGE	**PAGE 2**
EXECUTION OF PROPOSAL & ADDENDA ACKNOWLEDGEMENT **(REQUIRED RESPONSE DOCUMENT)**	**PAGE 3**
TABLE OF CONTENTS	**PAGE 4**
SUMMARY	**PAGE 5**
GENERAL NARRATIVE OF WORK	**PAGE 6**
REQUIRED RESPONSE INFORMATION ***This Section refers to Appendix A, which contain Required Response Documents, including Bid Schedules and required forms.***	**PAGE 7**
EVALUATION FACTORS	**PAGE 9**
TERMS & CONDITIONS	**PAGE 10**
APPENDIX A: Project Specific General Conditions & Project Manual (includes Plan Set) ***This Appendix contains Required Response Documents, such as:*** - ***Bid Schedules (for conveying Proposed Cost)*** - ***Non-Collusion Affidavit (required to be signed and notarized in any Submission)*** - ***Statement of Qualifications*** - ***Proposed Subcontractors***	**PAGE 14**

CITY OF BENTONVILLE, ARKANSAS
PURCHASING DEPARTMENT
2ND FLOOR ADMINISTRATIVE SERVICES BUILDING
1000 SW 14TH ST
BENTONVILLE, ARKANSAS 72712
RFP-23-47

SUMMARY

SUMMARY OF REQUESTED SERVICES

The City of Bentonville, Arkansas is accepting formal, sealed proposals from properly qualified, experienced, licensed and insured general contractors for the Walton Boulevard Intersection Improvements Project. Parties interested in submitting will use the specifications and project manuals contained in this RFP document to submit a Proposal to the City based on the Evaluation Factors included in this RFP document, along with proposed methods of doing the work, proposed pricing, and other items specified herein.

Interested in submitting?

- Read through this entire Response Packet. This is the City's document for requesting Proposals. It contains important information regarding the Scope of Work, location and the terms and conditions of the work and the contract.
- Submit questions (prior to the deadline listed in this Packet) if you need clarification on something or have specific questions (submit to purchasing@bentonvillear.com).
- If you would like to submit a Proposal, be sure to include information that relates to the Evaluation Criteria listed in this Response Packet (this is how your Proposal will be ranked).
    - You can create your Proposal in the format you choose, include pictures if you want to and customize how you would like to tell the City about the services you provide and what you are Proposing to the City. Just remember to sign Page 2 of this Packet and your Proposal, and include it when you submit your Proposal.
- Remember to submit your Proposal BEFORE the SUBMISSION DEADLINE. The submission needs to be sealed (as instructed in this Response Packet).

DEADLINES:

- Advertisement Published, Requesting Proposals:
- **Optional Solicitation Conference:, 2023 (9:00AM CST)**
- **Deadline to Submit Questions:, 2023 (4:30PM CST)**
- **Deadline to Submit Proposals:, 2023 (4:00PM CST)**

**The hard copy Submission must be delivered prior to the deadline date/time in a SEALED envelope.*

PROPOSALS CANNOT BE EMAILED.

The City reserves the right to award the Contract in its best interest.

CITY OF BENTONVILLE, ARKANSAS
PURCHASING DEPARTMENT
2ND FLOOR ADMINISTRATIVE SERVICES BUILDING
1000 SW 14TH ST
BENTONVILLE, ARKANSAS 72712
RFP-23-47

GENERAL NARRATIVE OF WORK

The City of Bentonville, Arkansas is accepting formal, sealed proposals from properly qualified, experienced, licensed and insured general contractors for the Walton Boulevard Intersection Improvements Project. Parties interested in submitting will use the specifications and project manuals contained in this RFP document to submit a Proposal to the City based on the Evaluation Factors included in this RFP document, along with proposed methods of doing the work, proposed pricing, and other items specified herein.

This solicitation is a Request for Proposals for a General Contractor to perform and complete this Project. This solicitation IS NOT a request for a Construction Manager. Proposals submitted which identify a Construction Management project delivery method as the Proposal will not be considered at this time.

The Walton Boulevard Intersection Improvements project consists of improvements to two intersections on Walton Boulevard, Walton Boulevard and Medical Center Parkway (Bid Schedule 1) and Walton Boulevard and SE J Street (Bid Schedule 2). The Walton Boulevard and Medical Center Parkway Improvements project (Bid Schedule 1) includes, but is not limited to, the widening of Medical Center Parkway, drainage improvements, retaining wall construction, guardrail installation, traffic signal improvements, and water and sanitary sewer relocations as shown on the plans and indicated in the specifications. The Walton Boulevard and SE J Street Improvements project (Bid Schedule 2) includes, but is not limited to, the widening of SE J Street and SE Dodson Road, the addition of a dedicated right turn lane on the east leg of Walton Boulevard, drainage improvements, traffic signal improvements, and water and sanitary sewer relocations as shown on the plans and indicated in the specifications.

Construction timeline: 480 consecutive calendar days from Notice to Proceed

Liquidated Damages: There are no Liquidated Damages on this Project

CITY OF BENTONVILLE, ARKANSAS
PURCHASING DEPARTMENT
2ND FLOOR ADMINISTRATIVE SERVICES BUILDING
1000 SW 14TH ST
BENTONVILLE, ARKANSAS 72712
RFP-23-47

Required Response Information

Responses to this Request for Proposals are required to, but are not limited to include the following information:

1. Proposal Guarantee (Bond):

All Proposals must be accompanied by a Proposal Guarantee in the form of a Bid bond (surety bond), certified check, or cashier's check in the amount of **five percent (5%) of the Total Proposal Price**, payable without condition to the City of Bentonville. The Bond shall not have an expiration date of less than 60 (sixty) days from the Proposal Submission Deadline. Personal checks and company checks are NOT acceptable as a Bid guarantee.

Proposals received that do not include a Proposal Guarantee (Bond) when required and as specified in this Request for Proposals will be rejected without exception.

2. General Requirements:

Demonstrate the qualifications, competence and capacity of the contractor seeking to perform the services listed herein and provide the necessary items to do so and as requested.

The response should be prepared simply and economically, providing a straightforward, concise description of the Proposer's capabilities to satisfy the requirements set forth in this RFP and in the SCOPE OF WORK.

3. References for Similar Engagements:

Please provide at least three (3) references and descriptions for similar engagements that the Proposer has completed. References must include the customer's business name, primary contact name, address and telephone number. References may be contacted by the City as part of the evaluation process.

4. Legal Qualifications: All Proposers, in order to submit a compliant Proposal, must comply with the applicable terms of Arkansas code. The successful Proposer, if a corporation created under the laws of some state other than the State of Arkansas, will be required to qualify, or to have qualified, with the Secretary of State of Arkansas to do business in the State of Arkansas prior to the performance of work.

5. Insurance: The Proposer shall provide with the Proposal a listing of insurance coverage currently in force, or confirmation from an insurance provider that adequate coverage can be provided, along with a copy of a Certificate of Insurance as verification of that coverage if applicable (this Certificate does not have to name the City as additionally insured at this time, but will be required to at a later date). In the event the City determines that the highest rated Proposer's coverage in force is inadequate for the work, the City may require the selected Proposer to procure additional coverage in accordance with the requirements set forth herein and otherwise. In the event the selected Proposer is unable, after diligent effort, to procure such additional coverage as may be required by the City, the City reserves the right to cancel award without penalty or to work with the selected Contractor to correct the deficiency.

6. Proposal Form: The Proposer shall provide a completed Proposal Form as included herein as Appendix A (Bid Schedules). Modifications of this Form are strictly PROHIBITED unless the modification is part of an Addendum issued under this Request for Proposals. In the event that a contractor's Proposal includes additional line items or other costs (such as those that may occur if the Proposer proposes an alternate method of doing the work or alternate items, the contractor shall include that information in their Proposal by using a different piece of paper (document) to convey the difference.

7. **Non-Collusion Affidavit (Appendix A)** signed and notarized

8. **Statement of Bidder's Qualifications** (Appendix A)

9. **List of Proposed Subcontractors** (Appendix A)

Contractors shall adhere to all applicable laws governing the disclosure of subcontractors and subcontractor qualifications.

10. **Proposed Method of Doing Work (REQUIRED RESPONSE FIELD)**

Proposers should indicate by checking the box below if their method of performing the work will be as specified in this Response Packet and all appendixes. If Proposers check "No", it is the Proposer's responsibility to include detailed information and a narrative of their proposed method of performing the work, along with detailed information on the differences from the City's original specifications.

☐ **Yes, work will be performed AS SPECIFIED** ☐ **No, an alternate method of performing the work is proposed**

11. **Performance and Payment Bond:**

Performance and Payment Bonds, each in an amount at least equal to the total contract price, inclusive of any Owner Contingency, will be required prior to work proceeding as specified in the Terms and Conditions of this Request of Proposals.

12. **Proposed Cost of Performing Services:**

The proposed cost of performing the work shall be conveyed only on the provided Bid Schedules. If the proposed method of performing the work entails additional or alternate line items that the Proposer is proposing to the City, the Proposer shall clearly indicate deviations from the original Bid Schedule and attach additional information still using the provided Bid Schedules.

All Proposed Costs of Performing Services shall be inclusive of, but not limited to: all tax, labor, delivery charges, mobilization, demobilization, equipment, materials, tools, insurance, profit, bonds, and all other costs to the City of Bentonville, Arkansas.

CITY OF BENTONVILLE, ARKANSAS
PURCHASING DEPARTMENT
2ND FLOOR ADMINISTRATIVE SERVICES BUILDING
1000 SW 14TH ST
BENTONVILLE, ARKANSAS 72712

RFP-23-47

EVALUATION FACTORS

Proposers should address each of these factors in their Submission for the Committee's review when ranking.

These Evaluation Factors will be used by the Selection Committee to rank each Proposal. Each Evaluation Factor has a point value (Ex. 25 points); the Selection Committee Members will use this to rank the Proposer/Submission based on the number of points possible (ex. 1 =lowest/25=highest). Additional information and interviews may be requested from no more than five (5) Proposers deemed to be the most highly qualified to provide the services, based on the Evaluation Scores. A Contract will be negotiated with the Proposer ranked the most qualified by the Selection Committee after all phases of the selection process, including interviews and negotiations have been completed, if it is in the City's best interest.

Point Value: 10

1. Response

- How complete, thorough and responsive the Proposer is to the Request for Proposal and documents.

Point Value: 30

2. Qualifications: Experience, Competence and Capacity

- Proposer's experience and competence, including past performance, qualifications, including but not limited to:
  - Proposer's record of timely completion of projects with high quality workmanship.
- Proposer's capacity for the Project.
- Previous evaluations/performance with the City will be a significant factor. If not available, past performance with others will be used. Past performance includes, but is not limited to quality of work, timely performance, diligence and any other important information.

Point Value: 30

3. Method of Doing Work

- The Proposal must set forth if the work will be performed as specified, or detail any alternate methods of performing the work.

Point Value: 30

5. Price

- The Proposed cost of the Project, with all factors considered.

CITY OF BENTONVILLE, ARKANSAS
PURCHASING DEPARTMENT
2ND FLOOR ADMINISTRATIVE SERVICES BUILDING
1000 SW 14TH ST
BENTONVILLE, ARKANSAS 72712
RFP-23-47

TERMS & CONDITIONS

1. Firms responding to this Request for Proposal ("RFP") must submit their Proposals prior to the deadline provided herein.
2. The City of Bentonville, Arkansas will be referred to as "City". The Proposer submitting a Proposal in response to this RFP will be referred to as "Proposer", "Submitter", "Bidder", "Provider", or "Contractor" periodically throughout this RFP. Additionally, the following terms may be used synonymously throughout:
    - "Bid" and "Proposal"
    - "Bid Form", "Proposal Form", "Bid Schedule"
    - "Total Proposed Cost" and "Total Bid Price"
3. Proposals must be submitted in a sealed package or envelope, clearly listing the following information on the outer envelope:
    - **RFP Number:** RFP-23-47
    - **Proposer's Information:** Name and address

    No telephone, electronic, or facsimile Proposals will be considered.
4. Proposers shall include all information in the Required Response Section of this RFP, as well as any additional information of their choosing.

    There are no Proposal format restrictions, except as stated herein.
5. The City reserves the right to:
    - Reject any and all Proposals received as a result of this RFP.
    - Waive or decline to waive any informalities and any irregularities in any Proposal or responses received.
    - Adopt all or any part of the Proposal.
    - Negotiate changes in the scope of work or services to be provided.
    - Withhold the award of contract.
    - Select the Proposer it deems to be in the best interest of the City and most qualified to fulfill the needs of the City. The Proposer with the lowest costs offered may not necessarily be selected for award.
6. Any and all inquiries or requests for explanation in regard to the City's requirements, or any other information pertaining to this Request for Proposal, should be made to the Purchasing Office via the information on page one (1) of this RFP document. Only written requests will be considered. No oral interpretations or clarifications will be given as to the meaning of any part of this RFP. All questions, clarifications, and requests, together with answers, if any, will be provided to all firms that have indicated an interest or intention to submit proposals, but the names of any firms submitting any questions, clarifications, or requests will not be disclosed until after the deadline for submitting Proposals.

7. It shall be clearly understood that any costs incurred by the Proposer in responding to this Request for Proposal is at the Proposer's risk and expense as a cost of doing business. The City is not responsible for any reimbursement to the Proposer for any expense so incurred, regardless of acceptance of Proposal or issuance of award.
8. All Proposals and other materials submitted shall become the property of the City.
9. Any conditions or expectations on the part of the Proposer for performance by the City Of Bentonville must be set forth in the Proposal. The City is not obligated to consider the Proposer's post submittal terms and conditions.
10. **Negotiation:** In accordance with §14-58-1001, the City reserves the right to negotiate fees for this project based on the selected or highest rated submissions.
11. **Modification of Proposal:** Any modification of Proposals shall be in strict accordance with applicable laws, as allowed by the City as part of a final negotiation phase when applicable, or otherwise as allowable. Any modification must be accompanied by justification for that modification. The City reserves the right to accept or reject modifications in accordance with its best interest.
12. **Signature:** This Proposal must contain the signature of a duly authorized officer or agent of the Proposer's company empowered with the right to bind and negotiate on behalf of the Proposer for the amounts and terms proposed.
13. Any information provided herein is intended to assist the Proposer in the preparation of Proposals necessary to properly respond to this RFP. This RFP is designed to provide the qualified Proposers with sufficient information to submit Proposals meeting specifications, but is not intended to limit an RFP's content or to exclude any relevant or essential information.
14. At the discretion of the City, one or more Proposers may be asked for more detailed information before final ranking and/or award of the Proposal.
15. The selected Proposer will exercise due professional care in understanding the type of engagement and in performing the services described herein.
16. The City of Bentonville requires all vendors and contractors doing business with the City not to discriminate against any person on the basis of race, age, color, religion, sex, ancestry, non-job-related handicaps, or national origin.

    The awarded contractor shall comply with all requirements in §14-58-1001.
17. **Performance & Payment Bond Requirements:** the awarded contractor is required to submit Performance and Payment Bonds prior to a Notice to Proceed being issued.

    The awarded Bidder shall furnish Performance and Payment Bonds after the Notice of Award is issued, each in an amount at least equal to the Total Contract Price as security for the faithful performance and payment of all of the awarded Bidder's obligations under this Invitation for Bid and the awarded binding Contract. These Bonds shall remain in effect for a period of one (1) year after a formal Completion of Work Notice is issued by the City. The awarded Bidder may elect to transfer the Performance Bond to a Maintenance Bond upon conclusion of the Project for the one-year guarantee period.
18. **Guarantee Period:** All workmanship and material shall be guaranteed for a minimum period of one (1) year.

19. **Term:** The term of the awarded Contract is one (1) year, renewable annually upon mutual written consent for a total maximum term of five (5) years. There shall be no change in the terms of the contract during the original contract term, or any renewal term thereafter, unless mutually agreed upon in writing and in accordance with the City of Bentonville Purchasing Policy and applicable laws.

20. **Insurance:** The awarded contractor is required to maintain insurance and provide proof of such. Contractor is responsible for maintaining insurance for themselves, their employees or independent contractors, as applicable and as required by law, such as Workers Compensation.

21. **Investigation:** It shall be the responsibility of the Proposer to make any and all investigations necessary to become thoroughly informed of what is required and specified in the Proposal. No plea of ignorance by the Proposer of conditions that exist or may hereafter exist as a result of failure or omission on the part of the Proposer to make necessary examinations and investigations will be accepted as a basis for varying the requirements of the City of the compensation to the Proposer or performance of the Contract.

    Each Proposer submitting a Proposal is responsible for examining the complete Proposal package and any Addenda, and is responsible for informing itself of all of the conditions that might in any way affect the cost of the performance of any work or requirements related to the work described herein. Failure to do so will be at the sole risk of the Proposer.

22. **Proposer Qualifications:** The City reserves the right to award Contract to the highest rated Proposer, as determined through Proposal evaluation and the evaluation criteria, who furnishes evidence satisfactory to the City that Proposer has the necessary abilities, experience, equipment, and financial and physical resources available to fulfill the conditions of the contract and execute the work.

    In determining the responsibility of any Proposer, the City reserves the right and may take into account other factors in addition to financial responsibility, such as past records of its or other entities transactions with the Proposer, experience, ability to complete performance within the necessary time limits, and other pertinent considerations such as, but not limited to, reliability, reputation, competency, skill, efficiency, facilities and resources. The Proposal will be awarded in the City's best interests based on these and other legally-allowable considerations.

    The City reserves the right and may make any investigations deemed necessary to determine the ability of the Proposer to perform the work. The Proposer agrees to furnish any information and data requested by the City for this purpose.

    The City reserves the right to and may require the Proposer to provide proof of its capability to perform the work as described and required herein; however, prequalification of the Proposer shall not be required.

23. **Cancellation/Rescheduling:** The City reserves the right to cancel the whole or any part of the Contract if the Contractor fails to perform any of the provisions of the Contract or fails to pick up material as specified. The Contractor will not be liable to perform if situations arise by reason of strikes, acts of God or public enemy, acts of the City, fires or floods.

24. Taxes and Other Costs: The Proposer is responsible, and the City expects Proposer, to pay all relevant/applicable taxes (including City, State and Federal) and all other costs associated with doing business.

CITY OF BENTONVILLE, ARKANSAS
PURCHASING OFFICE

1000 SW 14TH STREET BENTONVILLE, AR 72712 – (479) 271-3115 – PURCHASING@BENTONVILLEAR.COM

ADDENDUM TO SOLICITATION

Solicitation ID:	RFP-23-47	**Solicitation Title:**	General Contractor for the Walton Blvd. Intersection Improvements Project
Addendum Number:	1	**Date of Issuance:**	September 13, 2023

TO: Prospective Submitters

This Addendum modifies the original Response Document(s) dated September 3, 2023.

Submitters are required to acknowledge this Addendum by including it in their Submission. Failure to acknowledge this Addendum may result in rejection of the Submission.

Any Amended Documents contained herein shall replace those same documents in the original Packet. In the event that an Amended Required Response document is included herein, Submitters must use only the Amended Form in their Submission.

This Addendum Number 1 consists of 1 page(s).

Submission Deadlines:

1.0 The original Response Packet inadvertently included the incorrect Proposal Submission Deadline Date on page 3.

1.1 The correct Proposal Submission Deadline Date, as stated in the published advertisement, is October 5, 2023.

2.0 The original Response Packet inadvertently excluded the Deadline Dates and included the incorrect Solicitation Conference Time on page 6. The Deadline Dates, as stated in the published advertisement, are as follows:

2.1 Advertisement Published, Requesting Proposals: September 3, 2023; September 4, 2023; September 5, 2023; September 10, 2023

2.2 Optional Solicitation Conference: September 14, 2023 (2:00 PM CST)

2.3 Deadline to Submit Questions: September 29, 2023 (4:30 PM CST)

2.4 Deadline to Submit Proposals: October 5, 2023 (4:00 PM CST)

REMINDER: ACKNOWLEDGEMENT OF THIS ADDENDUM IS REQUIRED IN ANY SUBMISSION

CITY OF BENTONVILLE, ARKANSAS
PURCHASING OFFICE

1000 SW 14TH STREET BENTONVILLE, AR 72712 – (479) 271-3115 – PURCHASING@BENTONVILLEAR.COM

ADDENDUM TO SOLICITATION

Solicitation ID:	RFP-23-47	**Solicitation Title:**	General Contractor for the Walton Blvd. Intersection Improvements Project
Addendum Number:	2	**Date of Issuance:**	September 22, 2023

TO: Prospective Submitters

This Addendum modifies the original Response Document(s) dated September 3, 2023.

Submitters are required to acknowledge this Addendum by including it in their Submission. Failure to acknowledge this Addendum may result in rejection of the Submission.

Any Amended Documents contained herein shall replace those same documents in the original Packet. In the event that an Amended Required Response document is included herein, Submitters must use only the Amended Form in their Submission.

This Addendum Number 2 consists of 10 page(s).

Sheet C-252- Demolition Plan

1.0 It was determined that the demolition plan on sheet C-252 was incorrect pertaining to "remove, salvage, and reinstall existing light pole as directed".

1.1 The note on Sheet C-502 was correct pertaining to "existing light to be relocated by others".

1.2 This Addendum Number 2 includes a revised Sheet C-252, which shall replace the original C-252 included in the Response Packet.

Proposal Guarantee/Bid Bond Requirement Removed

1.0 The original Response Packet contains a requirement for a 5% Proposal Guarantee/Bid Bond to be included with any submitted Proposal. Due to the nature of this procurement method, the City has determined that it is not practical to require the 5% Proposal Guarantee.

1.1 This Addendum Number 2 removes all references in the Response Packet for the requirement of a Proposal Guarantee/Bid Bond.

1.2 Submitters are reminded that they will be required to provide a Performance and Payment Bond, each in an amount at least equal to the final contract amount.

Addendum Number 2 Continues on the Following Page

CITY OF BENTONVILLE, ARKANSAS
PURCHASING OFFICE

1000 SW 14TH STREET BENTONVILLE, AR 72712 – (479) 271-3115 – PURCHASING@BENTONVILLEAR.COM

ADDENDUM TO SOLICITATION

Solicitation Conference Agenda:

1.0 This Addendum Number 2 includes the Solicitation Conference Agenda on the following pages.

Submitted Questions and City's Responses:

1.0 This Addendum Number 2 includes questions submitted as of September 19, 2023 and the City's responses to those questions.

Submitted Questions and City's Responses Follows

ADDENDUM TO SOLICITATION

RFP-23-47 Questions and Responses (as of September 19, 2023)		
Question #	**Question Submitted**	**City's Response**
1	Who is going to be on the Selection Committee?	This is not known at this time; the Committee members will be selected prior to evaluation of the Submissions. The Selection Committee will be comprised of City Staff, however Proposals will be reviewed with the Engineer as part of the process.
2	Will night work be permitted on the road?	The Specifications do allow night work as long as a CUP is approved to work outside of hours allowed by the City noise ordinance. There is no restriction on when lane closures on Walton Boulevard can occur if the request is made at least one week in advance of the planned closure and approved by the owner, but with the condition that only one lane on Walton will be allowed to be closed at a time in each direction. Additionally, the nature of this procurement process (RFP) is to allow Submitters to propose how they can successfully perform the work. Requests and other considerations that differ from the Specifications should be clearly defined in any Proposal.
3	Are there any agreements in Zaxby's/Union Square yet?	No – the awarded Contractor will be responsible for coordination. Coordination items will be discussed at the Pre-Construction Meeting with the awarded Contractor.
4	Is the demolition work completed on the Walmart Project going to cause modification of the Plans for this project or modification of the Bid Schedules? The driveway is removed for the most part and there is no sidewalk/curb.	The plans and quantities will be adjusted as needed during construction if acceptable to the City and approved through a compliant Change Order process.
5	Are there any agreements with Bank OZK?	No – the awarded Contractor will be responsible for coordination*. Coordination items will be discussed at the Pre-Construction Meeting with the awarded Contractor. **Interested Parties are notified that Bank OZK has requested that the awarded Contractor list them as additional insured during construction.*

ADDENDUM TO SOLICITATION

Question #	Question Submitted	City's Response
6	There is conflicting information in the documents regarding the responsibility to remove, re-locate, and replace the streetlight at Zaxby's. Can you clarify?	The note in the demolition plan on sheet C-252 that reads "REMOVE, SALVAGE, AND REINSTALL EXISTING LIGHT POLE AS DIRECTED" is incorrect. This Addendum Number 2 includes a revised Sheet C-252 which shall replace the original sheet in the Response Packet. The note on sheet C-502 that reads **"EXISTING LIGHT TO BE RELOCATED BY OTHERS" is correct.** The contractor shall coordinate with BEUD during construction to relocate the light.
7	The asphalt/grading specification in C582 is not standard practice. Is there going to be any potential for a waiver of smoothness or concrete paving allowed?	The grading around the Walton/J Street/Dodson intersection is designed to provide smooth transitions to the existing Walton Boulevard grades while maintaining at least a 0.4% minimum slope in at least one direction. The cross slope is flatter than this in some cases, but the longitudinal grade will provide positive drainage in these areas. Pavement Smoothness is independent of cross-slope and profile grade. Pavement Smoothness requirements will not be waived.
8	What is the anticipated start time (how long for award etc.)?	The deadline for submissions is October 5, 2023 at 4:00 PM. After this, the Submissions will be distributed to the Selection Committee for evaluation; the evaluation, scoring, and interview process is expected to be ongoing for approximately 3-4 weeks. At the conclusion of evaluation, once the highest rated Proposal has been selected, award will be presented at City Council for approval. The City is motivated to get this project under contract before the end of 2023, and anticipates award will be presented in November 2023.
9	The quadruple grate inlet in the NE corner of the intersection will result in a straight section of curb within the curb radius in that corner of the intersection.	Correct, the curb has been drawn to reflect this straight segment within the limits of the quadruple grate inlet.

ADDENDUM TO SOLICITATION

Question #	Question Submitted	City's Response
10	Is there sanitary sewer bypass work required? If so, can you distribute flow information?	Yes, there is one in each Bid Schedule. Bentonville Water Utilities (BWU) and the Engineering Department reviewed the Plans and determined that Manhole 486-1190 on the SW corner of SE Dodson and SE Walton is likely going to be the only area where by-pass pumping may be needed; however, if the Contractor needs any additional flow information during construction, BWU will provide the information as needed. Flow through Manhole 486-1190 on the SW corner of SE Dodson and SE Walton is at 300 gpm peak.
11	Is there a current civil engineers estimate of probable cost? Or, what is the amount of funds set aside for the project by the City?	This information is not distributed while the solicitation is open.
12	Can you clarify where in the bid documents the requirement of Medical Center Parkway improvements need to be constructed prior to the start of SE J/Dodson construction is located?	That sequence is found in the Technical Specifications section I-1 Maintenance of Traffic.

Solicitation Conference Agenda Follows

ADDENDUM TO SOLICITATION

CITY OF BENTONVILLE PURCHASING DEPARTMENT

SOLICITATION CONFERENCE AGENDA

Solicitation Conference Date & Time:	September 14, 2023 at 2:00pm	**Solicitation ID & Title:**	RFP-23-47-GC for Walton Blvd. Intersection Improvements Project
Optional or Mandatory:	Optional	**Pre-Bid Meeting Location:**	Administrative Services Building
Engineer on Project:	Garver	**City Department:**	Engineering

1. **Open Meeting (Purchasing)**
    a. Solicitation ID and Title: RFP-23-47-GC for Walton Blvd. Intersection Improvements Project
    Announcement: If you have not signed in yet, please do so now
    b. Announcement: Optional Solicitation Conference
        i. Proposers not in this conference are able to submit a Proposal.
    c. Staff Introductions (members introduce themselves)
    d. Attendee introductions (attendees introduce themselves)
    e. Reminder that nothing is contractual unless issued via addendum.
2. **General (Purchasing)**
    a. Submission Deadline: October 5, 2023 at 4:00 PM
        i. All Proposals must be received prior to the deadline time.
        ii. All Proposals must be sealed.
        iii. There is not a public Proposal Opening/Bid Opening, you will hand the sealed Proposal Submission in at this Building – to the HR/Purchasing Door.
    b. Proposal Delivery Location:
        i. Administrative Services Building- 1000 SW 14th Street – 2nd Floor-HR/Purchasing Door
            1. Or Mailed

ADDENDUM TO SOLICITATION

2. Absolutely no emailed submissions – any emailed submissions will be deleted without being opened.

c. Question Deadline: September 29, 2023 @ 4:30 PM
d. Addendum Number 1 has been issued, which included corrections to inadvertent errors.
e. Proposal Guarantee/Bid Bond:
    i. Documents list a required 5% Proposal Guarantee
    ii. Addendum Number 2 will remove this requirement. (NO PROPOSAL GUARANTEE/BID BOND REQUIRED).
f. Performance and Payment Bond Requirement: At time of contract signing.

g. Reminders:
    i. Execution of Proposal and Acknowledgement of Addenda MUST be included in Submission.
        1. Automatic rejection if Proposal is not signed.
    ii. Required Response Information (Page 8) and Appendix A
        1. 2 Bid schedules
            a. Must be completed in Submission.
        2. Non-Collusion Affidavit
            a. Automatic rejection if not included, signed and notarized.
        3. Statement of Qualifications
        4. Proposed Subcontractors
    iii. In the event that a contractor's Proposal includes additional line items or other costs (such as those that may occur if the Proposer proposes an alternate method of doing the work or alternate items, the contractor shall include that information in their Proposal by using a different piece of paper (document) to convey the difference.

3. Request for Proposals

a. This is a Request for Proposals Solicitation. Submissions will be evaluated based on the criteria and points listed in the RFP Document. Submitted pricing, quantities, work schedules etc. are all subject to negotiation between the City and the highest rated Proposer(s).
b. Interviews may be conducted with and additional information may be requested from the highest rated firms, or the top highest rated firm.

ADDENDUM TO SOLICITATION

c. Interested Parties are reminded that the nature of the RFP process is to allow Contractors an opportunity to review the Plans and Specifications and provide alternate work methods for the City's consideration and allow for negotiation of the final Contract price. If Contractors believe that there are alternate methods or items that would make the project more efficient and/or advantageous to the City or to the completion of the project, they are encouraged to detail such information in their Proposal for the City's consideration.

4. **Construction Timeline (Purchasing)**
   a. The City specifies 480 consecutive calendar days, counted from 10 days after the effective date of the Notice to Proceed, or the date work commences, whichever occurs first.
      i. Proposers may submit different timeline information as part of their Proposal, which will be evaluated.
   b. No Liquidated Damages, however there is an incentive/disincentive provision, detailed in the Special Provisions (SP-35).

5. **Special attention called to the Special Provisions of the contract documents – be sure to review.**

6. **Project narrative and scope discussion (Garver)**
7. **Q&A:**
8. **Close meeting (Purchasing)**

Amended Sheet C-252 Follows

NOTES:

1. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE PROTECTED.
2. REMOVED LANDSCAPING AND IRRIGATION SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS.

RETAIN EXISTING INLET AND ASSOCIATED PIPES.

RETAIN EXISTING INLET AND ASSOCIATED PIPES.

REMOVE EXISTING PAVEMENT AND CURB AND GUTTER.

REMOVE EXISTING PAVEMENT, SIDEWALK, AND CURB AND GUTTER.

REMOVE EXISTING INLET.

REMOVE EXISTING INLET AND ASSOCIATED PIPES.

REMOVE EXISTING CURB AND GUTTER, SIDEWALK, AND RAMPS.

RETAIN EXISTING LIGHT POLE.

EXISTING LIGHT TO BE RELOCATED BY OTHERS

REMOVE EXISTING SIDEWALK.

REMOVE EXISTING INLET. RETAIN ASSOCIATED PIPES TO THE NORTH AND NORTHEAST AND CONNECT TO PROPOSED INLET. REMOVE EXISTING PIPE TO THE SOUTH.

REMOVE EXISTING SIDEWALK

REMOVE EXISTING BOLLARDS.

REMOVE EXISTING DRIVEWAY PAVEMENT, APRON, SIDEWALK, RAMPS, AND CURB AND GUTTER.

RETAIN EXISTING PIPES.

RETAIN EXISTING SIDEWALK.

RETAIN EXISTING CURB AND GUTTER

REMOVE EXISTING INLET AND ASSOCIATED PIPES.

RETAIN EXISTING BOX CULVERTS AND CONNECT TO PROPOSED INLET AND JUNCTION BOX.

REMOVE 6 L.F. OF EXISTING PIPE. CONNECT PIPE TO PROPOSED JUNCTION BOX.

REMOVE EXISTING SIDEWALK AND CURB AND GUTTER.

REMOVE EXISTING PAVEMENT.

SE J STREET

REMOVE EXISTING SIDEWALK, RAMP, AND CURB AND GUTTER.

RETAIN EXISTING SIDEWALK AND CURB AND GUTTER.

RETAIN EXISTING MONUMENT SIGN.

REMOVE EXISTING PAVEMENT AND CURB AND GUTTER.

REMOVE EXISTING HEADWALL, WINGWALLS, DITCH PAVING, SIDEWALK, AND CURB AND GUTTER.

RETAIN EXISTING INLET.

REMOVE EXISTING DRIVEWAY PAVEMENT, APRON, SIDEWALK, RAMPS, AND CURB AND GUTTER.

SE WALTON BOULEVARD

17+00 18+00 19+00 20+00 20+50

POE 20+50.00

0' 10' 20' 40' 60'
(IN FEET)

REPLACED BY SHEET C-252 OF REVISION 1.

RETAIN EXISTING SIDEWALK AND CURB AND GUTTER.

REMOVE 6 L.F. OF EXISTING PIPE. CONNECT PIPE TO PROPOSED JUNCTION BOX.

REMOVE EXISTING DRIVEWAY PAVEMENT, APRON, SIDEWALK, RAMPS, AND CURB AND GUTTER.

REMOVE EXISTING PAVEMENT AND CURB AND GUTTER.

REMOVE EXISTING CURB AND GUTTER, SIDEWALK, AND RAMPS.

RETAIN EXISTING INLET AND ASSOCIATED PIPES.

REMOVE EXISTING HEADWALL, WINGWALLS, DITCH PAVING, SIDEWALK, AND CURB AND GUTTER.

REMOVE EXISTING PAVEMENT AND CURB AND GUTTER.

RETAIN EXISTING PIPE.

REMOVE EXISTING INLET. RETAIN EXISTING PIPE TO THE EAST AND CONNECT TO PROPOSED INLET. REMOVE 12 L.F. OF EXISTING PIPE TO THE WEST AND CONNECT TO PROPOSED PIPE COLLAR.

REMOVE EXISTING CURB AND GUTTER AND SIDEWALK.

SE WALTON BOULEVARD

30+00 31+00 32+00 33+00 34+00 35+00

POB 30+00.00

RETAIN EXISTING BOX CULVERTS AND CONNECT TO PROPOSED INLET AND JUNCTION BOX.

REMOVE EXISTING CURB AND GUTTER, SIDEWALK AND RAMPS.

REMOVE EXISTING INLET.

RETAIN EXISTING PIPE.

POE 35+00.00

REMOVE EXISTING INLET, JUNCTION BOX, AND BOX CULVERT.

REMOVE EXISTING CURB AND GUTTER, SIDEWALK, AND RAMPS.

SE DODSON ROAD

REMOVE EXISTING JUNCTION BOX.

REMOVE EXISTING JUNCTION BOX AND ASSOCIATED PIPES

16+00

N

0' 10' 20' 40' 60'
(IN FEET)

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEERING

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 09/20/2023

REV.	DATE	DESCRIPTION	BY
1	9/20/2023	ADDENDUM #2	LTF

BE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

DEMOLITION PLAN

JOB NO.: 21T21090
DATE: SEPT. 2023
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-252

LTFreedle
9/20/2023
11:04:33 AM
W:\ORKSPACE\Garver, 2012 \\garverinc.local\gdata\Projects\2022\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C252_DM.dgn
REVISED DATE:

ADDENDUM TO SOLICITATION

End of Addendum Number 2

CITY OF BENTONVILLE, ARKANSAS
PURCHASING OFFICE

1000 SW 14TH STREET BENTONVILLE, AR 72712 – (479) 271-3115 – PURCHASING@BENTONVILLEAR.COM

ADDENDUM TO SOLICITATION

Solicitation ID:	RFP-23-47	**Solicitation Title:**	General Contractor for the Walton Blvd. Intersection Improvements Project
Addendum Number:	3	**Date of Issuance:**	September 29, 2023

TO: Prospective Submitters

This Addendum modifies the original Response Document(s) dated September 3, 2023.

Submitters are required to acknowledge this Addendum by including it in their Submission. Failure to acknowledge this Addendum may result in rejection of the Submission.

Any Amended Documents contained herein shall replace those same documents in the original Packet. In the event that an Amended Required Response document is included herein, Submitters must use only the Amended Form in their Submission.

This Addendum Number 3 consists of 1 page(s)

Proposal Deadline (and Question Deadline):

1.0 Due to RFP-23-47 being a pilot procurement method for construction, the City has determined it would be in its best interest to extend the timeline, allowing interested Submitters additional time to review the work and prepare a Proposal.

1.1 The **Submission Deadline date has been amended to Thursday, October 12, 2023 at 4:00 PM (CST)**.

1.2 The **Question Deadline has been amended to Friday, October 6, 2023 at 4:30 PM (CST)**. Interested Submitters are reminded that questions must be submitted in writing to purchasing@bentonvillear.com prior to the Question Deadline.

End of Addendum Number 3

CITY OF BENTONVILLE, ARKANSAS
PURCHASING OFFICE

1000 SW 14TH STREET BENTONVILLE, AR 72712 – (479) 271-3115 – PURCHASING@BENTONVILLEAR.COM

ADDENDUM TO SOLICITATION

Solicitation ID:	RFP-23-47	**Solicitation Title:**	General Contractor for the Walton Blvd. Intersection Improvements Project
Addendum Number:	~~3~~ 4	**Date of Issuance:**	October 7, 2023

TO: Prospective Submitters

This Addendum modifies the original Response Document(s) dated September 3, 2023.

Submitters are required to acknowledge this Addendum by including it in their Submission. Failure to acknowledge this Addendum may result in rejection of the Submission.

Any Amended Documents contained herein shall replace those same documents in the original Packet. In the event that an Amended Required Response document is included herein, Submitters must use only the Amended Form in their Submission.

This Addendum Number ~~3~~ 4 consists of 1 page(s).

Excel Spreadsheet of Bid Schedules:

1.0 A question was submitted to RFP-23-47 requesting an Excel Spreadsheet of the Bid Schedules.

1.1 The Excel Spreadsheet of the Bid Schedules has been attached to the email distributing this Addendum Number ~~3~~ 4, and will also be available through the Purchasing Page of the City's Website via the following link: https://bentonvillear.com/DocumentCenter/Index/189

**Addendum Number 4 was inadvertently issued under the wrong addenda number (3). This has been corrected on October 9, 2023, and issued as a corrected Addendum.*

End of Addendum Number ~~3~~ 4

SPECIFICATIONS AND CONTRACT DOCUMENTS

CITY OF BENTONVILLE

BENTONVILLE, ARKANSAS

WALTON BOULEVARD INTERSECTION IMPROVEMENTS
PROPOSAL #RFP-23-47

Prepared For:

CITY OF BENTONVILLE

SEPTEMBER 2023

GARVER

GarverUSA.com

WALTON BOULEVARD INTERSECTION IMPROVEMENTS
GARVER PROJECT NO. 21T21080 / 21T21090

I hereby certify that the applicable portions of this project plans and specifications were prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the laws of the State of Arkansas.

SEAL AND SIGNATURE	APPLICABLE DIVISION OR PROJECT RESPONSIBILITY
Luke T. Freedle, P.E.  Digitally Signed: 01/13/2023	Roadway and Drainage Improvements
Claire E. McKinney, P.E.  Digitally Signed: 01/13/2023	Traffic Signal Improvements

SEAL AND SIGNATURE	APPLICABLE DIVISION OR PROJECT RESPONSIBILITY
Lawrence F. Gregory, P.E.  Digitally Signed: 01/13/2023	Water and Sanitary Sewer Improvements

GARVER, LLC CERTIFICATE OF AUTHORIZATION:
   Expiration Date: 12/31/2023

CITY OF BENTONVILLE

WALTON BOULEVARD INTERSECTION IMPROVEMENTS

TABLE OF CONTENTS

Description		Page No.
PART 1 - BIDDING REQUIREMENTS		
010400	Proposal	010400-1
010410	Non-Collusion Affidavit	010410-1
010420	Statement of Bidder's Qualifications	010420-1
010440	List of Proposed Subcontractors	010440-1
PART 2 - CONTRACT DOCUMENTS		
010600	Contract	010600-1
010700	Performance Bond	010700-1
010720	Payment Bond	010720-1
PART 3 - PROJECT CONDITIONS		
010800	General Conditions	010800-1
010900	Special Conditions	010900-1
010910	OSHA Standard for Excavation and Trench Safety Systems	010910-1
PART 4 - TECHNICAL SPECIFICATIONS		
E-1	Site Preparation	E1-1
E-2	Excavation and Embankment	E2-1
E-3	Excavation for Structures	E3-1
E-4	Trench and Excavation Safety Systems	E4-1
I-1	Maintenance of Traffic	I1-1
I-3	Pipe Culverts	I3-1
I-4	Precast Reinforced Concrete Box Culverts	I4-1
I-5	Drop Inlets and Junction Boxes	I5-1
I-8	Pavement Repairs	I8-1
I-9	Guardrail	I9-1
I-12	Temporary Erosion Control	I12-1
I-13	Solid Sodding	I13-1
I-14	Topsoil	I14-1
I-15	Concrete Island	I15-1
I-16	Concrete Sidewalks	I16-1
I-17	Curb and Gutter	I17-1
I-18	Roadway Construction Control	I18-1
M-3	Cold Milling	M3-1
M-7	Water for Dust Control	M7-1
P-1	Aggregate Base Course	P1-1
P-2	Prime and Tack Coats	P2-1
P-3	Asphalt Surface and Binder Course	P3-1
P-4	Asphalt Surface and Binder Course (Marshall Mix)	P4-1
P-5	Driveways and Aprons	P5-1
S-1	Structural Concrete	S1-1
T-1	Thermoplastic Pavement Marking	T1-1
T-2	Signs and Supports	T2-1
SP-1	ARDOT Specifications	SP-1-1

SP-2	Portland Cement Concrete Base	SP-2-1
SP-3	Rock Mulch	SP-3-1
SP-4	Remove, Salvage, and Reinstall Existing Handrail	SP-4-1
SP-5	Remove, Salvage, and Reinstall Existing Monument Sign	SP-5-1
SP-6	Traffic Signal Installation	SP-6-1
SP-7	Accessible Pedestrian Signal (APS)	SP-7-1
SP-8	Retroreflective Backplates	SP-8-1
SP-9	Cabinet Drawer Assembly	SP-9-1
SP-10	Communication Cable-Fiber	SP-10-1
SP-11	Decorative Poles	SP-11-1
SP-12	Electrical Conductors for Luminaires	SP-12-1
SP-13	Electrical Conductors-in-Conduit	SP-13-1
SP-14	Emergency Battery Backup System Installation	SP-14-1
SP-15	Ethernet Switch	SP-15-1
SP-16	GPS Preemption System	SP-16-1
SP-17	IP Video Detection System	SP-17-1
SP-18	LED Countdown Pedestrian Signal Head	SP-18-1
SP-19	LED Luminaire	SP-19-1
SP-20	LED Traffic Signal Head	SP-20-1
SP-21	Service Point Assembly	SP-21-1
SP-22	System Local Controller (Fiber)	SP-22-1
SP-23	WIC Fiber Enclosure	SP-23-1
SP-24	HDPE Conduit	SP-24-1
SP-25	Fiber Pull Box	SP-25-1
SP-26	Relocation of Traffic Signal Head	SP-26-1
SP-27	Video Detector Rotation	SP-27-1
SP-28	Removal of Traffic Signal Equipment	SP-28-1
SP-29	Measurement and Payment for Water and Sewer	SP-29-1
SP-30	Remove, Salvage, and Reinstall Existing Street Light – Revision 1	SP-30-1
SP-31	Utility Adjustments	SP-31-1
SP-32	Incidental Landscape and Irrigation Restoration	SP-32-1
SP-33	Delay in Right of Way Occupancy	SP-33-1
SP-34	Contingency Allowance	SP-34-1
Sp-35	Incentive and Disincentive	SP-35-1

010400 - PROPOSAL

Place _____

Date _____

Proposal of _____,

a corporation organized and existing under the laws of the State of _____,

or

Proposal of _____,

a partnership consisting of _____

or

Proposal of _____,

an individual doing business as _____,

To: City of Bentonville

This proposal results from your Request of Proposal (RFP 23-47) for the construction of the **Walton Boulevard Intersection Improvements.**

The undersigned Contractor, having visited the site of the work, having examined the RFP, Plans, Specifications, and other Contract Documents including all Addenda, and being familiar with all of the conditions relating to the construction of the proposed project, hereby agrees to comply with all other conditions or requirements set forth in the Plans, Specifications, and other Contract Documents, and further proposes to; furnish all material, supplies, equipment, and appliances; to furnish all labor, tools, equipment and incidentals to complete the work in accordance with the Plans, Specifications, and other Contract Documents for the lump sum and unit prices included in the proposal.

The undersigned Contractor agrees to begin work within ten (10) calendar days after the issuance by, or on behalf of, the Owner of a "Work Order" or "Notice to Proceed" and to complete the work within **four hundred and eighty (480)** consecutive calendar days thereafter (except as modified in accordance with the GENERAL CONDITIONS of these Contract Documents). It is understood that additional time for the completion of the project is to be allowed only for delays as stipulated in GENERAL CONDITIONS of these Contract Documents.

Contractor acknowledges receipt of the following addendum (addenda):

_____ and _____

_____ and _____

_____ and _____

_____ and _____

The undersigned Contractor agrees that this proposal shall be good and shall not be withdrawn for a period of sixty (60) calendar days after the opening thereof. If written notice of the acceptance of this Proposal is mailed, telegraphed, or delivered to the undersigned within sixty (60) days after the opening thereof, or at any time thereafter before this Proposal is withdrawn, the undersigned agrees to execute and deliver an Agreement (Contract) in the prescribed form, and furnish the required Performance and Payment Bond, within ten (10) days after the Agreement is presented to him for signature.

It is understood by the undersigned respondent that the Owner reserves the right to reject any or all proposals.

Accompanying this Proposal as bid security is a certified check/bid bond (*strike one*)

in the amount of _____ Dollars ($_____), being not less than five percent (5%) of the total amount of the proposal. If the undersigned Respondent is selected, but fails or refuses to execute the contract and furnish the required bond within the prescribed ten (10) days of the notification of award, then this bid security is to become the property of the Owner as liquidated damages for the delay and additional expense to the Owner caused by such failure or refusal.

NAME OF COMPANY: *[Indicate correct name of proposal entity]*

_____

By:
[Signature] _____

[Printed name] _____
(If Respondent is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

_____

_____

Telephone Number: _____

Contact Name and e-mail address: _____

_____

Contractor's License No.: _____

(where applicable)

NOTES: Sign in ink. Do not detach.

Items must be bid upon as specified in the Unit Price Schedule (UPC) or if the proposed method of performing the work entails additional or alternate line items, the proposer shall clearly indicate deviations from the UPC, attach additional information regarding the deviations along with the original UPC contained in the project manual.

CITY OF BENTONVILLE
WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS (BID SCHEDULE 1)
UNIT PRICES

					Crossland Heavy Contractors	
NO.	NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	E-1	Site Preparation	LS	1	$ 355,000.00	$ 355,000.00
2	E-2	Unclassified Excavation (Plan Quantity)	CY	1190	$ 35.00	$ 41,650.00
3	E-2	Embankment Construction (Plan Quantity)	CY	680	$ 43.00	$ 29,240.00
4	E-2	Undercut Excavation	CY	1100	$ 78.00	$ 85,800.00
5	E-2	Rock Excavation	CY	250	$ 250.00	$ 62,500.00
6	E-4	Trench and Excavation Safety Systems	LS	1	$ 16,000.00	$ 16,000.00
7	I-1	Maintenance of Traffic	LS	1	$ 240,000.00	$ 240,000.00
8	I-3	18" Class III R.C. Pipe	LF	85	$ 200.00	$ 17,000.00
9	I-3	24" Class III R.C. Pipe	LF	133	$ 215.00	$ 28,595.00
10	I-3	24" Class III R.C. Flared End Section	EA	1	$ 2,275.00	$ 2,275.00
11	I-3	Pipe Collar	EA	5	$ 1,850.00	$ 9,250.00
12	I-5	Single Grate Combination Inlet	EA	3	$ 14,700.00	$ 44,100.00
13	I-5	Double Grate Combination Inlet	EA	3	$ 24,000.00	$ 72,000.00
14	I-5	Triple Grate Combination Inlet	EA	1	$ 29,500.00	$ 29,500.00
15	I-5	Double Grate Combination Inlet With 4'x4' Junction Box	EA	1	$ 33,500.00	$ 33,500.00
16	I-5	Special Double Grate Combination Inlet With 4'x1'-6" Junction Box	EA	1	$ 32,000.00	$ 32,000.00
17	I-5	Triple Grate Combination Inlet With 8'x4'-6" Junction Box	EA	0	$ 46,500.00	$ -
18	I-5	4' Type MO Junction Box	EA	1	$ 15,500.00	$ 15,500.00
19	I-5	Additional Curb Openings	EA	3	$ 2,950.00	$ 8,850.00
20	I-8	Asphalt Pavement Repair	SY	35	$ 335.00	$ 11,725.00
21	I-8	Temporary Pavement Repair	SY	35	$ 260.00	$ 9,100.00
22	I-9	Guardrail	LF	277	$ 70.00	$ 19,390.00
23	I-12	Temporary Erosion Control	LS	1	$ 48,000.00	$ 48,000.00
24	I-13	Sodding	SY	2962	$ 7.00	$ 20,734.00
25	I-15	Concrete Island (4")	SY	2	$ 300.00	$ 600.00
26	I-15	Concrete Island (6")	SY	0	$ 250.00	$ -
27	I-16	4" Concrete Sidewalk	SY	255	$ 115.00	$ 29,325.00
28	I-16	6" Concrete Sidewalk	SY	0	$ 190.00	$ -
29	I-16	Handicap Ramp Concrete	SY	81	$ 450.00	$ 36,450.00
30	I-16	Retaining Wall Integral with 6" Thick Sidewalk	SY	60	$ 300.00	$ 18,000.00
31	I-16	Retaining Wall Integral with 6" Handicap Ramp Concrete	SY	5	$ 850.00	$ 4,250.00
32	I-17	Concrete Curb and Gutter (Type A) (1'-6")	LF	792	$ 50.00	$ 39,600.00
33	I-17	Concrete Curb and Gutter (Type A) (2'-0")	LF	130	$ 70.00	$ 9,100.00
34	I-18	Roadway Construction Control	LS	1	$ 125,000.00	$ 125,000.00
35	M-3	Cold Milling Asphalt Pavement	SY	3419	$ 12.50	$ 42,737.50
36	P-1	6" Aggregate Base Course (Class 7)	SY	1532	$ 28.00	$ 42,896.00
37	P-3	ACHM Surface Course (PG 70-22)	TON	564	$ 325.00	$ 183,300.00
38	P-3	ACHM Binder Course (PG 64-22)	TON	404	$ 362.00	$ 146,248.00
39	P-5	Concrete Driveways	SY	0	$ 160.00	$ -
40	P-5	Concrete Aprons	SY	0	$ 160.00	$ -
41	P-5	Asphalt Driveways	SY	0	$ 280.00	$ -
42	S-1	Concrete Retaining Wall	SF	771	$ 160.00	$ 123,360.00
43	T-1	Thermoplastic Pavement Marking - 6" Yellow	LF	1428	$ 3.50	$ 4,998.00
44	T-1	Thermoplastic Pavement Marking - 6" White	LF	1353	$ 3.50	$ 4,735.50
45	T-1	Thermoplastic Pavement Marking - 12" White	LF	836	$ 15.50	$ 12,958.00
46	T-1	Thermoplastic Pavement Marking (Words)	EA	8	$ 620.00	$ 4,960.00
47	T-1	Thermoplastic Pavement Marking (Arrows)	EA	19	$ 550.00	$ 10,450.00
48	T-2	Standard Street Sign Installation	EA	6	$ 500.00	$ 3,000.00
49	SP-2	6" Portland Cement Concrete Base	SY	138	$ 130.00	$ 17,940.00
50	SP-3	Washed River Rock Mulch, Installed	SY	169	$ 230.00	$ 38,870.00
51	SP-4	Remove, Salvage, and Reinstall Existing Handrail	LF	18	$ 100.00	$ 1,800.00
52	SP-5	Remove, Salvage, and Reinstall Existing Monument Sign	EA	2	$ 19,500.00	$ 39,000.00
53	SP & 701	System Local Controller-Fiber (8 Phases)	EA	1	$ 58,500.00	$ 58,500.00
54	SP	Ethernet Switch	EA	1	$ 4,830.00	$ 4,830.00
55	SP	GPS Preemption System	EA	1	$ 20,000.00	$ 20,000.00
56	SP	Battery Backup System	EA	1	$ 16,300.00	$ 16,300.00
57	SP	WIC Fiber Enclosure	EA	1	$ 1,305.00	$ 1,305.00
58	SP & 706	Traffic Signal Head, LED, (3 Section, 1 Way)	EA	18	$ 1,565.00	$ 28,170.00
59	SP & 706	Traffic Signal Head, LED, (4 Section, 1 Way)	EA	7	$ 1,762.00	$ 12,334.00
60	SP & 706	Traffic Signal Head, LED, (5 Section, 1 Way)	EA	3	$ 2,090.00	$ 6,270.00
61	SP	Relocation of Traffic Signal Head	EA	3	$ 460.00	$ 1,380.00
62	SP & 707	Central Control Unit	EA	1	$ 7,835.00	$ 7,835.00
63	SP & 707	Pole Mounted Assembly	EA	8	$ 2,615.00	$ 20,920.00
64	SP & 707	Infrared Programming Device	EA	1	$ 1,960.00	$ 1,960.00
65	SP & 707	Countdown Pedestrian Signal Head, Led	EA	8	$ 1,960.00	$ 15,680.00
66	708	Traffic Signal Cable (5C/14 A.W.G.)	LF	2920	$ 3.60	$ 10,512.00
67	708	Traffic Signal Cable (7C/14 A.W.G.)	LF	2632	$ 4.60	$ 12,107.20
68	708	Traffic Signal Cable (20C/14 A.W.G.)	LF	730	$ 7.20	$ 5,256.00
69	SP	Electrical Conductors-In-Conduit (1C/8 A.W.G., E.G.C.)	LF	903	$ 2.00	$ 1,806.00
70	SP	Electrical Conductors-In-Conduit (1C/12 A.W.G., E.G.C.)	LF	220	$ 1.65	$ 363.00

CITY OF BENTONVILLE
WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS (BID SCHEDULE 1)
UNIT PRICES

71	SP	Electrical Conductors-In-Conduit (2C/6 A.W.G.)	LF	37	$ 6.50	$ 240.50
72	SP	Electrical Conductors For Luminaires	LF	950	$ 3.90	$ 3,705.00
73	SP	Communication Cable, Fiber (12 Channel)	LF	72	$ 58.50	$ 4,212.00
74	SP	Fiber Tracer Wire, #14 AWG, Polyethlene Insulation Orange in Color	LF	72	$ 3.90	$ 280.80
75	SP	Fiber Optic Pigtail, 12 SM	LF	20	$ 97.50	$ 1,950.00
76	709	Galvanized Steel Conduit (2")	LF	37	$ 48.25	$ 1,785.25
77	709	Galvanized Steel Conduit (3")	LF	108	$ 58.50	$ 6,318.00
78	710	Non-Metallic Conduit (2")	LF	101	$ 19.50	$ 1,969.50
79	710	Non-Metallic Conduit (3")	LF	1063	$ 52.00	$ 55,276.00
80	SP & 711	Concrete Pull Box (Type 3)	EA	4	$ 2,100.00	$ 8,400.00
81	SP & 711	Concrete Pull Box (Type 1 HD)	EA	1	$ 1,950.00	$ 1,950.00
82	SP & 711	Concrete Pull Box (Type 3 HD)	EA	8	$ 3,250.00	$ 26,000.00
83	SP & 711	Pull Box For Fiber, DS-1609, 24"X36"X24"	EA	2	$ 5,200.00	$ 10,400.00
84	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (36')	EA	1	$ 57,500.00	$ 57,500.00
85	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (38')	EA	1	$ 58,500.00	$ 58,500.00
86	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (48')	EA	1	$ 60,750.00	$ 60,750.00
87	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (54')	EA	1	$ 67,500.00	$ 67,500.00
88	SP	LED Luminaire Assembly	EA	4	$ 5,875.00	$ 23,500.00
89	SP & 715	Traffic Signal Pedestal Pole With Foundation	EA	6	$ 9,775.00	$ 58,650.00
90	SP	Service Point Assembly (2 Circuits)	EA	1	$ 5,875.00	$ 5,875.00
91	SP	Removal of Traffic Signal Equipment	LUMP SUM	1	$ 13,050.00	$ 13,050.00
92	716	Treated Wood Pole (Class 2, 45')	EA	4	$ 13,050.00	$ 52,200.00
93	SP	18" Street Name Sign (Install Only)	EA	4	$ 450.00	$ 1,800.00
94	SP	Video Detector Rotation	EA	2	$ 450.00	$ 900.00
95	SP & 733	Video Detector Rack (16 Channel)	EA	1	$ 2,950.00	$ 2,950.00
96	SP & 733	Video Detector (IP)	EA	9	$ 11,100.00	$ 99,900.00
97	SP & 733	Video Cable (Exterior Cat 5E)	LF	1857	$ 5.25	$ 9,749.25
98	733	Video Monitor (CLR)	EA	1	$ 1,375.00	$ 1,375.00
99	SP & 733	Central Control Unit (4 Channel)	EA	2	$ 29,350.00	$ 58,700.00
100	SP	SDLC and Cables	LS	1	$ 650.00	$ 650.00
101	SP	Bluetooth System	EA	1	$ 8,500.00	$ 8,500.00
102	SP	Utility Mobilization	LS	0	$ 12,500.00	$ -
103	SP	Utility Trench Excavation Safety Systems	LS	0	$ 14,000.00	$ -
104	SP	Spot Dig and Verify Exiting Utility Locations	LS	1	$ 26,500.00	$ 26,500.00
105	SP	Bypass Pumping	LS	0	$ 30,000.00	$ -
106	SP	8" SDR-26 PVC Sewer Line	LF	0	$ 305.00	$ -
107	SP	4' ID San. Sewer Manhole, Cast-in-Place, 0' to 6' Depth	EA	0	$ 13,215.00	$ -
108	SP	4' ID San. Sewer Manhole Additional Depth, Over 6'	VF	0	$ 695.00	$ -
109	SP	6' ID San. Sewer Manhole with Watertight Ring and Lid, Cast-in-Place, 0' to 6' Depth	EA	0	$ 17,400.00	$ -
110	SP	6' ID San. Sewer Manhole Additional Depth, Over 6'	VF	0	$ 915.00	$ -
111	SP	Core Existing Manhole	EA	0	$ 2,500.00	$ -
112	SP	Raise Manhole Rim to Proposed Grade	EA	1	$ 4,600.00	$ 4,600.00
113	SP	Lower Manhole Rim to Proposed Grade	EA	1	$ 4,600.00	$ 4,600.00
114	SP	Fire Hydrant	EA	0	$ 10,800.00	$ -
115	SP	Salvage Fire Hydrant	EA	0	$ 1,550.00	$ -
116	SP	Relocate and Connect 1" Water Service Line and 1" Meter Set	EA	0	$ 2,700.00	$ -
117	SP	Adjust Valve Box to Proposed Grade	EA	0	$ 1,100.00	$ -
118	SP	Flowable Fill for Abandoned Pipe	CY	0	$ 275.00	$ -
119	SP	Trench Undercut and Backfill	CY	0	$ 120.00	$ -
120	SP	Rock Excavation for Utilities	CY	0	$ 380.00	$ -
121	SP	Bid Schedule 1 Contingency Allowance ($250,000)	LS	1	$ 250,000.00	$ 250,000.00
	SP	Utility Adjustment Delays (Rev. 1)	DAY	10	$ 3,000.00	$ 30,000.00
122	I-5	4' Curb Inlet Extension (Rev. 1)	EA	1	$ 2,800.00	$ 2,800.00

Bid Schedule 1 Items $ 3,419,851.50

CITY OF BENTONVILLE
WALTON BOULEVARD AND SE J STREET IMPROVEMENTS (BID SCHEDULE 2)
UNIT PRICES

					Crossland Heavy	
NO.	NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	E-1	Site Preparation	LS	1	$ 549,000.00	$ 549,000.00
2	E-2	Unclassified Excavation (Plan Quantity)	CY	1,616	$ 35.00	$ 56,560.00
3	E-2	Embankment Construction (Plan Quantity)	CY	634	$ 43.00	$ 27,262.00
4	E-2	Undercut Excavation	CY	1,340	$ 78.00	$ 104,520.00
5	E-2	Rock Excavation	CY	250	$ 250.00	$ 62,500.00

6	E-4	Trench and Excavation Safety Systems	LS	1	$	19,500.00	$	19,500.00
7	I-1	Maintenance of Traffic	LS	1	$	340,000.00	$	340,000.00
8	I-3	18" Class III R.C. Pipe	LF	12	$	225.00	$	2,700.00
9	I-3	24" Class III R.C. Pipe	LF	12	$	260.00	$	3,120.00
10	I-3	42" Class III R.C. Pipe	LF	0	$	395.00	$	-
11	I-3	30"x19" Class III R.C. Elliptical Pipe	LF	179	$	275.00	$	49,225.00
12	I-3	45"x29" Class III R.C. Elliptical Pipe	LF	0	$	305.00	$	-
13	I-3	53"x34" Class III R.C. Elliptical Pipe	LF	530	$	375.00	$	198,750.00
14	I-3	18" Class III R.C. Flared End Section	EA	1	$	2,500.00	$	2,500.00
15	I-3	Pipe Collar	EA	1	$	1,850.00	$	1,850.00
16	I-4	4'x2' Precast Reinforced Concrete Box Culvert	LF	112	$	650.00	$	72,800.00
17	I-4	8'x4' Precast Reinforced Concrete Box Culvert	LF	0	$	1,450.00	$	-
18	I-5	Single Grate Combination Inlet	EA	1	$	15,000.00	$	15,000.00
19	I-5	Double Grate Combination Inlet	EA	0	$	24,800.00	$	-
20	I-5	Quadruple Grate Combination Inlet	EA	1	$	39,500.00	$	39,500.00
21	I-5	Single Grate Combination Inlet With 3'x4' Junction Box	EA	1	$	26,500.00	$	26,500.00
22	I-5	Single Grate Combination Inlet With 3'x11.5' Junction Box	EA	1	$	37,950.00	$	37,950.00
23	I-5	Double Grate Combination Inlet With 6'-2"x4' Junction Box	EA	1	$	38,500.00	$	38,500.00
24	I-5	Double Grate Combination Inlet With 6'-2"x6'-6" Junction Box	EA	1	$	38,500.00	$	38,500.00
25	I-5	Special Double Grate Combination Inlet With 6'-2"x7' Junction Box	EA	1	$	58,500.00	$	58,500.00
26	I-5	Double Grate Combination Inlet With 6'-2"x7'-6" Junction Box	EA	1	$	50,350.00	$	50,350.00
27	I-5	Triple Grate Combination Inlet With 4'x4' Junction Box	EA	1	$	40,350.00	$	40,350.00
28	I-5	Additional Curb Openings	EA	6	$	2,950.00	$	17,700.00
29	I-5	4' Type MO Curb Inlet	EA	0	$	15,500.00	$	-
30	I-5	4' Type MO Junction Box	EA	0	$	14,500.00	$	-
31	I-5	4' Curb Inlet Extension	EA	0	$	2,800.00	$	-
32	I-5	9'x12' Type C Curb Inlet	EA	0	$	45,000.00	$	-
33	I-5	4'x13.5' Junction Box	EA	1	$	35,000.00	$	35,000.00
34	I-5	12.5'x5.5' Junction Box	EA	1	$	46,000.00	$	46,000.00
35	I-5	15'x4' Junction Box	EA	0	$	47,000.00	$	-
36	I-8	Asphalt Pavement Repair	SY	122	$	335.00	$	40,870.00
37	I-8	Temporary Pavement Repair	SY	50	$	260.00	$	13,000.00
38	I-12	Temporary Erosion Control	LS	1	$	52,500.00	$	52,500.00
39	I-13	Sodding	SY	3,206	$	7.00	$	22,442.00
40	I-15	Concrete Island (6")	SY	22	$	225.00	$	4,950.00
41	I-16	4" Concrete Sidewalk	SY	699	$	115.00	$	80,385.00
42	I-16	6" Concrete Sidewalk	SY	119	$	190.00	$	22,610.00
43	I-16	Handicap Ramp Concrete	SY	41	$	450.00	$	18,450.00
44	I-17	Concrete Curb and Gutter (Type A) (1'-6")	LF	1,383	$	50.00	$	69,150.00
45	I-17	Concrete Curb and Gutter (Type A) (2'-0")	LF	173	$	70.00	$	12,110.00
46	I-18	Roadway Construction Control	LS	1	$	220,000.00	$	220,000.00
47	M-3	Cold Milling Asphalt Pavement	SY	4,004	$	12.50	$	50,050.00
48	P-1	6" Aggregate Base Course (Class 7)	SY	1,546	$	28.00	$	43,288.00
49	P-3	ACHM Surface Course (PG 76-22)	TON	626	$	325.00	$	203,450.00
50	P-3	ACHM Binder Course (PG 70-22)	TON	313	$	362.00	$	113,306.00
51	P-5	Concrete Driveways	SY	76	$	160.00	$	12,160.00
52	P-5	Concrete Aprons	SY	228	$	160.00	$	36,480.00
53	P-5	Asphalt Driveways	SY	248	$	280.00	$	69,440.00
54	T-1	Thermoplastic Pavement Marking - 6" Yellow	LF	1,760	$	3.50	$	6,160.00
55	T-1	Thermoplastic Pavement Marking - 6" White	LF	1,568	$	3.50	$	5,488.00
56	T-1	Thermoplastic Pavement Marking - 12" White	LF	1,032	$	15.50	$	15,996.00
57	T-1	Thermoplastic Pavement Marking (Words)	EA	13	$	620.00	$	8,060.00
58	T-1	Thermoplastic Pavement Marking (Arrows)	EA	24	$	550.00	$	13,200.00
59	T-2	Standard Street Sign Installation	EA	4	$	500.00	$	2,000.00
60	SP-2	6" Portland Cement Concrete Base	SY	317	$	130.00	$	41,210.00
61	SP-2	7" Portland Cement Concrete Base	SY	17	$	180.00	$	3,060.00
62	SP-3	Remove, Salvage, and Reinstall Existing Monument Sign	EA	1	$	20,500.00	$	20,500.00
63	SP & 701	System Local Controller-Fiber (8 Phases)	EA	1	$	58,750.00	$	58,750.00
64	SP	Ethernet Switch	EA	1	$	4,850.00	$	4,850.00
65	SP	Gps Preemption System	EA	1	$	20,000.00	$	20,000.00
66	SP	Battery Backup System	EA	1	$	16,300.00	$	16,300.00
67	SP	WIC Fiber Enclosure	EA	1	$	1,305.00	$	1,305.00
68	SP & 706	Traffic Signal Head, LED, (3 Section, 1 Way)	EA	19	$	1,550.00	$	29,450.00
69	SP & 706	Traffic Signal Head, LED, (4 Section, 1 Way)	EA	6	$	1,750.00	$	10,500.00
70	SP & 706	Traffic Signal Head, LED, (5 Section, 1 Way)	EA	5	$	2,100.00	$	10,500.00
71	SP	Relocation of Traffic Signal Head	EA	3	$	450.00	$	1,350.00
72	SP & 707	Central Control Unit	EA	1	$	7,850.00	$	7,850.00
73	SP & 707	Pole Mounted Assembly	EA	8	$	2,600.00	$	20,800.00
74	SP & 707	Infrared Programming Device	EA	1	$	1,950.00	$	1,950.00
75	SP & 707	Countdown Pedestrian Signal Head, Led	EA	8	$	1,950.00	$	15,600.00
76	708	Traffic Signal Cable (5C/14 A.W.G.)	LF	2,884	$	3.60	$	10,382.40
77	708	Traffic Signal Cable (7C/14 A.W.G.)	LF	2,908	$	4.50	$	13,086.00

78	708	Traffic Signal Cable (20C/14 A.W.G.)	LF	705	$	7.25	$	5,111.25
79	SP	Electrical Conductors-In-Conduit (1C/8 A.W.G., E.G.C.)	LF	860	$	2.00	$	1,720.00
80	SP	Electrical Conductors-In-Conduit (1C/12 A.W.G., E.G.C.)	LF	220	$	1.50	$	330.00
81	SP	Electrical Conductors-In-Conduit (2C/6 A.W.G.)	LF	37	$	6.50	$	240.50
82	SP	Electrical Conductors For Luminaires	LF	925	$	3.90	$	3,607.50
83	SP	Communication Cable Fiber (12 Channel)	LF	549	$	58.75	$	32,253.75
84	SP	Fiber Tracer Wire, #14 AWG, Polyethlene Insulation Orange in Color	LF	549	$	3.90	$	2,141.10
85	SP	Fiber Optic Pigtail, 12 SM	LF	30	$	98.00	$	2,940.00
86	709	Galvanized Steel Conduit (2")	LF	37	$	45.50	$	1,683.50
87	709	Galvanized Steel Conduit (3")	LF	112	$	58.75	$	6,580.00
88	710	Non-Metallic Conduit (2")	LF	73	$	19.50	$	1,423.50
89	710	Non-Metallic Conduit (3")	LF	808	$	52.25	$	42,218.00
90	710	Non-Metallic Conduit (3" HDPE)	LF	235	$	52.25	$	12,278.75
91	711	Concrete Pull Box (Type 1 HD)	EA	1	$	1,950.00	$	1,950.00
92	SP & 711	Concrete Pull Box (Type 3 HD)	EA	7	$	3,250.00	$	22,750.00
93	SP & 711	Pull Box For Fiber, DS-1609, 24"X36"X24"	EA	6	$	5,225.00	$	31,350.00
94	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (44')	EA	1	$	60,200.00	$	60,200.00
95	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (46')	EA	1	$	61,600.00	$	61,600.00
96	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (58')	EA	1	$	66,750.00	$	66,750.00
97	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (66')	EA	0	$	74,250.00	$	-
98	SP	LED Luminaire Assembly	EA	4	$	5,875.00	$	23,500.00
99	SP & 715	Traffic Signal Pedestal Pole With Foundation	EA	4	$	9,800.00	$	39,200.00
100	SP	Service Point Assembly (2 Circuits)	EA	1	$	5,875.00	$	5,875.00
101	SP	Removal of Traffic Signal Equipment	LS	1	$	13,100.00	$	13,100.00
102	716	Treated Wood Pole (Class 2, 45')	EA	4	$	13,100.00	$	52,400.00
103	SP	18" Street Name Sign (Install Only)	EA	4	$	450.00	$	1,800.00
104	SP	Video Detector Rotation	EA	2	$	450.00	$	900.00
105	SP & 733	Video Detector Rack (16 Channel)	EA	1	$	2,950.00	$	2,950.00
106	SP & 733	Video Detector (IP)	EA	9	$	11,100.00	$	99,900.00
107	SP & 733	Video Cable (Exterior Cat 5E)	LF	2,399	$	6.00	$	14,394.00
108	733	Video Monitor (CLR)	EA	1	$	1,375.00	$	1,375.00
109	SP & 733	Central Control Unit (4 Channel)	EA	2	$	29,400.00	$	58,800.00
110	SP	SDLC and Cables	LS	1	$	650.00	$	650.00
111	SP	Bluetooth System	EA	1	$	8,500.00	$	8,500.00
112	SP	Utility Mobilization	LS	1	$	17,600.00	$	17,600.00
113	SP	Utility Trench Excavation Safety Systems	LS	1	$	16,800.00	$	16,800.00
114	SP	Spot Dig and Verify Existing Utility Locations	LS	1	$	26,500.00	$	26,500.00
115	SP	Bypass Pumping	LS	0	$	31,500.00	$	-
116	SP	12” C-900 DR-14 PVC Water Line	LF	112	$	278.00	$	31,136.00
117	SP	8" C-900 DR-14 PVC Water Line	LF	205	$	215.00	$	44,075.00
118	SP	8” SDR-26 PVC Sanitary Sewer Line	LF	0	$	205.00	$	-
119	SP	12”x12" Tapping Sleeve and Valve	EA	2	$	14,000.00	$	28,000.00
120	SP	12”x8" Tapping Sleeve and Valve	EA	0	$	9,850.00	$	-
121	SP	8”x8" Tapping Sleeve and Valve	EA	3	$	9,500.00	$	28,500.00
122	SP	Ductile Iron Fittings for Water Line	LB	900	$	35.00	$	31,500.00
123	SP	8" Gate Valve	EA	1	$	3,600.00	$	3,600.00
124	SP	Cut and Cap Ex.12” Water Line (Detail W13)	EA	2	$	5,850.00	$	11,700.00
125	SP	Cut and Cap Ex.12” Water Line with Anchor Collar (Detail GWS04)	EA	1	$	8,425.00	$	8,425.00
126	SP	Cut and Cap Ex. 8” Water Line with Anchor Collar (Detail GWS04)	EA	2	$	7,800.00	$	15,600.00
127	SP	Fire Hydrant Assembly	EA	1	$	10,800.00	$	10,800.00
128	SP	Salvage Fire Hydrant	EA	1	$	1,550.00	$	1,550.00
129	SP	Install and Reconnect 1" Water Service Line with Single 5/8" Meter Set	EA	1	$	3,400.00	$	3,400.00
130	SP	Install and Reconnect 1" Water Service Line with Double 5/8" Meter Set	EA	1	$	3,600.00	$	3,600.00
131	SP	Install and Reconnect 1" Water Service Line with 1" Meter Set	EA	1	$	3,500.00	$	3,500.00
132	SP	Install and Reconnect 2" Water Service Line with 2" Valve and 2" Meter Set	EA	1	$	8,650.00	$	8,650.00
133	SP	Adjust Valve Box to Proposed Grade	EA	2	$	1,200.00	$	2,400.00
134	SP	4’ ID San. Sewer Manhole, Cast-in-Place, 0’ to 6’ Depth	EA	0	$	13,215.00	$	-
135	SP	Core Existing Manhole	EA	0	$	2,500.00	$	-
136	SP	Raise Manhole Rim to Proposed Grade	EA	1	$	4,600.00	$	4,600.00
137	SP	Lower Manhole Rim to Proposed Grade	EA	1	$	4,600.00	$	4,600.00
138	SP	20" Steel Encasement by Open Cut	LF	0	$	425.00	$	-
139	SP	16" Steel Encasement by Open Cut	LF	40	$	375.00	$	15,000.00
140	SP	Flowable Fill for Abandoned Pipe	CY	2	$	275.00	$	550.00
141	SP	Trench Undercut and Backfill	CY	20	$	120.00	$	2,400.00
142	SP	Rock Excavation for Utilities	CY	10	$	380.00	$	3,800.00

143	SP	Bid Schedule 2 Contingency Allowance ($250,000)	LS	1	$ 250,000.00	$ 250,000.00
	SP	Utility Adjustment Delays (Rev. 1)	DAY	32	$ 3,000.00	$ 96,000.00
144	SP	Concrete Ditch Paving (Rev. 1)	SY	4	$ 190.00	$ 760.00
145	I-5	Triple Grate Combination Inlet (Rev. 1)	EA	1	$ 29,500.00	$ 29,500.00
146	I-5	Reconstruct 5'x17' Inlet Top (Rev. 1)	EA	1	$ 8,000.00	$ 8,000.00
147	I-5	Reconstruct Inlet and Extension Top (Rev. 1)	EA	1	$ 8,000.00	$ 8,000.00
148	SS & 714	Traffic Signal Mast Arm And Pole With Foundation (76') (Rev. 1)	EA	1	$ 78,000.00	$ 78,000.00
149	SP	Remove, Salvage, and Reinstall Existing Street Light (Rev. 1)	EA	1	$ 5,700.00	$ 5,700.00

Bid Schedule 2 Items $ 4,841,843.25

Total Bid Price $ 8,261,694.75

NON-COLLUSION AFFIDAVIT

BID INVALID IF THIS AFFIDAVIT IS NOT SIGNED AND NOTARIZED AND SUBMITTED WITH THE BID

State of _____

County of _____

I _____ (Printed Name of Authorized Representative/Agent) of lawful age, being first duly sworn, on oath says that:

1.They are the duly authorized representative/agent of the Bidder and/or contractor submitting the Competitive Bid and/or procuring the contract which is attached to this statement, for the purpose of certifying the facts pertaining to the existence of collusion among Bidders and between Bidders and City officials or employees, as well as, facts pertaining to the giving or offering of things of value to government personnel in return for special consideration in the letting of any contract pursuant to the Invitation for Bids to which this statement is attached;

2. They are fully aware of the facts and circumstances surrounding the making of the Bid and/or the procurement of the contract to which this statement is attached and have been personally and directly involved in the proceedings leading to the submission of such Bids;

3. Neither the Bidder/contractor nor anyone subject to the Bidder/contractor's direction or control has been a party;

a. to any collusion among Bidders in restraint of freedom of competition by agreement to bid at a fixed rate or to refrain from submitting;

b. to any collusion with any City official or employee as to quantity, quality or price in the prospective contract, or as to any other terms of such prospective contract, nor

c. in any discussions between Bidders and any City official concerning exchange of money or other thing of value for special consideration in the letting of a contract;

d. to paying, giving, donating or agreeing to pay, give or donate to any officer or employee of the City of Bentonville, any money or other thing of value, either directly or indirectly, in procuring the contract to which their statement is attached.

To be completed by Company (Authorized Representative/Agent):

Signature of Authorized Representative/Agent: _____

Title (of Authorized Representative/Agent): _____

To be completed by Notary (include Seal):

Subscribed and sworn before me this: _____day of _____, 20_____

Notary Public Signature: _____My commission expires: _____

Seal:

010420 - STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. Name of Bidder.

2. Permanent main office address.

3. When organized.

4. If a corporation, where incorporated.

5. How many years have been engaged in the contracting business under your present firm or trade name?

6. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion).

7. General character of work performed by your company.

8. Have you ever failed to complete any work awarded to you?

9. Have you ever defaulted on a Contract?

   If so, where and why?

10. Have you ever been fined or had your license suspended by a Contractor's Licensing Board?

    If so, where and why?

11. List the more important projects recently completed by your company, stating the approximate cost for each, and the month and year completed.

12. List your major equipment available for this Contract.

13. Experience in construction work similar in importance to this project.

14. Background and experience of the principal members of your organization, including the officers.

15. Credit available: $_____.

16. Give Bank reference: _____.

17. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner?

18. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner, in verification of the recitals comprising this statement of Bidder's Qualifications.

19. The Bidder shall provide a brief description of any litigation or administrative proceeding of the following types, either pending or concluded within the preceding year, to which the Bidder (and the

ultimate controlling person, if different from the Bidder) or any of its directors or executive officers was a party or of which the property of any such person is or was the subject; the names of the parties and the court or agency in which such litigation or proceeding is or was pending shall be given:

(a) Administrative or judicial proceedings of any state federal agency or authority concerning environmental violations;
(b) Proceedings which may have a material effect upon the solvency of the ultimate holding company, including but not necessarily limited to, bankruptcy and receivership; and
(c) Criminal proceedings.

Dated at _____ this _____ day of _____, 20____.

_____
(Name of Bidder)

By _____

Title _____

STATE OF _____)
) SS.
COUNTY OF _____)

_____being duly sworn deposes and says that he is

_____ of _____
(Name of Organization)

and that the answers to the foregoing questions and all statements therein contained are true and correct.
SUBSCRIBED AND SWORN TO BEFORE ME this _____ day of _____
_____, 20____.

_____
(Notary Public)

My Commission Expires:

_____

010440 - LIST OF PROPOSED SUBCONTRACTORS

I, the undersigned General Contractor, hereby certify that proposals from the following Subcontractors were used in the preparation of my bid. I agree that if I am the successful Bidder and if the following subcontracts are approved, I will not enter into contracts with others for these divisions of the work without prior written approval from the Engineer and the Owner.

For Annual Gross Receipts:

- Enter 1 for Less than $1 Million
- Enter 2 for More than $1 Million, Less than $5 Million
- Enter 3 for More than $5 Million, Less than $10 Million
- Enter 4 for More than $10 Million, Less than $15 Million
- Enter 5 for More than $15 Million

Type of Work: .....

Subcontractor's Name:.....

Arkansas License No.: .....

Address: .....

Date Firm Established:.....

Annual Gross Receipts (enter the range only):.....

Type of Work: .....

Subcontractor's Name:.....

Arkansas License No.: .....

Address: .....

Date Firm Established:.....

Annual Gross Receipts (enter the range only):.....

Type of Work: .....

Subcontractor's Name:.....

Arkansas License No.: .....

Address: .....

Date Firm Established:.....

Annual Gross Receipts (enter the range only):.....

Type of Work: .....

Subcontractor's Name:.....

Arkansas License No.: .....

Address: .....

Date Firm Established:.....

Annual Gross Receipts (enter the range only):.....

<u>Bidder</u> (General Contractor): .....

Arkansas License No.: .....

Address: .....

Date Firm Established: .....

Annual Gross Receipts (enter the range only): .....

By: .....*

Title: .....

*Signature must be the same as on the Proposal form.

Notes:

(1) This form must be completed and submitted at the time of the bid opening.

(2) General contractor and subcontractors shall have a certificate of license with the proper classification from the State Contractors Licensing Board before his or her bid is submitted.

(3) Certificates of license shall be provided with this form at the time of the bid opening.

010600 - CONTRACT

THIS AGREEMENT made this _____ day of _____, _____, by and between _____ a Corporation organized and existing under the laws of the State of _____ hereinafter called the "Contractor", and City of Bentonville, hereinafter called the "Owner".

W I T N E S S E T H:

That the Contractor and the Owner for the consideration stated herein mutually agree as follows:

ARTICLE 1. Statement of Work. The Contractor shall furnish all supervision, technical personnel, labor, materials, machinery, tools, equipment, incidentals and services, including utility and transportation services and perform and complete all work required for the construction of **Walton Boulevard Intersection Improvements** in strict accordance with the Contract Documents.

ARTICLE 2. The Contract Price. The Owner will pay the Contractor, based on the Contractor performance of the Contract, for the total quantities of work performed at the lump sum and unit prices as documented in the Proposal subject to additions, and deductions as provided in the Section entitled "CHANGES IN THE WORK" under GENERAL CONDITIONS

ARTICLE 3. Contract Time. The Contractor agrees to begin work within ten (10) calendar days after issuance by the Owner of a "Work Order" or "Notice to Proceed" and to complete the work within **four hundred and eighty (480) consecutive calendar days** thereafter (except as modified in accordance with the GENERAL CONDITIONS of these Contract Documents).

ARTICLE 4. Contract. The executed Contract Documents shall consist of the following:

a. Executed Contract
b. Addenda (if any)
c. Request for Proposal (RFP 23-47)
d. Proposal
e. Statement of Bidder's Qualifications
f. List of Proposed Subcontractors
g. Performance and Payment Bonds
h. General Conditions
i. Special Conditions
j. Technical Specifications
k. Drawings
l. Certificates of Insurance and Insurance Policies

This Contract together with other Documents enumerated in this Article 4, which said other Documents are as fully a part of the Contract Documents as if hereto attached or herein repeated, form the Contract between the parties hereto. In the event that any provisions in any component part of this Contract conflicts with any provision of any other component part, the conflict shall be resolved by the Engineer whose decision shall be final.

ARTICLE 5. Surety. The Surety on the Performance and Payment Bonds shall be a surety company of financial resources satisfactory to the Owner, authorized to do business in the State of the Project, and shall comply with applicable state laws.

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed in four (4) counterparts, each of which shall be considered an original on the day and year first written.

_____
(Contractor)

ATTEST:_____ By_____

Title:_____

_____
(Street)

_____
(City)

_____
(Owner)

ATTEST:_____ By _____

_____Title:_____
(Print the names underneath all signatures)

010700 - PERFORMANCE BOND

1. NOTIFICATION

The Surety's obligation under this Bond shall arise after:

1.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Default. Such notice shall indicate that the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. Unless the Owner agrees otherwise, any conference requested under this Paragraph shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

1.2 The Owner declares a Default, terminates the Construction Contract and notifies the Surety.

Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Failure on the part of the Owner to comply with the notice requirement shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations.

The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

2. SURETY'S ACTIONS

When the Owner has satisfied the conditions of Paragraph 1, the Surety shall promptly and at the Surety's expense take one of the following actions:

2.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

2.2 Undertake to perform and complete the Construction Contract itself, through its mutually acceptable agents or independent contractors;

2.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 3 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

2.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

2.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

2.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

3. SURETY OBLIGATIONS

If the Surety elects to act under Paragraph 2.1, 2.2, or 2.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

3.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

3.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 2; and

3.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

4. SURETY DEFAULT

If the Surety does not proceed as provided in Paragraph 2 with reasonable promptness, the Surety shall be deemed to be in default on this Bond ten days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 2.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

5. PROCEEDINGS

Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

6. STATUTORY REQUIREMENTS

When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted hereto and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

7. PERFORMANCE BOND CERTIFICATE

KNOW ALL MEN BY THESE PRESENTS:

THAT WE, _____

as Principal, hereinafter called "Principal", and _____

_____, State of _____, as

Surety, hereinafter called "Surety", are held and firmly bound unto the City of Bentonville, Bentonville, Arkansas, as Obligee, hereinafter called "Owner", in the amount of:

_____

_____ Dollars ($_____),
in lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Principal entered into a Contract with the Owner by written agreement dated the ____ day of _____, 20___, a copy of which is attached hereto and made a part hereof, hereinafter referred to as the Contract,

"**Walton Boulevard Intersection Improvements**"

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said Contract, including without limitation the maintenance warranty thereof, during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

Any alterations which may be made in the terms of the Contract, or in the work to be done under it, or the giving by the Owner of an extension of time for the performance of the Contract, or any other forbearance on the part either of the Owner or the Principal to the other shall not release in any way the Principal and Surety, or either of these, their heirs, personal representatives, successors, or assigns from their liability hereunder, notice to the Surety of any alteration, extension or forbearance hereby being waived.

In no event shall the aggregate liability of the Surety exceed the sum set out herein.

This bond is executed pursuant to the terms of Arkansas Code Annotation §§ 18-44-501 et. Seq., as amended.

Executed on this _____ day of _____, 20___.

SEAL

_____
Principal

By _____
Signature

By _____
Print Name and Title

SEAL

_____
Surety

By _____
Attorney-In-Fact - Signature

By _____
Attorney-In-Fact - Print Name and Title

Surety Address for giving Notices: _____

_____

NOTES: Attach Power of Attorney.

Date of Bond must not precede date of Contract.

A copy of this Bond must be filed with the Circuit Clerk in each county wherein the work is to be performed.

010720 - PAYMENT BOND

1. NOTIFICATION

The Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in the Bond Certificate) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.

The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations. When the Owner has made notification, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.

The Surety's obligations to a Claimant under this Bond shall arise after Claimants have furnished a written notice of non-payment to the Contractor, Surety, or Owner, stating with substantial accuracy the amount claimed and the name of the party to whom the materials, labor, or equipment was furnished or supplied. It is sufficient if a notice of non-payment is given to the Contractor by the Owner.

2. SURETY'S OBLIGATION

When a Claimant has satisfied the conditions of Paragraph 1, the Surety shall promptly and at the Surety's expense take the following actions:

2.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

2.2 Pay or arrange for payment of any undisputed amounts.

2.3 The Surety's failure to discharge its obligations under Paragraph 2.1 or 2.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 2.1 or 2.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

3. DEDICATION OF BOND FUNDS

Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

4. OTHER OBLIGATIONS

The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make

payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.

5. PROCEEDINGS

No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

6. STATUTORY REQUIREMENTS

When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted hereto and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

7. PAYMENT BOND CERTIFICATE

KNOW ALL MEN BY THESE PRESENTS:

THAT WE, _____

as Principal, hereinafter called "Principal", and _____

_____, State of _____, as

Surety, hereinafter called "Surety", are held and firmly bound unto the City of Bentonville, Bentonville, Arkansas, as Obligee, hereinafter called "Owner", in the amount of:

_____

_____ Dollars ($_____),
in lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Principal entered into a Contract with the Owner by written agreement dated the ____ day of _____, 20___, a copy of which is attached hereto and made a part hereof, hereinafter referred to as the Contract,

"**Walton Boulevard Intersection Improvements**"

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor performed in such work, whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

Any alterations which may be made in the terms of the Contract, or in the work to be done under it, or the giving by the Owner of an extension of time for the performance of the Contract, or any other forbearance on the part either of the Owner or the Principal to the other shall not release in any way the Principal and Surety, or either of these, their heirs, personal representatives, successors, or assigns from their liability hereunder, notice to the Surety of any alteration, extension or forbearance hereby being waived.

In no event shall the aggregate liability of the Surety exceed the sum set out herein.

This bond is executed pursuant to the terms of Arkansas Code Annotation §§ 18-44-501 et. Seq., as amended.

Executed on this _____ day of _____, 20___.

SEAL

_____
Principal

By _____
Signature

By _____
Print Name and Title

SEAL

_____
Surety

By _____
Attorney-In-Fact - Signature

By _____
Attorney-In-Fact - Print Name and Title

Surety Address for giving Notices: _____

_____

NOTES: Attach Power of Attorney.

Date of Bond must not precede date of Contract.

A copy of this Bond must be filed with the Circuit Clerk in each county wherein the work is to be performed.

010800 - GENERAL CONDITIONS

TABLE OF CONTENTS

ARTICLE	TITLE
GC.1	DEFINITIONS
GC.2	SUPERINTENDENCE BY CONTRACTORS
GC.3	CONTRACTOR'S EMPLOYEES
GC.4	SAFETY
GC.5	SUBCONTRACTS
GC.6	OTHER CONTRACTS
GC.7	BOND
GC.8	CONTRACTOR'S INSURANCE
GC.8.1	Commercial General and Umbrella Liability Insurance
GC.8.2	Continuing CGL Coverage
GC.8.3	Owner’s and Contractor’s Protective Liability Insurance.
GC.8.4	Railroad Protective Liability Insurance
GC.8.5	Commercial Auto and Umbrella Liability Insurance
GC.8.6	Workers’ Compensation Insurance
GC.8.7	Property Insurance
GC.8.8	Primary and Non-contributory
GC.8.9	Waiver of Subrogation
GC.8.10	No Implied Waiver
GC.8.11	Cancellation, Non-Renewal, and/or Impairment Notification
GC.9	SAMPLE CERTIFICATE OF LIABILITY INSURANCE
GC.10	CONTRACTOR’S AND SUBCONTRACTOR’S INDEMNIFICATION PROVISION
GC.11	FITTING AND COORDINATION OF THE WORK
GC.12	KNOWLEDGE OF CONDITIONS
GC.13	MUTUAL RESPONSIBILITY OF CONTRACTORS
GC.14	PAYMENT TO CONTRACTOR
GC.14.1	Withholding Payments
GC.14.2	Final Payment
GC.14.3	Payments Subject to Submission of Certificates
GC.15	USE OF COMPLETED PORTIONS
GC.16	CHANGES IN THE WORK
GC.17	CLAIMS FOR EXTRA COST
GC.18	OWNER'S RIGHT TO TERMINATE CONTRACT
GC.19	SUSPENSION OF WORK
GC.20	CONTRACT TIME – DELAYS – EXTENSION OF TIME
GC.20.1	Contract Time
GC.20.2	Excusable Delays
GC.20.3	Extension of Time
GC.21	PROGRESS SCHEDULE
GC.22	LIQUIDATED DAMAGES FOR DELAY
GC.23	DISPUTES
GC.24	ASSIGNMENT OR NOVATION
GC.25	TECHNICAL SPECIFICATIONS AND DRAWINGS
GC.26	RECORD DRAWINGS
GC.27	SHOP DRAWINGS
GC.28	SUBMITTALS
GC.29	REQUESTS FOR SUPPLEMENTARY INFORMATION
GC.30	REFERENCE TO MANUFACTURER OR TRADE NAME - "OR EQUAL CLAUSE"
GC.31	SAMPLES, CERTIFICATES, AND TESTING
GC.32	TEST BORINGS/SUBSURFACE INFORMATION
GC.33	PERMITS AND CODES

GC.34 RIGHTS-OF-WAY
GC.35 CARE OF WORK
GC.36 QUALITY OF WORK AND PROPERTY
GC.37 BARRICADES, LIGHTS, AND WATCHMEN
GC.38 FENCES AND DRAINAGE CHANNELS
GC.39 WATER FOR CONSTRUCTION
GC.40 MATERIAL STORAGE
GC.41 EXISTING UTILITIES AND SERVICE LINES
GC.42 DEFECTIVE WORK
GC.43 ACCIDENT PREVENTION
GC.44 TRENCH AND EXCAVATION SAFETY SYSTEMS
GC.45 UNDERGROUND FACILITIES
GC.46 SANITARY FACILITIES
GC.47 USE OF PREMISES
GC.48 PUBLIC UTILITIES AND OTHER PROPERTY TO BE CHANGED
GC.49 LIGHT AND POWER
GC.50 USED MATERIALS
GC.51 REMOVAL OF DEBRIS, CLEANING, ETC.
GC.52 EXISTING STRUCTURES
GC.53 EMERGENCIES
GC.54 HAZARDOUS MATERIALS
GC.55 RETURN OF OWNER'S MATERIALS, EQUIPMENT, OR PROPERTY
GC.56 PAY ITEM DESCRIPTION
GC.57 SPARE PARTS
GC.58 OBSERVATION OF WORK
GC.59 REVIEW BY OWNER
GC.60 PROHIBITED INTERESTS
GC.61 SUBSTANTIAL COMPLETION
GC.62 FINAL INSPECTION AND ACCEPTANCE
GC.63 CONTRACTOR’S OBLIGATION TO COMPLETE THE WORK
GC.64 PATENTS
GC.65 WARRANTY OF TITLE
GC.66 GENERAL GUARANTY
GC.67 REUSE OF DOCUMENTS
GC.68 RELEASE AND CONTRACTOR'S AFFIDAVIT

GC.1 DEFINITIONS

Wherever used in any of the Contract Documents, the following meanings shall be given to the terms herein defined:

(1) "Addendum" means any change, revision, or clarification of the Contract Documents which has been duly issued by the Owner, or the Engineer, to prospective Bidders prior to the time of receiving bids.

(2) "Award" means the acceptance by the owner of the successful bidder's proposal.

(3) “Balance of the Contract Price” means the total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

(4) "Bidder" means any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

(5) "Calendar Day" means every day shown on the calendar.

(6) "Change Order" means a written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for the scope of work affected by the change. The work covered by the change order shall be within the scope of the contract.

(7) "Claim" means (a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer’s decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer’s decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.

(8) "Contract" means the Contract executed by the Owner and the Contractor of which these GENERAL CONDITIONS form a part.

(9) "Contract Documents" means and shall include, but not be limited to, the following: Executed Contract, Addenda (if any), Advertisement For Bids, Instructions to Bidders, Statement of Bidders Qualifications, List of Proposed Subcontractors, Proposal, Performance-Payment Bond, General Conditions, Special Conditions, Technical Specifications, and Drawings.

(10) "Contractor" means the person, firm, or corporation entering into the Contract with the Owner to construct and install the improvements embraced in this project.

(10) “Default” means the failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Contract Documents.

(11) “Defective” means Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract Documents, or does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to Engineer’s recommendation of final payment.

(11) "Engineer" means the Owner or any other person or persons employed by said Owner to furnish engineering services in connection with the construction embraced in the Contract.

(12) "Local Public Agency" or "Owner" means the City of Bentonville, which is authorized to undertake this Contract.

(13) "Plans" or "Drawings" means the official drawings or exact reproductions which show the location, character, and details of the work contemplated, and which are to be considered part of the contract, supplementary to the specifications.

(14) "Proposal" means the written offer of the Bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the Plans and Specifications.

(15) "Specifications" means a part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials, or testing, which are sited in the specifications by reference shall have the same force and effect as if included in the contract physically.

(16) "Subcontractors" shall mean the individual, partnership or corporation entering into an agreement with the Contractor to perform any portion of the work covered by the Plans and Specifications.

(17) "Surety" shall mean any person, firm, or corporation that has executed, as Surety, the Contractor's Performance Bond securing the performance of the Contract.

(18) "Technical Specifications" means that part of the Contract documents which describes, outlines and stipulates the quality of the materials to be furnished; the quality of workmanship required; and the controlling requirements to be met in carrying out the construction work to be performed under this Contract. This also includes Special Provisions.

(19) "Work" shall mean the furnishing of all necessary labor, tools, equipment, appliances, supplies, and material other than materials furnished by the Owner as specified to complete the construction covered by the Plans and Specifications.

(20) "Substantial Completion" shall mean the completion of the project to the extent that all contract work items have been completed.

GC.2 SUPERINTENDENCE BY CONTRACTORS

Except where the Contractor is an individual and gives his personal superintendence to the work, the Contractor shall provide a competent superintendent, satisfactory to the Owner and the Engineer, on the work at all times during working hours with full authority to supervise and direct the work and who shall be the Contractor's agent responsible for the faithful discharge of the Contractor's obligations under the Contract. During working hours, the Contractor’s superintendent shall be equipped with a mobile phone or other communication device suitable to the Engineer for contact by the Engineer or Owner.

The Owner shall have the authority to require the Contractor to remove from the work any incompetent or insubordinate superintendent.

GC.3 CONTRACTOR'S EMPLOYEES

The Contractor shall employ only competent skillful workers and shall at all times enforce strict discipline and good order among the employees.

The Contractor shall neither permit nor suffer the introduction or use of alcoholic beverages or controlled substances upon or about the work embraced in this Contract.

The Contractor shall be responsible to conduct business and carry out the work on this Project utilizing the highest level of respect, manners, deportment, attitude, demeanor, appearance, and all other positive ways when working, explaining, discussing, occupying, or other in the presence of the public or on private or public property. The use of foul language, offensive or lewd behavior, unprofessional attire, parking on private property, storage of materials on private property or other undesirable conduct shall be strictly forbidden and shall be grounds for the termination of this Agreement. There shall be no tolerance for unprofessional behavior on the part of the Contractor, his/her employees, Subcontractors or laborers on this Project.

The Owner may require the Contractor to dismiss from the work such employee or employees as the Owner or the Engineer may deem incompetent, careless, or insubordinate.

GC.4 SAFETY

The Contractor shall be responsible for the safety of all persons on the Site who may be affected during the progress of the work as well as the safety, efficiency, and adequacy of his plant, appliances, and methods, and for any damage to persons or property which may result from their failure or their improper construction, maintenance, or operation. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

Contractor shall inform Owner and Engineer of the specific requirements of Contractor’s safety program with which Owner’s and Engineer’s employees and representatives must comply while at the Site.

GC.5 SUBCONTRACTS

The Contractor is responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by the subcontractors and is aware that nothing contained in the Contract Documents shall create any contractual relation between any subcontractor and the Owner.

GC.6 OTHER CONTRACTS

The Owner may award, or may have awarded other Contracts for additional work, and the Contractor shall cooperate fully with such other contractors, by scheduling his own work with that to be performed under other Contracts as may be directed by the Owner. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other Contractor as scheduled.

GC.7 BOND

Coincident with the execution of the Contract, the Contractor shall furnish a good and sufficient surety bond, in the full amount of the Contract sum, guaranteeing the faithful performance of all covenants, stipulations, and agreements of the Contract, the payment of all bills and obligations arising from the execution of the Contract, (which bills or obligations might or will in any manner become a claim against the Owner), and guaranteeing the work included in this Contract against faulty materials and/or poor workmanship for one (1) year after the date of completion of Contract.

All provisions of the bond shall be complete and in full accordance with Statutory requirements. The bond shall be executed with the proper sureties through a company licensed and qualified to operate in the state and approved by the Owner. The issuing agent's power of attorney shall be attached to the bond and the bond shall be signed by an agent resident in the state and date of bond shall be the date of execution of the Contract. If at any time during the continuance of the Contract the surety on the Contractor's bond becomes irresponsible, the Owner shall have the right to require additional and sufficient sureties which the Contractor shall furnish to the satisfaction of the Owner within ten (10) days after notice to do so. In default thereof, the Contract may be suspended and all payments or money due the Contractor withheld.

GC.8 CONTRACTOR'S INSURANCE

Contractor shall obtain insurance of the types and in the amounts described below. The insurance shall be written by insurance companies and on forms acceptable to Owner.

Owner and Garver, LLC shall be included as an additional insured under the CGL, (using ISO Additional Insured Endorsement CG 20 10 11 85 or a substitute providing equivalent coverage), and under the commercial automobile liability (using ISO Additional Insured Endorsement CA 2048 or a substitute providing equivalent coverage), and commercial umbrella, if any. This insurance, including insurance provided under the commercial umbrella, if any, shall apply as primary and non-contributory insurance with respect to any other insurance or self-insurance programs afforded to, or maintained by, Owner.

GC.8.1 Commercial General and Umbrella Liability Insurance

Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance, with a limit of not less than $5,000,000 each occurrence. If such CGL insurance contains a general aggregate limit, it shall apply separately to the Project.

CGL insurance shall be written on ISO occurrence form CG 20 10 (11-85) (or a substitute combination of the following forms CG 20 10 (10-01) and CG 20 37 (10-01) providing equivalent coverage) and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury and liability assumed under an insured contract.

There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability arising from pollution, explosion, collapse, underground property damage, or amending the contractual coverage in the ISO occurrence form.

GC.8.2 Continuing CGL Coverage

Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella liability insurance, with a limit of not less than $5,000,000 each occurrence for at least 3 years following final completion of the Work.

Continuing commercial umbrella coverage, if any, shall include liability coverage for damage to the insured's completed Work equivalent to that provided under ISO form CG 00 01.

GC.8.3 Owner’s and Contractor’s Protective Liability Insurance.

Contractor shall maintain Owner’s and Contractor’s Protective Liability (OCP) insurance on behalf of Owner and Garver, LLC, as named insured, with a limit of $1,000,000.

GC.8.4 Railroad Protective Liability Insurance

If applicable to the Project, Contractor shall maintain railroad protective liability insurance on behalf of Owner, as named insured with a limit required by the railroad.

GC.8.5 Commercial Auto and Umbrella Liability Insurance

Contractor shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit of not less than $1,000,000 each accident.

Such insurance shall cover liability arising out of any auto (including owned, hired and non-owned autos).

Commercial auto coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 12, CA 00 20, or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to

provide contractual liability coverage equivalent to that provided in the 1990 and later editions of CA 00 01.

If the Contract Documents require Contractor to remove and haul hazardous waste from the Project site, or if the Project involves such similar environmental exposure, pollution liability coverage equivalent to that provided under the ISO Pollution Liability-Broadened Coverage for Covered Autos Endorsement (CA 99 48) shall be provided, and the Motor Carrier Act Endorsement (MCS 90) shall be attached.

GC.8.6 Workers' Compensation Insurance

Contractor shall maintain workers' compensation and employer's liability insurance.

The employer's liability, and if necessary commercial umbrella, limits shall not be less than $500,000 each accident for bodily injury by accident or $500,000 each employee for bodily injury by disease.

If Contractor leases its employees, the alternate employer endorsement (WC 00 03 01 A) shall be attached showing Owner in the schedule as the alternate employer.

Where applicable, U.S. Longshore and Harborworkers Compensation Act Endorsement shall be attached to the policy.

Where applicable, Nonappropriated Fund Instrumentalities Act (NFIA) shall be attached to the policy. NFIA extends the coverage of the Longshore and Harbor Workers' Compensation Act to civilian employees working on United States military bases throughout the world who are not paid with funds appropriated by Congress. These employees, working in facilities operated for the comfort, contentment, and improvement of armed forces personnel, are instead compensated with funds generated from earnings of their facility.

Where applicable, Outer Continental Shelf Lands Act Endorsement shall be attached to the policy.

Where applicable, the Maritime Coverage Endorsement shall be attached to the policy.

If project is located in a state where workers compensation is secured via monopolistic state funds, include evidence of the "Stop Gap" endorsement to the general liability policy.

GC.8.7 Property Insurance

If applicable, Contractor shall purchase and maintain property insurance for the Work. Such insurance shall be written in an amount at least equal to the initial contract sum as well as subsequent modifications of that sum. The insurance shall apply on a replacement cost basis. If the insurance obtained in compliance with this paragraph is builders risk insurance, coverage shall be written on a completed value form.

The property insurance as required above shall name as insureds the Owner, Contractor, and all subcontractors and sub-subcontractors on the Project.

GC.8.8 Primary and Non-contributory

Contractor agrees that the insurance listed above, including insurance provided under the commercial umbrella, if any, shall apply as primary and non-contributory insurance with respect to any other insurance or self-insurance programs afforded to, or maintained by, Owner.

GC.8.9 Waiver of Subrogation

Contractor waives all rights against the Owner and Garver, LLC and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the commercial general

liability, commercial umbrella liability insurance, automobile liability insurance and workers compensation insurance maintained pursuant to paragraph GC.8 of this agreement.

GC.8.10 No Implied Waiver

Contractor shall furnish certifications matching the coverage requirements. Failure of Owner or Engineer to demand such certificate or other evidence of full compliance with these insurance requirements or failure of Owner or Engineer to identify a deficiency from evidence that is provided shall not be construed as a waiver of the contractors obligations to furnish and maintain such insurance, or as a waiver to the enforcement of any of the provisions at a later date.

Any waiver of the contractor's obligation to furnish such certificate or maintain such evidence must be by written change order and signed by a Managing Member (Officer) of the Engineer and the Owner.

GC.8.11 Cancellation, Non-Renewal, and/or Impairment Notification

The Contractor shall not cause any insurance policy to be cancelled or permit it to lapse and all insurance policies shall include an endorsement to the effect that the insurance policy or certificate shall not be subject to cancellation or to a reduction in the required limits of liability or amounts of insurance until notice has been mailed to the Owner and Engineer, stating the date when such cancellation or reduction shall be effective, which date shall not be less than (60) days after such notice.

Notice shall be sent via email and regular mail to the following persons and addresses:

Owner:
City of Bentonville
Jarrod Brightwell, P.E.
3200 SW Municipal Drive
Bentonville, AR 72712
jbrightwell@bentonvillear.com

Garver:
Garver, LLC
Luke Freedle, P.E.
4300 South J.B. Hunt Drive, Suite 240
Rogers, AR 72758
ltfreedle@garverusa.com

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
(must be dated)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Agency Name Agency Address www.stephens.com	CONTACT NAME: Agency contact PHONE (A/C, No, Ext): Agency ph# FAX (A/C, No): E-MAIL ADDRESS: Agency contact email address INSURER(S) AFFORDING COVERAGE NAIC # INSURER A : Carrier Name (AM Best Rating) INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :
INSURED Named Insured on the policies	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY ✓ COMMERCIAL GENERAL LIABILITY CLAIMS-MADE ✓ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY ✓ PRO-JECT LOC	X	X	XXXXXXXXXX			EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 5,000,000 $ 300,000 $ 10,000 $ 1,000,000 $ 5,000,000 $ 5,000,000
	AUTOMOBILE LIABILITY ✓ ANY AUTO ALL OWNED AUTOS / SCHEDULED AUTOS ✓ HIRED AUTOS / ✓ NON-OWNED AUTOS	X	X	XXXXXXXXXXX			COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
	✓ UMBRELLA LIAB ✓ OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $ XXXXX	X	X	XXXXXXXXXX Umbrella / Excess only if needed to meet the required underlying General Liability limit			EACH OCCURRENCE AGGREGATE	$ $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N / A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	X	XXXXXXXXXX			✓ WC STATU-TORY LIMITS / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 500,000 $ 500,000 $ 500,000
				XXXXXXXXXX				

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Owner & Garver, LLC shall be included as an Additional Insured by endorsement #CG2010(11/85) on the General Liability and #CA2048 on the Automobile and Umbrella or substitute endorsement providing equivalent coverage. Coverage shall be Primary and non-contributory with respect to any other insurance or self-insurance programs afforded to the Owner and Garver LLC. Waiver of Subrogation applies in favor of the Owner and Garver LLC on all policies. 60 day notice will be provided to the Owner and Garver LLC in the event of cancellation, non-renewal and/or impairment of the Contractor's policies .

CERTIFICATE HOLDER	CANCELLATION
Owner and Garver LLC	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE (must be signed by the Contractor's Insurance Agent)

© 1988-2010 ACORD CORPORATION. All rights reserved.

ACORD 25 (2010/05) The ACORD name and logo are registered marks of ACORD

CERT NO.: 15475674 Kathy Jones 2/11/2013 10:58:41 AM Page 1 of 1

GC.10 CONTRACTOR'S AND SUBCONTRACTOR'S INDEMNIFICATION PROVISION

(1) INDEMNIFICATION: The CONTRACTOR and/or SUBCONTRACTOR shall indemnify and hold harmless the OWNER, ENGINEER, ENGINEER'S Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from the performance of the Work, provided that any such claim, cost, loss, or damage (i) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) is caused in whole or in part by a negligent act or omission of the Contractor, any Subcontractor or Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work.

(2) NO LIMITATION UPON LIABILITY: In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors or employees by any employee (or the survivor or personal representative or such employee) of CONTRACTOR, any Subcontractor or Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish an of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph (1) shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier or other person or organization under workers' compensation acts, disability benefits acts or other employee benefit acts.

(3) ENGINEER/ARCHITECT EXCLUSION: The indemnification obligations of CONTRACTOR under paragraph (1) shall not extend to the liability of ENGINEER and ENGINEER'S Consultants, officers, directors, employees, or agents caused by the professional negligence, errors, or omissions of any of them, arising out of: the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs, or specifications.

GC.11 FITTING AND COORDINATION OF THE WORK

The Contractor shall be responsible for the proper fitting of all work and for the coordination of the operations of all trades, Subcontractors, or materialmen engaged upon this Contract. He shall be prepared to guarantee to each of his Subcontractors the locations and measurements which they may require for the fitting of their work to all surrounding work.

GC.12 KNOWLEDGE OF CONDITIONS

The Contractor states that he has examined all the available records and has made a field examination of the site and right-of-way and that he has informed himself about the character, quality, and quantity of surface and subsurface materials and other conditions to be encountered; the quantities in various sections of the work; the character of equipment and facilities needed for the prosecution of the work; the location and suitability of all construction materials; the local labor conditions; and all other matters in connection with the work and services to be performed under this contract.

GC.13 MUTUAL RESPONSIBILITY OF CONTRACTORS

If, through acts of neglect or through failure to comply with any applicable Government regulations by the Contractor, any other Contractor or any Subcontractor shall suffer loss or damage on the work, the Contractor shall settle with such other Contractor or Subcontractor by agreement or arbitration, if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim against the Owner on account of any damage alleged to have been so sustained, the Owner will notify this Contractor, who shall defend at his own expense any suit based upon such claim, and, if any judgment or claims against the Owner shall be allowed, the Contractor shall pay or satisfy such judgment or claim and pay all costs and expenses in connection therewith.

GC.14 PAYMENT TO CONTRACTOR

The Engineer will prepare (with the required assistance from the Contractor) the application for partial payment. If the bid contains lump sum prices, the Contractor shall furnish to the Engineer, upon request, a detailed cost breakdown of the several items of work involved in the lump sum prices. The Engineer will use this cost breakdown to determine the amount due the Contractor as progress payment. A cut-off time shall be established near the last day of the month such as to allow sufficient time for the application to be prepared, approved by the Contractor, and submitted by the Engineer to the Owner by the first day of the successive month.

The amount of the payment due to the Contractor shall be determined by the total value of work completed to date, deducting five percent (5%) for retainage (to assure faithful performance of the contract), adding the value of submitted paid invoices covering construction materials, properly stored on the site or in a bonded warehouse, and deducting the amount of all previous payments.

If the project has specific phased construction work in which completion can occur on a partial occupancy, the five percent (5%) retainage value shall be in direct proportion to that phase or part of the capital improvement project. Any proportional retainage withheld in this manner shall be released within thirty (30) days of completion of that phase of the project.

The total value of work completed to date shall be based on the estimated quantities of work completed and on the unit and lump sum prices contained in the Proposal. The value of materials properly stored on the site or in a bonded warehouse shall be based upon the estimated quantities of such materials and the invoice prices. Copies of paid invoices, covering construction materials for which material payments are made, shall be furnished to the Engineer before such material payments are made.

Note: It has been the policy of the Owner to make payments for properly stored materials/equipment based upon invoice price and allow the Contractor to submit paid invoices within 30 days (or the next partial payment period). If paid invoices are not provided within the time allowed, then the materials/equipment so paid for will be removed from the next partial payment.

Monthly or partial payments made by the Owner to the Contractor are monies advanced for the purpose of assisting the Contractor to expedite the work of construction. All material and complete work covered by such monthly or partial payments shall remain the property of the Contractor, and he shall be responsible for the care and protection of all materials and work upon which payments have been made. Such payments shall not constitute a waiver of the right of the Owner to require the fulfillment of all terms of the Contract and the delivery of all improvements embraced in this Contract complete and satisfactory to the Owner in all details.

GC.14.1 Withholding Payments

The Owner may withhold from any payment otherwise due the Contractor so much as may be necessary to protect the Owner and if it so elects may also withhold any amounts due from the Contractor to any Subcontractors or material dealers, for work performed or material furnished by them. The foregoing provisions shall be construed solely for the benefit of the Owner and will not require the Owner to determine or adjust any claims or disputes between the Contractor and his Subcontractors or material dealers, or to withhold any monies for their protection unless the Owner elects to do so. The failure or refusal of the Owner to withhold any monies from the Contractor shall not impair the obligations of any Surety or Sureties under any bond or bonds furnished under this Contract. Such withholding may also occur as a result of the Contractor's failure or refusal to prosecute the work with such diligence as will insure its completion within the time specified in these Contract Documents, or as modified as provided in these Contract Documents, or if the Contractor fails to comply with any applicable regulations promulgated by the U.S. Government or any other Government agencies.

GC.14.2 Final Payment

After final inspection and acceptance by the Owner of all work under the Contract, the application for final payment including retainage shall be prepared which shall be based upon the carefully measured or computed quantity of each item of work at the applicable unit and lump sum prices stipulated in the Unit Price Schedule. The total number of the final payment due the Contractor under this Contract shall be the amount computed as described above less all previous payments. All prior payments shall be subject to correction in the final payment. Final payment to the Contractor shall be made within thirty (30) days after the construction contract has been completed, subject to his furnishing the Owner with a release in satisfactory form of all claims against the Owner arising under and by virtue of his Contract, other than such claims, if any, as may be specifically excepted by the Contractor from the operation and the release as provided under the section entitled DISPUTES under GENERAL CONDITIONS.

The Owner, before paying the final estimate, may require the Contractor to furnish releases or receipts from all Subcontractors having performed any work and all persons having supplied materials, equipment (installed on the Project), and services to the Contractor, if the Owner deems the same necessary in order to protect its interest. The Owner, however, may, if it deems such action advisable, make payment in part or in full to the Contractor without requiring the furnishing of such releases or receipts and any payments so made shall not impair the obligations of any Surety or Sureties furnished under this Contract.

Withholding of any amount due the Owner under the section entitled LIQUIDATED DAMAGES FOR DELAY under GENERAL CONDITIONS, shall be deducted from the payments due the Contractor.

All equipment warranties and general guarantee shall become effective for one year upon date of final acceptance of the completed project by the Owner.

GC.14.3 Payments Subject to Submission of Certificates

Each payment to the Contractor by the Owner shall be made subject to submission by the Contractor of all written certifications required of him.

GC.15 USE OF COMPLETED PORTIONS

The Owner shall have the right to use any completed or partially completed portion of the work and such use shall not be considered as an acceptance of any work.

GC.16 CHANGES IN THE WORK

The Owner may make changes in the scope of the work required to be performed by the Contractor under the Contract or make additions thereto, or omit work therefrom without invalidating the Contract, and without relieving or releasing the Contractor from any of his obligations under the Contract or any guarantee given by him pursuant to the Contract provisions, and without affecting the validity of the Guaranty Bonds, and without relieving or releasing the Surety or Sureties of said bonds. All such work shall be executed under the terms of the original Contract unless it is expressly provided otherwise.

Except for the purpose of affording protection against any emergency endangering life or property, the Contractor shall make no change in the materials used or in the specified manner of constructing and/or installing the improvements, or supply additional labor, services or materials beyond that actually required for the execution of the Contract, unless in pursuance of a written order from the Owner authorizing the Contractor to proceed with the change. No claim for an adjustment of the Contract price will be valid unless so ordered.

After the work is complete, a final change order may be prepared to be accepted by the Owner and Contractor to adjust final payment as required to cover the actual units of work acceptably completed.

If the applicable unit prices are contained in the Proposal (established as a result of either a unit price or a Supplemental Schedule of Unit Prices) the Owner may order the Contractor to proceed with desired changes in the work, the value of such changes to be determined by the measured quantities involved and the

applicable unit and lump sum prices specified in the Contract; provided that in case of a unit price Contract the net value of all changes does not increase or decrease the original total amount shown in the Agreement by more than twenty-five (25) percent .

If applicable unit prices are not contained in the Unit Price Schedule as described above or if the total net change increases or decreases the total Contract price more than twenty-five (25) percent, the Owner shall, before ordering the Contractor to proceed with a desired change, request an itemized Proposal from him covering the work involved in the change after which the procedure shall be as follows:

(1) If the Proposal is acceptable the Owner will prepare the Change Order in accordance therewith for acceptance by the Contractor and

(2) If the Proposal is not acceptable and prompt agreement between the two (2) parties cannot be reached, the Owner may order the Contractor to proceed with the work on a Force Account basis, under which the net cost shall be the sum of the actual costs that follow:

(A) Labor, including foremen;

(B) Materials entering permanently into the work;

(C) The ownership or rental cost of construction plant and equipment during the time of use on the extra work;

(D) Power and consumable supplies for the operation of power equipment;

(E) Insurance;

(F) Social Security and old age and unemployment contributions.

To the net cost shall be added a fixed fee agreed upon, but not to exceed fifteen (15) percent of the net cost, to cover supervision, overhead, bond, and any other general expense, and profit.

Each Change Order shall include in its final form:

(1) A detailed description of the change in the work.

(2) The Contractor's Proposal (if any) or a conformed copy thereof.

(3) A definite statement as to the resulting change in the Contract price and/or time.

(4) The statement that all work involved in the change shall be performed in accordance with Contract requirements except as modified by the Change Order.

GC.17 CLAIMS FOR EXTRA COST

If the Contractor claims that any work encountered related to the project involves additional cost or extension of time beyond what has been required in the contract documents, he shall immediately notify the Engineer, and within ten (10) days after encountering such additional work or delays, and in any event before proceeding to execute the work, submit his claim for additional project time or additional compensation thereto in letter format to the Owner, with a copy to the Engineer. No such claim will be considered unless so made and within the 10 day timeframe.

At a minimum, the following information shall be numbered as follows and must be provided with the submitted claim:

(1) Project name

(2) Claim number
(3) Date encountered
(4) Nature of the event
(5) Location of the event
(6) Cause of the event
(7) Impact of the event
(8) Items of work affected by the event
(9) The name, title, and activity of each of the Owner's representative knowledgeable about facts that gave rise to such claim
(10) The name, title, and activity of each Contractor or employee knowledgeable about facts that gave rise to such claim
(11) The cost or extension of time associated with the event
(12) Any additional supporting information

Claims for additional compensation for extra work, due to alleged errors in ground elevations, contour lines, or bench marks, will not be recognized unless accompanied by certified survey data made prior to the time the original ground was disturbed, clearly showing that errors exist which resulted or would result in handling more material, or performing more work, than would be reasonably estimated from the Drawings and maps issued.

Any discrepancies which may be discovered between actual conditions and those represented by the Drawings and maps shall at once be reported to the Owner, and work shall not proceed except at the Contractor's risk, until written instructions have been received by him from the Owner.

The Owner will provide documentation of the decision in writing to the Contractor whether the decision be approval of the claim, denial of the claim or a request for additional information. The Owner's decision on any claim will be the final resolution to the claim.

If, on the basis of the available evidence, the Owner determines that an adjustment of the Contract Price and/or Time is justifiable, the procedure shall then be as provided in the Section entitled CHANGES IN THE WORK under GENERAL CONDITIONS.

GC.18 OWNER'S RIGHT TO TERMINATE CONTRACT

If the Contractor shall be adjudged as bankrupt or shall file a petition for an arrangement or reorganization under the Bankruptcy Act, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he should persistently or repeatedly refuse or should fail, except under conditions where extension of time is approved, to supply adequate workmen, equipment and material, or disregard laws, ordinances, or the instructions of the Engineer, or otherwise be guilty of a violation of any provisions of the Contract; provided further that if the Contractor at any time fails to comply with any applicable Federal or State regulation which prevents either the Owner or the Contractor from fulfilling its obligations under these Contract Documents, then the Owner upon certification of the Engineer that sufficient cause exists to justify such action may, without prejudice to any other right or remedy, and after giving the Contractor ten (10) days' written notice, terminate the employment of the Contractor. At the expiration of the said ten (10) days, the Owner may immediately serve notice upon the Surety to complete the work.

In the case the Surety fails to comply with the notice within thirty (30) days after service of such notice, the Owner may complete the work and charge the expense of the completion. Contractor shall not be entitled to receive any further payment until the work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change

Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the work performed.

Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.

Owner may not proceed with termination of the Contract if Contractor within ten days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.

Upon ten days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract for convenience. In such case, Contractor shall be paid for completed and acceptable work executed in accordance with the Contract Documents prior to the effective date of termination. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

GC.19 SUSPENSION OF WORK

Should contingencies arise to make such action necessary, the Owner shall have the right to suspend the whole or any part of the work for a period not to exceed ninety (90) days by giving the Contractor notice in writing three (3) days prior to the suspension.

The Contractor, after written notice to resume work, shall begin within ten (10) days from the date of such notice.

If the work or any part thereof shall be stopped by the Owner's notice and the Owner fails to notify the Contractor to resume work within ninety (90) days, the Contractor may abandon that portion of the work so suspended. The Contractor shall be paid for all acceptable work not deemed as defective that has been performed on the portion so suspended at unit prices quoted in the Unit Price Schedule for completed work involved, at agreed prices on any extra work involved, and at a fair and equitable price for partially completed work involved.

The Engineer may suspend work pending the settlement of any controversy. The Contractor shall not be entitled to any claim for loss or damage by reason of such delay, nor shall he be entitled to any extension of time; but an extension may be granted by the Owner at his discretion.

GC.20 CONTRACT TIME – DELAYS – EXTENSION OF TIME

GC.20.1 Contract Time

The time allowed for the completion of the work will be as specified in the contract as Fixed Completion Date or Calendar Day. It is understood and agreed by and between the Owner and the Contractor that the time of completion herein set out is a reasonable time. The Contractor shall perform fully, entirely, and in an acceptable manner, the work contracted for within the contract time stated in the Contract. The contract time shall be counted from ten days after the effective date of the "Notice to Proceed", or the date work commences, whichever occurs first.

(1) FIXED COMPLETION DATE: When the contract time is specified as a fixed date, it will be the date on which all work on the project shall be substantially complete without exception.

(2) CALENDAR DAY: Calendar day contract time includes delays for all holidays, weekends including Saturday and Sunday, and normal weather-related events, such as rain, snow, and freezing temperatures that may affect the progress of the construction on a per-month basis as hereinafter set out. Only weather-

related delays in excess of these amounts will be considered for time extensions if requested by the Contractor. Time extensions due to weather delays will only be considered if the work was impeded by those conditions. Days Included in Contract Times for Normal Weather-Related Events and holidays are:

(On A Monthly Basis)

Month	Normal Weather-Related Events	Holidays
January	18	2
February	13	1
March	8	0
April	6	0
May	7	1
June	5	0
July	5	1
August	6	0
September	8	1
October	4	1
November	6	3
December	15	2

Saturdays and holidays which may be declared in writing by the Owner for certain special or unusual circumstances will be optional to the Contractor as working days and time will not be assessed unless work is performed that requires observation. Sunday work shall not be permitted.

Holidays that shall be observed are the following: New Year's Day (January 1); Dr. Martin Luther King Jr.'s Birthday (3rd Monday in January); President's Day (3rd Monday in February); Memorial Day (last Monday in May); Independence Day (July 4); Labor Day (1st Monday in September); Columbus Day (2nd Monday in October); Veterans Day (November 11); Thanksgiving Day (4th Thursday in November); Day after Thanksgiving (Friday following Thanksgiving); Christmas Eve (December 24); and Christmas Day (December 25). If a holiday falls on a Saturday or Sunday, the observed day shall be the Friday preceding the Saturday or the Monday following the Sunday.

GC.20.2 Excusable Delays

The right of the Contractor to proceed shall not be terminated nor shall the Contractor be charged for any contract time due:

(a) To any acts of the Government, including controls or restrictions upon requisitioning of materials, equipment, tools, or labor by reason of war, National Defense, or any other national emergency;

(b) To any acts or neglect of the Owner or employees that can be proven to have delayed the project;

(c) To causes not reasonably foreseeable by the parties of this Contract which are beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God or of the public enemy, acts of another Contractor in the performance of some other Contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and weather of unusual severity such as hurricanes, tornadoes, cyclones, and other extreme weather conditions resulting in weather delays in excess of the normal weather-related events.

(d) To inaccessibility to a necessary portion of the work due to utility conflict or utility work, either of which prevents utilization of 60% normal forces and equipment to prosecute the

work required for at least 60% of the normal working hours.

(e) To any delay of any subcontractor occasioned by any of the causes specified in subparagraphs (a), (b), (c), and (d) of this paragraph.

No compensation will be made for monetary damages due to excusable delays.

GC.20.3 Extension of Time

Extensions of time for construction contract completion may be granted for such reasonable time as determined by the Owner for the circumstances stated below:

(a) Excusable delays as previously specified;

(b) If the satisfactory execution and completion of the Contract shall require work or material in greater amounts or quantities than those set forth in the Contract, then the Contract time may be increased in the same proportion as the additional work bears to the original contracted work;

(c) The Owner shall have the authority to grant additional extensions of time as the Owner may deem justifiable.

For clarification purposes, the below items are ineligible for time extensions:

(a) Workload of the Contractor;

(b) Normal precipitation amounts and soil conditions;

(c) Contractor's plea that insufficient contract time to perform construction scope of work was specified;

(d) The ability of vendors, suppliers, and subcontractors to provide materials and/or services within the Contractor's control;

(e) All calendar days elapsing between the effective dates of any orders of the Owner or Engineer for suspension of the prosecution of the work due to the fault of the Contractor.

Extensions of contract time will not be granted automatically. The Contractor shall be required to follow the below procedure to be granted a time extension and no other:

(a) For weather days exceeding the monthly normal weather day events, the Contractor shall submit a report listing the date and description of the weather events on the last working day of each month to the Owner or Engineer for review. Upon approval, the extension of time for each month will be recorded on the monthly pay estimate and signatures of the Contractor, Engineer, and Owner will signify agreement.

(b) For all other instances, the Contractor shall submit a time extension request in writing to the Owner or Engineer with dates and supporting documentation as proof of extraordinary delays beyond the Contractor's control that meet the required criteria. The request shall be made within ten (10) calendar days of the occurrence of the delay.

(c) In event of a continuing cause of delay, only one claim is necessary.

(d) If the Contractor does not provide written notice within the allotted time, no subsequent requests for review will be considered.

(e) In case of disagreement between the representative of the Owner and the Contractor, as to the classification of any day, the matter shall be referred to the Owner whose decision shall be final.

It is, therefore, agreed that if there is a delay in the completion of the work beyond the period elsewhere herein specified which has not been authorized by the Owner as set forth above, then the Owner may deduct from the Contract price the amount stated in the section entitled LIQUIDATED DAMAGES FOR DELAY under the GENERAL CONDITIONS, bound herewith, as liquidated damages.

GC.21 PROGRESS SCHEDULE

The Contractor shall submit a construction contract schedule of the bar graph (or other approved) format seven (7) calendar days prior to the preconstruction conference showing the following information as a minimum:

(1) Actual date construction is scheduled to start.

(2) Planned contract completion date.

(3) Beginning and completion dates for each phase of work.

(4) Respective dates for submission of shop drawings/material submittals and the beginning of manufacture, the testing of, and the installation of materials, supplies, and equipment.

(5) All construction milestone dates.

(6) A separate graph showing work placement in dollars versus contract time. The schedule shall incorporate contract changes as they occur. The schedule shall be maintained in an up-to-date condition and shall be available for inspection at the construction site at all times.

The construction contract schedule shall be submitted in conjunction with and/or in addition to any other specification requirements concerning schedules

GC.22 LIQUIDATED DAMAGES FOR DELAY

There are no liquidated damages on this project.

GC.23 DISPUTES

All disputes arising under this Contract or its interpretation, whether involving law or fact or both, or extra work, and all claims for alleged breach of Contract shall within thirty (30) days of commencement of the dispute be presented by the Contractor to the Owner for decision. In the meantime, the Contractor shall proceed with the work as directed. Any dispute not presented within the time limit specified within this paragraph shall be deemed to have been waived.

The Contractor shall submit in letter format the details of the dispute and proof thereof. Each decision by the governing body of the Owner will be in writing.

If the Contractor does not agree with any decision of the Owner, he shall in no case allow the dispute to delay the work, but shall notify the Owner promptly that he is proceeding with the work under protest, and he may then except the matter in question from the final release. Final completion of the project will not be granted until pending disputes are resolved. As such, the Owner shall withhold final payment and retainage release until all pending disputes are resolved.

At any time after initiation of a dispute, Owner and Contractor may mutually agree to mediation of the dispute. Owner and Contractor shall each pay one-half of the mediator’s fees and costs. If mediation is

unsuccessful, the Owner or Contractor shall give written notice to the other party of the intent (if they so intend) to submit the dispute to a court of competent jurisdiction.

GC.24 ASSIGNMENT OR NOVATION

The Contractor shall not assign or transfer, whether by an assignment or novation, any of its rights, duties, benefits, obligations, liabilities, or responsibilities under this Contract without the written consent of the Owner; provided, however, that assignments to banks, trust companies, or other financial institutions may be made without the consent of the Owner. No assignment or novation of this Contract shall be valid unless the assignment or novation expressly provides that the assignment of any of the Contractor's rights or benefits under the Contract is subject to a prior lien for labor performed, services rendered, and materials, tools, and equipment, supplied for the performance of the work under this Contract in favor of all persons, firms, or corporations rendering such labor or services or supplying such materials, tools, or equipment.

GC.25 TECHNICAL SPECIFICATIONS AND DRAWINGS

Three (3) sets of Plans and Specifications shall be furnished to the Contractor, at no charge, for construction purposes. Additional copies may be obtained at the approximate cost of reproduction upon request.

The Contractor shall keep one (1) copy of all Drawings and Contract Documents in good condition readily accessible at the site of the work available to the Engineer and his authorized representatives.

The Drawings and this Specification are to be considered cooperative. All work necessary for the completion of the facility shown on the Drawings, but not described in this Specification, or described in this Specification but not shown on the Drawings, OR REASONABLY IMPLIED BY EITHER OR BOTH, shall be executed in the best manner, the same as if fully shown and specified. When no figures or memoranda are given, the Drawings shall be accurately followed, but in all cases of discrepancy in figures or details, the decision of the Engineer shall be obtained before proceeding with the Work. If the Contractor adjusts any such discrepancy without first having obtained the approval of the Engineer, it shall be at his own risk, and he shall bear any extra expense resulting therefrom.

GC.26 RECORD DRAWINGS

Before any work is started, the Contractor shall obtain at his own expense one set of Plans to be used for Record Drawings. The Engineer will supply the Plans at printing cost to the Contractor. Record Drawings will be kept on full-size plan sheets; no half-size sheets will be permitted. The Record Drawings shall be stored and maintained in good condition at all times by the Contractor and shall be made available to the Engineer at the work site immediately at the Engineer's request. All writing, notes, comments, dimensions, etc. shall be legible. The Record Drawings shall be stored flat and shall not be rolled. The Record Drawings shall be submitted to the Engineer before the project can be accepted.

The Contractor shall accurately identify and document the locations of all underground and/or concealed work that he has performed and/or has been affected by his work. This shall include all equipment, conduits, pipe lines, valves, fittings and other appurtenances and underground structures that are part of the Contractor's work and their proximity to existing underground structures and utilities to the extent known. The Contractor will certify accuracy of the Record Drawings by endorsement.

The Contractor's work shall be documented on the Record Drawings in an on-going manner. Distances, offsets, depths, etc. shall be accurately measured from permanent fixed objects so that the Owner can expose any item of the work in the future with a minimum of effort. All such measurements shall be made before the items of work are covered or backfilled. The Contractor shall be required to expose and recover/backfill the work at his own expense if, in the Engineer's opinion, the measurements need to be verified.

GC.27 SHOP DRAWINGS

Shop Drawings shall be required for all equipment, materials, and as required by the Engineer. All Shop Drawings, Machinery Details, Layout Drawings, etc., shall be submitted to the Engineer for review (unless otherwise specified) in one of the two following manners: six (6) hardcopies or a single electronic copy in PDF format. This shall be completed sufficiently in advance of requirements to afford ample time for checking, including time for correcting, resubmitting, and rechecking if necessary. The Contractor may proceed, only at his own risk, with manufacture or installation of any equipment or work covered by said Shop Drawings, etc. until they are reviewed, and approved; and no claim, by the Contractor, for extension of the Contract time will be granted by reason of his failure in this respect.

Any Drawings submitted without the Contractor's stamp of approval will not be considered and will be returned to him for proper resubmission. If any Drawings show variations from the requirements of the Contract because of standard shop practice or other reason, the Contractor shall make specific mention of such variation in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment of Contract price and/or time; otherwise, the Contractor will not be relieved of the responsibility for executing the work in accordance with the Contract even though the Drawings have been reviewed.

The review of Shop Drawings by the Engineer shall be considered an accommodation to the Contractor to assist him in the execution of the Contract. The Engineer's review of such Drawings shall not relieve the Contractor of his responsibility to perform the work in strict accordance with the Plans and Specifications, and approved changes.

If the Shop Drawing is in accordance with the Contract or involves only a minor adjustment in the interest of the Owner not involving a change in Contract price or time, the Engineer shall so stamp the Drawing and shall contain in substance the following:

> "Corrections or comments made on the shop drawings during this review do not relieve Contractor from compliance with requirements of the contract documents. This check is only for review of general conformance with the design concept of the project and general compliance with the requirements of the contract documents. The Contractor is responsible for the quality of work, confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating the work of all trades and subcontractors; and performing the work in a safe and satisfactory manner".

GC.28 SUBMITTALS

The Contractor shall prepare and submit information required by the individual Specification sections sufficiently in advance of the related work to allow an appropriate review time by the Engineer. The types of submittals are indicated in the individual Specification sections.

During the preconstruction conference, the Engineer and the Contractor shall review the submittal schedule and procedures. Submittals will be transmitted via email as PDF electronic files directly to the Engineer’s designated representative, through the project management software as instructed by the Engineer. Unless otherwise directed by the Engineer, electronic submittals shall be compatible with Adobe Acrobat (*.PDF) format and shall be legible when printed.

Submittals shall be neat, organized, and easy to interpret. Assemble complete submittal package into a single indexed electronic file or hard cover bound book, incorporating submittal requirements of an individual Specification section, the transmittal form with unique submittal numbering system, and electronic links or tabs enabling navigation to each item. Unless approved otherwise by the Engineer, all submittals for the individual Specification section shall be submitted at one time.

Submittals must come directly from the Prime Contractor; submittals from subcontractors or suppliers will not be reviewed.

Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review. Faxed submittals or submittals with extremely small or otherwise unreadable

print will not be accepted. Submittals not required by the Contract Documents will be returned by the Engineer without action.

The Contractor shall retain complete copies of submittals on project site. Use only final submittals that are marked with approval notation from Engineer's submittal review stamp with comments form.

The Contractor will implement, in conjunction with the Engineer and Owner, project-specific procedures/policies for construction management services during construction to assist in obtaining completed Projects in accordance with the purpose and intent of the construction documents including, but not limited to the following:

1. Use required web based construction management software such as Newforma Info Exchange, and require all Subcontractors and any other project participants to use this software as well. Access to this system will be provided at no cost to the Contractor.

Resubmittals shall continue the unique, sequential, submittal numbering system. Resubmittals without unique numbering, example resubmittals transmitted as 005A or 005REV, are unacceptable and will be returned un-reviewed.

The Engineer's costs related to the third and subsequent reviews of complete or partial submittals/shop drawings, required due to previously incomplete or unacceptable submittals/shop drawings, may be withheld by the Owner from payments due the Contractor.

GC.29 REQUESTS FOR SUPPLEMENTARY INFORMATION

It shall be the responsibility of the Contractor to make timely requests of the Owner for any additional information not already in his possession which should be furnished by the Owner under the terms of this Contract, and which he will require in the planning and execution of the work. Such requests may be submitted from time to time as the need is approached, but each shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay. Each request shall be in writing, and shall list the various items and the latest date by which each will be required by the Contractor. The first list shall be submitted within two (2) weeks after the Contract award and shall be as complete as possible at that time. The Contractor shall, if requested, furnish promptly any assistance and information the Engineer may require in responding to these requests of the Contractor. The Contractor shall be fully responsible for any delay in his work or to others arising from his failure to comply fully with the provisions of this Section. Failure of the Owner to provide any additional information shall not be considered ground for increase in charges above those contained in the Proposal.

GC.30 REFERENCE TO MANUFACTURER OR TRADE NAME - "OR EQUAL CLAUSE"

If the Plans, Specifications, or Contract Documents, laws, ordinances or applicable rules and regulations permit the Contractor to furnish or use a substitute that is equal to any material or equipment specified, and if the Contractor wishes to furnish or use a proposed substitute, he shall make written application to the Engineer for approval of such a substitute certifying in writing that the proposed substitute will perform adequately the functions called for in the general design, be similar and of equal substance to that specified, be suited to the same use and capable of performing the same functions as that specified, and identifying all variations of the proposed substitute from specified and indicating available maintenance service; the use of such substitute will not require revisions of related work. No substitute shall be ordered or installed without the written approval of the Engineer who will be the judge of equality and may require the Contractor to furnish such other data regarding the proposed substitute as he considers pertinent. No substitute shall be ordered or installed without such performance guarantee and bonds as the Owner may require which shall be furnished at Contractor's expense.

Where such substitutions alter the design or space requirements indicated on the Contract Drawings, detailed drawings shall be prepared and submitted by the Contractor delineating any changes in, or additions to, the work shown on the Contract Drawings, and such drawings and changes or additions to the work shall be

made by the Contractor at no additional expense to the Owner. In all cases, the burden of proof that the material or equipment offered for substitution is equal in construction, efficiency, and service to that named on the Contract Drawings and in these Contract Documents shall rest on the Contractor, and unless the proof is satisfactory to the Engineer, the substitution will not be approved.

GC.31 SAMPLES, CERTIFICATES, AND TESTING

The Contractor shall submit all material, product, or equipment samples, descriptions, certificates, affidavits, etc., as called for in the Contract Documents or required by the Engineer, promptly after award of the Contract and acceptance of the Contractor's bond. No such material or equipment shall be manufactured or delivered to the site, except at the Contractor's own risk, until the required samples or certificates have been approved in writing by the Engineer. Any delay in the work caused by late or improper submission of samples or certificates for approval shall not be considered just cause for an extension of the Contract time. Submit four (4) copies of data for Engineer's review.

Each sample submitted by the Contractor shall carry a label giving the name of the Contractor, the project for which it is intended, and the name of the producer. The accompanying certificate or letter from the Contractor shall state that the sample complies with Contract requirements, shall give the name and brand of the product, its place of origin, the name and address of the producer, and all specifications or other detailed information which will assist the Engineer in passing upon the acceptability of the sample promptly. It shall also include the statement that all materials or equipment furnished for use in the project will comply with the samples and/or certified statements.

Approval of any materials shall be general only and shall not constitute a waiver of the Owner's right to demand full compliance with Contract requirements. After actual deliveries, the Engineer will have such check tests made as he deems necessary in each instance and may reject materials and equipment and accessories for cause, even though such materials and articles have been given general approval. If materials, equipment or accessories which fail to meet check tests have been incorporated in the work, the Engineer will have the right to cause their removal and replacement by proper materials or to demand and secure such reparation by the Contractor as is equitable, at the Contractor's expense.

Except as otherwise specifically stated in the Contract, the costs of sampling and testing will be divided as follows:

(1) The Contractor shall furnish without extra cost, including packing and delivery charges, all samples required for testing purposes, except those samples taken on the project by the Engineer;

(2) The Contractor shall assume all costs of re-testing materials which fail to meet Contract requirements;

(3) The Contractor shall assume all costs of testing materials offered in substitution for those found deficient; and

(4) The Owner will pay all other expenses.

Quality assurance testing and inspection of materials used in the work shall be done by an approved commercial laboratory employed and paid for directly by the Owner, unless otherwise specified in the Contract Documents. Contractor shall give timely notice for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.

Inspections and tests required to be arranged and paid for by the Contractor include those by manufacturers of equipment furnished under the Contract Documents, testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the work, and for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor’s purchase thereof for incorporation in the work.

If any work (or the work of others) that is to be inspected, tested, or approved is made un-accessible by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

GC.32 TEST BORINGS/SUBSURFACE INFORMATION

Soil characteristics provided in any geotechnical reports, or as shown or referenced in the construction contract documents are not a warranty of subsurface conditions. Subsurface conditions may vary significantly from the data available. Any errors or omissions that may be contained in the available geotechnical data, or variations found at other locations, are not the responsibility of the Owner, Engineer, or Engineer's consultants, and no claim may be made against them for such. Any reliance on the data is at Contractor's sole risk.

The Contractor may not rely upon or make any claim against Owner, Engineer, or Engineer's Consultants with respect to (1) the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by the Contractor and safety precautions and programs incident thereto, (2) other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings, (3) any Contractor interpretation or other conclusion drawn from any data, interpretations, opinions, or information.

Any subsurface information, whether referenced in the plans, specifications, or otherwise made available to Contractor, was obtained and intended for the Owner's design and estimating purposes only and is **not** part of the Construction Contract Documents. The Contractor may perform his own geotechnical investigation, as approved by the Owner.

GC.33 PERMITS AND CODES

The Contractor shall give all notices required by and comply with all applicable laws, ordinances, and codes of the local governments. All construction work and/or utility installations shall comply with all applicable ordinances, and codes including all written waivers.

Should the Contractor fail to observe the foregoing provisions and proceed with the construction and/or install any utility at variance with any applicable ordinance or code, including any written waivers, the Contractor shall remove such work without cost to the Owner.

The Contractor shall at his own expense, secure and pay to the appropriate department of the local government the fees or charges for all permits for street pavements, sidewalks, sheds, removal of abandoned water taps, sealing of house connection drains, pavement cuts, building, electrical, plumbing, water, gas, and sewer permits required by the local regulatory body or any of its agencies.

The Contractor shall comply with applicable local laws and ordinances governing the disposal of surplus excavation, materials, debris, and rubbish on or off the site of the work, and commit no trespass on any public or private property in any operation due to or connected with the Improvements embraced in this Contract.

GC.34 RIGHTS-OF-WAY

The Owner will secure easements across public or private property permanently required for the work at no cost to the Contractor. The Contractor shall lease, buy, or otherwise make satisfactory provision, without obligating the Owner in any manner, for any land required outside the land provided by the Owner. The Owner will secure State Highway and Railroad Crossing Permits. All other permits and licenses necessary for the prosecution of the work shall be secured and paid for by the Contractor.

GC.35 CARE OF WORK

The Contractor alone shall be responsible for the safety, efficiency, and adequacy of his plant, appliances, and methods, and for any injury, including death, to any person, and for any damage to property which may result from their failure, or from their improper construction, maintenance, or operation. He shall indemnify and save harmless the Owner and the Engineer and their employees and agents, against any judgment with costs, which may be obtained as a result of such injury or property damage, because of the alleged liability of the Owner or of the Engineer.

The Contractor shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance, whether or not the same has been covered in whole or in part by payments made by the Owner.

The Contractor shall provide sufficient competent watchmen, as required to protect the work both day and night, including Saturdays, Sundays, and holidays, from the time the work is commenced until final completion and acceptance.

In an emergency affecting the safety of life or property, including adjoining property, the Contractor, without special instructions or authorization from the Owner, is authorized to act at his discretion to prevent such threatened loss or injury, and he shall so act. He shall likewise act if instructed to do so by the Owner. Any compensation claimed by the Contractor on account of such emergency work will be determined by the Owner as provided in the Section entitled CHANGES IN THE WORK under GENERAL CONDITIONS.

The Contractor shall avoid damage, as a result of his operations, to existing sidewalks, streets, curbs, pavements, utilities (except those which are to be replaced or removed), adjoining property, equipment, etc., and he shall at his own expense completely repair any damage thereto caused by his operations, to the satisfaction of the Owner and Engineer. After damage discovery, the Contractor shall immediately coordinate with the Owner and the Engineer on the complete repair and/or replacement work required. Following written notice of work required, the Contractor shall expeditiously begin and finish this work with all labor and materials required. All repair and/or replacement work, labor, and materials shall be supplied and installed by the Contractor. If the Contractor fails to promptly perform the repair work and correct all deficiencies, the Owner shall have the option of remedying the defects at the Contractor's cost.

The Contractor shall shore up, brace, underpin, secure, and protect as may be necessary, all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be in any way affected by the excavations or other operations connected with the construction of the Improvements embraced in this Contract. The Contractor shall be responsible for the giving of any and all required notices to any adjoining or adjacent property owner or other party before the commencement of any work. The Contractor shall indemnify and save harmless the Owner, and the Engineer, from any damages on account of settlements or the loss of lateral support of adjoining property and from all loss or expense and all damages for which it may be claimed that the Owner, or the Engineer, is liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.

GC.36 QUALITY OF WORK AND PROPERTY

All property, materials, and equipment shall be new and free of defects upon completion of the Contractor's performance and, unless different standards are specified elsewhere in the Contract Documents, shall be of the best type and quality available for the purpose. All of the Contractor's work shall be performed with the highest degree of skill and completed free of defects and in accordance with the Contract Documents. Any work, property, materials, or equipment not in conformance with these standards shall be considered defective. If any work, property, materials or equipment is discovered to have been defective or not in conformance with the Contract Documents, whether said discovery is made before or after completion of performance, the Contractor, at his expense, after written notice from the Owner or Engineer, shall promptly replace or correct the deficiency and pay any engineering costs and consequential expense or damage incurred by the Owner in connection therewith. If the Contractor fails to promptly correct all deficiencies, the Owner shall have the option of remedying the defects at the Contractor's cost. If the Contractor is required to

furnish shop drawings or designs, the above provisions shall apply to such drawings or designs.

Neither the Owner's payment, acceptance, inspection or use of the work, property, materials, or equipment, nor any other provision of the Contract Documents shall constitute acceptance of work, property, materials, or equipment which are defective or not in accordance with the Contract Documents. If the Contractor breaches any provision of the Contract Documents with respect to the quality of the work, property, materials, equipment or performance, whether initial or corrective, his liability to the Owner shall continue until the statute of limitations with respect to such breach of contract has expired following discovery of the defect. All parts of this section are cumulative to any other provisions of the Contract Documents and not in derogation thereof. If it is customary for a warranty to be issued for any of the property to be furnished hereunder, such warranty shall be furnished, but no limitations in any such warranty shall reduce the obligations imposed under the Contractor in the Contract Documents or by applicable State Law; but if any greater obligations than imposed in this Contract are specified in any such warranty or by applicable State Law, those greater obligations shall be deemed a part of this Contract and enforceable by the Owner.

GC.37 BARRICADES, LIGHTS, AND WATCHMEN

Where the work is carried on or adjacent to any street, alley or public place, the Contractor shall, at his own cost and expense, furnish and erect such barricades, fences, lights and danger signals, shall provide such watchmen, and shall provide such other precautionary measures for the protection of persons or property and of the work as are necessary.

Barricades shall be painted in a color that will be visible at night. From sunset to sunrise the Contractor shall furnish and maintain at least one light at each barricade and sufficient number of barricades shall be erected to keep vehicles from being driven on or into any work under construction. The Contractor shall furnish watchmen in sufficient numbers to protect the work.

The Contractor will be held responsible for all damage to the work due to failure to barricades, signs, lights, and watchmen to protect it, and whenever evidence is found of such damage the Engineer may order the damaged portion immediately removed and replaced by the Contractor at his cost and expense. The Contractor's responsibility for the maintenance of barricades, signs and lights, and for providing watchmen, shall not cease until the project shall have been accepted by the Owner.

GC.38 FENCES AND DRAINAGE CHANNELS

Boundary fences or other improvements removed to permit the installation of the work shall be replaced in the same location and left in a condition as good as or better than that in which they were found except as indicated on the Drawings.

Where surface drainage channels are disturbed or blocked during construction, they shall be restored to their original condition of grade and cross section after the work of construction is completed.

GC.39 WATER FOR CONSTRUCTION

Water used for the mixing of concrete, testing, or any other purpose incidental to this project, shall be furnished by the Contractor. The Contractor shall make the necessary arrangements for securing and transporting such water and shall take such water in a manner and at such times that will not produce a harmful drain or decrease of pressure in the Owners' water system. No separate payment will be made for water used but the cost thereof shall be included in the work items represented in the Unit Price Schedule.

GC.40 MATERIAL STORAGE

Materials delivered to the site of the work in advance of their use shall be stored so as to cause the least inconvenience and in a manner satisfactory to the Engineer.

GC.41 EXISTING UTILITIES AND SERVICE LINES

The Contractor shall be responsible for the protection of all existing utilities or improvements crossed by or adjacent to his construction operations. Where existing utilities or service lines are cut, broken, or damaged, the Contractor shall replace or repair immediately the utilities or service lines with the same type of original material and construction or better, at his own expense. If the Contractor fails to promptly perform the repair work and correct all deficiencies, the Owner shall have the option of remedying the defects at the Contractor's cost.

GC.42 DEFECTIVE WORK

It is the Contractor's obligation to assure that the work is not defective. The Engineer has the authority to determine whether work is defective, and to reject defective work. Contractor shall correct all such defective work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective work, remove it from the project and replace it with work that is not defective. Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective work, fines levied against Owner by governmental authorities because the work is defective, and the costs of repair or replacement of work of others resulting from defective work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective work, then Owner may impose a reasonable set-off against payments due.

If Contractor fails within a reasonable time after written notice from Engineer to correct defective work, or to remove and replace rejected work as required by Engineer, or if Contractor fails to perform the work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after ten days written notice to Contractor, correct or remedy any such deficiency. Owner may exclude Contractor from all or part of the Site, take possession of all or part of the work and suspend Contractor's services related thereto, and incorporate in the work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

All claims, costs, losses, and damages incurred or sustained by Owner will be charged against Contractor as set-offs against payments. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective work.

If the Owner prefers to accept defective work, Owner may do so explicitly in writing (subject to Engineer's confirmation, if such acceptance occurs prior to final payment). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the work to the extent not otherwise paid by Contractor.

If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of work so accepted, then Owner may impose a reasonable set-off against payments due. If the acceptance of defective work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the work attributable to the exercise by Owner of Owner's rights and remedies under this General Condition.

GC.43 ACCIDENT PREVENTION

The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all damages to persons or property, either on or off the site, which occur as a result of his prosecution of the work. The safety provisions of applicable laws and building and construction codes, including applicable parts of the State's labor safety code, shall be observed. The Contractor shall take or cause to be taken such safety and health measures, additional to those herein required, as he may deem necessary or desirable. Machinery, equipment, and all hazards shall be guarded in accordance with the safety provisions of the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, Inc., to the extent that such provisions are not in conflict with applicable local laws.

The Contractor shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the Contract. The Contractor shall promptly furnish the Owner with reports concerning these matters.

The Contractor shall indemnify and save harmless the Owner, and the Engineer, from any claims for damages resulting from personal injury and/or death suffered or alleged to have been suffered by any person as a result of any work conducted under this Contract.

GC.44 TRENCH AND EXCAVATION SAFETY SYSTEMS

This section covers trench and excavation safety system required for constructing improvements that necessitate open excavations on the project. All work under this item shall be in accordance with the current edition of the "Occupational Safety and Health Administration Standard for Excavation and Trenches Safety System, 29 CFR 1926, Subpart P.

The Contractor, prior to beginning any excavation, shall notify the State Department of Labor (Safety Division) that work is commencing on a project with excavations greater than five feet.

The Contractor shall notify all Utility Companies and Owners in accordance with OSHA Administration 29 CFR 1926.651(b) (2) for the purpose of locating utilities and underground installations.

Where the trench or excavation endangers the stability of a building, wall, street, highway, utilities, or other installation, the Contractor shall provide support systems such as shoring, bracing, or underpinning to ensure the stability of such structure or utility.

The Contractor may elect to remove and replace or relocate such structures or utilities with the written approval of the Owner of the structure or utility and the Project Owner.

The work required by this item will be paid for at the price bid for "Trench and Excavation Safety Systems". After award of the contract, the Contractor shall submit to the Engineer a breakdown of cost for work involved in the price bid for "Trench and Excavation Safety Systems" and shall, with each periodic payment request, submit a certification by the Contractor's "competent person" as defined in Subpart "P" 1926.650(b) that the Contractor has complied with the provisions of "Occupational Safety and Health Administration Standard for Excavation and Trenches Safety System", 29 CFR 1926 Subpart P for work for which payment is requested.

GC.45 UNDERGROUND FACILITIES

All work in this contract shall be in accordance with applicable state Underground Facilities Damage Prevention Acts, or similar state requirements which protect underground facilities. The Contractor shall abide by the most current edition of these requirements.

Underground utilities may exist within and adjacent to the limits of construction. An attempt has been made to locate these utilities on the plans. However, all existing utilities may not be shown, and the actual locations of the utilities may vary from the locations shown. Prior to beginning any type of

excavation, the Contractor shall contact the utilities involved and make arrangements for the location of the utilities on the ground. The Contractor shall maintain the utility location markings until they are no longer necessary.

GC.46 SANITARY FACILITIES

The Contractor shall furnish, install, and maintain ample sanitary facilities for the workers. As the needs arise, a sufficient number of enclosed temporary toilets shall be conveniently placed as required by the sanitary codes of the State and County. Drinking water shall be provided from an approved source, so piped or transported as to keep it safe and fresh and served from single service containers or satisfactory types of sanitary drinking stands or fountains. All such facilities and services shall be furnished in strict accordance with existing and governing health regulations.

GC.47 USE OF PREMISES

The Contractor shall confine his equipment, storage of materials, and construction operations to the Rights-of-Way to accommodate the permanent construction furnished by the Owner, or as may be directed otherwise by the Owner, and shall not unreasonably encumber the site of other public Rights-of-Way with his materials and construction equipment. In case such Rights-of-Way furnished by the Owner are not sufficient to accommodate the Contractor's operations, he shall arrange with the County, or with the owner or owners of private property for additional area or areas, and without involving the Owner in any manner whatsoever.

The Contractor shall comply with all reasonable instructions of the Owner and the ordinances and codes of the State and County (including but not limited to those) regarding signs, advertising, traffic, fires, explosives, danger signals, and barricades.

GC.48 PUBLIC UTILITIES AND OTHER PROPERTY TO BE CHANGED

In case it is necessary to change or move the property of any owner or of a public utility, such property shall not be moved or interfered with until ordered to do so by the Engineer. The right is reserved to the owner of public utilities to enter upon the limits of the project for the purpose of making such changes or repairs of their property that may be made necessary by performance of this Contract.

GC.49 LIGHT AND POWER

The Contractor shall provide, at his own expense, temporary lighting and facilities required for the proper prosecution and inspection of the work. At the time the Owner obtains beneficial occupancy of any of the facilities placed in satisfactory service, charges for power and light for regular operation of those involved facilities will become the responsibility of the Owner.

GC.50 USED MATERIALS

No material which has been used by the Contractor for any temporary purpose may be incorporated in the permanent work without written consent of the Engineer.

GC.51 REMOVAL OF DEBRIS, CLEANING, ETC.

The Contractor shall periodically or as directed during the progress of the work, remove and legally dispose of all surplus excavated material and debris, and keep the project site and public Rights-of-Way reasonably clear. Upon completion of the work, he shall remove all temporary construction facilities, debris, and unused materials provided for the work, thoroughly clean all drainage pipes, structures, ditches, and other features, and put the whole site of the work and public Rights-of-Way in a neat and "broom" clean condition. Trash burning on the site of the work will be subject to prior approval of the Owner and existing State and local regulations.

GC.52 EXISTING STRUCTURES

The Plans show the locations of all known surface and subsurface structures. However, the Owner assumes no responsibility for failure to show any or all of these structures on the Plans, or to show them in their exact location. It is mutually agreed that such failure shall not be considered sufficient basis for claims for additional compensation for extra work or for increasing the pay quantities in any manner whatsoever, unless the obstruction encountered is such as to necessitate changes in the lines or grades, or requires the building of special work, provisions for which are not made in the Plans and Proposal, in which case the provisions in these Specifications for extra work shall apply.

The Contractor shall be responsible for protection of all existing structures and any damage caused by his operations shall be repaired immediately without cost to the Owner. If the Contractor fails to promptly perform the repair work and correct all deficiencies, the Owner shall have the option of remedying the defects at the Contractor's cost. It shall be the responsibility of the prospective Contractor to examine the site completely before submitting his bid.

GC.53 EMERGENCIES

In emergencies affecting the safety or protection of personnel, the general public, the work, and property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order may be issued.

GC.54 HAZARDOUS MATERIALS

If Contractor encounters, uncovers, or reveals a hazardous material or environmental condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the work, or if Contractor or anyone for whom Contractor is responsible creates a hazardous material or condition, then Contractor shall immediately secure or otherwise isolate such condition, stop all work in connection with such condition and in any area affected thereby (except in an emergency), and notify Owner and Engineer (and promptly thereafter confirm such notice in writing). If Contractor or anyone for whom Contractor is responsible created the hazardous material or condition in question and is unable or refuses to satisfactorily address the issue, then Owner may remove and remediate the hazardous material or condition, and impose a set-off against payments to account for the associated costs.

GC.55 RETURN OF OWNER'S MATERIALS, EQUIPMENT, OR PROPERTY

Any materials, equipment or other property which belongs to the Owner, removed by the Contractor, shall be delivered to the Owner's designated warehouse unless its re-use or disposal is specified in the Plans and Specifications. If the Contractor fails to deliver the materials, equipment, or other property, the value, as determined by the Engineer, shall be deducted from amounts due the Contractor.

GC.56 PAY ITEM DESCRIPTION

Of necessity the items described and shown as components are discussed in a general manner only, describing the major pieces of equipment and/or materials. Any item and/or appurtenance not specifically mentioned shall be considered a portion of the bid item to which, in the opinion of the Engineer, its function is most directly related. Failure to list all items and/or appurtenances does not relieve the Contractor from furnishing all apparatus, devices, labor or materials of whatever nature required for a complete installation in accordance with the intent of the Drawings, approved Shop Drawings and these Specifications.

The successful Contractor shall, as soon as possible after award of the Contract, submit a list itemizing the components of each lump sum bid item and their respective costs to be used as an aid in the preparation of

partial payments.

GC.57 SPARE PARTS

After approval of the Shop Drawings, the Contractor shall furnish spare parts data for each different item of equipment, valves, instrumentation, etc., for which normal operation requires replacement parts for dependable service. The data shall include a complete list of parts and supplies, with source of supply; list of parts and supplies that are either normally furnished at no extra cost with the purchase of the equipment or specified hereinafter to be furnished as part of the contract and a list of additional items recommended by the manufacturer to assure efficient operation. The foregoing shall not relieve the Contractor of any responsibilities under the guaranty specified.

GC.58 OBSERVATION OF WORK

The Engineer, his authorized representative, and any Federal, State, County, or local authority representative having jurisdiction over any part of the work, or area through which the work is located, shall at all times have access to the work in progress.

The detailed manner and method of performing the work shall be under the direction and control of the Contractor, but all work performed shall at all times be subject to the observation of the Engineer or his authorized representative to ascertain its conformance with the Contract Documents. The Contractor shall furnish all reasonable aid and assistance required by the Engineer for the proper observation and examination of the work and all parts thereof.

The Engineer is not responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction, or safety precautions and programs incident thereto.

Observers may be appointed by the Engineer or Owner. Observers shall have no authority to permit any deviation from the Plans and Specifications except on written order from the Engineer and the Contractor will be liable for any deviation except on such written order. Observers shall have authority, subject to the final decision of the Engineer, to condemn and reject any defective work and to suspend the work when it is not being performed properly.

The observer shall in no case act as superintendent or foreman or perform other duties for the Contractor, nor interfere with the management of the work by the latter. Any advice which the observer may give the Contractor shall in no way be construed as binding to the Engineer in any way or releasing the Contractor from fulfilling all of the terms of the Contract.

Any defective work may be rejected by the Engineer at any time before final acceptance of the work, even though the same may have been previously overlooked and estimated for payment and payment therefore made by the Owner.

The Contractor shall notify the Engineer sufficiently in advance of backfilling or concealing any facilities to permit proper observation. If the facilities are concealed without approval or consent of the Engineer, the Contractor shall uncover for observation and recover such facilities all at his own expense, when so requested by the Engineer.

Should it be considered necessary or advisable by the Engineer at any time before final acceptance of the entire work to make an examination of work already completed, by uncovering the same, the Contractor shall on request promptly furnish all necessary facilities, labor, and material. If such work is found to be defective in any important or essential respect, due to fault of the Contractor or his Subcontractors, he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the actual cost of labor and material necessarily involved in the examination and replacement, plus fifteen (15) percent of such costs to cover superintendence, general expenses and profit, shall be allowed the Contractor and he shall, in addition, if completion of the work of the entire Contract has been delayed thereby, be granted a suitable extension of time on account of the additional work involved.

Observation of materials and appurtenances to be incorporated in the Improvements embraced in this Contract may be made at the place of production, manufacture or shipment, whenever the quantity justifies it, and such observation and acceptance, unless otherwise stated in the Technical Specifications, shall be final, except as regards (1) latent defects, (2) departures from specific requirements of the Contract, (3) damage or loss in transit, or (4) fraud or such gross mistakes as amount to fraud. Subject to the requirements contained in the preceding sentence, the observation of materials as a whole or in part will be made at the project site.

All condemned or rejected work shall be promptly taken out and replaced by satisfactory work. Should the Contractor fail or refuse to comply with the instructions in this respect, the Owner may, upon certification by the Engineer, withhold payment, proceed to terminate the Contract, or perform work as provided herein.

GC.59 REVIEW BY OWNER

The Owner, its authorized representatives and agents, shall at all times during work hours have access to and be permitted to observe and review all work, materials, equipment, payrolls, and personnel records pertaining to this Contract, provided, however, that all instructions and approval with respect to the work will be given to the Contractor only by the City through its authorized representatives or agents. Representatives of Federal, State, and City agencies also have the right of physical inspection of the work during work hours.

GC.60 PROHIBITED INTERESTS

No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this Contract or in any part thereof. No officer, employee, architect, attorney, engineer, or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any executive, supervisory, or other similar functions in connection with the construction of the project, shall become directly or indirectly interested personally in this Contract or in any part thereof.

GC.61 SUBSTANTIAL COMPLETION

When Contractor considers all contract work items completed, Contractor shall notify Owner and Engineer in writing that the entire work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

Promptly after Contractor’s notification, Owner, Contractor, and Engineer shall make an inspection of the work to determine the status of completion. If Engineer does not consider the work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

If Engineer considers the work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment, along with a timeframe to complete the punch list items. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner’s objections Engineer concludes that the work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the work.

Upon Substantial Completion, the project time for completion will stop and the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

If the Contractor does not achieve Final Completion in the specified time noted on the substantial completion punch list, the project time for completion will continue from the specified Final Completion date until all punch list items have been completed.

GC.62 FINAL INSPECTION AND ACCEPTANCE

When the Improvements embraced in this Contract are substantially completed and punch list items have been addressed, the Contractor shall notify the Owner in writing that the work will be ready for final inspection on a definite date which shall be stated in the notice. The notice will be given at least ten (10) days prior to the date stated for final inspection, and bear the signed concurrence of the representative of the Owner having charge of observation. If the Owner determines that the status of the Improvements is as represented, it will make the arrangements necessary to have final inspection commenced on the date stated in the notice, or as soon thereafter as practicable. The inspection party will also include the representatives of Owner and any other involved government agencies when such improvements are later to be accepted by the Owner and/or other government agencies. Upon confirmation that all improvements have been properly constructed, Final Acceptance will be granted and the Contractor's General Guaranty will begin.

GC.63 CONTRACTOR'S OBLIGATION TO COMPLETE THE WORK

Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents: any review and approval of a Shop Drawing or Sample submittal; observations by Engineer or Resident Project Representative; recommendation of or payment of progress or final payment; the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner; use or occupancy of the Work or any part thereof by Owner; any inspection, test, or approval by others; or any correction of defective work by Owner.

GC.64 PATENTS

The Contractor shall hold and save harmless the Owner, its officers, employees, and the Engineer, from liability of any nature or kind, including costs and expenses, for, or on account of, any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the Contract, including its use by the Owner, unless otherwise specifically stipulated in the Technical Specifications.

GC.65 WARRANTY OF TITLE

No material, supplies, or equipment for the work shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. The Contractor shall warrant good title to all materials, supplies, and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together with all improvements and appurtenances constructed or placed thereon by him to the Owner free from any claims, liens, or charges. Neither the Contractor nor any person, firm or corporation furnishing any material or labor for any work covered by this Contract shall have any right to a lien upon any improvement or appurtenance

thereon. Nothing contained in this paragraph, however, shall defeat or impair the right of persons furnishing materials or labor to recover under any bond given by the Contractor for their protection or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the Owner. The provisions of this paragraph shall be inserted in all subcontracts and material Contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal Contract is entered into for such materials.

GC.66 GENERAL GUARANTY

Neither the final certificate of payment nor any provision in the Contract nor partial or entire use of the Improvements embraced in this Contract by the Owner or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting therefrom which shall appear within a period of twelve (12) months from the agreed upon day of final acceptance (not substantial completion) of the work. The Owner will give notice of defective materials and work with reasonable promptness.

GC.67 REUSE OF DOCUMENTS

Contractor and its Subcontractors and Suppliers shall not have or acquire any title to or ownership rights in any of the Contract Documents, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, or reuse any such documents or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

GC.68 RELEASE AND CONTRACTOR'S AFFIDAVIT

At the project's completion, the Contractor shall execute the attached Release and Lien Waiver to release all claims against the Owner arising under and by virtue of his Contract. The date of the Release shall be that agreed to for the final acceptance of the project with the Owner.

RELEASE

FROM: Contractor's Name _____

Address _____

TO: Owner's Name _____

Address _____

DATE OF CONTRACT: _____

Upon receipt of the final payment and in consideration of that amount, the undersigned does hereby release the Owner and its agents from any and all claims arising under or by virtue of this Contract or modification thereof occurring from the undersigned's performance in connection with the

_____

_____

project.

_____
Contractor's Signature

_____
Title

Subscribed and sworn to before me this _____ day of _____, 20____.

_____
Notary Public

My Commission Expires:

_____

CONTRACTOR'S AFFIDAVIT

FROM: Contractor's Name _____

Address _____

TO: Owner's Name _____

Address _____

_____

DATE OF CONTRACT: _____

I hereby certify that all claims for material, labor, and supplies entered into contingent and incident to the construction or used in the course of the performance of the work on _____

_____

have been fully satisfied.

_____
Contractor's Signature

_____
Title

Subscribed and sworn to before me this _____ day of _____, 20____.

_____
Notary Public

My Commission Expires:

_____

The Surety Company consents to the release of the retained percentage on this project with the understanding that should any unforeseen contingencies arise having a right of action on the bond that the Surety Company will not waive liability through the consent to the release of the retained percentage.

Dated _____
Surety Company

By _____
Resident Agent, State of Project

010900 - SPECIAL CONDITIONS

TABLE OF CONTENTS

ARTICLE	TITLE
SC.1	GENERAL
SC.2	LOCATION OF PROJECT
SC.3	SCOPE OF WORK
SC.4	TIME ALLOTTED FOR COMPLETION
SC.5	ADDITIONAL INSURANCE
SC.6	MINIMUM WAGES
SC.7	REFERENCE SPECIFICATIONS
SC.8	SALES TAX
SC.9	USE OF EXPLOSIVES
SC.10	LINES AND GRADES
SC.11	SEQUENCE OF CONSTRUCTION
SC.12	TEMPORARY FIELD OFFICE

SC.1 GENERAL

The provisions of this section of the Specifications shall govern in the event of any conflict between them and the "General Conditions".

SC.2 LOCATION OF PROJECT

This project is located in the city of Bentonville, Arkansas. A map showing the general location is included in the Plans.

SC.3 SCOPE OF WORK

The project consists of improvements to two intersections on Walton Boulevard, Walton Boulevard and Medical Center Parkway (Bid Schedule 1) and Walton Boulevard and SE J Street (Bid Schedule 2). The Walton Boulevard and Medical Center Parkway Improvements project (Bid Schedule 1) includes, but is not limited to, the widening of Medical Center Parkway, drainage improvements, retaining wall construction, guardrail installation, traffic signal improvements, and water and sanitary sewer relocations as shown on the plans and indicated in the specifications. The Walton Boulevard and SE J Street Improvements project (Bid Schedule 2) includes, but is not limited to, the widening of SE J Street and SE Dodson Road, the addition of a dedicated right turn lane on the east leg of Walton Boulevard, drainage improvements, traffic signal improvements, and water and sanitary sewer relocations as shown on the plans and indicated in the specifications.

SC.4 TIME ALLOTTED FOR COMPLETION

The time allotted for completion of the work shall be four hundred and eighty (480) consecutive calendar days, which time shall begin within ten (10) days of the work order or notice to proceed, or upon the date the Contractor moves on the site to begin the work, whichever is the earliest date. After award of the Contract is made and the Contract Documents are completed, the Engineer shall issue a Work Order or Notice to Proceed, notifying the Contractor to proceed with the construction of the project, subject to the provisions of this paragraph.

SC.5 ADDITIONAL INSURANCE

No additional insurance is required.

SC.6 MINIMUM WAGES

The Contractor shall comply with the provisions of the Federal and State's prevailing wage laws, and the administrative regulations promulgated thereunder, as they apply under this Contract.

It shall be the responsibility of each Bidder to determine the consequences of the applicable provisions of the Federal and State's prevailing wage laws, and include in his bid any costs made necessary because of them. No additional payment will be made, and no extension of Contract time will be allowed because of the provisions of the laws.

The Contractor shall comply with all applicable provisions of the Federal and State's prevailing wage laws, including the following:

(1) Pay wage rates not less than the prevailing hourly wage for each craft or type of workman needed to execute the Contract, as determined by the Department of Labor, such determination covering rates for regular hours, and rates for holidays and overtime work.

(2) Post on the site of the work, in a conspicuous and accessible place, a copy of the prevailing wage rates as determined.

(3) Keep an accurate record of workman employed by him, and by each subcontractor, if any, including the wage payments made. Such record, or records, shall be available for inspection by the Federal, the State, and the Owner's representatives, during reasonable hours.

(4) The Contractor's bond shall guarantee the payment of wages as herein specified.

Wage rates, as established by the State and Federal entities, are the minimum for wage payments under this Contract.

There is no assurance on the part of City of Bentonville that mechanics and laborers can be obtained for the rates herein bound. Each Bidder shall determine for himself the availability of laborers and mechanics, and the rates he must pay to obtain employees.

SC.7 REFERENCE SPECIFICATIONS

Where reference is made in these Specifications to specifications compiled by other agencies, organizations or departments, such reference is made for expediency and standardization, and such specifications (latest edition thereof) referred to are hereby made a part of these Specifications.

More specifically, if any items or materials required for completion of the work required for this project are not specified in these Contract Documents, such items or materials and requirements for installation shall conform to the standards or preferences of ARDOT or the Owner or.

SC.8 SALES TAX

The project is not tax exempt for the purchase of materials permanently incorporated into the project.

SC.9 USE OF EXPLOSIVES

The use of explosives will not be permitted except as specifically described in the Specifications.

SC.10 LINES AND GRADES

The Contractor will be furnished horizontal and vertical control points and/or baselines and benchmarks to control the work. The Contractor shall be responsible for the additional instrument control necessary to lay out and construct the improvements. The Contractor's instrument control of the work shall not be measured for separate payment. As a minimum, the Contractor shall provide the following instrument control for the work:

a. For the full length and width of all areas within the limits of paving, the finished grade of the concrete surface course shall be controlled by grade wires or forms set by the Contractor to control the final surface, in accordance with the plans.

b. For the full length and width of all areas within the limits of paving, the initial courses of bituminous pavement shall be controlled by uniform thickness. The course under the final surface course shall be controlled by grade wire, and the final surface course shall be controlled by uniform thickness. The bituminous pavement shall be constructed with a laydown machine with automatic controls and a 40-ft ski.

c. For the full length and width of all areas within the limits of paving, the crushed aggregate base

course and the subbase course will be controlled with intermediate and final surface stakes, "blue tops". Stakes shall be set as required or as directed by the Engineer to control the construction.

d. The Contractor shall set intermediate line and grade stakes and final grade stakes, "blue tops," as required to control the construction of subgrade and shoulders.

SC.11 SEQUENCE OF CONSTRUCTION

Sequence of all phases of work shall be such as to provide for the least possible inconvenience to the Owner. Scheduling of work which would interfere with normal traffic operation shall be coordinated with the Owner. Material and equipment received on the project prior to time of installation shall be stored at such locations designated by the Owner.

Before any of the facilities are taken out of service to accomplish the various items of work, the Contractor shall demonstrate to the Owner and Engineer's satisfaction that all equipment and materials required to complete that particular item of work are on hand. As much preliminary work as is possible shall be accomplished prior to taking any unit out of service.

SC.12 TEMPORARY FIELD OFFICE

A temporary field office will not be required.

If it is necessary to stand at the outboard or inboard edge of the deckload where less than 24 inches of bulwark, rail, coaming, or other protection exists, all employees shall be provided with a suitable means of protection against falling from the deckload.

(d) *First-aid and lifesaving equipment.* (1) Provisions for rendering first aid and medical assistance shall be in accordance with subpart D of this part.

(2) The employer shall ensure that there is in the vicinity of each barge in use at least one U.S. Coast Guard-approved 30-inch lifering with not less than 90 feet of line attached, and at least one portable or permanent ladder which will reach the top of the apron to the surface of the water. If the above equipment is not available at the pier, the employer shall furnish it during the time that he is working the barge.

(3) Employees walking or working on the unguarded decks of barges shall be protected with U.S. Coast Guard-approved work vests or buoyant vests.

(e) *Commercial diving operations.* Commercial diving operations shall be subject to subpart T of part 1910, §§ 1910.401–1910.441, of this chapter.

[39 FR 22801, June 24, 1974, as amended at 42 FR 37674, July 22, 1977]

§ 1926.606 Definitions applicable to this subpart.

(a) *Apron*—The area along the waterfront edge of the pier or wharf.

(b) *Bulwark*—The side of a ship above the upper deck.

(c) *Coaming*—The raised frame, as around a hatchway in the deck, to keep out water.

(d) *Jacob's ladder*—A marine ladder of rope or chain with wooden or metal rungs.

(e) *Rail,* for the purpose of § 1926.605, means a light structure serving as a guard at the outer edge of a ship's deck.

Subpart P—Excavations

AUTHORITY: Sec. 107, Contract Worker Hours and Safety Standards Act (Construction Safety Act) (40 U.S.C. 333); Secs. 4, 6, 8, Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), or 9–83 (48 FR 35736), as applicable, and 29 CFR part 1911.

SOURCE: 54 FR 45959, Oct. 31, 1989, unless otherwise noted.

§ 1926.650 Scope, application, and definitions applicable to this subpart.

(a) *Scope and application.* This subpart applies to all open excavations made in the earth's surface. Excavations are defined to include trenches.

(b) *Definitions applicable to this subpart.*

Accepted engineering practices means those requirements which are compatible with standards of practice required by a registered professional engineer.

Aluminum Hydraulic Shoring means a pre-engineered shoring system comprised of aluminum hydraulic cylinders (crossbraces) used in conjunction with vertical rails (uprights) or horizontal rails (walers). Such system is designed, specifically to support the sidewalls of an excavation and prevent cave-ins.

Bell-bottom pier hole means a type of shaft or footing excavation, the bottom of which is made larger than the cross section above to form a belled shape.

Benching (Benching system) means a method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.

Cave-in means the separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

Competent person means one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Cross braces mean the horizontal members of a shoring system installed perpendicular to the sides of the excavation, the ends of which bear against either uprights or wales.

Excavation means any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.

Faces or *sides* means the vertical or inclined earth surfaces formed as a result of excavation work.

Failure means the breakage, displacement, or permanent deformation of a structural member or connection so as to reduce its structural integrity and its supportive capabilities.

Hazardous atmosphere means an atmosphere which by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient, toxic, or otherwise harmful, may cause death, illness, or injury.

Kickout means the accidental release or failure of a cross brace.

Protective system means a method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide the necessary protection.

Ramp means an inclined walking or working surface that is used to gain access to one point from another, and is constructed from earth or from structural materials such as steel or wood.

Registered Professional Engineer means a person who is registered as a professional engineer in the state where the work is to be performed. However, a professional engineer, registered in any state is deemed to be a "registered professional engineer" within the meaning of this standard when approving designs for "manufactured protective systems" or "tabulated data" to be used in interstate commerce.

Sheeting means the members of a shoring system that retain the earth in position and in turn are supported by other members of the shoring system.

Shield (Shield system) means a structure that is able to withstand the forces imposed on it by a cave-in and thereby protect employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. Additionally, shields can be either premanufactured or job-built in accordance with §1926.652 (c)(3) or (c)(4). Shields used in trenches are usually referred to as "trench boxes" or "trench shields."

Shoring (Shoring system) means a structure such as a metal hydraulic, mechanical or timber shoring system that supports the sides of an excavation and which is designed to prevent cave-ins.

Sides. See "Faces."

Sloping (Sloping system) means a method of protecting employees from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.

Stable rock means natural solid mineral material that can be excavated with vertical sides and will remain intact while exposed. Unstable rock is considered to be stable when the rock material on the side or sides of the excavation is secured against caving-in or movement by rock bolts or by another protective system that has been designed by a registered professional engineer.

Structural ramp means a ramp built of steel or wood, usually used for vehicle access. Ramps made of soil or rock are not considered structural ramps.

Support system means a structure such as underpinning, bracing, or shoring, which provides support to an adjacent structure, underground installation, or the sides of an excavation.

Tabulated data means tables and charts approved by a registered professional engineer and used to design and construct a protective system.

Trench (Trench excavation) means a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet (4.6 m). If forms or other structures are installed or constructed in an excavation so as to reduce the dimension measured from the forms or structure to the side of the excavation to 15 feet (4.6 m) or less

(measured at the bottom of the excavation), the excavation is also considered to be a trench.

Trench box. See "Shield."

Trench shield. See "Shield."

Uprights means the vertical members of a trench shoring system placed in contact with the earth and usually positioned so that individual members do not contact each other. Uprights placed so that individual members are closely spaced, in contact with or interconnected to each other, are often called "sheeting."

Wales means horizontal members of a shoring system placed parallel to the excavation face whose sides bear against the vertical members of the shoring system or earth.

§ 1926.651 Specific excavation requirements.

(a) *Surface encumbrances.* All surface encumbrances that are located so as to create a hazard to employees shall be removed or supported, as necessary, to safeguard employees.

(b) *Underground installations.* (1) The estimated location of utility installations, such as sewer, telephone, fuel, electric, water lines, or any other underground installations that reasonably may be expected to be encountered during excavation work, shall be determined prior to opening an excavation.

(2) Utility companies or owners shall be contacted within established or customary local response times, advised of the proposed work, and asked to establish the location of the utility underground installations prior to the start of actual excavation. When utility companies or owners cannot respond to a request to locate underground utility installations within 24 hours (unless a longer period is required by state or local law), or cannot establish the exact location of these installations, the employer may proceed, provided the employer does so with caution, and provided detection equipment or other acceptable means to locate utility installations are used.

(3) When excavation operations approach the estimated location of underground installations, the exact location of the installations shall be determined by safe and acceptable means.

(4) While the excavation is open, underground installations shall be protected, supported or removed as necessary to safeguard employees.

(c) *Access and egress*—(1) *Structural ramps.* (i) Structural ramps that are used solely by employees as a means of access or egress from excavations shall be designed by a competent person. Structural ramps used for access or egress of equipment shall be designed by a competent person qualified in structural design, and shall be constructed in accordance with the design.

(ii) Ramps and runways constructed of two or more structural members shall have the structural members connected together to prevent displacement.

(iii) Structural members used for ramps and runways shall be of uniform thickness.

(iv) Cleats or other appropriate means used to connect runway structural members shall be attached to the bottom of the runway or shall be attached in a manner to prevent tripping.

(v) Structural ramps used in lieu of steps shall be provided with cleats or other surface treatments on the top surface to prevent slipping.

(2) *Means of egress from trench excavations.* A stairway, ladder, ramp or other safe means of egress shall be located in trench excavations that are 4 feet (1.22 m) or more in depth so as to require no more than 25 feet (7.62 m) of lateral travel for employees.

(d) *Exposure to vehicular traffic.* Employees exposed to public vehicular traffic shall be provided with, and shall wear, warning vests or other suitable garments marked with or made of reflectorized or high-visibility material.

(e) *Exposure to falling loads.* No employee shall be permitted underneath loads handled by lifting or digging equipment. Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials. Operators may remain in the cabs of vehicles being loaded or unloaded when the vehicles are equipped, in accordance with § 1926.601(b)(6), to provide adequate protection for the operator during loading and unloading operations.

(f) *Warning system for mobile equipment.* When mobile equipment is operated adjacent to an excavation, or when such equipment is required to approach the edge of an excavation, and the operator does not have a clear and direct view of the edge of the excavation, a warning system shall be utilized such as barricades, hand or mechanical signals, or stop logs. If possible, the grade should be away from the excavation.

(g) *Hazardous atmospheres*—(1) *Testing and controls.* In addition to the requirements set forth in subparts D and E of this part (29 CFR 1926.50–1926.107) to prevent exposure to harmful levels of atmospheric contaminants and to assure acceptable atmospheric conditions, the following requirements shall apply:

(i) Where oxygen deficiency (atmospheres containing less than 19.5 percent oxygen) or a hazardous atmosphere exists or could reasonably be expected to exist, such as in excavations in landfill areas or excavations in areas where hazardous substances are stored nearby, the atmospheres in the excavation shall be tested before employees enter excavations greater than 4 feet (1.22 m) in depth.

(ii) Adequate precautions shall be taken to prevent employee exposure to atmospheres containing less than 19.5 percent oxygen and other hazardous atmospheres. These precautions include providing proper respiratory protection or ventilation in accordance with subparts D and E of this part respectively.

(iii) Adequate precaution shall be taken such as providing ventilation, to prevent employee exposure to an atmosphere containing a concentration of a flammable gas in excess of 20 percent of the lower flammable limit of the gas.

(iv) When controls are used that are intended to reduce the level of atmospheric contaminants to acceptable levels, testing shall be conducted as often as necessary to ensure that the atmosphere remains safe.

(2) *Emergency rescue equipment.* (i) Emergency rescue equipment, such as breathing apparatus, a safety harness and line, or a basket stretcher, shall be readily available where hazardous atmospheric conditions exist or may reasonably be expected to develop during work in an excavation. This equipment shall be attended when in use.

(ii) Employees entering bell-bottom pier holes, or other similar deep and confined footing excavations, shall wear a harness with a life-line securely attached to it. The lifeline shall be separate from any line used to handle materials, and shall be individually attended at all times while the employee wearing the lifeline is in the excavation.

(h) *Protection from hazards associated with water accumulation.* (1) Employees shall not work in excavations in which there is accumulated water, or in excavations in which water is accumulating, unless adequate precautions have been taken to protect employees against the hazards posed by water accumulation. The precautions necessary to protect employees adequately vary with each situation, but could include special support or shield systems to protect from cave-ins, water removal to control the level of accumulating water, or use of a safety harness and lifeline.

(2) If water is controlled or prevented from accumulating by the use of water removal equipment, the water removal equipment and operations shall be monitored by a competent person to ensure proper operation.

(3) If excavation work interrupts the natural drainage of surface water (such as streams), diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering the excavation and to provide adequate drainage of the area adjacent to the excavation. Excavations subject to runoff from heavy rains will require an inspection by a competent person and compliance with paragraphs (h)(1) and (h)(2) of this section.

(i) *Stability of adjacent structures.* (1) Where the stability of adjoining buildings, walls, or other structures is endangered by excavation operations, support systems such as shoring, bracing, or underpinning shall be provided to ensure the stability of such structures for the protection of employees.

(2) Excavation below the level of the base or footing of any foundation or retaining wall that could be reasonably

expected to pose a hazard to employees shall not be permitted except when:

(i) A support system, such as underpinning, is provided to ensure the safety of employees and the stability of the structure; or

(ii) The excavation is in stable rock; or

(iii) A registered professional engineer has approved the determination that the structure is sufficently removed from the excavation so as to be unaffected by the excavation activity; or

(iv) A registered professional engineer has approved the determination that such excavation work will not pose a hazard to employees.

(3) Sidewalks, pavements, and appurtenant structure shall not be undermined unless a support system or another method of protection is provided to protect employees from the possible collapse of such structures.

(j) *Protection of employees from loose rock or soil.* (1) Adequate protection shall be provided to protect employees from loose rock or soil that could pose a hazard by falling or rolling from an excavation face. Such protection shall consist of scaling to remove loose material; installation of protective barricades at intervals as necessary on the face to stop and contain falling material; or other means that provide equivalent protection.

(2) Employees shall be protected from excavated or other materials or equipment that could pose a hazard by falling or rolling into excavations. Protection shall be provided by placing and keeping such materials or equipment at least 2 feet (.61 m) from the edge of excavations, or by the use of retaining devices that are sufficient to prevent materials or equipment from falling or rolling into excavations, or by a combination of both if necessary.

(k) *Inspections.* (1) Daily inspections of excavations, the adjacent areas, and protective systems shall be made by a competent person for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions. An inspection shall be conducted by the competent person prior to the start of work and as needed throughout the shift. Inspections shall also be made after every rainstorm or other hazard increasing occurrence. These inspections are only required when employee exposure can be reasonably anticipated.

(2) Where the competent person finds evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions, exposed employees shall be removed from the hazardous area until the necessary precautions have been taken to ensure their safety.

(l) Walkways shall be provided where employees or equipment are required or permitted to cross over excavations. Guardrails which comply with §1926.502(b) shall be provided where walkways are 6 feet (1.8 m) or more above lower levels.

[54 FR 45959, Oct. 31, 1989, as amended by 59 FR 40730, Aug. 9, 1994]

§ 1926.652 Requirements for protective systems.

(a) *Protection of employees in excavations.* (1) Each employee in an excavation shall be protected from cave-ins by an adequate protective system designed in accordance with paragraph (b) or (c) of this section except when:

(i) Excavations are made entirely in stable rock; or

(ii) Excavations are less than 5 feet (1.52m) in depth and examination of the ground by a competent person provides no indication of a potential cave-in.

(2) Protective systems shall have the capacity to resist without failure all loads that are intended or could reasonably be expected to be applied or transmitted to the system.

(b) *Design of sloping and benching systems.* The slopes and configurations of sloping and benching systems shall be selected and constructed by the employer or his designee and shall be in accordance with the requirements of paragraph (b)(1); or, in the alternative, paragraph (b)(2); or, in the alternative, paragraph (b)(3), or, in the alternative, paragraph (b)(4), as follows:

(1) *Option (1)—Allowable configurations and slopes.* (i) Excavations shall be sloped at an angle not steeper than one and one-half horizontal to one vertical

(34 degrees measured from the horizontal), unless the employer uses one of the other options listed below.

(ii) Slopes specified in paragraph (b)(1)(i) of this section, shall be excavated to form configurations that are in accordance with the slopes shown for Type C soil in Appendix B to this subpart.

(2) *Option (2)—Determination of slopes and configurations using Appendices A and B.* Maximum allowable slopes, and allowable configurations for sloping and benching systems, shall be determined in accordance with the conditions and requirements set forth in appendices A and B to this subpart.

(3) *Option (3)—Designs using other tabulated data.* (i) Designs of sloping or benching systems shall be selected from and be in accordance with tabulated data, such as tables and charts.

(ii) The tabulated data shall be in written form and shall include all of the following:

(A) Identification of the parameters that affect the selection of a sloping or benching system drawn from such data;

(B) Identification of the limits of use of the data, to include the magnitude and configuration of slopes determined to be safe;

(C) Explanatory information as may be necessary to aid the user in making a correct selection of a protective system from the data.

(iii) At least one copy of the tabulated data which identifies the registered professional engineer who approved the data, shall be maintained at the jobsite during construction of the protective system. After that time the data may be stored off the jobsite, but a copy of the data shall be made available to the Secretary upon request.

(4) *Option (4)—Design by a registered professional engineer.* (i) Sloping and benching systems not utilizing Option (1) or Option (2) or Option (3) under paragraph (b) of this section shall be approved by a registered professional engineer.

(ii) Designs shall be in written form and shall include at least the following:

(A) The magnitude of the slopes that were determined to be safe for the particular project;

(B) The configurations that were determined to be safe for the particular project; and

(C) The identity of the registered professional engineer approving the design.

(iii) At least one copy of the design shall be maintained at the jobsite while the slope is being constructed. After that time the design need not be at the jobsite, but a copy shall be made available to the Secretary upon request.

(c) *Design of support systems, shield systems, and other protective systems.* Designs of support systems shield systems, and other protective systems shall be selected and constructed by the employer or his designee and shall be in accordance with the requirements of paragraph (c)(1); or, in the alternative, paragraph (c)(2); or, in the alternative, paragraph (c)(3); or, in the alternative, paragraph (c)(4) as follows:

(1) *Option (1)—Designs using appendices A, C and D.* Designs for timber shoring in trenches shall be determined in accordance with the conditions and requirements set forth in appendices A and C to this subpart. Designs for aluminum hydraulic shoring shall be in accordance with paragraph (c)(2) of this section, but if manufacturer's tabulated data cannot be utilized, designs shall be in accordance with appendix D.

(2) *Option (2)—Designs Using Manufacturer's Tabulated Data.* (i) Design of support systems, shield systems, or other protective systems that are drawn from manufacturer's tabulated data shall be in accordance with all specifications, recommendations, and limitations issued or made by the manufacturer.

(ii) Deviation from the specifications, recommendations, and limitations issued or made by the manufacturer shall only be allowed after the manufacturer issues specific written approval.

(iii) Manufacturer's specifications, recommendations, and limitations, and manufacturer's approval to deviate from the specifications, recommendations, and limitations shall be in written form at the jobsite during construction of the protective system. After that time this data may be stored off the jobsite, but a copy shall

be made available to the Secretary upon request.

(3) *Option (3)—Designs using other tabulated data.* (i) Designs of support systems, shield systems, or other protective systems shall be selected from and be in accordance with tabulated data, such as tables and charts.

(ii) The tabulated data shall be in written form and include all of the following:

(A) Identification of the parameters that affect the selection of a protective system drawn from such data;

(B) Identification of the limits of use of the data;

(C) Explanatory information as may be necessary to aid the user in making a correct selection of a protective system from the data.

(iii) At least one copy of the tabulated data, which identifies the registered professional engineer who approved the data, shall be maintained at the jobsite during construction of the protective system. After that time the data may be stored off the jobsite, but a copy of the data shall be made available to the Secretary upon request.

(4) *Option (4)—Design by a registered professional engineer.* (i) Support systems, shield systems, and other protective systems not utilizing Option 1, Option 2 or Option 3, above, shall be approved by a registered professional engineer.

(ii) Designs shall be in written form and shall include the following:

(A) A plan indicating the sizes, types, and configurations of the materials to be used in the protective system; and

(B) The identity of the registered professional engineer approving the design.

(iii) At least one copy of the design shall be maintained at the jobsite during construction of the protective system. After that time, the design may be stored off the jobsite, but a copy of the design shall be made available to the Secretary upon request.

(d) *Materials and equipment.* (1) Materials and equipment used for protective systems shall be free from damage or defects that might impair their proper function.

(2) Manufactured materials and equipment used for protective systems shall be used and maintained in a manner that is consistent with the recommendations of the manufacturer, and in a manner that will prevent employee exposure to hazards.

(3) When material or equipment that is used for protective systems is damaged, a competent person shall examine the material or equipment and evaluate its suitability for continued use. If the competent person cannot assure the material or equipment is able to support the intended loads or is otherwise suitable for safe use, then such material or equipment shall be removed from service, and shall be evaluated and approved by a registered professional engineer before being returned to service.

(e) *Installation and removal of support*—(1) *General.* (i) Members of support systems shall be securely connected together to prevent sliding, falling, kickouts, or other predictable failure.

(ii) Support systems shall be installed and removed in a manner that protects employees from cave-ins, structural collapses, or from being struck by members of the support system.

(iii) Individual members of support systems shall not be subjected to loads exceeding those which those members were designed to withstand.

(iv) Before temporary removal of individual members begins, additional precautions shall be taken to ensure the safety of employees, such as installing other structural members to carry the loads imposed on the support system.

(v) Removal shall begin at, and progress from, the bottom of the excavation. Members shall be released slowly so as to note any indication of possible failure of the remaining members of the structure or possible cave-in of the sides of the excavation.

(vi) Backfilling shall progress together with the removal of support systems from excavations.

(2) *Additional requirements for support systems for trench excavations.* (i) Excavation of material to a level no greater than 2 feet (.61 m) below the bottom of the members of a support system shall be permitted, but only if the system is designed to resist the forces calculated for the full depth of the trench, and

there are no indications while the trench is open of a possible loss of soil from behind or below the bottom of the support system.

(ii) Installation of a support system shall be closely coordinated with the excavation of trenches.

(f) *Sloping and benching systems.* Employees shall not be permitted to work on the faces of sloped or benched excavations at levels above other employees except when employees at the lower levels are adequately protected from the hazard of falling, rolling, or sliding material or equipment.

(g) *Shield systems*—(1) *General.* (i) Shield systems shall not be subjected to loads exceeding those which the system was designed to withstand.

(ii) Shields shall be installed in a manner to restrict lateral or other hazardous movement of the shield in the event of the application of sudden lateral loads.

(iii) Employees shall be protected from the hazard of cave-ins when entering or exiting the areas protected by shields.

(iv) Employees shall not be allowed in shields when shields are being installed, removed, or moved vertically.

(2) *Additional requirement for shield systems used in trench excavations.* Excavations of earth material to a level not greater than 2 feet (.61 m) below the bottom of a shield shall be permitted, but only if the shield is designed to resist the forces calculated for the full depth of the trench, and there are no indications while the trench is open of a possible loss of soil from behind or below the bottom of the shield.

APPENDIX A TO SUBPART P OF PART 1926—SOIL CLASSIFICATION

(a) *Scope and application*—(1) *Scope.* This appendix describes a method of classifying soil and rock deposits based on site and environmental conditions, and on the structure and composition of the earth deposits. The appendix contains definitions, sets forth requirements, and describes acceptable visual and manual tests for use in classifying soils.

(2) *Application.* This appendix applies when a sloping or benching system is designed in accordance with the requirements set forth in §1926.652(b)(2) as a method of protection for employees from cave-ins. This appendix also applies when timber shoring for excavations is designed as a method of protection from cave-ins in accordance with appendix C to subpart P of part 1926, and when aluminum hydraulic shoring is designed in accordance with appendix D. This Appendix also applies if other protective systems are designed and selected for use from data prepared in accordance with the requirements set forth in §1926.652(c), and the use of the data is predicated on the use of the soil classification system set forth in this appendix.

(b) *Definitions.* The definitions and examples given below are based on, in whole or in part, the following: American Society for Testing Materials (ASTM) Standards D653–85 and D2488; The Unified Soils Classification System, The U.S. Department of Agriculture (USDA) Textural Classification Scheme; and The National Bureau of Standards Report BSS–121.

Cemented soil means a soil in which the particles are held together by a chemical agent, such as calcium carbonate, such that a hand-size sample cannot be crushed into powder or individual soil particles by finger pressure.

Cohesive soil means clay (fine grained soil), or soil with a high clay content, which has cohesive strength. Cohesive soil does not crumble, can be excavated with vertical sideslopes, and is plastic when moist. Cohesive soil is hard to break up when dry, and exhibits significant cohesion when submerged. Cohesive soils include clayey silt, sandy clay, silty clay, clay and organic clay.

Dry soil means soil that does not exhibit visible signs of moisture content.

Fissured means a soil material that has a tendency to break along definite planes of fracture with little resistance, or a material that exhibits open cracks, such as tension cracks, in an exposed surface.

Granular soil means gravel, sand, or silt, (coarse grained soil) with little or no clay content. Granular soil has no cohesive strength. Some moist granular soils exhibit apparent cohesion. Granular soil cannot be molded when moist and crumbles easily when dry.

Layered system means two or more distinctly different soil or rock types arranged in layers. Micaceous seams or weakened planes in rock or shale are considered layered.

Moist soil means a condition in which a soil looks and feels damp. Moist cohesive soil can easily be shaped into a ball and rolled into small diameter threads before crumbling. Moist granular soil that contains some cohesive material will exhibit signs of cohesion between particles.

Plastic means a property of a soil which allows the soil to be deformed or molded without cracking, or appreciable volume change.

Saturated soil means a soil in which the voids are filled with water. Saturation does not require flow. Saturation, or near saturation, is necessary for the proper use of instruments such as a pocket penetrometer or sheer vane.

Soil classification system means, for the purpose of this subpart, a method of categorizing soil and rock deposits in a hierarchy of Stable Rock, Type A, Type B, and Type C, in decreasing order of stability. The categories are determined based on an analysis of the properties and performance characteristics of the deposits and the environmental conditions of exposure.

Stable rock means natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.

Submerged soil means soil which is underwater or is free seeping.

Type A means cohesive soils with an unconfined compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater. Examples of cohesive soils are: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A. However, no soil is Type A if:

(i) The soil is fissured; or

(ii) The soil is subject to vibration from heavy traffic, pile driving, or similar effects; or

(iii) The soil has been previously disturbed; or

(iv) The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater; or

(v) The material is subject to other factors that would require it to be classified as a less stable material.

Type B means:

(i) Cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa); or

(ii) Granular cohesionless soils including: angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam.

(iii) Previously disturbed soils except those which would otherwise be classed as Type C soil.

(iv) Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration; or

(v) Dry rock that is not stable; or

(vi) Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V), but only if the material would otherwise be classified as Type B.

Type C means:

(i) Cohesive soil with an unconfined compressive strength of 0.5 tsf (48 kPa) or less; or

(ii) Granular soils including gravel, sand, and loamy sand; or

(iii) Submerged soil or soil from which water is freely seeping; or

(iv) Submerged rock that is not stable, or

(v) Material in a sloped, layered system where the layers dip into the excavation or a slope of four horizontal to one vertical (4H:1V) or steeper.

Unconfined compressive strength means the load per unit area at which a soil will fail in compression. It can be determined by laboratory testing, or estimated in the field using a pocket penetrometer, by thumb penetration tests, and other methods.

Wet soil means soil that contains significantly more moisture than moist soil, but in such a range of values that cohesive material will slump or begin to flow when vibrated. Granular material that would exhibit cohesive properties when moist will lose those cohesive properties when wet.

(c) *Requirements*—(1) *Classification of soil and rock deposits.* Each soil and rock deposit shall be classified by a competent person as Stable Rock, Type A, Type B, or Type C in accordance with the definitions set forth in paragraph (b) of this appendix.

(2) *Basis of classification.* The classification of the deposits shall be made based on the results of at least one visual and at least one manual analysis. Such analyses shall be conducted by a competent person using tests described in paragraph (d) below, or in other recognized methods of soil classification and testing such as those adopted by the America Society for Testing Materials, or the U.S. Department of Agriculture textural classification system.

(3) *Visual and manual analyses.* The visual and manual analyses, such as those noted as being acceptable in paragraph (d) of this appendix, shall be designed and conducted to provide sufficient quantitative and qualitative information as may be necessary to identify properly the properties, factors, and conditions affecting the classification of the deposits.

(4) *Layered systems.* In a layered system, the system shall be classified in accordance with its weakest layer. However, each layer may be classified individually where a more stable layer lies under a less stable layer.

(5) *Reclassification.* If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any way, the changes shall be evaluated by a competent person. The deposit shall be reclassified as necessary to reflect the changed circumstances.

(d) *Acceptable visual and manual tests.*—(1) *Visual tests.* Visual analysis is conducted to determine qualitative information regarding the excavation site in general, the soil adjacent to the excavation, the soil forming the sides of the open excavation, and the soil taken as samples from excavated material.

(i) Observe samples of soil that are excavated and soil in the sides of the excavation. Estimate the range of particle sizes and the relative amounts of the particle sizes. Soil that is primarily composed of fine-grained

material is cohesive material. Soil composed primarily of coarse-grained sand or gravel is granular material.

(ii) Observe soil as it is excavated. Soil that remains in clumps when excavated is cohesive. Soil that breaks up easily and does not stay in clumps is granular.

(iii) Observe the side of the opened excavation and the surface area adjacent to the excavation. Crack-like openings such as tension cracks could indicate fissured material. If chunks of soil spall off a vertical side, the soil could be fissured. Small spalls are evidence of moving ground and are indications of potentially hazardous situations.

(iv) Observe the area adjacent to the excavation and the excavation itself for evidence of existing utility and other underground structures, and to identify previously disturbed soil.

(v) Observe the opened side of the excavation to identify layered systems. Examine layered systems to identify if the layers slope toward the excavation. Estimate the degree of slope of the layers.

(vi) Observe the area adjacent to the excavation and the sides of the opened excavation for evidence of surface water, water seeping from the sides of the excavation, or the location of the level of the water table.

(vii) Observe the area adjacent to the excavation and the area within the excavation for sources of vibration that may affect the stability of the excavation face.

(2) *Manual tests.* Manual analysis of soil samples is conducted to determine quantitative as well as qualitative properties of soil and to provide more information in order to classify soil properly.

(i) *Plasticity.* Mold a moist or wet sample of soil into a ball and attempt to roll it into threads as thin as ⅛-inch in diameter. Cohesive material can be successfully rolled into threads without crumbling. For example, if at least a two inch (50 mm) length of ⅛-inch thread can be held on one end without tearing, the soil is cohesive.

(ii) *Dry strength.* If the soil is dry and crumbles on its own or with moderate pressure into individual grains or fine powder, it is granular (any combination of gravel, sand, or silt). If the soil is dry and falls into clumps which break up into smaller clumps, but the smaller clumps can only be broken up with difficulty, it may be clay in any combination with gravel, sand or silt. If the dry soil breaks into clumps which do not break up into small clumps and which can only be broken with difficulty, and there is no visual indication the soil is fissured, the soil may be considered unfissured.

(iii) *Thumb penetration.* The thumb penetration test can be used to estimate the unconfined compressive strength of cohesive soils. (This test is based on the thumb penetration test described in American Society for Testing and Materials (ASTM) Standard designation D2488—"Standard Recommended Practice for Description of Soils (Visual—Manual Procedure).") Type A soils with an unconfined compressive strength of 1.5 tsf can be readily indented by the thumb; however, they can be penetrated by the thumb only with very great effort. Type C soils with an unconfined compressive strength of 0.5 tsf can be easily penetrated several inches by the thumb, and can be molded by light finger pressure. This test should be conducted on an undisturbed soil sample, such as a large clump of spoil, as soon as practicable after excavation to keep to a miminum the effects of exposure to drying influences. If the excavation is later exposed to wetting influences (rain, flooding), the classification of the soil must be changed accordingly.

(iv) *Other strength tests.* Estimates of unconfined compressive strength of soils can also be obtained by use of a pocket penetrometer or by using a hand-operated shearvane.

(v) *Drying test.* The basic purpose of the drying test is to differentiate between cohesive material with fissures, unfissured cohesive material, and granular material. The procedure for the drying test involves drying a sample of soil that is approximately one inch thick (2.54 cm) and six inches (15.24 cm) in diameter until it is thoroughly dry:

(A) If the sample develops cracks as it dries, significant fissures are indicated.

(B) Samples that dry without cracking are to be broken by hand. If considerable force is necessary to break a sample, the soil has significant cohesive material content. The soil can be classified as a unfissured cohesive material and the unconfined compressive strength should be determined.

(C) If a sample breaks easily by hand, it is either a fissured cohesive material or a granular material. To distinguish between the two, pulverize the dried clumps of the sample by hand or by stepping on them. If the clumps do not pulverize easily, the material is cohesive with fissures. If they pulverize easily into very small fragments, the material is granular.

APPENDIX B TO SUBPART P OF PART 1926—SLOPING AND BENCHING

(a) *Scope and application.* This appendix contains specifications for sloping and benching when used as methods of protecting employees working in excavations from cave-ins. The requirements of this appendix apply when the design of sloping and benching protective systems is to be performed in accordance with the requirements set forth in §1926.652(b)(2).

(b) *Definitions.*

Actual slope means the slope to which an excavation face is excavated.

Distress means that the soil is in a condition where a cave-in is imminent or is likely

to occur. Distress is evidenced by such phenomena as the development of fissures in the face of or adjacent to an open excavation; the subsidence of the edge of an excavation; the slumping of material from the face or the bulging or heaving of material from the bottom of an excavation; the spalling of material from the face of an excavation; and ravelling, i.e., small amounts of material such as pebbles or little clumps of material suddenly separating from the face of an excavation and trickling or rolling down into the excavation.

Maximum allowable slope means the steepest incline of an excavation face that is acceptable for the most favorable site conditions as protection against cave-ins, and is expressed as the ratio of horizontal distance to vertical rise (H:V).

Short term exposure means a period of time less than or equal to 24 hours that an excavation is open.

(c) *Requirements*—(1) *Soil classification.* Soil and rock deposits shall be classified in accordance with appendix A to subpart P of part 1926.

(2) *Maximum allowable slope.* The maximum allowable slope for a soil or rock deposit shall be determined from Table B–1 of this appendix.

(3) *Actual slope.* (i) The actual slope shall not be steeper than the maximum allowable slope.

(ii) The actual slope shall be less steep than the maximum allowable slope, when there are signs of distress. If that situation occurs, the slope shall be cut back to an actual slope which is at least ½ horizontal to one vertical (½H:1V) less steep than the maximum allowable slope.

(iii) When surcharge loads from stored material or equipment, operating equipment, or traffic are present, a competent person shall determine the degree to which the actual slope must be reduced below the maximum allowable slope, and shall assure that such reduction is achieved. Surcharge loads from adjacent structures shall be evaluated in accordance with §1926.651(i).

(4) *Configurations.* Configurations of sloping and benching systems shall be in accordance with Figure B–1.

TABLE B-1

MAXIMUM ALLOWABLE SLOPES

SOIL OR ROCK TYPE	MAXIMUM ALLOWABLE SLOPES (H:V)[1] FOR EXCAVATIONS LESS THAN 20 FEET DEEP [3]
STABLE ROCK TYPE A [2] TYPE B TYPE C	VERTICAL (90°) 3/4 : 1 (53°) 1:1 (45°) 1½: 1 (34°)

NOTES:

1. Numbers shown in parentheses next to maximum allowable slopes are angles expressed in degrees from the horizontal. Angles have been rounded off.
2. A short-term maximum allowable slope of 1/2H:1V (63°) is allowed in excavations in Type A soil that are 12 feet (3.67 m) or less in depth. Short-term maximum allowable slopes for excavations greater than 12 feet (3.67 m) in depth shall be 3/4H:1V (53°).
3. Sloping or benching for excavations greater than 20 feet deep shall be designed by a registered professional engineer.

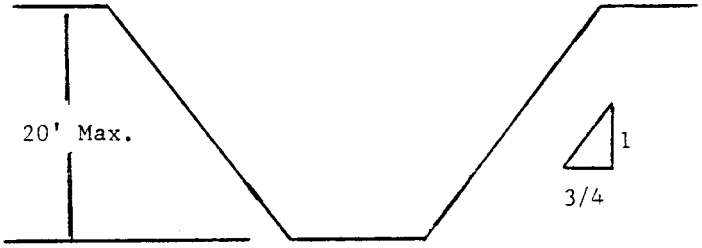
Figure B–1

Slope Configurations

(All slopes stated below are in the horizontal to vertical ratio)

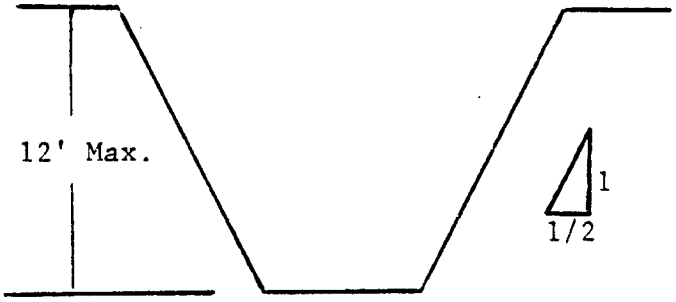
B–1.1 Excavations made in Type A soil.

1. All simple slope excavation 20 feet or less in depth shall have a maximum allowable slope of ¾:1.



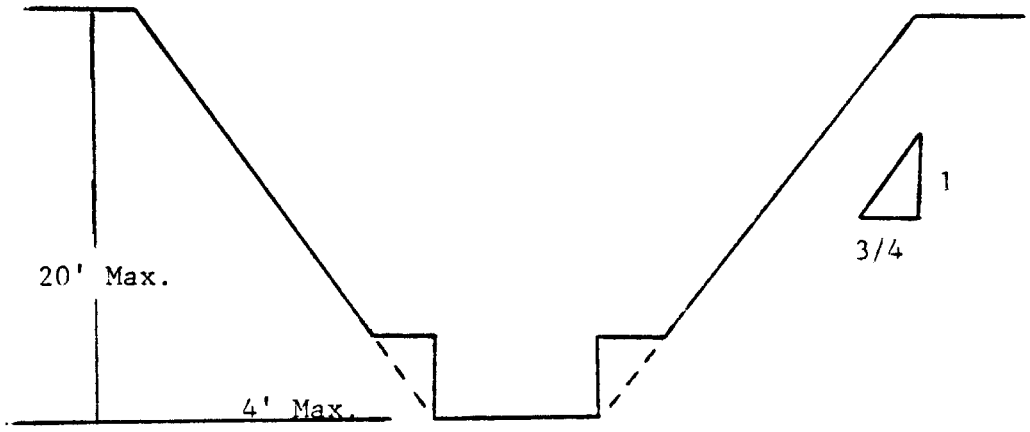
SIMPLE SLOPE—GENERAL

Exception: Simple slope excavations which are open 24 hours or less (short term) and which are 12 feet or less in depth shall have a maximum allowable slope of ½:1.

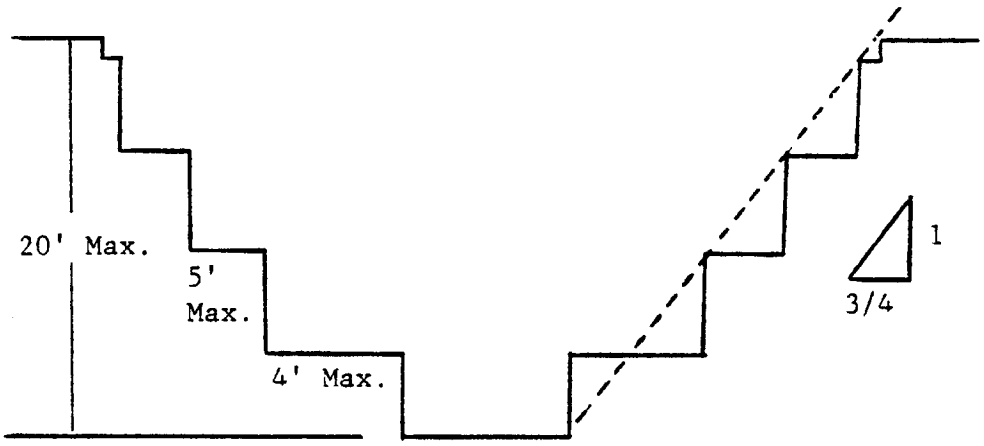


SIMPLE SLOPE—SHORT TERM

2. All benched excavations 20 feet or less in depth shall have a maximum allowable slope of ¾ to 1 and maximum bench dimensions as follows:

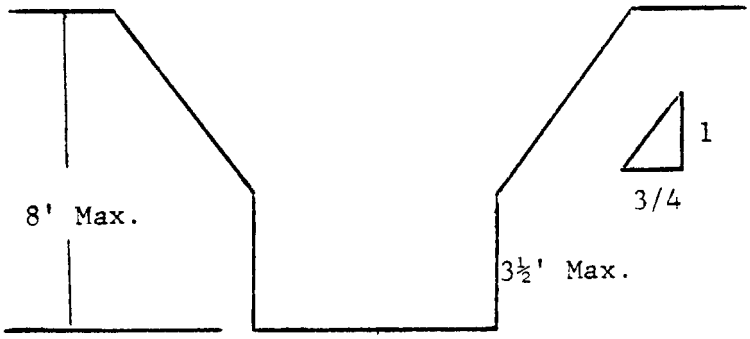


SIMPLE BENCH



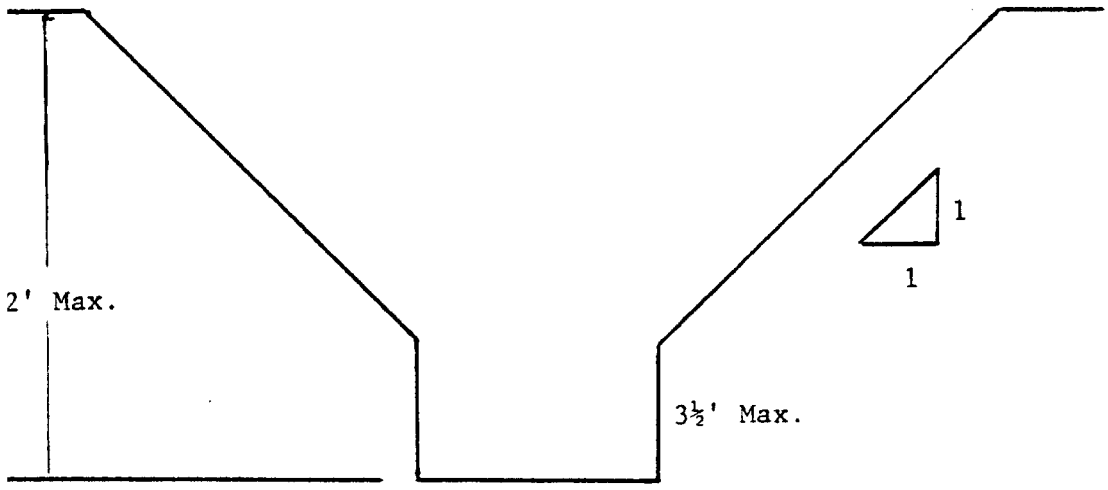
MULTIPLE BENCH

3. All excavations 8 feet or less in depth which have unsupported vertically sided lower portions shall have a maximum vertical side of 3½ feet.



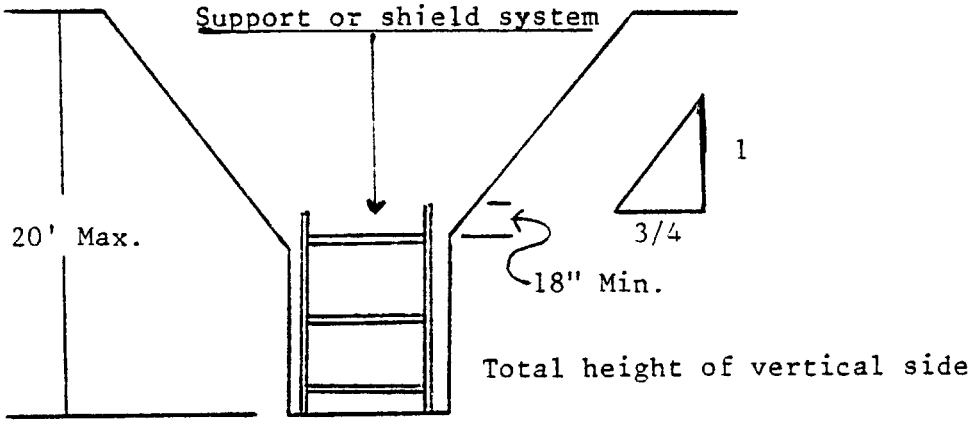
UNSUPPORTED VERTICALLY SIDED LOWER PORTION—MAXIMUM 8 FEET IN DEPTH

All excavations more than 8 feet but not more than 12 feet in depth which unsupported vertically sided lower portions shall have a maximum allowable slope of 1:1 and a maximum vertical side of 3½ feet.



UNSUPPORTED VERTICALLY SIDED LOWER PORTION—MAXIMUM 12 FEET IN DEPTH

All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded shall have a maximum allowable slope of ¾:1. The support or shield system must extend at least 18 inches above the top of the vertical side.

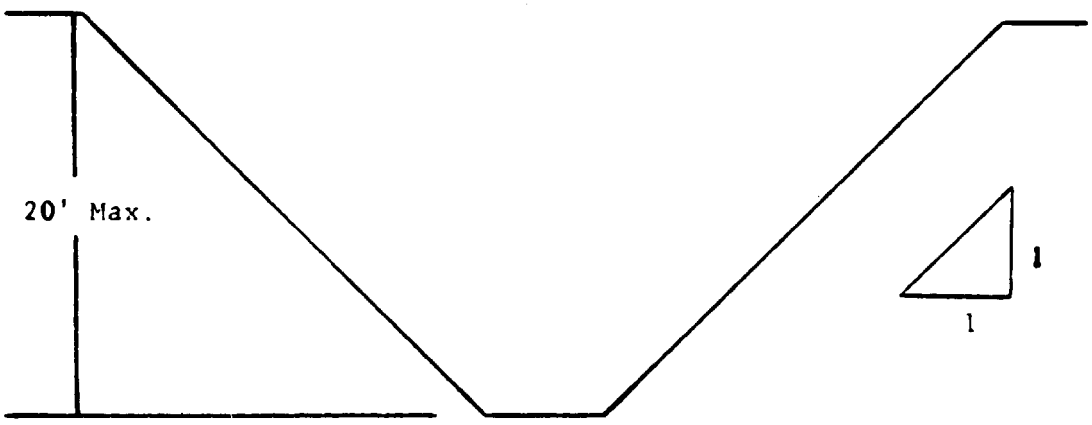


SUPPORTED OR SHIELDED VERTICALLY SIDED LOWER PORTION

4. All other simple slope, compound slope, and vertically sided lower portion excavations shall be in accordance with the other options permitted under §1926.652(b).

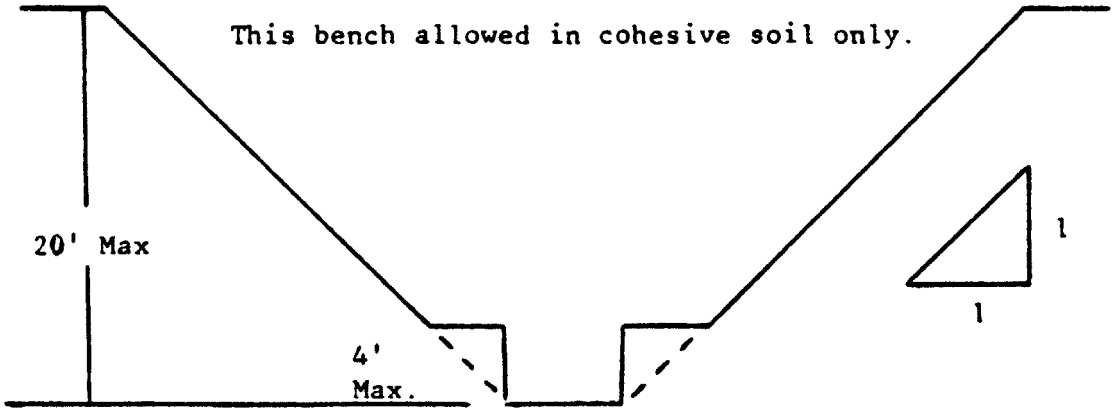
B–1.2 Excavations Made in Type B Soil

1. All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1.

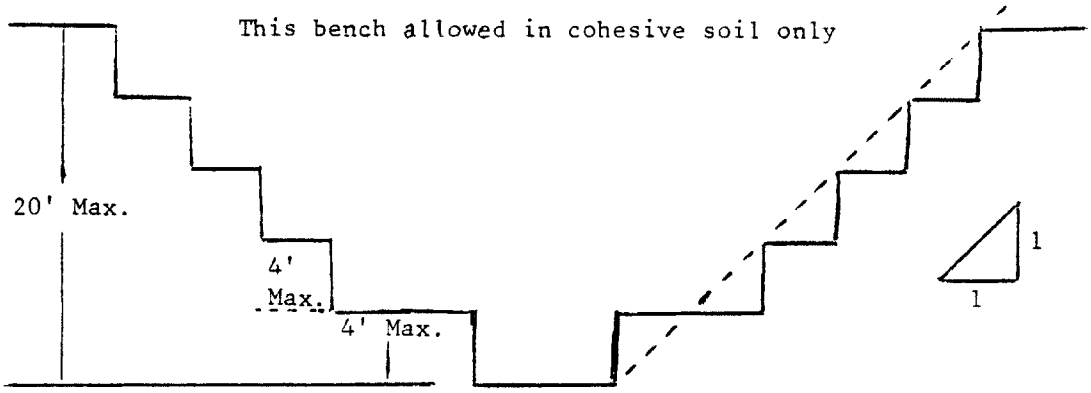


SIMPLE SLOPE

2. All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1 and maximum bench dimensions as follows:

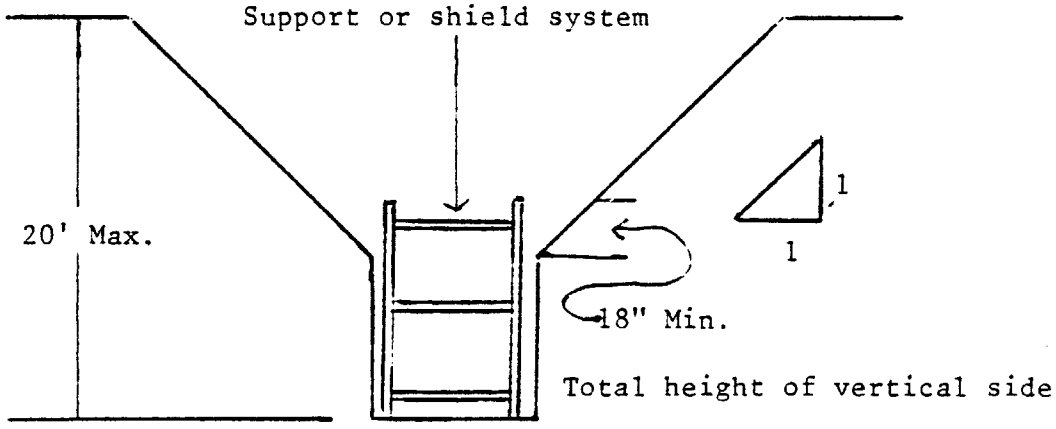


SINGLE BENCH



MULTIPLE BENCH

3. All excavations 20 feet or less in depth which have vertically sided lower portions shall be shielded or supported to a height at least 18 inches above the top of the vertical side. All such excavations shall have a maximum allowable slope of 1:1.

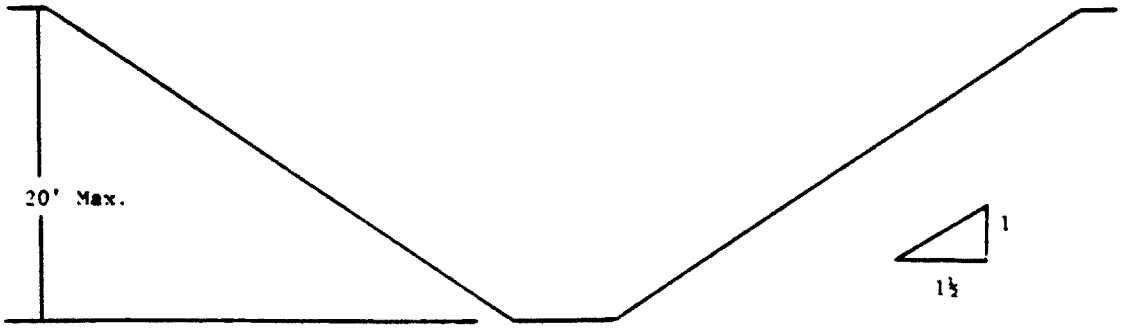


VERTICALLY SIDED LOWER PORTION

4. All other sloped excavations shall be in accordance with the other options permitted in §1926.652(b).

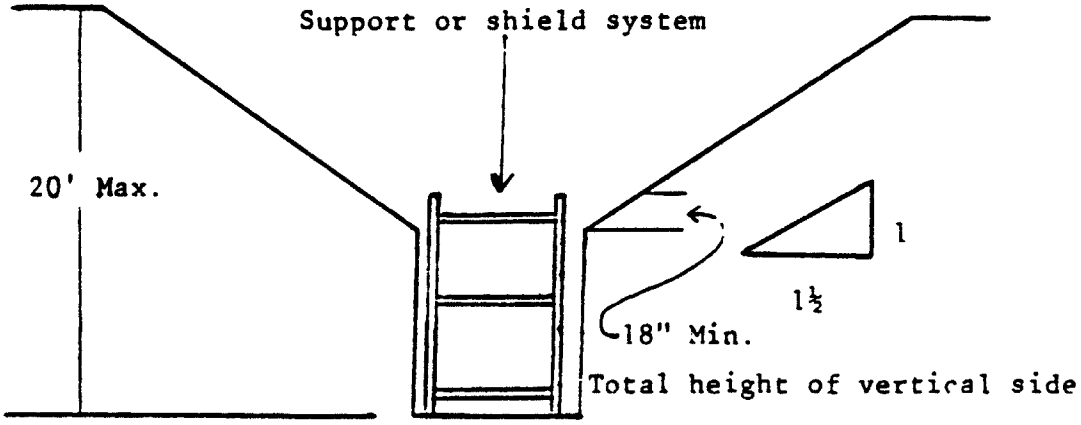
B–1.3 EXCAVATIONS MADE IN TYPE C SOIL

1. All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1½:1.



SIMPLE SLOPE

2. All excavations 20 feet or less in depth which have vertically sided lower portions shall be shielded or supported to a height at least 18 inches above the top of the vertical side. All such excavations shall have a maximum allowable slope of 1½:1.

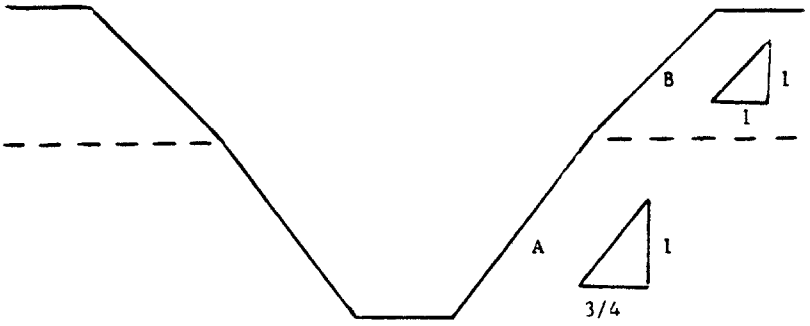


VERTICAL SIDED LOWER PORTION

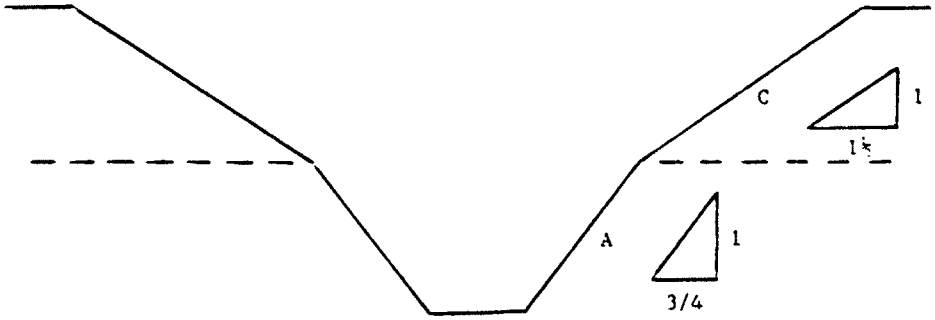
3. All other sloped excavations shall be in accordance with the other options permitted in §1926.652(b).

B–1.4 Excavations Made in Layered Soils

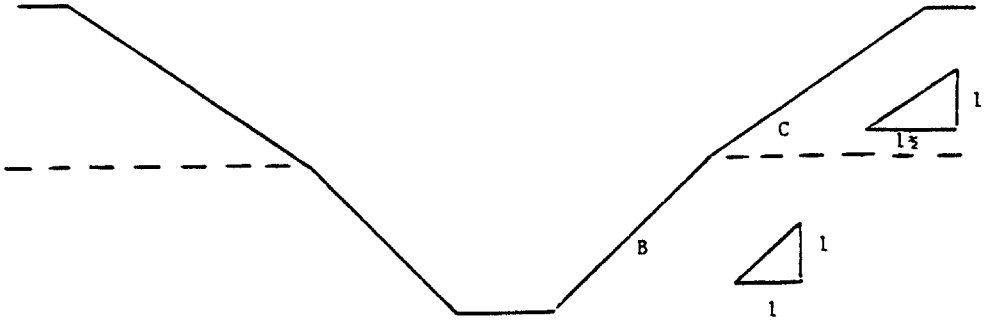
1. All excavations 20 feet or less in depth made in layered soils shall have a maximum allowable slope for each layer as set forth below.



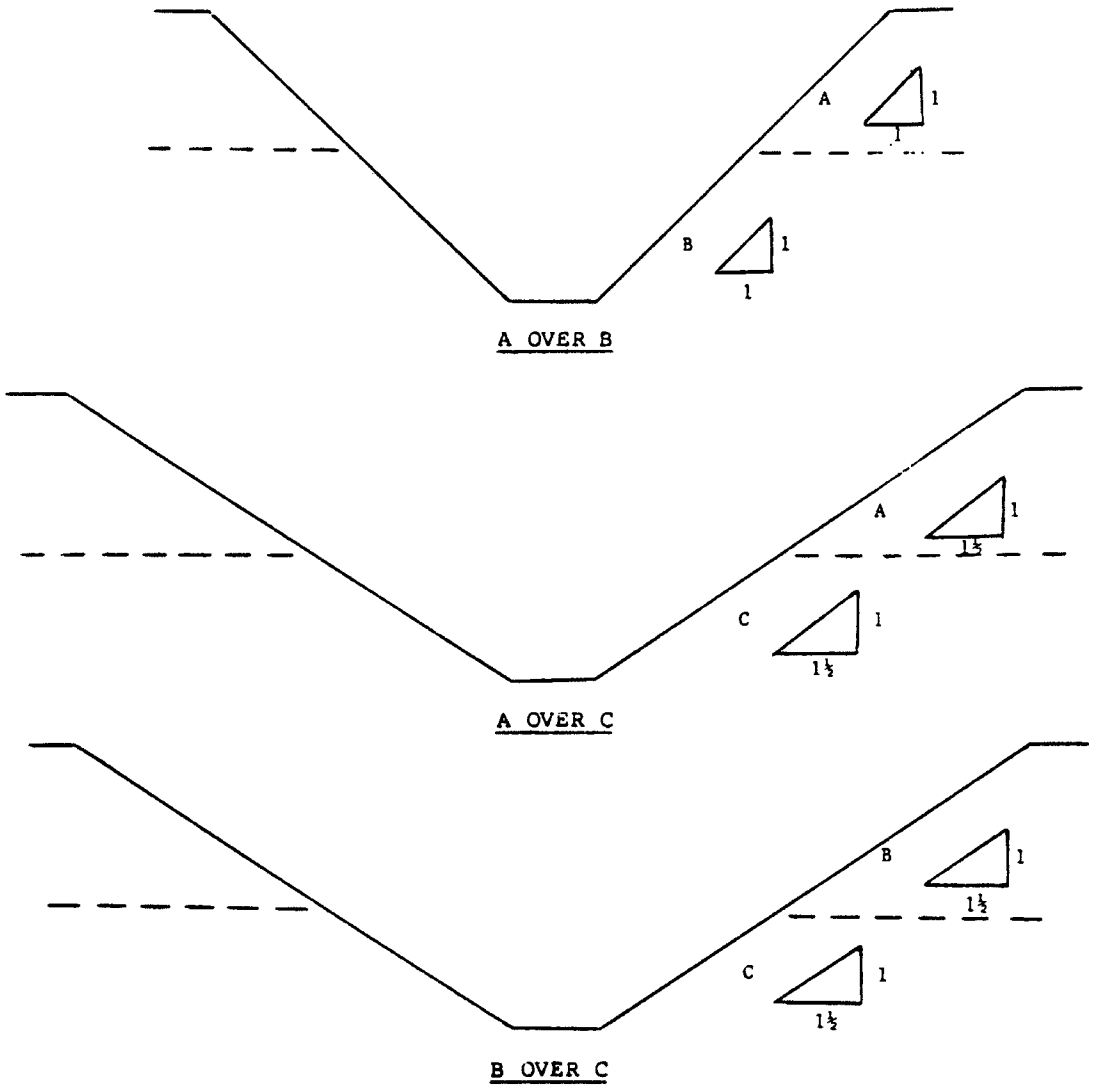
B OVER A



C OVER A



C OVER B



2. All other sloped excavations shall be in accordance with the other options permitted in §1926.652(b).

APPENDIX C TO SUBPART P OF PART 1926—TIMBER SHORING FOR TRENCHES

(a) *Scope.* This appendix contains information that can be used timber shoring is provided as a method of protection from cave-ins in trenches that do not exceed 20 feet (6.1 m) in depth. This appendix must be used when design of timber shoring protective systems is to be performed in accordance with §1926.652(c)(1). Other timber shoring configurations; other systems of support such as hydraulic and pneumatic systems; and other protective systems such as sloping, benching, shielding, and freezing systems must be designed in accordance with the requirements set forth in §1926.652(b) and §1926.652(c).

(b) *Soil Classification.* In order to use the data presented in this appendix, the soil type or types in which the excavation is made must first be determined using the soil classification method set forth in appendix A of subpart P of this part.

(c) *Presentation of Information.* Information is presented in several forms as follows:

(1) Information is presented in tabular form in Tables C–1.1, C–1.2, and C–1.3, and Tables C–2.1, C–2.2 and C–2.3 following paragraph (g) of the appendix. Each table presents the minimum sizes of timber members to use in a shoring system, and each table contains data only for the particular soil type in which the excavation or portion of

the excavation is made. The data are arranged to allow the user the flexibility to select from among several acceptable configurations of members based on varying the horizontal spacing of the crossbraces. Stable rock is exempt from shoring requirements and therefore, no data are presented for this condition.

(2) Information concerning the basis of the tabular data and the limitations of the data is presented in paragraph (d) of this appendix, and on the tables themselves.

(3) Information explaining the use of the tabular data is presented in paragraph (e) of this appendix.

(4) Information illustrating the use of the tabular data is presented in paragraph (f) of this appendix.

(5) Miscellaneous notations regarding Tables C–1.1 through C–1.3 and Tables C–2.1 through C–2.3 are presented in paragraph (g) of this Appendix.

(d) *Basis and limitations of the data.*—(1) *Dimensions of timber members.* (i) The sizes of the timber members listed in Tables C–1.1 through C–1.3 are taken from the National Bureau of Standards (NBS) report, "Recommended Technical Provisions for Construction Practice in Shoring and Sloping of Trenches and Excavations." In addition, where NBS did not recommend specific sizes of members, member sizes are based on an analysis of the sizes required for use by existing codes and on empirical practice.

(ii) The required dimensions of the members listed in Tables C–1.1 through C–1.3 refer to actual dimensions and not nominal dimensions of the timber. Employers wanting to use nominal size shoring are directed to Tables C–2.1 through C–2.3, or have this choice under §1926.652(c)(3), and are referred to The Corps of Engineers, The Bureau of Reclamation or data from other acceptable sources.

(2) *Limitation of application.* (i) It is not intended that the timber shoring specification apply to every situation that may be experienced in the field. These data were developed to apply to the situations that are most commonly experienced in current trenching practice. Shoring systems for use in situations that are not covered by the data in this appendix must be designed as specified in §1926.652(c).

(ii) When any of the following conditions are present, the members specified in the tables are not considered adequate. Either an alternate timber shoring system must be designed or another type of protective system designed in accordance with §1926.652.

(A) When loads imposed by structures or by stored material adjacent to the trench weigh in excess of the load imposed by a two-foot soil surcharge. The term "adjacent" as used here means the area within a horizontal distance from the edge of the trench equal to the depth of the trench.

(B) When vertical loads imposed on cross braces exceed a 240-pound gravity load distributed on a one-foot section of the center of the crossbrace.

(C) When surcharge loads are present from equipment weighing in excess of 20,000 pounds.

(D) When only the lower portion of a trench is shored and the remaining portion of the trench is sloped or benched unless: The sloped portion is sloped at an angle less steep than three horizontal to one vertical; or the members are selected from the tables for use at a depth which is determined from the top of the overall trench, and not from the toe of the sloped portion.

(e) *Use of Tables.* The members of the shoring system that are to be selected using this information are the cross braces, the uprights, and the wales, where wales are required. Minimum sizes of members are specified for use in different types of soil. There are six tables of information, two for each soil type. The soil type must first be determined in accordance with the soil classification system described in appendix A to subpart P of part 1926. Using the appropriate table, the selection of the size and spacing of the members is then made. The selection is based on the depth and width of the trench where the members are to be installed and, in most instances, the selection is also based on the horizontal spacing of the crossbraces. Instances where a choice of horizontal spacing of crossbracing is available, the horizontal spacing of the crossbraces must be chosen by the user before the size of any member can be determined. When the soil type, the width and depth of the trench, and the horizontal spacing of the crossbraces are known, the size and vertical spacing of the crossbraces, the size and vertical spacing of the wales, and the size and horizontal spacing of the uprights can be read from the appropriate table.

(f) *Examples to Illustrate the Use of Tables C–1.1 through C–1.3.*

(1) *Example 1.*

A trench dug in Type A soil is 13 feet deep and five feet wide.

From *Table C–1.1,* for acceptable arrangements of timber can be used.

Arrangement #B1

Space 4×4 crossbraces at six feet horizontally and four feet vertically.

Wales are not required.

Space 3×8 uprights at six feet horizontally. This arrangement is commonly called "skip shoring."

Arrangement #B2

Space 4×6 crossbraces at eight feet horizontally and four feet vertically.

Space 8×8 wales at four feet vertically.

Space 2×6 uprights at four feet horizontally.

Arrangement #B3

Space 6×6 crossbraces at 10 feet horizontally and four feet vertically.
Space 8×10 wales at four feet vertically.
Space 2×6 uprights at five feet horizontally.

Arrangement #B4

Space 6×6 crossbraces at 12 feet horizontally and four feet vertically.
Space 10×10 wales at four feet vertically.
Spaces 3×8 uprights at six feet horizontally.

(2) *Example 2.*

A trench dug in Type B soil in 13 feet deep and five feet wide. From Table C–1.2 three acceptable arrangements of members are listed.

Arrangement #B1

Space 6×6 crossbraces at six feet horizontally and five feet vertically.
Space 8×8 wales at five feet vertically.
Space 2×6 uprights at two feet horizontally.

Arrangement #B2

Space 6×8 crossbraces at eight feet horizontally and five feet vertically.
Space 10×10 wales at five feet vertically.
Space 2×6 uprights at two feet horizontally.

Arrangement #B3

Space 8×8 crossbraces at 10 feet horizontally and five feet vertically.
Space 10×12 wales at five feet vertically.
Space 2×6 uprights at two feet vertically.

(3) *Example 3.*

A trench dug in Type C soil is 13 feet deep and five feet wide.

From Table C–1.3 two acceptable arrangements of members can be used.

Arrangement #B1

Space 8×8 crossbraces at six feet horizontally and five feet vertically.
Space 10×12 wales at five feet vertically.
Position 2×6 uprights as closely together as possible.

If water must be retained use special tongue and groove uprights to form tight sheeting.

Arrangement #B2

Space 8×10 crossbraces at eight feet horizontally and five feet vertically.
Space 12×12 wales at five feet vertically.
Position 2×6 uprights in a close sheeting configuration unless water pressure must be resisted. Tight sheeting must be used where water must be retained.

(4) *Example 4.*

A trench dug in Type C soil is 20 feet deep and 11 feet wide. The size and spacing of members for the section of trench that is over 15 feet in depth is determined using Table C–1.3. Only one arrangement of members is provided.

Space 8×10 crossbraces at six feet horizontally and five feet vertically.
Space 12×12 wales at five feet vertically.
Use 3×6 tight sheeting.

Use of Tables C–2.1 through C–2.3 would follow the same procedures.

(g) *Notes for all Tables.*

1. Member sizes at spacings other than indicated are to be determined as specified in §1926.652(c), "Design of Protective Systems."

2. When conditions are saturated or submerged use Tight Sheeting. Tight Sheeting refers to the use of specially-edged timber planks (e.g., tongue and groove) at least three inches thick, steel sheet piling, or similar construction that when driven or placed in position provide a tight wall to resist the lateral pressure of water and to prevent the loss of backfill material. Close Sheeting refers to the placement of planks side-by-side allowing as little space as possible between them.

3. All spacing indicated is measured center to center.

4. Wales to be installed with greater dimension horizontal.

5. If the vertical distance from the center of the lowest crossbrace to the bottom of the trench exceeds two and one-half feet, uprights shall be firmly embedded or a mudsill shall be used. Where uprights are embedded, the vertical distance from the center of the lowest crossbrace to the bottom of the trench shall not exceed 36 inches. When mudsills are used, the vertical distance shall not exceed 42 inches. Mudsills are wales that are installed at the toe of the trench side.

6. Trench jacks may be used in lieu of or in combination with timber crossbraces.

7. Placement cf crossbraces. When the vertical spacing of crossbraces is four feet, place the top crossbrace no more than two feet below the top of the trench. When the vertical spacing of crossbraces is five feet, place the top crossbrace no more than 2.5 feet below the top of the trench.

TABLE C-1.1

TIMBER TRENCH SHORING -- MINIMUM TIMBER REQUIREMENTS *

SOIL TYPE A P_a = 25 X H + 72 psf (2 ft Surcharge)

DEPTH OF TRENCH (FEET)	SIZE (ACTUAL) AND SPACING OF MEMBERS **													
	CROSS BRACES						WALES		UPRIGHTS					
	HORIZ. SPACING (FEET)	WIDTH OF TRENCH (FEET)					VERT. SPACING (FEET)	SIZE (IN)	VERT. SPACING (FEET)	MAXIMUM ALLOWABLE HORIZONTAL SPACING (FEET)				
		UP TO 4	UP TO 6	UP TO 9	UP TO 12	UP TO 15				CLOSE	4	5	6	8
5 TO 10	UP TO 6	4X4	4X4	4X6	6X6	6X6	4	Not Req'd	---				2X6	
	UP TO 8	4X4	4X4	4X6	6X6	6X6	4	Not Req'd	---					2X8
	UP TO 10	4X6	4X6	4X6	6X6	6X6	4	8X8	4			2X6		
	UP TO 12	4X6	4X6	6X6	6X6	6X6	4	8X8	4				2X6	
10 TO 15	UP TO 6	4X4	4X4	4X6	6X6	6X6	4	Not Req'd	---				3X8	
	UP TO 8	4X6	4X6	6X6	6X6	6X6	4	8X8	4		2X6			
	UP TO 10	6X6	6X5	6X6	6X8	6X8	4	8X10	4			2X6		
	UP TO 12	6X6	6X6	6X6	6X8	6X8	4	10X10	4				3X8	
15 TO 20	UP TO 6	6X6	6X6	6X6	6X8	6X8	4	6X8	4	3X6				
	UP TO 8	6X6	6X6	6X6	6X8	6X8	4	8X8	4	3X6				
	UP TO 10	8X8	8X8	8X8	8X8	8X10	4	8X10	4	3X6				
	UP TO 12	8X8	8X8	8X8	8X8	8X10	4	10X10	4	3X6				
OVER 20	SEE NOTE 1													

* Mixed oak or equivalent with a bending strength not less than 850 psi.
** Manufactured members of equivalent strength may by substituted for wood.

TABLE C-1.2

TIMBER TRENCH SHORING -- MINIMUM TIMBER REQUIREMENTS *

SOIL TYPE B $P_a = 45 \times H + 72$ psf (2 ft. Surcharge)

DEPTH OF TRENCH (FEET)	SIZE (ACTUAL) AND SPACING OF MEMBERS**													
	CROSS BRACES						WALES		UPRIGHTS					
	HORIZ. SPACING (FEET)	WIDTH OF TRENCH (FEET)					VERT. SPACING (FEET)	SIZE (IN)	VERT. SPACING (FEET)	MAXIMUM ALLOWABLE HORIZONTAL SPACING (FEET)				
		UP TO 4	UP TO 6	UP TO 9	UP TO 12	UP TO 15				CLOSE	2	3		
5 TO 10	UP TO 6	4X6	4X6	6X6	6X6	6X6	5	6X8	5			2X6		
	UP TO 8	6X6	6X6	6X6	6X8	6X8	5	8X10	5			2X6		
	UP TO 10	6X6	6X6	6X6	6X8	6X8	5	10X10	5			2X6		
	See Note 1													
10 TO 15	UP TO 6	6X6	6X6	6X6	6X8	6X8	5	8X8	5		2X6			
	UP TO 8	6X8	6X8	6X8	8X8	8X8	5	10X10	5		2X6			
	UP TO 10	8X8	8X8	8X8	8X8	8X10	5	10X12	5		2X6			
	See Note 1													
15 TO 20	UP TO 6	6X8	6X8	6X8	8X8	8X8	5	8X10	5	3X6				
	UP TO 8	8X8	8X8	8X8	8X8	8X10	5	10X12	5	3X6				
	UP TO 10	8X10	8X10	8X10	8X10	10X10	5	12X12	5	3X6				
	See Note 1													
OVER 20	SEE NOTE 1													

* Mixed oak or equivalent with a bending strength not less than 850 psi.
** Manufactured members of equivalent strength may by substituted for wood.

TABLE C-1.3

TIMBER TRENCH SHORING -- MINIMUM TIMBER REQUIREMENTS *

SOIL TYPE C P_a = 80 X H + 72 psf (2 ft. Surcharge)

DEPTH OF TRENCH (FEET)	SIZE (ACTUAL) AND SPACING OF MEMBERS**												
	CROSS BRACES								UPRIGHTS				
	HORIZ. SPACING (FEET)	WIDTH OF TRENCH (FEET)					VERT. SPACING (FEET)	SIZE (IN.)	VERT. SPACING (FEET)	MAXIMUM ALLOWABLE HORIZONTAL SPACING (FEET) (See Note 2)			
		UP TO 4	UP TO 6	UP TO 9	UP TO 12	UP TO 15				CLOSE			
5 TO 10	UP TO 6	6X8	6X8	6X8	8X8	8X8	5	8X10	5	2X6			
	UP TO 8	8X8	8X8	8X8	8X8	8X10	5	10X12	5	2X6			
	UP TO 10	8X10	8X10	8X10	8X10	10X10	5	12X12	5	2X6			
	See Note 1												
10 TO 15	UP TO 6	8X8	8X8	8X8	8X8	8X10	5	10X12	5	2X6			
	UP TO 8	8X10	8X10	8X10	8X10	10X10	5	12X12	5	2X6			
	See Note 1												
	See Note 1												
15 TO 20	UP TO 6	8X10	8X10	8X10	8X10	10X10	5	12X12	5	3X6			
	See Note 1												
	See Note 1												
	See Note 1												
OVER 20	SEE NOTE 1												

* Mixed Oak or equivalent with a bending strength not less than 850 psi.
** Manufactured members of equivalent strength may be substituted for wood.

TABLE C-2.1

TIMBER TRENCH SHORING -- MINIMUM TIMBER REQUIREMENTS *

SOIL TYPE A P_a = 25 X H ± 72 psf (2 ft. Surcharge)

DEPTH OF TRENCH (FEET)	SIZE (S4S) AND SPACING OF MEMBERS **													
	CROSS BRACES							WALES		UPRIGHTS				
	HORIZ. SPACING (FEET)	WIDTH OF TRENCH (FEET)					VERT. SPACING (FEET)	SIZE (IN.)	VERT. SPACING (FEET)	MAXIMUM ALLOWABLE HORIZONTAL SPACING (FEET)				
		UP TO 4	UP TO 6	UP TO 9	UP TO 12	UP TO 15				CLOSE	4	5	6	8
5 TO 10	UP TO 6	4X4	4X4	4X4	4X4	4X6	4	Not Req'd	Not Req'd				4X6	
	UP TO 8	4X4	4X4	4X4	4X6	4X6	4	Not Req'd	Not Req'd					4X8
	UP TO 10	4X6	4X6	4X6	6X6	6X6	4	8X8	4			4X6		
	UP TO 12	4X6	4X6	4X6	6X6	6X6	4	8X8	4				4X6	
10 TO 15	UP TO 6	4X4	4X4	4X4	6X6	6X6	4	Not Req'd	Not Req'd				4X10	
	UP TO 8	4X6	4X6	4X6	6X6	6X6	4	6X8	4		4X6			
	UP TO 10	6X6	6X6	6X6	6X6	6X6	4	8X8	4			4X8		
	UP TO 12	6X6	6X6	6X6	6X6	6X6	4	8X10	4		4X6		4X10	
15 TO 20	UP TO 6	6X6	6X6	6X6	6X6	6X6	4	6X8	4	3X6				
	UP TO 8	6X6	6X6	6X6	6X6	6X6	4	8X8	4	3X6	4X12			
	UP TO 10	6X6	6X6	6X6	6X6	6X8	4	8X10	4	3X6				
	UP TO 12	6X6	6X6	6X6	6X8	6X8	4	8X12	4	3X6	4X12			
OVER 20	SEE NOTE 1													

* Douglas fir or equivalent with a bending strength not less than 1500 psi.

** Manufactured members of equivalent strength may be substituted for wood.

TABLE C-2.2

TIMBER TRENCH SHORING -- MINIMUM TIMBER REQUIREMENTS *

SOIL TYPE B P_a = 45 X H + 72 psf (2 ft. Surcharge)

DEPTH OF TRENCH (FEET)	SIZE (S4S) AND SPACING OF MEMBERS **												
	CROSS BRACES						WALES		UPRIGHTS				
	HORIZ. SPACING (FEET)	WIDTH OF TRENCH (FEET)				VERT. SPACING (FEET)	SIZE (IN.)	VERT. SPACING (FEET)	MAXIMUM ALLOWABLE HORIZONTAL SPACING (FEET)				
		UP TO 4	UP TO 6	UP TO 9	UP TO 12	UP TO 15			CLOSE	2	3	4	6
5 TO 10	UP TO 6	4X6	4X6	4X6	6X6	6X6	5	6X8	5			3X12 4X8		4X12
	UP TO 8	4X6	4X6	6X6	6X6	6X6	5	8X8	5		3X8		4X8	
	UP TO 10	4X6	4X6	6X6	6X6	6X8	5	8X10	5			4X8		
	See Note 1													
10 TO 15	UP TO 6	6X6	6X6	6X6	6X8	6X8	5	8X8	5	3X6	4X10			
	UP TO 8	6X8	6X8	6X8	8X8	8X8	5	10X10	5	3X6	4X10			
	UP TO 10	6X8	6X8	8X8	8X8	8X8	5	10X12	5	3X6	4X10			
	See Note 1													
15 TO 20	UP TO 6	6X8	6X8	6X8	6X8	8X8	5	8X10	5	4X6				
	UP TO 8	6X8	6X8	6X8	8X8	8X8	5	10X12	5	4X6				
	UP TO 10	8X8	8X8	8X8	8X8	8X8	5	12X12	5	4X6				
	See Note 1													
OVER 20	SEE NOTE 1													

* Douglas fir or equivalent with a bending strength not less than 1500 psi.

** Manufactured members of equivalent strength may be substituted for wood.

TABLE C-2.3

TIMBER TRENCH SHORING -- MINIMUM TIMBER REQUIREMENTS *

SOIL TYPE C P_a = 80 X H + 72 psf (2 ft. Surcharge)

DEPTH OF TRENCH (FEET)	SIZE (S4S) AND SPACING OF MEMBERS **													
	CROSS BRACES						WALES		UPRIGHTS		MAXIMUM ALLOWABLE HORIZONTAL SPACING (FEET)			
	HORIZ. SPACING (FEET)	WIDTH OF TRENCH (FEET)					VERT. SPACING (FEET)	SIZE (IN)	VERT. SPACING (FEET)	CLOSE				
		UP TO 4	UP TO 6	UP TO 9	UP TO 12	UP TO 15								
5 TO 10	UP TO 6	6X6	6X6	6X6	6X6	8X8	5	8X8	5	3X6				
	UP TO 8	6X6	6X6	6X6	8X8	8X8	5	10X10	5	3X6				
	UP TO 10	6X6	6X6	8X8	8X8	8X8	5	10X12	5	3X6				
	See Note 1													
10 TO 15	UP TO 6	6X8	6X8	8X8	8X8	8X8	5	10X10	5	4X6				
	UP TO 8	8X8	8X8	8X8	8X8	8X8	5	12X12	5	4X6				
	See Note 1													
	See Note 1													
15 TO 20	UP TO 6	8X8	8X8	8X8	8X10	8X10	5	10X12	5	4X6				
	See Note 1													
	See Note 1													
	See Note 1													
OVER 20	SEE NOTE 1													

* Douglas fir or equivalent with a bending strength not less than 1500 psi.
** Manufactured members of equivalent strength may be substituted for wood.

APPENDIX D TO SUBPART P OF PART 1926—ALUMINUM HYDRAULIC SHORING FOR TRENCHES

(a) *Scope.* This appendix contains information that can be used when aluminum hydraulic shoring is provided as a method of protection against cave-ins in trenches that do not exceed 20 feet (6.1m) in depth. This appendix must be used when design of the aluminum hydraulic protective system cannot be performed in accordance with §1926.652(c)(2).

(b) *Soil Classification.* In order to use data presented in this appendix, the soi1 type or types in which the excavation is made must

first be determined using the soil classification method set forth in appendix A of subpart P of part 1926.

(c) *Presentation of Information.* Information is presented in several forms as follows:

(1) Information is presented in tabular form in Tables D–1.1, D–1.2, D–1.3 and E–1.4. Each table presents the maximum vertical and horizontal spacings that may be used with various aluminum member sizes and various hydraulic cylinder sizes. Each table contains data only for the particular soil type in which the excavation or portion of the excavation is made. Tables D–1.1 and D–1.2 are for vertical shores in Types A and B soil. Tables D–1.3 and D1.4 are for horizontal waler systems in Types B and C soil.

(2) Information concerning the basis of the tabular data and the limitations of the data is presented in paragraph (d) of this appendix.

(3) Information explaining the use of the tabular data is presented in paragraph (e) of this appendix.

(4) Information illustrating the use of the tabular data is presented in paragraph (f) of this appendix.

(5) Miscellaneous notations (footnotes) regarding Table D–1.1 through D–1.4 are presented in paragraph (g) of this appendix.

(6) Figures, illustrating typical installations of hydraulic shoring, are included just prior to the Tables. The illustrations page is entitled "Aluminum Hydraulic Shoring; Typical Installations."

(d) *Basis and limitations of the data.*

(1) Vertical shore rails and horizontal wales are those that meet the Section Modulus requirements in the D–1 Tables. Aluminum material is 6061–T6 or material of equivalent strength and properties.

(2) Hydraulic cylinders specifications. (i) 2-inch cylinders shall be a minimum 2-inch inside diameter with a minimum safe working capacity of no less than 18,000 pounds axial compressive load at maximum extension. Maximum extension is to include full range of cylinder extensions as recommended by product manufaturer.

(ii) 3-inch cylinders shall be a minimum 3-inch inside diameter with a safe working capacity of not less than 30,000 pounds axial compressive load at extensions as recommended by product manufacturer.

(3) Limitation of application.

(i) It is not intended that the aluminum hydraulic specification apply to every situation that may be experienced in the field. These data were developed to apply to the situations that are most commonly experienced in current trenching practice. Shoring systems for use in situations that are not covered by the data in this appendix must be otherwise designed as specified in §1926.652(c).

(ii) When any of the following conditions are present, the members specified in the Tables are not considered adequate. In this case, an alternative aluminum hydraulic shoring system or other type of protective system must be designed in accordance with §1926.652.

(A) When vertical loads imposed on cross braces exceed a 100 Pound gravity load distributed on a one foot section of the center of the hydraulic cylinder.

(B) When surcharge loads are present from equipment weighing in excess of 20,000 pounds.

(C) When only the lower portion or a trench is shored and the remaining portion of the trench is sloped or benched unless: The sloped portion is sloped at an angle less steep than three horizontal to one vertical; or the members are selected from the tables for use at a depth which is determined from the top of the overall trench, and not from the toe of the sloped portion.

(e) *Use of Tables D–1.1, D–1.2, D–1.3 and D–1.4.* The members of the shoring system that are to be selected using this information are the hydraulic cylinders, and either the vertical shores or the horizontal wales. When a waler system is used the vertical timber sheeting to be used is also selected from these tables. The Tables D–1.1 and D–1.2 for vertical shores are used in Type A and B soils that do not require sheeting. Type B soils that may require sheeting, and Type C soils that always require sheeting are found in the horizontal wale Tables D–1.3 and D–1.4. The soil type must first be determined in accordance with the soil classification system described in appendix A to subpart P of part 1926. Using the appropriate table, the selection of the size and spacing of the members is made. The selection is based on the depth and width of the trench where the members are to be installed. In these tables the vertical spacing is held constant at four feet on center. The tables show the maximum horizontal spacing of cylinders allowed for each size of wale in the waler system tables, and in the vertical shore tables, the hydraulic cylinder horizontal spacing is the same as the vertical shore spacing.

(f) *Example to Illustrate the Use of the Tables:*

(1) Example 1:

A trench dug in Type A soil is 6 feet deep and 3 feet wide. From Table D–1.1: Find vertical shores and 2 inch diameter cylinders spaced 8 feet on center (o.c.) horizontally and 4 feet on center (o.c.) vertically. (See Figures 1 & 3 for typical installations.)

(2) Example 2:

A trench is dug in Type B soil that does not require sheeting, 13 feet deep and 5 feet wide. From Table D–1.2: Find vertical shores and 2 inch diameter cylinders spaced 6.5 feet o.c. horizontally and 4 feet o.c. vertically. (See Figures 1 & 3 for typical installations.)

(3) A trench is dug in Type B soil that does not require sheeting, but does experience some minor raveling of the trench face. The

trench is 16 feet deep and 9 feet wide. From Table D–1.2: Find vertical shores and 2 inch diameter cylinder (with special oversleeves as designated by footnote #B2) spaced 5.5 feet o.c. horizontally and 4 feet o.c. vertically, plywood (per footnote (g)(7) to the D–1 Table) should be used behind the shores. (See Figures 2 & 3 for typical installations.)

(4) Example 4: A trench is dug in previously disturbed Type B soil, with characteristics of a Type C soil, and will require sheeting. The trench is 18 feet deep and 12 feet wide. 8 foot horizontal spacing between cylinders is desired for working space. From Table D–1.3: Find horizontal wale with a section modulus of 14.0 spaced at 4 feet o.c. vertically and 3 inch diameter cylinder spaced at 9 feet maximum o.c. horizontally. 3×12 timber sheeting is required at close spacing vertically. (See Figure 4 for typical installation.)

(5) Example 5: A trench is dug in Type C soil, 9 feet deep and 4 feet wide. Horizontal cylinder spacing in excess of 6 feet is desired for working space. From Table D–1.4: Find horizontal wale with a section modulus of 7.0 and 2 inch diameter cylinders spaced at 6.5 feet o.c. horizontally. Or, find horizontal wale with a 14.0 section modulus and 3 inch diameter cylinder spaced at 10 feet o.c. horizontally. Both wales are spaced 4 feet o.c. vertically. 3×12 timber sheeting is required at close spacing vertically. (See Figure 4 for typical installation.)

(g) *Footnotes, and general notes, for Tables D–1.1, D–1.2, D–1.3, and D–1.4.*

(1) For applications other than those listed in the tables, refer to §1926.652(c)(2) for use of manufacturer's tabulated data. For trench depths in excess of 20 feet, refer to §1926.652(c)(2) and §1926.652(c)(3).

(2) 2 inch diameter cylinders, at this width, shall have structural steel tube (3.5×3.5×0.1875) oversleeves, or structural oversleeves of manufacturer's specification, extending the full, collapsed length.

(3) Hydraulic cylinders capacities. (i) 2 inch cylinders shall be a minimum 2-inch inside diameter with a safe working capacity of not less than 18,000 pounds axial compressive load at maximum extension. Maximum extension is to include full range of cylinder extensions as recommended by product manufacturer.

(ii) 3-inch cylinders shall be a minimum 3-inch inside diameter with a safe work capacity of not less than 30,000 pounds axial compressive load at maximum extension. Maximum extension is to include full range of cylinder extensions as recommended by product manufacturer.

(4) All spacing indicated is measured center to center.

(5) Vertical shoring rails shall have a minimum section modulus of 0.40 inch.

(6) When vertical shores are used, there must be a minimum of three shores spaced equally, horizontally, in a group.

(7) Plywood shall be 1.125 in. thick softwood or 0.75 inch. thick, 14 ply, arctic white birch (Finland form). Please note that plywood is not intended as a structural member, but only for prevention of local raveling (sloughing of the trench face) between shores.

(8) See appendix C for timber specifications.

(9) Wales are calculated for simple span conditions.

(10) See appendix D, item (d), for basis and limitations of the data.

ALUMINUM HYDRAULIC SHORING
TYPICAL INSTALLATIONS

FIGURE NO. 1
VERTICAL ALUMINUM HYDRAULIC SHORING (SPOT BRACING)

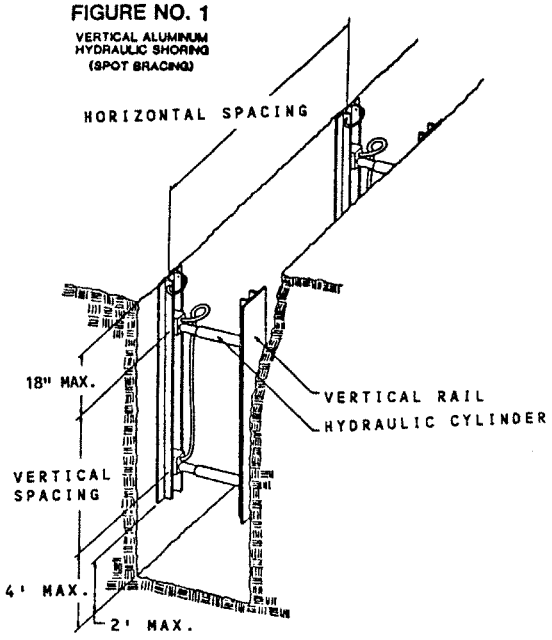


FIGURE NO. 2
VERTICAL ALUMINUM HYDRAULIC SHORING (WITH PLYWOOD)

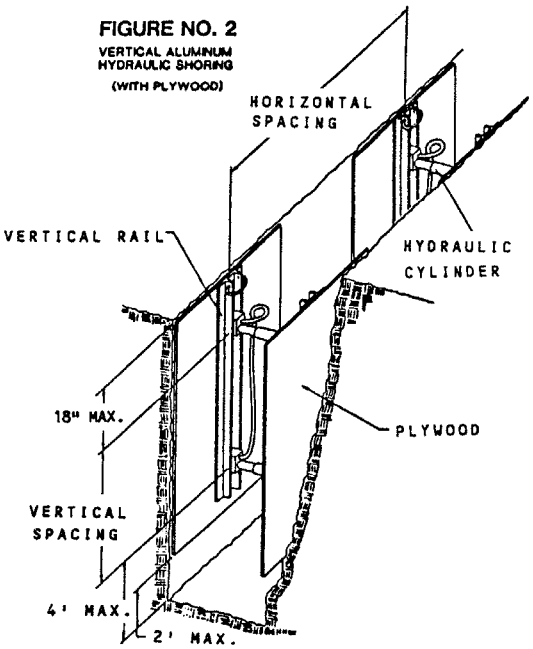


FIGURE NO. 3
VERTICAL ALUMINUM HYDRAULIC SHORING (STACKED)

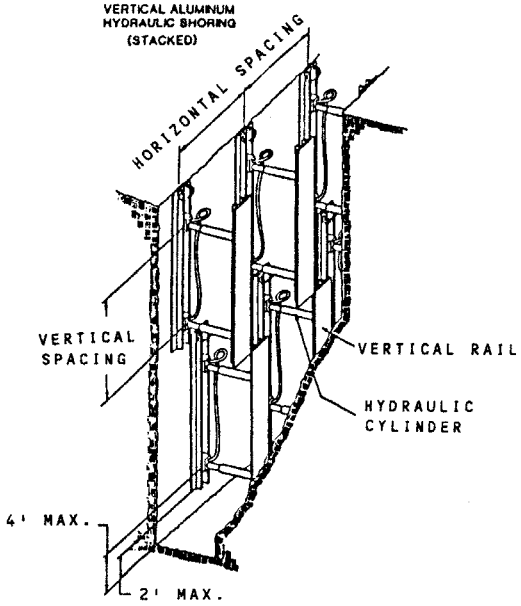


FIGURE NO. 4
ALUMINUM HYDRAULIC SHORING WALER SYSTEM (TYPICAL)

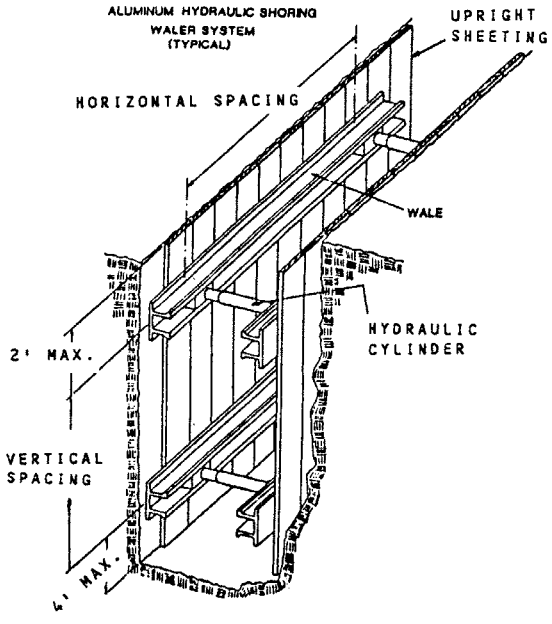


TABLE D - 1.1
ALUMINUM HYDRAULIC SHORING
VERTICAL SHORES
FOR SOIL TYPE A

DEPTH OF TRENCH (FEET)	HYDRAULIC CYLINDERS				
	MAXIMUM HORIZONTAL SPACING (FEET)	MAXIMUM VERTICAL SPACING (FEET)	WIDTH OF TRENCH (FEET)		
			UP TO 8	OVER 8 UP TO 12	OVER 12 UP TO 15
OVER 5 UP TO 10	8	4	2 INCH DIAMETER	2 INCH DIAMETER NOTE (2)	3 INCH DIAMETER
OVER 10 UP TO 15	8				
OVER 15 UP TO 20	7				
OVER 20	NOTE (1)				

Footnotes to tables, and general notes on hydraulic shoring, are found in Appendix D, Item (g)
Note (1): See Appendix D, Item (g) (1)
Note (2): See Appendix D, Item (g) (2)

TABLE D - 1.2
ALUMINUM HYDRAULIC SHORING
VERTICAL SHORES
FOR SOIL TYPE B

HYDRAULIC CYLINDERS				
DEPTH OF TRENCH (FEET)	MAXIMUM HORIZONTAL SPACING (FEET)	MAXIMUM VERTICAL SPACING (FEET)	WIDTH OF TRENCH (FEET)	
			UP TO 8	OVER 8 UP TO 12	OVER 12 UP TO 15
OVER 5 UP TO 10	8	4	2 INCH DIAMETER	2 INCH DIAMETER NOTE (2)	3 INCH DIAMETER
OVER 10 UP TO 15	6.5				
OVER 15 UP TO 20	5.5				
OVER 20	NOTE (1)				

Footnotes to tables, and general notes on hydraulic shoring, are found in Appendix D, Item (g)
Note (**1**): See Appendix D, Item (g) (1)
Note (**2**): See Appendix D, Item (g) (2)

TABLE D - 1.3
ALUMINUM HYDRAULIC SHORING
WALER SYSTEMS
FOR SOIL TYPE B

DEPTH OF TRENCH (FEET)	WALES		HYDRAULIC CYLINDERS						TIMBER UPRIGHTS		
	VERTICAL SPACING (FEET)	* SECTION MODULUS (IN^3)	WIDTH OF TRENCH (FEET)						MAX.HORIZ.SPACING (ON CENTER)		
			UP TO 8		OVER 8 UP TO 12		OVER 12 UP TO15		SOLID SHEET	2 FT.	3 FT.
			HORIZ. SPACING	CYLINDER DIAMETER	HORIZ. SPACING	CYLINDER DIAMETER	HORIZ. SPACING	CYLINDER DIAMETER			
OVER 5 UP TO 10	4	3.5	8.0	2 IN	8.0	2 IN NOTE(2)	8.0	3 IN	—	—	3x12
		7.0	9.0	2 IN	9.0	2 IN NOTE(2)	9.0	3 IN			
		14.0	12.0	3 IN	12.0	3 IN	12.0	3 IN			
OVER 10 UP TO 15	4	3.5	6.0	2 IN	6.0	2 IN NOTE(2)	6.0	3 IN	—	3x12	—
		7.0	8.0	3 IN	8.0	3 IN	8.0	3 IN			
		14.0	10.0	3 IN	10.0	3 IN	10.0	3 IN			
OVER 15 UP TO 20	4	3.5	5.5	2 IN	5.5	2 IN NOTE(2)	5.5	3 IN	3x12	—	—
		7.0	6.0	3 IN	6.0	3 IN	6.0	3 IN			
		14.0	9.0	3 IN	9.0	3 IN	9.0	3 IN			
OVER 20	NOTE (1)										

Footnotes to tables, and general notes on hydraulic shoring, are found in Appendix D, Item (g)
Notes (1): See Appendix D, item (g) (1)
Notes (2): See Appendix D, Item (g) (2)
* Consult product manufacturer and/or qualified engineer for Section Modulus of available wales.

TABLE D - 1.4
ALUMINUM HYDRAULIC SHORING
WALER SYSTEMS
FOR SOIL TYPE C

DEPTH OF TRENCH (FEET)	WALES		HYDRAULIC CYLINDERS						TIMBER UPRIGHTS		
	VERTICAL SPACING (FEET)	* SECTION MODULUS (IN^3)	WIDTH OF TRENCH (FEET)						MAX.HORIZ SPACING (ON CENTER)		
			UP TO 8		OVER 8 UP TO 12		OVER 12 UP TO 15		SOLID SHEET	2 FT.	3 FT.
			HORIZ. SPACING	CYLINDER DIAMETER	HORIZ. SPACING	CYLINDER DIAMETER	HORIZ. SPACING	CYLINDER DIAMETER			
OVER 5 UP TO 10	4	3.5	6.0	2 IN	6.0	2 IN NOTE(2)	6.0	3 IN	3x12	—	—
		7.0	6.5	2 IN	6.5	2 IN NOTE(2)	6.5	3 IN			
		14.0	10.0	3 IN	10.0	3 IN	10.0	3 IN			
OVER 10 UP TO 15	4	3.5	4.0	2 IN	4.0	2 IN NOTE(2)	4.0	3 IN	3x12	—	—
		7.0	5.5	3 IN	5.5	3 IN	5.5	3 IN			
		14.0	8.0	3 IN	8.0	3 IN	8.0	3 IN			
OVER 15 UP TO 20	4	3.5	3.5	2 IN	3.5	2 IN NOTE(2)	3.5	3 IN	3x12	—	—
		7.0	5.0	3 IN	5.0	3 IN	5.0	3 IN			
		14.0	6.0	3 IN	6.0	3 IN	6.0	3 IN			
OVER 20	NOTE (1)										

Footnotes to tables, and general notes on hydraulic shoring, are found in Appendix D, Item (g)
Notes (1): See Appendix D, item (g) (1)
Notes (2): See Appendix D, Item (g) (2)
* Consult product manufacturer and/or qualified engineer for Section Modulus of available wales.

Figure 1. Aluminum Hydraulic Shoring

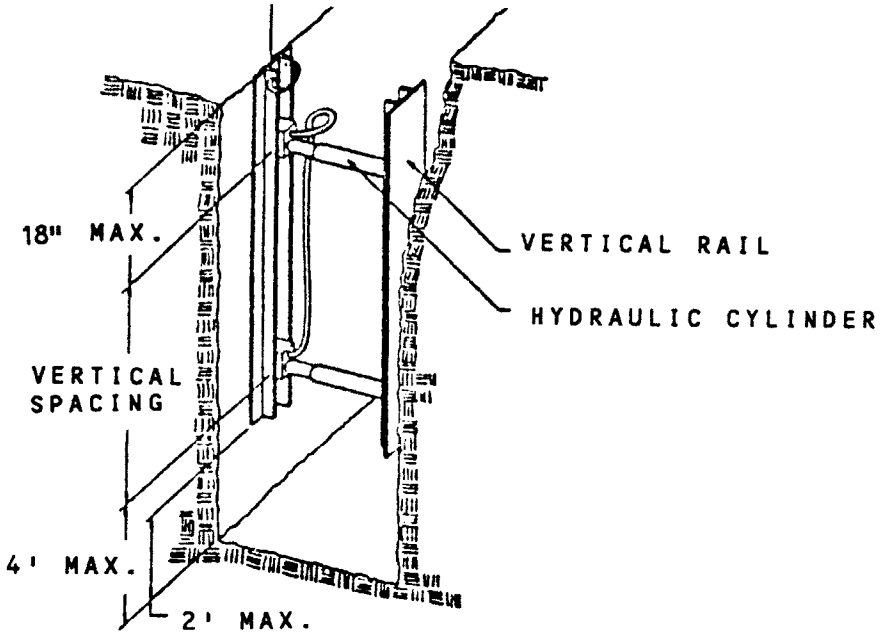


Figure 2. Pneumatic/hydraulic Shoring

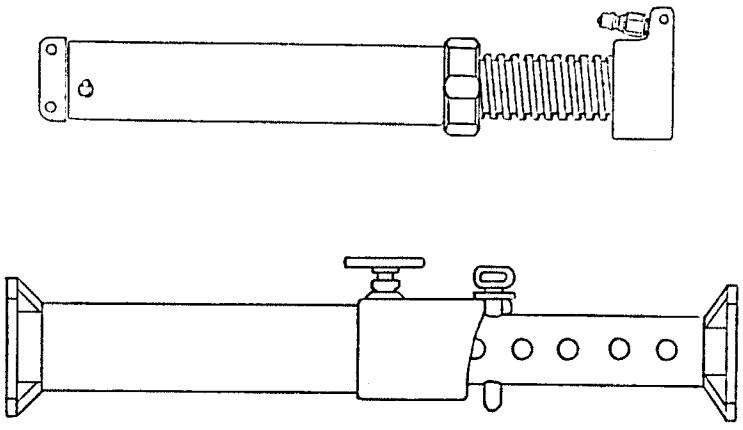


Figure 3. Trench Jacks (Screw Jacks)

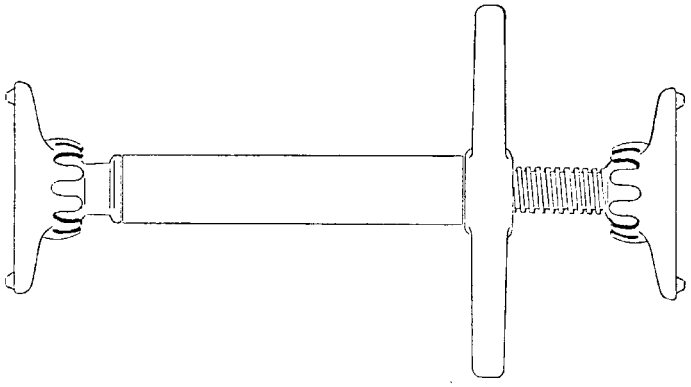
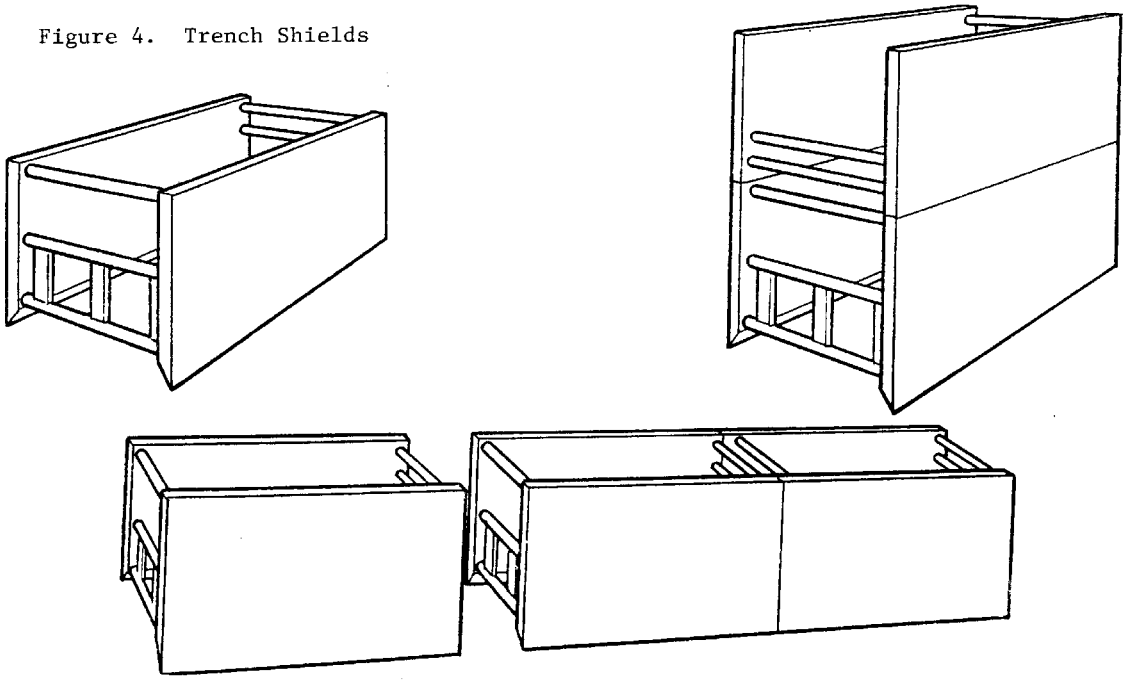


Figure 4. Trench Shields



APPENDIX F TO SUBPART P OF PART 1926—SELECTION OF PROTECTIVE SYSTEMS

The following figures are a graphic summary of the requirements contained in subpart P for excavations 20 feet or less in depth. Protective systems for use in excavations more than 20 feet in depth must be designed by a registered professional engineer in accordance with §1926.652 (b) and (c).

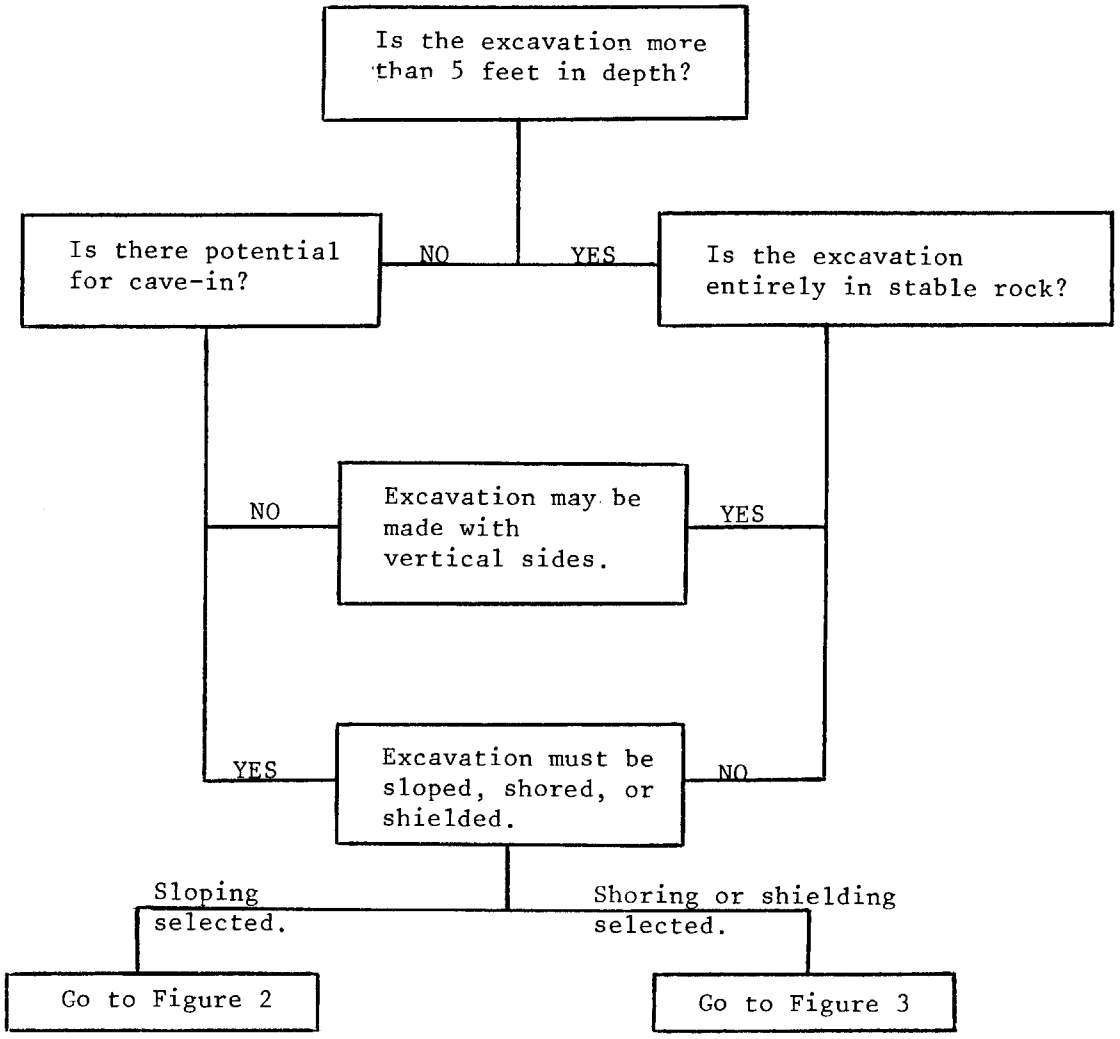


FIGURE 1 - PRELIMINARY DECISIONS

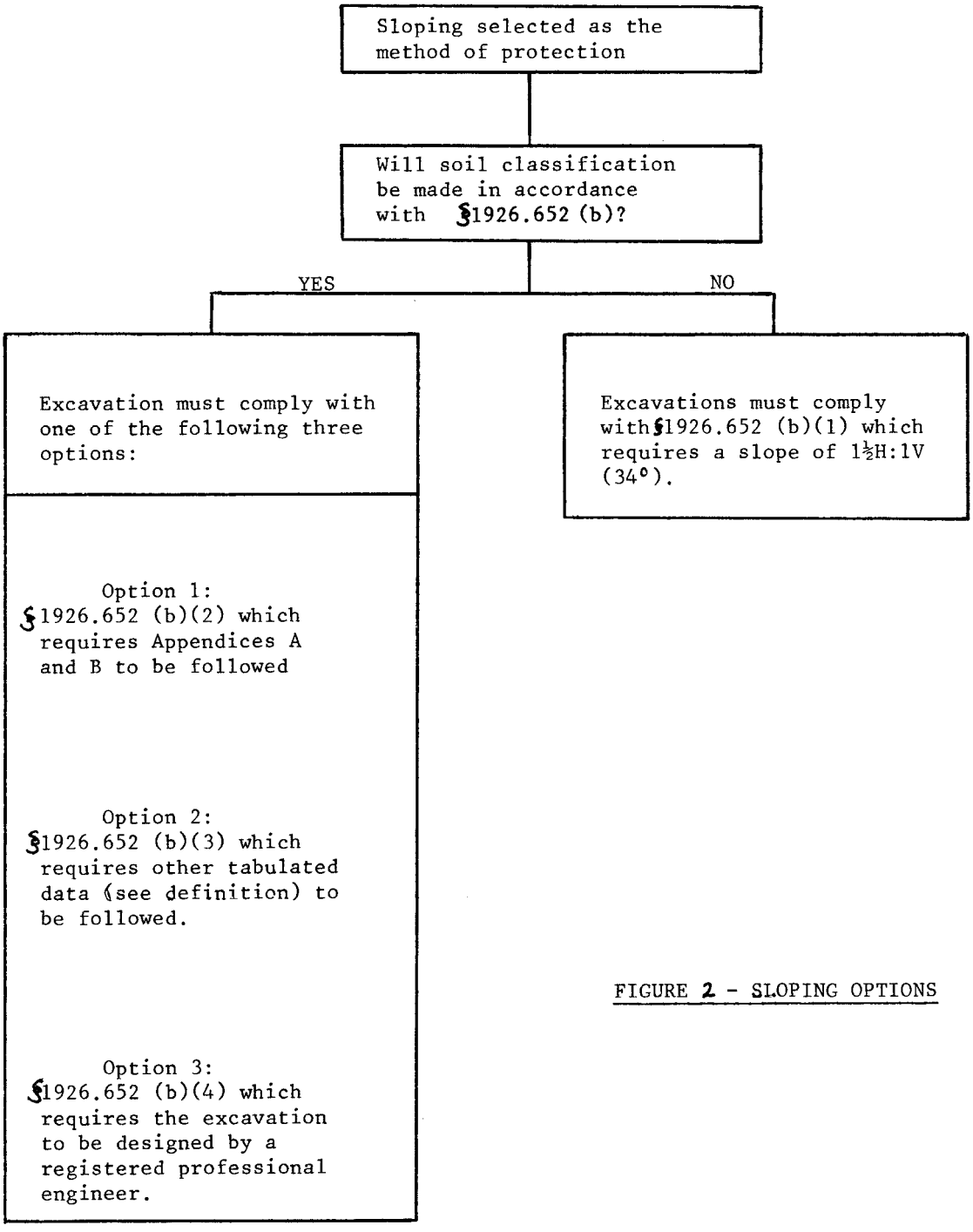


FIGURE 2 - SLOPING OPTIONS

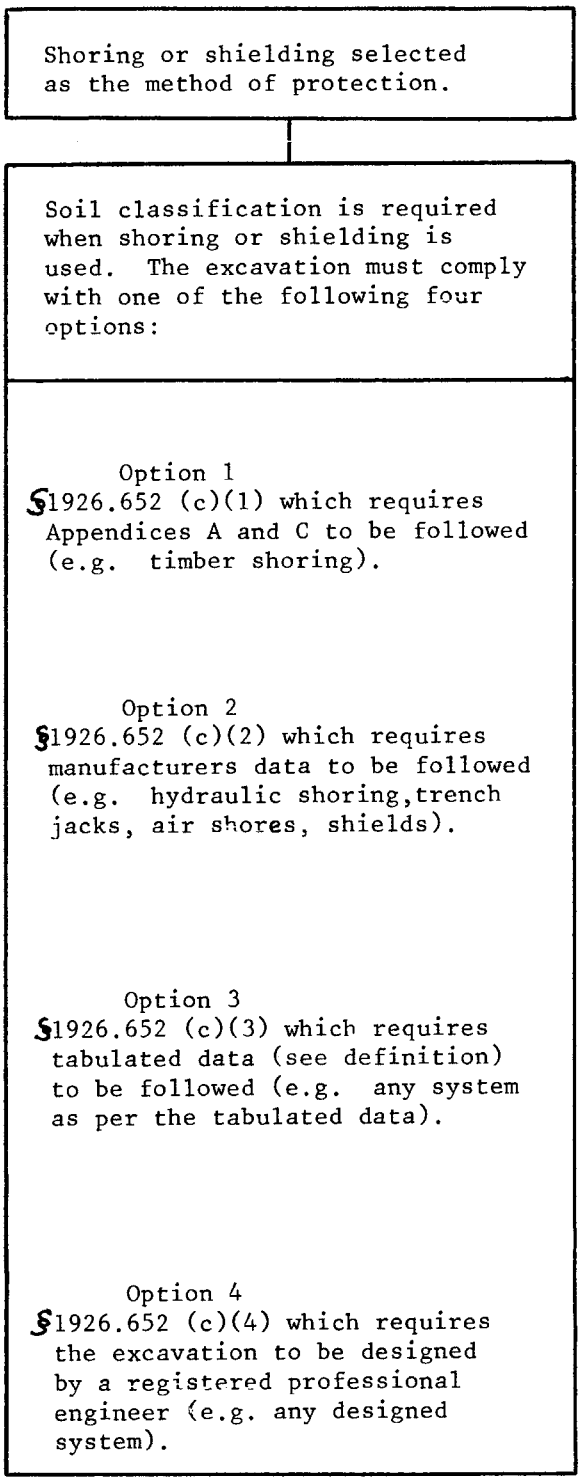


FIGURE 3 - SHORING AND SHIELDING OPTIONS

TECHNICAL SPECIFICATIONS

TABLE OF CONTENTS

TITLE		PAGE
Earthwork		
SECTION E-1	SITE PREPARATION	E1-1
SECTION E-2	EXCAVATION AND EMBANKMENT	E2-1
SECTION E-3	EXCAVATION FOR STRUCTURES	E3-1
SECTION E-4	TRENCH AND EXCAVATION SAFETY SYSTEMS	E4-1
Incidental Construction		
SECTION I-1	MAINTENANCE OF TRAFFIC	I1-1
SECTION I-3	PIPE CULVERTS	I3-1
SECTION I-4	PRECAST REINFORCED CONCRETE BOX CULVERTS	I4-1
SECTION I-5	DROP INLETS AND JUNCTION BOXES	I5-1
SECTION I-8	PAVEMENT REPAIRS	I8-1
SECTION I-9	GUARDRAIL	I9-1
SECTION I-12	TEMPORARY EROSION CONTROL	I12-1
SECTION I-13	SOLID SODDING	I13-1
SECTION I-14	TOPSOIL	I14-1
SECTION I-15	CONCRETE ISLAND	I15-1
SECTION I-16	CONCRETE SIDEWALKS	I16-1
SECTION I-17	CURB AND GUTTER	I17-1
SECTION I-18	ROADWAY CONSTRUCTION CONTROL	I18-1
Miscellaneous		
SECTION M-3	COLD MILLING	M3-1
SECTION M-7	WATER FOR DUST CONTROL	M7-1
Pavements		
SECTION P-1	AGGREGATE BASE COURSE	P1-1
SECTION P-2	PRIME AND TACK COATS	P2-1
SECTION P-3	ASPHALT SURFACE AND BINDER COURSE	P3-1
SECTION P-4	ASPHALT SURFACE AND BINDER COURSE (MARSHALL MIX)	P4-1
SECTION P-5	DRIVEWAYS AND APRONS	P5-1
Structures		
SECTION S-1	STRUCTURAL CONCRETE	S1-1
Traffic Control		
SECTION T-1	THERMOPLASTIC PAVEMENT MARKING	T1-1
SECTION T-2	SIGNS AND SUPPORTS	T2-1
Special Provisions		
SP-1	ARDOT SPECIFICATIONS	SP-1-1
SP-2	PORTLAND CEMENT CONCRETE BASE	SP-2-1
SP-3	ROCK MULCH	SP-3-1
SP-4	REMOVE, SALVAGE, AND REINSTALL EXISTING HANDRAIL	SP-4-1

SP-5	REMOVE, SALVAGE, AND REINSTALL EXISTING MONUMENT SIGN	SP-5-1
SP-6	TRAFFIC SIGNAL INSTALLATION	SP-6-1
SP-7	ACCESSIBLE PEDESTRIAN SIGNAL (APS)	SP-7-1
SP-8	RETROREFLECTIVE BACKPLATES	SP-8-1
SP-9	CABINET DRAWER ASSEMBLY	SP-9-1
SP-10	COMMUNICATION CABLE-FIBER	SP-10-1
SP-11	DECORATIVE POLES	SP-11-1
SP-12	ELECTRICAL CONDUCTORS FOR LUMINAIRES	SP-12-1
SP-13	ELECTRICAL CONDUCTORS-IN-CONDUIT	SP-13-1
SP-14	EMERGENCY BATTERY BACKUP SYSTEM INSTALLATION	SP-14-1
SP-15	ETHERNET SWITCH	SP-15-1
SP-16	GPS PREEMTION SYSTEM	SP-16-1
SP-17	IP VIDEO DETECTION SYSTEM	SP-17-1
SP-18	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD	SP-18-1
SP-19	LED LUMINAIRE	SP-19-1
SP-20	LED TRAFFIC SIGNAL HEAD	SP-20-1
SP-21	SERVICE POINT ASSEMBLY	SP-21-1
SP-22	SYSTEM LOCAL CONTROLLER (FIBER)	SP-22-1
SP-23	WIC FIBER ENCLOSURE	SP-23-1
SP-24	HDPE CONDUIT	SP-24-1
SP-25	FIBER PULL BOX	SP-25-1
SP-26	RELOCATION OF TRAFFIC SIGNAL HEAD	SP-26-1
SP-27	VIDEO DETECTOR ROTATION	SP-27-1
SP-28	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	SP-28-1
SP-29	MEASUREMENT AND PAYMENT FOR WATER AND SEWER	SP-29-1
SP-30	REMOVE, SALVAGE, AND REINSTALL EXISTING STREET LIGHT	SP-30-1
SP-31	UTILITY ADJUSTMENTS	SP-31-1
SP-32	INCIDENTAL LANDSCAPE AND IRRIGATION RESTORATION	SP-32-1
SP-33	DELAY IN RIGHT OF WAY OCCUPANCY	SP-33-1
SP-34	CONTINGENCY ALLOWANCE	SP-34-1
SP-35	INCENTIVE AND DISINCENTIVE	SP-35-1

SECTION E-1 – SITE PREPARATION

DESCRIPTION

E1-1.1 This item covers the preparation of the site for construction of the proposed improvements. The attention of the bidder is directed to the necessity for careful examination of the entire project site to determine, at the time of bid preparation, the full extent of work to be done under the item "SITE PREPARATION."

E1-1.2 The item "SITE PREPARATION" shall include:

1. Mobilization
2. Contractor's Staging Areas
3. Contractor's Access/Haul Roads
4. Furnishing Temporary Field Office – not required
5. Clearing and Grubbing
6. Removal and Disposal of Structures
7. Clean Up

CONSTRUCTION METHODS

E1-2.1 MOBILIZATION: The Contractor shall consider and include his cost for providing personnel, equipment, materials, bonds, etc. required for prosecution of the work under this item.

E1-2.2 CONTRACTOR'S STAGING AREAS: The area designated in the Plans as the Contractor's staging area shall be used by the Contractor to locate the field office, to store materials, for employee parking, and for other purposes necessary to perform the work on this project. All areas used or otherwise occupied by the Contractor for his operations shall be cleaned and restored to their original condition prior to the final acceptance of the project by the Owner. All work involved in the preparation and restoration of areas used or occupied by the Contractor will not be measured for separate payment, but will be considered subsidiary to the bid item "SITE PREPARATION."

E1-2.3 CONTRACTOR'S ACCESS/HAUL ROADS: The Contractor shall layout, construct, maintain, remove and/or reshape all access/haul roads needed to construct the work. Work, including all materials and labor, involved in the layout, construction, maintenance, repair, and removal (including re-seeding of the area occupied by the road), and/or re-shaping of the Contractor's access/haul roads will not be measured for separate payment, but will be considered subsidiary to the bid item "SITE PREPARATION."

Before final acceptance of the project, any damage to the existing roads caused by the Contractor shall be repaired as directed by the Engineer. The repair of the existing roads will not be measured for separate payment but will be considered subsidiary to the item "SITE PREPARATION."

E1-2.4 FURNISHING TEMPORARY FIELD OFFICE:Not required.

E1-2.5 CLEARING AND GRUBBING: This work shall consist of cutting, removing from the ground, and properly disposing of trees, stumps, hedge, brush, roots, weeds, rubbish, and other materials within the limits of the project or other designated areas that interfere with the work or are considered objectionable.

The project site shall be cleared except those objects designated to remain shall be carefully protected from abuse, marring, or damage during construction operations.

Holes remaining after removal of trees, stumps, etc., shall be backfilled with material approved by the Engineer and compacted as directed except in areas to be excavated. The Contractor shall complete the operation by blading, bulldozing, or other approved methods, so that the project site shall be free

of holes, ditches, or other abrupt changes in elevations that resulted from the clearing and grubbing operations.

The project site shall be cleared of stumps, brush, rubbish, trees, and shrubs, with the exception of such trees, shrubs, and areas designated on the Plans or by the Engineer for preservation. Grubbing will not be required in areas that will have a fill height of 3 feet or more above undisturbed stumps cut within 6 inches of the natural ground.

Debris shall be removed from the project site and disposed of at an off-site location. The entire job site shall be cleared of all debris, of whatever nature, and made ready in all respects for the construction of the proposed improvements.

The Contractor shall make all necessary arrangements with the property owner for obtaining suitable disposal locations. The costs involved in clearing and grubbing, obtaining disposal sites, hauling, and final cleanup will not be paid for directly but will be considered subsidiary to “SITE PREPARATION.”

E1-2.6 REMOVAL AND DISPOSAL OF STRUCTURES: This work shall consist of the removal and satisfactory disposal of utility poles; signs, sign supports, sign foundations; traffic rail; fence; curb and curb and gutter; portland cement concrete or asphalt concrete pavement, parking areas, sidewalks, and steps; driveways; retaining walls; manholes; drainage structures; concrete or masonry foundations (including foundations of poles or signs to be removed) or slabs; and culverts, all of which are not designated or permitted to remain. The Contractor shall make his own estimate of the work required for the removal of structures which conflict with the proposed construction. All structures required to be removed may not be designated as such in the plans.

The provisions of this section shall not apply to underground petroleum storage tanks.

The attention of the bidder is directed to the necessity for careful examination of the entire site to determine, at the time of bid preparation, the full extent of work to be accomplished. The entire site shall be cleared of all man-made obstructions and debris, of whatever nature, and prepared in all respects for the construction.

The Contractor shall not unnecessarily interfere with the use of any adjacent sidewalks, streets, or roads.

Materials removed will become the property of the Contractor and shall be removed from the job site, unless specifically designated otherwise.

All surface items such as curb, curb and gutter, driveways, parking areas, walks, steps, asphalt and PCC pavement, and walls shall be separated or broken away from the adjacent part of any structure designated to remain in place by a vertical saw cut along the line designated by the Engineer. The edge of the structure left in place shall be approximately vertical with no abrupt changes in alignment. Any damage to or removal of the structure designated to remain in place shall be repaired or replaced at no cost to the Owner.

Holes, ditches, or other abrupt changes in elevation caused by the removal operations that could obstruct drainage or be considered hazardous or unsightly shall be backfilled, compacted, and left in a workmanlike condition.

Existing culverts or parts thereof that interfere with the new construction shall be removed.

Where existing pipe culverts are to be extended or otherwise incorporated into the new work, only such part of the existing structure shall be removed as to provide a proper connection to the new work.

The connecting edges or joints shall be cut, chipped, and trimmed to the required lines and grades without weakening or damaging the part of the structure to be retained.

For a pipe culvert extension, the headwall and the attached end joint of concrete pipe or the flared end section on all types of pipe shall be removed to accommodate the extension. This work will not be paid for directly but will be considered included in the items involved in the culvert extension.

Trenches or voids resulting from the removal or demolition of existing culverts or other structures shall be filled with approved material placed in layers in accordance with SECTION E-2.

Masonry and reinforced concrete foundations shall be obliterated, or if in fill sections, may be left in place if covered by not less than 2 feet of embankment.

Concrete foundations for poles to be removed shall be obliterated to a depth of 2 feet below finished grade or as required to accommodate new construction.

The removal and disposal of the various items covered by this specification will not be measured for separate payment, but will be subsidiary to the bid item “SITE PREPARATION.”

E1-2.7 CLEAN UP: From time to time, the Contractor shall clean up the site in order that the site presents a neat appearance and that the progress of work will not be impeded. One such clean up shall immediately precede final inspection.

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

METHOD OF MEASUREMENT

E1-3.1 Site Preparation will be measured as a lump sum complete item.

BASIS OF PAYMENT

E1-4.1 Work completed and accepted under this item will be paid for at the contract lump sum price bid for "SITE PREPARATION," which price shall be full compensation for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer.

Payment will be made under:

Item E1-3.1 Site Preparation - per Lump Sum

END OF SECTION E-1

SECTION E-2 – EXCAVATION AND EMBANKMENT

DESCRIPTION

E2-1.1 This section addresses the requirements of all earthwork necessary for the construction of streets, driveways, parking areas, sidewalks, trails, curb and gutter, ditches, and sitework within the project area in accordance with the Plans. The work shall be in conformity with the lines, grades, thicknesses, and typical sections as shown in the Plans or established by the Engineer.

E2-1.2 This section does not include the excavation and backfill of structures and pipe. Excavation and backfill of structures and pipe is included under SECTION E-3 – EXCAVATION FOR STRUCTURES of these specifications.

STANDARDS

E2-2.1 All materials and work (including testing) shall be in accordance with the lines and grades shown on the Plans, or as directed by the Engineer, and with applicable portions of SECTION 210 – EXCAVATION AND EMBANKMENT and SECTION 212 – SUBGRADE of the Standard Specifications, except as modified or augmented herein.

MATERIALS

E2-3.1 Excavation performed under this Section, regardless of the material encountered, shall be classified as unclassified excavation, unless determined to be Rock Excavation as defined herein.

Items encountered during excavation shall be considered “Rock” and paid for under the Bid Item of “Rock Excavation” if the encountered material cannot be excavated with conventional heavy duty equipment. Conventional heavy duty excavating equipment is hereby defined as a Caterpillar D-8R bulldozer with a single tooth ripper, a Caterpillar 330B track excavator equipped with a 36-inch bucket and rock teeth, or equipment of similar power and capability.

The Contractor should base his bid for “Rock Excavation” utilizing equipment such as a single tooth ripper on a large bull dozer or track excavator, a hoeram or jackhammer or other suitable means. Blasting of rock will not be permitted.

Unless otherwise noted in the Plans or directed by the Engineer all excavated material shall become the property of the Contractor and shall be disposed of at an off-site location.

E2-3.2 BORROW MATERIAL: All fill material placed in the right-of-way shall be tested and approved by the City prior to its use on the project. The material shall meet minimum requirements. Sampling shall be at the beginning of the project, and after every 5,000 cubic yards of material is placed. Additional requirements for borrow material utilized under pavements are described in paragraph E2-4.4.

The Contractor shall maintain the haul route free from spillage by his vehicles. He shall clean the haul route surface as often as necessary to avoid the creation of a public nuisance. He shall repair and restore the surface of all haul roads which have been damaged by his operations.

Embankment material outside of the roadway may be any material that is free from sod, stumps, roots, or other perishable or deleterious material that is capable of forming a stable embankment when compacted unless otherwise specified. Areas outside of the roadway shall be compacted to a minimum of 90% Standard Proctor Density unless otherwise specified.

CONSTRUCTION METHODS

E2-4.1 STRIPPING AND TOPSOIL: Before beginning any excavation or embankment, the areas where the excavation and/or the embankment are to be made shall be stripped to a minimum depth of 6 inches. Stripping will not be measured for separate payment, but will be considered subsidiary to the item "UNCLASSIFIED EXCAVATION."

Topsoil obtained from the stripping operation shall be salvaged and stockpiled for later use. Topsoil salvaged from the stripping operation, and then later rehandled, will not be measured for separate payment, but will be considered subsidiary to the item "UNCLASSIFIED EXCAVATION."

E2-4.2 USE OF SUITABLE EXCAVATION: Suitable excavation shall be used for embankment construction, and where needed, for backfilling. The suitability of material to be placed in embankments shall be subject to approval by the Engineer. Suitable excavation not needed for the work shall be disposed of by the Contractor off-site. Excavation unsuitable for use shall be disposed of by the Contractor off-site.

The Contractor is expected to construct embankment from suitable excavated material, and it may be necessary to stockpile a portion or all of this material for later use. The stockpiling and rehandling will not be paid for separately but will be subsidiary to "UNCLASSIFIED EXCAVATION." The Contractor will be required to replace with suitable borrow material, at no additional compensation, any suitable excavated material needed for the work which was wasted by the Contractor.

E2-4.3 COMPACTION OF EARTHWORK:

All compaction shall be to a density not less than ninety-five percent (95%) of maximum density, at optimum moisture, obtained in the laboratory unless otherwise specified. The moisture-density relationship of the material shall be determined in the laboratory in accordance with AASHTO Designation T 99.

E2-4.4 SUBGRADE:

Subgrade for paved areas (areas within 1 foot behind the back of curb) and shared-use paths shall be compacted to a density not less than ninety-five percent (95%) of maximum density, at optimum moisture, obtained in the laboratory. The moisture-density relationship of the material shall be determined in the laboratory in accordance with AASHTO Designation T 99. Subgrade for driveways and sidewalks shall be compacted to a density not less than ninety percent (90%) of maximum density at optimum moisture, obtained in the laboratory. In-situ soils used as subgrade shall be scarified to a minimum depth of 8 inches below finished subgrade, recompacted, and tested for compliance with these standards.

The Contractor shall keep the subgrade properly drained at all times by the use of temporary ditches and/or pumps as required. Improperly drained subgrade will not be justification for undercut. The Engineer may require the exposed surface to dry before any judgment is rendered to the quality or workmanship of the exposed soils. The Contractor may be required to scarify/disk (to promote drying) and recompact the subgrade prior to determining whether undercut will be permitted. Regraded, recompacted, or reworked subgrade will not be considered for additional payment. Alternatively, the Contractor may elect to undercut saturated subgrade material at his own expense.

No contract time extensions will be granted to the Contractor for reworking wet subgrades retaining water due to improper grading or negligence by the Contractor. If proper drainage is not maintained during earthwork operations, the potential for undercut may be increased. Additional undercut required due to Contractor negligence will not be considered for payment.

Additional requirements for subgrade for concrete sidewalks and steps are specified in SECTION I-16 –

CONCRETE SIDEWALKS AND STEPS.

Preparation of subgrade will not be measured for separate payment but shall be considered subsidiary to "UNCLASSIFIED EXCAVATION."

Imported material for fill or backfill under pavements should be an approved low-plasticity sandy clay (CL), clayey sand (SC), gravelly clay (CL), silty gravel (GM), or clayey gravel (GC) approved by the Engineer with a maximum liquid limit of 40 and a CBR of 8 or greater. The suitability of locally available "hillside" silty/clayey gravel (GC or GM) having a liquid limit greater than 40 should be evaluated by the Geotechnical Engineer on a case-by-case basis. All fill should be free of organic matter, debris, and durable rock fragments in excess of approximately a 3-inch dimension. Utility trenches shall be backfilled with crushed aggregate base (ARDOT Standard Specifications Section 303, Class 7) or flowable fill (ARDOT Standard Specifications Section 206).

Subgrade soils with a liquid limit greater than 40 or a plasticity index greater than 15 shall be undercut to a depth determined by the Engineer and removed from the street section or improved by a designed method of stabilization accepted by the City Engineer. Other soils which the Engineer determines cannot be properly compacted shall also be undercut to a specified depth. This excavated unsuitable material shall be disposed of off-site.

Backfill for undercut areas shall meet the requirements described above. Other materials exceeding these requirements may be used as backfill, subject to the approval of the Engineer. Backfill shall be placed and compacted in 8-inch maximum lifts in accordance with the density requirements in this specification.

E2-4.5 The ditch excavation for channel changes or to bring ditches to minimum required section shall be in accordance with applicable portions of the Standard Specifications referred to above. All ditch excavation shall be completed to the required grade shown on the Plans or as directed by the Engineer.

E2-4.6 OVER-EXCAVATION: Where excavation is carried below or beyond that required, the space shall be filled to grade with suitable material and thoroughly compacted as directed by the Engineer. The Contractor will not be entitled to additional compensation for such over-excavation or the necessary refilling, unless the Owner or its representative is responsible for the error.

E2-4.7 Those areas outside of the pavement areas in which the top layer of soil material has become compacted, by hauling or other activities of the Contractor, shall be scarified and disked to a depth of 4 inches, in order to loosen and pulverize the soil.

E2-4.8 If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the Engineer, who shall arrange for their removal if necessary. The Contractor shall, at his/her own expense, satisfactorily repair or pay the cost of all damage to such facilities or structures which may result from any of the Contractor's operations during the period of the contract.

METHOD OF MEASUREMENT

E2-5.1 Measurement of Unclassified Excavation and Embankment Construction shall be based on plan quantities. Quantities were calculated by measuring the amount of cut or fill between the original cross section and the neat lines of the cut or fill on the proposed cross section, and using the average end area method. Existing ground cross sections were generated from field surveyed cross sections translated to computer generated contours and cross sections. These cross sections are included in the Plans. The plan quantities of Unclassified Excavation and Embankment construction are the amount of cut and fill calculated, measured as stated above. The Contractor shall make his own determination as to

the amount of unsuitable excavated material which may be encountered, and the resulting additional borrow material required for the construction of the embankment.

In fill sections, the additional fill required to replace the stripped material has not been measured and will not be measured for payment, but will be subsidiary to Unclassified Excavation.

Measurements of earthwork will be changed to reflect changes in grade or section directed by the Engineer.

No allowance has been made for shrinkage in the measurement of embankment construction. The Contractor shall make his own determination as to the amount of shrinkage involved in the construction of the embankment.

Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

E2-5.2 Undercut Excavation shall be measured from the surface of the ground, after stripping has been accomplished, or from the bottom of the planned excavation, to the depth of the undercut as directed by the Engineer. Measurements will be taken by the Engineer, and the volume of undercut will be calculated by the average end area method. The necessary refilling of undercut areas will not be measured for separate payment, but will be subsidiary to Undercut Excavation. Only that amount of undercut directed by the Engineer will be measured for payment.

E2-5.3 Rock Excavation shall be measured from the surface of the rock required to be excavated to the depth of the excavation into rock as required by the Plans or as directed by the Engineer. Measurements will be taken by the Engineer, and the volume of rock excavation will be calculated by the average end area method. Only that amount of rock excavation required will be measured for payment.

E2-5.4 Trench excavation for drainage pipe or excavation for drainage structures will not be measured for separate payment, but will be subsidiary to the drainage pipe or structure installation pay item.

BASIS OF PAYMENT

E2-6.1 Unclassified excavation shall be paid for at the contract unit price bid per cubic yard for "UNCLASSIFIED EXCAVATION (PLAN QUANTITY)," which price shall be full compensation for all excavation, including drainage ditch excavation; for the formation of embankment (including topsoil) using this excavated material, including hauling, spreading, and compaction; for removal and disposal of structures; for disposal of unsuitable material; for preparation of subgrade; and for all equipment, tools, labor and incidentals necessary to complete the work. Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer.

E2-6.2 Embankment construction shall be paid for at the contract unit price bid per cubic yard for "EMBANKMENT CONSTRUCTION (PLAN QUANTITY)," which price shall be full compensation for the formation of embankment, including loading, hauling, spreading, and compaction; for compaction and preparation of subgrade; for the refilling, rolling, and compaction of all undercut areas; and for all equipment, tools, labor, and incidentals necessary to complete the work. Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer.

E2-6.3 Undercut shall be paid for at the contract unit price bid per cubic yard for "UNDERCUT EXCAVATION," which price shall be full compensation for all excavation; for disposal or placement of unsuitable material including loading, hauling, spreading, and compaction; for compaction and preparation of subgrade; for the refilling, rolling, and compaction of all undercut areas; and for all equipment, tools, labor, and incidentals necessary to complete the work.

E2-6.4 Rock excavation shall be paid for at the contract unit price bid per cubic yard for "ROCK EXCAVATION," which price shall be full compensation for all excavation, including drainage ditch excavation; for the removal and disposal of the excavated material; and for all equipment, tools, labor and incidentals necessary to complete the work.

Periodic payments will be made under the following items in proportion to amount of work accomplished as determined by the Engineer. Payment will be made under:

Item E2-6.1	Unclassified Excavation (Plan Quantity) -- per cubic yard
Item E2-6.2	Embankment Construction (Plan Quantity) -- per cubic yard
Item E2-6.3	Undercut Excavation -- per cubic yard
Item E2-6.4	Rock Excavation – per cubic yard

END OF SECTION E-2

SECTION E-3 – EXCAVATION FOR STRUCTURES

DESCRIPTION

E3-1.1 This section covers the removal of all materials of whatever nature necessary for the construction of retaining walls, wingwalls, headwalls, pipe culverts, storm drainage piping, inlets and other structures. All work shall be in accordance with details shown on the Plans, or as directed by the Engineer, and with these specifications.

E3-1.2 The work involved in unclassified excavation for structures shall be in accordance with SECTION E-2 – EXCAVATION AND EMBANKMENT, except as modified or augmented herein.

MATERIALS

E3-2.1 Backfill materials shall meet the applicable requirements of SECTION E-2 of these specifications. Such material shall be free from frozen material, trash, lumber, broken pieces of concrete having any dimension greater than two (2) inches, broken concrete in nests regardless of dimensions, or other debris. Such material shall be susceptible to proper compaction.

CONSTRUCTION METHODS

E3-3.1 EXCAVATION FOR STORM DRAINAGE PIPE AND OTHER STRUCTURES:

Trench width at the horizontal centerline of a pipe shall not exceed outside diameter of the pipe plus two (2) feet where earth backfill is used.

Areas of excavation for inlets and junction boxes shall be selected by the Contractor, except that areas shall be large enough to permit proper construction of the structures, and except that they shall not extend more than eighteen (18) inches outside the structures, unless authorized by the Engineer.

E3-3.2 BACKFILL: Backfill shall be made from suitable available structural excavation materials, and from suitable available roadway excavation materials if and as needed.

Backfill shall be compacted to a density not less than ninety-five (95) percent of the maximum density, at optimum moisture, obtained in the laboratory in accordance with AASHTO Designation T99. Samples for laboratory tests and field determinations will be taken by the Contractor.

Backfill shall not be placed against concrete structures until the expiration of the curing periods specified in SECTION S-1 – STRUCTURAL CONCRETE of these specifications.

Compacting shall be obtained by the use of pneumatic or mechanically actuated tampers. Gravity hand tampers will not be acceptable. Backfill material shall be sprinkled or aerated as necessary to assure the required density.

Backfill of structures, other than pipe, shall be made with reasonable uniformity around and along the structure. It shall be placed in 6 inch layers, loose measurement and each layer compacted.

Backfill of storm drainage pipe shall be in accordance with SECTION I-3 - PIPE CULVERTS of these specifications and SECTION 606 – PIPE CULVERTS of the Standard Specifications.

Backfill will not be measured for separate payment. Placing and compacting of backfill shall be considered subsidiary work pertaining to structural excavation.

E3-3.3 DISPOSAL OF EXCAVATED MATERIAL: Excavated material unsuitable for use, or in excess of needs, shall be disposed of by the Contractor off-site.

MEASUREMENT AND PAYMENT

E3-4.1 Excavation for structures, including but not limited to storm drainage pipe, flared end sections, inlets, junction boxes, box culverts, retaining walls, etc. will not be measured for separate payment, but will be considered subsidiary work pertaining to the construction of the items.

END OF SECTION E-3

SECTION E-4 – TRENCH AND EXCAVATION SAFETY SYSTEMS

DESCRIPTION

E4-1.1 This item covers the compliance with Act 291 of 1993 which requires the inclusion, in the bid, of a separate pay item for "TRENCH AND EXCAVATION SAFETY SYSTEMS."

STANDARDS

E4-2.1 All work under this item shall conform to the current edition of Occupational Safety and Health Administration Standard for Excavation and Trenches Safety System, 29 CFR 1926, Subpart P.

"Competent Person" as defined in the Standard Specifications shall be the General Contractor's General Superintendent.

CONSTRUCTION METHODS

E4-3.1 NOTIFICATIONS REQUIRED: The Contractor, prior to beginning any excavation, shall notify the State Department of Labor (Safety Division) that work is commencing on a project with excavations greater than five feet.

The Contractor shall notify all Utility Companies and Owners in accordance with OSHA Administration 29 CFR 1926.651(b)(2) for the purpose of locating utilities and underground installations.

E4-3.2 EXISTING STRUCTURES AND UTILITIES: Where the trench or excavation endangers the stability of a building, wall, street, highway, utilities, or other installation, the Contractor shall provide support systems such as shoring, bracing, or underpinning to ensure the stability of such structure or utility.

The Contractor may elect to remove and replace or relocate such structures or utilities with the written approval of the owner of the structure or utility and the Project Owner.

METHOD OF MEASUREMENT

E4-4.1 Trench or excavation safety systems shall be measured as a complete unit.

BASIS OF PAYMENT

E4-5.1 Trench and excavation safety systems shall be paid for at the lump sum price bid for "TRENCH AND EXCAVATION SAFETY SYSTEM," which price shall be full compensation for benching, sloping, sheeting, shoring, shielding, or any other protective system that provides the necessary protection to comply with Act 291 of 1993.

Payment will be made under:

Item E4-5.1 Trench and Excavation Safety System - per lump sum

END OF SECTION E-4

SECTION I-1 – MAINTENANCE OF TRAFFIC

DESCRIPTION

I1-1.1 This item shall include the erection of signs, barricades, temporary markings, and the maintenance of, or noninterference with, traffic in accordance with details shown on the Plans and with these Specifications, or as directed by the Engineer.

I1-1.2 This item shall also include the temporary relocation of traffic and street signs, the maintenance of the temporarily relocated signs through the construction of the project, and the permanent relocation of any sign relocated due to construction signage after the construction is complete. Permanent relocation of any salvaged signs shall consist of furnishing new sign posts, new support hardware, and new concrete bases, where required, in accordance with the dimensions and details shown in the Plans and at the locations shown in the Plans, or as directed by the Engineer. New sign posts shall comply with the Standard Specifications and ARDOT Standard Drawings.

I1-1.3 This item shall not include the furnishing, erection, maintenance, or temporary relocation of portable changeable message signs. Portable changeable message signs, if necessary or directed by the engineer, shall be paid for separately as part of Item SP-34, Contingency Allowance, as needed for each bid schedule.

STANDARDS

I1-2.1 Maintenance of traffic as described above shall be accomplished in accordance with the applicable portions of SECTION 603 – MAINTENANCE OF TRAFFIC AND TEMPORARY STRUCTURES of the Standard Specifications, except as modified or augmented herein.

I1-2.2 Traffic control devices shall be in accordance with SECTON 604 – TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES of the Standard Specifications, except as modified or augmented herein.

I1-2.3 Materials for aggregate base for roadway maintenance shall be in accordance with SECTION P-1 – AGGREGATE BASE COURSE.

CONSTRUCTION METHODS

I1-3.1 The Contractor shall implement and maintain all maintenance of traffic devices as shown on the Plans or submit his own Plan to the Owner and Engineer for review and approval. Upon approval by the Owner in writing, the Contractor shall supply the Fire Chief and the Police Chief one (1) copy each for their files. Two (2) copies shall be supplied to the Engineer. The Contractor shall initiate and maintain all necessary labor and materials necessary to construct the project in a manner which will guarantee public safety with a minimum of inconvenience. Additional work shall be performed by the Contractor during construction as directed by the Owner or Engineer if necessary to insure the above standards.

I1-3.2 CONTRACTOR PERSONNEL: The Contractor shall designate a traffic control supervisor to furnish continuous surveillance over traffic control operations. This supervisor shall be available at night and weekends to respond to calls involving traffic control. The name of the traffic control supervisor shall be provided at the preconstruction conference and to local police.

The Contractor's personnel who are used to maintain traffic flow, such as flagmen or any other person who verbally communicates with or gives directions to the motorized public, shall speak English fluently.

I1-3.3 DRIVEWAYS: Maintenance of driveways shall be as approved by the Engineer. It shall be the Contractor's responsibility to maintain adequate access to private and commercial property at all times, except as required for construction across the driveway as approved by the Engineer. During the construction of driveways or at any time that a property owner cannot use his driveway, the Contractor

shall notify the property owner (one week in advance, minimum) when the driveway will be closed and the approximate length of time that it will be closed. The intent of this section of the Specifications is to cause as little inconvenience as possible to private property owners.

I1-3.4 RELOCATION AND REPLACEMENT OF TRAFFIC SIGNS AND PAVEMENT STRIPING: During the construction of the project, the temporary relocation of street signs and traffic control signs will be performed by the Contractor. The Contractor shall maintain the signs at highly visible locations as near as practicable to the original locations. The latest edition of the Manual of Uniform Traffic Control Devices published by the Federal Highway Administration shall be used as a guide to the placement of signs during construction.

Immediately after the construction of any part of the project reaches a stage of completion such that the relocation of the street signs and traffic control signs is no longer necessary, the Contractor shall permanently relocate the street signs and traffic control signs. Removing any construction signage must be approved by the Engineer.

Street signs and traffic control signs shall be removed from such area of work as necessary to permit work on the project. Each sign shall be temporarily relocated in a secure manner by driving the sign into the ground with equipment approved by the Engineer, or otherwise installed as approved to prevent damage to underground utilities. Street signs no longer necessary shall be salvaged in good condition and restored to their original use or returned to the Owner if no longer needed.

Existing striping shall be removed and new temporary stripes and other pavement markings shall be provided by the Contractor. Work shall be performed in accordance with SECTION 720 (for Type 4) – PERMANENT PAVEMENT MARKING TAPE of the Standard Specifications. Pavement markings not necessary to the phased construction patterns shall be removed or obliterated with black paint, as approved by the Engineer. Striping shall be maintained and restored as necessary during construction. Permanent pavement marking removal by diamond grinding, as directed by the engineer, shall not be measured but shall be included in the price bid per lump sum for Maintenance of Traffic.

I1-3.5 SUSPENSION OF WORK: If the Owner or the Engineer determines that provisions for safe traffic control are not being provided or maintained, the work will be suspended. In cases of serious or willful disregard for safety of the public or construction workers, the Owner will place the traffic control devices in proper condition and deduct the costs from monies due the Contractor.

I1-3.6 CONSTRUCTION SEQUENCE: The Contractor shall begin construction on the Walton Boulevard and Medical Center Parkway Intersection (Bid Schedule 1). Once roadway widening has been completed on Medical Center Parkway, and intermediate surface has been achieved, the Contractor may begin construction of the Walton Boulevard and SE J Street Intersection (Bid Schedule 2) and work concurrently on both intersections as directed by the Engineer and the Owner. The Plans show the Construction Phases for each intersection. For each intersection, phase 1 is shown to be executed first. However, the Owner may require the Contractor to construct the phases in an alternate order. The maintenance of traffic as shown in the plans is provided to the contractor as a minimum controls and as guidance. The Contractor shall prepare and submit to the Engineer and the Owner for approval a detailed maintenance of traffic plan in accordance with the plans and these specifications prior to the start of construction.

METHOD OF MEASUREMENT

I1-4.1 Maintenance of Traffic will be measured as a complete item.

BASIS OF PAYMENT

I1-5.1 Work performed under this section, acceptably completed as provided above, will be paid for at the control lump sum bid price for “MAINTENANCE OF TRAFFIC,” which price shall be full compensation for this item. Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer.

I1-5.2 Portable changeable message signs, if necessary or directed by the engineer, shall be paid for separately as part of Item SP-34, Contingency Allowance, as needed for each bid schedule.

Payment will be made under:

Item I1-5.1 Maintenance of Traffic – per lump sum

END OF SECTION I-1

SECTION I-3 – PIPE CULVERTS

DESCRIPTION

I3-1.1 This section covers reinforced concrete pipe and flared end sections constructed at the locations shown on the Plans or as directed by the Engineer.

STANDARDS

I3-2.1 Materials and work shall be in accordance with SECTION 606 – PIPE CULVERTS of the Standard Specifications, except as modified or augmented herein.

MATERIALS

I3-3.1 Concrete pipes shall be of the bell and spigot or tongue and groove type, as approved by the Engineer, and shall conform to the specifications of ASTM Designation C 76 (for circular pipe) and C 506 (for arch pipe), latest editions, for the sizes and classes of pipes shown on the Plans and listed in the Unit Price Schedule. The class of pipe and date of manufacture shall be marked on each joint of pipe. Pipe shall be at least ten (10) days old before it is delivered to the project.

I3-3.2 Flared end sections shall be reinforced concrete conforming to the requirements of ASTM C 76.

I3-3.3 Jointing material for reinforced concrete pipe shall be rubber gaskets conforming to the requirements of ASTM C 443.

I3-3.4 Concrete for pipe collars shall meet the requirements of Class S concrete of SECTION 802 – CONCRETE FOR STRUCTURES of the Standard Specifications.

CONSTRUCTION METHODS

I3-4.1 TRENCHING AND BACKFILL: Trenching and backfill shall be in accordance with applicable requirements of SECTION 606 – PIPE CULVERTS of the Standard Specifications and SECTION E-3 – EXCAVATION FOR STRUCTURES, SECTION I-8 - PAVEMENT REPAIRS, and SECTION E-4 – TRENCH AND EXCAVATION SAFETY SYSTEMS of these specifications, except as modified or augmented herein.

Where unsuitable material is encountered, excavation shall continue until a firm material is reached and the over-excavation filled to grade with a special bedding material in accordance with the provisions of SECTION P-1 – AGGREGATE BASE COURSE.

I3-4.2 INSTALLATION OF PIPE: The installation of pipe shall be in accordance with SECTION 606 – PIPE CULVERTS of the Standard Specifications, except as modified or augmented herein.

The pipe ends where jointing occurs shall be cleaned and maintained clean. The joint shall be constructed as recommended by the manufacturer of the pipe. Each section of pipe shall be examined carefully before being laid, and the defective or damaged sections shall not be used. Pipelines shall be laid to the grades and alignment indicated, or as directed by the Engineer. Pipe laying shall proceed upgrade. The "bell" ends of concrete pipe shall point upgrade.

Proper facilities shall be provided for lowering sections of pipe into trenches. Lifting holes in pipe will not be allowed. Under no circumstances shall pipe be laid in water, and no pipe shall be laid when trench conditions or weather are unsuitable for such work. Full responsibility for the diversion of drainage and for dewatering of trenches during construction shall be borne by the Contractor.

All pipe in place shall be approved by the Engineer before being backfilled. In all backfilling operations, the Contractor shall be responsible for preventing damage to or misalignment of the pipe.

METHOD OF MEASUREMENT

I3-5.1 Pipe culverts will be measured by the linear foot in place, completed and accepted. Where inlets, junction boxes, or other structures are included in lines of pipe, that length of pipe extending to and flush with the inside of the structure wall will be included for measurement, but no other portion of the structure length or width will be so included. Separate measurements will be made by the sizes and classes shown on the Plans and listed in the Unit Price Schedule. Measurements will be taken to the nearest linear foot.

I3-5.2 Flared end sections will be measured by the unit (each) and will include the curtain wall, complete in place.

I3-5.3 Excavation and backfill will not be measured separately, but will be considered subsidiary to constructing the pipe.

I3-5.4 Pipe collars will be measured by the unit (each).

BASIS OF PAYMENT

I3-6.1 Pipe culverts acceptably completed and measured as provided above will be paid for at the contract unit price per linear foot bid respectively for "REINFORCED CONCRETE PIPE," of the sizes and classes shown on the Plans and listed in the Unit Price Schedule; which prices, in each case, shall be full compensation for furnishing all materials; for all trenching, backfilling, and compacting; and for all equipment, tools, labor, and incidentals necessary to complete the work.

I3-6.2 Flared end sections acceptably completed and measured as provided above will be paid for at the contract unit price per each bid respectively for "FLARED END SECTION," of the sizes shown on the Plans and listed in the Unit Price Schedule; which prices, in each case, shall be full compensation for furnishing all materials; for all excavation, backfilling, and compacting; for curtain walls; and for all equipment, tools, labor, and incidentals necessary to complete the work.

I3-6.3 Pipe collars acceptably completed and measured as provided above will be paid for at the contract unit price per each bid respectively for "PIPE COLLAR," of the sizes shown on the Plans and listed in the Unit Price Schedule; which prices, in each case, shall be full compensation for furnishing all materials; for all excavation, backfilling, and compacting; and for all equipment, tools, labor, and incidentals necessary to complete the work.

Payment will be made under:

Item I3-6.1a	__" Reinforced Concrete Pipe, Class III - per linear foot
Item I3-6.2a	__" Reinforced Concrete Flared End Section - per each
Item I3-6.3a	Pipe Collar - per each

END OF SECTION I-3

I-4 – PRECAST REINFORCED CONCRETE BOX CULVERTS

DESCRIPTION

I4-1.1 This item covers the furnishing and installation of precast reinforced concrete box culverts (RCBCs) in accordance with the lines and grades and for the sizes and locations as shown in the Plans.

I4-1.2 Where cast-in-place RCBCs are indicated in the Plans, the Contractor may utilize a precast RCBC instead, subject to the additional requirements of these specifications and written approval from the Engineer.

STANDARDS

I4-2.1 Materials, manufacturing, and construction requirements shall be in accordance with SECTION 607 – PRECAST REINFORCED CONCRETE BOX CULVERTS of the Standard Specifications, except as modified or augmented herein.

CONSTRUCTION METHODS

I4-3.1 Box culvert construction and typical section shall conform to the details and dimensions as shown in the Plans. Deviations from these details and dimensions shall be approved in writing by the Engineer.

I4-3.2 Design of all precast reinforced concrete structures must be stamped by a Professional Engineer Licensed in the State of Arkansas, and shall generally conform to the details in the Plans for the cast-in-place structures, if shown. Prior to installation, the Contractor must submit the stamped design of all precast structures to the Engineer for written approval. The Engineer's approval will not relieve the Contractor of any responsibilities for liability or other responsibilities set forth in these specifications.

I4-3.3 The Contractor shall coordinate with the precast box culvert supplier for box culvert sections adjacent to cast-in-place wing walls, headwalls, or other structures. Connection details, stamped by a Professional Engineer Licensed in the State of Arkansas, shall be submitted for approval by the Engineer.

I4-3.4 All joints shall be filled with an approved non-shrink grout.

I4-3.5 Cutting, grouting, and connection of existing pipe culverts shall not be measured for separate payment, but shall be considered subsidiary work pertaining to "PRECAST REINFORCED CONCRETE BOX CULVERT."

I4-3.6 No additional compensation will be considered due to the Contractor for any conflicts, on-site changes, materials, or labor that may arise from the Contractor's choice to install a precast structure.

I4-3.7 All precast RCBCs must be constructed on 6 inches of Class 7 Aggregate Base Course compacted to 95% of the maximum density as determined in accordance with AASHTO T-180 and extending 6 inches beyond the outside wall. Base course will not be measured for separate payment but will be subsidiary to the box culvert.

METHOD OF MEASUREMENT

I4-4.1 Precast reinforced concrete box culverts will be measured by the linear foot installed, completed and accepted.

BASIS OF PAYMENT

I4-5.1 Work completed and accepted and measured as provided above will be paid for at the unit price bid per linear foot for "PRECAST REINFORCED CONCRETE BOX CULVERT," for each type or size as listed in this specification and the Unit Price Schedule, which price shall be full compensation for

all materials furnished and placed, and for all labor, tools, equipment and incidentals necessary to complete the work.

Payment will be made under:

Item I4-5.1a	8'x4' Precast Reinforced Concrete Box Culvert - per linear foot
Item I4-5.1a	4'x2' Precast Reinforced Concrete Box Culvert - per linear foot

END OF SECTION I-4

SECTION I-5 – DROP INLETS AND JUNCTION BOXES

DESCRIPTION

I5-1.1 This section covers all work in connection with the construction of the various types and sizes of inlets and junction boxes in accordance with the locations and details shown on the Plans and with these Specifications.

STANDARDS

I5-2.1 All work under this section shall be done in accordance with SECTION 609 – DROP INLETS AND JUNCTION BOXES of the Standard Specifications, except as modified or augmented herein.

MATERIALS

I5-3.1 Cement, aggregate, water, additives, and reinforcing steel shall conform to the requirements for materials as provided in SECTION S-1 – STRUCTURAL CONCRETE of these specifications.

I5-3.2 Concrete for inlets, junction boxes, the apron around the inlet, and additional curb openings shall meet the requirements of Class S concrete of SECTION 802 – CONCRETE FOR STRUCTURES of the Standard Specifications.

I5-3.3 Materials other than those described above shall be in conformity with paragraph 609.02 – Materials of the Standard Specifications.

I5-3.4 All accessories provided shall be first-quality standard commercial material free of defects for accessories such as bolts, rivets, spacers, small I-beams, channels, and plates for assembling or supporting frames, grates, or covers.

I5-3.5 Precast concrete units of the type, size, and designation shown on the plans may be used in lieu of cast-in-place concrete units and shall be subject to the requirements of AASHTO M 199 or ASTM C 913 as applicable with approval from the Owner and the Engineer.

CONSTRUCTION METHODS

I5-4.1 Forms, concrete, and reinforcing steel shall be in accordance with applicable requirements of SECTION S-1 – STRUCTURAL CONCRETE and with additional stipulations as follows:

1. Inside wall forms shall be removed prior to the erection of forms for top slabs. The supports for top slab forms shall be positioned in such a manner that will result in a minimum of interference with the free flow of water.

2. Manhole rings, cover, grates, curb hoods, and frames shall conform to the details in the Plans and to applicable portions of SECTION 609 – DROP INLETS AND JUNCTION BOXES of the Standard Specifications.

I5-4.2 Assemble and place castings, grates, special frames, and supports as shown on the Plans. Bed the frames of manholes and covers, and inlets and grates in a layer of mortar with a full bearing and set to the grade shown on the Plans. Make the top of the casting flush with the surrounding surface unless otherwise indicated.

METHOD OF MEASUREMENT

I5-5.1 Completed and accepted inlets and junction boxes will be measured by the completed structure.

I5-5.2 Completed and accepted curb hood openings exceeding the number of inlet grates on a structure will be measured as additional curb openings per each additional cast iron curb hood opening installed.

BASIS OF PAYMENT

I5-6.1 Work completed and accepted under this section and measured as provided above will be paid for at the Contract Unit Price bid for each for the items listed below, which price shall be full compensation for constructing the item; for all excavation and backfill; for manhole rings, covers, grates, curb hoods, and frames; for bolts, nuts, support beams, and reinforcing steel; for the apron around the inlet; for orifice plates; and for all materials, equipment, tools, labor and incidentals necessary to complete the work.

Payment will be made under:

Item I5-6.1a	Single Grate Combination Inlet – per Each
Item I5-6.1b	Double Grate Combination Inlet - per Each
Item I5-6.1c	Triple Grate Combination Inlet - per Each
Item I5-6.1d	Quadruple Grate Combination Inlet - per Each
Item I5-6.1e	Single Grate Combination Inlet With 3'x4' Junction Box- per Each
Item I5-6.1f	Single Grate Combination Inlet With 3'x11.5' Junction Box- per Each
Item I5-6.1g	Double Grate Combination Inlet With 4'x4' Junction Box- per Each
Item I5-6.1h	Double Grate Combination Inlet With 6'-2"x4' Junction Box- per Each
Item I5-6.1i	Double Grate Combination Inlet With 6'-2"x6'-6” Junction Box- per Each
Item I5-6.1j	Double Grate Combination Inlet With 6'-2"x7’ Junction Box- per Each
Item I5-6.1k	Double Grate Combination Inlet With 6'-2"x7'-6” Junction Box- per Each
Item I5-6.1l	Triple Grate Combination Inlet With 4’x4’ Junction Box- per Each
Item I5-6.1m	Triple Grate Combination Inlet With 8’x4’-6” Junction Box – per each
Item I5-6.1n	Special Double Grate Combination Inlet with 4’x1’-6” Junction Box – per each
Item I5-6.1o	Special Double Grade Combination Inlet with 6’-2”x7’ Junction Box – per each
Item I5-6.1p	Additional Curb Openings – per Each
Item I5-6.1q	4' Type MO Curb Inlet– per Each
Item I5-6.1r	4' Type MO Junction Box– per Each
Item I5-6.1s	4' Curb Inlet Extension– per Each
Item I5-6.1t	9’x12’ Type C Curb Inlet– per Each
Item I5-6.1u	4'x13.5' Junction Box – per Each
Item I5-6.1v	12.5'x5.5' Junction Box – per Each
Item I5-6.1w	15'x4' Junction Box – per Each

END OF SECTION I-5

SECTION I-8 – PAVEMENT REPAIRS

DESCRIPTION

I8-1.1 This section covers the repairs of streets for storm drainage culverts, drainage structures, or other excavations within existing pavements which are to remain. All work shall be in accordance with these specifications and the details in the Plans at the locations shown in the Plans or as directed by the Engineer.

STANDARDS

I8-2.1 All work under this section shall be in accordance with SECTION 615 – PAVEMENT REPAIR OVER CULVERTS of the Standard Specifications, except as modified or augmented herein.

I8-2.2 Concrete used in permanent pavement repair shall meet the requirements of Class S concrete of SECTION 802 – CONCRETE FOR STRUCTURES of the Standard Specifications.

CONSTRUCTION METHODS

I8-3.1 Pavement removal limits shall be smoothly sawcut and shall have a neat appearance. Asphalt and/or concrete materials removed from the excavation or cut shall not be used as backfill material.

I8-3.2 Permanent asphalt and concrete pavement repairs shall conform to the details in the Plans and the requirements of SECTION 615 – PAVEMENT REPAIR OVER CULVERTS of the Standard Specifications, except as modified or augmented herein. In the event of a conflict, the details in the Plans and this specification shall govern over the requirements of SECTION 615. For concrete pavement repairs, joints shall be sawcut and sealed as directed by the Engineer in accordance with details in the Plans and SECTION 501 - PORTLAND CEMENT CONCRETE PAVEMENT of the Standard Specifications.

I8-3.3 Temporary pavement repairs shall be in accordance with the details in the Plans and shall be maintained and removed as required.

I8-3.4 RESTORATION OF STREET CUT: The Contractor is required to restore the excavation, or cut, immediately upon completion of the work which required the cut. The Contractor shall notify the Engineer when the restoration is completed.

METHOD OF MEASUREMENT

I8-4.1 Permanent pavement repairs will be measured by the square yard acceptably completed, less any overcut as determined by the Engineer, for each type of repair as detailed in the Plans. In no case shall the measurement extend beyond the pay limits shown on the details for each type of pavement repair. Pavement repairs of insufficient depth shall not be measured for payment.

I8-4.2 Temporary pavement repair shall be measured by the square yard maintained and utilized by traffic as directed by the Engineer. In no case shall the measurement of repair extend beyond the pay limits shown on the details in the Plans. Pavement repairs of insufficient depth shall not be measured for pavement.

I8-4.3 Temporary or permanent restoration of private drives and parking surfaces, where directed by the Engineer, will be included in the measurement and payment of the unit prices indicated above.

I8-4.4 Repair of the street required because of damage from the Contractor's equipment or negligence will not be measured for payment.

I8-4.5 Pavement cutting and removal will not be measured for separate payment, but shall be considered subsidiary to the installation of the involved item.

BASIS OF PAYMENT

I8-5.1 Payment for pavement repairs will be made at the contract unit price bid per square yard for ASPHALT PAVEMENT REPAIR and TEMPORARY PAVEMENT REPAIR, which price shall be full compensation for the complete restoration of the pavement in accordance with the Plans and this specification including sawcutting, removal, and disposal of materials; placement and compaction of backfill; placement of asphalt, concrete, reinforcement or other materials; placement, maintenance, and removal of temporary surface materials; and all labor, materials, equipment, and incidental items required to complete the repair.

Payment will be made under:

Item I8-5.1a	Asphalt Pavement Repair - per square yard
Item I8-5.1b	Temporary Pavement Repair - per square yard

END OF SECTION I-8

SECTION I-9 – GUARDRAIL

DESCRIPTION

I9-1.1 This item shall consist of furnishing and installing steel plate guardrail, including concrete line posts, spacer blocks, terminal anchor post, end sections, and guardrail anchor posts, at the locations shown on the Plans or directed by the Engineer.

STANDARDS

I9-2.1 All work under this item shall be in accordance with SECTION 617 – GUARDRAIL of the Standard Specifications and the ARDOT Standard Drawings for the type specified, except as modified or augmented herein.

MATERIALS

I9-3.1 Material for line posts shall conform to paragraph 617.02(a)(2) of the Standard Specifications.

I9-3.2 Material for terminal anchor posts shall conform to paragraph 617.02(b)(2) of the Standard Specifications.

METHOD OF MEASUREMENT

I9-4.1 Guardrail shall be measured in place by the linear foot measured along the center line of the rail.

BASIS OF PAYMENT

I9-5.1 Guardrail will be paid for at the contract unit price bid per linear foot. This price shall be full compensation for furnishing and installing the guardrail including line posts, terminal anchor post, end section, and all incidental appurtenances; and for all equipment and labor required to complete the work.

Payment will be made under:

Item I9-5.1 Guardrail - per linear foot

END OF SECTION I-9

SECTION I-12 – TEMPORARY EROSION CONTROL

DESCRIPTION

I12-1.1 This section covers the application of Temporary Erosion Control items at locations shown on the Plans, as directed by the Engineer, and as required for permit compliance.

STANDARDS

I12-2.1 Items and materials for this section shall be in accordance with SECTION 621 – TEMPORARY EROSION CONTROL ITEMS AND DEVICES of the Standard Specifications, except as modified or augmented herein.

CONSTRUCTION METHODS

I12-3.1 Providing the temporary erosion control items and devices shown on the Plans is intended to minimize the erosion of soils during construction. However, the items and devices shown are not intended to represent all of the necessary items or procedures required to be implemented by the Contractor. The plans and specifications show the Engineer's estimate of a minimum effort needed to maintain proper erosion control during construction. Additional effort and materials may be required by the Contractor to minimize the erosion of soils during construction. It shall be the Contractor's responsibility to install and maintain all the items shown in the Plans and to coordinate, submit, obtain, and comply with all necessary Federal, State, and local permits.

I12-3.2 Heavy Duty silt fencing (with welded wire in the fabric) may be required on steep slopes if the Engineer determines that the silt fence or filter socks used by the Contractor is not performing satisfactory.

METHOD OF MEASUREMENT

I12-4.1 Temporary erosion control will be measured as a complete item.

BASIS OF PAYMENT

I12-5.1 Temporary erosion control acceptably completed will be paid for at the contract lump sum price bid for "TEMPORARY EROSION CONTROL," which price shall be full compensation for furnishing, installing, and maintaining tree protection fencing and erosion control devices; and for furnishing all materials, tools, equipment, labor, and incidentals necessary to complete the work. Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer.

Payment will be made under:

Item I12-5.1 Temporary Erosion Control – per lump sum

END OF SECTION I-12

SECTION I-13 – SOLID SODDING

DESCRIPTION

I13-1.1 This section covers the furnishing and placing of approved Bermuda sod, fertilizer, and water to form solid mats on areas shown on the Plans or as directed by the Engineer.

STANDARDS

I13-2.1 Materials and work shall be in accordance with SECTION 624 – SOLID SODDING of the Standard Specifications, except as herein modified or augmented.

CONSTRUCTION METHODS

I13-3.1 Areas to be sodded shall be shaped and graded to an elevation in such manner that they will, after placement of sod, conform to the typical sections.

I13-3.2 Immediately following the sodding operations, all gutters, sidewalks, driveways, street pavement, yards, or other areas shall be cleaned of all debris, excess sod, topsoil, or other objectionable matter. All such clean-up operations shall be completed before sodded areas are measured for payment as described below.

METHOD OF MEASUREMENT

I13-4.1 Areas covered by living sod completed and accepted will be measured by the square yard to the nearest square yard.

BASIS OF PAYMENT

I13-5.1 Solid sodding acceptably completed, and measured as provided above, will be paid for at the contract unit price per square yard bid for “SODDING,” which price shall be full compensation for furnishing and placing all materials, including sod, fertilizer, and water; for clean-up work; and for all equipment, tools, labor and incidentals necessary to complete the work.

Payment will be made under:

Item I13-5.1 Sodding - per square yard

END OF SECTION I-13

SECTION I-14 – TOPSOIL

DESCRIPTION

I14-1.1 This section covers the furnishing and placing topsoil on completed slopes and ditches as shown in the typical sections and other areas shown on the Plans or as described by the Engineer.

STANDARDS

I14-2.1 Materials and work shall be in accordance with SECTION 628 – TOPSOIL FURNISHED AND PLACED of the Standard Specifications, except as modified or augmented herein.

CONSTRUCTION METHODS

I14-3.1 Immediately following the topsoiling operations, all gutters, sidewalks, driveways, street pavement, yards or other areas shall be cleaned of all excess topsoil.

MEASUREMENT AND PAYMENT

I14-4.1 Topsoil will not be measured for separate payment, but will be subsidiary to the item or items under SECTION E-2 – EXCAVATION AND EMBANKMENT.

END OF SECTION I-14

SECTION I-15 – CONCRETE ISLAND

DESCRIPTION

I15-1.1 This item shall consist of constructing concrete islands in accordance with the lines, grades, thicknesses and locations shown on the Plans or directed by the Engineer.

STANDARDS

I15-2.1 All work and materials under this item shall be in accordance with SECTION 632 – CONCRETE ISLAND of the Standard Specifications, except as modified or augmented herein.

CONSTRUCTION METHODS

I15-3.1 Joints shall be sawcut and sealed in accordance with the details in the Plans. In the absence of details in the Plans specifically for concrete islands, joints shall be constructed in accordance with the requirements for joints in concrete sidewalk.

METHOD OF MEASUREMENT

I15-4.1 Concrete island shall be measured by the square yard, completed and accepted.

BASIS OF PAYMENT

I15-5.1 Concrete islands will be paid for at the contract unit price bid per square yard for each thickness indicated. This price shall be full compensation for furnishing and installing the concrete, formwork, curing materials; for subgrade preparation and aggregate base; for sawing and sealing joints; and for all equipment, labor, and incidentals required to complete the work.

Payment will be made under:

Item I15-5.1a	Concrete Island (4”) - per square yard
Item I15-5.1b	Concrete Island (6”) - per square yard

END OF SECTION I-15

SECTION I-16 – CONCRETE SIDEWALKS

DESCRIPTION

I16-1.1 This item shall consist of the construction of reinforced and unreinforced Portland Cement concrete sidewalks, handicap ramps and retaining walls integral with sidewalk in accordance with the lines, grades, and construction details shown on the Plans or as directed by the Engineer. All materials and work shall be in accordance with the details shown on the Plans and with these Specifications.

STANDARDS

I16-2.1 Materials and work for sidewalks and handicap ramps shall be in accordance with SECTION 633 - CONCRETE WALKS, CONCRETE STEPS, AND HANDRAILING and SECTION 641 – WHEELCHAIR RAMPS of the Standard Specifications, except as modified by SECTION S-1 – STRUCTURAL CONCRETE of these specifications, and except as modified or augmented herein.

I16-2.2 Concrete for sidewalks shall conform to ARDOT Class "S", 3500 psi, 6.5 bag mix with 4-7% air entrainment. Alternative materials must be approved in writing by the City Engineer. All sidewalks not within driveways shall be a minimum of 4 inches thick concrete. All sidewalks within a driveway shall be a minimum of 6 inches thick.

CONSTRUCTION METHODS

I16-3.1 Final finishing of the surface shall be by steel trowel finish followed by light brushing or brooming to attain a slightly roughened texture. Transverse (contraction) joints in the walks shall be sawcut (to a depth of T/4) at intervals not greater than the width of the walk, or as directed, in accordance with details in the Plans.

I16-3.2 Transverse expansion joints in sidewalks and handicap ramps shall be constructed opposite expansion joints in curb and gutter, where sidewalk abuts other concrete structures, and as otherwise directed by the Engineer, except that no space shall be left between the sidewalk and adjacent curb. Expansion joints shall be sealed with Sonneborn SL1-Sealant above the joint filler material.

I16-3.3 Curing compound meeting SECTION 802 – CONCRETE FOR STRUCTURES of the Standard Specifications shall be used on all sidewalks and handicap ramps.

I16-3.4 All sidewalks and handicap ramps shall be placed on a minimum 4” aggregate base course according to the material and construction requirements of SECTION P-1 – AGGREGATE BASE COURSE.

METHOD OF MEASUREMENT

I16-4.1 Concrete for sidewalks and handicap ramps will be measured by the horizontal square yard.

I16-4.2 Retaining walls constructed integral with sidewalk and handicap ramps, including the 6” concrete sidewalk or ramp, where shown on the plans shall be measured by the square yard of adjacent sidewalk, not including the wall.

BASIS OF PAYMENT

I16-5.1 Work acceptably completed and measured as provided above, will be paid for at the contract unit price bid per square yard for “CONCRETE SIDEWALK,” “HANDICAP RAMP CONCRETE,” “RETAINING WALL INTEGRAL WITH 6” THICK SIDEWALK,” and “RETAINING WALL INTEGRAL WITH 6” HANDICAP RAMP CONCRETE,” at the specified thickness, which price shall be

full compensation for subgrade preparation; for aggregate base; for formwork; for furnishing and placing all materials, including expansion joint material; and for all equipment, tools, labor and incidentals necessary to complete the work.

Payment will be made under:

Item I16-5.1a	4” Concrete Sidewalk - per square yard
Item I16-5.1b	6” Concrete Sidewalk - per square yard
Item I16-5.1c	Handicap Ramp Concrete - per square yard
Item I16-5.1d	Retaining Wall Integral with 6” Thick Sidewalk – per square yard
Item I16-5.1e	Retaining Wall Integral with 6” Handicap Ramp Concrete – per square yard

END OF SECTION I-16

SECTION I-17 – CURB AND GUTTER

DESCRIPTION

I17-1.1 This section shall consist of the construction of curb and curb and gutter at the locations shown on the Plans or as directed by the Engineer.

STANDARDS

I17-2.1 Materials and work (including testing) for Concrete Curb and Concrete Curb and Gutter shall be in accordance with SECTION 634 - CURBING of the Standard Specifications, except as modified by SECTION S-1 - STRUCTURAL CONCRETE of these Specifications, and except as modified or augmented in this section of the Specifications.

MATERIALS

I17-3.1 Concrete for curb and gutter shall be Class "S" Portland Cement Concrete in accordance with SECTION 802 – CONCRETE FOR STRUCTURES or SECTION 501 – PORTLAND CEMENT CONCRETE PAVEMENT of the Standard Specifications with a 28-day compressive strength of 3,500 psi. Admixtures shall not be used unless specifically approved by the City Engineer. Maximum slump shall not exceed 4". Curing compound shall be white pigmented membrane-forming liquid conforming to the requirements of ASTM Designation C309, Type 2.

CONSTRUCTION METHODS

I17-4.1 FORMS: Article 634.03(b) of Standard Specifications shall be augmented as follows:

1. Forms shall be made of metal or wood and shall have a depth equal to or greater than the thickness of the pavement slab. The minimum length of each section of form used shall be ten (10) feet. Each section or form shall be uniform and free from undesirable bends or warps.

2. The maximum deviation of the top surface of any section shall not exceed one-eighth (1/8) inch, or the inside face not more than 1/4 inch from planned alignment. The method of connection between sections shall be such that the joint thus formed shall be free from movement in any direction. Forms shall be of such cross-section and strength and so secured as to resist the pressure of the impact and vibration of any equipment which they support, without springing or settlement.

3. Every 10-foot length of form shall have at least three form braces and pin sockets which shall be spaced at intervals of not more than 5 feet, having the end brace and socket not more than six inches from the end of the form. Approved flexible forms shall be used for construction where the radius is 150 feet or less.

4. The subgrade under the forms shall be cut and compacted to a width not less than one foot behind the back of curb and gutter, removing all soft and yielding areas and replacing with suitable material compacted. Forms shall be joined neatly and in such a manner that the joints are free from play or movement in any direction. The supply of forms shall be sufficient to permit their remaining in place for at least twelve hours after the concrete has been placed. All forms shall be cleaned and oiled prior to use.

5. The alignment and grade elevations of the forms shall be checked by the Contractor and the necessary corrections made immediately before placing the concrete. When any form has been disturbed or any subgrade there under has become unstable, the forms shall be reset and rechecked. The Engineer shall approve all forms before they are used on the job and shall inspect them periodically. When forms appear to be unsatisfactory in any way, either before

forms are used, during forming operations, or during the placing of concrete, the Engineer shall order the work stopped until the defects have been corrected or the defective forms are replaced by satisfactory ones.

I17-4.2 PLACING AND FURNISHING: That part of Article 634.03(c)(1) of the Standard Specifications which relates to placing and finishing shall be replaced by the following requirements:

1. Concrete shall be dry enough to permit early removal of face forms, if used, for the curb section; it shall not be so dry but what adequate tamping and spading will ensure adequate compaction and surfaces free from honeycomb. The subgrade shall be wetted before placing the concrete.

2. The surface shall be shaped to the required section, finished with a steel trowel, and lightly brushed to produce a uniform surface of slightly roughened texture. The exposed edge of the gutter at the front form, and the exposed edge of the curb at the back form, shall be edged with an edging tool having a radius of approximately 1/8 inch.

3. At the Contractor's option, shaping may be done by a steel screen, shaped to exact curb and gutter section, riding upon the tops of front metal template. The Contractor shall be responsible for construction within the tolerances allowed by this section. The shaping operation shall be repeated as often as necessary to attain the required results.

4. If templates are used to control shape, they shall be of metal and securely fastened in position at intervals not exceeding ten (10) feet. Templates shall be normal to the grade of the gutter and to the centerline of roadway.

5. The subgrade shall be moist, but not muddy, at the time of placing of the concrete. If required by the City, the prepared subgrade shall be saturated with water the previous night, or not less than 6 or more than 20 hours prior to placing the concrete. If the subgrade subsequently becomes too dry, it shall be sprinkled again ahead of placing the concrete, in such a manner as not to form mud or puddles of water.

6. Contractor shall give the City Engineer at least twenty-four (24) hours advance notice before placing concrete, and the subgrade shall be checked and approved by the City Engineer or his/her designated representative before any concrete is placed.

7. Curb and gutter placed by slip-form or extruding equipment will be accepted providing it complies with all of the above requirements other than forms.

I17-4.3 JOINTS: Article 634.03(d), Joints, Standard Specifications, for Concrete Curb and Concrete Curb and Gutter shall be deleted in its entirety, and substituted therefore shall be the following:

1. Premolded expansion joint material shall be placed between the curb and gutter and any concrete construction that otherwise would abut against it. Joint material shall be 1/2 inch thick. Premolded joint material shall be of the nonextruding type, and shall conform to AASHTO designation M 213 and may be found on the current ARDOT “Qualified Products List.”

2. Expansion joints shall be constructed at the ends of curb and gutter, at the points of curvature of returns to streets and driveways. Intermediate expansion joints shall be constructed so that the maximum distance between joints is seventy-five (75) feet or as otherwise controlled by details on the Plans. The joint material shall extend entirely through the curb and gutter section and, before the joint can be considered completed, must be trimmed to curb and gutter section.

3. Contraction joints shall be 1/8" to 3/8" (width) x 1-1/2" (depth) and shall be placed at fifteen (15) foot intervals between expansion joints or as otherwise controlled by details on the Plans.

Contraction joints shall be formed by sawing, unless otherwise specified, and sealed with a non-sag sealant meeting the requirements of the Standard Specifications. All contraction joints shall be filled with joint sealant to finished grade. Joint sealing compound for contraction joints shall be Sonneborn "Sonolastic Sli" or approved equal. Closed cell backer rod shall be used in deep joints, as needed, according to the manufacturer's instructions.

4. Joints shall be normal to the grade for gutter and the centerline of the roadway. Where curb and gutter is constructed adjacent to rigid pavement, and at sidewalks, the location and width of joints shall coincide with those in the pavement, where practicable. All joints shall be sealed with material meeting the requirements of SECTION 501 – PORTLAND CEMENT CONCRETE PAVEMENT, Article 501.03(h) of the Standard Specifications.

I17-4.4 PLACEMENT: Concrete curb and concrete curb and gutter shall be one-course, monolithic, between expansion joints.

I17-5.1 FINISHING AND CURING: The curb shall be tooled to the required radii as soon as possible after the concrete takes its initial set. The gutter shall be shaped with a wood float at least 4 feet long. After the face forms and templates are removed, the joints shall be tooled and the surface shall be finally finished with a hard bristle broom to remove all imperfections without additional mortar or dryer. In all cases, the resulting surface shall be smooth and of uniform color, free from sags, twists or warps and true to the specified lines and grades shown on the plans. Immediately after the finishing operation has been completed and as soon as marring of the concrete will not occur, the entire surface of the newly placed concrete shall be cured according to SECTION 501 - PORTLAND CEMENT CONCRETE PAVEMENT of the Standard Specifications. Cold weather protection shall be as specified in SECTION 501 - PORTLAND CEMENT CONCRETE PAVEMENT of the Standard Specifications.

METHOD OF MEASUREMENT

I17-6.1 Work required by this Section shall be measured by the linear foot. Each continuous section of the curb and/or curb and gutter of the type constructed, will be measured along the back edge of the curb; measurements shall include the space occupied by all joints. Measurements shall not include the distance across inlet structures. The quantity on the estimate will be the sum of the several measurements, to the nearest linear foot.

BASIS OF PAYMENT

I-17-7.1 Work performed and accepted under this item and measured as provided above will be paid for at the contract unit price bid per the items listed below. These prices shall be full compensation for furnishing all materials, including joint material; for all reinforcing steel; for all excavating, fine grading, and backfilling; for placing, finishing, sawing, and curing; and for all equipment, tools, labor, and incidentals necessary to complete the work.

Payment will be made under:

Item I17-7.1a	Concrete Curb and Gutter (Type A) (1'-6") - per linear foot
Item I17-7.1b	Concrete Curb and Gutter (Type A) (2'-0") - per linear foot

END OF SECTION I-17

SECTION I-18 – ROADWAY CONSTRUCTION CONTROL

DESCRIPTION

I18-1.1 This item shall consist of furnishing and maintaining all lines, grades, survey points, and measurements necessary for the proper execution of the work under the Contract, all in accordance with the Plans and Specifications.

STANDARDS

I18-2.1 All work for this section will conform to SECTION 635 – ROADWAY CONSTRUCTION CONTROL, of the Standard Specifications, except as modified or augmented herein.

METHOD OF MEASUREMENT

I18-3.1 Roadway Construction Control will be measured as a complete unit.

BASIS OF PAYMENT

I18-4.1 Work completed and accepted and measured as provided above will be paid for at the contract lump sum price bid for Roadway Construction Control, which price shall be full compensation for furnishing and maintaining all necessary lines, grades, survey points, and measurements; and for furnishing all engineering personnel, equipment, materials, tools, and incidentals necessary to complete the work.

No adjustments in the lump sum price bid will be made for Roadway Construction Control required due to normal increases or decreases in contract quantities. However, if the amount of Roadway Construction Control required is increased or decreased in connection with a change order, compensation will be adjusted accordingly.

Partial payments for ROADWAY CONSTRUCTION CONTROL will be made in proportion to the amount of work accomplished on this item.

No additional payment will be made for restaking needed to maintain the control.

Payment will be made under:

Item I18-4.1 Roadway Construction Control - per lump sum.

END OF SECTION I-18

SECTION M-3 - COLD MILLING

DESCRIPTION

M3-1.1 This items covers cold milling of existing asphalt pavement in accordance with these specifications and in conformity to the dimensions and details shown on the plans. This item includes the cold milling, removal, and disposal of the paving materials designated to be removed. Areas of cold milling have been estimated on the plans. The actual limits of cold milling will be as directed by the Engineer. All pavement material removed shall be disposed of in designated on-site disposal areas, or off-site, as directed by the Engineer.

CONSTRUCTION METHODS

M3-2.1 GENERAL: No pavement removal shall be started until the work has been laid out by the Contractor and approved by the Engineer. All hauling will be considered a necessary and incidental part of the work. Its cost shall be considered by the Contractor and included in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

M3-2.2 COLD MILLING ASPHALT PAVEMENT: The Contractor shall provide self-propelled equipment with sufficient power, traction and stability to maintain an accurate depth of cut and slope. The equipment shall be capable of accurately and automatically establishing profile grades along each edge of the machine by referencing from the existing pavement by means of a ski or matching shoe, or from an independent grade control, and shall have an automatic system for controlling cross-slope at a given rate. The milling machine shall have an effective means for preventing dust resulting from the operation from escaping into the air. Provision shall be made, either integrally with the milling machine or by the use of additional equipment, to remove the material being cut from the surface of the roadway. The number of passes and the depth of each pass required to obtain the total depth to be removed shall be determined by the Contractor.

Upon completion of cold milling, surface shall be covered with first lift of ACHM within two weeks.

Sawcutting (1.5-inch minimum depth) will be required at the edge of the removal areas.

METHOD OF MEASUREMENT

M3-3.1 Cold milling areas will be measured by the length and width of the cold milled area in square yards, to the specified depth, at the locations directed by the Engineer. Measurement shall not include areas milled beyond approved limits.

BASIS OF PAYMENT

M3-4.1 Cold milling will be paid for at the contract unit price bid for "COLD MILLING ASPHALT PAVEMENT," which price shall be full compensation for all cold milling, removal, and disposal of asphalt surface materials; and for all equipment, tools, labor and incidentals necessary to complete the work.

Payment will be made under:

Item M3-4.1 Cold Milling Asphalt Pavement -- per square yard

END OF SECTION M-3

SECTION M-7 – WATER FOR DUST CONTROL

DESCRIPTION

M7-1.1 This item shall consist of the furnishing and placing of water for the purpose of dust control during periods of dry weather.

CONSTRUCTION METHODS

M7-2.1 Control of dust is of extreme importance to the health and welfare of the project residents and it is the intent of this specification that the Contractor will, upon 24-hour notice by the Engineer, furnish a water truck and adequate personnel to control dust on the project as directed by the Engineer and to maintain the availability of the equipment on the job during periods of dry weather.

The Contractor may be required to spray trees and other shrubs as required by the City.

METHOD OF MEASUREMENT

M7-3.1 Water for Dust Control will not be measured for separate payment, but will be considered subsidiary to work included in SECTION I-12 – TEMPORARY EROSION CONTROL.

END OF SECTION M-7

SECTION P-1 – AGGREGATE BASE COURSE

DESCRIPTION

P1-1.1 This section covers all work in connection with the construction of aggregate base course in accordance with the lines, grades, thicknesses, and typical sections as shown in the Plans or directed by the Engineer. Material shall be Class 7 unless otherwise specified in the Plans.

STANDARDS

P1-2.1 Material and work (including testing) for aggregate base course shall be in accordance with SECTION 303 – AGGREGATE BASE COURSE of the Standard Specifications for Class 7, except as modified or augmented herein.

CONSTRUCTION METHODS

P1-3.1 TESTS: Material will be acceptable from quarries or crushing plants which currently are, or recently have been, supplying material meeting the Standard Specifications for Aggregate Base Course. In-place density shall be determined by AASHTO T 310, Direct Transmission of not less than 98% of maximum density determined in the laboratory by AASHTO T 180, Method D.

P1-3.2 MAINTENANCE: The Contractor shall maintain the base course until and during the construction of the subsequent base or surface course. Defects that develop in the base course shall be repaired by the Contractor at the Contractor's expense.

METHOD OF MEASUREMENT

P1-4.1 Aggregate Base Course will be measured by the square yard, completed and accepted to the full depth shown in the plans. Aggregate base course used in the construction of other items which area measured separately shall not be measured in this item.

BASIS OF PAYMENT

P1-5.1 Aggregate Base Course, acceptably completed and measured as provided above, will be paid for at the contract unit price per ton for “AGGREGATE BASE COURSE” for the class specified, which price shall be full compensation for furnishing the material; for hauling, placing, spreading, and compacting; and for all equipment, tools, labor, and incidentals necessary to complete the work.

Payment for "AGGREGATE BASE COURSE" will be made in proportion to amount of work completed to date.

Payment will be made under:

Item P1-5.1 6” Aggregate Base Course (Class 7) - per square yard

END OF SECTION P-1

SECTION P-2 – PRIME AND TACK COATS

DESCRIPTION

P2-1.1 This item shall consist of a single application of bituminous material and blotter material if required, applied on the completed and approved base course, on the subgrade, and/or on the existing bituminous or concrete surface in accordance with these specifications and in reasonably close conformity with the lines shown on the Plans or as directed by the Engineer.

STANDARDS

P2-2.1 Work under this section shall be in accordance with the portions of SECTION 401 – PRIME AND TACK COATS AND EMULSIFIED ASPHALT IN BASE COURSE of the Standard Specifications that concern prime coats and tack coats, except as modified or augmented herein.

MATERIALS

P2-3.1 Materials shall conform to the requirements provided under Section 403 of the Standard Specifications. Unless approved otherwise by the Engineer, a medium curing cutback asphalt or an asphalt penetrating prime will be used for prime coat and a rapid curing cut back or emulsified asphalt will be used for tack coat. Dependent upon the texture of the base and the season of the year the work is being performed, the Engineer will select the particular grade of the type of bituminous material that will be used.

MEASUREMENT AND PAYMENT

P2-4.1 Prime and tack coats will not be measured for separate payment but will be considered subsidiary to the ACHM Surface, Binder, or Stabilized Base Courses, as applicable.

END OF SECTION P-2

SECTION P-3 – ASPHALT SURFACE AND BINDER COURSE

DESCRIPTION

P3-1.1 This section covers construction of the Asphalt Concrete Hot Mix Surface Course and Asphalt Concrete Hot Mix Binder Course in accordance with the lines, grades, thicknesses, and typical sections shown in the Plans, or as directed by the Engineer.

STANDARDS

P3-2.1 BINDER COURSE: Materials, equipment, and construction methods for ASPHALT CONCRETE HOT MIX BINDER COURSE shall be in accordance with SECTIONS 406, 409, and 410 of the Standard Specifications, except as modified or augmented herein. For the Walton Boulevard and Medical Center Parkway Intersection (Bid Schedule 1), the asphalt binder shall be PG 64-22. For the Walton Boulevard and SE J Street Intersection (Bid Schedule 2), the asphalt binder shall be PG 70-22.

P3-2.2 SURFACE COURSE: Materials, equipment, and construction methods for ASPHALT CONCRETE HOT MIX SURFACE COURSE shall be in accordance with SECTIONS 407, 409, AND 410 of the Standard Specifications, except as modified or augmented herein. For the Walton Boulevard and Medical Center Parkway Intersection (Bid Schedule 1), the asphalt binder shall be PG 70-22. For the Walton Boulevard and SE J Street Intersection (Bid Schedule 2), the asphalt binder shall be PG 76-22.

CONSTRUCTION METHODS

P3-3.1 The Design and Quality Control of Asphalt Mixtures shall be in accordance with SECTION 404 of the Standard Specifications, except as modified herein.

P3-3.2 Standard Specification Modifications and Augmentations:

1. SECTION 404.01(b) Design Requirements: The number of design gyrations (N_{MAX}) shall be 115 for PG64-22, 160 for PG70-22, and 205 for PG76-22.

2. SECTION 410.09(a) General: Samples for all properties except density, thickness, and the investigation of segregation shall be obtained from trucks at the plant. The testing agency shall clearly mark the load ticket of each sampled truck to indicate that the load has been sampled.

3. SECTION 410.09(b)(2) Pavement Smoothness: The Contractor shall provide the straight-edge.

4. TABLE 410-1: Table 410-1 is amended to add thickness tolerances as shown at the end of this section. When lots and sublot divisions for initial and final courses do not coincide, the Contractor may be required to take additional samples (full-depth) at his expense at locations agreed upon by the Engineer to potentially avoid penalties or rejection of his work.

5. SECTION 410.09(d) Adjustments: (5) For thickness of each course layer, the contract price shall be reduced by 10% if the thickness is outside the Compliance Limits but within the Price Reduction Limits. For overall thickness, the contract price shall be reduced by an additional 10% if the thickness is outside the Compliance Limits but within the Price Reduction Limits.

   For thickness of each course layer and/or total pavement thickness in excess of the amount specified and beyond the Compliance Limits, the payment shall be reduced by the amount of excess quantity of material placed, as determined by the Engineer. The intent of this section is to prevent the Owner from paying for excess and unauthorized quantities of material placed. However, if the elevations, cross slopes, or other characteristics are unacceptable to the Owner based on the requirements in the Contract Documents, the Contractor may be required to remove and replace pavement as determined by the Engineer.

6. SECTION 410.10 Incentives: Delete entirely.

METHOD OF MEASUREMENT

3-4.1 Asphalt Concrete Hot Mix Surface and Binder Courses will be measured by the ton (2,000 pounds) of each mixture used in the accepted work. Recorded batch weights or truck scale weights will be used to determine the basis for the tonnage. Load tickets shall be provided as directed by the Engineer. Measurements shall include only the actual amounts placed within the lines shown on the Plans, or as directed by the Engineer.

BASIS OF PAYMENT

3-5.1 Asphalt Concrete Hot Mix Surface and Binder, acceptably completed, and measured as provided above, will be paid for at the contract unit prices per ton bid for "ACHM SURFACE COURSE" and "ACHM BINDER COURSE," which prices shall be full compensation for furnishing, placing and compacting all materials; and for all equipment, tools, labor, and incidentals necessary to complete the work.

Payment will be made under:

Item P3-5.1a	ACHM Surface Course (PG 70-22) – per ton
Item P3-5.1b	ACHM Surface Course (PG 76-22) – per ton
Item P3-5.1c	ACHM Binder Course (PG 64-22)– per ton
Item P3-5.1d	ACHM Binder Course (PG 70-22)– per ton

Addition to Table 410-1 in Standard Specifications

Property	Compliance Limits	Price Reduction Limits	Lot Rejection Limits	Sublot Rejection Limits
Thickness (variation from specified)				
Base	+/- 1/2 inch	1/2 inch to 3/4 inch deficient in thickness	more than 3/4 inch deficient in thickness	more than 3/4 inch deficient in thickness
Binder	+/- 3/8 inch	3/8 inch to 1/2 inch deficient in thickness	more than 1/2 inch deficient in thickness	more than 1/2 inch deficient in thickness
Surface	+/- 1/4 inch	1/4 inch to 3/8 inch deficient in thickness	more than 3/8 inch deficient in thickness	more than 3/8 inch deficient in thickness
Total Pavement	+/- 1/4 inch	1/4 inch to 3/8 inch deficient in thickness	more than 3/8 inch deficient in thickness	more than 3/8 inch deficient in thickness

END OF SECTION P-3

SECTION P-4 – ASPHALT SURFACE AND BINDER COURSE (MARSHALL MIX)

DESCRIPTION

P4-1.1 This section covers construction of the Asphalt Concrete Hot Mix Surface Course and Asphalt Concrete Hot Mix Binder Course for use in asphalt driveways in accordance with the lines, grades, and thicknesses shown in the Plans, or as directed by the Engineer.

STANDARDS

P4-2.1 BINDER COURSE: Materials, equipment, and construction methods for asphalt concrete hot mix binder course shall be in accordance with SECTIONS 406, 409, and 410 of the Standard Specifications 1996 Edition (as published prior to the SuperPave Supplement) for Type 2, except as modified or augmented herein. The asphalt binder shall be AC-30 or approved equal.

P4-2.2 SURFACE COURSE: Materials, equipment, and construction methods for asphalt concrete hot mix surface course shall be in accordance with SECTIONS 407, 409, AND 410 of the Standard Specifications 1996 Edition (as published prior to the SuperPave Supplement) for Type 2, except as modified or augmented herein. The asphalt binder shall be AC-30 or approved equal.

CONSTRUCTION METHODS

P4-3.1 The Design of Asphalt Mixtures and the Contractor's Quality Control sampling and testing of the asphalt mixtures shall be in accordance with SECTION 404 of the Standard Specifications (as published prior to the SuperPave Supplement), except as modified herein.

P4-3.2 Standard Specification Modifications and Augmentations:

1. SECTION 410.09(a) General: Change the standard lot size for acceptance and adjustment to 1,000 tons or one day's production, whichever is less, or as determined by the Engineer.

2. SECTION 410.09(a) General: Samples for all properties except density, thickness, and the investigation of segregation shall be obtained from trucks at the plant. Add a requirement that testing agency shall clearly mark the load ticket of each sampled truck to indicate that the load has been sampled.

3. SECTION 410.09(b)(2) Pavement Smoothness: Add that the Contractor shall provide the straight-edge.

4. TABLE 410-1: Table 410-1 is amended to include thickness tolerances as shown at the end of this section. When lots and sublot divisions for initial and final courses do not coincide, the Contractor may be required to take additional samples (full-depth) at his expense at locations agreed upon by the Engineer to potentially avoid penalties or rejection of his work.

5. SECTION 410.09(d) Adjustments: (6) For thickness of each course layer, the contract price shall be reduced by 10% if the thickness is outside the Compliance Limits but within the Price Reduction Limits. For overall thickness, the contract price shall be reduced by an additional 10% if the thickness is outside the Compliance Limits but within the Price Reduction Limits.

   For thickness of each course layer and/or total pavement thickness in excess of the amount specified and beyond the Compliance Limits, the payment shall be reduced by the amount of excess quantity of material placed, as determined by the Engineer. The intent of this section is to prevent the Owner from paying for excess and unauthorized quantities of material placed. However, if the elevations, cross slopes, or other characteristics are unacceptable to the Owner

based on the requirements in the Contract Documents, the Contractor may be required to remove and replace pavement as determined by the Engineer.

6. SECTION 410.10 Incentives: Delete entirely.

MEASUREMENT AND PAYMENT

P4-4.1 Asphalt Concrete Hot Mix Surface and Binder Courses will not be measured for separate payment but will be considered subsidiary to Asphalt Driveway as applicable per SECTION P-5 – DRIVEWAYS AND APRONS.

Table 410-1 (amended)

Air Voids (AV)	+/- 1.0 from mix design value	more than +/- 1.0, to +/- 1.5 from mix design value	more than +/- 1.5 from mix design value	more than +/- 2.0 from mix design value
Voids in Mineral Aggregate (VMA)	+/- 1.0 from mix design value AND not less than min. spec.	more than +/- 1.0, to +/- 2.0 from mix design value	more than +/- 2.0 from mix design OR less than min. spec.	more than 1.5 below minimum spec.
Density (% of theoretical max)	92.0% to 96.0%	more than 0%, to +/- 1.0% from compliance limits	more than +/- 1.0% from compliance limits	more than +/- 2.0 from compliance limits
Thickness (variation from specified)				
Total Base, Binder, or Surface	+/- 1/4 inch	1/4 inch to 3/8 inch deficient in thickness	more than 3/8 inch deficient in thickness	more than 3/8 inch deficient in thickness
Total Pavement	+/- 1/4 inch	1/4 inch to 3/8 inch deficient in thickness	more than 3/8 inch deficient in thickness	more than 3/8 inch deficient in thickness

END OF SECTION P-4

SECTION P-5 – DRIVEWAYS AND APRONS

DESCRIPTION

P5-1.1 This section covers the construction of driveways and aprons to the lines and grades shown on the Plans or as directed by the Engineer.

MATERIALS

P5-2.1 The construction material of driveway extensions shall generally conform to the material of the existing driveways. The beginning portion of the driveway shall be of Portland Cement Concrete Pavement as shown in the Plans.

P5-2.2 Materials for concrete driveways, driveway extensions, and aprons shall be in accordance with SECTION 505 – PORTLAND CEMENT CONCRETE DRIVEWAY of the Standard Specifications except as modified herein.

P5-2.3 Concrete for concrete driveways and aprons shall be Class "S" Portland Cement Concrete in accordance with SECTION 802 – CONCRETE FOR STRUCTURES or SECTION 501 – PORTLAND CEMENT CONCRETE PAVEMENT of the Standard Specifications with a 28-day compressive strength of 3,500 psi and 4% to 7% air entrained.

P5-2.4 Materials for asphalt driveway extensions shall be in accordance with applicable portions of SECTION P-1 – AGGREGATE BASE COURSE; SECTION P-2 – PRIME COAT AND TACK COAT; and SECTION P-4 – ASPHALT SURFACE AND BINDER COURSE (MARSHALL MIX) of these specifications. Materials in accordance with applicable portions of SECTION P-3 – ASPHALT SURFACE AND BINDER COURSE of these specifications may be utilized in place of Marshall Mix at no additional cost to the owner.

P5-2.5 Materials for gravel driveways shall be in accordance with SECTION P1 – AGGREGATE BASE COURSE.

P5-2.6 Earthwork materials for gravel driveways shall conform to SECTION E-2 – EXCAVATION AND EMBANKMENT.

CONSTRUCTION METHODS

P5-3.1 The construction of driveways shall be in accordance with the details in the Plans and the applicable sections of these Specifications for the type of construction material specified. Sections of these specifications considered applicable are as follows:

SECTION E-2 – EXCAVATION AND EMBANKMENT
SECTION P-1 – AGGREGATE BASE COURSE
SECTION P-4 – ASPHALT SURFACE AND BINDER COURSE (MARSHALL MIX)

METHOD OF MEASUREMENT

P5-4.1 Concrete driveways, driveway extensions, and aprons will be measured by the square yard, from back of curb to back of curb where present. Modified curb and gutter extending across the front of the driveway will not be included, but will be measured for payment in accordance with the provisions in SECTION I-17 – CURB AND GUTTER.

P5-4.2 Asphalt driveway extensions shall be measured for payment by the square yard. Curb and gutter adjacent to asphalt driveways will not be included, but will be measured for payment in accordance with the provisions in SECTION I-17 – CURB AND GUTTER.

BASIS OF PAYMENT

P5-5.1 Concrete driveways, driveway extensions, and aprons acceptably completed and measured as provided above will be paid for at the contract unit price per square yard bid for Concrete Driveways and Concrete Aprons, which price shall be full compensation for furnishing all materials, including the aggregate base materials as detailed in the Plans; for excavation and embankment; for preparation of the subgrade and base materials; for shaping and finishing; for joints required by the Plans; and for all equipment, tools, labor, and incidentals necessary to complete the work.

P5-5.2 Asphalt driveways acceptably completed and measured as provided above will be paid for at the contract unit price per square yard bid for Asphalt Driveways, which price shall be full compensation for furnishing all materials, including the aggregate base materials as detailed in the Plans; for excavation and embankment; for preparation of the subgrade and base materials; for shaping and finishing; and for all equipment, tools, labor, and incidentals necessary to complete the work.

Payment will be made under:

Item P5-5.1	Concrete Driveways - per square yard
Item P5-5.2	Concrete Aprons - per square yard
Item P5-5.3	Asphalt Driveways - per square yard

END OF SECTION P-5

SECTION S-1 – STRUCTURAL CONCRETE

DESCRIPTION

S1-1.1 This section covers concrete and reinforcing steel for the construction of drainage structures, sidewalks, islands, curb and gutter, foundations, footings, retaining walls, and other miscellaneous concrete structures conforming to the lines, grades, dimensions, and details shown on the Plans or as directed by the Engineer.

S1-1.2 Additional requirements are as specified in the sections of the specifications covering the several items involved with concrete and reinforcing steel.

STANDARD SPECIFICATIONS

S1-2.1 Concrete and reinforcing steel construction shall be accomplished in accordance with the applicable portions of SECTION 802 – CONCRETE FOR STRUCTURES and SECTION 804 – REINFORCING STEEL FOR STRUCTURES of the Standard Specifications, except as modified or augmented herein.

MEASUREMENT AND PAYMENT

S1-3.1 Concrete and reinforcing steel will not be measured for separate payment but will be considered subsidiary to the items involved except for reinforced concrete retaining walls, which will be measured by the square foot of exposed face of concrete retaining wall in place and accepted.

BASIS OF PAYMENT

S1-4.1 Reinforced concrete retaining wall will be paid for at the contract unit price bid per square foot for “CONCRETE RETAINING WALL” which price shall be full compensation for furnishing all materials, including reinforcing steel, geotextile, and drainage fill; for structural excavation and compaction; for all forming and bracing; for mixing, transporting, placing, finishing, and curing; and for all equipment, tools, labor, and incidentals necessary to complete the work.

Payment will be made under:

Item S1-4.1 Concrete Retaining Wall – per square foot

END OF SECTION S-1

SECTION T-1 - THERMOPLASTIC PAVEMENT MARKING

DESCRIPTION

T1-1.1 This item shall consist of furnishing and placing thermoplastic pavement markings (TPM) of the color and type specified. Pavement markings shall be in accordance with these Specifications and in conformity with the dimensions and at the locations shown on the Plans or as directed by the Engineer. In general, the work shall meet the requirements of the Manual on Uniform Traffic Control Devices for Streets and Highways.

STANDARDS

T1-2.1 The materials and construction methods for this item will conform to SECTION 719 - THERMOPLASTIC PAVEMENT MARKING of the Standard Specifications, except as modified or augmented herein.

CONSTRUCTION METHODS

T1-3.1 Crosswalk stripes applied to the roadway surface shall be preformed (one piece) hot-applied. Crosswalk stripes can not be applied in sections.

T1-3.2 Arrows applied to the roadway surface shall be preformed (one piece) hot-applied. Arrows can not be applied in sections

METHOD OF MEASUREMENT

T1-4.1 Thermoplastic pavement markings will be measured by the linear foot of material actually placed or per each symbol or marker, as applicable. Sand or water blasting as surface preparation will not be measured and paid for directly but will be considered a part of the item Thermoplastic Pavement Marking. Pavement marking removal will not be measured and will be considered subsidiary to other items.

BASIS OF PAYMENT

T1-5.1 Thermoplastic Pavement Marking (TPM) completed and accepted and measured as provided above will be paid for at the contract unit price per linear foot in place, of the width and color specified, or at the contract unit price per each for symbols for each type as specified; which price shall be full compensation for furnishing and installing markings; and for all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Item T1-5.1a	Thermoplastic Pavement Marking - 6” Yellow - per linear foot
Item T1-5.1b	Thermoplastic Pavement Marking - 6” White - per linear foot
Item T1-5.1c	Thermoplastic Pavement Marking - 12” White - per linear foot
Item T1-5.1e	Thermoplastic Pavement Marking (Words) - per each
Item T1-5.1f	Thermoplastic Pavement Marking (Arrows) - per each

END OF SECTION T1

SECTION T-2 – SIGNS AND SUPPORTS

DESCRIPTION

T2-1.1 This item shall consist of furnishing and installing new signs, complete with posts, supports, and concrete bases, where required, in accordance with the dimensions and details shown in the Plans and at the locations shown in the Plans, or as directed by the Engineer.

T2-1.2 Relocation of all existing signs is not included under this section, but is included under SECTION I-1 – MAINTENANCE OF TRAFFIC of these specifications.

STANDARDS

T2-2.1 Work and materials under this section shall conform to the requirements of SECTION 723 – GENERAL REQUIREMENTS FOR SIGNS, SECTION 725 – GUIDE SIGN, SECTION 726 – STANDARD SIGN, SECTION 729 – CHANNEL SIGN POST SUPPORT, and SECTION 730 - BREAKAWAY SIGN SUPPORT of the Standard Specifications, as applicable, except as modified or augmented herein.

T2-2.2 Signs not conforming to or regulated by the Standard Specifications shall meet all local, County or City guidelines and submittals may be required for approval.

METHOD OF MEASUREMENT

T2-3.1 New signs shall be measured by a complete unit in place and shall include the post, supports, and concrete bases, where applicable.

BASIS OF PAYMENT

T2-4.1 Work completed and accepted under this item and measured as provided above shall be paid for at the contract unit price bid for each sign as listed below and in the Unit Price Schedule, which price shall be full compensation for furnishing and installing signs, posts, supports, and footing; and for all tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Item T2-4.1a Standard Street Sign Installation – per each

END OF SECTION T-2

SECTION SP-1 – ARDOT SPECIFICATIONS

GENERAL

SP1-1.1 The standard specifications of the Arkansas Department of Transportation (ARDOT) are bound in a book titled Standard Specifications for Highway Construction. These specifications are referred to herein as "Standard Specifications." The latest edition shall apply. A copy of these "Standard Specifications" may be obtained from the Arkansas Department of Transportation, Little Rock, Arkansas, at their customary charge.

INCORPORATION AND MODIFICATION

SP1-2.1 Certain parts of the Standard Specifications are appropriate for inclusion in these Technical Specifications. Such parts are incorporated herein by reference to the proper section or paragraph number. The individual specification numbers noted herein may be different from those in the latest edition of the "Standard Specifications." The most current specification number shall apply. Each such referenced part shall be considered to be a part of these Contract Documents as though copied herein in full.

SP1-2.2 Certain referenced parts of the Standard Specifications are modified in the Specifications that follow. In case of conflict between the Standard Specifications and the Specifications that follow, the Specifications that follow shall govern.

SP1-2.3 Individual material test numbers change from time to time. Use the latest applicable test.

SP1-2.4 Reference in the Standard Specifications to the “Department” are herein changed to the “Owner”.

END OF ITEM SP-1

SECTION SP-2 – PORTLAND CEMENT CONCRETE BASE

DESCRIPTION

SP-2-1.1 This section covers the construction of portland cement concrete base, with or without reinforcement as specified, constructed on a prepared surface in accordance with these specifications and in conformance with the lines, grades, thicknesses, typical sections, and details shown in the Plans.

STANDARDS

SP-2-2.1 Materials, equipment, construction methods, and testing for Portland Cement Concrete Base shall be in accordance with SECTION 309 – PORTLAND CEMENT CONCRETE BASE of the Standard Specifications, except as modified or augmented herein.

CONSTRUCTION METHODS

SP-2-3.1 Mix Design and the Contractor's Quality Control sampling and testing shall be in accordance with SECTION 309 of the Standard Specifications, except as modified herein. Design and Quality control of Portland Cement Concrete Base will consist of the Contractor furnishing acceptable mix designs and performing all applicable quality control sampling and testing.

SP-2-3.2 Acceptance sampling and testing will be performed by the Engineer.

SP-2-3.3 REPAIR OF DEFECTIVE PAVEMENT SLABS: Broken slabs, random cracks, nonworking contraction joints, major honeycombed areas, and spalls shall be replaced or repaired in accordance with Sections 507, 508, and/or 509 of the Standard Specifications, as appropriate, at no cost to the Owner.

SP-2-3.4 TOLERANCE IN PAVEMENT THICKNESS: The pavement shall be constructed in accordance with the thickness required by the typical section shown on the Plans. Tolerance shall be as described in the Standard Specifications.

SP-2-3.5 TOLERANCE IN PAVEMENT STRENGTH: Compressive strength shall be as specified at 28 days using test specimens prepared in accordance with ASTM C 31 and tested in accordance with ASTM C 39. Concrete samples shall be furnished by the Contractor and shall be taken in the field to determine the consistency, air content, and compressive strength of the concrete. The samples shall be taken in the presence of the Engineer, at locations determined by the Engineer. Concrete cylinders shall be made each day that the concrete is placed. Each group of cylinders shall be molded from the same batch of concrete and shall consist of a sufficient number of specimens to provide two compressive strength tests at each test age. Test ages will be 7 days and 28 days.

PCC Base represented by cylinders not meeting the specified strength shall be removed and replaced at the Contractor’s expense, or allowed to remain at a reduced price agreed upon in writing between the Owner and the Contractor.

SP-2-3.6 JOINTS: Sealant for joints shall be silicone (non-acid curing) meeting the requirements of Table 1 below.

TABLE 1

Test Method	Test	Requirements
	Flow	self leveling
	Skin-over Time (1)	120 minutes (Max.)
	Cure Time (2)	21 days (Max.)

ASTM D 412-C	Modulus at 150% Elongation (3)	30 p.s.i. (Max.)
ASTM D 412-C	Elongation (3)	800% (Min.)
	Adhesion to Concrete (Minimum percent Elongation) (3)	600%
ASTM C 719	Movement (3)	±50%

(1) Tested at 77° F ±3° and 50% ±5% humidity.
(2) Cured at 77° F ±3° and 50% ±5% humidity.
(3) Cured for 21 days at 77° F ±3° and 50% ±5% humidity

Each lot or batch of silicone sealing compound shall be delivered to the job site in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, shelf life, mixing instructions, and storage instructions and shall be accompanied by the manufacturer's certification stating that the compound meets the requirements of this specification.

Backer rod shall be a non-moisture absorbing, closed-cell, expanded polyethylene foam rod. The rod shall be compatible with the sealant and no bond or reaction shall occur between the rod and the sealant.

Prior to beginning the sealing operation, the Contractor shall have the sealant supplier demonstrate, to the satisfaction of the Engineer, the cleaning and installation procedures for the joint sealant to be installed on the project.

Joints shall be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment. The pavement temperature shall be above 50°F (10°C) before installation of silicone joint sealing material.

Immediately after saw cutting is complete the resulting cement slurry shall be completely removed from the joint by water washing (less than 100 psi pressure). After the joint is sufficiently dried, the joint shall be sandblasted. One pass along each reservoir face is required. After sandblasting the joint shall be blown out with compressed air. When the surfaces are clean and dry, and just prior to placement of the sealant, compressed air shall be used to blow out the joint and remove all residual dust. Air compressors shall be equipped with suitable traps capable of removing all free water and oil from the compressed air and shall be capable of furnishing air with a pressure greater than 90 psi.

Joints shall be inspected for proper width, depth, alignment, and preparation, and shall be approved by the Engineer before sealing is allowed. Sealant shall be installed in accordance with the following requirements:

A backer rod or bond breaker shall be installed as shown on the plans, prior to placement of the joint sealer. The backing material shall be placed as shown on the plans and shall be non-adhesive to the concrete or the sealant material. The self-leveling sealant shall be applied in a continuous operation, by means of approved pressure equipment that will force the sealing material to the bottom of the joint and completely fill the joint without spilling the material on the surface of the pavement. Sealant which does not bond to the concrete surface of the joint walls, contains voids, or fails to set up to a tack-free condition will be rejected and replaced by the Contractor at no additional cost. Before sealing the joints, the Contractor shall demonstrate that the equipment and procedures for preparing, mixing, and placing the sealant will produce a satisfactory joint seal. This shall include the preparation and application of an adequate amount of the sealant that will demonstrate, to the satisfaction of the Engineer, the installation of the sealant.

METHOD OF MEASUREMENT

SP-2-4.1 Portland Cement Concrete Base and will be measured by the square yard. The width for measurement will be the width as constructed in accordance with the Plans and typical cross sections or as directed by the Engineer.

BASIS OF PAYMENT

SP-2-5.1 Work completed and accepted under this item and measured as provided above will be paid for at the contract unit prices bid per square yard for PORTLAND CEMENT CONCRETE BASE, of the thickness specified, which price shall be full compensation for preparing the subgrade and shaping the shoulders, unless otherwise specified; for furnishing, transporting, and placing materials; for preparing and processing materials; for mixing, spreading, vibrating, finishing, and curing; for performing mix designs and quality control and acceptance sampling and testing; for reinforcement; and for all labor, equipment, tools, and incidentals necessary to complete the work.

Payment will be made under:

Item SP-2-5.1 _" Portland Cement Concrete Base - per square yard

END OF SECTION SP-2

SP-3 – ROCK MULCH

SUMMARY

SP-3-1.1 This section covers the furnishing and installation of rock mulch and incidental materials in accordance with the types, locations, and details in the Plans, or as directed by the engineer.

SP-3-1.2 SUBMITTALS: Submit all product data and product certificates.

MATERIALS

SP-3-2.1 ROCK MULCH: Install rounded riverbed gravel or smooth-faced stone, where indicated on plans.

1. Type A: Multi-color, similar to Colorado River Rock ("Rainbow Rock"). 6-inches maximum, 4-inch minimum.

Install weed control barrier under rock mulch.

1. Polypropylene or polyester nonwoven fabric under rock mulch, similar to Dewitt Pro Black (3 ounce) weed barrier.

CONSTRUCTION METHODS

SP-3-3.1 ROCK MULCH: Apply to completely cover weed barrier fabric to the depth specified in the Plans. Place weed barrier fabric flat on subgrade, overlapping and staking per the manufacturer's recommendation.

SP-3-3.2 CLEAN-UP: Turf areas, pavements and facilities that have been damaged from the installation operation must be restored to original condition at the Contractor's expense. Excess and waste material must be removed from the installed area and must be disposed off-site at an approved landfill, recycling center, or composting center. Adjacent paved areas must be cleared.

METHOD OF MEASUREMENT

SP-3-4.1 ROCK MULCH: Rock Mulch will be measured by each square yard completed in place, at the appropriate depth, completed and accepted. Weed barrier fabric is subsidiary to ROCK MULCH.

BASIS OF PAYMENT

SP-3-5.1 ROCK MULCH: Payment will be made at the contract unit price, complete and in place, as measured above and accepted by the Engineer. The price shall be full compensation for furnishing all new rock mulch and for all preparation and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the Engineer.

Payment will be made under:

Item SP-3-5.1a Washed River Rock Mulch, Installed – per square yard

END OF SECTION SP-3

SECTION SP- 4 – REMOVE, SALVAGE, AND REINSTALL EXISTING HANDRAIL

DESCRIPTION

SP-4-1.1 This item shall consist of removing, salvaging, and reinstalling existing handrails where shown on the Plans or designated by the Engineer, and shall be done in conformity with the plans and according to theses specifications.

CONSTRUCTION REQUIREMENTS

SP-4-2.1 The handrail shall be erected in a workmanlike manner, straight and true to line and grade. The posts shall be set in concrete or bolted down by use of steel plates as shown in the plans. The joining of rails between posts by means of sleeves, couplings, or welding will not be permitted.

SP-4-2.2 Materials that are not in a condition to be moved shall be replaced by serviceable material of the same type and size. Replacement material shall be furnished by the Contractor and be satisfactory to the Engineer. Excess and unserviceable material shall be disposed of according to SECTION E-1 – SITE PREPARATION.

METHOD OF MEASUREMENT

SP-4-4.1 Removed, Salvaged, and Reinstalled Existing Handrail shall be measured by the linear foot removed and reinstalled in place in the new location. Such measurement will not include fences removed but not reconstructed.

BASIS OF PAYMENT

SP-4-5.1 Work completed, accepted, and measured as provided above will be paid for at the contract unit bid price per each for “Remove, Salvage, and Reinstall Existing Handrail.” This price shall be full compensation for dismantling, moving, and reinstalling; for furnishing necessary material; and for all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Item SP-4-5.1 Remove, Salvage, and Reinstall Existing Handrail – per linear foot

END OF SECTION SP-4

SP-5 REMOVE, SALVAGE, AND REINSTALL EXISTING MONUMENT SIGN

DESCRIPTION

SP-5-1.1 This item shall consist of removing, salvaging, and reinstalling existing unique monument signs and any appurtenances, with new supports and concrete footings, at the locations shown in the Plans, or as directed by the Engineer.

CONSTRUCTION METHODS

SP-5-2.1 Removal of existing signage shall be conducted in a manner such as not to destroy or render unusable the signs. Signs that are damaged during the removal process, due to Contractor's negligence, shall be replaced at no additional cost to the Owner. Signs shall be reinstalled to full working order as before removal in new location. Any existing pavement or curb that is scheduled to remain and must be removed as a result of the sign relocation shall be repaired as part of this specification. Contractor shall coordinate sign removal and reinstallation with sign owner and confirm desired location. Final sign location must be approved by Engineer.

SP-5-2.2 The Contractor shall be responsible for all electric utility coordination to provide power to the sign as required. All costs incurred for this coordination and electric utility extensions shall be covered under this specification section including trenching and backfill, conduit, etc. All electrical work shall comply with National Electric Code, City, and state requirements governing the installation of lighting and electrical items.

SP-5-2.3 Concrete footing design shall match the existing sign footing. The Contractor shall submit for approval a relocation plan for the sign including a footing detail, electrical schematic, and general sign layout.

METHOD OF MEASUREMENT

SP-5-3.1 Monument signs removed, salvaged, and reinstalled shall be measured by a complete unit in place and shall include the supports, and concrete bases, solar panels, appurtenances, and electrical reconnection where applicable.

BASIS OF PAYMENT

SP-5-4.1 Work completed and accepted under this item and measured as provided above shall be paid for at the contract unit price bid for each as listed below and in the Unit Price Schedule, which price shall be full compensation for removal, salvage, and reinstalling of existing signs, furnishing and installing, supports, and footings; electrical reconnection to full working order; repair of pavement as described above; and for all tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Item SP-5-4.1 Remove, Salvage, and Reinstall Existing Monument Sign - per each (EA)

END OF SECTION SP-5

ITEM SP-6 TRAFFIC SIGNAL INSTALLATION

DESCRIPTION

SP-6-1.1 This item consists of furnishing and installing traffic signal devices and associated equipment at locations as shown on the plans, or as directed by the Engineer.

STANDARDS

SP-6-2.1 Work and materials under this section shall conform to the requirements of the Arkansas Department of Transportation (ARDOT) Standard Specifications for Highway Construction, latest edition, except as modified or augmented herein. Portions of the standard specifications may be superseded by the special provisions or supplemental specifications attached to this specification.

METHOD OF MEASUREMENT AND PAYMENT

SP-6-3.1 Traffic signalization devices and associated equipment shall be measured as listed below and in the Unit Price Schedule, complete and in place.

BASIS OF PAYMENT

SP-6-4.1 Work completed and accepted under this item and measured as provided above shall be paid for at the contract unit price bid as listed below and in the Unit Price Schedule, which price shall include all parts and materials necessary and for labor, tools, equipment and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Reference	Pay Unit
System Local Controller – Fiber (8 Phases)	SP-22&701	EACH
Ethernet Switch	SP-15	EACH
GPS Preemption System	SP-16	EACH
Battery Backup System	SP-14	EACH
WIC Fiber Enclosure	SP-23	EACH
Traffic Signal Head, LED, (3 Section, 1 Way)	SP-6,20&706	EACH
Traffic Signal Head, LED, (4 Section, 1 Way)	SP-6,20&706	EACH
Traffic Signal Head, LED, (5 Section, 1 Way)	SP-6,20&706	EACH
Relocation of Traffic Signal Head	SP-26	EACH
Central Control Unit	SP-7&707	EACH
Pole Mounted Assembly	SP-7&707	EACH
Infrared Programming Device	SP-7&707	EACH
Countdown Pedestrian Signal Head, LED	SP-18&707	EACH
Traffic Signal Cable (5c/14 A.W.G.)	708	LIN. FT.
Traffic Signal Cable (7c/14 A.W.G.)	708	LIN. FT.
Traffic Signal Cable (20c/14 A.W.G.)	708	LIN. FT.
Electrical Conductors-In-Conduit (1c/8 A.W.G., E.G.C.)	SP-13	LIN. FT.
Electrical Conductors-In-Conduit (1c/12 A.W.G., E.G.C.)	SP-13	LIN. FT.
Electrical Conductors-In-Conduit (2c/6 A.W.G.)	SP-13	LIN. FT.
Electrical Conductors For Luminaires	SP-12	LIN. FT.
Communication Cable, Fiber (12 Channel)	SP-10	LIN. FT.
Fiber Tracer Wire, #14 AWG, Polyethylene Insulation Orange In Color	SP-10	LIN. FT.
Fiber Optic Cable Pigtail, 12 SM	SP-10	LIN. FT.
Galvanized Steel Conduit (2")	709	LIN. FT.
Galvanized Steel Conduit (3")	709	LIN. FT.

Non-Metallic Conduit (2")	710	LIN. FT.
Non-Metallic Conduit (3")	710	LIN. FT.
Concrete Pull Box (Type 3)	711	EACH
Concrete Pull Box (Type 1 HD)	711	EACH
Concrete Pull Box (Type 3 HD)	711	EACH
Pull Box for Fiber, DS-1609, 24”x36”x24”	SP-25	EACH
Traffic Signal Mast Arm And Pole With Foundation (36')	714	EACH
Traffic Signal Mast Arm And Pole With Foundation (38')	714	EACH
Traffic Signal Mast Arm And Pole With Foundation (44')	714	EACH
Traffic Signal Mast Arm And Pole With Foundation (46')	714	EACH
Traffic Signal Mast Arm And Pole With Foundation (48')	714	EACH
Traffic Signal Mast Arm And Pole With Foundation (54')	714	EACH
Traffic Signal Mast Arm And Pole With Foundation (58')	714	EACH
Traffic Signal Mast Arm And Pole With Foundation (66')	714	EACH
LED Luminaire Assembly	SP-19	EACH
Traffic Signal Pedestal Pole With Foundation	715	EACH
Service Point Assembly (2 Circuits)	SP-21	EACH
Removal of Traffic Signal Equipment	SP-28	L.S.
Treated Wood Pole (Class 2, 45’)	716	EACH
18” Street Name Sign (Install Only)	726	EACH
Video Detector Rotation	SP-27	EACH
Video Detector Rack (16 Channel)	SP-17&733	EACH
Video Detector (IP)	SP-17&733	EACH
Video Cable (Exterior Cat 5e)	SP-17	EACH
Video Monitor (CLR)	SP-17&733	EACH
Central Control Unit (4 Channel)	SP-17&733	EACH
SDLC and Cables	SP-17	L.S.
Bluetooth System	SP-17	EACH

END OF ITEM SP-6

SECTION SP-7 - ACCESSIBLE PEDESTRIAN SIGNAL (APS)

DESCRIPTION

SP-7-1.1 This item shall include furnishing and installing at locations shown on the plans or as directed, an Audible-Tactile Pedestrian Signal System consisting of a central control unit, mounting hardware, push button stations which are designed to provide both a push button with a raised vibrating tactile arrow on the button, along with a variety of audible sounds for different pedestrian signal functions and a hand held infrared device for programming the system settings. This work shall be done in accordance with this special provision, the "LED Countdown Pedestrian Signal Head" special provision, and the Standard Specifications for Highway Construction, Edition of 2014, Section 707 Pedestrian Signal Head.

MATERIALS AND CONSTRUCTION.

SP-7-2.1 Design Compliance. The System shall be black in color include the following Polara parts:

- EZ Communicator Navigator PBS
- iN2 push button
- iCCU-S
- 850-217 50 Pin Connector Cable Assembly
- iN2-ICB Interconnect Board
- iNPA4X2-B Adapter (if applicable)

SP-7-2.2 Functional Requirements.

- The System shall support from 2-16 PBS's per intersection (maximum of 4 push buttons per channel) controlled by a single base unit located in the traffic control cabinet.
- The System shall be able to be set to vibrate a tactile arrow button during the WALK interval following a button push and/or every time the walk comes up.
- The System shall have the field-selectable function known as "Locating Tone". This means that during the FLASHING DON'T WALK and the DON'T WALK intervals, the system shall provide a locating tone that emanates from the Pedestrian Push Button Station. The system shall provide at least three different sounds to choose from.
- The System shall have the field selectable function known as "Extended Push Activation". This means that the audible WALK message will only be activated and sound during the WALK interval if the button is depressed for a field selectable minimum period of time (from 0 to 6 seconds). Also, for the following walk phase, the volumes have a separately settable minimum and volume level.
- The System shall have the field selectable function known as "Informational Message". This means that a custom message giving the location of the street to cross and the intersection (or other information) will be vocalized only when the button is depressed for a minimum field selectable time.
- The System shall provide a "Wait" message that plays once the button is activated until the walk cycle goes into effect. This message must have the field selectable option of OFF or playing every 4, 6, 8 or 10 seconds.
- The System shall have standard "Travel Direction" options that can be selected at the time of installation.
- The System shall have at least five field selectable walk sound options including a cuckoo, a chirp, a rapid tick or custom voice message.
- The System shall provide 3 Ped-clearance sound choices including audible countdown (field selectable). The audible countdown shall represent the time remaining during the

pedestrian clearance interval. Timing is automatically adjusted to CLEARANCE INTERVAL timing.

- The System shall provide two language capabilities, selectable by user (as a custom feature).
- The System shall provide Emergency preemption message in conjunction with a preemption system (selectable feature).
- LOCATE tone and “Walk”,” Pedestrian Clearance” audible feature must have independent settable minimum and maximum volume limits.
- All sounds for all PBS’s must be synchronized.
- The system shall have an ambient sensing microphone located in the pedestrian station in a non-visible, environmentally protected housing.
- All sounds levels shall adjust automatically in response to ambient noise over a 60-dB range with additional control to have the sound level at ambient, 5dBA or 10dBA over ambient, to a maximum of 100 dBA.
- The system shall have an independent ambient adjustment setting for the locate tone that allows the locate tone volume to be set to play below the ambient noise level.
- The system shall utilize high quality digital audio technology by using 12-bit samples at a 16k Hz sample rate audio amplifier and must have total harmonic distortion of less than 3%.
- The firmware and voice messages shall be updatable via the USB port at the PBS. There shall be no requirement for the hardware to be changed out to update.
- The System shall have the option to mute sounds on all crosswalks except activated crosswalk (selectable feature).
- The System shall have no field replaceable fuses. All fuses shall be self-resetting.
- The System shall have the ability to have two separate program configurations with all features available that can be turned on through an external input.
- All field selectable options must be settable using an infrared remote or via Ethernet with password security.

SP-7-2.3 Central Control Unit (CCU) - The CCU is the power supply and control unit that provides power and data for the Push Button Stations.

- Shall be installed inside the Traffic Cabinet and powered by the AC supply mains (115 VAC).
- Shall control up to 16 PBS’s in a maximum of 4 channels up to 4 PBS’s per channel.
- Shall control up to four Pedestrian channels, receiving its timing from the Walk and Don’t Walk signals.
- Shall be able to self test all PBS’s and put a channel into recall should a PBS fail the self test.
- Shall provide optically isolated general purpose inputs.
- Shall be provided with a 4-cable interface harness assembly.
- Shall be provided with an interface connection board.
- Shall have Ethernet access to PBS’s through the CCU to be able to change the settings of PBS as well as monitor the self test Events of the PBS’s and report back to the Central Control Station.
- Shall have internal memory to store a few hundred events with a date-time stamp for each event.
- Shall have an internal real-time clock.

- Firmware for the CCU shall be updated by USB port on the CCU.
- The CCU shall have 2 built in conflict monitoring systems:
    - Monitors the PBS and the ped-head lights and powers off the channel upon a conflict.
    - Processors monitor each other and reset the CCU upon loss of internal communication.
- Shall meet NEMA 250 – Type 1 enclosures requirements.

SP-7-2.4 Pole Mounting Assembly - This equipment is typically mounted on a pole near the start of a crossing. It is commonly referred to as the “Pedestrian Push Button Station” or “PBS”).

- PBS shall be a single fixture that contains the vibro-tactile 2” ADA-compliant pedestrian push button with directional tactile arrow, a weatherproof speaker, and the appropriate sign for each location.
- All audible sounds shall emanate from the PBS.
- The external housing shall not have any polycarbonate or plastic parts.
- PBS’s must require only two wires coming from the traffic control cabinet for each phase / crosswalk.
- Each PBS shall have a system unique ID.
- SPEAKER: 8 Ohms, 12 Watt maximum, weather-proof.
- PUSH BUTTON: ADA compliant with raised arrow on the button plunger. Cast Aluminum, Nickel plated and powder coated for color contrast. The arrow on the PBS shall be able to be changed to one of four directions.
- PUSH BUTTON: Uses Piezo switch technology rated to greater than 20 million operations.
- VIBRATOR POWER: Arrow button shall pulse at 20 Hz with a 0.003 inch displacement against an applied 2 lb force.
- CONFLICT WALK MONITOR: Circuitry shall have a separate microcontroller that independently monitors the main microcontroller outputs and “Walk Mode” for conflict condition, the PBS is reset in case of conflict detection.
- The firmware and voice messages shall be updatable via the USB port at the PBS. There shall be no requirement for the hardware to be changed out to update.
- VOLTAGE TRANSIENT PROTECTION: Meets applicable NEMA TS 2 requirements.
- Meets or exceeds NEMA 250 type 4X enclosure requirements.
- CONSTRUCTION:
    - FRAME: Cast Aluminum, Powder Coated.
    - MESSAGE SIGN: Aluminum, Powder Coated, Ink Markings.
    - PUSH BUTTON: Aluminum, Powder Coated.
- MESSAGE MARKING: At time of order, the customer may specify the Message Sign Markings to be the International Walking Person or the Informational Explanations for the three (3) distinct pedestrian displays (WALK, DON’T WALK, and PED CLEAR) that a pedestrian would see on an active pedestrian head.

SP-7-2.5 Infrared Programming Device - A hand held remote used for programming the APS system.

- Shall use Infrared technology with an LCD display to program the PBS’s as well as the CCU.
- Shall be password protected.
- Shall be capable of setting all volumes and features of the APS system specific to the PBS’s.

- Shall be capable of setting/updating a single PBS or all PBS's on the intersection for most functions from a single PBS (Global updating).
- Shall have the ability to save 4 user defined and 3 factory pre-set program configurations.

METHOD OF MEASUREMENT.

SP-7-3.1 Completed and accepted items will be measured as follows:

- Central Control Unit will be measured by the unit.
- Pole Mounted Assembly will be measured by the unit.
- Infrared Programming Device will be measured by the unit

BASIS OF PAYMENT

SP-7-4.1 Work completed and accepted and measured as provided above will be paid for at the contract unit price bid as follows:

A. Central Control Unit - Price bid for Central Control Unit and associated equipment specified, shall be full compensation for furnishing all equipment listed above; meeting all functional requirements listed above, for installing, wiring, and testing the unit; and for all materials, equipment, tools, labor and incidentals necessary to complete the work.

B. Pole Mounted Assembly - Price bid for Pole Mounted Assembly shall be full compensation for furnishing the Pedestrian Push Button Station with all items including but not restricted to materials, equipment, tools, software, labor and incidentals necessary to complete the work.

C. Infrared Programming Device – Price bid for Infrared Programming Device shall be full compensation for furnishing the device meeting the above specifications and functional requirements of the Pedestrian Push Button Station.

Payment shall be made under:

SP-7-4.1 Central Control Unit – per each
SP-7-4.1 Pole Mounted Assembly – per each
SP-7-4.1 Infrared Programming Device – per each

END OF ITEM SP-7

SECTION SP-8 – RETROREFLECTIVE BACKPLATES

Section 706 Traffic Signal Head of the Standard Specifications for Highway Construction, Edition of 2014, is hereby amended as follows:

The ninth paragraph of **Subsection 706.02 Materials (c) Housing** is hereby deleted and the following substituted therefore:

Visors and backplates for metal signal sections shall be made from 0.050" (1.25 mm) minimum thickness aluminum alloy sheet.

- The minimum thickness of 0.050" does not include the retroreflective border.
- Backplates shall not be flexible nor of the hinged design.
- The backplate shall be louvered.
- A louvered backplate shall include louvers with no louvers closer than 0.5" from the inner or 2.5" from the outer edge. Sides are defined on how the signal head is oriented in the plans.
- The backplate shall have a 2" wide yellow (non-fluorescent) retroreflective sheeting border, placed flush with the outer edge of the backplate and placed no closer than 0.5" from all louvers. No sheeting is allowed over any louvered area.
- Sheeting shall be applied in such a manner to provide wrinkle and bubble free surfaces. Application of sheeting shall be in accordance with this special provision otherwise will be cause for rejection of materials due to workmanship.
- The sheeting shall be Type VIII or Type IX in accordance with ASTM D4956 or ASTM D4956-05 and listed on ARDOT's qualified product list.
- All applicable brochures containing the design criteria for the retroreflective sheeting border shall be submitted by the Contractor for approval.
- The sheeting shall be applied in the orientation for the maximum angularity according to the manufacturer's recommendations to project rectangular appearance at night.
- All backplates types shall be securely attached to the signal-head as recommended by the manufacture's specifications and methods.

The tenth paragraph of **Subsection 706.02 Materials (c) Housing** is hereby deleted and the following substituted therefore:

Visors and backplates for plastic signal faces shall be either formed from sheet plastic or assembled from one or more injection, rotational, or blow molded plastic sections with a minimum thickness of 0.10" (2.5 mm).

- The minimum thickness of 0.10" does not include the retroreflective border.
- Backplates shall not be flexible nor of the hinged design.
- The backplate shall be non-louvered.
- The backplate shall have a 2" wide yellow (non-fluorescent) retroreflective sheeting border, placed flush with the outer edge of the backplate.
- The sheeting shall be Type VIII or Type IX in accordance with ASTM D4956 or ASTM D4956-05 and listed on ARDOT's qualified product list.
- All applicable brochures containing the design criteria for the retroreflective sheeting border shall be submitted by the Contractor for approval.

- The sheeting shall be applied in the orientation for the maximum angularity according to the manufacturer's recommendations to project rectangular appearance at night.
- All backplates types shall be securely attached to the signal-head as recommended by the manufacture's specifications and methods.

END OF ITEM SP-8

.

SECTION SP-9-CABINET DRAWER ASSEMBLY

Section 701 Actuated Controller of the Standard Specifications for Highway Construction, Edition of 2014, is hereby amended as follows:

Subsection 701.02 (d) (10) Wiring Diagrams and Controller Manual is hereby deleted and the following substituted therefore:

Three copies of the Cabinet Wiring Diagram and one copy of the controller manual shall be supplied with each cabinet. One diagram and the manual shall be placed in the “Cabinet Drawer Assembly”. The “Cabinet Drawer Assembly” shall be fabricated to the approximate dimensions shown on the plans. Included with the “Cabinet Drawer Assembly” will be all hardware necessary to fasten and install the Assembly to the underside of a cabinet shelf roughly at the midpoint of the Cabinet vertically. One diagram shall be delivered to the City or County before final inspection of the intersection. One diagram shall be given to the Engineer.

The “Cabinet Drawer Assembly” shop drawing shall be included in the traffic equipment submittal.

END OF ITEM SP-9

SECTION SP-10-COMMUNICATION CABLE-FIBER

DESCRIPTION

SP-10-1.1 This item shall consist of furnishing, installing, and testing traffic signal fiber optic communication cable and tracer wire in accordance with these specifications and at the locations shown on the plans or as directed.

MATERIALS AND CONSTRUCTION.

SP-10-2.1 Properties, Optical A typical cable consist of a loose tube, 12-strand cable (or as specified by the cable type) aerial/duct, graded index, single-mode fiber-optic with the following properties:

The single-mode fiber utilized in the cable specified herein shall meet ICEA S-104-696, 2019 Edition, June 4, 2019 – "INDOOR-OUTDOOR OPTICAL FIBER CABLE" as follows:

Fiber Type	Graded Index, Single-mode
Core Diameter	8.2 microns
Attenuation	± 0.65 dB/km @ 1310 nm ± 0.65 dB/km @ 1383 nm ± 0.50 dB/km @ 1550 nm
Bandwidth	± 160 MHz-km @ 850 nm ± 500 MHz-km @ 1300 nm
Outer Diameter	6.5 mm (.26 in)
Connector/Coupling loss	1 dB/pair maximum

SP-10-2.2 Properties, Physical - Physical properties of the cable shall be as follows:

- Cable shall consist of buffer tubes and filler tubes cabled around a central strength member with counter laid cabling with a dry wicking filler material.
- Each buffer tube may contain from one (1) to twelve (12) fibers and shall consist of polymeric insulation.
- Each filler tube shall be solid polyethylene.
- The central strength member shall be a dielectric material such as epoxy/fiberglass.
- The outer strength member shall be Aramid Yarn (Kevlar).
- The cable shall be approved by Underwriters Laboratory and shall have cable markings at two foot intervals on the outer sheath indicating the type of cable, number of fibers, and distance from the end.
- The cable sheath shall be of high density polyethylene.
- The cable shall be of such design that permits cable entry in mid span.

- Each fiber shall be distinguishable from others by means of color coding according to the following:

1. Blue	7. Red
2. Orange	8. Black
3. Green	9. Yellow
4. Brown	10. Purple
5. Slate	11. Rose
6. White	12. Aqua

- Buffer tubes containing fibers shall also be color coded with distinct and recognizable colors according to the following:

1. Blue	7. Red
2. Orange	8. Black
3. Green	9. Yellow
4. Brown	10. Purple
5. Slate	11. Rose
6. White	12. Aqua

SP-10-2.3 Properties, Mechanical **-** The cable shall have the following mechanical properties:

Maximum Installation Tension	675 N (600 lbs)
Maximum Operating Tension	200 N (132 lbs)
Minimum Bend Radius Installation	98 mm (3.8”)
Minimum Bend Radius Operating	33 mm (1.3”)
Cable Weight kg/km (lbs/1000 ft)	36 (24), Nominal

- All fibers shall be terminated with single-mode SC connectors to be compatible with the connector module in the controller cabinet. Sufficient cable shall be allowed in the controller cabinet to allow connection of the connector module without violating the minimum operating bending radii of the fiber optic cable.

- This item shall consist of furnishing and installing modifications to the controller cabinets to allow connection of the controller to the fiber optic cable interconnect in accordance with these specifications and at the locations shown on the plans or as directed.

- A Connector Module for SC connector compatible, 12 port, multimode couplings (3M product or approved equal) shall be provided in the control cabinet. This module shall be mounted on the cabinet wall in a workmanlike manner so that the door and connector ports are easily accessible.

- Two (2) duplex single-mode patch cords one-meter in length shall be furnished with each controller cabinet to connect the traffic controller internal fiber optic modem to the connector module. These patch cords shall have ceramic SC connectors on each end to be compatible with the connector module and the fiber optic modems internal to the traffic signal controllers.

SP-10-2.4 Testing - Contractor shall perform line loss testing of all fibers, utilizing test equipment acceptable to the engineer, and submit reports to the engineer for validation. A testing report a format acceptable to the Engineer shall be provided for approval. Test equipment shall be accurate to +/-0.1 dB at - 20 dB M (850 nm). The above cable specifications are considered the limits of acceptability. Fibers not testing equal to or better than this specification shall be repaired or replaced. The 30-day test on the system shall not commence until all fibers have been tested within specification and accepted by the Engineer.

SP-10-2.5 Tracer wire shall be of the type specified and placed along with the communication cable.

METHOD OF MEASUREMENT

SP-10-3.1 Communication cable and tracer wire shall be measured by the linear foot.

BASIS OF PAYMENT

SP-10-4.1 Payment will not be made for any portion of the cable not testing to the satisfaction of the engineer. Work completed, accepted, and measured as provided above will be paid for at the contract unit price bid for “Communication Cable, Fiber (of the number of channels specified)” and “Fiber Tracer Wire (of the type specified) which price shall be full compensation for furnishing the cable; installing and testing of all materials; and for equipment, tools, labor and incidentals necessary to complete the work. Payment will be made under:

Pay Item	**Pay unit**
COMMUNICATION CABLE, FIBER (12 SMF)	LF
FIBER TRACER WIRE, #14 AWG, POLYETHYLENE INSULATION ORANGE IN COLOR	LF
FIBER OPTIC PIGTAIL, 12 SM	LF

END OF ITEM SP-10

SECTION SP-11-DECORATIVE POLES

DESCRIPTION

SP-11-1.1 This item consists of furnishing and installing decorative poles as designated by the Engineer or as shown on the plan sheets.

MATERIALS AND CONSTRUCTION.

SP-11-2.1 The following Pelco parts shall be used and shall be powder coated black:

- Mast Arm Poles
  - SP-3015-AR Luminaire Arm
  - PB-5315 Ornamental Pole Top
  - PB-5354 Ornamental Pole Base
  - PB-5355 Ornamental Pole Base
  - PB-5381 Ornamental Pole Base

- Pedestal Poles
  - PB-5349-1S-GL-P33 Pole Base
  - PB-5401-P33 Pole Cap

END OF ITEM SP-11

PSECTION SP-12-ELECTRICAL CONDUCTORS FOR LUMINAIRES

DESCRIPTION

SP-12-1.1 This item consists of furnishing and installing electrical conductors as noted on the plans. This shall include conductors from the luminaire service point to the luminaire disconnect point and from the luminaire disconnect point to luminaires mounted on the traffic signal poles. Circuit breakers and weatherproof breaker boxes are considered subsidiary to "Electrical Conductors for Luminaires" and shall be provided and installed by the Contractor at the luminaire disconnect point.

MATERIALS AND CONSTRUCTION.

SP-12-2.1 The electrical conductors shall consist of two conductor cables (#12 A.W.G.). Electrical conductors shall be stranded or solid copper UF rated 600 volt, suitable for underground duct installation in wet or dry locations. Electrical conductors shall comply to ASTM Specification B3, B-8 or B-787. The insulation shall be a color coded premium grade flame retardant PVC (polyvinyl chloride). The jacket shall be polyamide nylon. Circuit breakers shall be rated at 20 amps.

The Contractor shall furnish and install a luminaire disconnect (20 amp circuit breaker assembly and weatherproof box) at the location designated on the plans that meets the requirements of the local utility company. The Contractor shall connect the circuit breaker assembly to the line side of the service point supplying the controller. Conductors for luminaires shall run directly from load side of luminaire disconnect to luminaires mounted on signal poles. Disconnect or trip of luminaire disconnect shall not effect power to controller. Luminaire disconnect shall be clearly labeled as "Street Light" circuit.

Splices are allowed at pole bases or as approved by the Engineer. Splicing methods considered acceptable are: Soldered, compression connectors of proper size employing cyclic crimping devices, terminal strips, or other method approved by the Engineer. Splices on terminal strips shall utilize proper spade lugs. All splices shall be waterproof. When taping is required, the wire shall be covered with six (6) layers of plastic electrical tape and sealed with "Scotch-Coat" or other similar electrical sealing material. Where wire nuts are used, soldering, taping and sealing is still required. Electrical insulating putty may be used to round off sharp corners of wire or connectors before applying tape. Slack cable (3 ft. min.) shall remain at each splice location or at end of luminaire arm when luminaire is not to be installed by contractor. Final connection of power from the local utility to the service point will be made by others.

METHOD OF MEASUREMENT

SP-12-3.1 Electrical Conductors for Luminaires will be measured by the linear foot. Multiple conductors shall be measured together, not measured singularly.

BASIS OF PAYMENT

SP-12-4.1 Work completed and accepted and measured as provided above will be paid for at the contract unit price bid per linear foot for Electrical Conductors for Luminaires of the type and size called for on the plans, which price shall be full compensation for furnishing materials, splicing and connections and for all tools, equipment, labor, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	**Pay Unit**
Electrical Conductors for Luminaires	Linear Foot

END OF ITEM SP-12

SECTION SP-13-ELECTRICAL CONDUCTORS-IN-CONDUIT

DESCRIPTION

SP-13-1.1 This item consists of furnishing and installing electrical conductors from point to point as indicated on the plan sheets.

MATERIALS AND CONSTRUCTION

SP-13-2.1 The electrical conductors shall consist of cables of the gauge and number of conductors specified on the plan sheets, and shall be USE rated (single conductor) or UF rated (two conductor), suitable for underground duct installation in wet or dry locations. Electrical conductors shall be solid or stranded copper unless otherwise approved by the Engineer.

Where specified "With Ground" (WG), included shall be a copper safety ground of either bare copper or green insulated; of not less than two sizes less than the load carrying conductors, whichever is greater.

Where specified "Equipment Ground Conductor" (E.G.C.), conductor shall be a copper safety ground of either bare copper or green insulated of the size and quantity shown.

Splices are allowed at pole bases or as approved by the Engineer. Unless waterproof quick disconnects are used, Splicing methods considered acceptable are: Soldered, compression connectors of proper size employing cyclic crimping devices, terminal strips, or other method approved by the Engineer. Splices on terminal strips shall utilize proper spade lugs. All splices shall be waterproof. When taping is required, the wire shall be covered with six (6) layers of plastic electrical tape and sealed with "Scotch-Coat" or other similar electrical sealing material. Where wire nuts are used, soldering, taping and sealing is still required. Electrical insulating putty may be used to round off sharp corners of wire or connectors before applying tape. Slack cable (3 ft. min.) shall remain at each splice location.

METHOD OF MEASUREMENT

SP-13-3.1 Electrical Conductors-In-Conduit shall be measured by the linear foot. Multiple conductors shall be measured together, not measured singularly.

BASIS OF PAYMENT

SP-13-4.1 Work completed and accepted and measured as provided above will be paid for at the contract unit price bid per linear foot for Electrical Conductors-In-Conduit of the type and size called for on the plans, which price shall be full compensation for furnishing materials, splicing, and connections and for all tools, equipment, labor, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	**Pay Unit**
Electrical Conductors-In-Conduit (_c/_ A.W.G.,_)	Linear Foot

END OF ITEM SP-13

SECTION SP-14-EMERGENCY BATTERY BACKUP SYSTEM INSTALLATION

DESCRIPTION

SP-14-1.1 This item consists of installing a emergency Battery Backup System (BBS) with fully conditioned power, for a traffic signal control and communications equipment with batteries, mounted inside a separate equipment cabinet of the type and size called for at the location shown on the plans, or as directed by the Engineer, and shall conform to the following specifications. Power output to equipment shall be fully conditioned whether operating on line voltage or battery backup. No meter base is required.

MATERIALS AND CONSTRUCTION

SP-14-2.1 The Battery Backup System (BBS) shall include, but not be limited to the following: Inverter/Charger, batteries, combination power transfer relay and manual bypass switch and all necessary hardware and interconnect wiring. The BBS shall provide reliable emergency power to traffic system equipment in the event of a power failure or interruption. The BBS shall be a Clary UPS SP1250LX-N and the following parts shall be used:

- OP72D - 72VDC Battery Sets
- SNSP Adaptor

The BBS shall be installed in the vicinity of the service point or as directed by the engineer.

METHOD OF MEASUREMENT.

SP-14-3.1 Battery Backup System Installation will be measured by the unit.

BASIS OF PAYMENT

SP-14-4.1 Work completed and accepted and measured as provided above, will be paid for at the contract unit price bid for each Battery Backup System Installation, which price shall be full compensation for furnishing all materials, fittings, brackets, clamps, equipment, tools, labor, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	**Pay Unit**
Battery Backup System	Each

END ITEM SP-14

SECTION SP-15-ETHERNET SWITCH

DESCRIPTION

SP-15-1.1 This item consists of furnishing and installing an Ethernet Switch in the controller cabinet of the type called for, at each intersection, or as directed by the Engineer, and shall conform to the following specifications.

MATERIALS AND CONSTRUCTION

SP-15-2.1 The Ethernet Switch shall be a KY-3170XM, 10 port rack mountable with four (4) SFP and jumpers, two (2) multi-mode and two (2) single-mode.

The Ethernet Switch shall be installed in the controller cabinet.

METHOD OF MEASUREMENT

SP-15-3.1 The Ethernet Switch will be measured by the unit.

BASIS OF PAYMENT

SP-15-4.1 Work completed, accepted, and measured as provided above shall be paid for at the contract unit price bid for each which price shall be full compensation for furnishing and installing the device.

Payment will be made under:

Pay Item	Pay Unit
Ethernet Switch, T100 Hardened (10-Port)	**Each**

END OF ITEM SP-15

SECTION SP-16-GPS PREEMPTION SYSTEM

DESCRIPTION

SP-16-1.1 This item consists of installing a GPS Preemption System in the controller cabinet of the type called for, at each intersection, or as directed by the Engineer, and shall conform to the following specifications.

MATERIALS AND CONSTRUCTION

SP-16-2.1 The GPS Preemption System shall be a Global Traffic Technologies Opticom GPS Preemption System and include, but not be limited to the following:

- Phase Selector Model 764
- AIP Model 768
- Radio Model 1012B
- GPS Card Rack Model 1040
- Cabinet Mount Antenna

The GPS Preemption System shall be installed in the controller cabinet.

METHOD OF MEASUREMENT

SP-16-3.1 GPS Preemption System will be measured by the unit.

BASIS OF PAYMENT

SP-16-4.1 Work completed, accepted and measured as provided above, will be paid for at the contract unit price bid for each GPS Preemption System, which price shall be full compensation for furnishing all materials, fittings, brackets, clamps, equipment, tools, labor, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
GPS Preemption System	**Each**

END OF ITEM SP-16

SECTION SP-17 - IP VIDEO DETECTION SYSTEM

Section 733 Video Detector with Radio Interface of the Standard Specifications for Highway Construction, Edition of 2014, is hereby amended as follows:

Subsection 733.02 Materials is hereby amended by **adding** the following:

(h) SDLC and Cables - SDLC Interface Module with cables

(i) Vehicle Detector Rack - Unit consists of a standard NEMA TS2 Type 2 card rack unit with power supply, of the number of channels specified. The Unit shall be wired to be suitable for use with two (2) or four (4) channel card rack loop detectors, edge card video detectors, or video edge card extenders. Card rack shall be supplied with double width card slots if double width cards are utilized.

(j) Central Control Unit – CCU shall be an Iteris Vantage Next Shelf-Mount Platform

(k) Video Detector Alignment Unit - One programming module per job, for Zoom and focus of camera, shall be provided for alignment and setup of Detector. The module shall be given to the local government upon completion of the installation. The price for this unit shall be considered included in other items of the contract.

(l) Video Detector (IP) – The Video Detector (IP) shall be

1. NB and SB Iteris Vantage Next Camera
2. EB and WB NextVector Camera

(m) Video Cable (Exterior Cat 5E) - The Ethernet Cable shall meet the following:

1. The Ethernet cable shall be environmentally hardened, outdoor rated 350 MHz Category 5e cable. The cable shall be riser rated, 24 AWG solid copper, have Polyolefin insulation, UV and oil resistant PVC jacket. Pair 1 shall be Blue, White/Blue, Pair 2 shall be Orange, White/Orange, Pair 3 shall be Green, White/Green and Pair 4 shall be Brown, White/Brown. The operating temperature shall be from -40° C to +70° C. The cable shall conform to the following standards: ISO/IEC 11801 Category 5e, NEMA WC 63, and ANSI/TIA/EIA 568-B.2 Category 5e. The cable shall be without splicing or joints for a single run. The contractor shall obtain instructions from the manufacturer about alternate architecture when length of a single run of CAT 5e cable exceeds 320 feet.

2. The RJ-45 plug connectors shall be used at both the camera and cabinet ends. The supplier of the video detection systems shall approve the Category 5e cable, RJ-45 connectors and crimping tool and the manufacturer's instructions must be followed to insure proper connection.

(n) Video Monitor (CLR) – Where called or in the plans, a video monitor meeting the following shall be provided:

- Display –Color (CLR)
- Light Source - LED
- Size – 10" Diagonal
- HDMI – 2 Inputs
- VGA Input
- USB Input

- Video Input/Output
- Input Power – 12V DC

(o) Bluetooth System – Bluetooth system shall be an Iteris Vantage Velocity

Subsection 733.03 Construction Requirements (C) Software is hereby **deleted** and the following substituted:

(C) Software - Software required for monitoring, setup and programming of the system shall be supplied as subsidiary to this special provision for the item "Video Processor" or "Video Processor, Edge Card", of the number of channels specified. Two licensed copies shall be required for the job. Software shall be windows based and operate from an IBM compatible, laptop with Windows XP or later operating system. If other programming device is required, one unit shall be supplied and it shall be considered subsidiary to this special provision.

Subsection 733.04 Method of Measurement is hereby amended by **adding** the following:

(i) SDLC and Cables shall be measured by the unit.

(j) Video Edge Card Extender IP shall be measured by the unit.

(k) Vehicle Detector Rack of the number channels specified shall be measured by the unit.

(l) Central Control Unit of the number channels specified shall be measured by the unit.

(m) Video Detector (IP) shall be measured by the unit.

(n) Video Cable (Exterior Cat 5E) of the type specified will be measured by the linear foot.

(o) Video Monitor (CLR) shall be measured by the unit.

(p) Bluetooth System shall be measured by the unit.

Subsection 733.05 Basis of Payment is hereby amended by **adding** the following:

(i) SDLC and Cables - Work completed and accepted under this item and measured as provided above, shall be paid for at the contract unit price for SDLC and Cables of the number inputs specified; which price shall be full compensation for providing and installing the device, wiring, configuring, and testing the device; and shall also be for all labor, equipment, tools and incidentals necessary to complete the work.

(j) Vehicle Detector Rack - Work completed and accepted under this item and measured as provided above, shall be paid for at the contract unit price for Vehicle Detector Rack of the number channels specified; which price shall be full compensation for providing and installing the device, wiring, configuring, and testing the device; and shall also be for all labor, equipment, tools and incidentals necessary to complete the work. Controller cabinet modifications, and removal of equipment inside the cabinet, and other work necessary for installation of the device shall be considered included in the price of this item.

(k) Central Control Unit - Work completed and accepted under this item and measured as provided above, shall be paid for at the contract unit price for Central Control Unit of the number channels specified; which price shall be full compensation for providing and installing the device, wiring, configuring, and testing the device; and shall also be for all labor, equipment, tools and

incidentals necessary to complete the work. Controller cabinet modifications, and removal of equipment inside the cabinet, and other work necessary for installation of the device shall be considered included in the price of this item.

(l) Video Detector (IP) - Work completed and accepted under this item and measured as provided above, shall be paid for at the contract unit price for Video Detector (IP); which price shall be full compensation for providing and installing the device, wiring, configuring, and testing the device; and shall also be for all labor, equipment, tools and incidentals necessary to complete the work.

(m) Video Cable (Exterior Cat 5E) - Price bid for Video Cable (Exterior Cat 5E) of the type specified shall be full compensation for furnishing, installing and testing the cable; and for all equipment, tools, labor and incidentals necessary to complete the work.

(n) Video Monitor (CLR) – Work completed and accepted under this item and measured as provided above, shall be paid for at the contract unit price bid per each Video Monitor (CLR); which price shall be full compensation for providing and installing the device, wiring, configuring, and testing the device; and for all labor, equipment, tools, and incidentals necessary to complete the work.

(o) Bluetooth System – Work completed and accepted under this item and measured as provided above, shall be paid for at the contract unit price bid per each Bluetooth System; which price shall be full compensation for providing and installing the device, wiring, configuring, and testing the device; and for all labor, equipment, tools, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	**Pay Unit**
SDLC and Cables	Lump Sum
Vehicle Detector Rack (___ Channel)	Each
Central Control Unit (___ Channel)	Each
Video Detector (IP)	Each
Video Cable (Exterior Cat 5E)	Linear Foot
Video Monitor (CLR)	Each
Bluetooth System	Each

END OF ITEM SP-17

SECTION SP-18-LED COUNTDOWN PEDESTRIAN SIGNAL HEAD

DESCRIPTION

SP-18-1.1 This item shall consist of furnishing and installing Countdown Pedestrian Signal Heads and components based on Light Emitting Diode (LED) technology according to these specifications as well as **Section 707 Pedestrian Signal Head** of the Standard Specifications for Highway Construction, Edition of 2014, subject to approval of the engineer. The basic configuration consists of the "filled", symbolic single section design. Portions of the standard specifications will be superseded by these special provisions.

MATERIALS AND CONSTRUCTION

SP-18-2.1 The LED modules shall be suitable for span wire and mast arm mounted signals. Units must meet the following specifications to be accepted.

(A) Physical and Mechanical. LED pedestrian signal modules designed shall not require special tools for installation. Retrofit replacement LED signal modules shall fit into existing pedestrian signal housings built to the VTCSH Standard without modification to the housing. Installation of a retrofit replacement LED signal module into an existing signal housing shall only require the removal of the existing optical unit components, i.e., lens, lamp, and gaskets; shall be weather tight and fit securely in the housing; and shall connect directly to existing electrical wiring utilizing spade connectors. It shall not be necessary to remove reflector or lamp module. Reflector and lamp module is not required where new housings are provided.

The countdown feature will be displayed only during the flashing "Don't Walk" segment of the pedestrian phase. This feature should be able to restart at the correct part of the signal cycle after a power outage or a signal pre-emption has been activated.

(B) Optical Requirements. The modules shall be measured per ITE specifications, and are required to meet luminous values that are a minimum of 115 percent greater than the required minimum values in the specifications at the time of production. The YELLOW modules shall be tested for luminous output at 25°C, allowing the modules to achieve thermal equilibrium for 60 minutes, while the modules are energized at nominal operating voltage, at a 8.3% (or 1/12) duty cycle or 5 sec on/55 sec off). The yellow modules shall meet all other ITE specifications.

(C) Optical Unit. LED signal modules shall meet the following requirements:

Optical Unit Replacement - The LED module shall be constructed to allow the replacement of the outer lens and/or the light engine when needed.

Lens Surface - The external lens shall be smooth on the outside to prevent excessive dirt/dust buildup.

Chromaticity - The measured coordinates of LED signal modules shall conform to the chromaticity requirements of Section 8.04 and Figure 1 of the VTCSH standard.

Environment - The LED signal module shall be rated for use in the ambient operating temperature range, measured at the exposed rear of the module, of -40° C (-40° F) to +74°C (+165° F). The LED sign module shall be protected against dust and moisture intrusion per the requirements of NEMA Standard 250-1991, sections 4.7.2.1 and 4.7.3.2, for Type 4 enclosures to protect all internal LED, electronic, and electrical components. The LED signal module lens shall be UV Stabilized.

Pre assembly - The LED signal module shall be a single, self-contained device, not requiring on-site assembly for installation into an existing pedestrian signal housing. The power supply for the LED signal module may be either integral or packaged as a separate module. The power supply may be designed to fit and mount inside the pedestrian signal housing adjacent to the LED signal module. The assembly and manufacturing process for the LED signal assembly shall

be designed to assure all internal LED and electronic components are adequately supported to withstand mechanical shock and vibration from high winds and other sources.

LED Drive Circuitry (parallel) - The individual LED light sources shall be wired so that a catastrophic failure of one LED light source will result in the loss of only that one LED light source, and the loss of no more than 1% of the total LED'S within the LED signal module.

Material Composition - Materials used for the lens and signal module construction shall conform to ASTM specification for the materials where applicable. Enclosures containing either the power supply or electronic components of the signal modules shall be made of UL94VO flame retardant materials. The lens of the signal module is excluded from this requirement.

Identification Markings - Each individual LED signal module shall be identified for warranty purposes. Each LED signal module shall be identified on the backside with the manufacturer's name and serial number. The following operating characteristics shall be identified: nominal operating voltage, power consumption, and Volt-Ampere. Modules shall have a prominent and permanent vertical indexing indicator, i.e. UP ARROW or the word UP or TOP, for correct indexing and orientation inside a signal housing. Modules conforming to this specification may have the following statement: "Manufactured in Conformance with the Interim Purchase Specification of the ITE for LED vehicle Pedestrian signal Modules" on an attached label.

(D) Manufacturer's Warranty. The standard contract warranty shall apply with time extensions applied to materials. The contractor shall provide a written manufacturer's guarantee to the Agency (City, County or etc.) who provides electrical service and maintenance of the intersection. Warranty shall provide the following stipulations:

- Isolated Failures Warranty Period not less than 7 Years
- Design Failure Warranty Period not less than 5 Years

Warranty for isolated lens failure shall include replacement LED module at no cost for materials and shipping for a period of 7 years from the date the intersection is considered substantially complete by the engineer. An LED module shall be considered failed when the luminosity drops below the ITE requirements listed above.

A product "Design Failure" is considered to have occurred if, within a period of 5 years or less, a total of ten percent (10%) of the LED modules supplied on a particular Job are considered failed as described above. The supplier shall then "recall" the entire shipment at no cost to the agency maintaining the equipment. This shall include labor and equipment necessary to replace the units.

Construction shall be in accordance with the standard specifications. No distinction is made for span-wire installations, post mount, mast arm mount, or other mounting methods as described on the plan sheet(s).

METHOD OF MEASUREMENT

SP-18-3.1

A. Pedestrian Signal Head, LED. Work completed and accepted and measured as provided above will be measured by unit.

B. Pedestrian Signal Head, LED Lens Retrofit (Ret). Work completed and accepted and measured as provided above will be measured by unit.

BASIS OF PAYMENT

SP-18-4.1

A. LED Pedestrian Signal Head **-** Work completed and accepted and measured as provided above will be paid for at the contract unit price bid per each for PEDESTRIAN SIGNAL HEAD LED of the type, display and size specified, which price shall be full compensation for furnishing and installing all materials and signs; and for all labor, equipment, tools, and incidentals necessary to complete the work.

B. LED Pedestrian Signal Lens Ret**. -** Work completed and accepted and measured as provided above will be paid for at the contract unit price bid per each for PEDESTRIAN SIGNAL LED LENS RET of the type, number of sections, color and display specified, which price shall be full compensation for removing existing unnecessary hardware and modifying existing housing; and for furnishing and installing all materials; and for all labor, equipment, tools, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	**Pay Unit**
Countdown Pedestrian Signal Head, LED	Each

END OF ITEM SP-18

SECTION SP-19 - LED LUMINAIRE

DESCRIPTION

SP-19-1.1 This item consists of furnishing and installing luminaires designated by the Engineer or as shown on the plan sheets.

MATERIALS AND CONSTRUCTION

SP-19-2.1 The luminaires shall be Holophane Memphis Teardrop LED series and the follow parts shall be used:

- MPL2 P40S 40K AS BK TG 3 P P7 PCLL SS
- WLLF 200 SCA BK (West Liberty Style Decorative Arm Fitter)

METHOD OF MEASUREMENT

SP-19-3.1 LED Luminaire will be measured by the unit.

BASIS OF PAYMENT

SP-19-4.1 LED Luminaires installed, accepted, and measured as provided above shall be paid at the contract unit price bid each which price shall be full compensation for furnishing and installing the device.

Payment will be made under:

Pay Item	Pay Unit
Luminaire Assembly	**Each**

END OF ITEM SP-19

SECTION SP-20-LED TRAFFIC SIGNAL HEAD

DESCRIPTION

SP-20-1.1 This item shall consist of furnishing and installing 300 mm (12") diameter Traffic Signal Heads and components based on Light Emitting Diode (LED) technology according to these specifications as well as **Section 706 Traffic Signal Head** of the Standard Specifications for Highway Construction, Edition of 2014, to approval of the engineer. Portions of the standard specifications will be superseded by these special provisions.

MATERIALS AND CONSTRUCTION

SP-20-2.1**.** The LED modules shall be suitable for span wire and mast arm mounted signals. Units must meet the following specifications to be accepted.

(A) Physical and Mechanical. LED traffic signal modules designed shall not require special tools for installation. Retrofit replacement LED signal modules shall fit into existing traffic signal housings built to the VTCSH Standard without modification to the housing. Installation of a retrofit replacement LED signal module into an existing signal housing shall only require the removal of the existing optical unit components, i.e., lens, lamp, and gaskets; shall be weather tight and fit securely in the housing; and shall connect directly to existing electrical wiring utilizing spade connectors. It shall not be necessary to remove reflector or lamp module. Reflector and lamp module is not required where new housings are provided.

(B) Optical Requirements. The RED and GREEN modules shall be measured per ITE specifications, and are required to meet luminous values that are a minimum of 115 percent greater than the required minimum values in the specifications at the time of production. The YELLOW modules shall be tested for luminous output at 25°C, allowing the modules to achieve thermal equilibrium for 60 minutes, while the modules are energized at nominal operating voltage, at a 8.3% (or 1/12) duty cycle or 5 sec on/55 sec off). The yellow modules shall meet all other ITE specifications.

(C) Optical Unit. LED signal modules shall meet the following requirements:

Optical unit replacement - The LED module shall be constructed to allow the replacement of the outer lens and/or the light engine when needed.

Lens Surface - The external lens shall be smooth on the outside to prevent excessive dirt/dust buildup.

Tinting - The RED, YELLOW and optionally on GREEN lens shall be tinted or shall use transparent film or materials with similar characteristics.

Chromaticity - The measured coordinates of LED signal modules shall conform to the chromaticity requirements of Section 8.04 and Figure 1 of the VTCSH standard.

Environment - The LED signal module shall be rated for use in the ambient operating temperature range, measured at the exposed rear of the module, of -40° C (-40° F) to +74°C (+165° F). The LED sign module shall be protected against dust and moisture intrusion per the requirements of NEMA Standard 250-1991, sections 4.7.2.1 and 4.7.3.2, for Type 4 enclosures to protect all internal LED, electronic, and electrical components. The LED signal module lens shall be UV Stabilized.

Pre assembly - The LED signal module shall be a single, self-contained device, not requiring on-site assembly for installation into an existing traffic signal housing. The power supply for the LED signal module may be either integral or packaged as a separate module. The power supply may be designed to fit and mount inside the traffic signal housing adjacent to the LED signal module. The assembly and manufacturing process for the LED signal assembly shall be

designed to assure all internal LED and electronic components are adequately supported to withstand mechanical shock and vibration from high winds and other sources.

LED Drive Circuitry (parallel) - The individual LED light sources shall be wired so that a catastrophic failure of one LED light source will result in the loss of only that one LED light source, and the loss of no more than 1% of the total LED'S within the LED signal module.

Material Composition - Materials used for the lens and signal module construction shall conform to ASTM specification for the materials where applicable. Enclosures containing either the power supply or electronic components of the signal modules shall be made of UL94VO flame retardant materials. The lens of the signal module is excluded from this requirement.

Identification Markings - Each individual LED signal module shall be identified for warranty purposes. Each LED signal module shall be identified on the backside with the manufacturer's name and serial number. The following operating characteristics shall be identified: nominal operating voltage, power consumption, and Volt-Ampere. Modules shall have a prominent and permanent vertical indexing indicator, i.e. UP ARROW or the word UP or TOP, for correct indexing and orientation inside a signal housing. Modules conforming to this specification may have the following statement: "Manufactured in Conformance with the Interim Purchase Specification of the ITE for LED vehicle Traffic Signal Modules" on an attached label.

The first sentence of Subsection 706.02, Materials. (d) is deleted and the following substituted therefore:

The Contractor shall furnish and install the proper signs [either Left Turn Signal (MUTCD R10-10) or Left Turn Yield on Flashing Yellow Arrow (MUTCD Special) or Left Turn Yield on Green (symbolic green ball (MUTCD R10-12)] adjacent to signal heads controlling an exclusive left turn lane.

(E) Manufacturer's Warranty. The standard contract warranty shall apply with time extensions applied to materials. The contractor shall provide a written manufacturer's guarantee to the Agency (City, County or etc.) who provides electrical service and maintenance of the intersection. Warranty shall provide the following stipulations:

- Isolated Failures Warranty Period not less than 7 Years
- Design Failure Warranty Period not less than 5 Years

Warranty for isolated lens failure shall include replacement LED module at no cost for materials and shipping for a period of 7 years from the date the intersection is considered substantially complete by the engineer. An LED module shall be considered failed when the luminosity drops below the ITE requirements listed above.

A product "Design Failure" is considered to have occurred if, within a period of 5 years or less, a total of ten percent (10%) of the LED modules supplied on a particular Job are considered failed as described above. The supplier shall then "recall" the entire shipment at no cost to the agency maintaining the equipment. This shall include labor and equipment necessary to replace the units.

Construction shall be in accordance with the standard specifications. No distinction is made for span-wire installations, post mount, mast arm mount, or other mounting methods as described on the plan sheet(s).

Whether complete head assembly is replaced or existing head is retrofitted with new lenses, contractor shall be responsible for aligning head properly with approach lanes. This does not include relocating head and bracket, but adjusting the alignment of the head to achieve maximum visibility to motorists.

METHOD OF MEASUREMENT

SP-20-3.1 Units are bid as “3 Section”, “4 Section” or “5 Section”. A 3 Section unit consists of one each: Red Ball, Yellow Ball, and Green Ball. A 4 Section unit consists of one each: Red Ball, Yellow Ball, Green Ball, and Green Arrow or Red Arrow, Yellow Ball, Yellow Arrow, and Green Arrow. A 5 Section unit consists of one each: Red Ball, Yellow Ball, Green Ball, Yellow Arrow, and Green Arrow. No distinction shall be made in the unit based on the orientation of the arrow indications.

A. Traffic Signal Head, LED. Work completed and accepted and measured as provided above will be measured by unit.

B. Traffic Signal Head, LED Lens, Retrofit (Ret). Work completed and accepted and measured as provided above will be measured by unit.

BASIS OF PAYMENT

SP-20-4.1

A. LED Traffic Signal Head. Work completed and accepted and measured as provided above will be paid for at the contract unit price bid per each for Traffic Signal Head, LED of the type, display and size specified, which price shall be full compensation for furnishing and installing all materials and signs; and for all labor, equipment, tools, and incidentals necessary to complete the work.

B. LED Traffic Signal Lens Ret. Work completed and accepted and measured as provided above will be paid for at the contract unit price bid per each for Traffic Signal Head, LED Lens, Retrofit of the type, number of sections, color and display specified, which price shall be full compensation for removing existing unnecessary hardware and modifying existing housing; and for furnishing and installing all materials; and for all labor, equipment, tools, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	**Pay Unit**
Traffic Signal Head, LED, (___Section, 1 Way)	Each
Traffic Signal Head, LED Lens, Retrofit (___Section, 1 Way)	Each

END OF ITEM SP-20

SECTION SP-21 – SERVICE POINT ASSEMBLY

DESCRIPTION

SP-21-1.1 This item consists of furnishing and installing a ground mount service point assembly, ground rod, and miscellaneous fittings at locations designated on the plans and in accordance with the latest version of the National Electrical Code.

The Contractor shall perform all necessary liaisons with Bentonville Electric Utility in order to ascertain such specific requirements required for each location.

MATERIALS AND CONSTRUCTION

SP-21-1.1

- The required tying into underground circuits is considered subsidiary to service point assembly.

- The Contractor shall furnish and install service feeder wire from the ground mounted service point assembly to the main underground service facilities. Tie-in and splicing of the service feeder wire to the secondaries supplied by the local utility will be performed by others and shall not be considered a part of this contract. Grounding shall be as shown on the Detail Sheet.

- A Service Point Assembly, with two or more circuits, shall consist of a main breaker in a weatherproof cabinet and separate distribution panel with breaker(s), lightning arrestors, and other auxiliary equipment, in a weatherproof cabinet of the size and type specified in the plans. A 2-pole contactor with twist lock type photocell, wiring and manual switching shall also be provided as outlined on the detailed sheet.

- Service Point Assembly with two or more circuits shall also include a 20 Amp, 120 V.A.C. breakers and duplex receptacle (ground fault interrupter) mounted on a separate line from the lighting branch circuits but in the same enclosure. Where 120 V.A.C. is not available, receptacle will be of a suitable type acceptable to the Engineer, to prevent connection of 120 V.A.C. standard plugs, and shall be clearly marked as to rating. An auxiliary breaker and receptacle is not required for single (1) circuit service point assemblies.

- Plans may require fewer circuits to be utilized than the number specified for a Service Point Assembly. For each unused circuit, vacant space and terminal facilities shall be available for future addition of a 40-amp two pole breaker (or greater).

- Lightning arrestor shall be SPD Type 2 (load side) per NEC and UL Code 1449.

- A separate Service Enclosure must also be provided. Service enclosure shall be 12” Wide X 49” High X 7 ½” Deep. Service enclosure shall meet EUSERC requirements. Service enclosure shall be fabricated from 12 gauge H.D. galvanized steel. Interior of service enclosure shall be fabricated from 14 gauge cold rolled steel and painted white. Service enclosure shall be painted Ranch Green or City approved color. Service enclosure shall have continuous welded seams. Service enclosure shall have full length dead-front with stainless steel hinge. Service enclosure shall be a UL 508 industrial control panel label for service entrance equipment. Service enclosure shall have pull section with removable step. Service enclosure shall have fully framed

side hinged outer door with swaged close tolerance sides for flush fit with top drip lip and closed cell neoprene flange compressed gaskets. Service enclosure shall have hinged dead-front with ¼ turn latch and knurled knobs. Dead-front door shall be hinged on the same side as exterior door and open a minimum of 100°. Removable back-panel shall be mounted on 4 welded ¼" studs. All circuit breakers shall be mounted in a vertical position, handle up for "On" handle down for "Off". Circuit breakers shall be of cable-in cable-out type. Service enclosure shall consist of absolutely no "Bolt-On" or "Plug-In" circuit breakers. Service enclosure shall be completely pre-wired in the factory. Wiring will be to NEMA IIB standards showing external connections and external equipment. All bussing shall be UL approved copper THHN cable bussing, fully rated. The function of all circuit breakers, switches and other components as required shall be identified by laminated engraved plastic nameplates with minimum ¼" letters fastened with minimum of two #4-40 stainless steel machine screws. Wiring schematics will be Computer Aided Drafting and include all external equipment and connections per NEMA IIB. As Built factory drawings shall be enclosed in clear plastic and held inside the outer door by welded hooks. Manufacturers will be required to furnish independent laboratory certification of metal preparation and finish and to confirm that the overall product meets these specifications. Service enclosure shall be Tesco Class 26-000-M-G or shall be a City approved equal prior to bid.

METHOD OF MEASUREMENT

SP-21-3.1 Completed and accepted Service Point Assembly will be measured by the unit.

BASIS OF PAYMENT

SP-21-4.1 Work completed and accepted and measured as provided above will be paid for at the contract unit price bid each for Service Point Assembly for the number of circuits specified, which price shall be full compensation for furnishing and installing a treated wood pole (when required), enclosure(s), lightning arrest, circuit breaker(s), main breaker, distribution panel, steel conduit, conduit fittings, wiring and ground rod; for testing the service point assembly; and for all materials, equipment, tools, labor and incidentals necessary to complete the work.

Payment will be made:

Pay Item	**Pay Unit**
Service Point Assembly (2 Circuits)	Each

END OF ITEM SP-21

SECTION SP-22-SYSTEM LOCAL CONTROLLER (FIBER)

DESCRIPTION

SP-22-1.1 This item shall consist of furnishing and installing at locations shown on the plans or as directed, system local controller with multimode internal fiber modem and other associated equipment, to operate as part of and existing traffic-responsive, coordinated traffic control system master. All requirements of **Standard Specifications for Highway Construction, A.H.T.D. Edition of 2014** Division 700 Traffic Control Facilities, and specifically Section 701 Actuated Controller, shall apply. Portions of the standard specifications may be superseded by these special provision.

The **existing system consists of an Eagle ACTRA** closed loop traffic control system with communication to local controllers from the master shall be by **Multiphase Fiber Optic Cable.** Eagle M62, TS2, Type 2. An internal multimode fiber optic modem shall be furnished. Controllers are required for this job. System software is currently licensed to the City and to the State. All equipment shall be completely compatible with existing hardware and software.

MATERIALS AND CONSTRUCTION

SP-22-2.1 (Other Special Provisions in this contract may also apply)

A. System Local Controller. The cabinet facilities and installation, in addition to standard requirements for Section 701 Actuated Controller, shall incorporate the provisions listed in this special provision in order to accomplish the following:

B. Expandability. All traffic controllers (timers) shall be not less than 8 Phases. This does not apply to cabinet facilities and conflict monitor which shall conform to the summary of quantities or other provisions in this contract. Detector wiring harnesses or rack mount detector channel slots shall, as a minimum, be wired for future connection for the number of phases as described in the Summary of Quantities or plan sheets (whichever is greater); for a minimum of 8 system detectors;or as governed by other provisions in this contract.

C. On-Street Master. Equipment supplied on this contract shall be fully compatible with the existing Eagle MARC Master and Multiphase Fiber Optic Communications system.

D. Controller Manuals and Documentation. All documentation and software shall be provided a minimum of 14 calendar days before commencement of the 30 day trial period. The 30 day trial period will not start until this as well as other requirements for system operation have been met. Controller manuals (software and software manuals) must be provided 14 calendar days prior to placing intersection into operation.

Two sets (not photo-copies) of controller manuals shall be provided, one copy to the City or County and one copy to the Department's Traffic Division.

E. System Timing and Operation Test. The 30 days performance test shall not commence on any portion of the system until all test have been performed by the contractor to the satisfaction of the Engineer in the presence of the Department. Timing data will be provided by the Departments Traffic Section. The contractor shall give the Engineer a minimum of 14 calendar days notice prior to requiring timing data for testing and setup. Contractor shall be responsible for verification

that data provided shall be functional and shall notify the Traffic Division of any changes necessary prior to installation.

In the event that the contractor is not qualified to perform this test and verification, he will be responsible for seeing that a manufacturer's representative is present on the day of testing.

F. Conflict Monitor. An IP addressable MMU is required.

METHOD OF MEASUREMENT

SP-22-3.1 Completed and accepted items will be measured as follows:

A. System Local Controller will be measured by the unit.

BASIS OF PAYMENT

SP-22-4.1 Work completed and accepted and measured as provided above will be paid for at the contract unit price bid as follows:

A. System Local Controller. Price bid for system local controller an associated equipment of the phases specified, shall be full compensation for furnishing all equipment for providing the foundation, and mounting the cabinet for installing, wiring and testing the controller and communications unit for excavation and backfilling; and for all materials, equipment, tools, labor and incidentals necessary to complete the work.

Payment shall be made under:

Pay Item	Pay Unit
System Local Controller – Fiber (____ Phases)	Each

END OF ITEM SP-22

SECTION SP-23 WIC FIBER ENCLOSURE

DESCRIPTION

SP-23-1.1 This item consists of installing a WIC Fiber Enclosure for a fiber termination point

MATERIALS AND CONSTRUCTION

SP-23-2.1

- WIC Fiber Enclosure

WIC Fiber Enclosure shall be installed in the controller cabinet.

METHOD OF MEASUREMENT

SP-23-3.1 WIC Fiber Enclosure will be measured by the unit.

BASIS OF PAYMENT

SP-23-4.1 Work completed and accepted and measured as provided above, will be paid for at the contract unit price bid for each WIC Fiber Enclosure, which price shall be full compensation for furnishing all materials, fittings, brackets, clamps, equipment, tools, labor, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
WIC Fiber Enclosure	Each

END OF ITEM SP-23

SECTION SP-24 HDPE CONDUIT

DESCRIPTION

SP-24-1.1 This item shall consist of furnishing, installing HDPE (high-density polyethylene) conduit in accordance with these specifications and at the locations shown on the plans or as directed. The High-density polyethylene, HDPE conduit shall be:

BDI313XX-XX 3" HDPE CONDUIT
P300SDR11 3" PETRODUCT HDPE CONDUIT,
OR APPROVED EQUAL.

MATERIALS AND CONSTRUCTION

SP-24-2.1 **BORED CONDUIT.** This item shall use boring methods to place the conduit under pavement. Do not disturb the pavement without approval from the Engineer. Keep boring pits at least 2 ft. from the edge of surfaced areas. The use of water shall not be allowed for boring, if the pavement structure may suffer damage. Provide nonmetallic conduits for boring. Unless otherwise shown on the Plans, install bored conduits at least 30 in. deep.

METHOD OF MEASUREMENT

SP-24-3.1 HDPE conduit will be measured by the linear foot measured along the axis of the conduit in its final position. All necessary conduit fittings will be included as part of the conduit run and will not be measured separately.

BASIS OF PAYMENT

SP-24-4.1 Work completed and accepted and measured as provided above will be paid for at the contract unit price bid per linear foot for size specified, Non-Metallic Conduit (HDPE) which price shall be full compensation for furnishing and installing the conduit, fittings, and drag rope; for excavation, boring, compaction, removal of surplus material, and replacement of existing surfaces; and for all labor, equipment, tools, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	**Pay unit**
3” NMC (HDPE)	LF

END OF SECTION SP-24

SECTION SP-25 FIBER PULL BOX

DESCRIPTION

SP-25-1.1 This item consists of installation only of a Fiber Riser, Fiber Pull Box, and a Fiber Cabinet Base.

MATERIALS AND CONSTRUCTION

SP-25-2.1

- Fiber Pull Box

The Fiber Pull Box shall conform to BEUD, DS-1609, 24”x36”x24” pull box meeting BEUD requirements.

METHOD OF MEASUREMENT

SP-25-3.1 Fiber Pull Box will be measured by the unit.

BASIS OF PAYMENT

SP-25-4.1 Work completed and accepted and measured as provided above, will be paid for at the contract unit price bid for FIBER PULL BOX which price shall be full compensation for furnishing all materials, compaction, brackets, equipment, tools, labor, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
Pull Box For Fiber, DS-1609, 30"x48"x24" (Installation only)	Each

END OF SECTION SP-25

SECTION SP-26 RELOCATION OF TRAFFIC SIGNAL HEAD

DESCRIPTION

SP-26-1.1 This item consists of removing and reinstalling a span wire mounted or mast arm pole mounted signal head as shown in the plans or as directed by the Engineer.

MATERIALS AND CONSTRUCTION

SP-26-2.1
Contractor shall be paid the unit price bid for furnishing and installing signal cable necessary for relocation of the designated signal head.

Contractor shall be allowed to splice signal cable inside signal head or inside pole bases. A separate multiple conductor traffic signal cable shall be installed from the pole base to each signal head on the pole unless otherwise directed.

METHOD OF MEASUREMENT

SP-26-3.1 Signal head relocation shall be measured by the unit.

BASIS OF PAYMENT

SP-26-4.1 Work completed, accepted and measured as provided above will be paid for at the contract unit price bid for each signal head removed and reinstalled; which price shall be full compensation for furnishing equipment, tools, labor, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
Relocation of Traffic Signal Head	Each

END OF ITEM SP-26

SECTION SP-27 VIDEO DETECTOR ROTATION

DESCRIPTION

SP-27-1.1 This item consists of rotating the existing video detectors to aim at new video zones at various locations as shown on the plans and directed by the Engineer.

MATERIALS AND CONSTRUCTION

SP-27-2.1
No additional materials should be needed for the rotation.

METHOD OF MEASUREMENT

SP-27-3.1 Video detector rotation shall be measured by the unit.

BASIS OF PAYMENT

SP-27-4.1 Work completed, accepted and measured as provided above will be paid for at the contract unit price bids for each video detector rotated; which price shall be full compensation for equipment tools, and labor and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
Video Detector Rotation	Each

END OF ITEM SP-27

SECTION SP-28-REMOVAL OF TRAFFIC SIGNAL EQUIPMENT

DESCRIPTION

SP-28-1.1 Under this item, the contractor shall remove traffic signal heads, traffic signal poles, traffic signal pole foundations, span wire assemblies, traffic controllers and all other existing signal equipment at locations shown on the plans or as ordered by the Engineer.

MATERIALS AND CONSTRUCTION

SP-28-2.1**.** The contractor shall provide all equipment and tools necessary to remove the signal equipment at locations shown on the plans or as designated by the Engineer.

SP-28-2.2 The contractor shall maintain the existing signal operations as much as possible throughout construction until the completion of the contract. Control of the intersection shall be by police officers, flagmen, or as determined by the Engineer at anytime that the signals are not in operation.

SP-28-2.3 The contractor shall remove the traffic signal pole foundations and all appurtenances such as reinforcing steel, conduit, anchor bolts and cable to a depth of 18 inches below grade. The concrete foundations shall be broken up and the material disposed of outside of the limits of the project by the contractor. The contractor shall fill with earth all holes where concrete foundations or wooden span wire poles have been removed under this item. The earth in the hole shall be thoroughly compacted until it is as firm and unyielding as the surrounding material. Concrete or asphalt surfaces shall be restored to existing conditions.

SP-28-2.4 All equipment shall remain the property of the City or County and the contractor shall notify the City or County 24 hours in advance of the removal. All removed equipment shall be stored by the contractor at the construction site. The contractor shall provide a secure, weather-tight enclosure to store all electric components until they can be removed from the construction site.

METHOD OF MEASUREMENT

SP-28-3.1 Removal of traffic signal equipment will be measured by the lump sum.

BASIS OF PAYMENT

SP-28-4.1 Work completed and accepted and measured as provided above will be paid for at the contract lump sum price bid for Removal of Traffic Signal Equipment, which price shall be full compensation for furnishing all materials, equipment, tools, labor, and incidentals necessary to complete the work as described herein.

Payment will be made under:
Removal of Traffic Signal Equipment per Lump Sum

END OF ITEM SP-28

SECTION SP-29 –MEASUREMENT AND PAYMENT FOR WATER AND SEWER

SP-29-1 GENERAL

SP-29-1.1 SUMMARY

A. This section includes delineation of measurement and payment criteria applicable to unit price work related to water and sewer, whether the unit price items are part of a unit price contract or are part of a Stipulated Price contract.

B. Defect assessment and non-payment for rejected work.

SP-29-1.2 AUTHORITY

A. Measurement methods are delineated for each individual bid item under this section.

B. The Engineer or Owner's representative will take all measurements and compute quantities accordingly.

C. Contractor shall assist by providing necessary equipment, workers, and survey personnel as required.

SP-29-1.3 UNIT QUANTITIES SPECIFIED

A. Quantities and measurements indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements supplied or placed in the Work and verified by the Engineer shall determine payment.

B. If the actual Work requires more or fewer quantities than those quantities indicated, provide the required quantities at the unit prices contracted.

SP-29-1.4 MEASUREMENT OF QUANTITIES

A. Measurement by Weight: Items measured by weight will use specified standard handbook weights unless otherwise specified in this section for an individual item.

B. Measurement by Volume: Unless herein noted differently, volume shall be measured by cubic dimension using mean length, width and height or thickness with survey chain, steel tape, approved distance meter, or by use of Total Surveying Stations and Engineering Software, as approved by Engineer.

C. Measurement by Area: Unless herein noted differently, area shall be measured by square dimension using mean length and width or radius, with survey chain, steel tape, approved distance meter, or by use of Total Surveying Stations and Engineering Software, as approved by Engineer.

D. Linear Measurement: Unless herein noted differently, linear measurements shall be measured at the item centerline or mean chord, with survey chain, steel tape, approved distance meter, or by use of Total Surveying Stations and Engineering Software, as approved by Engineer.

E. Stipulated Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.

SP-29-1.5 PAYMENT

A. Payment Includes: Except as modified herein, payment shall be full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

B. Final payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Engineer multiplied by the unit price for Work which is incorporated in or made necessary by the Work.

SP-29-1.6 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Engineer, it is not practical to remove and replace the Work, the Engineer will direct the following remedy:

1. The defective Work will be repaired to the instructions of the Engineer, and the unit price will be adjusted to a new price at the discretion of the Engineer.

C. The authority of the Engineer to assess the defect and identify payment adjustment is final.

SP-29-1.7 NON-PAYMENT FOR REJECTED PRODUCTS

A. Payment will not be made for any of the following:

1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.
3. Products not completely unloaded from the transporting vehicle.
4. Products placed beyond the lines, levels, or boundaries of the required Work.
5. Products remaining on hand after completion of the Work.
6. Loading, hauling, and disposing of rejected Products.
7. Work performed beyond the specified limits unless authorized by the Engineer.

SP-29-1.8 BID ITEMS

A. The following items are included in the Bid Schedule:

Utility Mobilization (NOT TO EXCEED 5%)

The work required by this item will be paid for at the lump sum (LS) price bid for Utility Mobilization associated with water and sanitary sewer construction shown in the Unit Price Schedule. This item shall consist of preparatory work and operations, including those necessary for the movement of personnel, equipment, supplies, and incidentals to or away from the project site and departure from the site after the project is completed and accepted. This item shall also include other work and operations that must be performed, or for expenses incurred, before beginning work on the various Contract items on the project site. It shall also include pre-construction costs which are necessary direct costs to the project and are of a general nature rather than directly attributable to other pay items under the Contract including videotaping the site before and after construction. Periodic payments will be made in proportion to the amount of work accomplished, as determined by the Owner, and will be full compensation for mobilization, including all materials, labor, and incidentals necessary to perform the work.

Utility Trench Excavation Safety Systems

The work required by this item will be paid for at the lump sum (LS) price bid for Utility Trench and Excavation Safety as shown in the Unit Price Schedule. After contract award, the Contractor shall submit to the Owner a cost breakdown for the work involved in the lump sum price bid for Utility Trench and Excavation Safety System and shall, with each periodic payment request, submit a certification by the "competent person" as defined in 29 CFR 1926.650(b) that the Contractor has complied with the provisions of the OSHA Standard for Excavation and Trench Safety Systems, 29 CFR 1926 Subpart P, for work for which payment is requested. Periodic payments will be made in proportion to the amount of work accomplished, as determined by the Owner, and will be full compensation for trench and excavation safety associated with water and sanitary sewer construction, including all materials, labor, and incidentals necessary to perform the work.

Spot Dig and Verify Exiting Utility Locations

The work required by this item will be paid for at the lump sum (LS) price bid for Spot Dig and Verify Exiting Utility Locations shown in the Unit Price Schedule. This item shall consist of notifying utility owners and spot digging and verifying actual locations of all utilities at connections or intersections of proposed water and sewer facilities prior to any construction. Delays, additional corrective action work, and replacement of facilities installed when conflicts arise from not spot digging will be made at the Contractor’s expense.

Bypass Pumping

The work required by this item will be paid for at the lump sum (LS) price bid for Bypass Pumping shown in the Unit Price Schedule. This work shall include bypass pumping, furnishing a temporary pump truck, and furnishing temporary piping as required to maintain sewer service and prevent sanitary sewer overflows. Cleanup and fines resulting from sanitary sewer overflows will be made at the Contractor’s expense.

12” C-900 DR-14 PVC Water Line
8” C-900 DR-14 PVC Water Line
8” SDR-26 PVC Sanitary Sewer Line

The work required by the above listed items will be paid for at the linear foot (LF) price bid for the above listed items as shown in the Unit Price Schedule. Work performed and accepted under this item will be measured horizontally by the linear foot (LF) along the center of the excavated trench. The measurement will exclude the lengths installed inside manholes, for fittings, for valves, and elsewhere where pipe is not actually installed. Payment will be full compensation for all excavation, dewatering, backfill (including class 7 backfill) placement and compaction, acquisition and transportation of additional backfill materials, fittings (except DI fittings), restraint glands, clean outs, tracer wire and marking tape, tracer wire ports. testing (including fitting connections, hydrostatic and air tests, mandrel tests, and backfill compaction), sawcutting pavement and curb, and all other materials, labor, and incidentals necessary to perform the work.

Excavation shall include, but not be limited to: soil, stones, stumps, debris, concrete, structures, footings, foundations, and any other obstacles that may

obstruct the work except for undercut and rock excavation authorized by the Engineer which will be paid for under a separate pay item.

12”x12” Tapping Sleeve and Valve
12”x8” Tapping Sleeve and Valve
8”x8” Tapping Sleeve and Valve

Work completed under this item shall be measured and paid for by each (EA) tapping sleeve and valve of the size specified on the plans, or as directed by the Owner or Engineer, installed, and accepted by the Owner. Payment shall be full compensation for furnishing and/or installing the tapping sleeve and valve with valve box and lid, valve nut extension with set screw, the water main tap (to be performed by Bentonville Water Utilities at Contractor’s expense), “Mega-Lug” type restrained joint glands, tracer wire, polywrap, thrust blocking, testing, concrete slabs around the top of the valve boxes, and all other equipment, tools, labor, and incidentals necessary to complete the work.

Ductile Iron Fittings for Water Line

The work required by the above listed items will be paid for at the price bid per pound (LB) of Ductile Iron Fittings as shown in the Unit Price Schedule for the items listed above. These items shall consist of installing Ductile Iron Fittings of the size specified at the locations shown on the plans or as directed by the Engineer.

Work performed and accepted under this item shall be measured per pound (LB) of fittings properly installed and accepted by the Engineer. Payment for the weight of fittings will exclude restraint glands. Payment will be full compensation for fittings, swivel adapters, mechanical joint glands, “Mega-Lug” type restrained joint glands, thrust blocking, polywrap, and all other materials, equipment, tools, labor, and incidentals necessary to complete the installation of the fittings.

8” Gate Valve

Work completed under this item shall be measured and paid for by each (EA) valve of the size specified on the plans, or as directed by the Owner or Engineer, installed, and accepted by the Owner. Payment shall be full compensation for furnishing and installing the valve with valve box and lid, valve nut extension with set screw, “Mega-Lug” type restrained joint glands, tracer wire, polywrap, testing, concrete slabs around the top of the valve boxes, and all other equipment, tools, labor, and incidentals necessary to complete the work.

Cut and Cap Ex. 12” Water Line (Detail W13)

Work completed under this item shall be measured and paid for by each (EA) cut and cap of the size shown on the plans, or as directed by the Owner or Engineer, acceptably installed, and accepted by the Owner. Payment shall be full compensation for providing and installing mechanical joint cap, “Mega-Lug” type restrained joint glands, thrust blocking, and all other materials, equipment, tools, labor, and incidentals necessary to cut, cap, and kill the water main.

Cut and Cap Ex. 12” Water Line with Anchor Collar (Detail GWS04)
Cut and Cap Ex. 8” Water Line with Anchor Collar (Detail GWS04)

Work completed under this item shall be measured and paid for by each (EA) cut and cap of the size shown on the plans, or as directed by the Owner or Engineer, acceptably installed, and accepted by the Owner. Payment shall be full compensation for providing and installing mechanical joint cap, anchor collar (including excavation, dewatering, backfill, concrete, reinforcing steel, retainer gland, stainless steel all-threads, and all other materials, labor, and incidentals necessary to construct the anchor collar), and all other materials, equipment, tools, labor, and incidentals necessary to cut, cap, and kill the water main.

Fire Hydrant Assembly

Work completed under this item shall be measured and paid for by each (EA) fire hydrant assembly installed complete as shown on the plans, or as directed by the Owner or Engineer, and accepted by the Owner. Payment shall be full compensation for all fire hydrants, risers as required, auxiliary valve, valve box and lid, locked hydrant adapters, thrust blocking, “Mega-Lug” type restrained joint glands, tracer wire, concrete slab around the valve box, paint, granular material for hydrant drainage, thrust blocking, and all other materials, equipment, tools, labor, and incidentals necessary to complete the fire hydrant installation.

Salvage Fire Hydrant

The work completed under this item will be measured and paid for at the price bid per each (EA) fire hydrant salvaged. This item shall consist removal of existing fire hydrant, removal of concrete and excess dirt from hydrant, and delivery of hydrant to Owner. Payment will be full compensation for all excavation (excluding rock), dewatering, removal and cleaning of hydrant, backfill, acquisition and transportation of additional backfill materials, delivery of hydrant to Owner, and all other materials, labor, and incidentals necessary to perform the work.

Install and Reconnect 1” Water Service Line with Single 5/8” Meter Set

The work completed under this item will be measured and paid for at the price bid per each (EA) 1” Water Service Line and Single 5/8” Meter Set. This item shall consist of installing a new 1” water service line terminating with a new single 5/8” meter set and box, connecting the existing private service line to the meter set, and delivering existing meter and set to Owner. Payment will be full compensation for all excavation (excluding rock), dewatering, backfill, tapping saddle, corporation stop, copper or polyethylene tubing, fittings, meter set, meter box, and all other materials, labor, and incidentals necessary to perform the work.

Install and Reconnect 1” Water Service Line with Double 5/8” Meter Set

The work completed under this item will be measured and paid for at the price bid per each (EA) 1” Water Service Line and Double 5/8” Meter Set. This item shall consist of installing a new 1” water service line terminating with a new double 5/8” meter set and box, connecting the existing private service line to the meter set, and delivering existing meter and set to Owner. Payment will be full compensation for all excavation (excluding rock), dewatering, backfill, tapping saddle, corporation stop, copper or polyethylene tubing, fittings, meter set, meter box, and all other materials, labor, and incidentals necessary to perform the work.

Install and Reconnect 1” Water Service Line with 1” Meter Set

The work completed under this item will be measured and paid for at the price bid per each (EA) 1” Water Service Line and 1” Meter Set. This item shall consist of installing a new 1” water service line terminating with a new single 1” meter set and box, connecting the existing private service line to the meter set, and delivering existing meter and set to Owner. Payment will be full compensation for all excavation (excluding rock), dewatering, backfill, tapping saddle, corporation stop, copper or polyethylene tubing, fittings, meter set, meter box, and all other materials, labor, and incidentals necessary to perform the work.

Install and Reconnect 2” Water Service Line with 2” Valve and 2” Meter Set

The work completed under this item will be measured and paid for at the price bid per each (EA) 2” Water Service Line with 2” Valve and 2” Meter Set. This item shall consist of installing a new 2” valve and 2” water service line terminating with a new 2” meter set and box, connecting the existing private service line to the meter set, and delivering existing meter and set to Owner. Bentonville Water Utilities (BWU) will install the new 2” meter. Payment will be full compensation for all excavation (excluding rock), dewatering, backfill, brass nipple, valve, copper or polyethylene tubing, fittings, meter set, meter box, BWU’s fee for installing meter, and all other materials, labor, and incidentals necessary to perform the work.

Relocate and Connect 1” Water Service Line and 1” Meter Set

The work completed under this item will be measured and paid for at the price bid per each (EA) 1” Water Service Line and 1” Meter Set. This item shall consist of removing the existing meter set and service line, connecting a new 1” water service line to the existing corp stop, installing a new 1” meter set and box, connecting the existing private service line to the meter set, and delivering existing meter and set to Owner. Payment will be full compensation for all excavation (excluding rock), dewatering, backfill, copper or polyethylene tubing, fittings, meter set, meter box, and all other materials, labor, and incidentals necessary to perform the work.

Adjust Valve Box to Proposed Grade

Work required by this item will be measured and paid for per each (EA) Adjust Valve Box to Proposed Grade. This item shall consist of raising or lowering the existing valve box to proposed at locations shown on the plans or directed by the Owner or Engineer. Valve boxes in paved areas shall be flush with the proposed pavement. Valve boxes in non-paved areas shall be protected by pre-cast concrete valve ring/pad. Work performed and accepted under this item will be measured by each (EA) adjusted valve box. Payment will be full compensation for all excavation, grout, extensions, pre-cast valve ring/pad, backfill, disposal, and all other materials, labor, and incidentals necessary to perform the work.

4’ ID Sanitary Sewer Manhole, Cast-in-Place, 0’ to 6’ Depth
6’ ID Sanitary Sewer Manhole with Watertight Ring and Lid, Cast-in-Place, 0’ to 6’ Depth

The work required by this item will be paid for at the price bid per each (EA) sanitary sewer manhole as shown in the Unit Price Schedule. These items shall consist of installing Cast-in-Place Manholes of the size specified at the locations shown on the plans or as directed by the Engineer. Work performed and accepted under this item will be measured by each (EA). Payment will be full compensation

for all concrete, reinforcing, formwork, plugs, manhole frames and covers, excavation, bypass pumping, dewatering, bedding, backfill (including class 7 backfill), acquisition and transportation of additional backfill materials, opening cross-through sewer lines, connection of service lines, providing stub outs for connections by others, vacuum and concrete testing, and all other materials, labor, and incidentals necessary to perform the work.

The total depth of each manhole shall be the vertical distance from top of the manhole rim to the flow line of the lowest invert. The manhole depth up to 6' is considered the basic depth for measurement and payment purposes.

Excavation shall include, but not be limited to: soil, stones, stumps, debris, concrete, structures, footings, foundations, and any other obstacles that may obstruct the work except for undercut and rock authorized by the Engineer which will be paid for under a separate pay item.

4' ID Sanitary Sewer Manhole Additional Depth, Over 6'
6' ID Sanitary Sewer Manhole Additional Depth, Over 6'

The work required by this item will be paid for at the vertical linear foot (VF) price bid for the above listed item as shown in the Unit Price Schedule. This item shall consist of additional depth of manholes of the size specified at the locations shown on the plans or as directed by Engineer. Work performed and accepted under this item will be measured by vertical linear foot (VF), to the nearest 0.1 vertical foot, above the base measurement for each specific manhole. Payment will be full compensation for all concrete, reinforcing, excavation, dewatering, bedding, backfill (including backfill under roadways and parking lots), acquisition and transportation of additional backfill materials, and all other materials, labor, and incidentals necessary to perform the work.

Excavation shall include, but not be limited to: soil, stones, stumps, debris, concrete, structures, footings, foundations, and any other obstacles that may obstruct the work except for undercut and rock excavation authorized by the Engineer which will be paid for under a separate pay item.

Core Existing Manhole

The work required by this item will be paid for at the price bid per each (EA) core of an existing sanitary sewer manhole as shown in the Unit Price Schedule. These items shall consist of coring an existing manhole and connecting a new sewer main of the size specified at the locations shown on the plans or as directed by the Engineer. Work performed and accepted under this item will be measured by each (EA). Payment will be full compensation for all concrete, reinforcing, formwork, plugs, coring, waterstop, reforming of manhole invert, excavation, bypass pumping, dewatering, bedding, backfill (including class 7 backfill), acquisition and transportation of additional backfill materials, connection of sewer main, and all other materials, labor, and incidentals necessary to perform the work.

Excavation shall include, but not be limited to: soil, stones, stumps, debris, concrete, structures, footings, foundations, and any other obstacles that may obstruct the work except for undercut and rock authorized by the Engineer which will be paid for under a separate pay item.

Remove Existing Manhole

Work required by this item will be measured and paid for per each (EA) Remove Existing Manhole. This item shall consist of saw-cutting pavement and removing all of the existing manhole at locations shown on the plans or directed by the Owner or Engineer. Work performed and accepted under this item will be measured by each (EA) manhole. Payment will be full compensation for all excavation, backfill, disposal, and all other materials, labor, and incidentals necessary to perform the work.

Raise Manhole Rim to Proposed Grade
Lower Manhole Rim to Proposed Grade

Work required by this item will be measured and paid for per each (EA) Lower Manhole Rim to Proposed Grade. This item shall consist of removing all or portions of the existing manhole and installing a new cone, manhole barrel, frame, and lid at locations shown on the plans or directed by the Owner or Engineer. Work performed and accepted under this item will be measured by each (EA) manhole. Payment will be full compensation for all excavation, concrete, frame and lid, dowels, backfill, disposal, and all other materials, labor, and incidentals necessary to perform the work.

20” Steel Encasement by Open Cut
16” Steel Encasement by Open Cut

The work required by this item will be paid for at the linear foot (LF) price bid for the above listed items as shown in the Unit Price Schedule. This item shall consist of installing steel encasement pipe around utility lines as specified at the locations shown on the plans. Work performed and accepted under this item will be measured by the linear foot (LF) from end to end of encasement installed and accepted. However, quantity is not to exceed the planned length shown on the Plans unless authorized by the Engineer. Payment will be full compensation for all steel encasement pipe, welding, excavation, excavation beyond the limits for carrier pipe including stabilization, dewatering, casing spacers, casing end seals, and all other materials, labor, and incidentals necessary to perform the work.

Excavation for shall include, but not be limited to: soil, stones, stumps, debris, concrete, structures, footings, foundations, and any other obstacles that may obstruct the work except for undercut authorized by the Engineer which will be paid for under a separate pay item. Rock encountered during excavation shall be paid for as a separate item.

Flowable Fill for Abandoned Pipe

Work completed under this item shall be measured and paid for per cubic yard (CY) price bid for Flowable Fill for Abandoned Pipe. This item shall consist of pumping flowable fill into water and sanitary sewer pipes that are or will be abandoned by proposed facilities that are located or will be located within traffic locations as shown on the plans as field verified by the Owner or Engineer. Measurement will be calculated based on the nominal diameter and linear foot of the pipe under traffic locations only, to the nearest 0.1 cubic yard. Payment shall be full compensation for all flowable fill, excavation, backfill, pumping, cleanup, and for all other materials, equipment, tools, labor, and incidentals necessary to complete the work.

Trench Undercut and Backfill

The work required by this item will be paid for at the cubic yard (CY) price bid for Undercut and Backfill as shown in the Unit Price Schedule. This item shall consist of undercutting unsuitable materials from the bottom of pipeline trenches or from the bottom of manhole or concrete excavations and replacing with select granular fill materials. Work performed and accepted under this item will be measured by the cubic yard (CY) of materials actually removed as directed by the Engineer. Unauthorized undercutting shall not be measured for payment but shall be replaced as directed by the Engineer and at the Contractor's expense. Replacement of material that has become unsuitable by the Contractor's negligence shall be made at the Contractor's expense. Payment will be full compensation for all excavation, backfilling, granular fill materials, and all other materials, labor, and incidentals necessary to perform the work.

Rock Excavation for Utilities

The work required by the above listed item will be paid for at the price bid per cubic yard (CY) of rock excavated. Material shall be classified as rock if, in the opinion of the Engineer, the material cannot be removed except by blasting, using trenchers with rock teeth, or employing hydraulic hammers to fracture the rock. Said resistance to ordinary removal methods shall be demonstrated to the satisfaction of the Engineer by the Contractor. Rock excavation shall also include the removal of boulders one-half cubic yard or more in volume.

The rock shall be excavated to provide clearances below and on each side of all pipe, valves, fittings, and manholes. Every trench or excavation in rock shall be fully opened at least 50 feet in advance of the location where pipe is being laid.

Work performed and accepted under this item will be measured by the cubic yard (CY) of rock removed. Measurement shall be performed as follows. Upon encountering the rock, the Contractor shall excavate to the top of the rock. Upon the Engineer's agreement that the material meets the stated criteria to be classified as rock, the Contractor shall then record the elevations of the top of rock. The Contractor shall then excavate to the limits described. Upon the Engineers approval of the excavation limits, the Contractor shall record the elevations and dimensions of the excavation. Elevations shall be based on established control points or temporary benchmarks. Said records will be provided to the Engineer for verification of the quantity removed. Pre- and post-removal elevations for trench excavation shall be taken every 20 linear feet or fraction thereof or at definite grade breaks. Pre- and post-removal elevations for manholes, junction structures, etc. shall be taken as necessary to calculate the amount of rock removed. The quantity removed shall be calculated by the average end area method based on the width and depth requirements stated above. Rock excavated in excess of required clearances will not be measured or paid for. The cost of backfilling over excavated areas will be borne solely by the Contractor. Measurement for rock excavation made by blasting when approved shall be approved by Owner and Engineer.

Payment will be full compensation for all rock removal, disposal of removed materials, additional bedding materials for areas beyond the excavation limits, dewatering, specialized equipment or materials, and all other materials, labor, and incidentals necessary to perform the work.

SP-29-2 PRODUCTS

Not Used

SP-29-3 EXECUTION

Not Used

END OF SECTION SP-29

SP-30 REMOVE, SALVAGE, AND REINSTALL EXISTING STREET LIGHT

DESCRIPTION

SP-30-1.1 This item shall consist of removing, salvaging, and reinstalling existing street lights and any appurtenances, with new supports and concrete footings, at the locations shown in the Plans, or as directed by the Engineer.

CONSTRUCTION METHODS

SP-30-2.1 Removal of existing street lights shall be conducted in a manner such as not to destroy or render unusable the lights. Lights that are damaged during the removal process, due to Contractor's negligence, shall be replaced at no additional cost to the Owner. Light pole foundations shall be demolished full depth. Lights shall be reinstalled to full working order as before removal in new location. Any existing pavement or curb that is scheduled to remain and must be removed as a result of the light relocation shall be repaired as part of this specification. Contractor shall coordinate light removal and reinstallation with the owner and confirm desired location. Final light location must be approved by Engineer.

SP-30-2.2 The Contractor shall be responsible for all electric utility coordination to provide power to the street light as required. All costs incurred for this coordination and electric utility extensions shall be covered under this specification section including trenching and backfill, conduit, etc. All electrical work shall comply with National Electric Code, BEUD Electric Specifications Revision 4, BEUD Electric Details, and state requirements governing the installation of lighting and electrical items. Where required for voltage drop, conductors shall be upsized if necessary.

SP-30-2.3 Concrete footing design shall match the existing street light footing. The Contractor shall submit for approval a relocation plan for the street light including a footing detail, electrical schematic, and general street light layout.

METHOD OF MEASUREMENT

SP-30-3.1 Street lights removed, salvaged, and reinstalled shall be measured by a complete unit in place and shall include the existing luminaire, supports, new foundation, new grounding provisions, appurtenances, and electrical reconnection where applicable.

BASIS OF PAYMENT

SP-30-4.1 Work completed and accepted under this item and measured as provided above shall be paid for at the contract unit price bid for each as listed below and in the Unit Price Schedule, which price shall be full compensation for removal, salvage, and reinstalling of existing street lights, furnishing and installing, supports, and footings; excavation, forming, foundation, concrete work, reinforcement, backfill, restoration, and appurtenances; conduit and conductor extension to connect to the relocated light pole; tracing or locating of circuits; electrical reconnection to full working order; repair of pavement as described above; turf restoration and sodding; and for all tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Item SP-30-4.1 Remove, Salvage, and Reinstall Existing Street Light - per each (EA)

END OF SECTION SP-30

SP-31 UTILITY ADJUSTMENTS

DESCRIPTION

SP-31-1.1 This item contains a summary of anticipated franchise utilities to be removed, relocated and/or adjusted in accordance with separate agreements between the Owner and the respective utility owners. In accordance with Subsection 105.07, Cooperation with Utilities, of the Standard Specifications, Edition of 2014, the Contractor is forewarned that such work may be underway concurrently with the work under this contract.

This item also consists of providing an allowance per day, for bid schedule 1 and bid schedule 2, that the project is delayed by franchise utility adjustments.

SP-31-1.2 The existence and approximate location of utility facilities known to exist, as shown on the plans, are based upon the best information available to the City at this time. This information is provided by the City "as-is" and the City expressly disclaims any representation or warranty as to the completeness, accuracy, or suitability of the information for any use. Reliance upon this information is done at the risk and peril of the user, and the City shall not be liable for any damages that may arise from any error in the information. It is, therefore, the responsibility of the contractor to verify the below listing information and information in the plans indicating existence, location, and status of any facility. Such verification includes direct contact with the listed utilities.

CONTACT INFORMATION

SP-31-2.1 For informational purposes only, the following is a list of names, addresses, and telephone numbers of the utility companies in the area of the construction work for this project with known conflicts. Contact information for additional utility companies in the area of construction work may be found in the plans.

1. Owner – Bentonville Water Utilities Department, City of Bentonville
   Contact: Preston Newbill, 479-271-3140, 3200 SW Municipal Drive, Bentonville, AR 72712

2. Owner – Bentonville Electric Utility Department, City of Bentonville
   Contact: Charlie Barnes, 479-271-5946, 3200 SW Municipal Drive, Bentonville, AR 72712

3. Owner – Black Hills Energy
   Contact: Joshua Knight, 479-721-4543, 1301 Federal Way PO Box 2129, Lowell, AR 72745

4. Owner – AT&T
   Contact: Bryan Williams, 479-249-5194, 700 W Walnut Street, Rogers, AR 72756

5. Owner – Cox Communications
   Contact: Ben Pledger, 479-957-2999, 4901 S 48th Street, Springdale, AR 72762

BID SCHEDULE 1 UTILITY ADJUSTMENTS

SP-31-3.1 This section contains a summary of the anticipated utility relocations for the Walton Boulevard and Medical Center Parkway Improvements Project (Bid Schedule 1).

1. Owner – Bentonville Water Utilities Department, City of Bentonville
   Water and Sewer relocations are included in the Contract for the Walton Boulevard Intersection Improvements project.

2. Owner - Bentonville Electric Utility Department, City of Bentonville
   No relocations for Bentonville Electric Utility Department are anticipated within the limits of the Walton Boulevard and Medical Center Parkway intersection at this time.

3. Owner – Black Hills Energy
   No relocations for Black Hills Energy are anticipated within the limits of the Walton Boulevard and Medical Center Parkway intersection at this time.

4. Owner – AT&T
   AT&T has existing copper fiber lines on the south leg of the intersection that will be relocated. A work order was issued on March 6th, 2023, and the relocations have been completed as of February 2024.

5. Owner – Cox Communications
   No relocations for Cox Communications are anticipated within the limits of the Walton Boulevard and Medical Center Parkway intersection at this time.

BID SCHEDULE 2 UTILITY ADJUSTMENTS

SP-31-4.1 This section contains a summary of the anticipated utility relocations for the Walton Boulevard and SE J Street Improvements Project (Bid Schedule 2).

1. Owner – Bentonville Water Utilities Department, City of Bentonville
   Water and Sewer relocations are included in the Contract for the Walton Boulevard Intersection Improvements project.

2. Owner - Bentonville Electric Utility Department, City of Bentonville
   Bentonville Electric Utility Department has one street light north of Walton Boulevard that will be relocated during construction. The Contractor shall coordinate with BEUD during construction to schedule this relocation.

3. Owner – Black Hills Energy
   Black Hills Energy has one gas meter on the south leg of the intersection that will be relocated during construction. The Contractor shall coordinate with Black Hills Energy during construction to schedule this relocation.

4. Owner – AT&T
   AT&T has existing copper fiber lines on the north and south legs of the intersection that will be relocated. It is anticipated that AT&T will be issued a work order by March 15th, 2022, and the relocations are anticipated to be completed by June 2024.

5. Owner – Cox Communications
   Cox Communications has existing coaxial and fiber lines on the north leg of the intersection that will be relocated. It is anticipated that relocations are to be completed by February 2024.

SUMMARY

SP-31-5.1 The completion dates were based on information received from the utility companies and the most current information available at this time; therefore, the dates are subject to change.

In case there is a delay beyond the estimated completion dates as set forth above, and should such delay necessarily cause a delay in the Contractor's prosecution of the work, an equitable extension of contract time will be granted to the Contractor. No claim for extra compensation will be allowed, however, because of such delay.

The Contractor is required to make every effort to locate buried utilities including, but not limited to, calling Arkansas One Call Center (800) 482-8998.

METHOD OF MEASUREMENT

SP-31-6.1 Utility Adjustment Delays shall be measured per day for each respective bid schedule dependent on the work delayed by franchise utility adjustments or conflicts. The Contractor shall submit a report listing the date and description of the utility adjustment or conflict delay on the last working day of each month to the Owner or Engineer for review. Upon approval, payment for utility adjustment delays shall be included on the subject monthly pay estimate. If the Contractor does not provide written notice within the allotted time, no payment for utility adjustment delays will be considered.

Days for utility adjustment delays will only be considered if franchise utility conflicts or work results in inaccessibility to a necessary portion of the work which prevents utilization of at least 60% normal forces and equipment to prosecute the work required for at least 60% of the normal working hours.

Days for utility adjustment delays will not be considered when said days coincide with weather days. Days for utility adjustment delays will not be considered when the Contractor has demobilized from the project and removed all equipment and personnel from the site.

BASIS OF PAYMENT

SP-31-7.1 Utility Adjustment Delays measured, accepted, and agreed upon by the Contractor and the Owner shall be paid for at the unit price bid per day for each bid schedule, which price shall be full compensation for costs incurred by the contractor due to project delays caused by franchise utility adjustments.

Payment for utility adjustment delays will be paid for as part of item SP-34 for each respective bid schedule which work has been delayed by utility adjustments or conflicts as described in this section.

END OF SECTION SP-31

SP-32 INCIDENTAL LANDSCAPE AND IRRIGATION RESTORATION

DESCRIPTION

SP-32-1.1 This item covers construction of the repair of irrigation systems and landscapes on adjacent parcels disturbed within project limits of construction as shown in the plans and as directed by the Engineer and the Owner.

SP-32-1.2 Irrigation systems shall be adjusted as necessary for proposed project improvements and shall include all labor and materials necessary to provide fully functioning irrigation systems. Irrigation work shall conform to all applicable local and state regulations.

SP-32-1.3 Disturbed landscapes shall be restored with similar plant materials as directed by the engineer and shall include all labor and materials necessary to install complete landscapes.

SP-32-1.4 Contractor shall provide proposed irrigation and landscape plans and material cut sheets to Owner and Engineer for approval prior to installation. Landscape work shall conform to the requirements of this specification.

MATERIALS

SP-32-2.1 PLANT MATERIAL STANDARDS Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.

SP-32-2.2 GROUNDCOVERS Healthy, disease-free plants of species and variety to be replaced, with well-established root systems reaching to sides of the container to maintain a firm ball, but not with excessive root growth encircling the container. Provide only plants that are acclimated to outdoor conditions before delivery.

SP-32-2.3 TREES AND SHRUBS Nursery grown, with healthy root systems, well-shaped, and fully branched; healthy, vigorous stock, free of insects, eggs, and larvae; and free of defects and disfigurement.

SP-32-2.4 SOIL AMENDMENT Commercially available organic soil amendment such as cotton burr mulch or Supersoil.

SP-32-2.5 FERTILIZER Commercially available synthetic, granular controlled release starter fertilizer containing the following minimum percentages, by weight, of plant food nutrients.

10 percent available nitrogen
10 percent available phosphorus
10 percent available potassium

SP-32-2.6 SHREDDED HARDWOOD MULCH Double shredded hardwood mulch, free from noxious weeds, mold, pesticides or other deleterious materials.

SP-32-2.7 STEEL EDGING Metal edging to be hot rolled steel, soft enough to bend flat on itself in any direction without cracking. Surface shall be normal mil oxide with smooth deoxidized matte finish. Edging shall confirm with ASTM A36 with carbon content a maximum of 0.10. Paint shall be applied electrostatically and formulated to withstand outdoor exposure.

CONSTRUCTION METHODS

SP-32-3.1 PLANTING RESTRICTIONS Plant during one of the following periods:

1. Spring Planting: April 1 to May 15
2. Fall/ Winter Planting: September 15 to March 31

SP-32-3.2 GROUNDCOVERS Plant ground cover in a configuration to replace removed ground cover. Dig holes large enough to allow spreading roots. Work soil around roots and leave a slight saucer around plants to hold water. Water after planting. Do not cover plant crowns with wet soil.

SP-32-3.3 TREES AND SHRUBS Excavate pits with sides sloped inward at a 45-degree angle. Trim perimeter of bottom, leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Excavate approximately two to three times as wide as ball or container diameter. Scarify sides of plant pit smeared or smoothed during excavation. Backfill shall be planting soil.

Set each plant plumb and in center of planting pit or trench with root flare 2 inches above adjacent finish grades. Remove burlap and wire baskets from tops and sides of balls. For containers, remove root balls without damaging root ball or plant. For bare-root stock, spread roots without tangling, plumb before backfilling, and maintain plumb while working.

Backfill around ball in layers, tamping to settle soil and eliminate voids and air pockets. When one-half backfilled, water thoroughly before placing remainder of backfill. Water again after placing and tamping final layer of soil.

Remove only dead, dying, or broken branches. Do not prune for shape.

SP-32-3.4 SOIL AMENDMENT Place 6-inch layer of soil amendment over top of exposed subgrade and till into the top 12-inches of the planting bed.

SP-32-3.5 FERTILIZER Apply starter fertilizer at rates recommended on manufacturer's labelling.

SP-32-3.6 SHREDDED HARDWOOD MULCH Apply mulch, 3 inches thick and finish level with adjacent finish grades. Do not place mulch within 3 inches of tree trunks or stems.

SP-32-3.7 STEEL EDGING Install edgings and anchor with stakes per manufacturer's recommendations.

SP-32-3.8 PLANT MATERIAL OBSERVATION Engineer may observe plant material at site before planting. Remove rejected plants immediately from Project site. Notify Engineer of sources of planting materials seven (7) days in advance of delivery to site.

SP-32-3.9 MAINTENANCE Maintain tree and shrub plantings by pruning, cultivating, watering, weeding, fertilizing, restoring planting saucers, adjusting and repairing tree-stabilization devices, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease. Maintain trees and shrubs until established, but not less than 12 months.

Maintain and establish groundcover plantings by watering, weeding, fertilizing, mulching, and other operations as required to establish healthy, viable plantings. Maintain ground covers and plants until established, but not less than six months.

SP-32-3.10 CLEAN-UP Turf areas, pavements and facilities that have been damaged from the planting operation must be restored to original condition at the Contractor's expense. Excess and waste material must be removed from the installed area and must be disposed off-site at an approved landfill, recycling center, or composting center. Adjacent paved areas must be cleared.

MEASUREMENT AND PAYMENT

SP-32-4.1 Any incidental landscape and irrigation restoration shall be paid for as directed in Section SP-34 CONTINGENCY ALLOWANCE of these specifications.

END OF SECTION SP-32

SP-33 DELAY IN RIGHT OF WAY OCCUPANCY

DESCRIPTION

SP-33-1.1 Right of occupancy and use of right of way may be delayed to allow for the completion of acquisition, as described in this specification, and utility relocation activities in specific areas as described in SP-31 Utility Adjustments and directly coordinated by the Contractor with the listed utilities.

BID SCHEDULE 1 RIGHT OF WAY OCCUPANCY

SP-33-2.1 This section contains a summary of the anticipated right of way and easement acquisition dates for the Walton Boulevard and Medical Center Parkway Improvements Project (Bid Schedule 1).

Tract	Approximate Station Locations	Anticipated Closing Date
Tract 3	13+30 to 14+30 LT	12/1/2023

BID SCHEDULE 2 RIGHT OF WAY OCCUPANCY

SP-33-3.1 This section contains a summary of the anticipated right of way and easement acquisition dates for the Walton Boulevard and SE J Street Improvements Project (Bid Schedule 2).

Tract	Approximate Station Locations	Anticipated Closing Date
Tract 3	16+55 to 18+30 LT	9/31/2023
Tract 5	18+30 to 19+70 LT	9/31/2023
Tract 6	13+00 to 15+25 LT	12/1/2023

SUMMARY

SP-33-4.1 The acquisition dates are based on the most current information available at this time; therefore, the dates are subject to change.

The Contractor is forewarned that they will in no event be allowed to perform work in the area(s) mentioned above until right of way occupancy and use has, in fact, been extended to them.

In case there is a delay in extending the Contractor the right of occupancy and use beyond the anticipated dates as set forth above, and should such delay necessarily cause a delay in the Contractor's prosecution of the work, an equitable extension of contract time will be granted to the Contractor. No claim for extra compensation will be allowed, however, because of such delay.

END OF SECTION SP-33

SP-34 CONTINGENCY ALLOWANCE

DESCRIPTION

SP-34-1.1 This item shall consist of providing a $250,000 allowance for the Walton Boulevard and Medical Center Parkway Improvements project (Bid Schedule 1) and a $250,000 allowance for the Walton Boulevard and SE J Street Improvements project (Bid Schedule2) for the City of Bentonville to add miscellaneous additional work to this project as the need arises during construction.

MATERIALS

SP-34-2.1 Materials shall be as required by the City of Bentonville.

CONSTRUCTION

SP-34-3.1 For Bid Schedule 1, the contractor shall perform additional items of work per the direction of the City of Bentonville as such additional work items are deemed necessary during the course of construction. After the City has determined the need for additional work items, the Contractor will be asked to price the requested work accordingly. All price quotes and scopes of work requested by the Owner through the Owner's Authorized Representative (OAR) for each Allowance item of work, shall be provided to and approved by the OAR prior to the Contractor proceeding with any such work. The Contractor shall provide a price quote within seven (7) Calendar Days of receipt of request by the OAR. Any such additional work under this item will be limited to $250,000, or less depending on the City's exact construction needs and requirements. Any remaining money left in this contingency budget at the conclusion of the project will be kept by the City. Any requested additional items of work exceeding that amount must be handled separately through a change order process requiring City Council approval.

SP-34-3.2 For Bid Schedule 2, the contractor shall perform additional items of work per the direction of the City of Bentonville as such additional work items are deemed necessary during the course of construction. After the City has determined the need for additional work items, the Contractor will be asked to price the requested work accordingly. All price quotes and scopes of work requested by the Owner through the Owner's Authorized Representative (OAR) for each Allowance item of work, shall be provided to and approved by the OAR prior to the Contractor proceeding with any such work. The Contractor shall provide a price quote within seven (7) Calendar Days of receipt of request by the OAR. Any such additional work under this item will be limited to $250,000, or less depending on the City's exact construction needs and requirements. Any remaining money left in this contingency budget at the conclusion of the project will be kept by the City. Any requested additional items of work exceeding that amount must be handled separately through a change order process requiring City Council approval.

The Contractor must bid exactly $250,000 for this allowance item per bid schedule or bid will be subject to rejection.

METHOD OF MEASUREMENT

SP-34-4.1 Bid Schedule 1 Contingency Allowance ($250,000) shall be measured as a lump sum (LS). Bid Schedule 2 Contingency Allowance ($250,000) shall be measured as a lump sum (LS).

BASIS OF PAYMENT

SP-34-5.1 Bid Schedule 1 Contingency Allowance ($250,000) and Bid Schedule 2 Contingency Allowance ($250,000), completed, accepted, and measured as provided above will be paid for at the actual proportionate amount of the full lump sum (LS) price that is ultimately utilized by the City of Bentonville for each bid schedule, which price shall be full compensation for completing any such additional work items to the satisfaction of the City Engineer.

Payment will be made under:

Item SP-34-5.1a	Bid Schedule 1 Contingency Allowance ($250,000) – per Lump Sum
Item SP-34-5.1b	Bid Schedule 2 Contingency Allowance ($250,000) – per Lump Sum

END OF SECTION SP-34

SP-35 INCENTIVE AND DISINCENTIVE

DESCRIPTION

SP-35-1.1 The awarded Bidder agrees to begin work within 10 calendar days after the issuance by, or on behalf of, the Owner of a "Notice to Proceed". The Notice to Proceed is generally issued during the pre-construction conference, based on all required items being prepared.

The awarded Bidder agrees to complete the work within 480 consecutive calendar days thereafter (except as modified in accordance with these Contract Documents).

The Contract Price shall be adjusted as follows:

Early Completion of Specified Work. The contractor will be paid $3,000.00 (three thousand dollars) for each day completion of the Project precedes the substantial completion calendar day total, from contract time start date (subject to any changes in the substantial completion calendar day totals, by authorized addendum or change order). The ultimate increase is limited to a maximum of 30 calendar days or $90,000.00 (ninety thousand dollars).

Failure to Substantially Complete the Specified work in Time. $3,000.00 (three thousand dollars) will be assessed for each day completion of the Project exceeds the substantial completion calendar day total (subject to any changes in the substantial completion calendar day totals, by authorized addendum or change order). The assessment will be deducted from any compensation due to the Contractor or recovered if sufficient compensation is not due. There is no ultimate decrease amount.

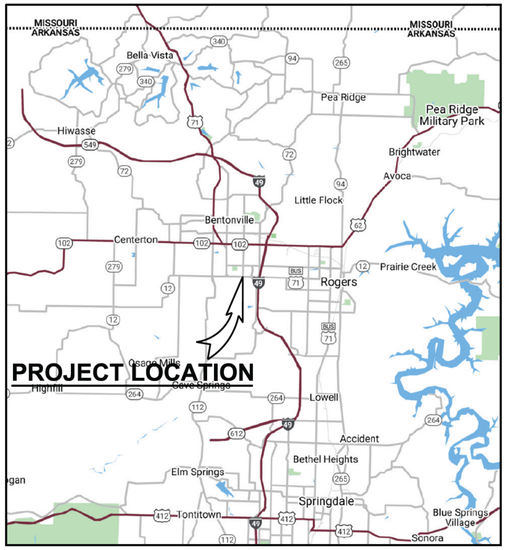
Substantial completion shall be agreed upon per GC.61 of these Contract Documents. If Final Completion of the project is not completed within the agreed upon number of days, any incentive will be reduced by number of days beyond agreed upon days to Final Completion.

Incentive payments will be made on a separate billing/payment, processed once final completion is reached and all work is verified and approved.

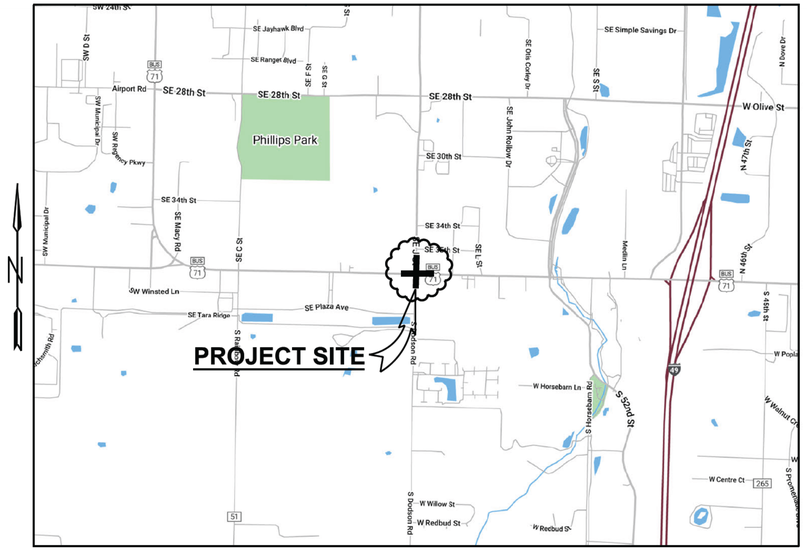
END OF SECTION SP-35

WALTON BOULEVARD AND SE J STREET IMPROVEMENTS

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

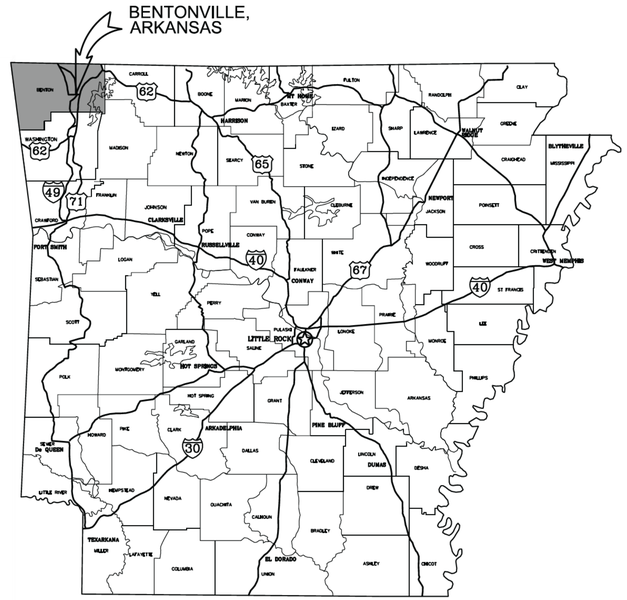


LOCATION MAP



VICINITY MAP

NO SCALE



STATE MAP

GARVER PROJECT NO. 21T21090
PROPOSAL #RFP-23-47
SEPTEMBER 2023

GARVER
4300 South J.B. Hunt Drive
Suite. 240
Rogers, AR 72758
(479) 257-9188

ARKANSAS ONE CALL 811
Know what's below. Call before you dig.
SEE GENERAL NOTE 1, SHEET G-002 OF THESE PLANS.

THE CITY OF BENTONVILLE

CONTACTS:

CITY OF BENTONVILLE (OWNER): JARROD BRIGHTWELL, 3200 SW MUNICIPAL DRIVE BENTONVILLE, AR - (479) 271-3168
FIRE DEPT: CITY OF BENTONVILLE, BRENT BOYDSTON, FIRE CHIEF, 800 SW "A" STREET BENTONVILLE, AR 72712 - (479) 271-3151
STREET DEPT: CITY OF BENTONVILLE, TONY DAVIS, 3200 SW MUNICIPAL DRIVE BENTONVILLE, AR 72712 - (479) 271-3130
WATER AND SEWER DEPT: CITY OF BENTONVILLE, PRESTON NEWBILL, 3200 SW MUNICIPAL DRIVE BENTONVILLE, AR 72712 - (479) 271-3140
ELECTRIC DEPT: CITY OF BENTONVILLE, CHARLIE BARNES, 3200 SW MUNICIPAL DRIVE BENTONVILLE, AR 72712 - (479) 271-5946
WASTEWATER DEPT: CITY OF BENTONVILLE, NANCY BUSEN, 1901 NE "A" STREET BENTONVILLE, AR 72712 - (479) 271-3160
PLANNING DEPT: CITY OF BENTONVILLE, TYLER OVERSTREET, 305 SW "A" STREET BENTONVILLE, AR - (479) 271-3122
CITY ENGINEER: CITY OF BENTONVILLE, ELLEN NORVELL, 3200 SW MUNICIPAL DRIVE BENTONVILLE, AR - (479) 271-5993
STORMWATER: CITY OF BENTONVILLE, JANET PAITH, 3200 SW MUNICIPAL DRIVE BENTONVILLE, AR - (479) 271-3168
JPAITH@BENTONVILLEAR.COM
BLACK HILLS ENERGY: JOSH KNIGHT, 1301 FEDERAL WAY PO BOX 2129 LOWELL, AR 72745 - (479) 721-4543
JOSHUA.KNIGHT@BLACKHILLSCORP.COM
AT&T: BRYAN WILLIAMS, 700 W WALNUT STREET, ROGERS, AR 72756 - (479) 249-5194, AW9156@ATT.COM
COX COMMUNICATIONS: COX COMMUNICATIONS: BEN PLEDGER, 4901 S 48TH STREET SPRINGDALE, AR 72762 - (479) 957-2999
BEN.PLEDGER@COX.COM
DEPARTMENT OF HEALTH: ARKANSAS DEPARTMENT OF HEALTH DIVISION OF ENGINEERING, SLOT 37, 4815 W MARKHAM LITTLE ROCK, AR 72205 - (501) 661-2623
RITTER COMMUNICATIONS: KYLE GRAHAM, 5078 W NORTHGATE ROAD SUITE 220, ROGERS, AR 72758 - (479) 567-9370, KYLE.GRAHAM@RITTERCOMMUNICATIONS.COM

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:35 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 08/28/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

COVER SHEET

JOB NO.: 21T21090
DATE: SEPT. 2023
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-001

LTFreedle 8/28/2023 10:05:43 AM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_G001_CO.dgn
REVISED DATE:

CONSTRUCTION GENERAL NOTES:

1. CAUTION: UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS; HOWEVER, ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM THE LOCATIONS SHOWN. SOME UTILITIES MAY HAVE BEEN RELOCATED SINCE THE TIME OF DESIGN AND THE CONTRACTOR'S NOTICE TO PROCEED. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY. ARKANSAS STATE LAW, THE UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, REQUIRES TWO WORKING DAYS ADVANCE NOTIFICATION THROUGH THE ARKANSAS ONE-CALL SYSTEM CENTER BEFORE EXCAVATING USING MECHANIZED EQUIPMENT OR EXPLOSIVES (EXCEPT IN THE CASE OF EMERGENCY). THE ONE-CALL SYSTEM PHONE NUMBER IS 1-800-482-8998. THE CONTRACTOR IS ADVISED THAT THERE IS A SEVERE PENALTY FOR NOT MAKING THIS CALL. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE ARKANSAS ONE-CALL SYSTEM; THEREFORE, THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITIES AS WELL AS THE ONE-CALL SYSTEM. THE LOCATION OF THE EXISTING UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE, AND ARE THE LOCATIONS AT THE TIME OF DESIGN.
2. ALL PROPERTY CORNERS (IRON PINS) OR OTHER MONUMENTS LOCATED WITHIN THE PROPOSED CONSTRUCTION SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE ARDOT STANDARD SPECIFICATIONS.
3. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE PROTECTED AND SAVED. CARE AND DISCRETION SHALL BE USED TO PROTECT TREES NOT IDENTIFIED FOR REMOVAL.
4. THE SOD QUANTITY INCLUDES THE EASEMENT ADJACENT TO THE ROAD. THE CONTRACTOR SHALL BE RESPONSIBLE TO GRADE TOPSOIL AND SOD ALL OTHER DISTURBED AREAS AT NO ADDITIONAL COMPENSATION.
5. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF ALL UTILITIES, WATER LINES AND SANITARY SEWER LINES PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. THE ENGINEER WILL DETERMINE WHICH MAILBOXES WILL BE REMOVED AND REPLACED.
7. THE CONTRACTOR SHALL MOW GRASS WITHIN THE LIMITS OF THE PROJECT RIGHT OF WAY A MINIMUM OF TWO (2) TIMES AS DIRECTED BY THE OWNER AND THE ENGINEER. MOWING SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF SODDING.
8. ANY GRADE CHANGE OVER 12 INCHES WITHIN 5 FEET OF BEUD POLES OR DEVICES REQUIRES BEUD CONTACT AT 479-271-3135.

GOVERNING SPECIFICATIONS

CITY OF BENTONVILLE, MINIMUM STANDARD SPECIFICATIONS FOR STREETS, LATEST EDITION. SUPPLEMENTED BY THE ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.

(THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE ARDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.)

PERMITS

CITY OF BENTONVILLE: GRADING PERMIT
DEQ: SMALL SITE CONSTRUCTION PERMIT
ADH: ADH APPROVAL

DESIGN SPEED

SE. DODSON ROAD= 30 MPH
SE. J STREET= 40 MPH
SE. WALTON BLVD.= 45 MPH

LEGEND

- TOS — EXISTING TOE-OF-SLOPE
- TOB — EXISTING TOP-OF-BANK
- 1295 — EXISTING MINOR CONTOUR
- 1294 — EXISTING MAJOR CONTOUR
- P L — EXISTING PROPERTY LINE
- EXISTING EASEMENT
- G — EXISTING GAS UTILITY
- OHE — EXISTING ELECTRIC UTILITY
- F O — EXISTING FIBER OPTIC
- EXISTING BACK OF CURB
- R / W — EXISTING RIGHT OF WAY
- EXISTING EDGE OF PAVEMENT
- EXISTING GRAVEL DRIVE
- EXISTING FENCE
- EXISTING SIDEWALK
- EXISTING STORM SEWER
- 8"SS — EXISTING SANITARY SEWER
- 8"W — EXISTING WATER LINE
- FM — PROPOSED FORCE MAIN
- 12"SS — PROPOSED SANITARY SEWER
- 12"W — PROPOSED WATER LINE
- R / W — PROPOSED RIGHT OF WAY
- PROPOSED CENTERLINE
- PROPOSED BACK OF CURB
- PROPOSED SIDEWALK
- TOB — PROPOSED TOP-OF-BANK
- TOS — PROPOSED TOE-OF-SLOPE
- PROPOSED EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED FENCE
- PROPOSED DITCH
- PROPOSED MAILBOX
- PROPOSED LUMINAIRE POLE
- PROPOSED HANDICAP RAMP
- PROPOSED SIGN
- PROPOSED DRAINAGE INLET
- DEMOLITION AREAS
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- EXISTING SIGN
- CONTROL POINT & BENCHMARK
- EXISTING TRANSFORMER
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING TELECOMM BOX
- EXISTING FIBER OPTIC PEDESTAL
- EXISTING GAS METER
- EXISTING WATER VALVE
- WATER METER
- EXISTING FIRE HYDRANT
- EXISTING STORM DRAIN INLET
- EXISTING SANITARY SEWER CLEANOUT
- EXISTING SANITARY SEWER MANHOLE
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE
- B-4 — SOIL BORING LOCATION

SHEET INDEX

G-001	COVER SHEET
G-002	GENERAL NOTES, LEGEND, AND INDEX
G-003	SURVEY CONTROL
G-004 TO G-005	QUANTITY TABLES
G-101	PROPOSED RIGHT OF WAY LAYOUT PLANS
C-101 TO C-104	TYPICAL SECTIONS
C-151 TO C-163	MISCELLANEOUS DETAILS
C-190	EROSION CONTROL NOTES
C-191 TO C-192	EROSION CONTROL PLAN
C-201	MAINTENANCE OF TRAFFIC PLAN PHASE 1
C-202	MAINTENANCE OF TRAFFIC PLAN PHASE 2
C-203	MAINTENANCE OF TRAFFIC PLAN PHASE 3
C-251 TO C-252	DEMOLITION PLAN
C-301 TO-302	PAVEMENT MARKING AND SIGNAGE PLAN
C-501	SE DODSON ROAD PLAN AND PROFILE
C-502	SE J STREET PLAN AND PROFILE
C-503	SE WALTON BOULEVARD PLAN AND PROFILE
C-521	DRIVEWAY PROFILES
C-522 TO C-524	DRIVEWAY PLAN SHEETS
C-551	SE DODSON ROAD DRAINAGE PLAN AND PROFILE
C-552	SE J STREET DRAINAGE PLAN AND PROFILE
C-553	SE WALTON BOULEVARD DRAINAGE PLAN AND PROFILE
C-581	SE DODSON ROAD GRADING PLAN
C-582	SE J STREET AND SE WALTON BOULEVARD INTERSECTION GRADING PLAN
C-583	SE J STREET GRADING PLAN
C-584	SE WALTON BOULEVARD GRADING PLAN
C-590	SE J STREET AND SE WALTON BOULEVARD INTERSECTION LAYOUT PLAN
C-600	SIGNAL NOTES AND QUANTITIES
C-601 TO C-604	SIGNALIZATION PLANS - PHASE 1
C-605 TO C-608	SIGNALIZATION PLANS - PHASE 2
C-609 TO C-613	SIGNALIZATION PLANS
C-900	WATERLINE AND SEWERLINE GENERAL NOTES
C-901	SE J STREET WATER LINE A PLAN AND PROFILE
C-902	SE J STREET WATER LINES B (REV. 1) AND C (REV. 1) PLAN AND PROFILE
C-951 TO C-955	WATER AND SEWER DETAILS
X-101 TO X-108	SE DODSON ROAD/SE J STREET CROSS SECTIONS
X-201 TO X-202	SE WALTON BOULEVARD CROSS SECTIONS

ARDOT STANDARD ROADWAY DRAWINGS

DRAWING NUMBER	TITLE
DR-1	DETAILS OF DRIVEWAYS & ISLANDS
FES-1	FLARED END SECTION
FES-2	FLARED END SECTION
FPC-9	DETAILS OF DROP INLETS AND JUNCTION BOXES
FPC-9E	DETAILS OF DROP INLETS (TYPE C)
FPC-9M	DETAILS OF DROP INLET (TYPE MO)
PBC-1	PRECAST CONCRETE BOX CULVERTS
PM-1	PAVEMENT MARKING DETAILS
SD-4	LOOP DETECTOR INSTALLATION
SD-5	CONTROLLER CABINET UTILITY DRAWER
SD-6	HEAVY DUTY PULL BOX
SD-7	SPAN WIRE ASSEMBLY WOOD POLE
SD-8	SIGNAL HEAD PLACEMENT
SD-9	SERVICE POINT
SD-11	STEEL POLE WITH MAST ARM
SHS-1	STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES
SHS-2	U-CHANNEL POST ASSEMBLIES
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER
TC-5	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER
TEC-1	TEMPORARY EROSION CONTROL DEVICES
TEC-2	TEMPORARY EROSION CONTROL DEVICES
TEC-3	TEMPORARY EROSION CONTROL DEVICES
TEC-4	TEMPORARY EROSION CONTROL DEVICES

APPROVED FOR CONSTRUCTION
04/15/2024 8:31:35 PM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.20393 — LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/24	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

GENERAL NOTES, LEGEND, AND INDEX

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-002

LTFreedle 3/1/2024 2:19:45 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_G002_GN.dgn
REVISED DATE:

SURVEY CONTROL POINTS				
POINT#	NORTHING	EASTING	ELEVATION	DESCRIPTION
13	735987.4770	665007.0620	1276.533	1/2 REBAR WITH GARVER CONTROL CAP
14	735876.3430	665026.5440	1275.688	1/2 REBAR WITH GARVER CONTROL CAP
15	735242.8380	665009.8090	1272.947	1/2 REBAR WITH GARVER CONTROL CAP
16	735889.0300	665143.5490	1275.945	1/2 REBAR WITH GARVER CONTROL CAP
17	735883.6050	665341.4300	1276.933	1/2 REBAR WITH GARVER CONTROL CAP
18	736004.4930	665126.1230	1276.276	1/2 REBAR WITH GARVER CONTROL CAP
14A	735876.3430	665026.5440	1275.688	1/2 REBAR WITH GARVER CONTROL CAP
15A	735242.8380	665009.8090	1272.947	1/2 REBAR WITH GARVER CONTROL CAP

Survey Control for: Walton Boulevard and SE J Street Improvements

Control is based on NAD83 (2011) using Geoid12B. Coordinates are projected to Arkansas State Plane Coordinates, North Zone (301) US Survey Foot and elevations are based on NAVD88.

The data was derived from a found monument (BENTPORT) at Bentonville Airport.

0' 30' 60' 120' 180'
(IN FEET)

APPROVED FOR CONSTRUCTION
03/15/2024 8:31:51 AM

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKET FREEDLE
Digitally Signed 03/01/2023

BY	DESCRIPTION	DATE	REV.

BENTONVILLE THE CITY OF

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SURVEY CONTROL

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-003

LTFreedle 3/1/2023 4:55:00 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_G003_SC.dgn
REVISED DATE:

SUMMARY OF QUANTITIES

DESCRIPTION	UNIT	QUANTITY
Site Preparation	LS	1
Unclassified Excavation (Plan Quantity)	CY	1,616
Embankment Construction (Plan Quantity)	CY	634
Undercut Excavation	CY	1,340
Rock Excavation	CY	250
Trench and Excavation Safety Systems	LS	1
Maintenance of Traffic	LS	1
18" Class III R.C. Pipe	LF	12
24" Class III R.C. Pipe	LF	12
42" Class III R.C. Pipe	LF	0
30"x19" Class III R.C. Elliptical Pipe	LF	179
45"x29" Class III R.C. Elliptical Pipe	LF	0
53"x34" Class III R.C. Elliptical Pipe	LF	530
18" Class III R.C. Flared End Section	EA	1
Pipe Collar	EA	1
4'x2' Precast Reinforced Concrete Box Culvert	LF	112
8'x4' Precast Reinforced Concrete Box Culvert	LF	0
Single Grate Combination Inlet	EA	1
Double Grate Combination Inlet	EA	0
Quadruple Grate Combination Inlet	EA	1
Single Grate Combination Inlet With 3'x4' Junction Box	EA	1
Single Grate Combination Inlet With 3'x11.5' Junction Box	EA	1
Double Grate Combination Inlet With 6'-2"x4' Junction Box	EA	1
Double Grate Combination Inlet With 6'-2"x6'-6" Junction Box	EA	1
Special Double Grate Combination Inlet With 6'-2"x7' Junction Box	EA	1
Double Grate Combination Inlet With 6'-2"x7'-6" Junction Box	EA	1
Triple Grate Combination Inlet With 4'x4' Junction Box	EA	1
Additional Curb Openings	EA	6
4' Type MO Curb Inlet	EA	0
4' Type MO Junction Box	EA	0
4' Curb Inlet Extension	EA	0
9'x12' Type C Curb Inlet	EA	0
4'x13.5' Junction Box	EA	1
12.5'x5.5' Junction Box	EA	1
15'x4' Junction Box	EA	0
Asphalt Pavement Repair	SY	122
Temporary Pavement Repair	SY	50
Temporary Erosion Control	LS	1
Sodding	SY	3,206
Concrete Island (6")	SY	22
4" Concrete Sidewalk	SY	699
6" Concrete Sidewalk	SY	119
Handicap Ramp Concrete	SY	41
Concrete Curb and Gutter (Type A) (1'-6")	LF	1,383
Concrete Curb and Gutter (Type A) (2'-0")	LF	173
Roadway Construction Control	LS	1
Cold Milling Asphalt Pavement	SY	4,004
6" Aggregate Base Course (Class 7)	SY	1,546
ACHM Surface Course (PG 76-22)	TON	626
ACHM Binder Course (PG 70-22)	TON	313
Concrete Driveways	SY	76
Concrete Aprons	SY	228
Asphalt Driveways	SY	248
Thermoplastic Pavement Marking - 6" Yellow	LF	1,760
Thermoplastic Pavement Marking - 6" White	LF	1,568
Thermoplastic Pavement Marking - 12" White	LF	1,032
Thermoplastic Pavement Marking (Words)	EA	13
Thermoplastic Pavement Marking (Arrows)	EA	24
Standard Street Sign Installation	EA	4
6" Portland Cement Concrete Base	SY	317
7" Portland Cement Concrete Base	SY	17
Remove, Salvage, and Reinstall Existing Monument Sign	EA	1

SUMMARY OF QUANTITIES (CONT.)

DESCRIPTION	UNIT	QUANTITY
System Local Controller-Fiber (8 Phases)	EA	1
Ethernet Switch	EA	1
Gps Preemption System	EA	1
Battery Backup System	EA	1
WIC Fiber Enclosure	EA	1
Traffic Signal Head, LED, (3 Section, 1 Way)	EA	19
Traffic Signal Head, LED, (4 Section, 1 Way)	EA	6
Traffic Signal Head, LED, (5 Section, 1 Way)	EA	5
Relocation of Traffic Signal Head	EA	3
Central Control Unit	EA	1
Pole Mounted Assembly	EA	8
Infrared Programming Device	EA	1
Countdown Pedestrian Signal Head, Led	EA	8
Traffic Signal Cable (5C/14 A.W.G.)	LF	2,884
Traffic Signal Cable (7C/14 A.W.G.)	LF	2,908
Traffic Signal Cable (20C/14 A.W.G.)	LF	705
Electrical Conductors-In-Conduit (1C/8 A.W.G., E.G.C.)	LF	860
Electrical Conductors-In-Conduit (1C/12 A.W.G., E.G.C.)	LF	220
Electrical Conductors-In-Conduit (2C/6 A.W.G.)	LF	37
Electrical Conductors For Luminaires	LF	925
Communication Cable Fiber (12 Channel)	LF	549
Fiber Tracer Wire, #14 AWG, Polyethlene Insulation Orange in Color	LF	549
Fiber Optic Pigtail, 12 SM	LF	30
Galvanized Steel Conduit (2")	LF	37
Galvanized Steel Conduit (3")	LF	112
Non-Metallic Conduit (2")	LF	73
Non-Metallic Conduit (3")	LF	808
Non-Metallic Conduit (3" HDPE)	LF	235
Concrete Pull Box (Type 1 HD)	EA	1
Concrete Pull Box (Type 3 HD)	EA	7
Pull Box For Fiber, DS-1609, 24"X36"X24"	EA	6
Traffic Signal Mast Arm And Pole With Foundation (44')	EA	1
Traffic Signal Mast Arm And Pole With Foundation (46')	EA	1
Traffic Signal Mast Arm And Pole With Foundation (58')	EA	1
Traffic Signal Mast Arm And Pole With Foundation (66')	EA	0
LED Luminaire Assembly	EA	4
Traffic Signal Pedestal Pole With Foundation	EA	4
Service Point Assembly (2 Circuits)	EA	1
Removal of Traffic Signal Equipment	LS	1
Treated Wood Pole (Class 2, 45')	EA	4
18" Street Name Sign (Install Only)	EA	4
Video Detector Rotation	EA	2
Video Detector Rack (16 Channel)	EA	1
Video Detector (IP)	EA	9
Video Cable (Exterior Cat 5E)	LF	2,399
Video Monitor (CLR)	EA	1
Central Control Unit (4 Channel)	EA	2
SDLC and Cables	LS	1
Bluetooth System	EA	1

SUMMARY OF QUANTITIES (CONT.)

DESCRIPTION	UNIT	QUANTITY
Utility Mobilization	LS	1
Utility Trench Excavation Safety Systems	LS	1
Spot Dig and Verify Existing Utility Locations	LS	1
Bypass Pumping	LS	0
12" C-900 DR-14 PVC Water Line	LF	112
8" C-900 DR-14 PVC Water Line	LF	205
8" SDR-26 PVC Sanitary Sewer Line	LF	0
12"x12" Tapping Sleeve and Valve	EA	2
12"x8" Tapping Sleeve and Valve	EA	0
8"x8" Tapping Sleeve and Valve	EA	3
Ductile Iron Fittings for Water Line	LB	900
8" Gate Valve	EA	1
Cut and Cap Ex.12" Water Line (Detail W13)	EA	2
Cut and Cap Ex.12" Water Line with Anchor Collar (Detail GWS04)	EA	1
Cut and Cap Ex. 8" Water Line with Anchor Collar (Detail GWS04)	EA	2
Fire Hydrant Assembly	EA	1
Salvage Fire Hydrant	EA	1
Install and Reconnect 1" Water Service Line with Single 5/8" Meter Set	EA	1
Install and Reconnect 1" Water Service Line with Double 5/8" Meter Set	EA	1
Install and Reconnect 1" Water Service Line with 1" Meter Set	EA	1
Install and Reconnect 2" Water Service Line with 2" Valve and 2" Meter Set	EA	1
Adjust Valve Box to Proposed Grade	EA	2
4' ID San. Sewer Manhole, Cast-in-Place, 0' to 6' Depth	EA	0
Core Existing Manhole	EA	0
Raise Manhole Rim to Proposed Grade	EA	1
Lower Manhole Rim to Proposed Grade	EA	1
20" Steel Encasement by Open Cut	LF	0
16" Steel Encasement by Open Cut	LF	40
Flowable Fill for Abandoned Pipe	CY	2
Trench Undercut and Backfill	CY	20
Rock Excavation for Utilities	CY	10
Bid Schedule 2 Contingency Allowance ($250,000)	LS	1
Utility Adjustment Delays (Rev. 1)	DAY	
Concrete Ditch Paving (Rev. 1)	SY	4
Triple Grate Combination Inlet (Rev. 1)	EA	1
Reconstruct 5'x17' Inlet Top (Rev. 1)	EA	1
Reconstruct Inlet and Extension Top (Rev. 1)	EA	1
Traffic Signal Mast Arm And Pole With Foundation (76') (Rev. 1)	EA	1
Remove, Salvage, and Reinstall Existing Street Light (Rev. 1)	EA	1

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:55 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/27/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

QUANTITY TABLES

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: JAA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-004

LTFreedle 3/27/2024 2:38:23 PM
WORKSPACE:Garver 2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_G004_QTY.dgn
REVISED DATE:

SITE PREPARATION
1 LUMP SUM

TRENCH AND EXCAVATION SAFETY SYSTEMS
1 LUMP SUM

MAINTENANCE OF TRAFFIC
1 LUMP SUM

ROCK EXCAVATION (CY)
250

REMOVE, SALVAGE, AND REINSTALL EXISTING STREET LIGHT (EA)
1

REMOVE, SALVAGE, AND REINSTALL EXISTING MONUMENT SIGN (EA)
1

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:56 AM

EARTHWORK

LOCATION	UNCLASSIFIED EXCAVATION (CY)	EMBANKMENT CONSTRUCTION (CY)	UNDERCUT EXCAVATION (CY)
SOUTH	899	303	690
NORTH	717	331	650
TOTAL	**1,616**	**634**	**1,340**

PAVEMENT SECTION

LOCATION	ASPHALT PAVEMENT REPAIR (SY)	TEMPORARY PAVEMENT REPAIR (SY)	COLD MILLING ASPHALT PAVEMENT (SY)	6" AGGREGATE BASE COURSE (CLASS 7) (SY)	ACHM SURFACE COURSE (PG 76-22) (TON)	ACHM BINDER COURSE (PG 70-22) (TON)	6" PORTLAND CEMENT CONCRETE BASE (SY)	7" PORTLAND CEMENT CONCRETE BASE (SY)
SOUTH	0	8	1672	932	296	252	77	0
NORTH	122	42	2332	614	330	61	240	17
TOTAL	**122**	**50**	**4,004**	**1,546**	**626**	**313**	**317**	**17**

CURB AND GUTTER

LOCATION	CONCRETE CURB AND GUTTER (Type A) (1'-6") (LF)	CONCRETE CURB AND GUTTER (Type A) (2'-0") (LF)
SOUTH	605	64
NORTH	778	109
TOTAL	**1,383**	**173**

STORM DRAINAGE INLETS

LOCATION	SINGLE GRATE COMBINATION IINLET (EA)	DOUBLE GRATE COMBINATION IINLET (EA)	TRIPLE GRATE COMBINATION IINLET (EA)	QUADRUPLE GRATE COMBINATION IINLET (EA)	SINGLE GRATE COMBINATION IINLET WITH 3'X4' JUNCTION BOX (EA)	SINGLE GRATE COMBINATION IINLET WITH 3'X11.5 JUNCTION BOX (EA)	DOUBLE GRATE COMBINATION IINLET WITH 6'-2"X4' JUNCTION BOX (EA)	DOUBLE GRATE COMBINATION IINLET WITH 6'-2"X6'-6" JUNCTION BOX (EA)	SPECIAL DOUBLE GRATE COMBINATION IINLET WITH 6'-2"X7' JUNCTION BOX	DOUBLE GRATE COMBINATION IINLET WITH 6'-2"X7'-6" JUNCTION BOX (EA)	TRIPLE GRATE COMBINATION IINLET WITH 4'X4' JUNCTION BOX (EA)	ADDITIONAL CURB OPENINGS (EA)	4' TYPE MO CURB INLET (EA)	4' TYPE MO JUNCTION BOX (EA)	4' CURB INLET EXTENSION (EA)	9'X12' TYPE C CURB INLET (EA)	RECONSTRUCT 5'X17' INLET TOP (EA)	RECONSTRUCT INLET AND EXTENSION TOP (EA)	4'X13.5' JUNCTION BOX (EA)	12.5'X5.5' JUNCTION BOX (EA)	15'X4' JUNCTION BOX
SOUTH	1	0	1	0	0	1	0	0	1	0	0	2	0	0	0	0	1	0	1	0	0
NORTH	0	0	0	1	1	0	1	1	0	1	1	4	0	0	0	0	0	1	0	1	0
TOTAL	**1**	**0**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**6**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**0**

SOD

LOCATION	SODDING (SY)
SOUTH	1583
NORTH	1623
TOTAL	**3,206**

STORM DRAINAGE PIPES

LOCATION	18" CLASS III R.C. PIPE (LF)	24" CLASS III R.C. PIPE (LF)	42" CLASS III R.C. PIPE (LF)	30"X19" CLASS III R.C. ELLIPTICAL PIPE (LF)	45"X29" CLASS III R.C. ELLIPTICAL PIPE (LF)	53"X34" CLASS III R.C. ELLIPTICAL PIPE (LF)	18" CLASS III R.C. FLARED END SECTION (EA)	PIPE COLLAR (EA)	4'x2' PRECAST REINFORCED CONCRETE BOX CULVERT (LF)	8'X4' PRECAST REINFORCED CONCRETE BOX CULVERT (LF)	ARDOT TYPE B CONCRETE DITCH PAVING (SY)
SOUTH	8	0	0	0	0	530	0	0	84	0	0
NORTH	4	12	0	179	0	0	1	1	28	0	4
TOTAL	**12**	**12**	**0**	**179**	**0**	**530**	**1**	**1**	**112**	**0**	**4**

SIDEWALKS

LOCATION	4" CONCRETE SIDEWALK (SY)	6" CONCRETE SIDEWALK (SY)	HANDICAP RAMP CONCRETE (SY)
SOUTH	317	30	18
NORTH	382	89	23
TOTAL	**699**	**119**	**41**

PAVEMENT MARKING

LOCATION	THERMOPLASTIC PAVEMENT MARKING - 6" YELLOW (LF)	THERMOPLASTIC PAVEMENT MARKING - 6" WHITE (LF)	THERMOPLASTIC PAVEMENT MARKING - 12" WHITE (LF)	THERMOPLASTIC PAVEMENT MARKING (WORDS) (EA)	THERMOPLASTIC PAVEMENT MARKING (ARROWS) (EA)	STANDARD STREET SIGN INSTALLATION (EA)
SOUTH	990	696	514	5	12	1
NORTH	770	872	518	8	12	3
TOTAL	**1,760**	**1,568**	**1,032**	**13**	**24**	**4**

DRIVEWAYS

LOCATION	CONCRETE ISLAND (6") (SY)	CONCRETE DRIVEWAYS (SY)	CONCRETE APRONS (SY)	ASPHALT DRIVEWAYS (SY)
SOUTH	0	0	43	81
NORTH	22	76	185	167
TOTAL	**22**	**76**	**228**	**248**

TEMPORARY EROSION CONTROL
1 LUMP SUM

ROADWAY CONSTRUCTION CONTROL
1 LUMP SUM

BID SCHEDULE 2 CONTINGENCY ALLOWANCE ($250,000)
1 LUMP SUM

GARVER
© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.20393 — LUKE T. FREEDLE
Digitally Signed 03/27/2024

BY	DESCRIPTION	DATE	REV.
LTF	REVISION 1	03/27/2024	1

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

QUANTITY TABLES

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: JAA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-005

LTFreedle 3/27/2024 11:31:38 AM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_G004_QTY.dgn
REVISED DATE:

LEGEND

PROPERTY LINE	PL	PROPOSED RIGHT OF WAY	R/W
EXISTING RIGHT OF WAY	R/W	PROPOSED DRAINAGE OR UTILITY EASEMENT	
EXISTING EASEMENT		PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TCE)	

N

0' 20' 40' 80' 120'

(IN FEET)

SE PLAZA AVENUE

SE WALTON BOULEVARD

SE DODSON ROAD

SE J STREET

SE 35th STREET

POB 30+00.00

POE 35+00.00

10+50 POB

20+50 POE

1000.00' N2°42'13"E

10+50 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 20+50

30+00 31+00 32+00 33+00 34+00 35+00

TRACT #1
01-12939-000
WAL-MART REAL ESTATE BUSINESS TRUST

TRACT #2
01-12940-000
WAL-MART REAL ESTATE BUSINESS TRUST

TRACT #3
01-12829-000
SSRT HOLDINGS LLC

TRACT #4
01-04470-000
HAYDEN PROPERTIES INC

TRACT #5
01-12830-000
TRAN COMMERCIAL PROPERTY LLC

TRACT #6
01-11447-007
BANK OF THE OZARKS

01-11447-012
SOUTHERN PIONEER PROPERTY & CASUALTY INSURANCE COMPANY

01-08316-000
JTR LLC

01-04481-000
WHITEBOARD HOLDINGS LLC

12+51.52 34.40' RT.
12+20.90 59.38' RT.
12+20.92 69.38' RT.
12+58.44 69.38' RT.
13+36.32 46.62' RT.
13+36.35 65.50' RT.
13+97.91 55.50' RT.
15+11.01 55.50' RT.
15+18.54 65.50' RT.
13+10.95 69.36' RT.
13+36.35 69.36' RT.
16+49.00 206.83' RT.
16+56.51 96.20' LT.
16+97.55 60.78' LT.
18+27.50 60.33' LT.
18+50.06 70.25' LT.
18+50.12 87.25' LT.
18+70.03 60.18' LT.
18+70.12 87.18' LT.
18+70.10 80.18' LT.
19+20.10 80.00' LT.
19+20.03 60.00' LT.
19+68.84 59.83' LT.
16+83.61 51.90' RT.
18+11.55 48.34' RT.
18+11.69 53.34' RT.
16+83.20 76.92' RT.
19+47.12 49.56' RT.
19+54.74 69.36' RT.
16+58.32 134.40' RT.
16+58.42 181.77' RT.
16+83.42 181.72' RT.
16+49.18 258.01' RT.

TRACT NO.	PARCEL NO.	OWNER	RIGHT OF WAY (SQUARE FEET)	PERMANENT DRAINAGE OR UTILITY EASEMENT (SQUARE FEET)	TEMPORARY CONSTRUCTION EASEMENT (SQUARE FEET)	TRACT NO.
1	01-12939-000	WAL-MART REAL ESTATE BUSINESS TRUST	161	375	0	1
2	01-12940-000	WAL-MART REAL ESTATE BUSINESS TRUST	1733	254	2058	2
3	01-12829-000	SSRT HOLDINGS, LLC	0	0	1820	3
4	01-04470-000	HAYDEN PROPERTIES, INC.	2262	0	9677	4
5	01-12830-000	TRAN COMMERCIAL PROPERTY, LLC	0	0	2413	5
6	01-11447-007	BANK OF THE OZARKS	0	2776	0	6

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:56 AM

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS ENGINEER

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.20393 LUKE T. FREEDLE
Digitally Signed 04/12/2024

REV.	DATE	DESCRIPTION	BY
1	04/12/2024	REVISION 1	LTF

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

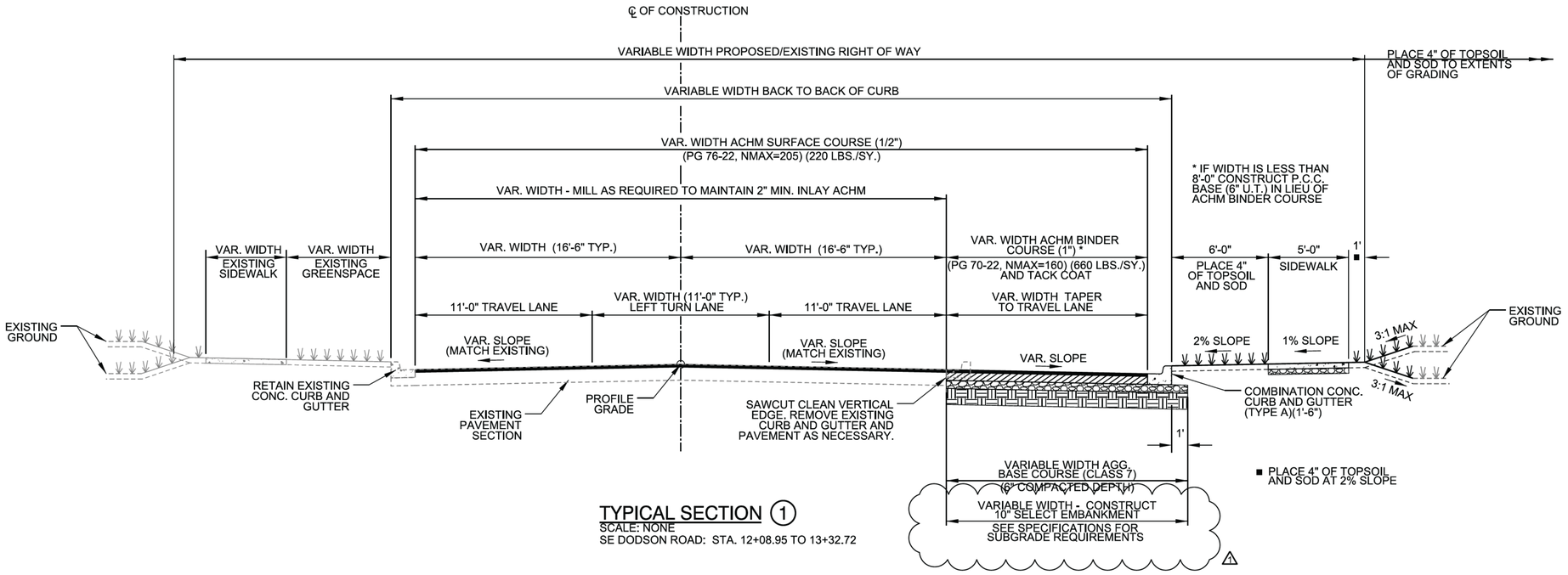
PROPOSED RIGHT OF WAY LAYOUT PLANS

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: JAA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-101

LTFreedle 4/12/2024 9:41:54 AM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_G101_RW.dgn
REVISED DATE:



TYPICAL SECTION ①

SCALE: NONE
SE DODSON ROAD: STA. 12+08.95 TO 13+32.72

TYPICAL SECTION GENERAL NOTES

1. CROSS SLOPES OF ROADWAY WIDENING SHALL MATCH EXISTING ROADWAY CROSS SLOPES UNLESS OTHERWISE NOTED. REFER TO CROSS SECTIONS AND GRADING PLANS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
4. THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1/2" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
5. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE TO THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. SELECT EMBANKMENT SHALL MEET THE REQUIREMENTS OF MATERIAL FOR FILL OR BACKFILL UNDER PAVEMENTS AS SPECIFIED IN SECTION E-2 - EXCAVATION AND EMBANKMENT OF THE SPECIFICATIONS.
7. TRAVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT AN INTERVAL EQUAL TO FIVE (5) TIMES THE SIDEWALK WIDTH. CONTRACTION JOINTS SHALL BE PLACED AT AN INTERVAL MATCHING THE SIDEWALK WIDTH.
8. THE THICKNESS OF THE CURB AND GUTTER SHALL MATCH THE THICKNESS OF THE ADJACENT ASPHALT PAVEMENT.

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:56 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS–ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

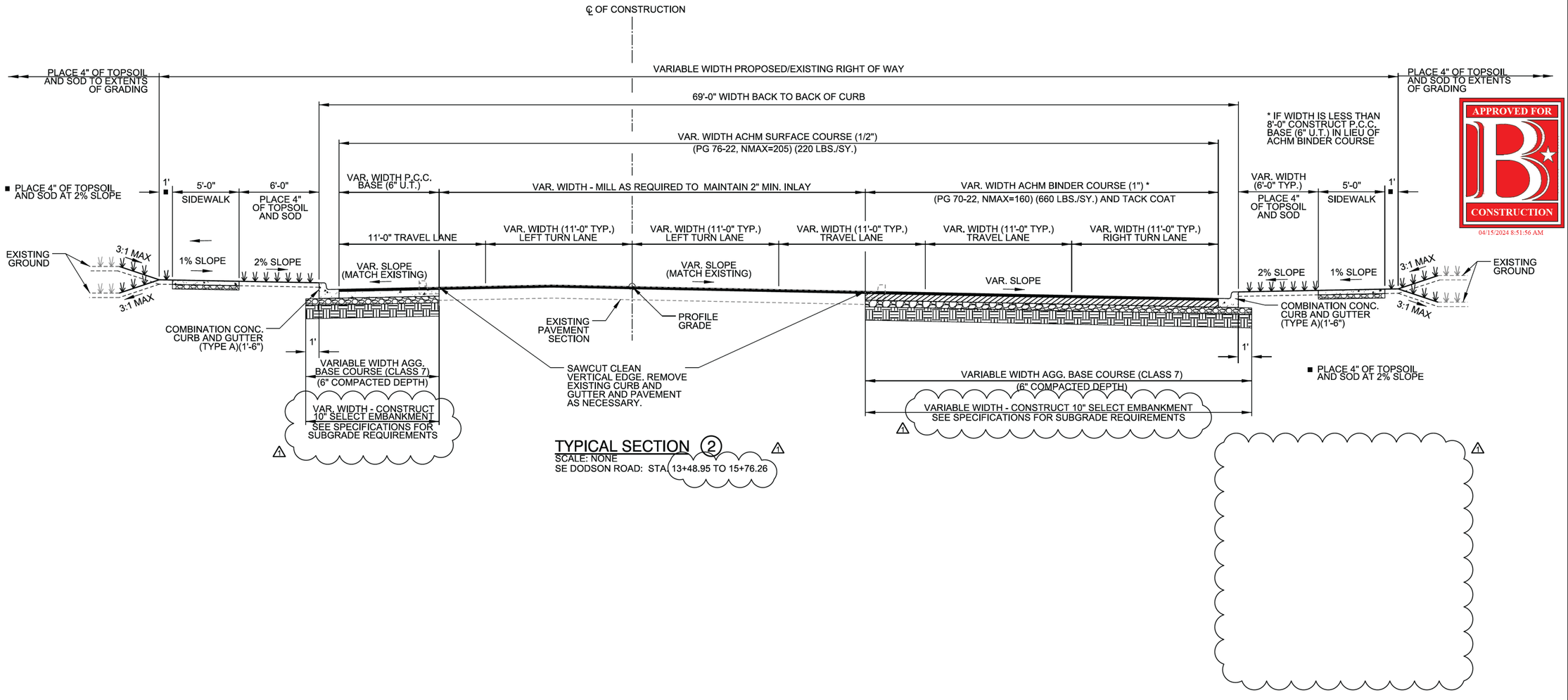
TYPICAL SECTIONS

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-101

LTFreedle 2/29/2024 3:38:19 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJJ_C101_TS.dgn
REVISED DATE:



TYPICAL SECTION ② ⚠

SCALE: NONE

SE DODSON ROAD: STA. 13+48.95 TO 15+76.26

TYPICAL SECTION GENERAL NOTES

1. CROSS SLOPES OF ROADWAY WIDENING SHALL MATCH EXISTING ROADWAY CROSS SLOPES UNLESS OTHERWISE NOTED. REFER TO CROSS SECTIONS AND GRADING PLANS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
4. THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1/2" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
5. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE TO THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. SELECT EMBANKMENT SHALL MEET THE REQUIREMENTS OF MATERIAL FOR FILL OR BACKFILL UNDER PAVEMENTS AS SPECIFIED IN SECTION E-2 - EXCAVATION AND EMBANKMENT OF THE SPECIFICATIONS.
7. TRAVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT AN INTERVAL EQUAL TO FIVE (5) TIMES THE SIDEWALK WIDTH. CONTRACTION JOINTS SHALL BE PLACED AT AN INTERVAL MATCHING THE SIDEWALK WIDTH.
8. THE THICKNESS OF THE CURB AND GUTTER SHALL MATCH THE THICKNESS OF THE ADJACENT ASPHALT PAVEMENT.

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:56 AM

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS–ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
⚠	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

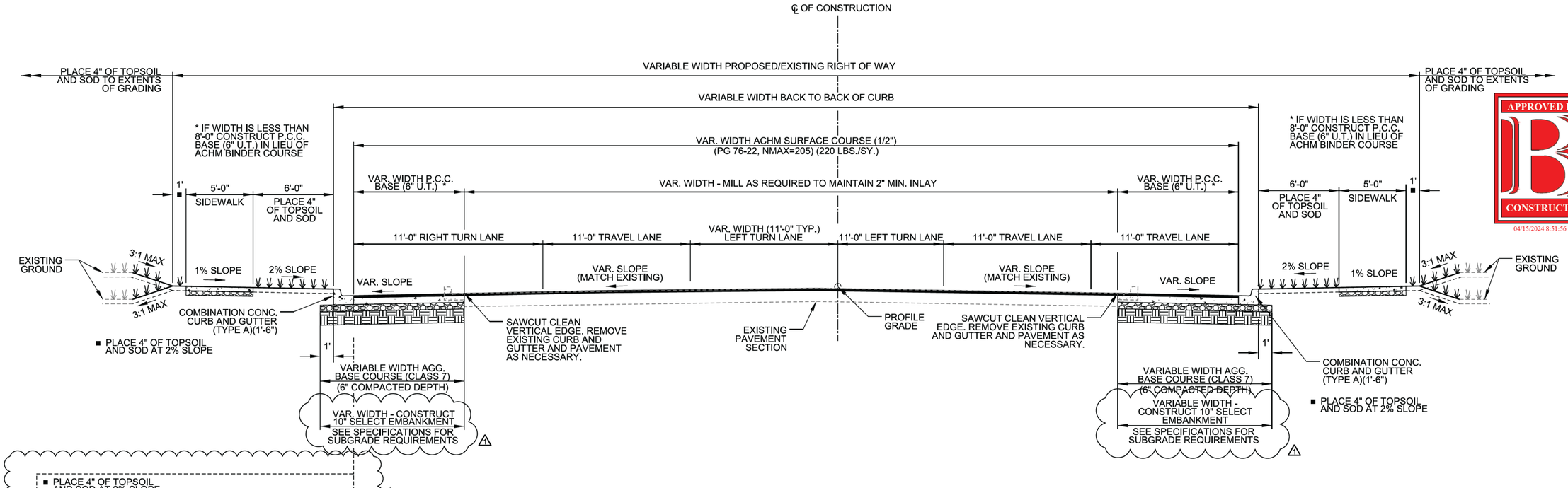
TYPICAL SECTIONS

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-102

LTFreedle 2/29/2024 3:38:19 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C101_TS.dgn
REVISED DATE:



TYPICAL SECTION ③

SCALE: NONE
SE J STREET: STA. 16+38.34 TO 19+67.81

ALTERNATE SIDEWALK GREENSPACE SECTION

SE J STREET: STA. 17+10.00 TO STA. 18+70.00 LT.

TYPICAL SECTION GENERAL NOTES

1. CROSS SLOPES OF ROADWAY WIDENING SHALL MATCH EXISTING ROADWAY CROSS SLOPES UNLESS OTHERWISE NOTED. REFER TO CROSS SECTIONS AND GRADING PLANS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
4. THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1/2" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
5. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE TO THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. SELECT EMBANKMENT SHALL MEET THE REQUIREMENTS OF MATERIAL FOR FILL OR BACKFILL UNDER PAVEMENTS AS SPECIFIED IN SECTION E-2 - EXCAVATION AND EMBANKMENT OF THE SPECIFICATIONS.
7. TRAVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT AN INTERVAL EQUAL TO FIVE (5) TIMES THE SIDEWALK WIDTH. CONTRACTION JOINTS SHALL BE PLACED AT AN INTERVAL MATCHING THE SIDEWALK WIDTH.
8. THE THICKNESS OF THE CURB AND GUTTER SHALL MATCH THE THICKNESS OF THE ADJACENT ASPHALT PAVEMENT.

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:56 AM

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

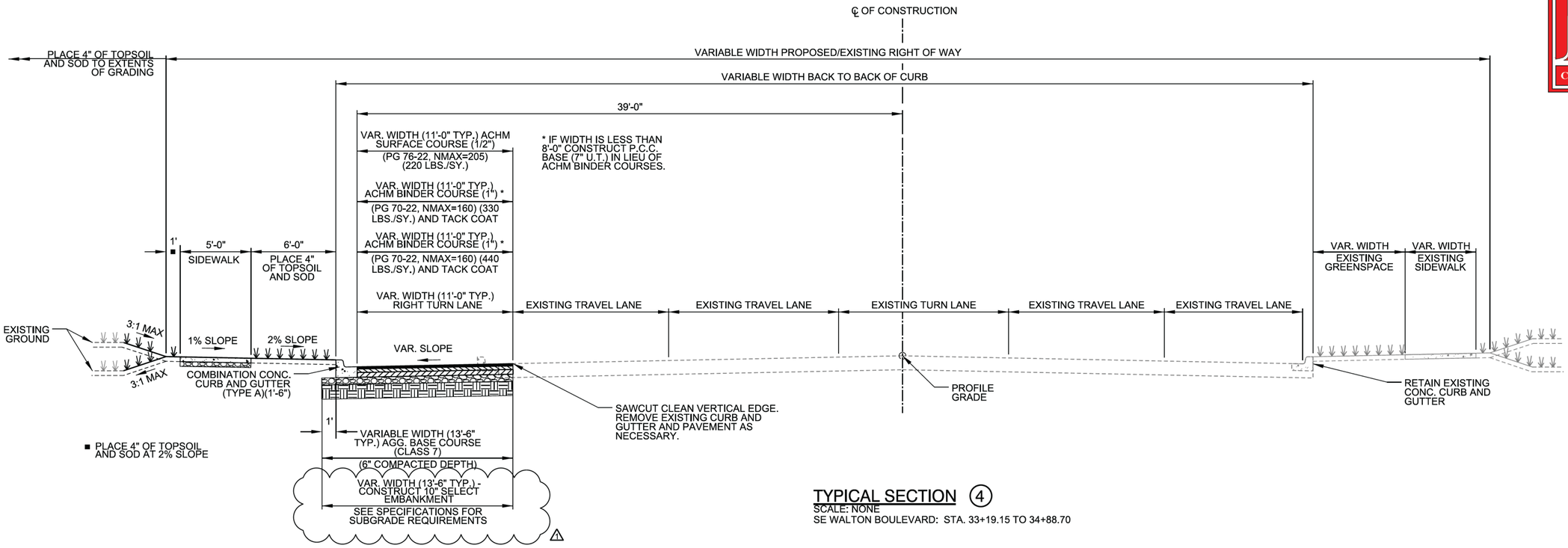
TYPICAL SECTIONS

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-103

LTFreedle 2/29/2024 3:38:20 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C101_TS.dgn
REVISED DATE:



TYPICAL SECTION ④

SCALE: NONE
SE WALTON BOULEVARD: STA. 33+19.15 TO 34+88.70

TYPICAL SECTION GENERAL NOTES

1. CROSS SLOPES OF ROADWAY WIDENING SHALL MATCH EXISTING ROADWAY CROSS SLOPES UNLESS OTHERWISE NOTED. REFER TO CROSS SECTIONS AND GRADING PLANS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
4. THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1/2" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
5. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE TO THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. SELECT EMBANKMENT SHALL MEET THE REQUIREMENTS OF MATERIAL FOR FILL OR BACKFILL UNDER PAVEMENTS AS SPECIFIED IN SECTION E-2 - EXCAVATION AND EMBANKMENT OF THE SPECIFICATIONS.
7. TRAVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT AN INTERVAL EQUAL TO FIVE (5) TIMES THE SIDEWALK WIDTH. CONTRACTION JOINTS SHALL BE PLACED AT AN INTERVAL MATCHING THE SIDEWALK WIDTH.
8. THE THICKNESS OF THE CURB AND GUTTER SHALL MATCH THE THICKNESS OF THE ADJACENT ASPHALT PAVEMENT.

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:56 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS–ENGINEER

STATE OF ARKANSAS — LUKE T. FREEDLE — LICENSED PROFESSIONAL ENGINEER — No.20393
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
⚠	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

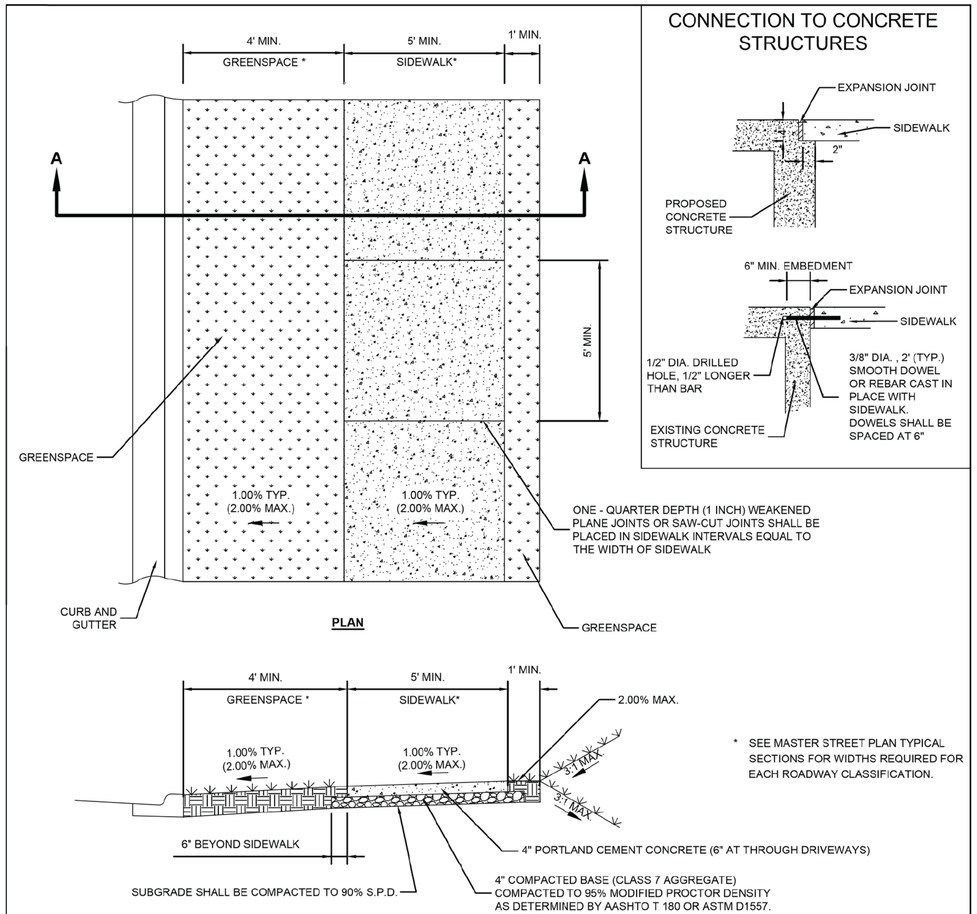
TYPICAL SECTIONS

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-104

LTFreedle 2/29/2024 3:38:20 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJJ_C101_TS.dgn
REVISED DATE:



PLAN

CONNECTION TO CONCRETE STRUCTURES

* SEE MASTER STREET PLAN TYPICAL SECTIONS FOR WIDTHS REQUIRED FOR EACH ROADWAY CLASSIFICATION.

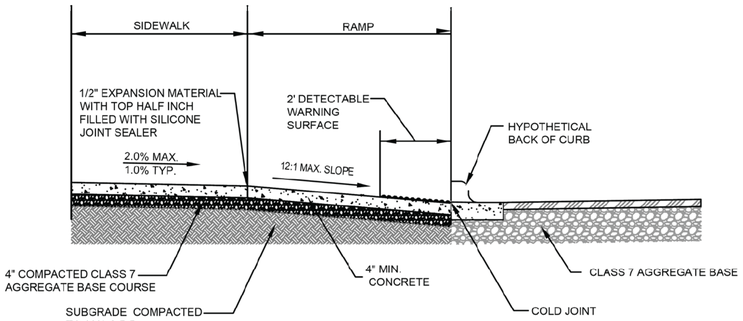
SECTION A-A

SIDEWALK CONSTRUCTION NOTES:

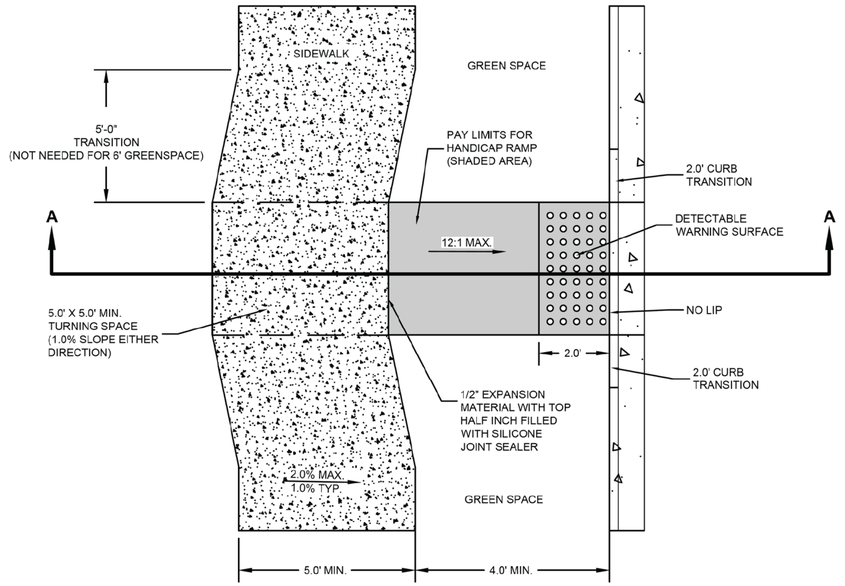
1. CONTRACTION (WEAKENED PLAN) JOINTS SHALL HAVE TOOLED OR SAW-CUT TRANSVERSE JOINTS WITH JOINT SPACING MATCHING SIDEWALK WIDTH. THE CONTRACTION JOINTS SHALL BE CONSTRUCTED TO 1/4 DEPTH OF THE SIDEWALK THICKNESS AND SHALL BE 1/8" TO 3/8" WIDE. EXPANSION JOINTS SHALL BE INSTALLED PERPENDICULAR TO THE SIDEWALK AT INTERVALS EQUAL TO FIVE (5) TIMES THE SIDEWALK WIDTH. EXPANSION JOINTS SHALL BE A MINIMUM OF 1/2" WIDTH AND EXTEND THE FULL DEPTH OF THE CONCRETE.
2. EXPANSION JOINT MATERIAL SHALL MEET AASHTO M213 FOR AN ASPHALTIC FIBER EXPANSION JOINT MATERIAL AND BE INSTALLED WITH A ZIP STRIP WHICH IS REMOVED AFTER THE CONCRETE HAS CURED AND SEALED WITH A MASTIC SEALER. EXPANSION JOINT MATERIAL SHALL BE LEFT 1/2" LOWER THAN GRADE OR TRIMMED 1/2" LOWER, AND FILLED WITH SELF-LEVELING SEALANT TO FINISHED GRADE.
3. ALL SIDEWALKS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
4. CONCRETE FOR SIDEWALK SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT.
5. ALL CONTRACTION JOINTS AND COLD JOINTS SHALL BE FILLED TO FINISHED GRADE WITH SELF-LEVELING SEALANT SUCH AS SONNEBORN SL-1 OR EQUIVALENT MEETING THE REQUIREMENTS OF ASTM C 920, TYPE S.
6. CLOSED CELL BACKER ROD SHALL BE USED IN DEEP JOINTS, AS NEEDED, ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
7. WHEN PLACING SIDEWALK AGAINST AN EXISTING CONCRETE STRUCTURE WHERE IT IS DESIRABLE THAT THE SIDEWALK REMAIN FLUSH, THE SIDEWALK SHALL BE DOWELED INTO THE STRUCTURE.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: SIDEWALK WITH GREENSPACE	DATE: FEBRUARY, 2021
		TITLE: ***SIDEWALK DETAILS***	SHEET: **SW-1**

1 C-151 SIDEWALK DETAILS
SCALE: NONE



SECTION A-A



PLAN

NOTES:

1. CONCRETE FOR SIDEWALK RAMPS SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT. ALL SIDEWALK RAMPS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
2. DETECTABLE WARNING SURFACES SHALL BE PLACED AT ALL LOCATIONS WHERE RAMPS CROSS A STREET OR A SIGNALIZED COMMERCIAL DRIVEWAY FOR THE FULL WIDTH OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS LOCATED AT THE BACK OF CURB AND PERPENDICULAR TO THE EDGE OF THE SIDEWALK RAMP. AT CURB RADII WHERE THE DISTANCE FROM THE PERPENDICULAR DETECTABLE WARNING SURFACE TO THE BACK OF CURB EXCEEDS 5-FT., THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE BACK OF CURB.
3. ALL SIDEWALK RAMPS REQUIRE A CITY INSPECTION PRIOR TO CONCRETE PLACEMENT.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: SIDEWALK RAMP WITH 2' CURB TRANSITION	DATE: FEBRUARY, 2021
		TITLE: ***SIDEWALK RAMP DETAIL***	SHEET: **SR-1**

2 C-151 SIDEWALK RAMP WITH 2' CURB TRANSITION
SCALE: NONE

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:56 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS ENGINEERING

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

BY	DESCRIPTION	DATE	REV.

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

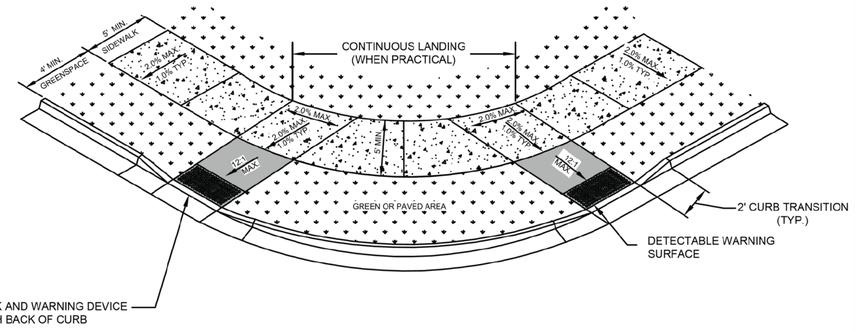
MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-151

LTFreedle 3/1/2023 4:55:30 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C151_SD.dgn
REVISED DATE:

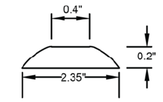


NOTES:
1. CONCRETE FOR SIDEWALK RAMPS SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT. ALL SIDEWALK RAMPS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
2. DETECTABLE WARNING SURFACES SHALL BE PLACED AT ALL LOCATIONS WHERE RAMPS CROSS A STREET OR A SIGNALIZED COMMERCIAL DRIVEWAY FOR THE FULL WIDTH OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS LOCATED AT THE BACK OF CURB AND PERPENDICULAR TO THE EDGE OF THE SIDEWALK RAMP. AT CURB RADII WHERE THE DISTANCE FROM THE PERPENDICULAR DETECTABLE WARNING SURFACE TO THE BACK OF CURB EXCEEDS 5-FT., THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE BACK OF CURB.
3. ALL SIDEWALK RAMPS REQUIRE A CITY INSPECTION PRIOR TO CONCRETE PLACEMENT.

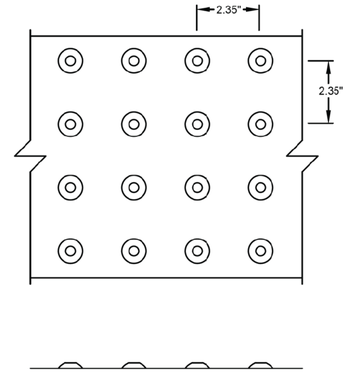
CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: SIDEWALK RAMP LOCATIONS AT RADIUS	DATE: MARCH, 2021
		TITLE: *SIDEWALK RAMP DETAIL*	SHEET: SR-4

1 C-152 SIDEWALK RAMP LOCATIONS AT RADIUS
SCALE: NONE

NOTES:
1. THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS LOCATED AT THE BACK OF CURB.
2. TRUNCATED DOMES SHALL HAVE A DIAMETER OF 0.9 INCH AT THE BOTTOM, A DIAMETER OF 0.4 INCH AT THE TOP, A HEIGHT OF 0.2 INCH, AND A CENTER-TO-CENTER SPACING OF 2.35 INCHES MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT.
3. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
4. DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE. (MIN 4')
5. TYPE OF DETECTABLE WARNING DEVICE SHALL BE APPROVED BY THE CITY OF BENTONVILLE PRIOR TO INSTALLATION. STAMPED CONCRETE SHALL NOT BE USED AS A DETECTABLE WARNING DEVICE.



TRUNCATED DOME SECTION



TRUNCATED DOME SPACING

DETECTABLE WARNING DEVICE DETAIL

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: *DETECTABLE WARNING DEVICE*	DATE: MARCH, 2021
		TITLE: SIDEWALK RAMP DETAIL	SHEET: SR-5

2 C-152 DETECTABLE WARNING DEVICE
SCALE: NONE

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:56 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

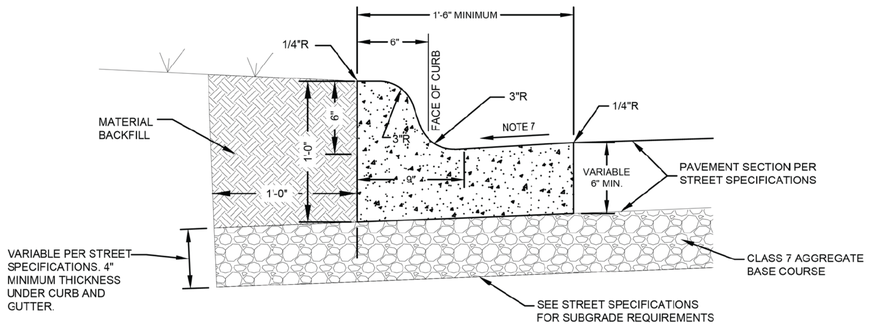
MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-152

LTFreedle 3/1/2023 4:55:43 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C151_SD.dgn
REVISED DATE:

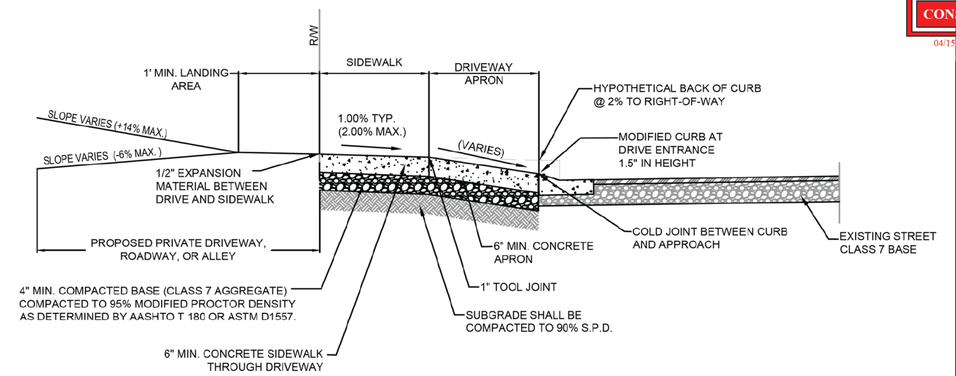


CURB & GUTTER NOTES:

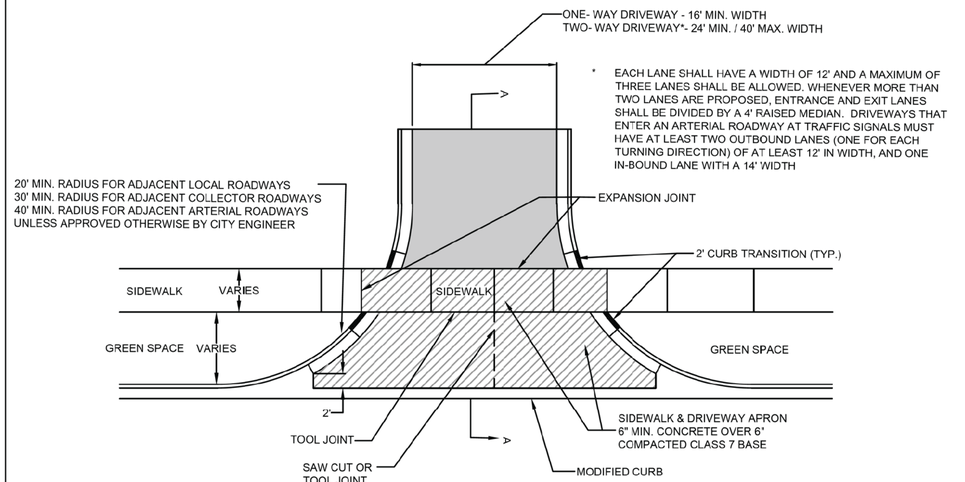
1. CONCRETE SHALL BE CLASS "S" PORTLAND CEMENT CONCRETE IN ACCORDANCE WITH SECTION 802 OR 501, ARDOT STANDARD SPECIFICATIONS WITH A 28-DAY COMPRESSIVE STRENGTH OF 3,500 p.s.i. ADMIXTURES SHALL NOT BE USED UNLESS SPECIFICALLY APPROVED BY THE CITY ENGINEER. MAXIMUM SLUMP SHALL NOT EXCEED 4". CONCRETE MAY NOT BE POURED IF A FALLING AIR TEMPERATURE FALLS BELOW 40°F NOR RESUMED UNTIL AN ASCENDING AIR TEMPERATURE RISES ABOVE 35°F WITHOUT SPECIFIC AUTHORITY FROM THE CITY REPRESENTATIVE.
2. ½" WIDE EXPANSION JOINTS SHALL BE REQUIRED AT 75 FT. INTERVALS AND AT ALL STATIONARY STRUCTURES AND ENDS OF CURB RETURNS. EXPANSION JOINTS SHALL BE MADE WITH 1/2 " ASPHALT IMPREGNATED FIBERBOARD CONFORMING TO AASHTO M-213 . ACCEPTABLE MATERIAL MAY BE FOUND ON THE CURRENT ARDOT "QUALIFIED PRODUCTS LIST". EXPANSION JOINT MATERIAL SHALL BE LEFT 1/2" LOWER THAN GRADE OR TRIMMED 1/2" LOWER THAN GRADE.
3. EXPANSION JOINT MATERIAL SHALL BE FULL DEPTH OF THE CURB AND PERPENDICULAR TO THE CURB LINE.
4. FINISH SHALL BE MEDIUM BROOM FINISH.
5. CURING COMPOUND SHALL BE A WHITE PIGMENTED MEMBRANE-FORMING LIQUID CONFORMING TO THE REQUIREMENTS OF ASTM DESIGNATION C309, TYPE 2.
6. CONTRACTION JOINTS SHALL BE 1/8" TO 3/8" X 1 1/2" AT 15 FT. INTERVALS. ALL CONTRACTION JOINTS AND COLD JOINTS SHALL BE FILLED WITH JOINT SEALANT TO FINISHED GRADE. JOINT SEALING COMPOUND FOR CONTRACTION JOINTS SHALL BE SONNEBORN "SONOLASTIC SL1" OR APPROVED EQUAL. CLOSED CELL BACKER ROD SHALL BE USED IN DEEP JOINTS, AS NEEDED, ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
7. GUTTER SHALL MATCH THE CROSS SLOPE OF THE ROAD WITHIN ± 0.5%. GUTTER DRAINING THE OPPOSITE DIRECTION AS THE ROAD WILL NOT BE ACCEPTED.
8. CONTRACTOR SHALL GIVE THE CITY AT LEAST TWENTY-FOUR (24) HOURS ADVANCE NOTICE BEFORE PLACING CONCRETE, AND THE SUBGRADE SHALL BE CHECKED AND APPROVED BY THE CITY REPRESENTATIVE BEFORE ANY CONCRETE IS PLACED.
9. AFTER CURBS HAVE SET SUFFICIENTLY, THEY SHALL BE BACKFILLED WITH APPROVED MATERIAL AND GRADED SO THAT NO PONDING WILL OCCUR. AREAS ON WHICH SIDEWALK OR DRIVEWAYS ARE TO BE CONSTRUCTED SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS MEASURED BY AASHTO T99 OR ASTM D698 (STANDARD PROCTOR).
10. FOR CONCRETE STREETS, IF THE CURB AND GUTTER IS CAST SEPARATELY, 1/2 " DIAMETER DOWEL RODS 30" LONG SHALL BE PROVIDED A MINIMUM OF EVERY 30" ON-CENTER.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: TYPE "A" CURB & GUTTER	DATE: FEBRUARY, 2021
		TITLE: *CURB & GUTTER DETAILS*	SHEET: CG-1

1 C-153 TYPE "A" CURB & GUTTER
SCALE: NONE



SECTION A-A



PLAN VIEW

NOTES:
1. FULL DEPTH EXPANSION JOINTS (SIX INCHES) SHALL BE PROVIDED AT THE BACK OF THE SIDEWALK THROUGH THE DRIVEWAY AND AT THE EDGE OF DRIVEWAY AS SHOWN ABOVE. EXPANSION MATERIAL SHALL BE ASPHALT IMPREGNATED FIBERBOARD OR APPROVED EQUAL. (NO WOOD)
2. CONCRETE TO BE SAW CUT OR PLACE A TOOL JOINT AT THE CENTER OF DRIVE AND SEALED. IF POSSIBLE CONTRACTOR SHALL TRY TO ALIGN THE JOINT AT THE CENTER OF THE DRIVE WITH THE A JOINT IN THE ADJACENT SIDEWALK. JOINTS SHALL BE PLACED SO THAT NO SLAB DIMENSION IS GREATER THAN 15'.
3. CONCRETE FOR DRIVEWAYS SHALL BE CLASS "S" PORTLAND CEMENT CONCRETE IN ACCORDANCE WITH SECTION 802 OR 501, ARDOT STANDARD SPECIFICATIONS WITH A 28-DAY COMPRESSIVE STRENGTH OF 3,500 PSI AND 4% TO 7% AIR ENTRAINED.
4. ALL SIDEWALKS REQUIRE A CONCRETE CURING COMPOUND, SUCH AS SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL
5. ALL DRIVEWAY APRONS SHALL BE CONSTRUCTED WITH A BROOM FINISH. TEXTURED, STAMPED, OR EXPOSED AGGREGATE CONCRETE IS NOT ALLOWED WITHIN STREET RIGHT OF WAY.
6. ALL CURB CUTS FOR DRIVEWAY APPROACHES REQUIRE AN INSPECTION PRIOR TO AND AFTER CONCRETE PLACEMENT.
7. CONCRETE DRIVEWAYS SHALL BE A MINIMUM OF 6 INCHES OF CONCRETE OVER 4 INCHES OF COMPACTED CLASS 7 AGGREGATE BASE COURSE OVER PREPARED SUBGRADE. COMMERCIAL ASPHALT DRIVEWAYS BEYOND THE CONCRETE APRON SHALL BE A MINIMUM OF 3 INCHES OF ASPHALT SURFACE COURSE OVER 6 INCHES OF COMPACTED CLASS 7 AGGREGATE BASE COURSE OVER PREPARED SUBGRADE.
8. DRIVEWAY APRON AND MODIFIED CURB SHALL BE PLACED MONOLITHICALLY.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: STANDARD COMMERCIAL DRIVEWAY WITH GREEN SPACE	DATE: MARCH, 2021
		TITLE: *COMMERCIAL DRIVEWAY DETAIL*	SHEET: DW-2

2 C-153 STANDARD COMMERCIAL DRIVEWAY WITH GREENSPACE
SCALE: NONE

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:56 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS ENGINEERING

STATE OF
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-153

LTFreedle 3/1/2023 4:55:56 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJ_C151_SD.dgn
REVISED DATE:

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:56 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF
LICENSED
PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

EAST JORDAN IRON WORKS, INC.
P.O. BOX 439
EAST JORDAN, MI. 49727
1-800-874-4100
FAX 231-536-4458

DRAWN	DATE
SMH	08/01/06
APPROVED	DATE

MANHOLE COVER (275-24)

PRODUCT NO.
00275026

CATALOG NO.
2750A

REF. LOGO DRAWING
00275026

EST. WT.
COVER: 140 LBS 64kg

OPEN AREA
N/A

MAT'L SPEC.
COVER – GRAY IRON ASTM A48 CL35B

LOAD RATING
HEAVY DUTY

BOTTOM FLANGE VIEW

(2) 7/8" DIA. HANDLING HOLES EQUALLY SPACED

TOP FLANGE VIEW

▼ MACHINED BEARING SURFACE

REVERSIBLE RING SECTION

FRAME: 190 LBS
FRAME: GRAY IRON, ASTM A48 CL35
LOADING RATE: HEAVY DUTY

1
C-154

STORM SEWER COVER

SCALE: NONE

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

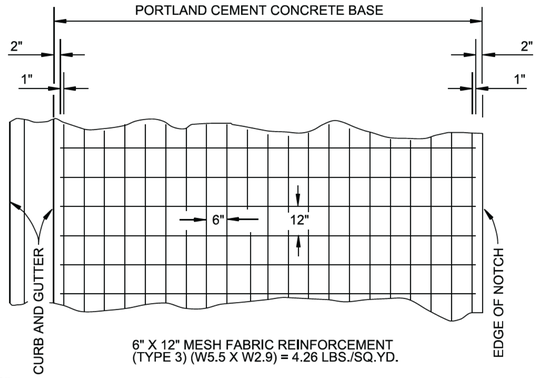
MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-154

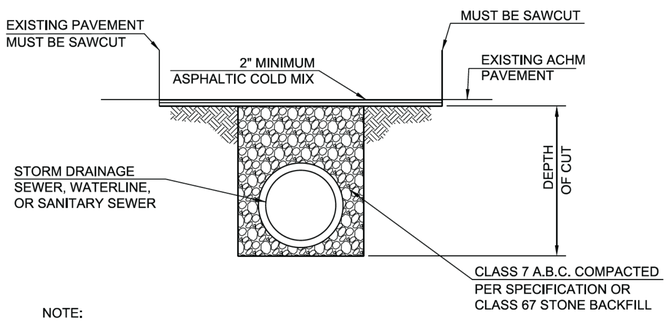
LTFreedle 3/1/2023 4:56:05 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJJ_C151_SD.dgn
REVISED DATE:



NOTES:

1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (6" U.T. OR 7" U.T.).

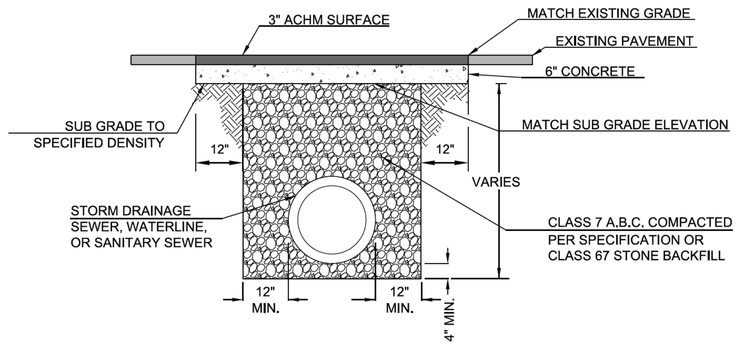
1 / C-155 — **P.C.C. BASE DETAIL**
NO SCALE



NOTE:

1. ASPHALTIC COLD MIX SHALL BE PAID FOR AS SQUARE YARDS OF TEMPORARY PAVEMENT REPAIR PER SECTION I-8 - PAVEMENT REPAIRS OF THE SPECIFICATIONS. PIPE BACKFILL SHALL BE CONSIDERED SUBSIDIARY TO THE PIPE.

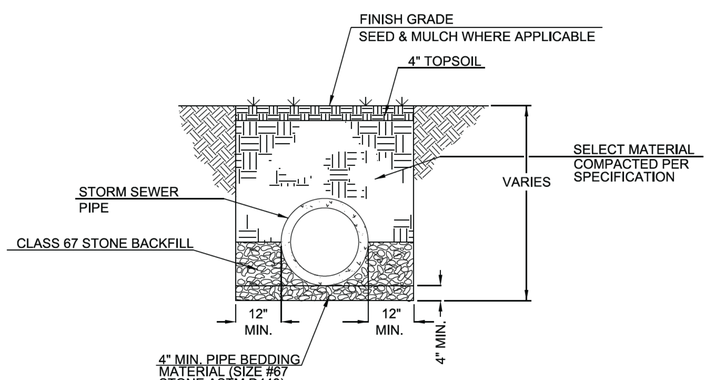
2 / C-155 — **ASPHALT PAVEMENT TEMPORARY REPAIR DETAIL**
NO SCALE



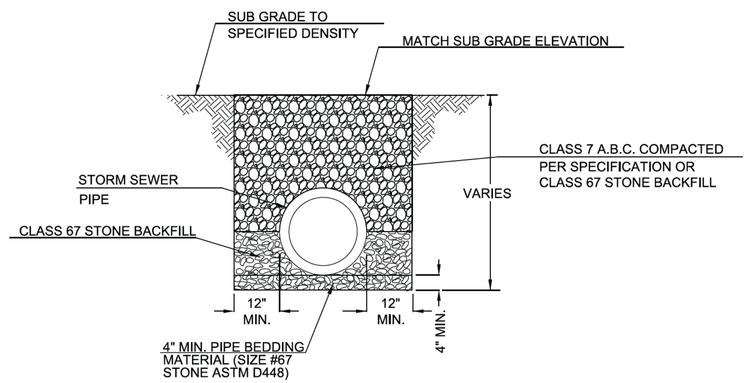
NOTES:

1. ASPHALT SURFACE COURSE AND CONCRETE SHALL BE PAID FOR AS SQUARE YARDS OF "ASPHALT PAVEMENT REPAIR" PER SECTION I-8 - PAVEMENT REPAIRS. PIPE BACKFILL SHALL BE CONSIDERED SUBSIDIARY TO INSTALLATION OF PIPE.

3 / C-155 — **ASPHALT PAVEMENT PERMANENT REPAIR**
NO SCALE



4 / C-155 — **TYPICAL DRAINAGE PIPE TRENCH - NOT UNDER PAVEMENT**
NO SCALE



5 / C-155 — **TYPICAL DRAINAGE PIPE TRENCH - PAVED AREAS**
NO SCALE

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:56 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF — LICENSED PROFESSIONAL ENGINEER — No.20393 — LUKE T. FREEDLE

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

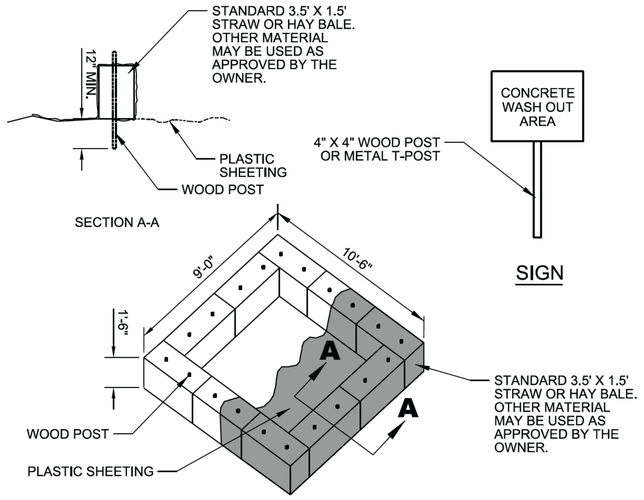
MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-155

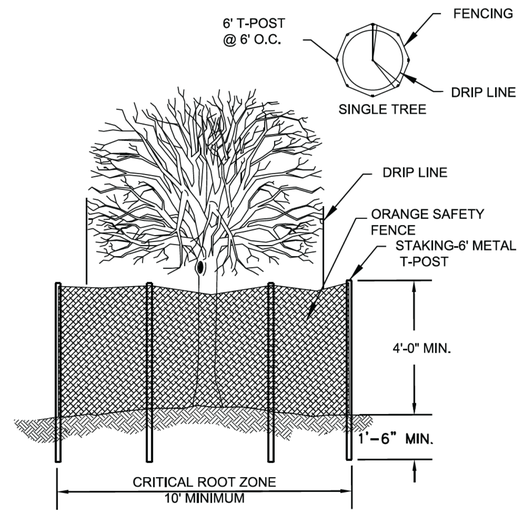
LTFreedle 3/1/2023 4:56:09 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C155_SD.dgn
REVISED DATE:



CONCRETE WASH OUT AREA NOTES:

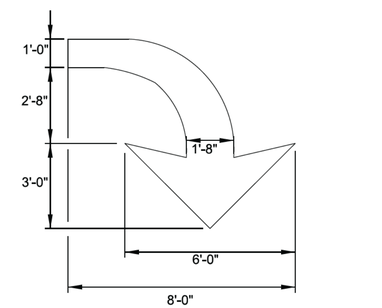
1. PLASTIC SHEETING MUST BE 10 MIL THICK OR TWO 6 MIL PIECES OVERLAPPED.
2. ONCE CONCRETE DRIES, IT CAN BE ROLLED UP IN THE PLASTIC.
3. HAY BALES MUST BE STAKED WITH POSTS HOLDING PLASTIC LINER IN PLACE AND COVERING ALL BALES. WOODEN POSTS MUST BE 3 FEET IN LENGTH.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A WASH OUT AREA.
5. THE CONCRETE TRUCK DRIVER AND CONTRACTOR CAN BE CITED FOR WASH OUTS CONDUCTED IN A NON-DESIGNATED AREA.
6. AFTER THE DESIGNATED AREA FOR THE WASH OUT IS DETERMINED, SIGNAGE INDICATING CONCRETE WASH OUT AREA SHALL BE INSTALLED THAT IS VISIBLE TO EXITING VEHICLES. THE SIGN SHALL BE PLACED ON A WOOD POST AND EMBEDED 12".

1 / C-156 — CONCRETE WASH OUT AREA DETAIL
NO SCALE



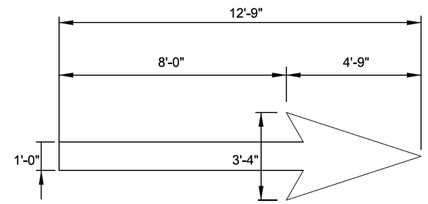
2 / C-156 — TREE PROTECTION FENCING
NO SCALE

1. ALL TREES WITHIN THE PROJECT LIMITS TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING. TREE PROTECTION FENCING SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO EROSION CONTROL.
2. PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
3. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIPLINES.
4. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
5. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.
6. ALL FINISHED PRUNING MUST BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES).



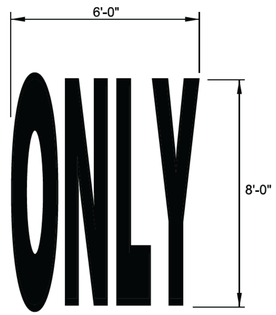
NOTE:
PAVEMENT MARKING TO BE THERMOPLASTIC MATERIAL.

3 / C-156 — TURN LANE USE ARROW
NO SCALE



NOTE:
PAVEMENT MARKING TO BE THERMOPLASTIC MATERIAL.

4 / C-156 — THROUGH LANE USE ARROW
NO SCALE



NOTE:
PAVEMENT MARKING TO BE WHITE THERMOPLASTIC MATERIAL.

5 / C-156 — "ONLY" MARKING DETAIL
NO SCALE

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:56 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEERING

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

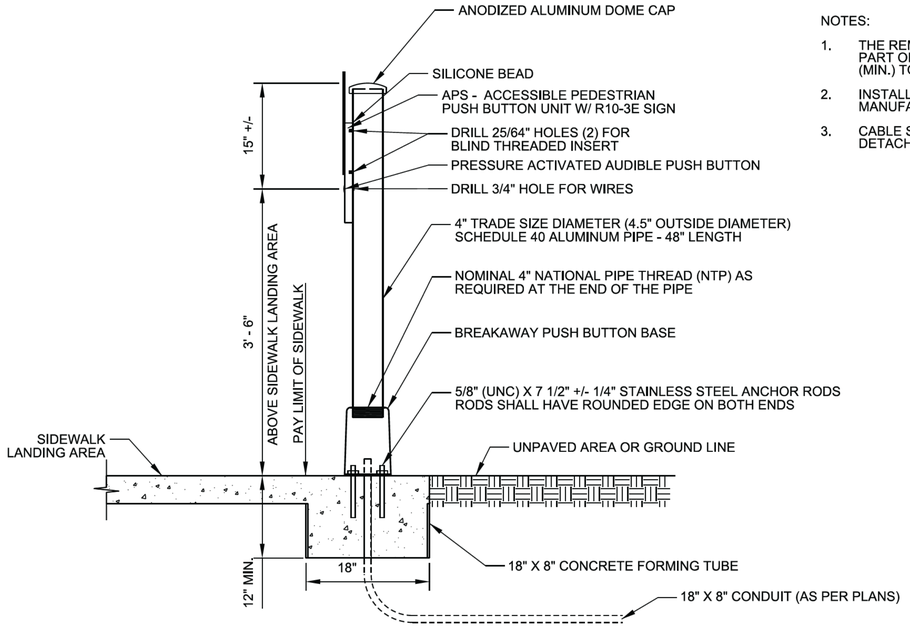
MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

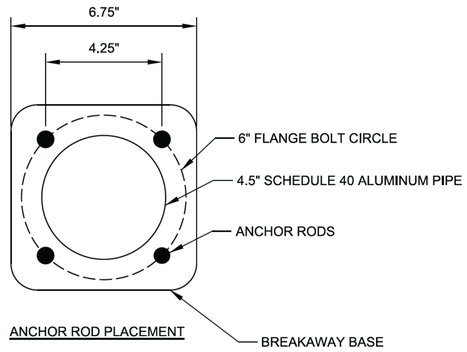
DRAWING NUMBER
C-156

LTFreedle 3/1/2023 4:56:10 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C155_SD.dgn
REVISED DATE:



NOTES:

1. THE REMOTE PUSH BUTTON POST FOUNDATION IS CONSTRUCTED AS PART OF THE SIDEWALK. INCREASE THE SIDEWALK THICKNESS TO 12" (MIN.) TO PROVIDE FOR THE REMOTE PUSH BUTTON POST FOUNDATION.
2. INSTALLATION OF THE REMOTE PUSH BUTTON POST SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
3. CABLE SHALL HAVE A SLIP-FIT CONNECTION IN THE PEDESTAL THAT WILL DETACH IN THE EVENT THE POLE IS STRUCK.



ANCHOR ROD PLACEMENT

1
C-157

SHALLOW FOUNDATION PEDESTRIAN POLE

NO SCALE

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:56 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

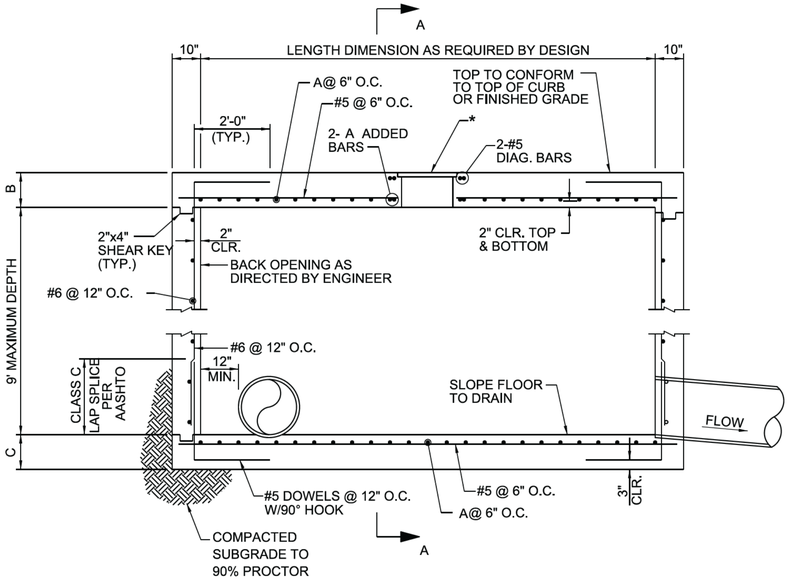
MISCELLANEOUS DETAILS

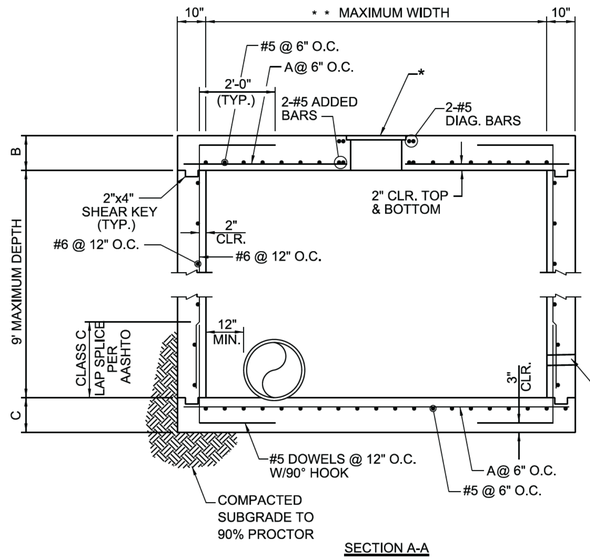
JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-157

LTFreedle 3/1/2023 4:56:10 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJJ_C155_SD.dgn
REVISED DATE:





SECTION A-A

PROVIDE 3" DIAMETER WEEPHOLE IN THE CENTER OF EACH WALL 1' ABOVE FLOW LINE OF INLET. PROVIDE 1 C.F. 1 1/2" CRUSHED STONE IN BURLAP SACK OR B-STONE AT EACH WEEPHOLE.

REINFORCEMENT OR DIMENSION VARIABLE	* * MAXIMUM WIDTH					
	4'	5'	5.5'	6'	9'	12'
A	#5	#5	#6	#6	#7	#8
B	8"	8"	9"	9"	10"	11"
C	9"	9"	10"	10"	11"	12"

NOTE: ALL STRUCTURES ON THIS SHEET ARE DESIGNED AS CAST-IN-PLACE REINFORCED CONCRETE. PRECAST CONCRETE INLET TOPS WILL NOT BE PERMITTED. STEPS SHALL BE INSTALLED IN ALL BOXES GREATER THAN 4' IN DEPTH AND OVER ON 16" O.C. AS DIRECTED BY THE ENGINEER.

* CITY OF BENTONVILLE STANDARD HEAVY DUTY RING AND COVER.

1 / C-158 SPECIAL JUNCTION BOX DETAIL

NO SCALE

APPROVED FOR B CONSTRUCTION
04/15/2024 8:51:57 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF
LICENSED
PROFESSIONAL
ENGINEER
No.20393
LUKE T. FREEDLE

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

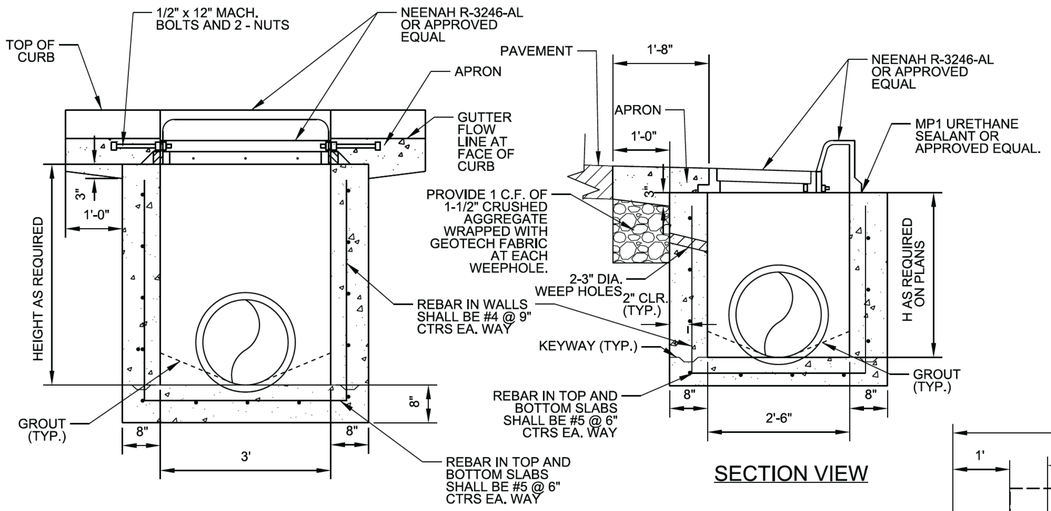
MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

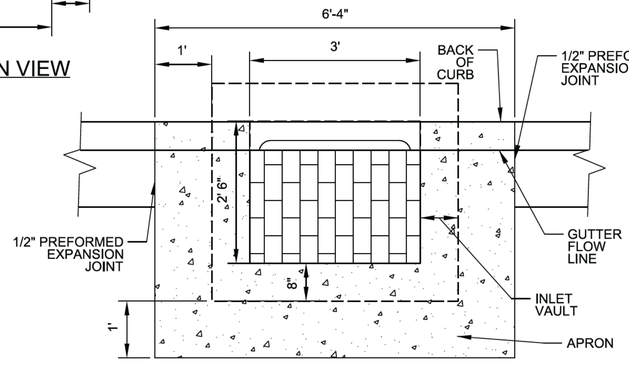
DRAWING NUMBER
C-158

LTFreedle 3/1/2023 4:56:10 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJJ_C155_SD.dgn
REVISED DATE:



FRONT VIEW

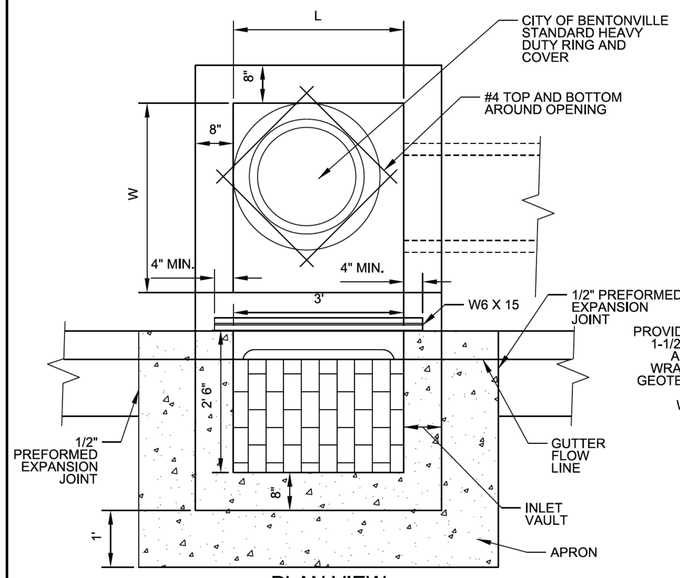
SECTION VIEW



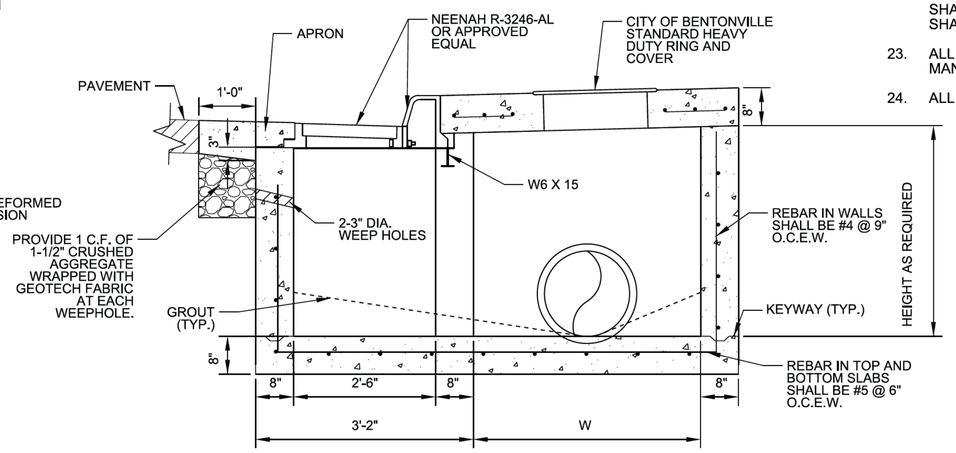
PLAN VIEW

1 C-159 **SINGLE GRATE COMBINATION INLET**

NO SCALE



PLAN VIEW



SECTION VIEW

2 C-159 **SINGLE GRATE COMBINATION INLET WITH JUNCTION BOX**

NO SCALE

COMBINATION INLET NOTES:

1. THE APRON AROUND THE INLET SHALL BE THE SAME SIZE AS SHOWN AND BUILT OF P.C. CONCRETE TO A MINIMUM 8" THICKNESS. COST OF APRON TO BE INCLUDED IN THE PRICE BID FOR INLET.
2. BOLTS WITH EXPANSION DEVICES OR EPOXY TYPE PUTTY TO BE USED TO INSTALL CURB OPENINGS INTO CONCRETE CURB.
3. THE GRATE DESIGN, JUNCTION BOX DIMENSIONS (IF APPLICABLE), AND NUMBER OF ADDITIONAL CURB OPENINGS SHALL BE INDICATED IN THE PLANS.
4. ALL NUTS AND BOLTS REQUIRED FOR THESE STRUCTURES SHALL BE CADMIUM PLATED, GALVANIZED, OR APPROVED EQUAL.
5. CURB OPENING SHALL BE PLACED ON UPSTREAM SIDE OF GRATE INLETS FOR TYPICAL INSTALLATIONS UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER.
6. GUTTER FLOW LINES SHALL REMAIN CONSTANT THROUGH CURB OPENINGS AND INLETS.
7. SINGLE GRATE COMBINATION INLET FRAME, CRATE, AND CURB BOX SHALL BE NEENAH R-3246-AL OR APPROVED EQUAL.
8. DOUBLE GRATE COMBINATION INLET FRAME, GRATE, AND CURB BOX SHALL BE NEENAH R-3293-2 OR APPROVED EQUAL.
9. TRIPLE GRATE COMBINATION INLET FRAME, GRATE, AND CURB BOX SHALL BE NEENAH R-3293-3 OR APPROVED EQUAL.
10. ADDITIONAL CURB OPENINGS SHALL BE NEENAH DF-2445 OR APPROVED EQUAL.
11. COST OF STRUCTURAL STEEL I-BEAMS AND ANGLE IRON TO BE INCLUDED IN THE PRICE BID FOR INLET. ANGLE IRON SHALL CONFORM TO ASTM-A7 OR A36
12. CASTING SHALL CONFORM TO ASTM SPECIFICATION FOR GREY IRON CASTINGS, SERIAL DESIGNATION A-48-CLASS 20.
13. CLASS 7 AGGREGATE BASE COURSE MUST BE USED AS BACKFILL AROUND THE ENTIRE INLET. TYPICAL FOR ALL INLETS.
14. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
15. ALL REINFORCEMENT BARS SHALL BE GRADE 60 AND SHALL HAVE A MINIMUM 2" COVER UNLESS OTHERWISE NOTED.
16. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI.
17. INVERTS SHALL BE POURED MONOLITHICALLY WITH FOOTING.
18. PIPE MAY ENTER BOX FROM ANY ANGLE OR ELEVATION AS DIRECTED BY THE ENGINEER. REINFORCING BARS SHALL BE CUT TO CLEAR PIPE BY 2".
19. EXPANSION JOINTS SHALL HAVE A THICKNESS OF 1/2" AND CONFORM TO AASHTO M213.
20. REFER TO PLAN AND PROFILE SHEETS TO DETERMINE QUANTITY OF ADDITIONAL CURB OPENINGS (IF ANY) AND ACCOMPANYING JUNCTION BOX DIMENSIONS.
21. STEPS ARE REQUIRED IN STORM DRAIN MANHOLES THAT ARE AT 4 FT DEPTH AND GREATER (FROM INVERT TO RIM). CENTERLINE OF MANHOLE LID SHALL BE 2 FT FROM THE WALL WHERE STEPS ARE LOCATED. STEPS (5" X 12") SHALL BE COPOLYMER POLYPROPYLENE PLASTIC WITH STEEL CORE AT 16" APART.
22. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF INLETS, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED FOR THIS WORK SHALL BE APPROVED BY THE ENGINEER.
23. ALL GRATES, FRAMES, AND CURB BOX OPENINGS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
24. ALL GRATES SHALL BE TYPE L UNLESS OTHERWISE SPECIFIED.

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS ENGINEERING

STATE OF

LICENSED PROFESSIONAL ENGINEER No.20393 LUKET FREEDLE

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

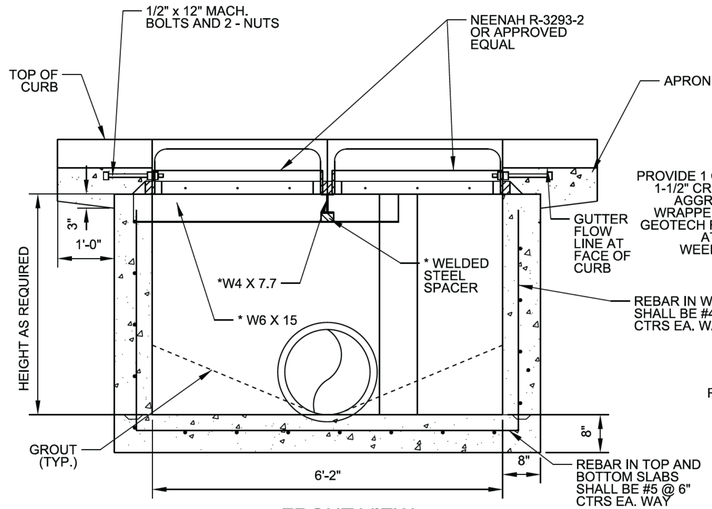
DRAWING NUMBER

C-159

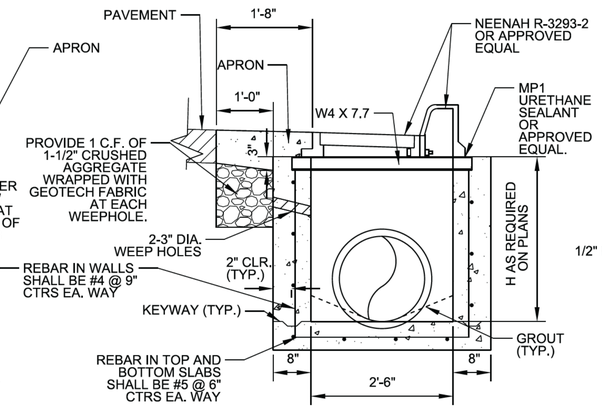
APPROVED FOR CONSTRUCTION

04/15/2024 8:51:57 AM

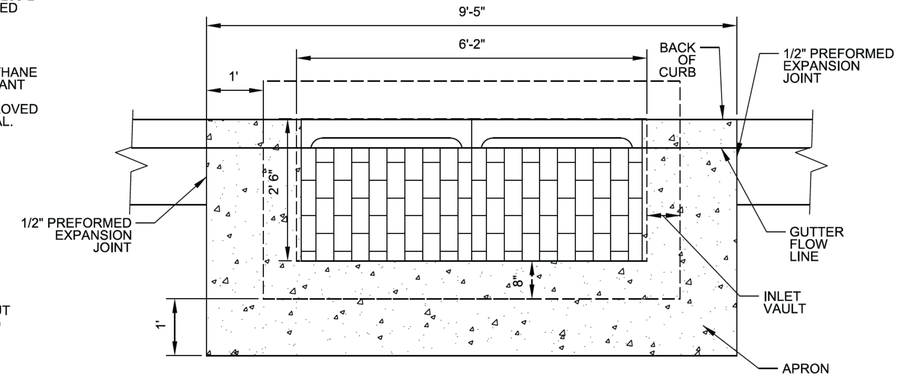
LTFreedle 3/1/2023 4:56:10 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJJ_C155_SD.dgn
REVISED DATE:



FRONT VIEW



SECTION VIEW

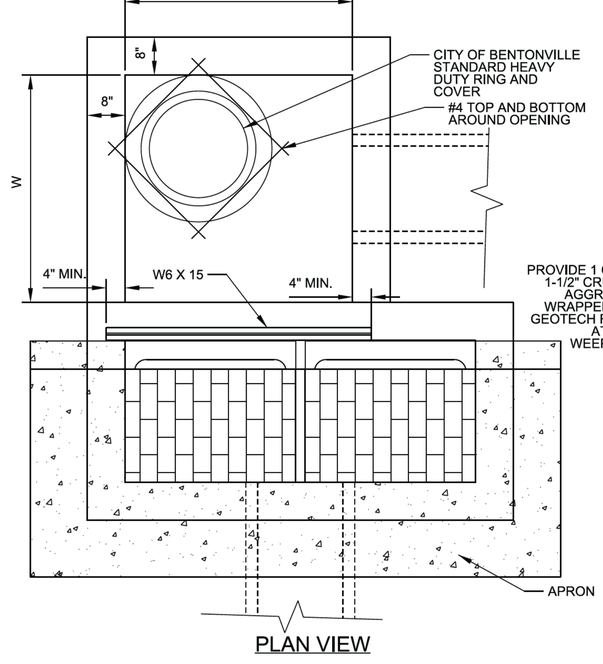


PLAN VIEW

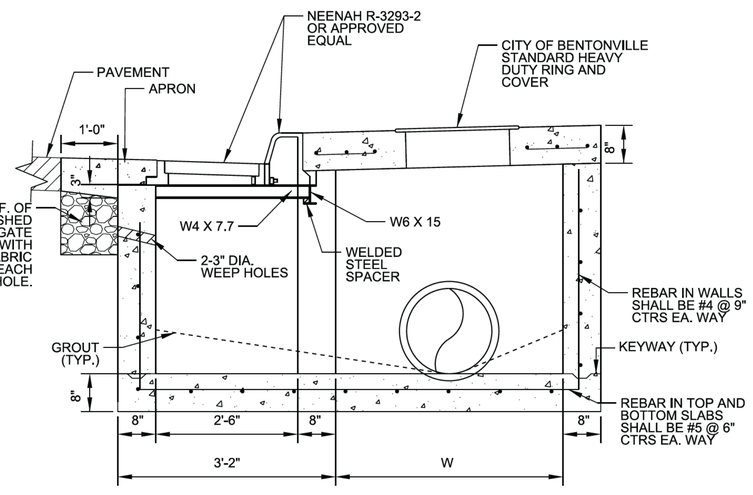
* WELDED STEEL SPACER AND W6 X 15 USED IN CONJUNCTION WITH ADDITION OF JUNCTION BOX PER BEAM SUPPORT DETAIL. (CUT TOP FLANGE OF W4 X7.7 TO FIT AS SHOWN)

1 / C-160 **DOUBLE GRATE COMBINATION INLET**

NO SCALE



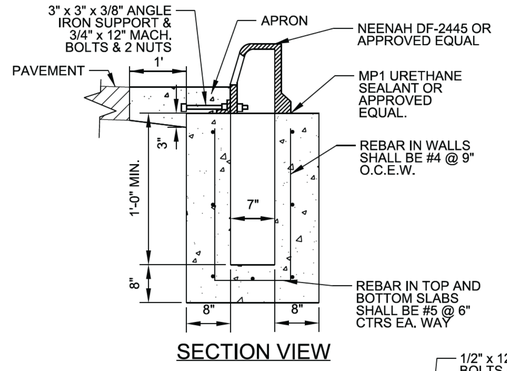
PLAN VIEW



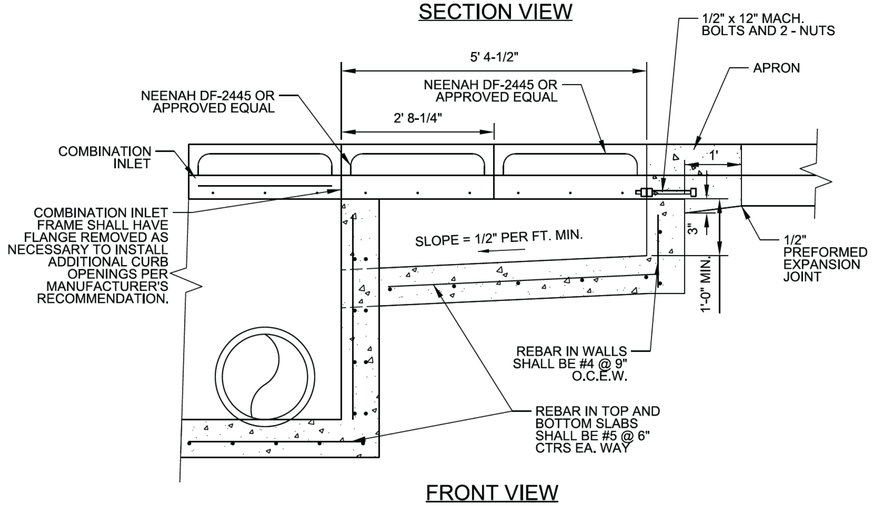
SECTION VIEW

2 / C-160 **DOUBLE GRATE COMBINATION INLET WITH JUNCTION BOX**

NO SCALE



SECTION VIEW



FRONT VIEW

3 / C-160 **ADDITIONAL CURB OPENING(S)**

NO SCALE

APPROVED FOR CONSTRUCTION

04/15/2024 8:51:57 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS ENGINEER

STATE OF

LICENSED PROFESSIONAL ENGINEER No.20393 LUKE T. FREEDLE

Digitally Signed 03/01/2023

BY	DESCRIPTION	DATE	REV.

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

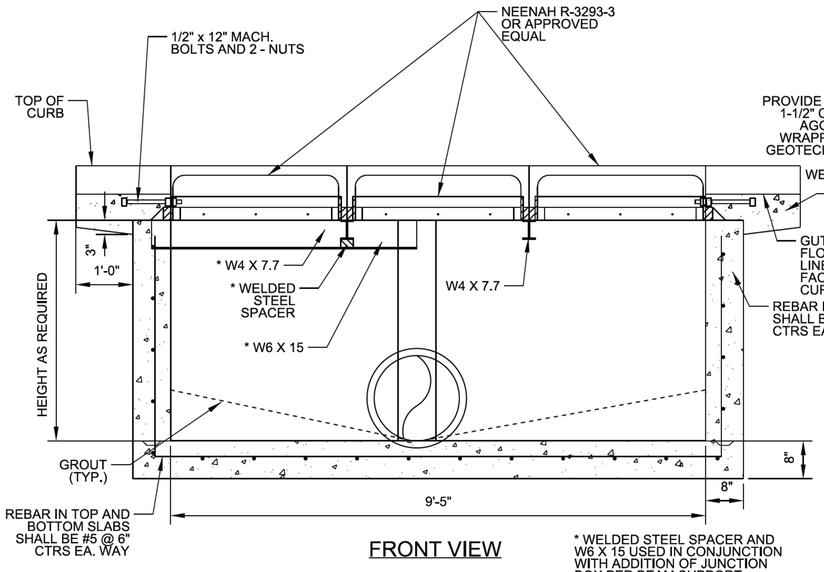
MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

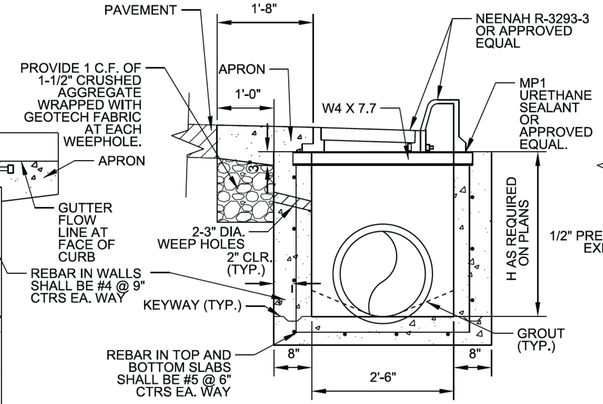
DRAWING NUMBER
C-160

LTFreedle 3/1/2023 4:56:11 PM
\WORKSPACE\Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJ_C155_SD.dgn
REVISED DATE:

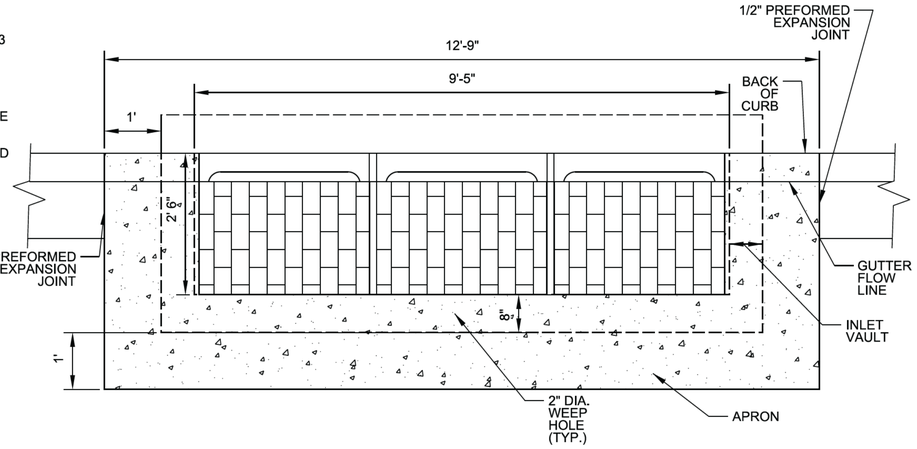


FRONT VIEW

* WELDED STEEL SPACER AND W6 X 15 USED IN CONJUNCTION WITH ADDITION OF JUNCTION BOX PER BEAM SUPPORT DETAIL. (CUT TOP FLANGE OF W4 X7.7 TO FIT AS SHOWN)



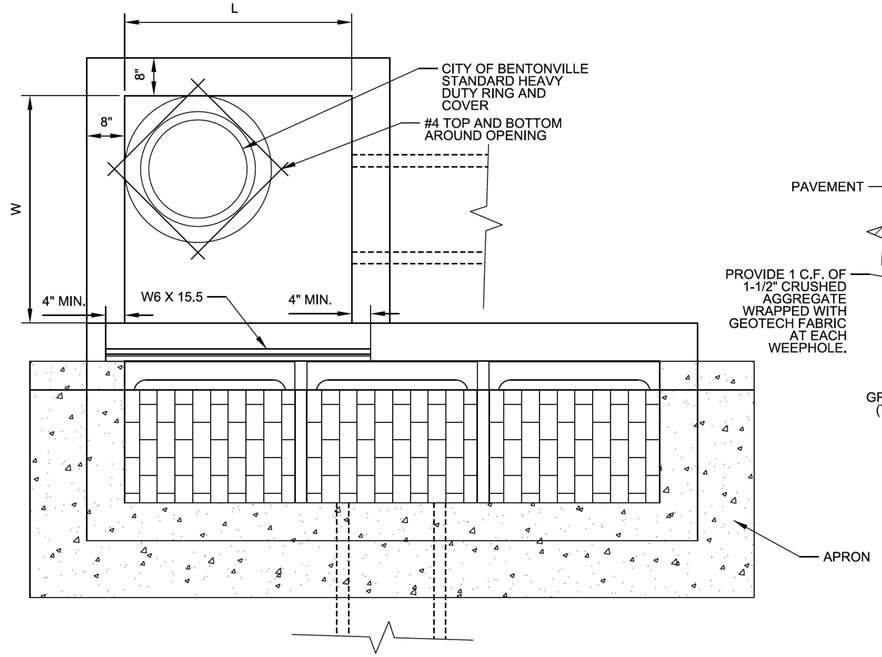
SECTION VIEW



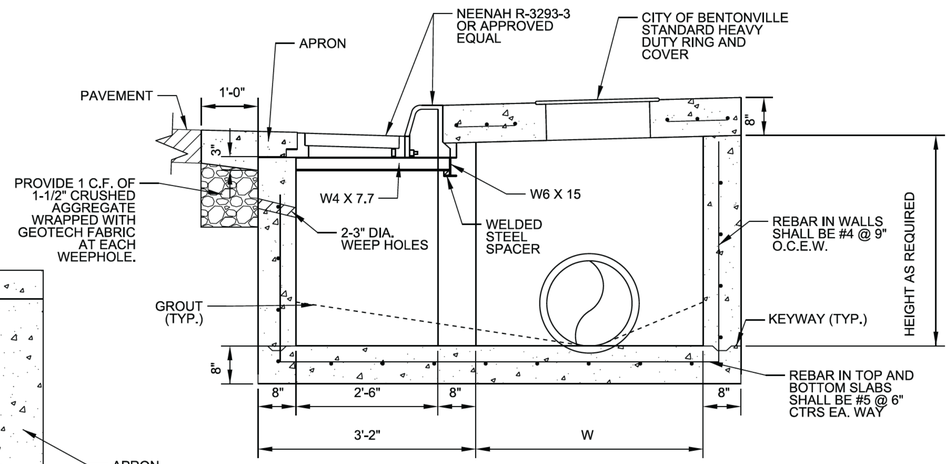
PLAN VIEW

1 / C-161 **TRIPLE GRATE COMBINATION INLET**

NO SCALE



PLAN VIEW



SECTION VIEW

2 / C-161 **TRIPLE GRATE COMBINATION INLET WITH JUNCTION BOX**

NO SCALE

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEERING

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKET FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

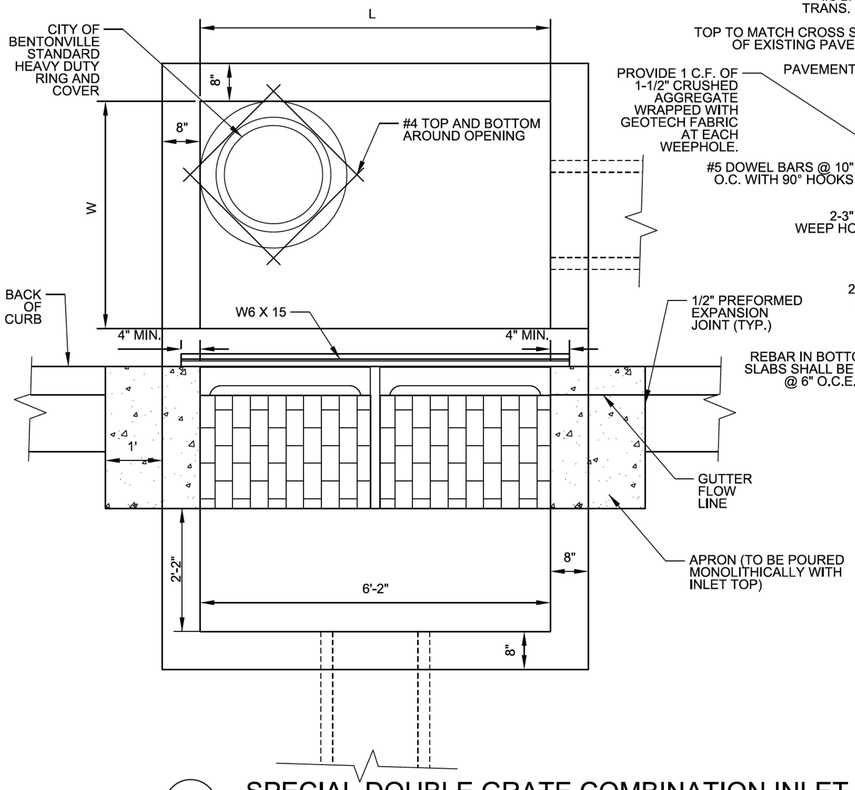
JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

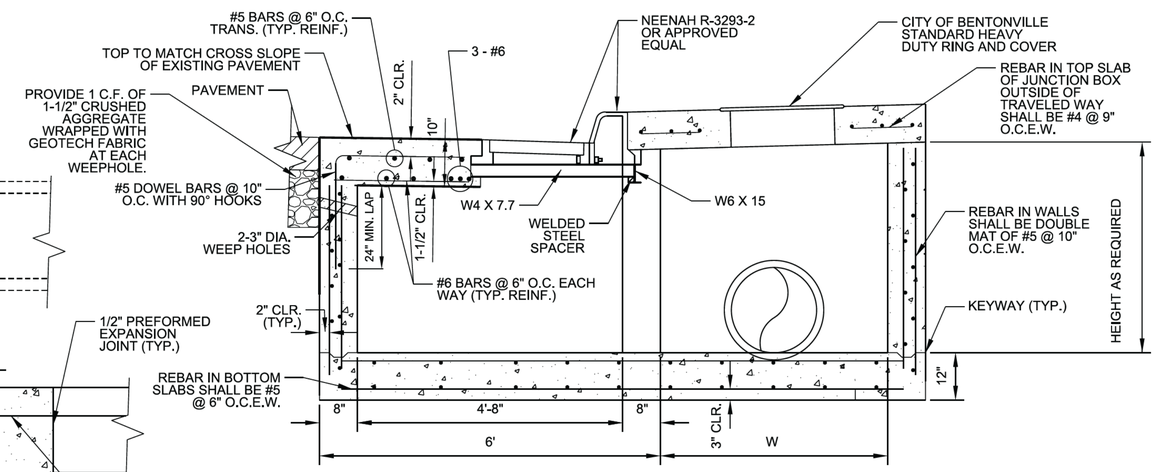
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-161

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:57 AM

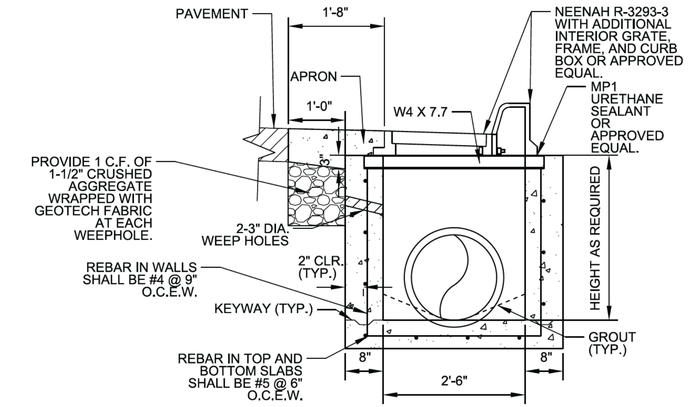
LTFreedle 3/1/2023 4:56:11 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C155_SD.dgn
REVISED DATE:



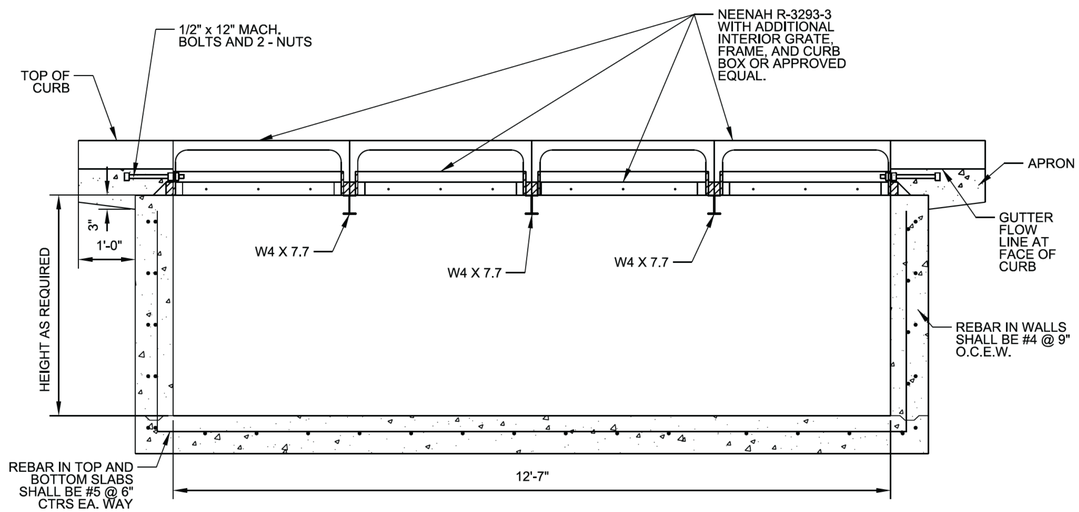


1 / C-162 **SPECIAL DOUBLE GRATE COMBINATION INLET WITH JUNCTION BOX**

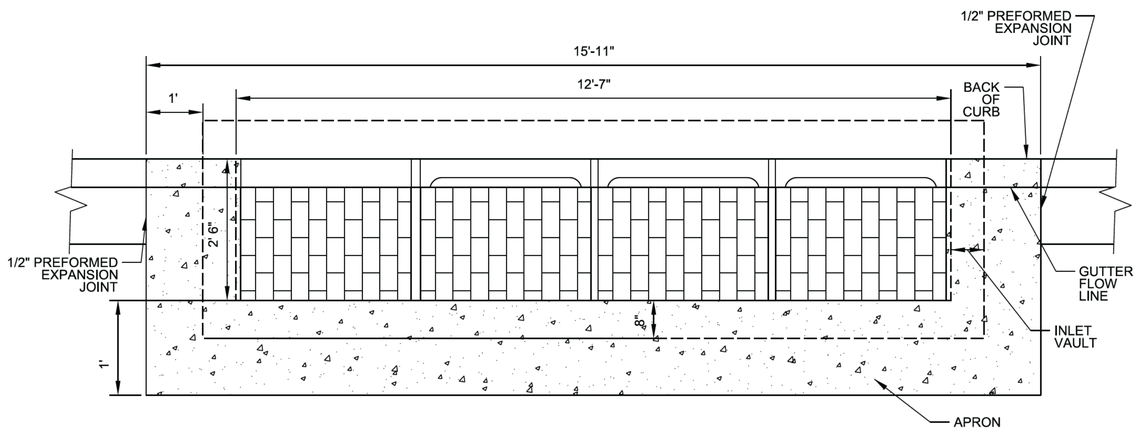
NO SCALE



SECTION VIEW



FRONT VIEW



PLAN VIEW

2 / C-162 **QUADRUPLE GRATE COMBINATION INLET**

NO SCALE

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:57 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKET. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-162

LTFreedle 3/1/2023 4:56:11 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C155_SD.dgn
REVISED DATE:



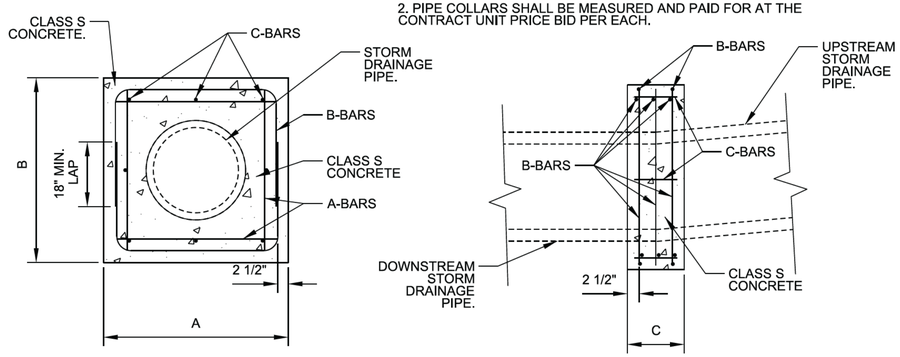
BENDING DIAGRAM FOR B-BARS

TABLE OF DIMENSIONS					
SIZE OF PIPE	DIMENSIONS		LENGTH OF BARS		
DIAMETER (IN.)	A & B (FT. - IN.)	C (FT. - IN.)	A (#5) 12 REQUIRED (FT. - IN.)	B (#6) 4 REQUIRED (FT. - IN.)	C (#4) 8 REQUIRED (FT. - IN.)
18	3-3	1-0	3-0	7-0	0-9
24	3-10	1-0	3-6	8-2	0-9

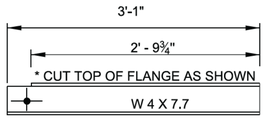
NOTES:

1. CONCRETE PIPE COLLARS SHALL MEET THE REQUIREMENTS OF CLASS S CONCRETE.

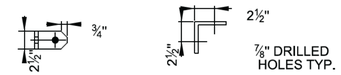
2. PIPE COLLARS SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE BID PER EACH.



1 C-163 **PIPE COLLAR**
NO SCALE



* ONLY WHEN CONNECTING TO W6 X15

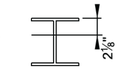


4" x 4" x ⅜" x 2 ½" CONNECTION CLIPS

1 - W 4 x 7.7 AND 2 - 4" x 4" x ⅜" x 2½"
CONNECTION CLIPS FOR ANY DOUBLE GRATE CONFIGURATION

2 - W 4 x 7.7 AND 4 - 4" x 4" x ⅜" x 2½"
CONNECTION CLIPS FOR ANY TRIPLE GRATE CONFIGURATION

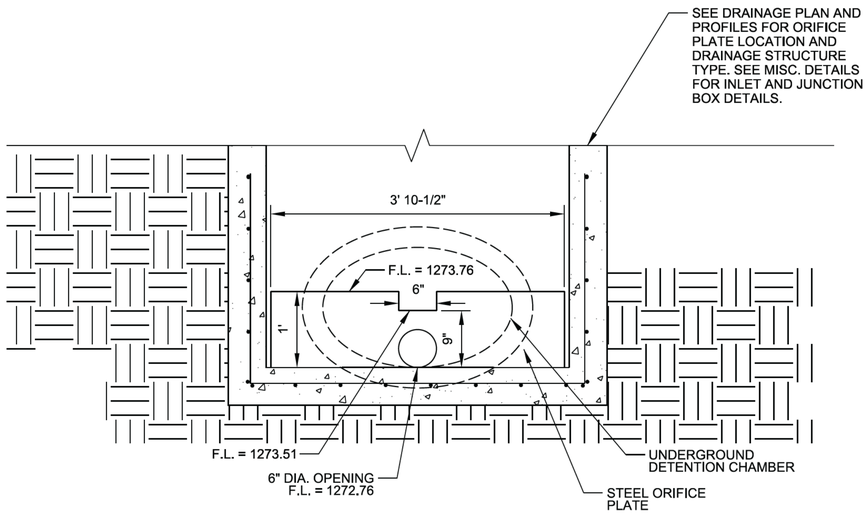
3 - W 4 x 7.7 AND 6 - 4" x 4" x ⅜" x 2½"
CONNECTION CLIPS FOR ANY QUADRUPLE GRATE CONFIGURATION



W6 x 15 x (LENGTH OF JUNCTION BOX PLUS 8") FOR ANY GRATE CONFIGURATION

1. LOWER DRILLED HOLES ⅜" WHEN STRUCTURE IS BUILT ON A CURVED CURB.

2 C-163 **COMBINATION INLET BEAM SUPPORT**
NO SCALE



FRONT VIEW

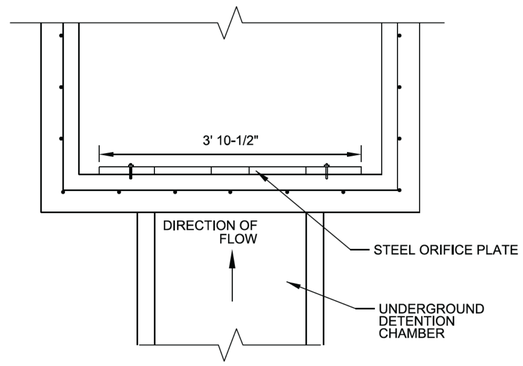
NOTES:

1. STEEL PLATE TO OVERLAP UNDERGROUND DETENTION CHAMBER 6" MIN. ON EITHER SIDE.

2. ANCHOR BOLTS SHALL CONNECT THE STEEL PLATE TO THE OUTLET STRUCTURE AND SHALL HAVE A MAXIMUM VERTICAL SPACING OF 12".

3. STEEL SHALL BE STAINLESS OR GALVANIZED.

4. ORIFICE PLATES SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO THE PRICE BID PER EACH INLET OR JUNCTION BOX.



TOP VIEW

3 C-163 **ORIFICE PLATE DETAIL**
NO SCALE

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:57 AM

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEERING

STATE OF
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-163

LTFreedle 3/1/2023 4:56:12 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJJ_C155_SD.dgn
REVISED DATE:

EROSION CONTROL NOTES

1. THE SYMBOLS SHOWN ON THE EROSION CONTROL PLAN SHEETS REPRESENT EROSION CONTROL DEVICES AS DETAILED IN THE ARDOT STANDARD ROADWAY DRAWINGS. THE SYMBOLS ARE NOT TO SCALE AND REPRESENT THE GENERAL LOCATION TO WHICH THE DEVICES SHALL BE PLACED.
2. EROSION AND SEDIMENT CONTROL FEATURES SHALL BE PLACED PRIOR TO THE EXCAVATION OPERATIONS.
3. EROSION CONTROL MEASURES IN ADDITION TO THOSE SHOWN IN THE PLANS WILL BE REQUIRED AT INTERMEDIATE STAGES AS REQUIRED BY THE CONTRACTOR'S CONSTRUCTION SEQUENCE.
4. ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS. CONTRACTOR MAY CHOOSE TO UTILIZE ALTERNATIVE EROSION CONTROL PRODUCTS SUCH AS SILT FENCE AS APPROVED BY THE ENGINEER.
5. ALL EROSION CONTROL DEVICES SHALL BE INSTALLED AS SHOWN ON ARDOT STANDARD DRAWING TEC-1 ACCORDING TO THE DEVICE DESIGNATION.
6. CONCRETE WASHOUT SHALL BE LOCATED IN THE STAGING AREA IN A LOCATION APPROVED BY THE ENGINEER.
7. POST GRADING SLOPES WILL NOT BE SIGNIFICANTLY STEEPER THAN EXISTING GRADES.
8. AREAS WHERE CONSTRUCTION CEASES FOR MORE THAN 14 DAYS SHALL BE STABILIZED IN ACCORDANCE WITH SWPPP AND SPECIFICATIONS.
9. CONTRACTOR SHALL EMPLOY BEST MANAGEMENT PRACTICES TO PREVENT AND CONTROL DUST IN AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST.
10. IN THE EVENT OF A SPILL WHICH MAY BE HAZARDOUS, ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF AS SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE PRODUCT MANUFACTURER.
11. SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAPS WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
12. PRIOR TO LEAVING THE CONSTRUCTION SITE, STORMWATER RUNOFF MUST PASS THROUGH APPROPRIATE SEDIMENT REMOVAL BEST MANAGEMENT PRACTICE.
13. CONTRACTOR SHALL SCHEDULE AND COMPLETE SWPPP INSPECTION WITH THE CITY OF BENTONVILLE AFTER BMP INSTALLATION AND PRIOR TO SITE DISTURBANCE.

SEQUENCE OF CONSTRUCTION OF EROSION AND SEDIMENT CONTROL FEATURES:

STAGE 1

1. INSTALL FILTER SOCKS.
2. CLEARING/GRUBBING ACTIVITIES.
3. INSTALL DITCH CHECKS.
4. PERFORM EARTHWORK OPERATIONS AND INSTALL DRAINAGE.

STAGE 2

1. INSTALL INLET PROTECTION.
2. CONSTRUCT REMAINDER OF ROADWAY.
3. TEMPORARY SEEDING/SODDING.
4. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL FEATURES AFTER FINAL STABILIZATION.

EROSION CONTROL MEASURES ARE TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

CONSTRUCTION POLLUTION PREVENTION PLAN:

THE TEMPORARY EROSION CONTROL POLICIES SHOWN ON THE PLANS SHOW THE ENGINEERS ESTIMATE OF A MINIMUM EFFORT NEEDED TO MAINTAIN PROPER EROSION CONTROL DURING CONSTRUCTION. SEE THE SPECIFICATIONS FOR FURTHER INFORMATION.

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- FLOW DIRECTION ARROW
- E-3 - FILTER SOCK
- E-6 - ROCK DITCH CHECK
- TREE PROTECTION FENCING
- LIMITS OF SOIL DISTURBANCE
- E-13 - FILTER SOCK DROP INLET PROTECTION
- PROJECT LIMITS
- CW - CONCRETE WASHOUT

ROADWAY SIDE SLOPES
ALL ROADWAYS: VARIES: 33.00% TYPICAL, 33.00% MAXIMUM

PROJECT AREA: 3.22 ACRES
DISTURBED AREA: 0.85 ACRES

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:57 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

EROSION CONTROL NOTES

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-190

LTFreedle 3/1/2023 4:56:13 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJJ_C190_EC.dgn
REVISED DATE:

N

0' 10' 20' 40' 60'

(IN FEET)

APPROVED FOR CONSTRUCTION

04/15/2024 8:51:57 AM

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF
LICENSED
PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE

Digitally Signed 03/01/2023

DISCHARGE POINT

DISCHARGE POINT

10+50 11+00 12+00 13+00 14+00 15+00

POB 10+50.00

SE DODSON ROAD

SE WALTON BOULEVARD

E-13 E-3 TOS SOI TOB

LEGEND

- FLOW DIRECTION ARROW
- E-3 - FILTER SOCK
- E-6 - ROCK DITCH CHECK
- TREE PROTECTION FENCING
- LIMITS OF SOIL DISTURBANCE
- E-13 - FILTER SOCK DROP INLET PROTECTION
- PROJECT LIMITS
- CW - CONCRETE WASHOUT

ROADWAY SIDE SLOPES
ALL ROADWAYS: VARIES: 33.00% TYPICAL, 33.00% MAXIMUM

PROJECT AREA: 3.22 ACRES
DISTURBED AREA: 0.85 ACRES

BY	DESCRIPTION	DATE	REV.

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

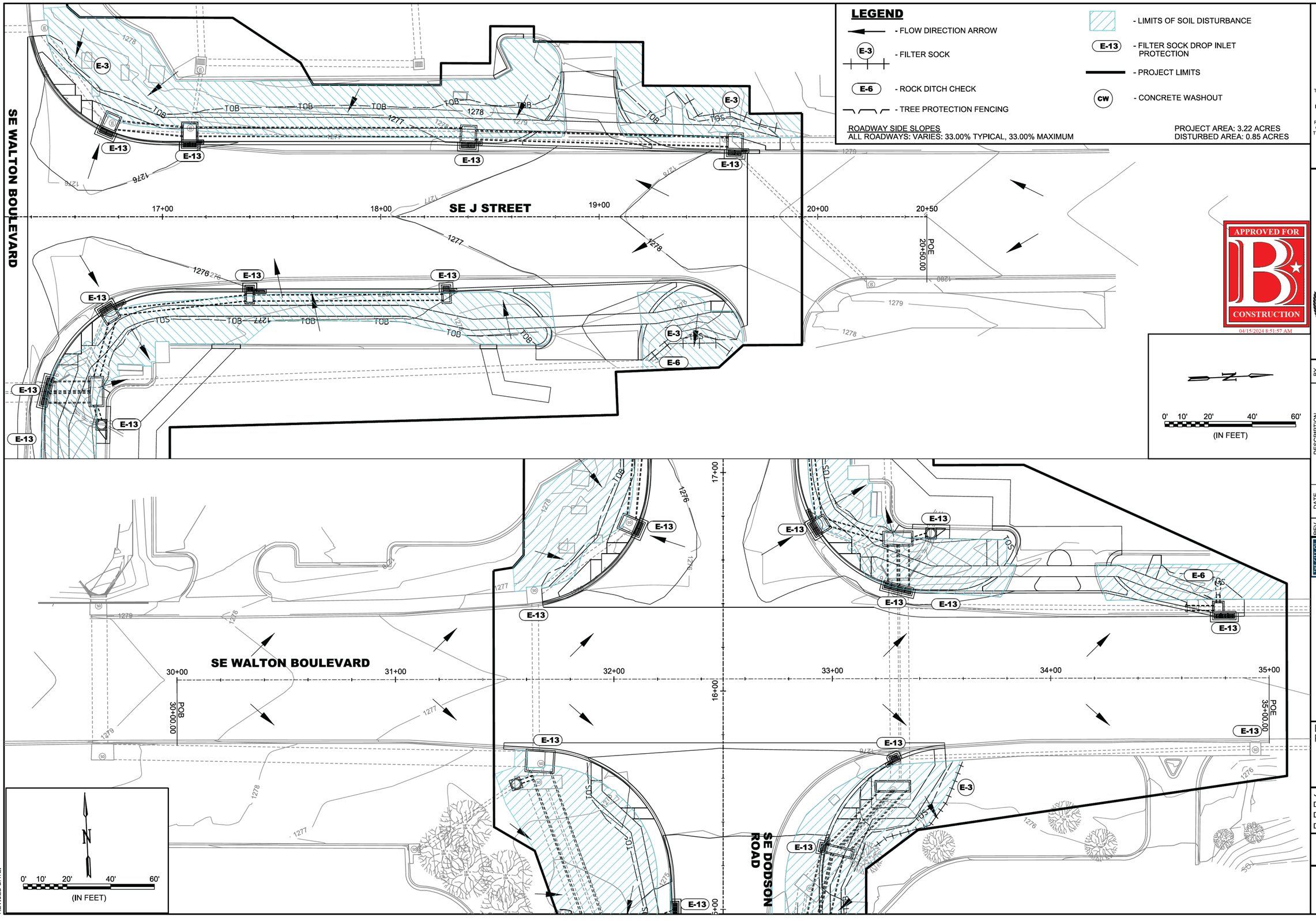
EROSION CONTROL PLAN

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-191

LTFreedle
3/1/2023
4:56:14 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C191_EC.dgn
REVISED DATE:



LEGEND

- FLOW DIRECTION ARROW
- E-3 - FILTER SOCK
- E-6 - ROCK DITCH CHECK
- TREE PROTECTION FENCING
- LIMITS OF SOIL DISTURBANCE
- E-13 - FILTER SOCK DROP INLET PROTECTION
- PROJECT LIMITS
- CW - CONCRETE WASHOUT

ROADWAY SIDE SLOPES
ALL ROADWAYS: VARIES: 33.00% TYPICAL, 33.00% MAXIMUM

PROJECT AREA: 3.22 ACRES
DISTURBED AREA: 0.85 ACRES

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER
GARVER LLC No. 766

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:57 AM

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

EROSION CONTROL PLAN

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-192

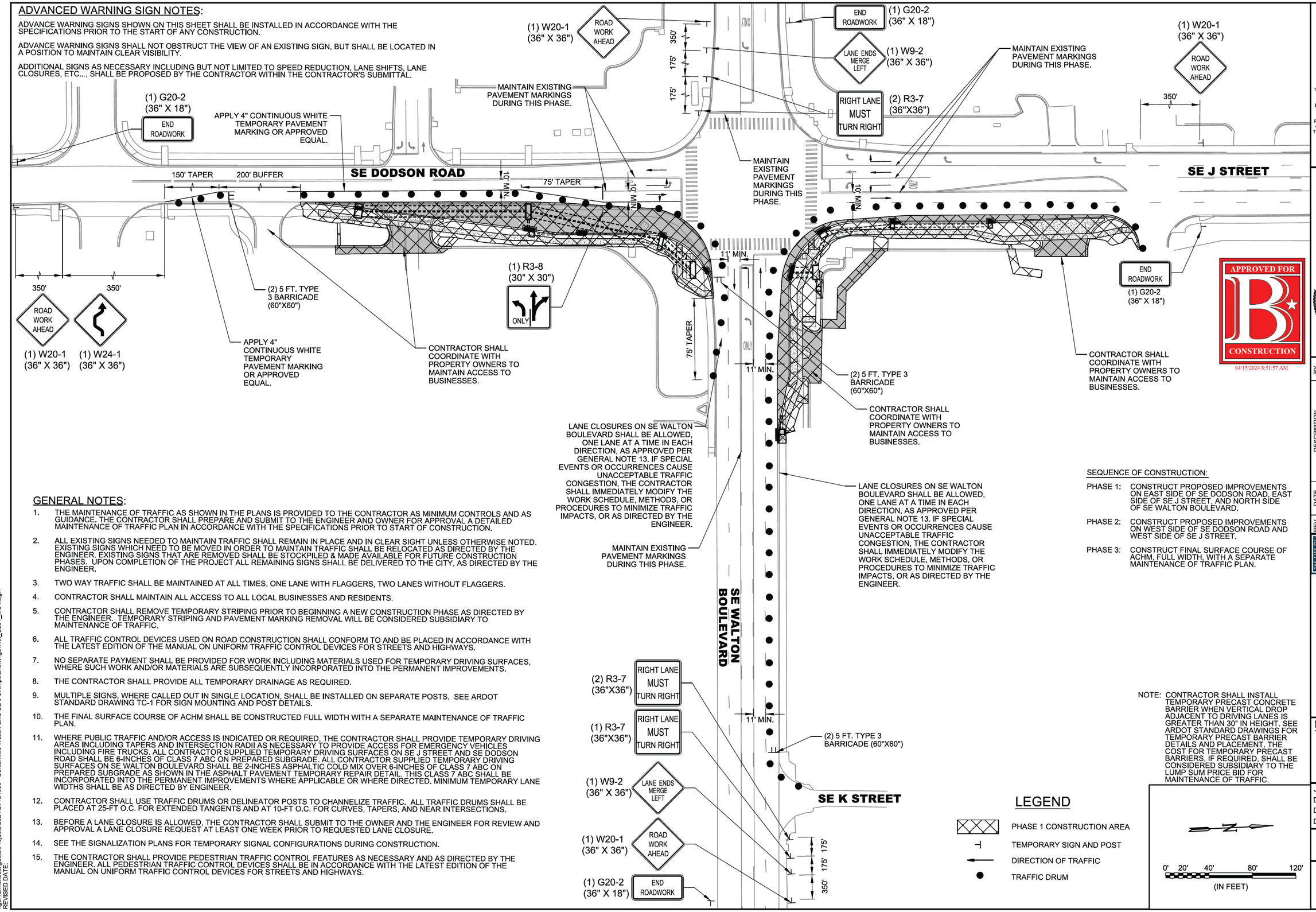
LTFreedle 3/1/2023 4:56:16 PM
\\WORKSPACE\Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C192_EC.dgn
REVISED DATE:

ADVANCED WARNING SIGN NOTES:

ADVANCE WARNING SIGNS SHOWN ON THIS SHEET SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO THE START OF ANY CONSTRUCTION.

ADVANCE WARNING SIGNS SHALL NOT OBSTRUCT THE VIEW OF AN EXISTING SIGN, BUT SHALL BE LOCATED IN A POSITION TO MAINTAIN CLEAR VISIBILITY.

ADDITIONAL SIGNS AS NECESSARY INCLUDING BUT NOT LIMITED TO SPEED REDUCTION, LANE SHIFTS, LANE CLOSURES, ETC..., SHALL BE PROPOSED BY THE CONTRACTOR WITHIN THE CONTRACTOR'S SUBMITTAL.



GENERAL NOTES:

1. THE MAINTENANCE OF TRAFFIC AS SHOWN IN THE PLANS IS PROVIDED TO THE CONTRACTOR AS MINIMUM CONTROLS AND AS GUIDANCE. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER AND OWNER FOR APPROVAL A DETAILED MAINTENANCE OF TRAFFIC PLAN IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO START OF CONSTRUCTION.
2. ALL EXISTING SIGNS NEEDED TO MAINTAIN TRAFFIC SHALL REMAIN IN PLACE AND IN CLEAR SIGHT UNLESS OTHERWISE NOTED. EXISTING SIGNS WHICH NEED TO BE MOVED IN ORDER TO MAINTAIN TRAFFIC SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXISTING SIGNS THAT ARE REMOVED SHALL BE STOCKPILED & MADE AVAILABLE FOR FUTURE CONSTRUCTION PHASES. UPON COMPLETION OF THE PROJECT ALL REMAINING SIGNS SHALL BE DELIVERED TO THE CITY, AS DIRECTED BY THE ENGINEER.
3. TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, ONE LANE WITH FLAGGERS, TWO LANES WITHOUT FLAGGERS.
4. CONTRACTOR SHALL MAINTAIN ALL ACCESS TO ALL LOCAL BUSINESSES AND RESIDENTS.
5. CONTRACTOR SHALL REMOVE TEMPORARY STRIPING PRIOR TO BEGINNING A NEW CONSTRUCTION PHASE AS DIRECTED BY THE ENGINEER. TEMPORARY STRIPING AND PAVEMENT MARKING REMOVAL WILL BE CONSIDERED SUBSIDIARY TO MAINTENANCE OF TRAFFIC.
6. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO AND BE PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
7. NO SEPARATE PAYMENT SHALL BE PROVIDED FOR WORK INCLUDING MATERIALS USED FOR TEMPORARY DRIVING SURFACES, WHERE SUCH WORK AND/OR MATERIALS ARE SUBSEQUENTLY INCORPORATED INTO THE PERMANENT IMPROVEMENTS.
8. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DRAINAGE AS REQUIRED.
9. MULTIPLE SIGNS, WHERE CALLED OUT IN SINGLE LOCATION, SHALL BE INSTALLED ON SEPARATE POSTS. SEE ARDOT STANDARD DRAWING TC-1 FOR SIGN MOUNTING AND POST DETAILS.
10. THE FINAL SURFACE COURSE OF ACHM SHALL BE CONSTRUCTED FULL WIDTH WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.
11. WHERE PUBLIC TRAFFIC AND/OR ACCESS IS INDICATED OR REQUIRED, THE CONTRACTOR SHALL PROVIDE TEMPORARY DRIVING AREAS INCLUDING TAPERS AND INTERSECTION RADII AS NECESSARY TO PROVIDE ACCESS FOR EMERGENCY VEHICLES INCLUDING FIRE TRUCKS. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON SE J STREET AND SE DODSON ROAD SHALL BE 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON SE WALTON BOULEVARD SHALL BE 2-INCHES ASPHALTIC COLD MIX OVER 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE AS SHOWN IN THE ASPHALT PAVEMENT TEMPORARY REPAIR DETAIL. THIS CLASS 7 ABC SHALL BE INCORPORATED INTO THE PERMANENT IMPROVEMENTS WHERE APPLICABLE OR WHERE DIRECTED. MINIMUM TEMPORARY LANE WIDTHS SHALL BE AS DIRECTED BY ENGINEER.
12. CONTRACTOR SHALL USE TRAFFIC DRUMS OR DELINEATOR POSTS TO CHANNELIZE TRAFFIC. ALL TRAFFIC DRUMS SHALL BE PLACED AT 25-FT O.C. FOR EXTENDED TANGENTS AND AT 10-FT O.C. FOR CURVES, TAPERS, AND NEAR INTERSECTIONS.
13. BEFORE A LANE CLOSURE IS ALLOWED, THE CONTRACTOR SHALL SUBMIT TO THE OWNER AND THE ENGINEER FOR REVIEW AND APPROVAL A LANE CLOSURE REQUEST AT LEAST ONE WEEK PRIOR TO REQUESTED LANE CLOSURE.
14. SEE THE SIGNALIZATION PLANS FOR TEMPORARY SIGNAL CONFIGURATIONS DURING CONSTRUCTION.
15. THE CONTRACTOR SHALL PROVIDE PEDESTRIAN TRAFFIC CONTROL FEATURES AS NECESSARY AND AS DIRECTED BY THE ENGINEER. ALL PEDESTRIAN TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

SEQUENCE OF CONSTRUCTION:

PHASE 1: CONSTRUCT PROPOSED IMPROVEMENTS ON EAST SIDE OF SE DODSON ROAD, EAST SIDE OF SE J STREET, AND NORTH SIDE OF SE WALTON BOULEVARD.

PHASE 2: CONSTRUCT PROPOSED IMPROVEMENTS ON WEST SIDE OF SE DODSON ROAD AND WEST SIDE OF SE J STREET.

PHASE 3: CONSTRUCT FINAL SURFACE COURSE OF ACHM, FULL WIDTH, WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.

NOTE: CONTRACTOR SHALL INSTALL TEMPORARY PRECAST CONCRETE BARRIER WHEN VERTICAL DROP ADJACENT TO DRIVING LANES IS GREATER THAN 30" IN HEIGHT. SEE ARDOT STANDARD DRAWINGS FOR TEMPORARY PRECAST BARRIER DETAILS AND PLACEMENT. THE COST FOR TEMPORARY PRECAST BARRIERS, IF REQUIRED, SHALL BE CONSIDERED SUBSIDIARY TO THE LUMP SUM PRICE BID FOR MAINTENANCE OF TRAFFIC.

LEGEND

- PHASE 1 CONSTRUCTION AREA
- TEMPORARY SIGN AND POST
- DIRECTION OF TRAFFIC
- TRAFFIC DRUM

0' 20' 40' 80' 120'
(IN FEET)

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF
LICENSED
PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:57 AM

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MAINTENANCE OF TRAFFIC PLAN PHASE 1

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: LTF
DRAWN BY: TSA

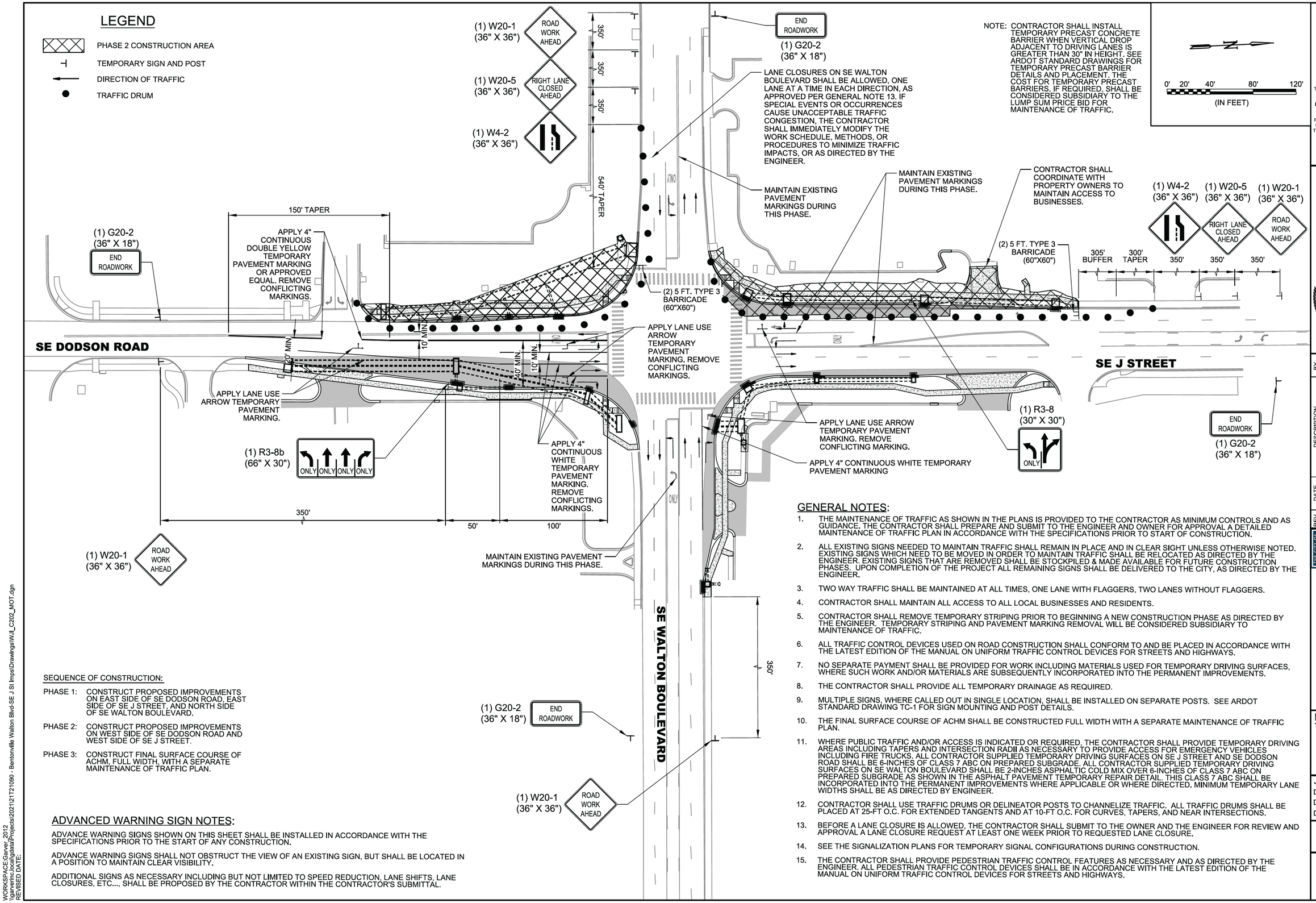
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-201

LTFreedle 3/1/2023 4:56:17 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C201_MOT.dgn
REVISED DATE:

LEGEND

- PHASE 2 CONSTRUCTION AREA
- TEMPORARY SIGN AND POST
- DIRECTION OF TRAFFIC
- TRAFFIC DRUM



NOTE: CONTRACTOR SHALL INSTALL TEMPORARY PRECAST CONCRETE BARRIER WHEN VERTICAL DROP ADJACENT TO DRIVING LANES IS GREATER THAN 30" IN HEIGHT. SEE ARDOT STANDARD DRAWINGS FOR TEMPORARY PRECAST BARRIER DETAILS AND PLACEMENT. THE COST FOR TEMPORARY PRECAST BARRIERS, IF REQUIRED, SHALL BE CONSIDERED SUBSIDIARY TO THE LUMP SUM PRICE BID FOR MAINTENANCE OF TRAFFIC.

SEQUENCE OF CONSTRUCTION:

PHASE 1: CONSTRUCT PROPOSED IMPROVEMENTS ON EAST SIDE OF SE DODSON ROAD, EAST SIDE OF SE J STREET, AND NORTH SIDE OF SE WALTON BOULEVARD.

PHASE 2: CONSTRUCT PROPOSED IMPROVEMENTS ON WEST SIDE OF SE DODSON ROAD AND WEST SIDE OF SE J STREET.

PHASE 3: CONSTRUCT FINAL SURFACE COURSE OF ACHM, FULL WIDTH, WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.

ADVANCED WARNING SIGN NOTES:

ADVANCE WARNING SIGNS SHOWN ON THIS SHEET SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO THE START OF ANY CONSTRUCTION.

ADVANCE WARNING SIGNS SHALL NOT OBSTRUCT THE VIEW OF AN EXISTING SIGN, BUT SHALL BE LOCATED IN A POSITION TO MAINTAIN CLEAR VISIBILITY.

ADDITIONAL SIGNS AS NECESSARY INCLUDING BUT NOT LIMITED TO SPEED REDUCTION, LANE SHIFTS, LANE CLOSURES, ETC..., SHALL BE PROPOSED BY THE CONTRACTOR WITHIN THE CONTRACTOR'S SUBMITTAL.

GENERAL NOTES:

1. THE MAINTENANCE OF TRAFFIC AS SHOWN IN THE PLANS IS PROVIDED TO THE CONTRACTOR AS MINIMUM CONTROLS AND AS GUIDANCE. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER AND OWNER FOR APPROVAL A DETAILED MAINTENANCE OF TRAFFIC PLAN IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO START OF CONSTRUCTION.
2. ALL EXISTING SIGNS NEEDED TO MAINTAIN TRAFFIC SHALL REMAIN IN PLACE AND IN CLEAR SIGHT UNLESS OTHERWISE NOTED. EXISTING SIGNS WHICH NEED TO BE MOVED IN ORDER TO MAINTAIN TRAFFIC SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXISTING SIGNS THAT ARE REMOVED SHALL BE STOCKPILED & MADE AVAILABLE FOR FUTURE CONSTRUCTION PHASES. UPON COMPLETION OF THE PROJECT ALL REMAINING SIGNS SHALL BE DELIVERED TO THE CITY, AS DIRECTED BY THE ENGINEER.
3. TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, ONE LANE WITH FLAGGERS, TWO LANES WITHOUT FLAGGERS.
4. CONTRACTOR SHALL MAINTAIN ALL ACCESS TO ALL LOCAL BUSINESSES AND RESIDENTS.
5. CONTRACTOR SHALL REMOVE TEMPORARY STRIPING PRIOR TO BEGINNING A NEW CONSTRUCTION PHASE AS DIRECTED BY THE ENGINEER. TEMPORARY STRIPING AND PAVEMENT MARKING REMOVAL WILL BE CONSIDERED SUBSIDIARY TO MAINTENANCE OF TRAFFIC.
6. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO AND BE PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
7. NO SEPARATE PAYMENT SHALL BE PROVIDED FOR WORK INCLUDING MATERIALS USED FOR TEMPORARY DRIVING SURFACES, WHERE SUCH WORK AND/OR MATERIALS ARE SUBSEQUENTLY INCORPORATED INTO THE PERMANENT IMPROVEMENTS.
8. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DRAINAGE AS REQUIRED.
9. MULTIPLE SIGNS, WHERE CALLED OUT IN SINGLE LOCATION, SHALL BE INSTALLED ON SEPARATE POSTS. SEE ARDOT STANDARD DRAWING TC-1 FOR SIGN MOUNTING AND POST DETAILS.
10. THE FINAL SURFACE COURSE OF ACHM SHALL BE CONSTRUCTED FULL WIDTH WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.
11. WHERE PUBLIC TRAFFIC AND/OR ACCESS IS INDICATED OR REQUIRED, THE CONTRACTOR SHALL PROVIDE TEMPORARY DRIVING AREAS INCLUDING TAPERS AND INTERSECTION RADII AS NECESSARY TO PROVIDE ACCESS FOR EMERGENCY VEHICLES INCLUDING FIRE TRUCKS. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON SE J STREET AND SE DODSON ROAD SHALL BE 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON SE WALTON BOULEVARD SHALL BE 2-INCHES ASPHALTIC COLD MIX OVER 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE AS SHOWN IN THE ASPHALT PAVEMENT TEMPORARY REPAIR DETAIL. THIS CLASS 7 ABC SHALL BE INCORPORATED INTO THE PERMANENT IMPROVEMENTS WHERE APPLICABLE OR WHERE DIRECTED. MINIMUM TEMPORARY LANE WIDTHS SHALL BE AS DIRECTED BY ENGINEER.
12. CONTRACTOR SHALL USE TRAFFIC DRUMS OR DELINEATOR POSTS TO CHANNELIZE TRAFFIC. ALL TRAFFIC DRUMS SHALL BE PLACED AT 25-FT O.C. FOR EXTENDED TANGENTS AND AT 10-FT O.C. FOR CURVES, TAPERS, AND NEAR INTERSECTIONS.
13. BEFORE A LANE CLOSURE IS ALLOWED, THE CONTRACTOR SHALL SUBMIT TO THE OWNER AND THE ENGINEER FOR REVIEW AND APPROVAL A LANE CLOSURE REQUEST AT LEAST ONE WEEK PRIOR TO REQUESTED LANE CLOSURE.
14. SEE THE SIGNALIZATION PLANS FOR TEMPORARY SIGNAL CONFIGURATIONS DURING CONSTRUCTION.
15. THE CONTRACTOR SHALL PROVIDE PEDESTRIAN TRAFFIC CONTROL FEATURES AS NECESSARY AND AS DIRECTED BY THE ENGINEER. ALL PEDESTRIAN TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS ENGINEER

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.20393 LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

APPROVED FOR CONSTRUCTION
3/15/2023 4:56:19 PM

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MAINTENANCE OF TRAFFIC PLAN PHASE 2

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-202

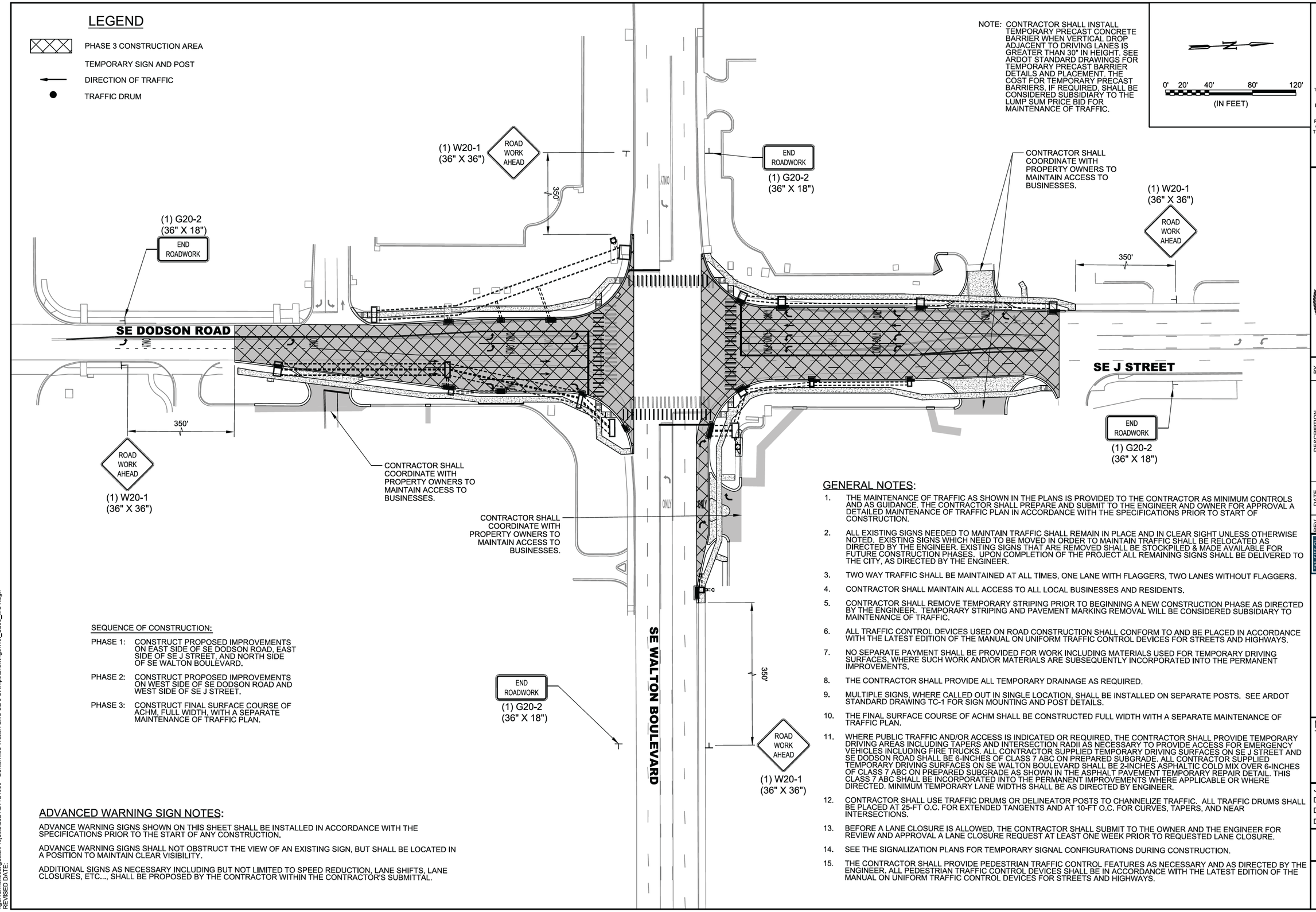
LTFreedle 3/1/2023 4:56:19 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C202_MOT.dgn
REVISED DATE:

LEGEND

- PHASE 3 CONSTRUCTION AREA
- TEMPORARY SIGN AND POST
- DIRECTION OF TRAFFIC
- TRAFFIC DRUM

NOTE: CONTRACTOR SHALL INSTALL TEMPORARY PRECAST CONCRETE BARRIER WHEN VERTICAL DROP ADJACENT TO DRIVING LANES IS GREATER THAN 30" IN HEIGHT. SEE ARDOT STANDARD DRAWINGS FOR TEMPORARY PRECAST BARRIER DETAILS AND PLACEMENT. THE COST FOR TEMPORARY PRECAST BARRIERS, IF REQUIRED, SHALL BE CONSIDERED SUBSIDIARY TO THE LUMP SUM PRICE BID FOR MAINTENANCE OF TRAFFIC.

0' 20' 40' 80' 120'
(IN FEET)



SEQUENCE OF CONSTRUCTION:

PHASE 1: CONSTRUCT PROPOSED IMPROVEMENTS ON EAST SIDE OF SE DODSON ROAD, EAST SIDE OF SE J STREET, AND NORTH SIDE OF SE WALTON BOULEVARD.

PHASE 2: CONSTRUCT PROPOSED IMPROVEMENTS ON WEST SIDE OF SE DODSON ROAD AND WEST SIDE OF SE J STREET.

PHASE 3: CONSTRUCT FINAL SURFACE COURSE OF ACHM, FULL WIDTH, WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.

ADVANCED WARNING SIGN NOTES:

ADVANCE WARNING SIGNS SHOWN ON THIS SHEET SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO THE START OF ANY CONSTRUCTION.

ADVANCE WARNING SIGNS SHALL NOT OBSTRUCT THE VIEW OF AN EXISTING SIGN, BUT SHALL BE LOCATED IN A POSITION TO MAINTAIN CLEAR VISIBILITY.

ADDITIONAL SIGNS AS NECESSARY INCLUDING BUT NOT LIMITED TO SPEED REDUCTION, LANE SHIFTS, LANE CLOSURES, ETC..., SHALL BE PROPOSED BY THE CONTRACTOR WITHIN THE CONTRACTOR'S SUBMITTAL.

GENERAL NOTES:

1. THE MAINTENANCE OF TRAFFIC AS SHOWN IN THE PLANS IS PROVIDED TO THE CONTRACTOR AS MINIMUM CONTROLS AND AS GUIDANCE. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER AND OWNER FOR APPROVAL A DETAILED MAINTENANCE OF TRAFFIC PLAN IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO START OF CONSTRUCTION.
2. ALL EXISTING SIGNS NEEDED TO MAINTAIN TRAFFIC SHALL REMAIN IN PLACE AND IN CLEAR SIGHT UNLESS OTHERWISE NOTED. EXISTING SIGNS WHICH NEED TO BE MOVED IN ORDER TO MAINTAIN TRAFFIC SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXISTING SIGNS THAT ARE REMOVED SHALL BE STOCKPILED & MADE AVAILABLE FOR FUTURE CONSTRUCTION PHASES. UPON COMPLETION OF THE PROJECT ALL REMAINING SIGNS SHALL BE DELIVERED TO THE CITY, AS DIRECTED BY THE ENGINEER.
3. TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, ONE LANE WITH FLAGGERS, TWO LANES WITHOUT FLAGGERS.
4. CONTRACTOR SHALL MAINTAIN ALL ACCESS TO ALL LOCAL BUSINESSES AND RESIDENTS.
5. CONTRACTOR SHALL REMOVE TEMPORARY STRIPING PRIOR TO BEGINNING A NEW CONSTRUCTION PHASE AS DIRECTED BY THE ENGINEER. TEMPORARY STRIPING AND PAVEMENT MARKING REMOVAL WILL BE CONSIDERED SUBSIDIARY TO MAINTENANCE OF TRAFFIC.
6. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO AND BE PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
7. NO SEPARATE PAYMENT SHALL BE PROVIDED FOR WORK INCLUDING MATERIALS USED FOR TEMPORARY DRIVING SURFACES, WHERE SUCH WORK AND/OR MATERIALS ARE SUBSEQUENTLY INCORPORATED INTO THE PERMANENT IMPROVEMENTS.
8. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DRAINAGE AS REQUIRED.
9. MULTIPLE SIGNS, WHERE CALLED OUT IN SINGLE LOCATION, SHALL BE INSTALLED ON SEPARATE POSTS. SEE ARDOT STANDARD DRAWING TC-1 FOR SIGN MOUNTING AND POST DETAILS.
10. THE FINAL SURFACE COURSE OF ACHM SHALL BE CONSTRUCTED FULL WIDTH WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.
11. WHERE PUBLIC TRAFFIC AND/OR ACCESS IS INDICATED OR REQUIRED, THE CONTRACTOR SHALL PROVIDE TEMPORARY DRIVING AREAS INCLUDING TAPERS AND INTERSECTION RADII AS NECESSARY TO PROVIDE ACCESS FOR EMERGENCY VEHICLES INCLUDING FIRE TRUCKS. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON SE J STREET AND SE DODSON ROAD SHALL BE 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON SE WALTON BOULEVARD SHALL BE 2-INCHES ASPHALTIC COLD MIX OVER 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE AS SHOWN IN THE ASPHALT PAVEMENT TEMPORARY REPAIR DETAIL. THIS CLASS 7 ABC SHALL BE INCORPORATED INTO THE PERMANENT IMPROVEMENTS WHERE APPLICABLE OR WHERE DIRECTED. MINIMUM TEMPORARY LANE WIDTHS SHALL BE AS DIRECTED BY ENGINEER.
12. CONTRACTOR SHALL USE TRAFFIC DRUMS OR DELINEATOR POSTS TO CHANNELIZE TRAFFIC. ALL TRAFFIC DRUMS SHALL BE PLACED AT 25-FT O.C. FOR EXTENDED TANGENTS AND AT 10-FT O.C. FOR CURVES, TAPERS, AND NEAR INTERSECTIONS.
13. BEFORE A LANE CLOSURE IS ALLOWED, THE CONTRACTOR SHALL SUBMIT TO THE OWNER AND THE ENGINEER FOR REVIEW AND APPROVAL A LANE CLOSURE REQUEST AT LEAST ONE WEEK PRIOR TO REQUESTED LANE CLOSURE.
14. SEE THE SIGNALIZATION PLANS FOR TEMPORARY SIGNAL CONFIGURATIONS DURING CONSTRUCTION.
15. THE CONTRACTOR SHALL PROVIDE PEDESTRIAN TRAFFIC CONTROL FEATURES AS NECESSARY AND AS DIRECTED BY THE ENGINEER. ALL PEDESTRIAN TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKET FREEDLE
Digitally Signed 03/01/2023

BY	DESCRIPTION	DATE	REV.
	APPROVED FOR CONSTRUCTION 04/15/2024 8:50:57 AM		

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

MAINTENANCE OF TRAFFIC PLAN PHASE 3

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-203

LTFreedle 3/1/2023 4:56:21 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C203_MOT.dgn
REVISED DATE:

N

0' 10' 20' 40' 60'

(IN FEET)

NOTES:

1. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE PROTECTED.
2. REMOVED LANDSCAPING AND IRRIGATION SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS.

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:57 AM

SE WALTON BOULEVARD

SE DODSON ROAD

POB 10+50.00

10+50 11+00 12+00 13+00 14+00 15+00

RETAIN EXISTING PIPE AND EXISTING BOX CULVERT.

RETAIN EXISTING INLET, JUNCTION BOX, AND BOX CULVERT.

REMOVE EXISTING CURB AND GUTTER, SIDEWALK, AND RAMPS.

REMOVE EXISTING CURB AND GUTTER.

RETAIN EXISTING PIPES.

RETAIN EXISTING SIDEWALK, RAMP, AND CURB AND GUTTER.

RETAIN EXISTING SIDEWALK, RAMP, AND CURB AND GUTTER.

REMOVE EXISTING CURB AND GUTTER.

REMOVE EXISTING INLET.

RETAIN EXISTING BOX CULVERTS.

RETAIN EXISTING JUNCTION BOX.

REMOVE EXISTING INLET TOP.

REMOVE EXISTING SIDEWALK.

REMOVE, SALVAGE, AND REINSTALL EXISTING BENCH AS DIRECTED BY THE ENGINEER.

REMOVE EXISTING CURB AND GUTTER.

RETAIN EXISTING LIGHT POLE.

REMOVE EXISTING CURB AND GUTTER, SIDEWALK AND RAMPS.

REMOVE EXISTING INLET AND ASSOCIATED PIPES.

REMOVE EXISTING LANDSCAPING.

REMOVE EXISTING LANDSCAPING. RETAIN EXISTING BEUD PADMOUNT SWITCHGEAR AND APPURTENANCES.

REMOVE EXISTING SIDEWALK, RAMPS, AND LANDSCAPING.

RETAIN EXISTING PAVEMENT AND CURB AND GUTTER.

REMOVE EXISTING SIDEWALK, RAMP, AND CURB AND GUTTER.

REMOVE EXISTING DRIVEWAY PAVEMENT AND CURB AND GUTTER

REMOVE EXISTING JUNCTION BOX AND ASSOCIATED PIPES.

RETAIN EXISTING PIPES.

REMOVE, SALVAGE, AND REINSTALL EXISTING MONUMENT SIGN AS DIRECTED BY THE ENGINEER. REMOVE EXISTING LANDSCAPING. RETAIN EXISTING STREET LIGHT.

REMOVE EXISTING LANDSCAPING.

RETAIN EXISTING JUNCTION BOX.

REMOVE EXISTING INLET.

RETAIN EXISTING BOX CULVERTS.

REMOVE EXISTING CURB AND GUTTER, SIDEWALK AND RAMPS.

RETAIN EXISTING PIPE.

NOTE: EXISTING CONDITIONS ON THIS PROPERTY HAVE CHANGED SINCE TOPOGRAPHIC SURVEYS WERE COMPLETED. FIELD ADJUST PROPOSED DEMOLITION AS NECESSARY AND AS DIRECTED BY THE ENGINEER.

NOTES:

1. ✕ - REMOVE TREE

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No. 20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

DEMOLITION PLAN

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-251

LTFreedle
2/29/2024
3:38:29 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C251_DM.dgn
REVISED DATE:

NOTES:

1. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE PROTECTED.
2. REMOVED LANDSCAPING AND IRRIGATION SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS.

SE WALTON BOULEVARD

RETAIN EXISTING INLET AND ASSOCIATED PIPES.
RETAIN EXISTING INLET AND ASSOCIATED PIPES.
REMOVE EXISTING PAVEMENT AND CURB AND GUTTER.
RETAIN EXISTING LIGHT POLE.
REMOVE, SALVAGE, AND RESINTALL EXISTING STREET LIGHT AS DIRECTED.
REMOVE EXISTING SIDEWALK.
REMOVE EXISTING INLET TOP. RETAIN ASSOCIATED PIPES.
REMOVE EXISTING SIDEWALK AND CURB AND GUTTER.
REMOVE EXISTING SIDEWALK
REMOVE EXISTING INLET.
REMOVE EXISTING INLET. RETAIN EXISTING ASSOCIATED PIPES.
REMOVE EXISTING CURB AND GUTTER, SIDEWALK, AND RAMPS.
REMOVE EXISTING BOLLARDS.
RETAIN EXISTING PIPE, CONTRACTOR SHALL USE CAUTION WHEN REMOVING EXISTING DRIVEWAY AND SIDEWALK PAVEMENT.
REMOVE EXISTING DRIVEWAY PAVEMENT, APRON, SIDEWALK, RAMPS, AND CURB AND GUTTER.
RETAIN EXISTING PIPES.
RETAIN EXISTING SIDEWALK.
RETAIN EXISTING CURB AND GUTTER
REMOVE EXISTING INLET AND ASSOCIATED PIPES.
17+00
18+00
20+00
20+50
SE J STREET
POE 20+50.00
REMOVE 2 L.F. OF EXISTING PIPE. CONNECT PIPE TO PROPOSED JUNCTION BOX.
RETAIN EXISTING BOX CULVERTS AND CONNECT TO PROPOSED INLET.
REMOVE EXISTING SIDEWALK AND CURB AND GUTTER.
REMOVE EXISTING PAVEMENT.
REMOVE EXISTING SIDEWALK, RAMP, AND CURB AND GUTTER.
RETAIN EXISTING SIDEWALK AND CURB AND GUTTER.
RETAIN EXISTING MONUMENT SIGN.
RETAIN EXISTING INLET.
REMOVE EXISTING PAVEMENT AND CURB AND GUTTER.
REMOVE EXISTING DRIVEWAY PAVEMENT, APRON, SIDEWALK, RAMPS, AND CURB AND GUTTER.
REMOVE EXISTING HEADWALL, WINGWALLS, AND DITCH PAVING.

0' 10' 20' 40' 60'
(IN FEET)

RETAIN EXISTING INLET AND ASSOCIATED PIPES.
REMOVE EXISTING INLET. RETAIN EXISTING ASSOCIATED PIPES.
REMOVE EXISTING CURB AND GUTTER, SIDEWALK, AND RAMPS.
RETAIN EXISTING MONUMENT SIGN.
RETAIN EXISTING SIDEWALK AND CURB AND GUTTER
REMOVE 2 L.F. OF EXISTING PIPE. CONNECT PIPE TO PROPOSED JUNCTION BOX.
REMOVE EXISTING DRIVEWAY PAVEMENT, APRON, SIDEWALK, RAMPS, AND CURB AND GUTTER.
REMOVE EXISTING PAVEMENT AND CURB AND GUTTER.
REMOVE EXISTING CURB AND GUTTER AND SIDEWALK.
REMOVE EXISTING HEADWALL, WINGWALLS, DITCH PAVING, SIDEWALK, AND CURB AND GUTTER.
REMOVE EXISTING PAVEMENT AND CURB AND GUTTER.
RETAIN EXISTING PIPE.
REMOVE EXISTING INLET. RETAIN EXISTING PIPE TO THE EAST AND CONNECT TO PROPOSED INLET. REMOVE 12 L.F. OF EXISTING PIPE TO THE WEST AND CONNECT TO PROPOSED PIPE COLLAR.
SE WALTON BOULEVARD
30+00
31+00
32+00
33+00
34+00
35+00
POB 30+00.00
POE 35+00.00
16+00
17+00
RETAIN EXISTING BOX CULVERTS AND CONNECT TO PROPOSED INLET AND JUNCTION BOX.
REMOVE EXISTING CURB AND GUTTER, SIDEWALK AND RAMPS.
REMOVE EXISTING INLET.
RETAIN EXISTING PIPE.
RETAIN EXISTING INLET, JUNCTION BOX, AND BOX CULVERT.
RETAIN EXISTING JUNCTION BOX.
REMOVE EXISTING CURB AND GUTTER, SIDEWALK, AND RAMPS.
SE DODSON ROAD
REMOVE EXISTING JUNCTION BOX AND ASSOCIATED PIPES

0' 10' 20' 40' 60'
(IN FEET)

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:57 AM

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	9/20/2023	ADDENDUM #2	LTF
2	03/27/2024	REVISION 1	LTF

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

DEMOLITION PLAN

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-252

LTFreedle 3/27/2024 11:31:47 AM
WORKSPACE:Garver, 2012
\\garverinc.local\gldata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C252_DM.dgn
REVISED DATE:

N

0' 10' 20' 40' 60'

(IN FEET)

GENERAL NOTES:

1. ALL PERMANENT ROADWAY MARKINGS SHALL BE THERMOPLASTIC.
2. SEE MISCELLANEOUS DETAILS AND ARDOT STANDARD DRAWING PM-1 FOR PAVEMENT MARKING DETAILS. SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION, FOR ADDITIONAL PAVEMENT MARKING DETAILS.
3. SEE ARDOT STANDARD DRAWINGS SHS-1 AND SHS-2 FOR HIGHWAY SIGNS AND SUPPORT ASSEMBLIES AND U-CHANNEL POST ASSEMBLIES DETAILS. SEE STANDARD DRAWING SHS-2 FOR SIGN INSTALLATION.
4. ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION.
5. PAVEMENT MARKING REMOVAL SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO PAYMENT FOR MAINTENANCE OF TRAFFIC.

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:57 AM

STA. 10+53.94
45' TAPER
STA. 10+98.94
185'
STA. 12+83.94
APPLY THERMOPLASTIC "ONLY" WORD.
APPLY LANE USE ARROW WHITE THERMOPLASTIC.
APPLY THERMOPLASTIC "ONLY" WORD.
APPLY 6" DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING.
APPLY LANE USE ARROW WHITE THERMOPLASTIC.
APPLY 6" DOTTED WHITE THERMOPLASTIC PAVEMENT MARKING (3' STRIPE, 9' GAP. TYP.).
APPLY 6" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING.
STA. 13+48.94
STA. 14+33.94
85' TAPER
100'
STA. 15+33.94
STA. 15+34.94
APPLY LANE USE ARROW WHITE THERMOPLASTIC.
APPLY LANE USE ARROW WHITE THERMOPLASTIC.
STA. 31+82.99
PROPOSED PED. POLE
PROPOSED SIGNAL POLE.
SE DODSON ROAD
SE WALTON BOULEVARD
10+50
11+00
12+00
13+00
14+00
15+00
16+00
31+00
32+00
33+00
34+00
ONLY
10.6'
10.8'
11'
10'
4'
50'
POB 10+50.00
APPLY 6" DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING.
MATCH EXISTING PAVEMENT MARKINGS (TYP.)
REMOVE CONFLICTING PAVEMENT MARKINGS BY DIAMOND GRINDING.
RETAIN EXISTING SIGNS.
ASSEMBLE AND INSTALL R3-8b (72"x30").
RETAIN EXISTING SIGNS.
ONLY ONLY ONLY ONLY ONLY
23.43'
19.16'
17.44'
APPLY 6" DOTTED WHITE THERMOPLASTIC PAVEMENT MARKING (3' STRIPE, 9' GAP. TYP.).
REMOVE, SALVAGE, AND REINSTALL EXISTING STOP SIGN ON NEW POST.
APPLY 12" WHITE THERMOPLASTIC STOP BAR.
APPLY 6" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING.
MATCH EXISTING PAVEMENT MARKINGS (TYP.)
APPLY 6" DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING.
100' TAPER
150'
APPLY 6" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING.
APPLY LANE USE ARROW WHITE THERMOPLASTIC.
APPLY 12" WHITE THERMOPLASTIC STOP BAR.
APPLY THERMOPLASTIC "ONLY" WORD.
APPLY LANE USE ARROW WHITE THERMOPLASTIC.
100'
APPLY 12" WHITE THERMOPLASTIC CROSSWALK MARKINGS.
PROPOSED PED. POLE.
STA. 33+24.37
STA. 33+35.37
PROPOSED SIGNAL POLE.
STA. 12+83.94
STA. 13+83.94
STA. 14+33.94
STA. 13+83.94

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

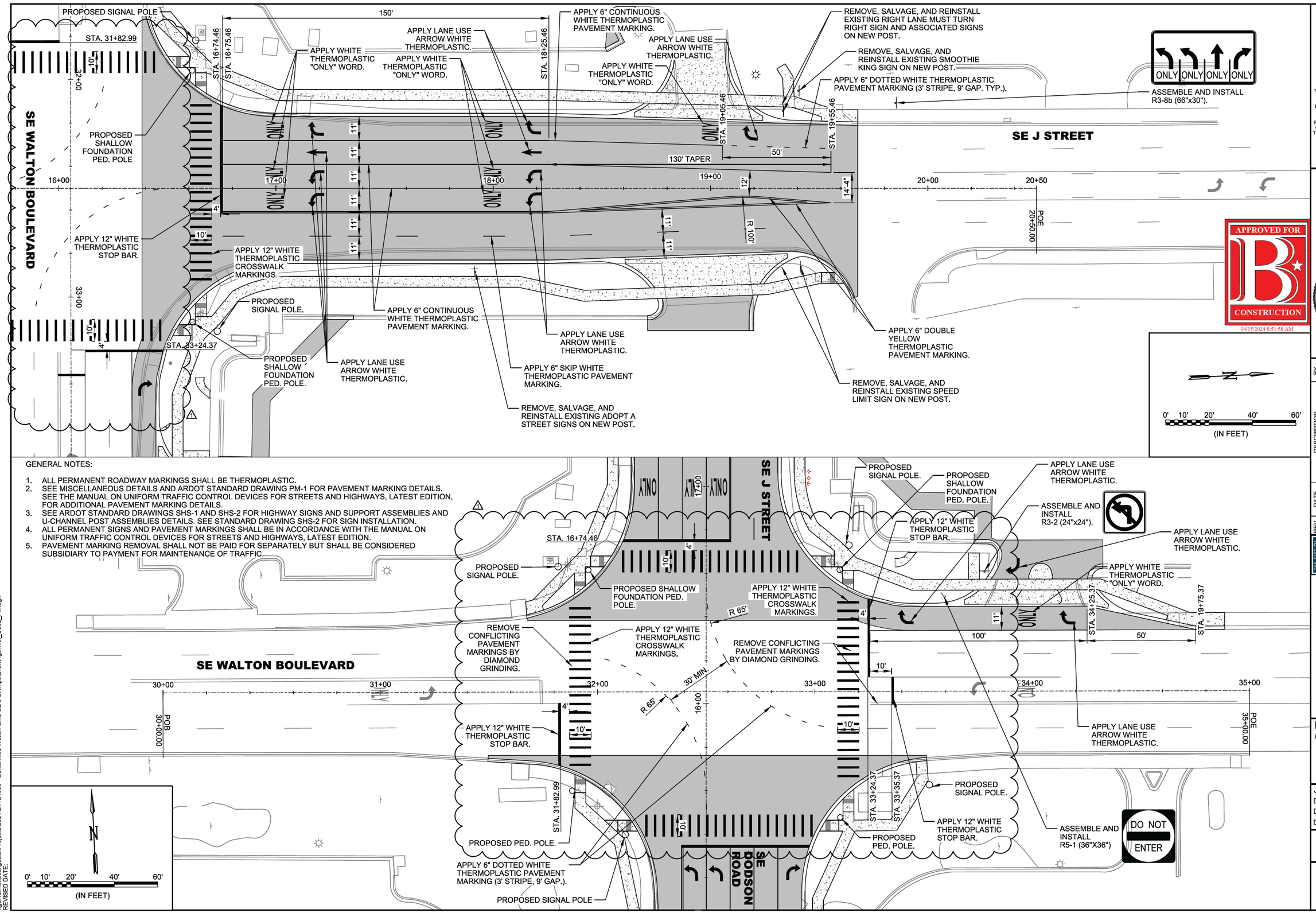
PAVEMENT MARKING AND SIGNAGE PLAN

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-301

LTFreedle 2/29/2024 3:38:33 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C301_PM.dgn
REVISED DATE:



© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/27/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

PAVEMENT MARKING AND SIGNAGE PLAN

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-302

LTFreedle 3/27/2024 11:31:50 AM
\\WORKSPACE\Garver_2012\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd+SE J St Imps\Drawings\WJI_C302_PM.dgn
REVISED DATE:

0' 10' 20' 40' 60'
(IN FEET)

01-11447-012
SOUTHERN PIONEER PROPERTY
& CASUALTY INSURANCE COMPANY

01-11447-007
BANK OF THE OZARKS

SE WALTON BOULEVARD

SE DODSON ROAD

CONSTRUCT 2 S.Y. OF SIDEWALK FOR EXISTING BENCH REINSTALLATION. COST FOR REMOVING, SALVAGING, AND REINSTALLING EXISTING BENCH SHALL BE SUBSIDIARY TO COST FOR SIDEWALK.

STA. 13+48.95
END TYPICAL SECTION ①. BEGIN TYPICAL SECTION②.

EXISTING EASEMENT

EXISTING R.O.W.

+48.95

85' TAPER

+33.95

60' RADIUS
15+12.28
83.95' LT.

PROPOSED PED. POLE.

CP#14

PROPOSED SIGNAL POLE.

STA. 15+76.26
END TYPICAL SECTION②.

10+50 11+00 12+00 13+00 14+00 15+00 16+00

1000.00'
N2°42'13"E

STA. 10+50.00
BEGIN JOB
N=735380.8671
E=665049.0708

POB 10+50.00

STA. 12+08.95
BEGIN TYPICAL SECTION①.
MATCH EXISTING WIDTHS AND CROSS SLOPES.

STA. 12+96.82; RT.
RECONSTRUCT ASPHALT COMMERCIAL DRIVEWAY.

RECONSTRUCT 8 L.F. OF CURB AND GUTTER TYPE A (2'-0")

CENTERLINE OF ALIGNMENT.

CAUTION: UNDERGROUND ELECTRIC LINES EXIST IN CONSTRUCTION ZONE. CONTRACTOR SHALL POTHOLE AND FIELD VERIFY LOCATION OF EXISTING UGE LINES PRIOR TO THE START OF CONSTRUCTION AND NOTIFY BEUD ONCE THE UGE LINE LOCATION IS DETERMINED.

32' 22' 22' 22.51' 44'

16.72' 5.92' 2.75' 6" 19.81' 6' 5' 3.5' 3.5'

66.92'

PROPOSED R.O.W.

PROPOSED T.C.E.

PROPOSED UTILITY EASEMENT

NOTE: EXISTING CONDITIONS ON THIS PROPERTY HAVE CHANGED SINCE TOPOGRAPHIC SURVEYS WERE COMPLETED. FIELD ADJUST PROPOSED DRIVEWAY RECONSTRUCTION AS NECESSARY AND AS DIRECTED BY THE ENGINEER.

PROPOSED UTILITY EASEMENT

CP#16

PROPOSED SIGNAL POLE

PROPOSED PED. POLE.

60' RADIUS
15+13.93
105.50' RT.

EXISTING EASEMENT

EXISTING EASEMENT

EXISTING R.O.W.

+08.95

225' TAPER

+33.95

01-12939-000
WAL-MART REAL ESTATE BUSINESS TRUST

01-12940-000
WAL-MART REAL ESTATE BUSINESS TRUST

NOTES:
1. R - CONSTRUCT SIDEWALK CURB RAMP.

SEE DRAINAGE PLAN AND PROFILES FOR PROPOSED STORM DRAINAGE INFORMATION.

EXISTING GRADE AT C.L. CONSTRUCTION. MILL AS REQUIRED TO MAINTAIN 2" MIN. INLAY.

1285 1280 1275 1270 1265 1260 1255 1250

EXISTING GRADE ELEVATION AT PROPOSED C.L.

1272.8 1273.2 1273.3 1273.4 1273.52 LT. 1273.13 RT. 1274.6 1274.84 LT. 1274.77 RT. 1276.6

PROPOSED ELEVATION AT BACK OF CURB

11+00 12+00 13+00 14+00 15+00

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:58 AM

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 ARKANSAS ENGINEER
CERTIFICATE OF AUTHORIZATION

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/27/2024	REVISION 1	LTF

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE DODSON ROAD
PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-501

LTFreedle 3/27/2024 11:31:53 AM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C501_PP.dgn
REVISED DATE:

SE WALTON BOULEVARD

SE J STREET

01-12829-000
SSRT HOLDINGS LLC

01-12830-000
TRAN COMMERCIAL PROPERTY LLC

01-08316-000
JTR LLC

01-04470-000
HAYDEN PROPERTIES INC

01-04481-000
WHITEBOARD HOLDINGS LLC

PROPOSED SIGNAL POLE

60' RADIUS
16+99.83
94.50' RT.

RECONSTRUCT 34 L.F. OF CURB AND GUTTER TYPE A (2'-0")

SAWCUT AND REMOVE EXISTING PAVEMENT AND CONSTRUCT ASPHALT PAVEMENT PERMANENT REPAIR AS NECESSARY TO INSTALL PROPOSED WATERLINE.

PROPOSED UTILITY EASEMENT

EXISTING EASEMENT

STA. 18+95.06; LT.
RECONSTRUCT CONCRETE COMMERCIAL DRIVEWAY.

CP#13

PROPOSED T.C.E.

142' TAPER

22.86'

PROPOSED T.C.E.

EXISTING EASEMENT

EXISTING R.O.W.

RECONSTRUCT 8 S.Y. OF EXISTING SIDEWALK CONNECTION.

PROPOSED SHALLOW FOUNDATION PED. POLE

REMOVE, SALVAGE, AND REINSTALL EXISTING STREET LIGHT AS DIRECTED BY THE ENGINEER. INTERCEPT STREET LIGHT CONDUIT AND RE-ROUTE TO NEW LOCATION.

CENTERLINE OF ALIGNMENT

STA. 19+67.81
END TYPICAL SECTION③.
MATCH EXISTING ROADWAY WIDTH AND CROSS SLOPES.

1000.00'
N2°42'13"E

STA. 16+38.34
BEGIN TYPICAL SECTION③.

RECONSTRUCT 13 L.F. OF CURB AND GUTTER TYPE A (2'-0")

STA. 18+94.43; RT.
RECONSTRUCT ASPHALT COMMERCIAL DRIVEWAY.

PROPOSED SIGNAL POLE

CP#18

PROPOSED SHALLOW FOUNDATION PED. POLE

PROPOSED R.O.W.

PROPOSED T.C.E.

46.79'

30' RADIUS
19+36.63
60.51' RT.

150' TAPER

SAWCUT AND REMOVE EXISTING PAVEMENT AND CONSTRUCT ASPHALT PAVEMENT PERMANENT REPAIR AS NECESSARY TO INSTALL PROPOSED WATERLINE.

60' RADIUS
17+06.23
94.50' RT.

PROPOSED T.C.E.
EXISTING R.O.W.

EXISTING EASEMENT

NOTES:
1. R - CONSTRUCT SIDEWALK CURB RAMP.

SEE DRAINAGE PLAN AND PROFILES FOR PROPOSED STORM DRAINAGE INFORMATION.

CAUTION: UNDERGROUND ELECTRIC LINES EXIST IN CONSTRUCTION ZONE. CONTRACTOR SHALL POTHOLE AND FIELD VERIFY LOCATION OF EXISTING UGE LINES PRIOR TO THE START OF CONSTRUCTION AND NOTIFY BEUD ONCE THE UGE LINE LOCATION IS DETERMINED. PROPOSED SIGNAL POLE LOCATION SHALL BE ADJUSTED IF NECESSARY AS DIRECTED BY THE ENGINEER.

EXISTING GRADE AT C.L. CONSTRUCTION. MILL AS REQUIRED TO MAINTAIN 2" MIN. INLAY.

EXISTING 12" WATERLINE

	16+00	17+00	18+00	19+00	20+00
EXISTING GRADE ELEVATION AT PROPOSED C.L.		1276.3	1277.0	1277.9	1279.3
PROPOSED ELEVATION AT BACK OF CURB		1276.32 LT. 1276.25 RT.	1276.87 LT. 1276.74 RT.		

1290 1285 1280 1275 1270 1265 1260 1255

0' 10' 20' 40' 60'
(IN FEET)

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/27/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE J STREET PLAN AND PROFILE

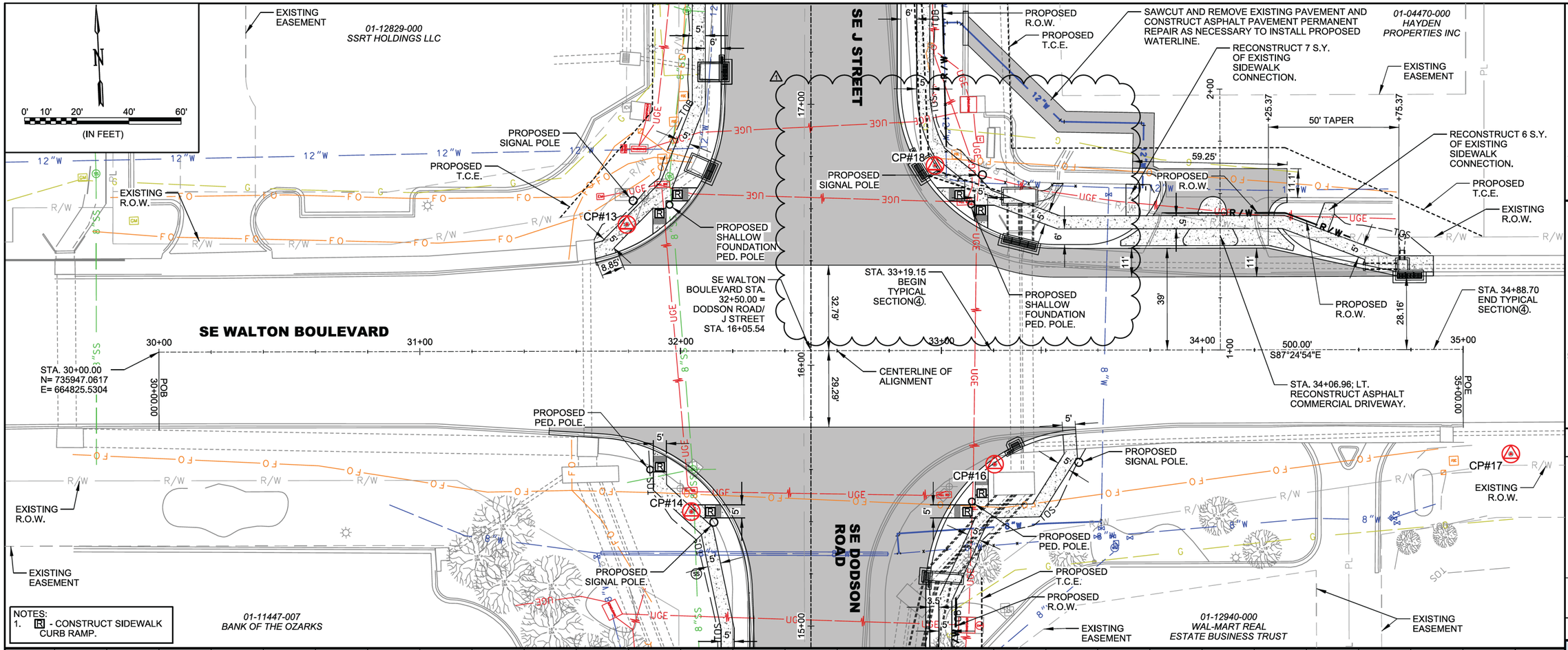
APPROVED FOR CONSTRUCTION
04/15/2024 8:51:58 AM

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

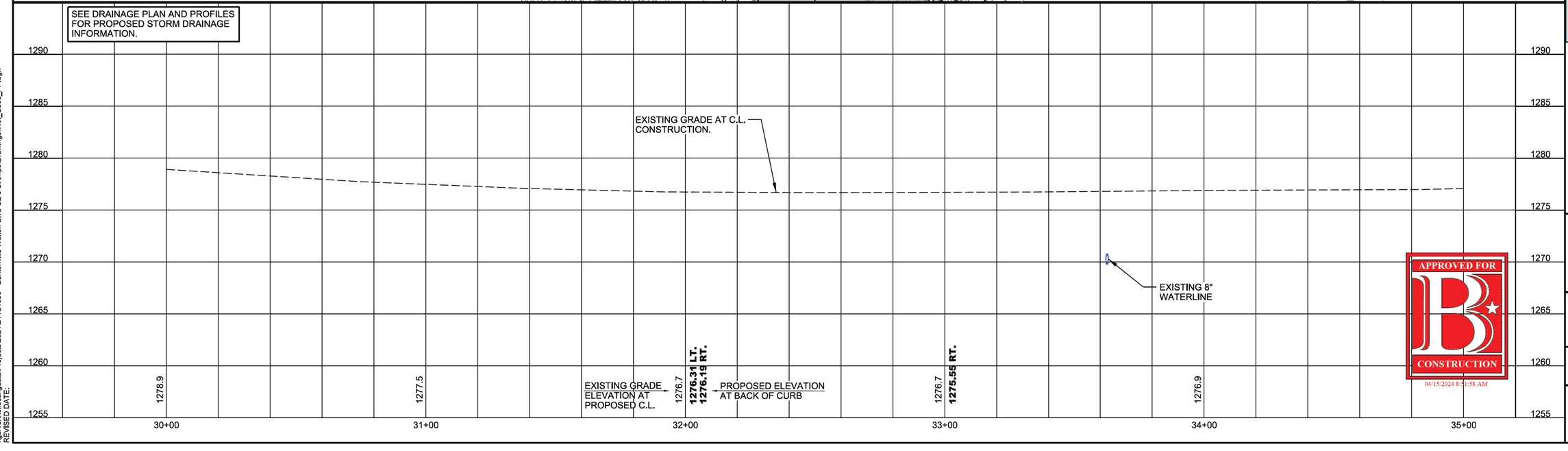
DRAWING NUMBER
C-502

LTFreedle 3/27/2024 11:31:55 AM
WORKSPACE=Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C502_PP.dgn
REVISED DATE:



NOTES:
1. R - CONSTRUCT SIDEWALK CURB RAMP.

SEE DRAINAGE PLAN AND PROFILES FOR PROPOSED STORM DRAINAGE INFORMATION.



APPROVED FOR CONSTRUCTION
04/15/2024 8:51:58 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/27/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

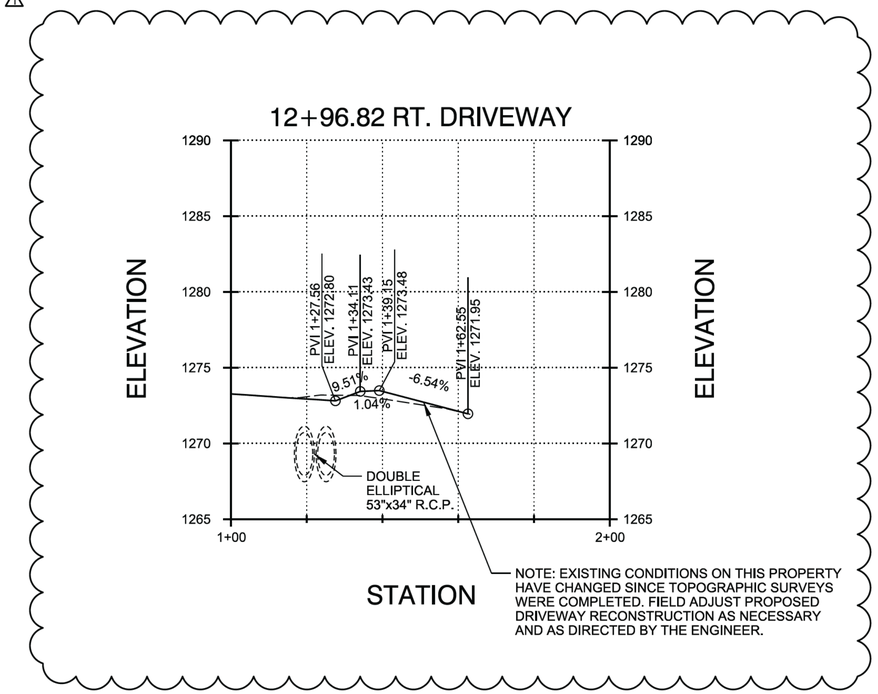
SE WALTON BOULEVARD PLAN AND PROFILE

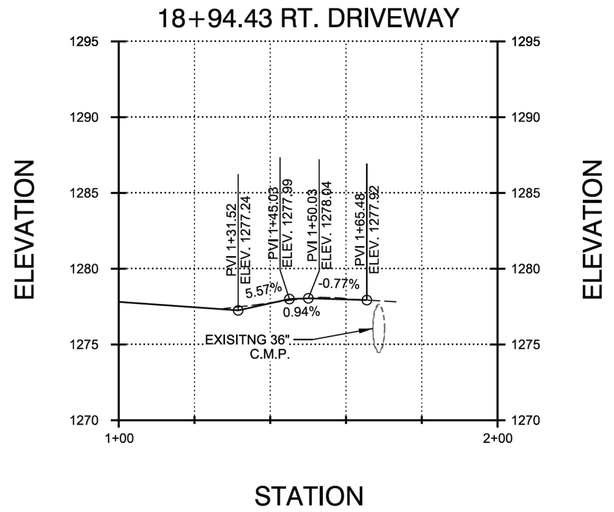
JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

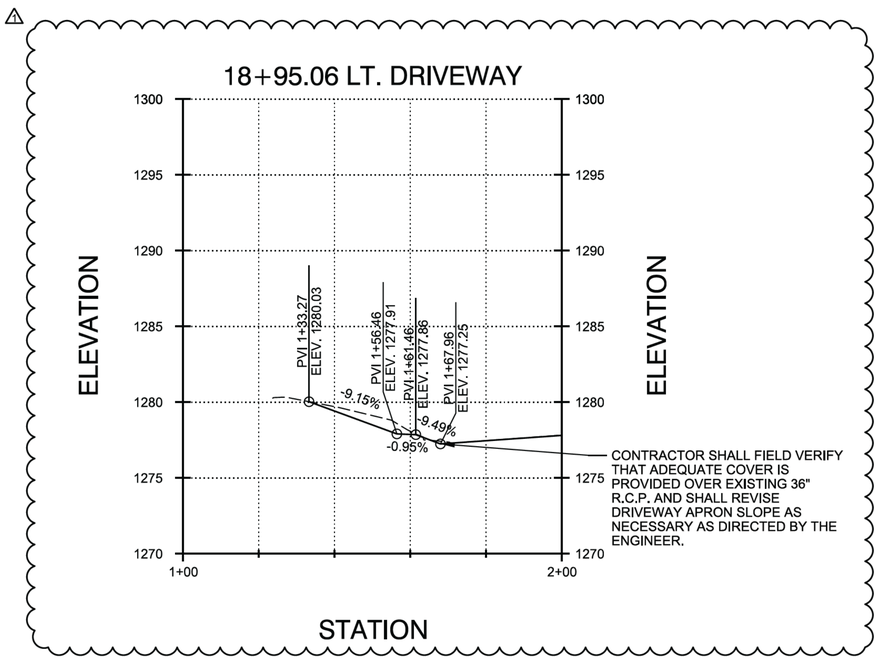
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

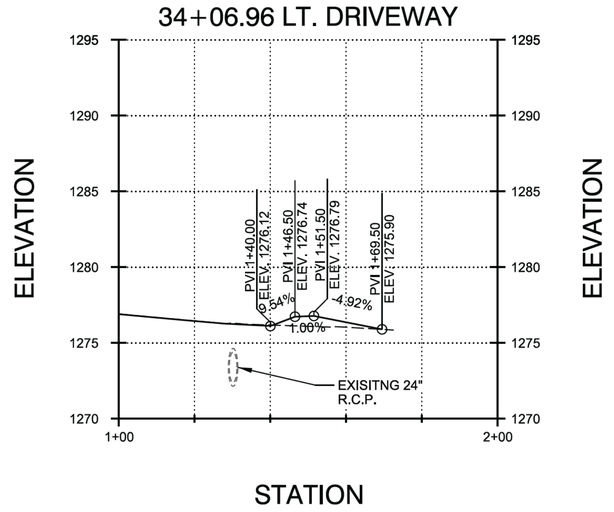
DRAWING NUMBER
C-503

LTFreedle
3/27/2024 11:31:56 AM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJJ_C503_PP.dgn
REVISED DATE:









APPROVED FOR CONSTRUCTION
04/15/2024 8:51:58 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

DRIVEWAY PROFILES

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-521

LTFreedle 2/29/2024 3:38:43 PM
\\WORKSPACE\Garver_2012\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C521_DWY.dgn
REVISED DATE:

N

0' 5' 10' 20' 30'
(IN FEET)

APPROVED FOR
CONSTRUCTION
04/15/2024 8:51:58 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

SE DODSON ROAD

12+00
13+00
1+00
14+00

20.29'
5.94'
5'
R 30'
1'-6" CURB AND GUTTER
6.5'
39.14'
R 10'
2'-0" CURB AND GUTTER
1'-6" CURB AND GUTTER
R 30'
5'
7.84'
59.09'

STA. 12+96.82; RT. RECONSTRUCT ASPHALT COMMERCIAL DRIVEWAY.

NOTE: EXISTING CONDITIONS ON THIS PROPERTY HAVE CHANGED SINCE TOPOGRAPHIC SURVEYS WERE COMPLETED. FIELD ADJUST PROPOSED DRIVEWAY RECONSTRUCTION AS NECESSARY AND AS DIRECTED BY THE ENGINEER.

2+00

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

DRIVEWAY PLAN SHEET

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-522

LTFreedle 2/29/2024 3:38:45 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C522_DWY.dgn
REVISED DATE:

N

0' 5' 10' 20' 30'

(IN FEET)

RECONSTRUCT 34 L.F. OF CURB AND GUTTER TYPE A (2'-0")

SAWCUT AND REMOVE EXISTING PAVEMENT AND CONSTRUCT ASPHALT PAVEMENT PERMANENT REPAIR AS NECESSARY TO INSTALL PROPOSED SANITARY SEWER.

STA. 18+95.06; LT. RECONSTRUCT CONCRETE COMMERCIAL DRIVEWAY.

1+00

22.86'

1'-6" CURB AND GUTTER

R 30'

1'-6" CURB AND GUTTER

35.74'

RECONSTRUCT 8 S.Y. OF EXISTING SIDEWALK CONNECTION

4.52'

1.5'

9.27'

10.49'

5.62'

5'

6.5'

2'

1'-6" CURB AND GUTTER

1'-6" CURB AND GUTTER

SE J STREET

18+00

19+00

20+00

1+00

2+00

1'-6" CURB AND GUTTER

1'-6" CURB AND GUTTER

R 10'

30'

13.5'

1'-6" CURB AND GUTTER

5'

5'

42.18'

2'-0" CURB AND GUTTER

R 5'

R 30'

25'

5.11'

2'-0" CURB AND GUTTER

46.79'

STA. 18+94.43; RECONSTRUCT ASPHALT COMMERCIAL DRIVEWAY.

APPROVED FOR CONSTRUCTION

04/15/2024 8:51:58 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS ENGINEER

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.20393 LUKE T. FREEDLE

Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	2/07/2023	ADDENDUM #2	LTF
2	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

DRIVEWAY PLAN SHEET

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-523

LTFreedle 2/29/2024 3:38:46 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C523_DWY.dgn
REVISED DATE:

N

0' 10' 20' 40' 60'
(IN FEET)

SE WALTON BOULEVARD

34+00

1+00

35+00

POE
35+00.00

2+00

SAWCUT AND REMOVE EXISTING PAVEMENT AND CONSTRUCT ASPHALT PAVEMENT PERMANENT REPAIR AS NECESSARY TO INSTALL PROPOSED WATERLINE.

RECONSTRUCT 7 S.Y. OF EXISTING SIDEWALK CONNECTION.

2'-0" CURB AND GUTTER

1'-6" CURB AND GUTTER

CONSTRUCT 6" CONCRETE ISLAND PER ARDOT STANDARD DRAWING DR-1.

CONSTRUCT 6 CONCRETE ISLAND PER ARDOT STANDARD DRAWING DR-1.

STA. 34+06.96; LT. RECONSTRUCT ASPHALT COMMERCIAL DRIVEWAY.

1'-6" CURB AND GUTTER

2'-0" CURB AND GUTTER

RECONSTRUCT 6 S.Y. OF EXISTING SIDEWALK CONNECTION.

5' 12.12' 5' R 30' R 5' 4.96' 11.5' R 2' R 1' 14.5' 17.02' 15.26' 9.2' R 5' 23.47' 49.18' 25.71' 13' R 30' 11.1' 5' 5' 7.2' 4.29' 2' 15.79' 6.17'

TOS

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

DRIVEWAY PLAN SHEET

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-524

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:58 AM

LTFreedle 2/29/2024 3:38:47 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C524_DWY.dgn
REVISED DATE:

DRAINAGE GENERAL NOTES:

1. ALL DRAINAGE STRUCTURE STATIONS AND OFFSETS ARE TO CENTER OF INLET VAULT OR JUNCTION BOX VAULT WHERE NO INLET IS PRESENT.
2. DOUBLE R.C.P. INSTALLED UNDER PAVEMENT SHALL BE BACKFILLED WITH FLOWABLE FILL BETWEEN THE PIPES. FLOWABLE FILL BACKFILL FOR STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE R.C.P. INSTALLED.
3. ALL RIM ELEVATION CALLOUTS ON COMBINATION GRATE / CURB INLETS ARE LOCATED AT THE BACK OF CURB.

0' 10' 20' 40' 60'
(IN FEET)

01-11447-012
SOUTHERN PIONEER PROPERTY
& CASUALTY INSURANCE COMPANY

01-11447-007
BANK OF THE OZARKS

STA.14+04.90; 27.21' LT.
RE-CONSTRUCT 5'X17'
INLET TOP OVER
EXISTING CULVERTS.
TOP=1273.54

EXISTING EASEMENT

EXISTING R.O.W.

PROPOSED PED. POLE.

PROPOSED SIGNAL POLE

SE WALTON BOULEVARD

SE DODSON ROAD

10+50 11+00 12+00 13+00 14+00 15+00 16+00

POB 10+50.00

REMOVE AND REPLACE BACKFILL OVER EXISTING 42" R.C.P. WITH COMPACTED CLASS 7 AGGREGATE BASE COURSE UNDER PROPOSED ROADWAY. COST SHALL BE CONSIDERED SUBSIDIARY TO PROPOSED ROADWAY AGGREGATE BASE.

STA.14+04.88; 25.14' RT.
CONSTRUCT 4'X13.5'
JUNCTION BOX.
TOP=1272.96
F.L. IN=1268.40(N)
F.L. IN=1269.64(E)
F.L. OUT=1268.30(S)

INSTALL 114 L.F. OF DOUBLE ELLIPTICAL 53"X34" R.C.P. AT 0.60% SLOPE.

CENTERLINE OF ALIGNMENT

RETAIN EXISTING JUNCTION BOX. MODIFY EXISTING DOWNSTREAM OPENINGS TO INSTALL 42 L.F. OF PRECAST DOUBLE 4'X2' R.C. BOX AT 2.10% SLOPE. BACKFILL BETWEEN BARRELS WITH CLASS 67 STONE. F.L. IN= 1271.50 (FIELD VERIFY)

INSTALL 8 L.F. OF 18" R.C.P. AT 0.50% SLOPE.

PROPOSED R.O.W

PROPOSED UTILITY EASEMENT

STA. 12+48.93; 20.72' RT.
CONSTRUCT SPECIAL DOUBLE GRATE COMBINATION INLET OVER EXISTING PIPES WITH 6'-2"X7' JUNCTION.
TOP=1273.07
F.L. IN=1267.70(N)
F.L. OUT=1267.60(S) (FIELD VERIFY)

INSTALL 151 L.F. OF DOUBLE ELLIPTICAL 53"X34" R.C.P. AT 0.40% SLOPE.

STA. 14+05.88; 40.66' RT.
CONSTRUCT TRIPLE GRATE COMBINATION INLET.
TOP=1273.10
F.L. OUT=1269.70(W)

PROPOSED T.C.E.

STA. 15+19.03; 44.46' RT.
CONSTRUCT SINGLE GRATE COMBINATION INLET WITH (1) ADDITIONAL CURB OPENING AND 3'X11.5' JUNCTION BOX.
TOP=1275.15
F.L. IN=1270.62(NE)
F.L. OUT=1269.08(S)

01-12940-000
WAL-MART REAL ESTATE BUSINESS TRUST

EXISTING EASEMENT

SE DODSON ROAD RIGHT STORM DRAINAGE TRUNKLINE

STA. 12+48.93; 20.72' RT.
CONSTRUCT SPECIAL DOUBLE GRATE COMBINATION INLET OVER EXISTING PIPES WITH 6'-2"X7' JUNCTION BOX.
TOP=1273.07
F.L. IN=1267.70(N)
F.L. OUT=1267.60(S) (FIELD VERIFY)

STA.14+04.88; 25.14' RT.
CONSTRUCT 4'X13.5' JUNCTION BOX.
TOP=1272.96
F.L. IN=1268.40(N)
F.L. IN=1269.64(E)
F.L. OUT=1268.30(S)

STA. 15+19.03; 44.46' RT.
CONSTRUCT SINGLE GRATE COMBINATION INLET WITH (1) ADDITIONAL CURB OPENING AND 3'X11.5' JUNCTION BOX.
TOP=1275.15
F.L. IN=1270.62(NE)
F.L. OUT=1269.08(S)

STA.33+28.48; 36.75' RT.
CONSTRUCT SINGLE GRATE COMBINATION INLET ON EXISTING BOX CULVERT WITH (1) ADDITIONAL CURB OPENING. SEE ARDOT STANDARD DETAIL FPC-9 FOR MORE INFORMATION ON DROP INLET INSTALLATION. TOP=1276.22
F.L. IN=1271.64(N)(FIELD VERIFY)
F.L. OUT=1271.63(S)(FIELD VERIFY)

INSTALL 114 L.F. OF DOUBLE ELLIPTICAL 53"X34" R.C.P. AT 0.60% SLOPE.

EXISTING GRADE AT C.L. CONSTRUCTION

EXISTING DOUBLE 42" R.C.P.

INSTALL 151 L.F. OF DOUBLE ELLIPTICAL 53"X34" R.C.P. AT 0.40% SLOPE.

11"

PROPOSED 8" WATERLINE

RETAIN EXISTING JUNCTION BOX. MODIFY EXISTING DOWNSTREAM OPENINGS TO INSTALL 42 L.F. OF PRECAST DOUBLE 4'X2' R.C. BOX AT 2.10% SLOPE. BACKFILL BETWEEN BARRELS WITH CLASS 67 STONE. F.L. IN= 1271.50 (FIELD VERIFY)

EXISTING 4'X2' R.C. BOX CULVERT

1280 1275 1270 1265 1260 1255 1250

11+00 12+00 13+00 14+00 15+00

1272.8 1273.2 1273.3 1273.4 1273.52 LT. 1273.13 RT. 1274.6 1274.84 LT. 1274.77 RT. 1276.6

EXISTING GRADE ELEVATION AT PROPOSED C.L.

PROPOSED ELEVATION AT BACK OF CURB

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:59 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE DODSON ROAD DRAINAGE PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-551

LTFreedle
3/27/2024 11:31:58 AM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Impa\Drawings\WJL_C551_DR.dgn
REVISED DATE:

STA. 16+74.38; 38.79' LT.
CONSTRUCT DOUBLE GRATE COMBINATION INLET OVER EXISTING PIPES WITH 6'-2"X6'-6" JUNCTION BOX.
TOP=1276.12
F.L. IN=1272.22(NE) (FIELD VERIFY)
F.L. OUT=1271.79(SW) (FIELD VERIFY)

STA. 17+12.50; 33.25' LT.
CONSTRUCT DOUBLE GRATE COMBINATION INLET OVER EXISTING PIPES WITH (1) ADDITIONAL CURB OPENING AND 6'-2"X7'-6" JUNCTION BOX.
TOP=1276.42
F.L. IN=12722.66(N) (FIELD VERIFY)
F.L. IN=1274.07(W) (FIELD VERIFY)
F.L. OUT=1272.70(S) (FIELD VERIFY)

01-12829-000
SSRT HOLDINGS LLC

01-12830-000
TRAN COMMERCIAL PROPERTY LLC

01-08316-000
JTR LLC

EXISTING EASEMENT

PROPOSED UTILITY EASEMENT

STA.19+58.00; 30.92' LT.
RETAIN EXISTING CURB INLET AND EXTENSION.
RECONSTRUCT EXISTING CURB INLET AND EXTENSION TOP.
TOP=1278.56

EXISTING EASEMENT

EXISTING R.O.W.

PROPOSED SIGNAL POLE

PROPOSED SHALLOW FOUNDATION PED. POLE

SE WALTON BOULEVARD

32+00

16+00 17+00 18+00 19+00 20+00 20+50

SE J STREET

CENTERLINE OF ALIGNMENT

POE 20+50.00

INSTALL 150 L.F. OF 30"X19" ELLIPTICAL R.C.P. AT 0.55% SLOPE. (UNDERGROUND DETENTION CHAMBER)

PROPOSED R.O.W.

PROPOSED SIGNAL POLE

33+00

PROPOSED SHALLOW FOUNDATION PED. POLE.

STA. 16+74.42; 42.17' RT.
CONSTRUCT DOUBLE GRATE COMBINATION INLET WITH (2) ADDITIONAL CURB OPENINGS AND 6'-2"X4' JUNCTION BOX.
TOP=1275.95
F.L. IN=1273.00(NW)
F.L. OUT=1272.90(NE)

INSTALL 29 L.F. OF 30"X19" ELLIPTICAL R.C.P. AT 0.50% SLOPE. (UNDERGROUND DETENTION CHAMBER)

EXISTING R.O.W.

01-04470-000
HAYDEN PROPERTIES INC

PROPOSED T.C.E.

EXISTING EASEMENT

STA. 18+29.92; 33.11' RT.
CONSTRUCT SINGLE GRATE COMBINATION INLET WITH (1) ADDITIONAL CURB OPENING AND 3'X4' JUNCTION BOX.
TOP=1276.94
F.L. OUT=1273.83(S)

PROPOSED R.O.W.

01-04481-000
WHITEBOARD HOLDINGS LLC

EXISTING R.O.W.

DRAINAGE GENERAL NOTES:

1. ALL DRAINAGE STRUCTURE STATIONS AND OFFSETS ARE TO CENTER OF INLET VAULT OR JUNCTION BOX VAULT WHERE NO INLET IS PRESENT.
2. DOUBLE R.C.P. INSTALLED UNDER PAVEMENT SHALL BE BACKFILLED WITH FLOWABLE FILL BETWEEN THE PIPES. FLOWABLE FILL BACKFILL FOR STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE R.C.P. INSTALLED.
3. ALL RIM ELEVATION CALLOUTS ON COMBINATION GRATE / CURB INLETS ARE LOCATED AT THE BACK OF CURB.

0' 10' 20' 40' 60'
(IN FEET)

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:58 AM

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/27/2024	REVISION 1	LTF

SE WALTON BOULEVARD

STA. 33+30.14; 41.33' LT.
CONSTRUCT QUADRUPLE GRATE COMBINATION INLET OVER EXISTING BOX CULVERTS.
TOP=1276.27
F.L. IN=1272.22(N)
F.L. OUT=1272.11(S)
(FIELD VERIFY)

INSTALL 14 L.F. OF PRECAST DOUBLE 4'X2' R.C. BOX CULVERT AT 0.60% SLOPE. BACKFILL BETWEEN BARRELS WITH CLASS 67 STONE.

STA. 33+30.14; 59.13' LT.
CONSTRUCT 12.5'X5.5' JUNCTION BOX OVER EXISTING 36" PIPE WITH BACK OPENING PER ARDOT STANDARD DRAWING FPC-9M AND ORIFICE PLATE. SEE SPECIAL DETAILS FOR MORE INFORMATION.
TOP=1276.44
F.L. IN=1274.85(BACK OPENING)
F.L. IN=1272.76(W)
F.L. IN=1272.62(N)(FIELD VERIFY)
F.L. OUT=1272.31(S)

STA. 18+29.92; 33.11' RT.
CONSTRUCT SINGLE GRATE COMBINATION INLET WITH (1) ADDITIONAL CURB OPENING AND 3'X4' JUNCTION BOX.
TOP=1276.94
F.L. OUT=1273.83(S)

EXISTING GRADE AT C.L. CONSTRUCTION

EXISTING 18" R.C.P.

STA. 16+74.42; 42.17' RT.
CONSTRUCT DOUBLE GRATE COMBINATION INLET WITH (2) ADDITIONAL CURB OPENINGS AND 6'-2"X4' JUNCTION BOX.
TOP=1275.95
F.L. IN=1273.00(NW)
F.L. OUT=1272.90(NE)

36"

APPROXIMATE DEPTH OF EXISTING 8" WATERLINE.

INSTALL 150 L.F. OF 30"X19" ELLIPTICAL R.C.P. AT 0.55% SLOPE. (UNDERGROUND DETENTION CHAMBER)

EXISTING 4'X2' R.C. BOX CULVERT

EXISTING 24" R.C. CULVERT

	16+00	17+00	18+00	19+00	20+00
EXISTING GRADE ELEVATION AT PROPOSED C.L.	1276.3	1276.32 LT. 1276.25 RT.	1277.0	1276.87 LT. 1276.74 RT.	1277.9	1279.3

PROPOSED ELEVATION AT BACK OF CURB

1290 1285 1280 1275 1270 1265 1260 1255

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE J STREET DRAINAGE PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-552

LTFreedle
3/27/2024 11:32:00 AM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C552_DR.dgn
REVISED DATE:

N

0' 10' 20' 40' 60'

(IN FEET)

EXISTING EASEMENT

01-12829-000
SSRT HOLDINGS LLC

DRAINAGE GENERAL NOTES:

1. ALL DRAINAGE STRUCTURE STATIONS AND OFFSETS ARE TO CENTER OF INLET VAULT OR JUNCTION BOX VAULT WHERE NO INLET IS PRESENT.
2. DOUBLE R.C.P. INSTALLED UNDER PAVEMENT SHALL BE BACKFILLED WITH FLOWABLE FILL BETWEEN THE PIPES. FLOWABLE FILL BACKFILL FOR STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE R.C.P. INSTALLED.
3. ALL RIM ELEVATION CALLOUTS ON COMBINATION GRATE / CURB INLETS ARE LOCATED AT THE BACK OF CURB.

SE J STREET

SE WALTON BOULEVARD

SE DODSON ROAD

PROPOSED SIGNAL POLE

PROPOSED SHALLOW FOUNDATION PED. POLE

EXISTING R.O.W.

PROPOSED T.C.E

PROPOSED R.O.W.

STA. 33+30.14; 59.13' LT.
CONSTRUCT 12.5'X5.5' JUNCTION BOX OVER EXISTING 36" PIPE WITH BACK OPENING PER ARDOT STANDARD DRAWING FPC-9M AND ORIFICE PLATE. SEE SPECIAL DETAILS FOR MORE INFORMATION.
TOP=1276.44
F.L. IN=1274.85(BACK OPENING)
F.L. IN=1272.76(W)
F.L. IN=1272.62(N)(FIELD VERIFY)
F.L. OUT=1272.31(S)

CONSTRUCT 4 S.Y. OF ARDOT TYPE B CONCRETE DITCH PAVING TO PROPOSED BACK OPENING. MATCH EXISTING DITCH DEPTH.

INSTALL 14 L.F. OF PRECAST DOUBLE 4'X2' R.C. BOX CULVERT AT 0.60% SLOPE. BACKFILL BETWEEN BARRELS WITH CLASS 67 STONE.

STA. 33+30.14; 41.33' LT.
CONSTRUCT QUADRUPLE GRATE COMBINATION INLET OVER EXISTING BOX CULVERTS.
TOP=1276.27
F.L. IN=1272.22(N)
F.L. OUT=1272.11(S)(FIELD VERIFY)

CENTERLINE OF ALIGNMENT

01-04470-000
HAYDEN PROPERTIES INC

EXISTING EASEMENT

PROPOSED R.O.W.

PROPOSED T.C.E.

STA. 34+76.72; 44.13' LT.
INSTALL 18" R.C. FLARED END SECTION. GRADE AREA TO DRAIN TO FLARED END SECTION.
F.L. IN=1275.26

INSTALL 4 L.F. OF 18" R.C.P. AT 15.92% SLOPE.

INSTALL 12 L.F. OF 24" R.C.P. CONNECT TO EXISTING PIPE WITH PIPE COLLAR AS SHOWN. FIELD VERIFY SLOPE.

STA.33+28.48; 36.75' RT.
CONSTRUCT SINGLE GRATE COMBINATION INLET ON EXISTING BOX CULVERT WITH (1) ADDITIONAL CURB OPENING. SEE ARDOT STANDARD DETAIL FPC-9 FOR MORE INFORMATION ON DROP INLET INSTALLATION.
TOP=1276.22
F.L. IN=1271.64(N)(FIELD VERIFY)F.L. OUT=1271.63(S)(FIELD VERIFY)

STA. 34+79.54; 28.52' LT.
CONSTRUCT TRIPLE GRATE COMBINATION INLET OVER EXISTING PIPE WITH 4'X4' JUNCTION BOX.
TOP=1277.00 (FIELD VERIFY)
F.L. IN=1273.68(N)
F.L. IN=1272.80(E)(FIELD VERIFY)
F.L. OUT=1272.70(W)(FIELD VERIFY)

POB 30+00.00

POE 35+00.00

PROPOSED PED. POLE.

PROPOSED SIGNAL POLE.

PROPOSED SIGNAL POLE.

PROPOSED PED. POLE.

01-11447-007
BANK OF THE OZARKS

01-12940-000
WAL-MART REAL ESTATE BUSINESS TRUST

SE WALTON BOULEVARD LEFT STORM DRAINAGE TRUNKLINE

EXISTING GRADE AT C.L. CONSTRUCTION

STA. 33+30.14; 41.33' LT.
CONSTRUCT QUADRUPLE GRATE COMBINATION INLET OVER EXISTING BOX CULVERTS.
TOP=1276.27
F.L. IN=1272.22(N)
F.L. OUT=1272.11(S)(FIELD VERIFY)

APPROXIMATE DEPTH OF EXISTING 8" WATERLINE.

13"

STA. 34+79.54; 28.52' LT.
CONSTRUCT TRIPLE GRATE COMBINATION INLET OVER EXISTING PIPE WITH 4'X4' JUNCTION BOX.
TOP=1277.00 (FIELD VERIFY)
F.L. IN=1273.68(N)
F.L. IN=1272.80(E)(FIELD VERIFY)
F.L. OUT=1272.70(W)(FIELD VERIFY)

INSTALL 12 L.F. OF 24" R.C.P. CONNECT TO EXISTING PIPE WITH PIPE COLLAR AS SHOWN. FIELD VERIFY SLOPE.

1278.9 | 1277.5 | 1276.7 **1276.31 LT. 1276.19 RT.** | EXISTING GRADE ELEVATION AT PROPOSED C.L. | 1276.7 | **1275.55 RT.** | PROPOSED ELEVATION AT BACK OF CURB | 1276.9

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:58 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393

Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

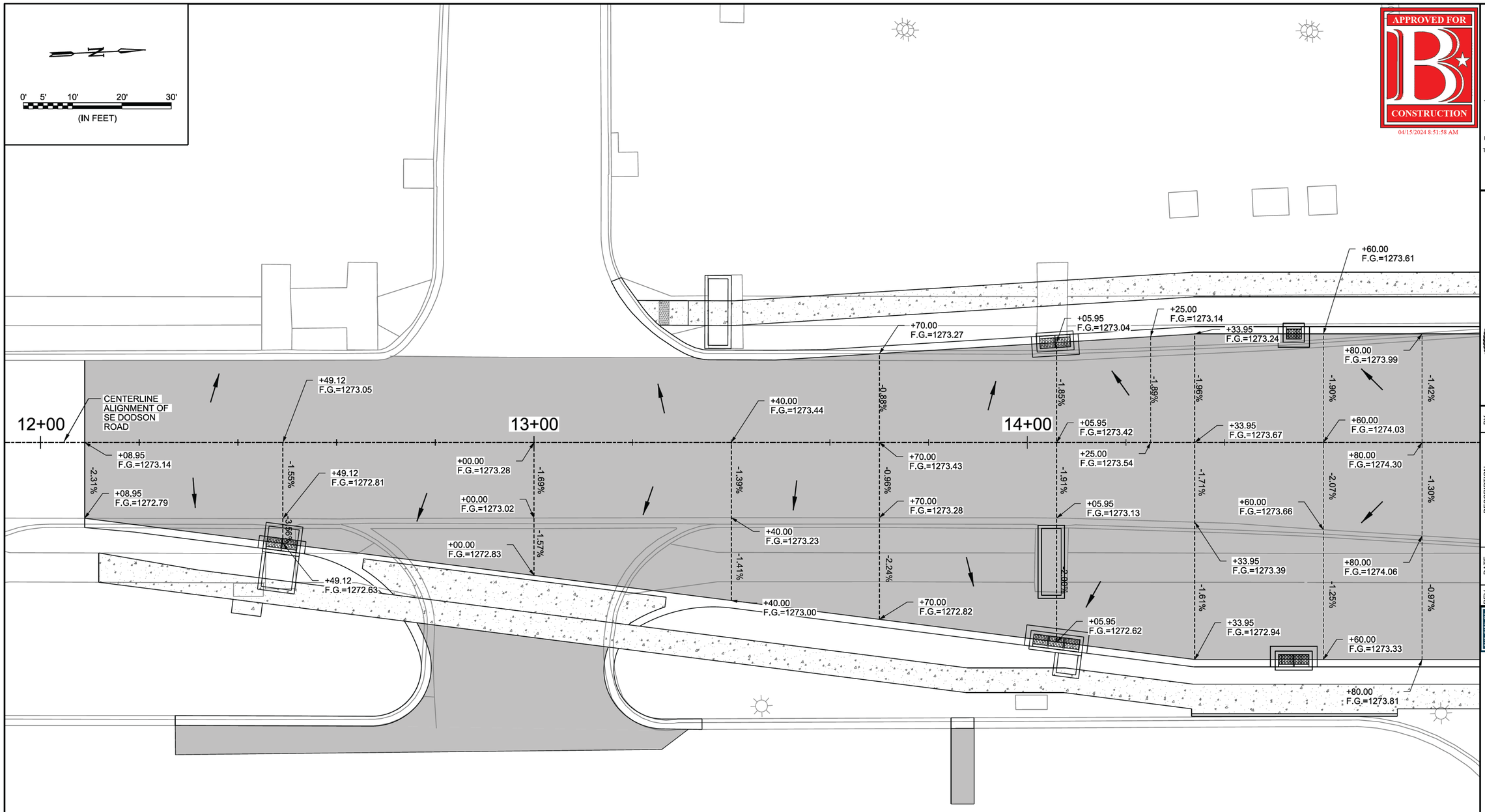
SE WALTON BOULEVARD DRAINAGE PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-553

LTFreedle 3/27/2024 11:32:02 AM
WORKSPACE:Garver 2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C553_DR.dgn
REVISED DATE:



NOTE: ALL STATIONS AND OFFSETS REFERENCE THE SE J STREET ALIGNMENT

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:58 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKET FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE DODSON ROAD GRADING PLAN

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-581

LTFreedle 3/1/2023 4:56:51 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJ_C581_GP.dgn
REVISED DATE:

N

0' 5' 10' 20' 30'

(IN FEET)

CENTERLINE ALIGNMENT OF SE WALTON BOULEVARD

+69.63; 61.73' LT.
F.G.=1276.00

+61.45
F.G.=1275.72

+15.08; 22.51' LT.
F.G.=1274.65

+45.00
F.G.=1275.22

+30.00
F.G.=1274.92

+00.00
F.G.=1274.36

+80.00
F.G.=1273.99

-1.42%

-0.96%

-0.15%

-0.22%

-0.18%

SE DODSON ROAD

15+00

+30.00
F.G.=1274.96

+61.45
F.G.=1275.63

+76.26
F.G.=1276.05

16+00

+80.00
F.G.=1274.30

+00.00
F.G.=1274.57

+45.00
F.G.=1275.15

-1.30%

-0.59%

-0.09%

+80.00
F.G.=1274.06

+00.00
F.G.=1274.45

+30.00
F.G.=1274.94

-0.97%

-0.69%

-0.13%

-0.16%

-0.14%

+45.00
F.G.=1275.20

+80.00
F.G.=1273.81

+00.00
F.G.=1274.29

+13.93; 44.00' RT.
F.G.=1274.58

+30.00
F.G.=1274.91

+61.45
F.G.=1275.57

+45.00
F.G.=1275.24

-0.14%

+61.45
F.G.=1275.54

+75.26; 101.47' RT.
F.G.=1276.19

NOTE: ALL STATIONS AND OFFSETS REFERENCE THE SE J STREET ALIGNMENT

CENTERLINE ALIGNMENT OF SE J STREET

32+00

33+00

SE WALTON BOULEVARD

+39.30; 82.53' LT.
F.G.=1276.11

+47.96
F.G.=1275.98

+47.96
F.G.=1275.92

0.26%

+72.96
F.G.=1275.65

+97.96; 34.50' LT.
F.G.=1275.82

+27.96
F.G.=1275.99

1.37%

1.48%

1.38%

+47.96
F.G.=1276.14

17+00

+38.34
F.G.=1276.14

+72.96
F.G.=1276.19

+97.96
F.G.=1276.31

+27.96
F.G.=1276.45

-1.63%

-1.66%

-1.57%

SE J STREET

-0.31%

+97.96
F.G.=1275.76

+06.23; 33.00' RT.
F.G.=1275.81

+27.96
F.G.=1275.93

+72.96
F.G.=1275.49

+47.96
F.G.=1276.03

-1.16%

+53.87
F.G.=1275.97

+38.34; 69.08' RT.
F.G.=1276.08

+47.96
F.G.=1275.84

+46.04
F.G.=1275.76

+44.73; 94.63' RT.
F.G.=1275.82

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:58 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

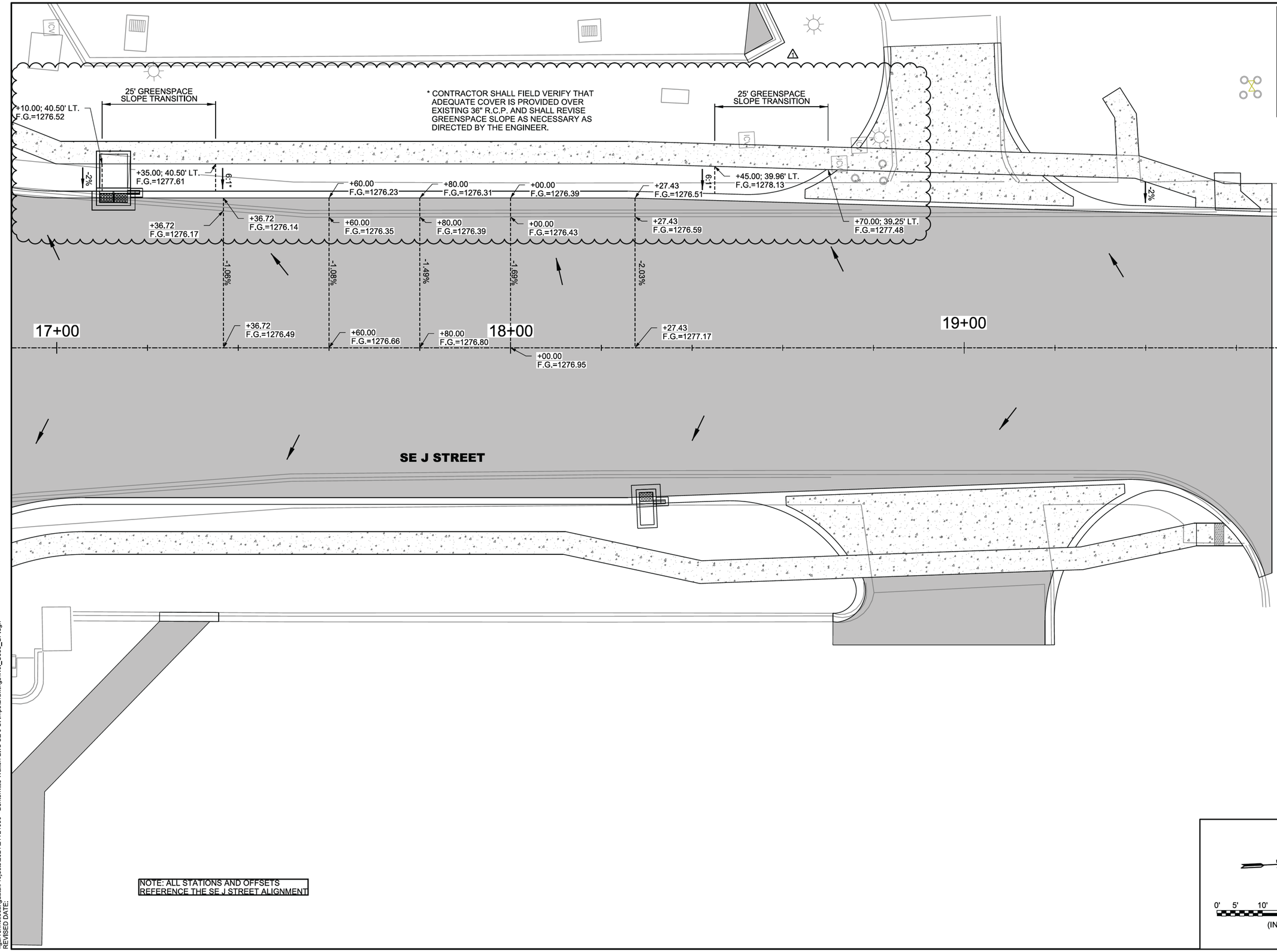
SE J STREET AND SE WALTON BOULEVARD INTERSECTION GRADING PLAN

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-582

LTFreedle 3/1/2023 4:56:53 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C582_GP.dgn
REVISED DATE:



NOTE: ALL STATIONS AND OFFSETS REFERENCE THE SE J STREET ALIGNMENT

0' 5' 10' 20' 30'
(IN FEET)

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:58 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS–ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

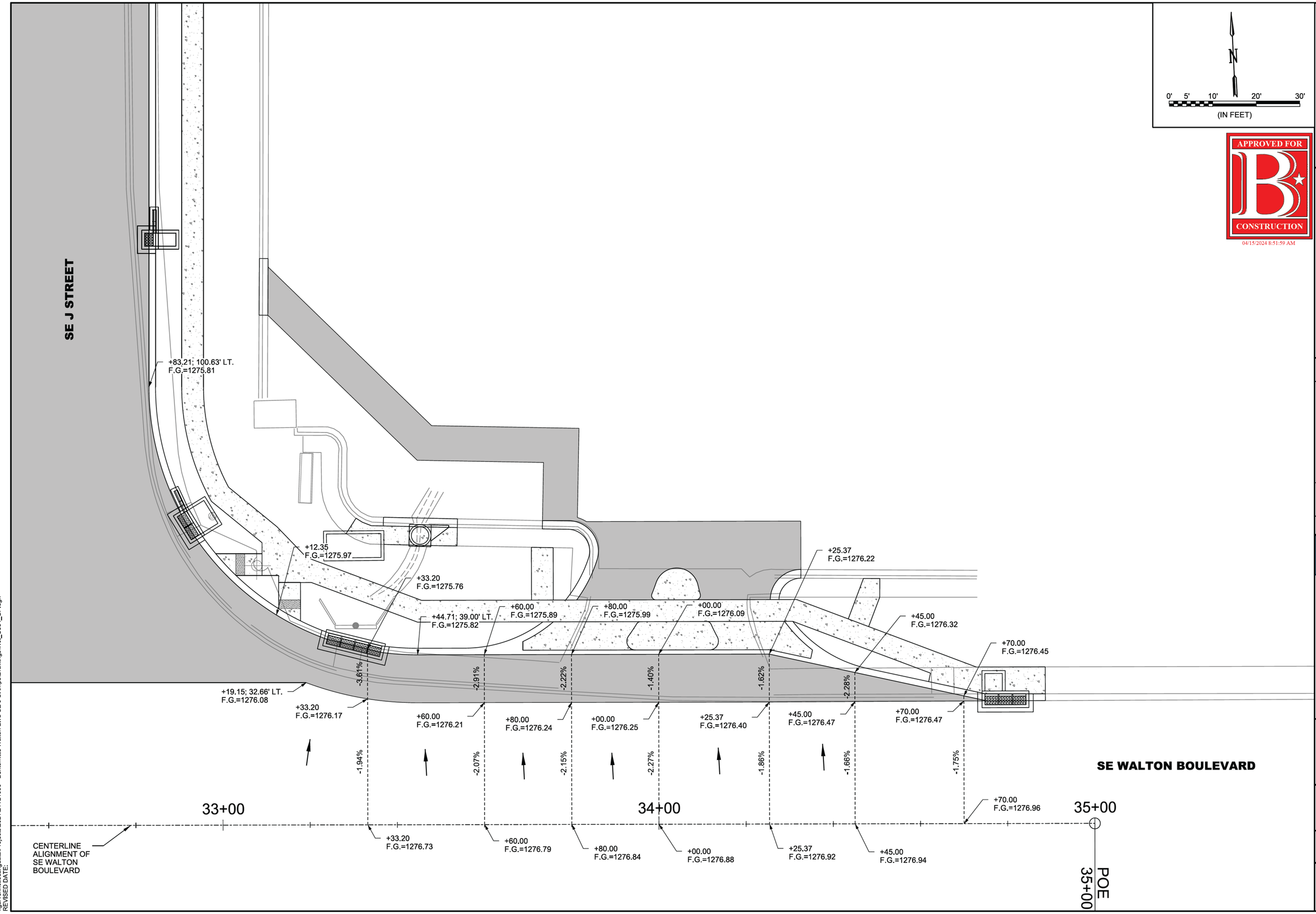
SE J STREET GRADING PLAN

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-583

LTFreedle 2/29/2024 3:38:56 PM
\WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C583_GP.dgn
REVISED DATE:



N

0' 5' 10' 20' 30'

(IN FEET)

APPROVED FOR CONSTRUCTION

04/15/2024 8:51:59 AM

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF
LICENSED
PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

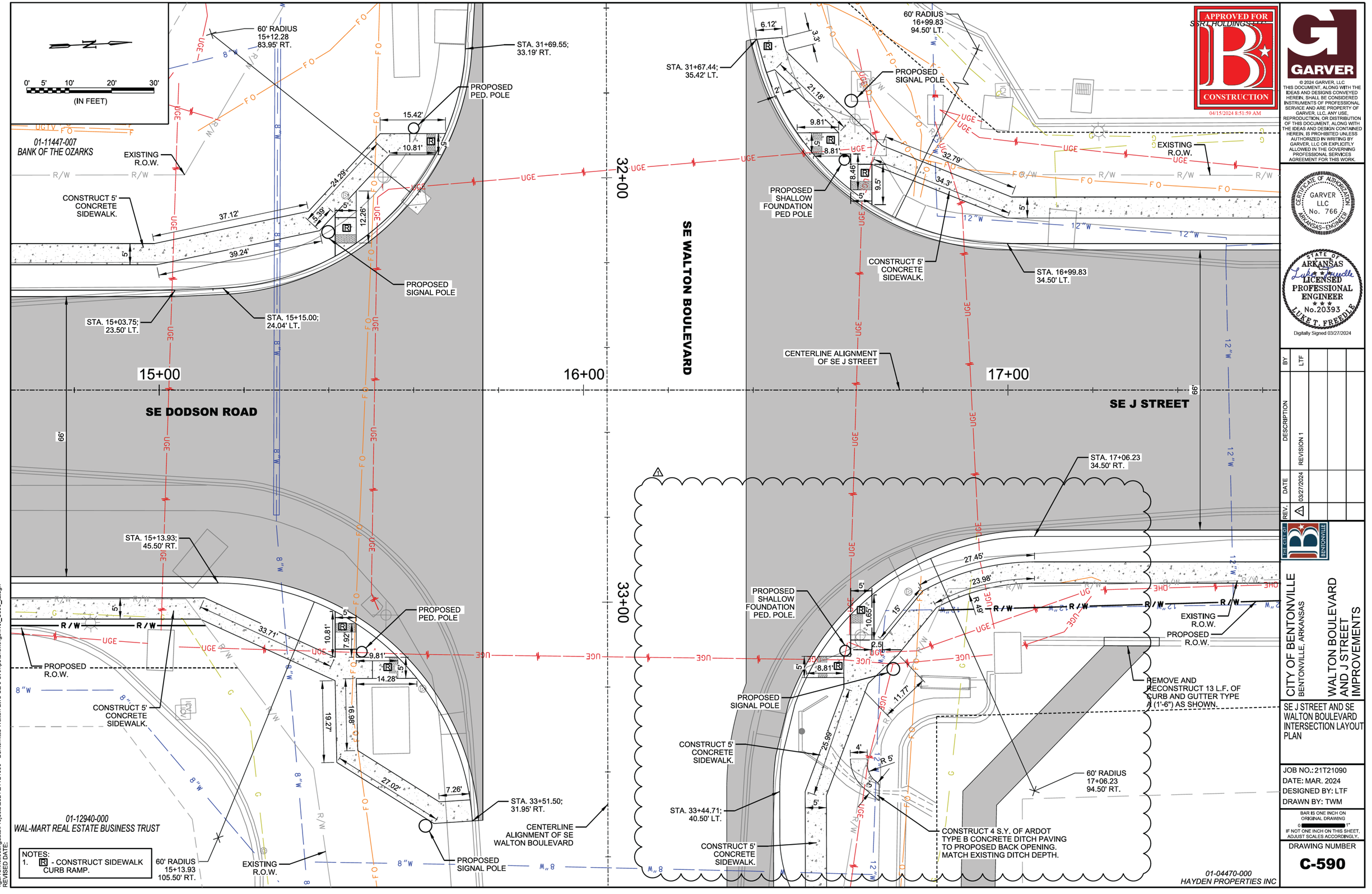
SE WALTON BOULEVARD GRADING PLAN

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: LTF
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-584

LTFreedle 3/1/2023 4:56:56 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C584_GP.dgn
REVISED DATE:



APPROVED FOR
SSRT HOLDINGS, LLC
B CONSTRUCTION
04/15/2024 8:51:59 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20393
LUKE T. FREEDLE
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/27/2024	REVISION 1	LTF

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE J STREET AND SE WALTON BOULEVARD INTERSECTION LAYOUT PLAN

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-590

LTFreedle
3/27/2024 11:32:04 AM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C590_ll...dgn
REVISED DATE:

TRAFFIC SIGNAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (CURRENT EDITION) NATIONAL ELECTRICAL CODE, NFPA 101 (CURRENT EDITION) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.

2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND E.G.C. TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.

3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c/#6 A.W.G. USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S/ COUNTY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT, ARE NEEDED WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE

4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.

5. TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.

6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.

7. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, STANDARD DRAWINGS, AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.

8. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE STANDARD DRAWINGS MAY BE USED.

9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.

10. PAVEMENT MARKINGS SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING DETAILS.

11. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON STANDARD DRAWING). PAYMENT WILL BE INCLUDED IN SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

12. ALL CONCRETE PULL BOXES SHALL BE (TYPE 3 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS.

13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.

14. LED LUMINAIRE ASSEMBLIES SHALL HAVE A BUG RATING OF U0.

15. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.

16. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM IN THE CITY/COUNTY.

17. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, THIRTY-EIGHT (38') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF TWENTY-ONE (21') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL SIX (6') FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.

18. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS SIX (6') FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.

19. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.

20. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

21. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.

22. ONE VIDEO PROGRAMMNG MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.

23. TRAFFIC SIGNAL CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.

24. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4th EDITION (2001) WITH 2003 AND 2006 INTERIMS.

25. DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL JUMPERS MAY REQUIRE MODIFICATION.

26. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.

27. IN PULL BOXES, POLE BASES, JUNCTION BOXES, AND CONTROLLER CABINETS, THE DIRECTION OF EACH CABLE RUN SHALL BE INDICATED BY ATTACHING A PERMANENT TAG OF RIGID PLASTIC OR NON-FERROUS METAL TO THE CONDUIT. TAGS SHALL BE EMBOSSED, STAMPED OR ENGRAVED WITH LETTERS 1/4" OR GREATER IN HEIGHT AND SECURED TO THE CONDUIT WITH NYLON OR PLASTIC TIES. IN INSTANCES WHERE THE CONDUIT OR CONDUIT ENTRANCES ARE NOT VISIBLE OR ACCESSIBLE, A DIRECTION TAG SHALL BE ATTACHED TO

28. THE CONTRACTOR SHALL PERFORM ALL WORK POSSIBLE THAT WILL MINIMIZE THE TIME THAT THE TRAFFIC SIGNAL IS OUT OF OPERATION. IF, IN THE OPINION OF THE ENGINEER, TRAFFIC CONDITIONS WARRANT, THE CONTRACTOR SHALL PROVIDE FLAGMEN TO DIRECT TRAFFIC WHILE THE TRAFFIC SIGNAL IS OUT OF OPERATION.

29. ALL NON-METALLIC CONDUIT RUNS SHALL HAVE BELL RING FITTINGS INSTALLED ON THE TERMINATING ENDS OF THE CONDUIT. THIS INCLUDES PULL BOXES, POLE BASES, AND TRAFFIC SIGNAL CABINETS.

30. ALL CONCRETE PULL BOXES SHALL BE SET ON A GRAVEL OR CRUSHED STONE BEDDING AS SPECIFIED IN SECTION 711, CONCRETE PULL BOX, OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.

31. THE CONTROLLER SHALL BE SIEMENS EAGLE M62 CONTROLLER CONSISTENT AND COMPATIBLE WITH THE CITY OF BENTONVILLE EXISTING EQUIPMENT, SOFTWARE, HARDWARE,

32. VIDEO DETECTION SHALL BE ITERIS VANTAGE NEXT VIDEO DETECTION. MUST BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT, SOFTWARE, AND NETWORK.

33. VIDEO CABLE SHALL BE AS RECOMMENDED BY THE MANUFACTURER OF THE VIDEO PROCESSOR UNIT AND COMPATIBLE WITH THE SPECIFIED VIDEO DETECTORS.

34. TRAFFIC SIGNAL POLES, MAST ARMS, PEDESTRIAN POLES, AND LUMINAIRE ARMS SHALL BE PELCO DECORATIVE PER SPECIAL PROVISIONS.

35. PEDESTRIAN SIGNAL HEADS SHALL BE BLACK CLAMSHELL TYPE HOUSING WITH POLARA APS PUSH BUTTON WITH SPECIAL MESSAGES.

36. INSTALL AN EAGLE SIZE SUPER P CABINET (WITH INTEGRATED BBS COMPARTMENT) BLACK IN COLOR WITH FRONT, REAR, AND RIGHT SIDE OPENING DOORS. INSIDE SHALL BE WHITE IN COLOR.

37. BATTERY BACKUP SYSTEM SHALL BE CLARY UPS SYSTEM OPERATING AS LINE FILTER FOR INCOMING SINGALS. MUST BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT, SOFTWARE, AND NETWORK.

38. PREEMPTION SHALL BE GLOBAL TRAFFIC TECHNOLOGIES OPTICOM GPS PREEMPTION AND MUST BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT, SOFTWARE, SERVER, AND

39. LUMINARIES SHALL BE HOLOPHANE MEMPHIS STYLE DECORATIVE LED LUMINARIES.

40. THE POSITION OF DETECTOR ZONES MAY BE FIELD ADJUSTED TO ACHIEVE MAXIMUM EFFICIENCY IN COUNT DATA AND VEHICLE ACTUATION, AS APPROVED BY THE ENGINEER.

41. THERE SHALL BE NO DEVIATION FROM THIS PLAN WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.

42. CONTRACTOR SHALL COORDINATE WITH T.E.C. INC., FOR COORDINATION TIMING DATA. CONTROLLER SHALL BE PROGRAMMED AND TESTED WITH COORDINATION DATA PRIOR TO

43. CONTRACTOR SHALL INSTALL, TERMINATE, AND TEST FIBER FROM NEAREST SERVICE POINT INTO CABINET, PRIOR TO TURN ON.

44. CITY OF BENTONVILLE WILL PROVIDE STREET NAME SIGNS AND THE CONTRACTOR SHALL INSTALL. CONTRACTOR SHALL PROVIDE AND INSTALL ALL OTHER SIGNS.

45. ALL POLES, MAST ARMS, AND ACCESSORIES SHALL BE BLACK IN COLOR.

46. CONTRACTOR SHALL REPAIR ALL SCUFFS, SCRATCHES, ETC., WITH CITY APPROVED MATERIALS.

47. CONTRACTOR SHALL PROVIDE EQUIPMENT SUBMITTALS TO THE CITY OF BENTONVILLE FOR APPROVAL PRIOR TO PURCHASING.

48. CONTRACTOR SHALL PROVIDE FINAL AS-BUILT DRAWINGS TO THE CITY OF BENTONVILLE.

49. THE CITY OF BENTONVILLE RESERVES THE RIGHT TO REJECT ANY MATERIALS OR EQUIPMENT THAT HAS BEEN DAMAGED IN SHIPPING, HANDLING, OR UNLOADING AND MAY REQUIRE REPLACEMENT AT NO COST TO THE CITY.

50. NEW TRAFFIC SIGNALS SHALL BE OPERATIONAL PRIOR TO REMOVAL OF EXISTING SIGNALS.

51. TRAFFIC SIGNAL EQUIPMENT REMOVED FROM THE INTERSECTIONS SHALL BECOME THE PROPERTY OF THE CITY OF BENTONVILLE. (SEE SPECIFICATIONS)

* CLARIFICATION TO TRAFFIC SIGNAL NOTE 3:
ELECTRICAL SERVICE SHALL BE INSTALLED BY THE CONTRACTOR AND THE CONTRACTOR TO COORDINATE THE SERVICE CONNECTION WITH THE ELECTRIC DEPARTMENT. ADDITIONALLY, FOR ELECTRICAL SERVICE, A FREE-STANDING RACK SIMILAR TO A DS-1003 STANDARD SHOULD BE INSTALLED PER THE BEUD.

TRAFFIC SIGNAL QUANTITIES

	ITEM NUMBER	ITEM	PHASE 1 QUANTITIES	PHASE 2 QUANTITIES	FINAL QUANTITIES	TOTAL QUANTITIES	UNIT
	SP & 701	SYSTEM LOCAL CONTROLLER-FIBER (8 PHASES)	1			1	EA
	SP	ETHERNET SWITCH	1			1	EA
	SP	GPS PREEMPTION SYSTEM	1			1	EA
	SP	BATTERY BACKUP SYSTEM	1			1	EA
	SP	WIC FIBER ENCLOSURE	1			1	EA
	SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	8		11	19	EA
	SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	4		2	6	EA
	SP & 706	TRAFFIC SIGNAL HEAD, LED, (5 SECTION, 1 WAY)		2	3	5	EA
	SP	RELOCATION OF TRAFFIC SIGNAL HEAD		3		3	EA
	SP & 707	CENTRAL CONTROL UNIT	1			1	EA
	SP & 707	POLE MOUNTED ASSEMBLY			8	8	EA
	SP & 707	INFRARED PROGRAMMING DEVICE	1			1	EA
	SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED			8	8	EA
	708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)			⚠ 2884	2884	LF
	708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	2026	543	339	2908	LF
	708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)			⚠ 705	705	LF
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	64		⚠ 796	860	LF
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)			220	220	LF
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	37			37	LF
	SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES			⚠ 925	925	LF
	SP	COMMUNICATION CABLE, FIBER (12 CHANNEL)	549			549	LF
	SP	FIBER TRACER WIRE, #14 AWG, POLYETHYLENE INSULATION ORANGE IN COLOR	549			549	LF
	SP	FIBER OPTIC PIGTAIL, 12 SM	30			30	LF
	709	GALVANIZED STEEL CONDUIT (2")	37			37	LF
	709	GALVANIZED STEEL CONDUIT (3")	112			112	LF
	710	NON-METALLIC CONDUIT (2")	73			73	LF
	710	NON-METALLIC CONDUIT (3")	71		⚠ 737	808	LF
	710	NON-METALLIC CONDUIT (3" HDPE)	235			235	LF
	711	CONCRETE PULL BOX (TYPE 1 HD)	1			1	EA
	SP & 711	CONCRETE PULL BOX (TYPE 3 HD)	2		5	7	EA
	SP & 711	PULL BOX FOR FIBER, DS-1609, 24"x36"x24"	6			6	EA
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (44')			1	1	EA
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')			1	1	EACH
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58')			1	1	EA
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (76') ⚠			1	1	EACH
	SP	LED LUMINAIRE ASSEMBLY			4	4	EA
	SP & 715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION			4	4	EA
	SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1			1	EA
	SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.33	0.33	0.34	1.00	LUMP SUM
	716	TREATED WOOD POLE (CLASS 2, 45')	4			4	EACH
	SP	18" STREET NAME SIGN (INSTALL ONLY)			4	4	EA
	SP	VIDEO DETECTOR ROTATION		2		2	EACH
	SP & 733	VIDEO DETECTOR RACK (16 CHANNEL)	1			1	EA
*	SP & 733	VIDEO DETECTOR (IP)	4		5	9	EA
	SP & 733	VIDEO CABLE (EXTERIOR CAT 5E)	1075		⚠ 1324	2399	LF
	733	VIDEO MONITOR (CLR)	1			1	EA
	SP & 733	CENTRAL CONTROL UNIT (4 CHANNEL)	2			2	EA
	SP	SDLC AND CABLES	1			1	LUMP SUM
	SP	BLUETOOTH SYSTEM	1			1	EACH

* ONE SPARE VIDEO DETECTOR SHALL BE SUPPLIED

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16675
CLAIRE E. MCKINNEY

Digitally Signed 03/27/2024

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:50 AM

BY	DESCRIPTION	DATE
AS	REVISION #1	03/01/2024
	REV. ⚠	

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNAL NOTES AND QUANTITIES

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: CEM
DRAWN BY: HRH

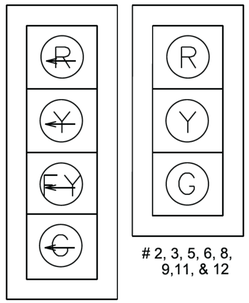
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-600

LTFreedle 3/27/2024 2:15:03 PM
\\WORKSPACE\Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C600_SG.dgn
REVISED DATE:

PHASES 1 - SIGNAL FACES

12" LENSES



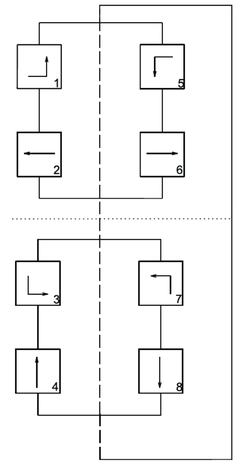
1, 4, 7 & 10

2, 3, 5, 6, 8, 9,11, & 12

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

NOTES:
1. TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL STAGES OF CONSTRUCTION.
2. CONTRACTOR SHALL HAVE PHASE 1 TRAFFIC SIGNAL OPERATIONAL PRIOR TO PHASE 1 CONSTRUCTION BEGINNING.
3. EXISTING SIGNAL EQUIPMENT SHALL BE REMOVED AFTER TEMPORARY SIGNALS ARE OPERATIONAL.
4. ALL GUY WIRE INSTALLATIONS SHALL BE STANDARD GUY INSTALLATION UNLESS OTHERWISE NOTED.
5. INSTALL 2-3" G.S. CONDUIT OUT OF THE PULL BOX NEAR CONTROLLER AND UP THE WOOD POLE.
6. PRIOR TO PHASE 1 CONSTRUCTION : BEGINNING CONTRACTOR SHALL INSTALL FIBER OPTIC COMMUNICATIONS AS SHOWN ON SHEET C-611.
7. SERVICE POINT TO BE INSTALLED IN FINAL LOCATION.
8. EXISTING CONDUIT TO BE ABANDONED.
9. FIBER CONNECTIVITY SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
10. SPAN WIRE ASSEMBLY SHALL BE SUBSIDIARY TO TREATED WOOD POLE(S) (1 ASSEMBLY EACH PER INTERSECTION), NO ADDITIONAL PAYMENT WILL BE MADE. THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING SPAN WIRE ASSEMBLIES (1 EACH), PER ARDOT SPECIFICATION 713 AT THE LOCATIONS SHOWN ON THE PLANS.

PHASES 1 & 2 - PHASING DIAGRAM



WALTON BLVD. AND SE J ST./SE DODSON RD. PHASES 1, 2, & 3 - POLE DIMENSIONS

POLE	MAST ARM	MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	LUM. ANGLE
I	-	-	45'	15'	AS SHOWN
J	-	-	45'	15'	AS SHOWN
K	-	-	45'	15'	AS SHOWN
L	-	-	45'	-	-

PHASES 1 & 2 DETECTOR SPACING CHART

WALTON BLVD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
J ST./DODSON RD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
40 MPH	85'	N/A

SCALE IN FEET
0 30 60 120

GARVER

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:59 AM

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16675
CLAIRE E. MCKINNEY
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

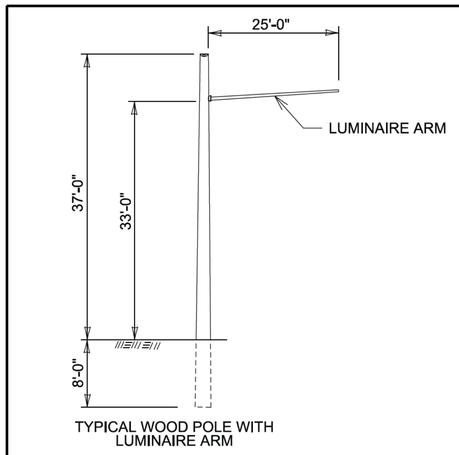
SIGNALIZATION PLANS - PHASE 1

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-601

LTFreedle 3/1/2023 4:57:14 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C601_SG.dgn
REVISED DATE:



TYPICAL WOOD POLE WITH LUMINAIRE ARM

NOTE TO CONTRACTOR:
LUMINAIRE ARMS (OR APPROVED MOUNTING HARDWARE) SHALL BE USED TO MOUNT VIDEO DETECTORS.
LUMINAIRE ARM SHALL NOT INCLUDE LUMINAIRE ASSEMBLIES. THE COST FOR LUMINAIRE ARMS, MOUNTING, AND ALL HARDWARE IS INCLUDED IN PRICE BID FOR ITEM 716 TREATED WOOD POLE.

PHASES 1 & 2
DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST AND WEST APPROACH
40 MPH NORTH AND SOUTH APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP LINES SHOWN ON PERMANENT PAVEMENT MARKING DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
1.5 FEET BEHIND CURB

Vz81 LOCATED 85' BEHIND STOP LINE
Vz31A LOCATED 85' BEHIND STOP LINE
PROPOSED ROW
EXISTING ROW
EXISTING PULL BOXES TO BE REMOVED (TYP.)
TREATED WOOD POLE (CLASS 2, 45') (TYPICAL)
EXISTING SIGNAL POLE TO BE REMOVED
EXISTING CONTROLLER TO BE REMOVED
EXISTING ROW
VIDEO DETECTOR (TYP.)
EXISTING SIGNAL POLE TO BE REMOVED
Vz22A LOCATED 115' BEHIND STOP LINE
Vz11 LOCATED 85' BEHIND STOP LINE
WALTON BLVD.
Vz62B COMB.
Vz62A
Vz62 A&B LOCATED 115' BEHIND STOP LINE
EXISTING ROW
EXISTING SIGNAL POLE TO BE REMOVED
2-3" NMC
INSTALL 100A METER PEDESTAL PER BEUD SPEC DS-1003 WITH 2" NMC TO CONTROLLER AND TYPE 1 PULL BOX
4-3" NMC
PULL BOX FOR FIBER. SEE SHEET C-611
Vz71A LOCATED 85' BEHIND STOP LINE
SE DODSON RD.
Vz41A LOCATED 85' BEHIND STOP LINE
EXISTING ROW
EXISTING SIGNAL POLE TO BE REMOVED
PROPOSED ROW
VIRTUAL 6'X50' PRESENCE VDZ (TYP.)
Vz51 LOCATED 85' BEHIND STOP LINE
Vz22A COMB.
Vz51 COMB.
Vz52
SE J ST.

WALTON BLVD. AND SE J ST./SE DODSON RD.
PHASES 1 & 2 - POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X,Y COORDINATES
I	WALTON BLVD. - STA. 31+90.86	72' RT.	665012.99, 735867.35
J	WALTON BLVD. - STA. 31+87.65	70' RT.	665016.12, 736008.05
K	WALTON BLVD. - STA. 33+05.73	80' RT.	665134.55, 736012.92
L	WALTON BLVD. - STA. 33+23.18	70' RT.	665145.20, 735862.15

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 — CERTIFICATE OF AUTHORIZATION — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 16675 — CLAIRE E. MCKINNEY
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 1

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:59 AM

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-602

SCALE IN FEET
0 20 40 80

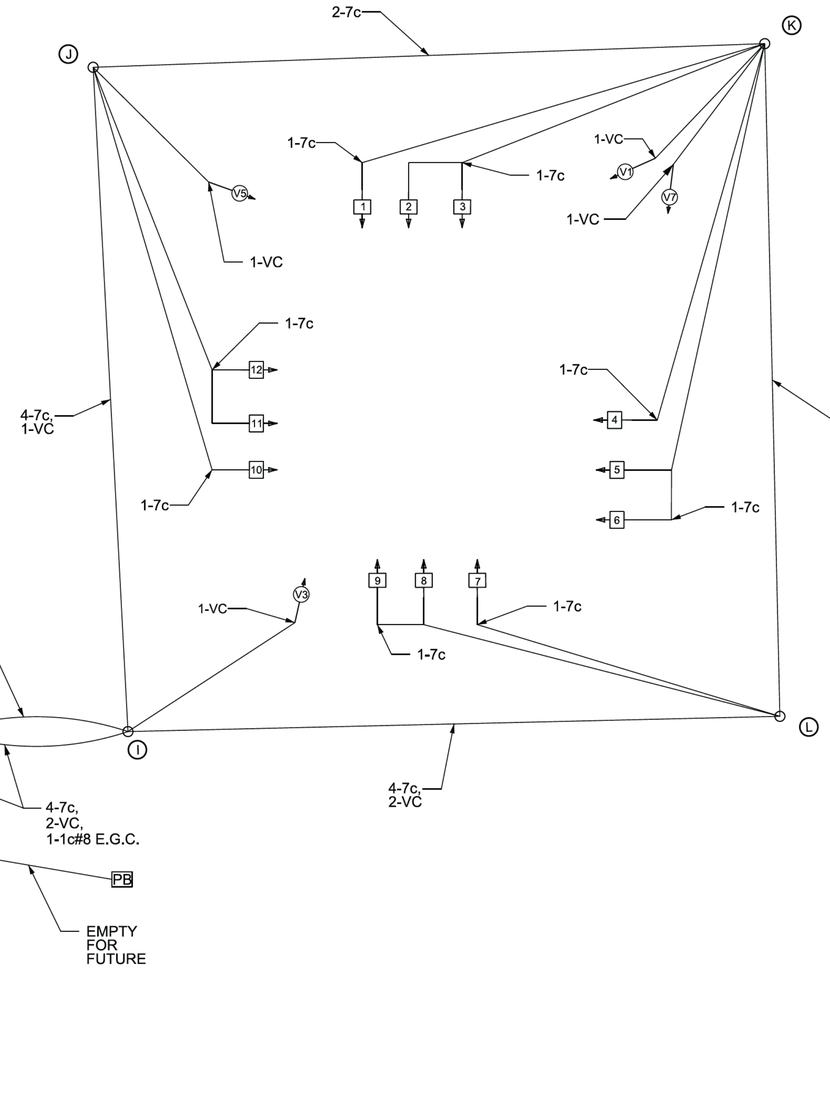
LTFreedle 3/1/2023
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C602_SG.dgn 4:57:18 PM
REVISED DATE:

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.
2. SEE SHEET NUMBER C-612 FOR GROUNDING ARRAY DETAIL

PHASE 1 - WIRING DIAGRAM

(NOT TO SCALE)



APPROVED FOR CONSTRUCTION
04/15/2024 8:51:59 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16675
CLAIRE E. MCKINNEY
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 1

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

C-603

LTFreedle 3/1/2023 4:57:20 PM
WORKSPACE:Garver_2012 - \\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C603_SG.dgn
REVISED DATE:

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:59 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.16675 — CLAIRE E. MCKINNEY
Digitally Signed 03/01/2023

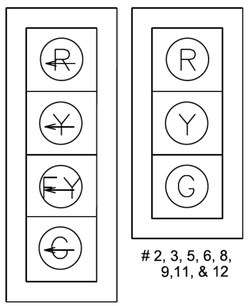
PHASE 1 - INTERVAL CHART

SIGNAL FACES	WALTON BLVD. AND SE J ST./SE DODSON RD.																FLASH SEQUENCE
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	4+7	CLR.	4+8	CLR.	3+8	CLR.	3+7	CLR.	
1	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~FY~~	***	~~FY~~	***	~~G~~	*	~~R~~
2 & 3	R	R	R	R	R	R	R	R	G	**	G	**	R	R	R	R	R
4	~~G~~	*	~~FY~~	***	~~G~~	*	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
5 & 6	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
7	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~FY~~	***	~~FY~~	***	~~G~~	*	~~G~~	*	~~R~~
8 & 9	R	R	R	R	R	R	R	R	R	R	G	**	G	**	R	R	R
10	~~G~~	*	~~G~~	*	~~FY~~	***	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
11 &12	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES YELLOW OR FLASHING YELLOW ARROW DEPENDING ON NEXT PHASE

PHASE 1 - SIGNAL FACES

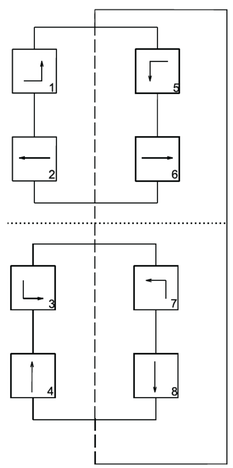
12" LENSES



1, 4, 7 & 10

2, 3, 5, 6, 8, 9,11, & 12

PHASE 1 - PHASING DIAGRAM



NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

PHASE 1 - DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION											
WALTON BLVD. AND SE J ST./SE DODSON RD. DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			VIDEO DET. TUBE LENGTHS	COMMENTS
							LOCAL		MASTER SYSTEM DETECTOR NUMBERS		
DET. ID #	LOCATION DIRECTION	TPYE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #			
Vz11	EB TURN LEFT FAR	COMB.			1	V9	1	1		23"	V1
Vz12	EB LEFT TURN	LOCAL			2	V1	1			23"	V1
Vz21 A&B	WB ADVANCE	LOCAL			5	V2	2			23"	V5
Vz22 A&B	WB NEAR	COMB.			6	V10	2	2		23"	V5
Vz31A	SB LEFT FAR	COMB.			9	V11	3	3		23"	V3
Vz32A	SB LEFT	LOCAL			10	V3	3			23"	V3
Vz41	NB ADVANCE	COMB.			13	V12	4	4		23"	V7
Vz42	NB NEAR	LOCAL			14	V4	4			23"	V7
Vz51	WB LEFT TURN FAR	COMB.			7	V13	5	5		23"	V5
Vz52	WB LEFT TURN	LOCAL			8	V5	5			23"	V5
Vz61A	EB ADVANCE	LOCAL			3	V6	6			23"	V1
Vz62A	EB NEAR	COMB.			4	V14	6	6		23"	V1
Vz71A	NB LEFT FAR	COMB.			15	V15	7	7		23"	V7
Vz72A	NB LEFT	LOCAL			16	V7	7			23"	V7
Vz81A	SB ADVANCE	COMB.			11	V16	8	8		23"	V3
Vz82A	SB NEAR	LOCAL			12	V8	8			23"	V3
					SPARE: AMP CHN. # = NONE						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 1

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: HRH

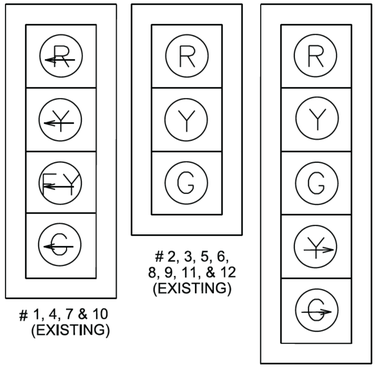
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-604

LTFreedle 3/1/2023 4:57:21 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C604_SG.dgn
REVISED DATE:

PHASE 2 - SIGNAL FACES

12" LENSES



1, 4, 7 & 10 (EXISTING)

2, 3, 5, 6, 8, 9, 11, & 12 (EXISTING)

13 & 14 (NEW)

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

NOTES:
1. TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF CONSTRUCTION.
2. CONTRACTOR SHALL HAVE PHASE 2 TRAFFIC SIGNAL OPERATIONAL PRIOR TO PHASE 2 CONSTRUCTION BEGINNING.
3. SIGNAL HEADS 1, 2, AND 3, SHALL BE RELOCATED ALONG SPAN WIRE AS SHOWN.
4. ROTATE VIDEO DETECTORS V3 AND V7 AS SHOWN TO ACCOMMODATE LANE SHIFTS.
5. THE GREEN AND YELLOW ARROW SIGNAL FACES ON SIGNAL HEADS 13 AND 14 SHALL BE HARDWIRED TO RUN WITH PHASES 3 AND 5, RESPECTIVELY, IN ORDER TO SIMULATE AN OVERLAP. THE SOLID SIGNAL FACES ON SIGNAL HEADS 13 AND 14 SHALL BE HARDWIRED TO RUN WITH PHASES 2 AND 4, RESPECTIVELY.
6. DURING PHASE 2 THE PERMANENT SIGNALS SHALL BE INSTALLED. UPON COMPLETION OF PHASE 2, THE TEMPORARY SIGNAL POLES SHALL BE REMOVED.
7. SEE FINAL PLANS FOR PERMANENT SIGNAL INFORMATION.
8. FIBER CONNECTIVITY SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

PHASE 2 - PHASING DIAGRAM

APPROVED FOR CONSTRUCTION

04/15/2024 8:51:59 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16675
CLAIRE E. MCKINNEY

Digitally Signed 03/01/2023

PHASES 1 & 2 - DETECTOR SPACING CHART

WALTON BLVD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
J ST./DODSON RD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
40 MPH	85'	N/A

N

SCALE IN FEET
0 30 60 120

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 2

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

C-605

LTFreedle 3/1/2023 4:57:30 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJ_C605_SG.dgn
REVISED DATE:

PHASES 1 & 2
DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST AND WEST APPROACH
40 MPH NORTH AND SOUTH APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP LINES SHOWN ON PERMANENT PAVEMENT MARKING DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
1.5 FEET BEHIND CURB

Vz81 LOCATED 85' BEHIND STOP LINE
Vz31A LOCATED 85' BEHIND STOP LINE
PROPOSED ROW
EXISTING ROW
Vz11 LOCATED 85' BEHIND STOP LINE
EXISTING ROW
Vz22A&B LOCATED 115' BEHIND STOP LINE
Vz22B COMB. Vz22A
WALTON BLVD.
Vz62A COMB. Vz62B
Vz62A&B LOCATED 115' BEHIND STOP LINE
EXISTING ROW
PROPOSED ROW
VIRTUAL 6'X50' PRESENCE VDZ (TYP.)
Vz71A LOCATED 85' BEHIND STOP LINE
Vz41A&B LOCATED 85' BEHIND STOP LINE
Vz51 LOCATED 85' BEHIND STOP LINE
SE J ST.
SE DODSON RD.
WALTON BLVD.

SCALE IN FEET
0 20 40 80

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER
CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16675
CLAIRE E. MCKINNEY
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 2

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:59 AM

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-606

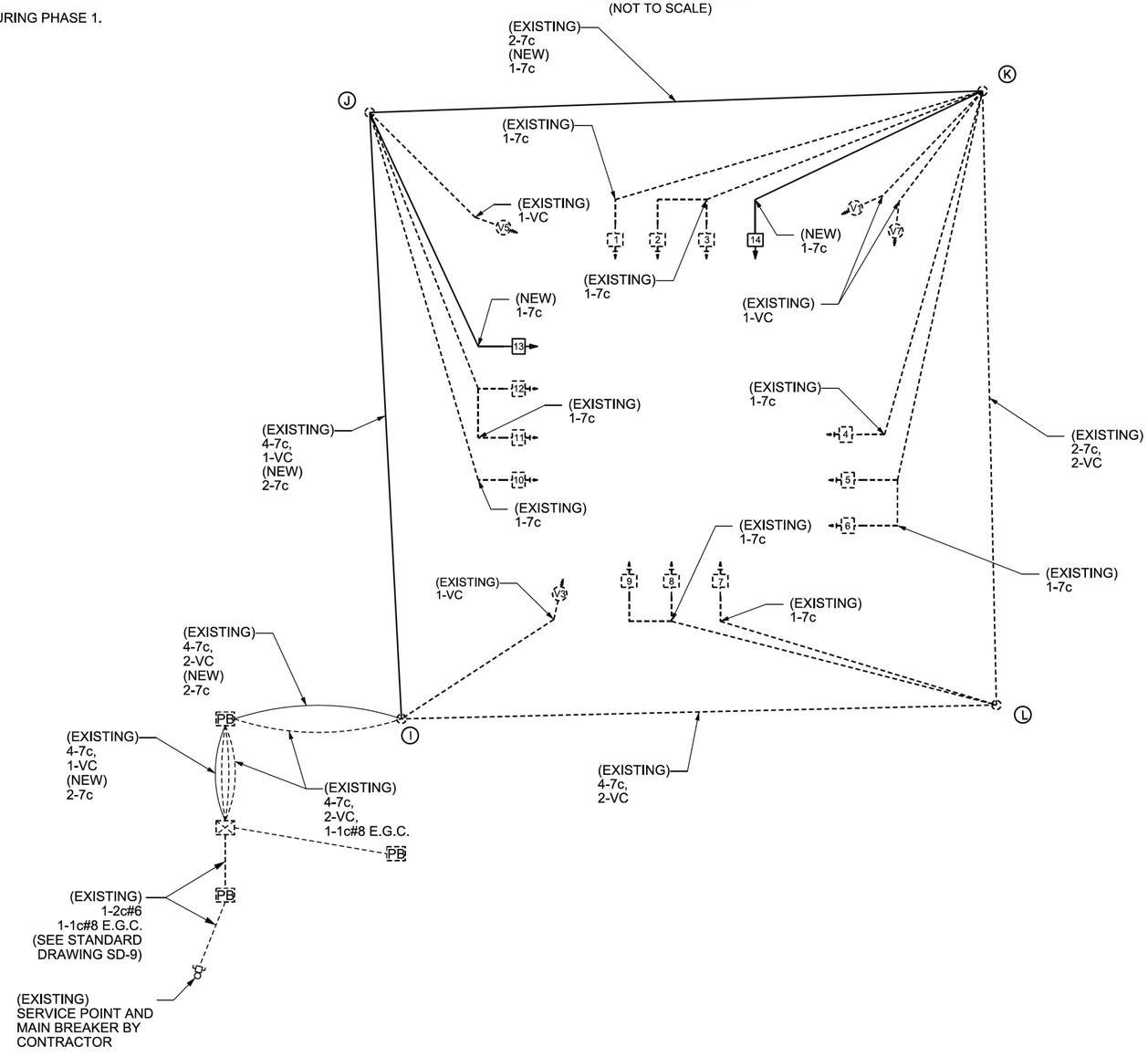
LTFreedle 3/1/2023 4:57:34 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C606_SG.dgn
REVISED DATE:

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.
3. PHASE 2 WIRING SHOWS ITEMS INSTALLED DURING PHASE 1.

PHASE 2 - WIRING DIAGRAM

(NOT TO SCALE)



APPROVED FOR CONSTRUCTION
04/15/2024 8:51:59 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16675
CLAIRE E. MCKINNEY
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 2

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

C-607

LTFreedle 3/1/2023 4:57:36 PM
\\GARVERINC.LOCAL\GDATA\PROJECTS\2021\21T21090 - BENTONVILLE WALTON BLVD-SE J ST IMPS\DRAWINGS\WJJ_C607_SG.DGN
WORKSPACE:Garver_2012
REVISED DATE:

APPROVED FOR B CONSTRUCTION
04/15/2024 8:51:59 AM

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS ENGINEER

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 16675 CLAIRE E. MCKINNEY
Digitally Signed 03/01/2023

PHASE 2 - INTERVAL CHART

SIGNAL FACES	WALTON BLVD. AND SE J ST./SE DODSON RD. 1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	4+7	CLR.	4+8	CLR.	3+8	CLR.	3+7	CLR.	FLASH SEQUENCE
1	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~FY~~	***	~~FY~~	***	~~G~~	*	~~R~~
2 & 3	R	R	R	R	R	R	R	R	G	**	G	**	R	R	R	R	R
4	~~G~~	*	~~G~~	*	~~FY~~	***	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
5 & 6	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R
7	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~FY~~	***	~~FY~~	***	~~G~~	*	~~G~~	*	~~R~~
8 & 9	R	R	R	R	R	R	R	R	R	R	G	**	G	**	R	R	R
10	~~G~~	*	~~FY~~	***	~~G~~	*	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
11 &12	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
13	R	R	R	R	G	**	G	**	R	R	R	R	R ~~G~~	R *	R ~~G~~	R *	R
14	R ~~G~~	R *	R	R	R →	R *	R	R	G	**	G	**	R	R	R	R	R

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES YELLOW OR FLASHING YELLOW ARROW DEPENDING ON NEXT PHASE

PHASE 2 - SIGNAL FACES

12" LENSES

1, 4, 7 & 10 (EXISTING)

2, 3, 5, 6, 8, 9, 11, & 12 (EXISTING)

13 & 14 (NEW)

PHASE 2 - PHASING DIAGRAM

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

PHASE 2 - DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION											
WALTON BLVD. AND SE J ST./SE DODSON RD. DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			VIDEO DET. TUBE LENGTHS	COMMENTS
							LOCAL		MASTER SYSTEM DETECTOR NUMBERS		
DET. ID #	LOCATION DIRECTION	TPYE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #			
Vz11	EB TURN LEFT FAR	COMB.			1	V9	1	1		23"	V1
Vz12	EB LEFT TURN	LOCAL			2	V1	1			23"	V1
Vz21 A&B	WB ADVANCE	LOCAL			5	V2	2			23"	V5
Vz22 A&B	WB NEAR	COMB.			6	V10	2	2		23"	V5
Vz31A	SB LEFT FAR	COMB.			9	V11	3	3		23"	V3
Vz32A	SB LEFT	LOCAL			10	V3	3			23"	V3
Vz41	NB ADVANCE	COMB.			13	V12	4	4		23"	V7
Vz42	NB NEAR	LOCAL			14	V4	4			23"	V7
Vz51	WB LEFT TURN FAR	COMB.			7	V13	5	5		23"	V5
Vz52	WB LEFT TURN	LOCAL			8	V5	5			23"	V5
Vz61 A&B	EB ADVANCE	LOCAL			3	V6	6			23"	V1
Vz62 A&B	EB NEAR	COMB.			4	V14	6	6		23"	V1
Vz71A	NB LEFT FAR	COMB.			15	V15	7	7		23"	V7
Vz72A	NB LEFT	LOCAL			16	V7	7			23"	V7
Vz81	SB ADVANCE	COMB.			11	V16	8	8		23"	V3
Vz82	SB NEAR	LOCAL			12	V8	8			23"	V3
					SPARE: AMP CHN. # = NONE						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 2

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: HRH

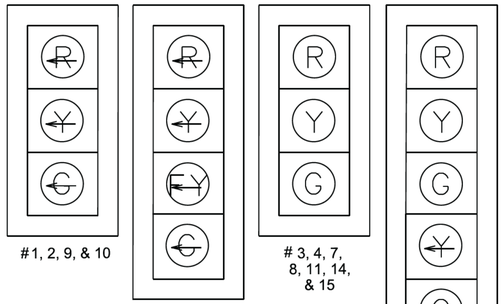
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-608

LTFreedle 3/1/2023 4:57:40 PM
\\WORKSPACE\Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C608_SG.dgn
REVISED DATE:

SIGNAL FACES

12" LENSES



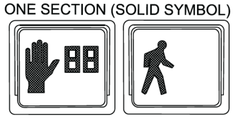
#1, 2, 9, & 10

6 & 13

3, 4, 7, 8, 11, 14, & 15

5, 12, & 16

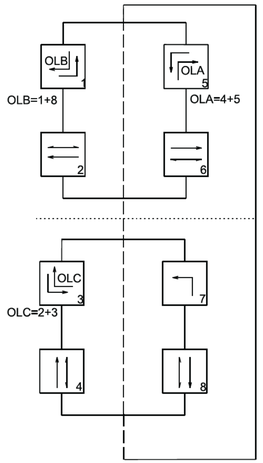
ONE SECTION (SOLID SYMBOL)



17-24

PHASING DIAGRAM

(SEE NOTE 8 FOR OVERLAPS)



NOTES:

1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION FOR RETRO-REFLECTIVE BACKPLATES FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. REFER TO SPECIAL PROVISONS FOR DETAILS ON NEW REQUIRMENTS FOR PEDESTRIAN SIGNAL HEADS.
4. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A.S. STANDARDS.
5. CROSSWALKS NOT SHOWN FOR CLARITY.
6. SEE DRAWING NUMBER C-611 FOR FIBER COMMUNICATION DETAILS.
7. PULL BOXES FOR FIBER SHALL BE LABELED n"CITY FIBER" AND PULL BOXES FOR SIGNAL SHALL BE LABELED "TRAFFIC SIGNALS".
8. THE GREEN AND YELLOW ARROW SIGNAL FACES ON SIGNAL HEADS 5, 12, AND 16 SHALL BE HARDWIRED TO RUN WITH PHASES 6, 1, AND 3, RESPECTIVELY. IN ORDER TO SIMULATE AN OVERLAP. THE SOLID SIGNAL FACES ON SIGNAL HEADS 5, 12, AND 16 SHALL BE HARDWIRED TO RUN WITH PHASES 4, 8, AND 1, RESPECTIVELY.
9. V1 AND V5 SHALL BE NEXTVECTORS CAMERAS AND V3 AND V7 SHALL BE VANTAGE NEXT CAMERAS.

WALTON BLVD. AND SE J ST./SE DODSON RD. POLE DIMENSIONS

	POLE	MAST ARM	* MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	* LUM. ANGLE
	A	46'	270°	35'	15'	270°
						180°
	B	-	-	12'	-	-
	C	58'	180°	35'	15'	180°
						90°
**	D	-	-	4'	-	-
⚠	E	76'	180°	35'	15'	180°
						90°
**	F	-	-	4'	-	-
	G	44'	270°	35'	15'	270°
						180°
	H	-	-	12'	-	-

* ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

** SEE PEDESTRIAN PUSHBUTTON PEDESTAL DETAIL ON DRAWING NUMBER C-605

DETECTOR SPACING CHART

WALTON BLVD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'

J ST./DODSON RD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
40 MPH	85'	N/A

APPROVED FOR CONSTRUCTION

04/15/2024 8:51:59 AM

N

SCALE IN FEET

0 30 60 120

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
CLAIRE E. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
No.16675

Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
⚠	03/27/2024	REVISION #1	CEM

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: CEM
DRAWN BY: HRH

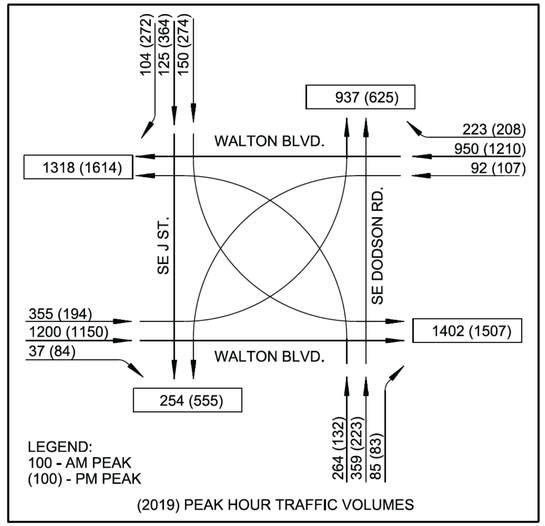
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

C-609

LTFreedle 3/27/2024 2:15:20 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C609_SG.dgn
REVISED DATE:

TRAFFIC FLOW DIAGRAM



DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST AND WEST APPROACH
40 MPH NORTH AND SOUTH APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP LINES SHOWN ON PERMANENT PAVEMENT MARKING DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
1.5 FEET BEHIND CURB

WALTON BLVD. AND SE J ST./SE DODSON RD.
POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X,Y COORDINATES
A	WALTON BLVD. - STA. 32+12.64	66' RT.	665034.99, 735871.90
B	WALTON BLVD. - STA. 31+88.21	46' RT.	665018.70, 735962.26
C	WALTON BLVD. - STA. 31+81.96	58' LT.	665006.26, 735997.51
D	WALTON BLVD. - STA. 31+95.90	56' LT.	665025.37, 735994.59
1 E	WALTON BLVD. - STA. 33+15.86	67' LT.	665144.11, 736000.07
1 F	WALTON BLVD. - STA. 33+11.54	56' LT.	665139.28, 735988.92
G	WALTON BLVD. - STA. 33+52.61	43' RT.	665175.18, 735888.99
H	WALTON BLVD. - STA. 33+11.56	58' RT.	665215.54, 735931.58

NOTE:
1. CROSSWALKS NOT SHOWN FOR CLARITY. SEE DRAWING NUMBER C-302 FOR DETAILS.
2. SEE DRAWING NUMBER C-611 FOR AERIAL FIBER COMMUNCIATION DETAILS.

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:59 AM

SCALE IN FEET
0 20 40 80

GARVER
© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS ENGINEER

STATE OF ARKANSAS CLAIRE E. MCKINNEY LICENSED PROFESSIONAL ENGINEER No.16675
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION #1	AS

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1" 2"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-610

LTFreedle 3/27/2024 2:15:24 PM
WORKSPACE:Garver, 2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C610_SG.dgn
REVISED DATE:

NOTES:
1. THIS PROJECT INVOLVES THE MODIFICATION & INSTALLATION OF FIBER OPTIC CABLE TO INTERCONNECT THE PROPOSED TRAFFIC SIGNAL AT WALTON AND J ST./DODSON RD. TO THE EXISTING SYSTEM. ALL FIBER OPTIC WORK MUST BE COORDINATED WITH THE CITY'S TRAFFIC ENGINEERING AND IT DEPARTMENTS RESPECTFULLY BEFORE MODIFYING THE CURRENT FIBER INSTALLATION.
2. ALL FIBER SHOULD BE COMMSCOPE, LIGHTSCOPE, OR CORNING ALTOS, OUTSIDE WITH MESSENGER WIRE (AS NEEDED) SINGLE-MODE 12 STRAND FIBER (12 SMF) OR APPROVED EQUAL.
3. ALL FIBER OPTIC PULL BOXES SHALL BE DS-1609, 24"x36"x24". ALL LIDS TO REFERENCE CITY FIBER OPTIC LINE.
4. ALL FIBER OPTIC CABLE NEEDS TO BE ARMORED FIBER OPTIC CABLING. A NO. 14 GAUGE, STRANDED COPPER CABLE SHALL BE USED TO COMPLETE GROUNDING AND UTILITY LOCATE CAPABILITIES FROM THE CONTROLLER CABINET TO THE FIBER OPTIC CABLE IN GROUND. ONCE ATTACHED TO THE ARMORED JACKET ON THE FIBER, THE UTILITY LOCATE CAPABILITY NEEDS TO BE CONFIRMED CAPABLE FOR THE DISTANCE OF THE FIBER RUN IN CONDUIT.
5. LOCATION OF EXISTING UTILITY POLES IS APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.
6. FIBER OPTIC SPLICES WILL BE REQUIRED AT J ST./DODSON RD. EXISTING TRAFFIC SIGNAL CABINET. TERMINATION POINT WILL BE THE FIRST 24"X36"X24" PULL BOX OUTSIDE TRAFFIC CABINET. PIGTAIL SHALL BE SC PRE-TERMINATED SINGLE MODE FIBER OPTIC CABLE.
7. SEE DRAWING NUMBERS C-609 AND C-610 FOR TRAFFIC SIGNAL LAYOUT DETAILS AT SE J STREET.
8. CONTRACTOR SHALL REMOVE EXISTING FIBER AND RE-PULL INTO THE NEAREST PULL BOX TO POLE 01. SPLICE THE NEW 12 SMF CABLE TO THE TRAFFIC SIGNAL CABINET. SPLICE IN NEW FIBER CONTINUING TO POLE 02. FIBER TO BE RECONNECTED WITH THE NEW CABINET.
9. CONTRACTOR TO PROVIDE TO THE CITY PROPOSED SPLICE CONNECTIONS DISPLAYING WHICH CABLES ARE TO BE CONNECTED AND THEIR COLOR DESIGNATION BEFORE INSTALLATION.
10. PULL BOXES FOR FIBER SHALL BE LABELED "CITY FIBER".
11. ALL CONDUIT LABELED "FOR CITY FIBER" SHALL INCLUDE TRACER WIRE.

EXISTING ROW
UTILITY POLE 01 (FOR FIBER)
2" NMC (FOR CITY FIBER)
DS-1609, 24"x36"x24", PULL BOX (FOR FIBER)
2" NMC (FOR CITY FIBER)
DS-1609, 24"x36"x24", PULL BOX (FOR CITY FIBER)
PROPOSED ROW
2" NMC (FOR CITY FIBER)
DS-1609, 24"x36"x24", PULL BOX (FOR FIBER)
2" NMC (FOR CITY FIBER)
PROPOSED ROW
DS-1609, 24"x36"x24", PULL BOX (FOR FIBER)
2" NMC (FOR CITY FIBER)
UTILITY POLE 02 (FOR CITY FIBER)
3" HDPE FOR FIBER
WALTON BLVD.
DS-1609, 24"x36"x24", PULL BOX (FOR CITY FIBER)
3" HDPE FOR CITY FIBER
2" NMC (FOR CITY FIBER)
TRAFFIC SIGNAL CABINET
EXISTING ROW
DODSON RD.
DS-1609, 24"x36"x24", PULL BOX (FOR FIBER)
EXISTING ROW
PROPOSED ROW
J ST.
POE
12"W
8"W
SCALE IN FEET
0 20 40 80

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 ARKANSAS ENGINEER
CERTIFICATE OF AUTHORIZATION

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.16675 CLAIRE E. MCKINNEY
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION #1	AS

APPROVED FOR CONSTRUCTION
04/15/2024 8:51:59 AM

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS

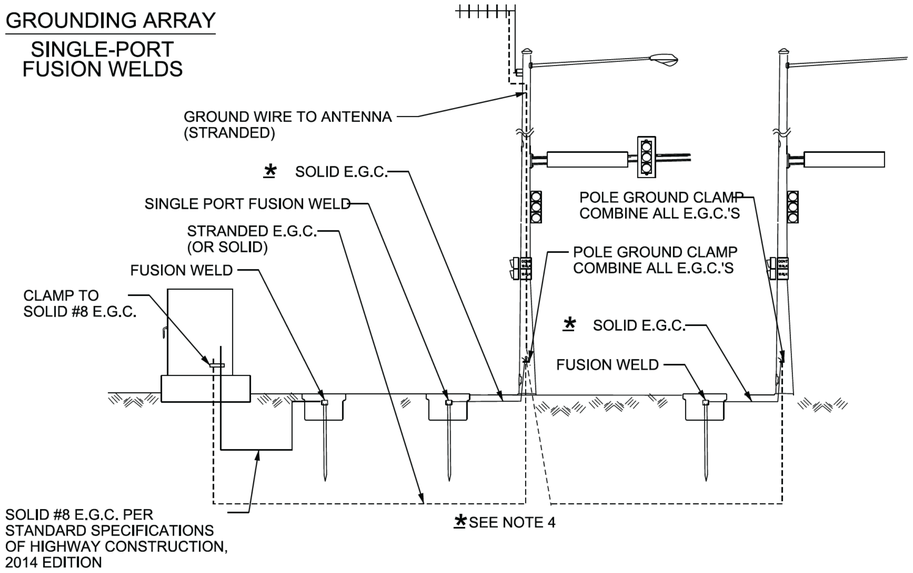
JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-611

LTFreedle 3/27/2024 2:15:28 PM
WORKSPACE:Garver 2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C611_SG.dgn
REVISED DATE:

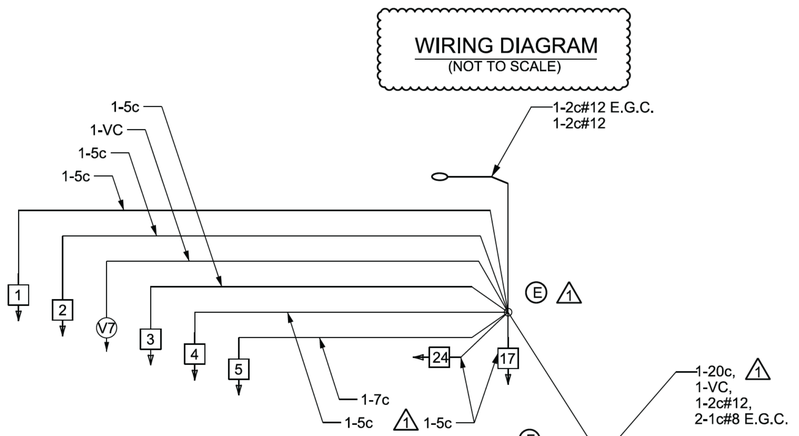
GROUNDING ARRAY
SINGLE-PORT FUSION WELDS

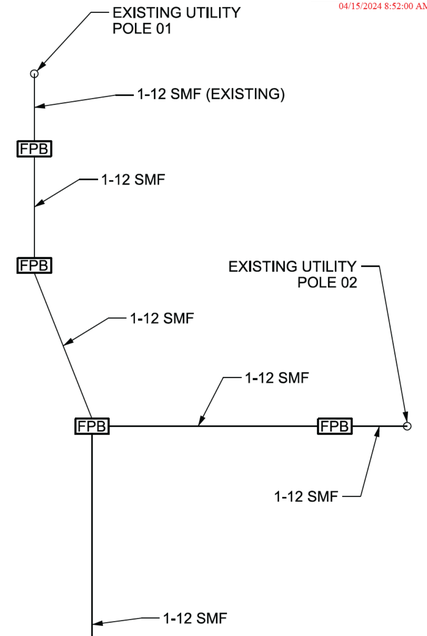


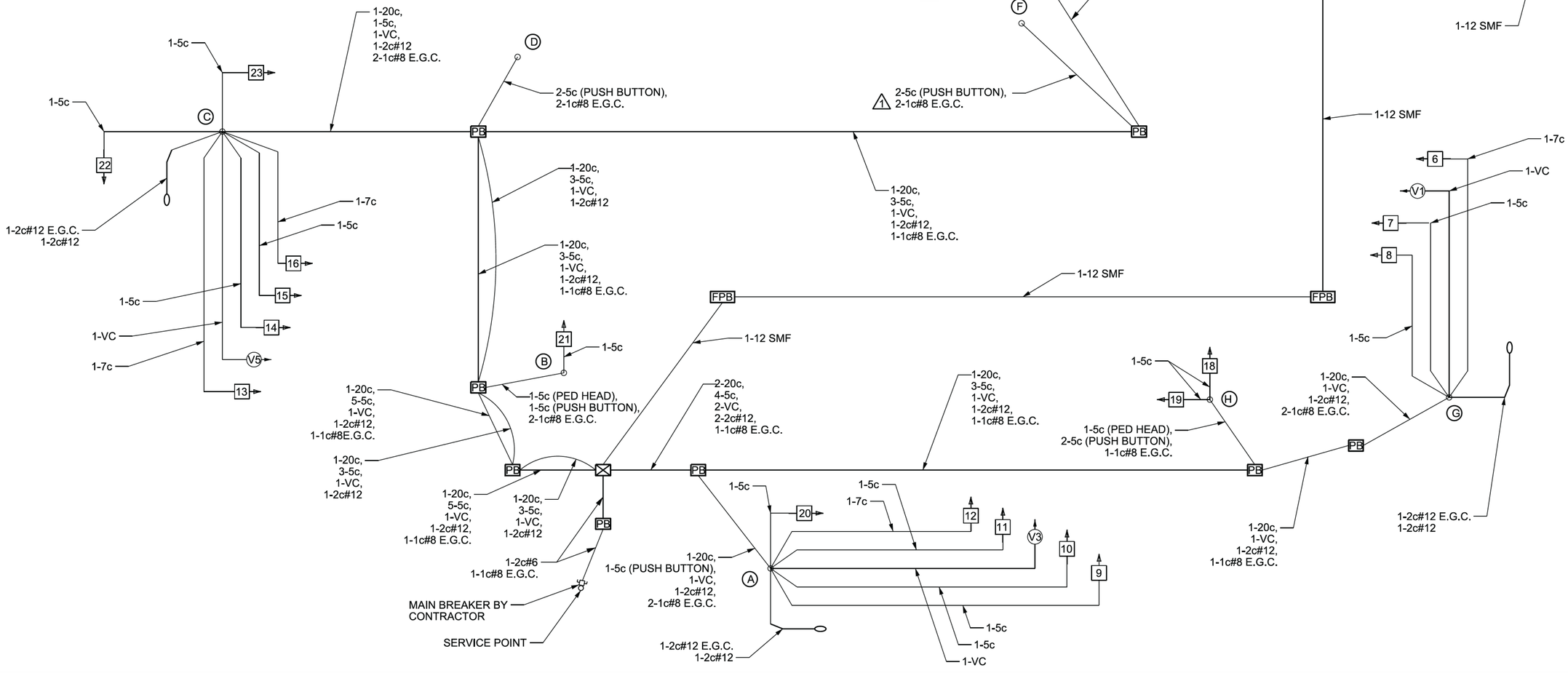
NOTES TO CONTRACTOR:

1. SEPARATE 5c/#14 A.W.G. TO EACH POLE WITH PEDESTRIAN PUSH BUTTONS.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

WIRING DIAGRAM
(NOT TO SCALE)







APPROVED FOR CONSTRUCTION
04/15/2024 8:52:00 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS ENGINEER

STATE OF ARKANSAS CLAIRE E. MCKINNEY LICENSED PROFESSIONAL ENGINEER No.16675
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION #1	AS

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

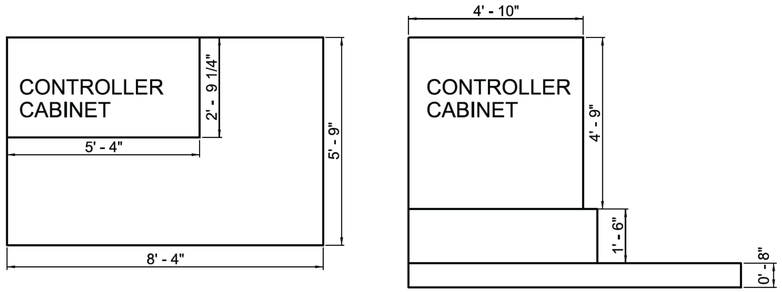
SIGNALIZATION PLANS

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-612

LTFreedle 3/27/2024 2:15:30 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJJ_C612_SG.dgn
REVISED DATE:



SUPER P FOUNDATION DETAIL

INTERVAL CHART

SIGNAL FACES	WALTON BLVD. AND SE J ST./SE DODSON RD. 1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	4+7	CLR.	4+8	CLR.	3+8	CLR.	3+7	CLR.	FLASH SEQUENCE
1 & 2	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~R~~
3 & 4	R	R	R	R	R	R	R	R	G	**	G	**	R	R	R	R	R
5	R ~~G~~	R *	R	R	R ~~G~~	R *	R	R	G	**	G	**	R	R	R	R	R
6	~~G~~	*	~~G~~	*	~~FY~~	***	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
7 & 8	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R
9 & 10	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~G~~	*	~~R~~
11	R	R	R	R	R	R	R	R	R	R	G	**	G	**	R	R	R
12	R ~~G~~	R *	R ~~G~~	R *	R	R	R	R	R	R	G	**	G	**	R	R	R
13	~~G~~	*	~~FY~~	***	~~G~~	*	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
14 & 15	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
16	R	R	R	R	G	**	G	**	R	R	R	R	R ~~G~~	R *	R ~~G~~	R *	R
17 & 18	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	BLK
19 & 20	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK
21 & 22	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	BLK
23 & 24	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES YELLOW OR FLASHING YELLOW ARROW DEPENDING ON NEXT PHASE

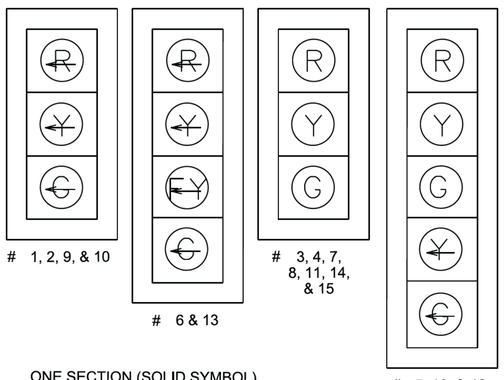
DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION											
WALTON BLVD. AND SE J ST./SE DODSON RD. DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL		MASTER SYSTEM DETECTOR NUMBERS	VIDEO DET. TUBE LENGTHS	COMMENTS
DET. ID #	LOCATION DIRECTION	TPYE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #			
Vz11	EB TURN LEFT FAR	COMB.			1	V9	1	1		37"	V1
Vz12	EB LEFT TURN	LOCAL			2	V1	1			37"	V1
Vz21 A&B	WB ADVANCE	LOCAL			5	V2	2			37"	V5
Vz22 A&B	WB NEAR	COMB.			6	V10	2	2		37"	V5
Vz31 A&B	SB LEFT FAR	COMB.			9	V11	3	3		37"	V3
Vz32 A&B	SB LEFT	LOCAL			10	V3	3			37"	V3
Vz41	NB ADVANCE	COMB.			13	V12	4	4		37"	V7
Vz42	NB NEAR	LOCAL			14	V4	4			37"	V7
Vz51	WB LEFT TURN FAR	COMB.			7	V13	5	5		37"	V5
Vz52	WB LEFT TURN	LOCAL			8	V5	5			37"	V5
Vz61 A&B	EB ADVANCE	LOCAL			3	V6	6			37"	V5
Vz62 A&B	EB NEAR	COMB.			4	V14	6	6		37"	V1
Vz71 A&B	NB LEFT FAR	COMB.			15	V15	7	7		37"	V7
Vz72 A&B	NB LEFT	LOCAL			16	V7	7			37"	V7
Vz81 A&B	SB ADVANCE	COMB.			11	V16	8	8		37"	V3
Vz82 A&B	SB NEAR	LOCAL			12	V8	8			37"	V3
PB2	J ST. N. LEG	PED.				P2	2				
PB4	WALTON E. LEG	PED.				P4	4				
PB6	DODSON S. LEG	PED.				P6	6				
PB8	WALTON W. LEG	PED.				P8	8				
				SPARE: AMP CHN. # = NONE							

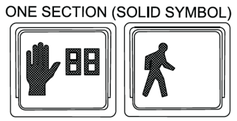
CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

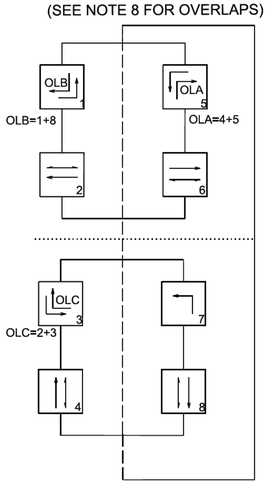
SIGNAL FACES
12" LENSES



ONE SECTION (SOLID SYMBOL)



PHASING DIAGRAM
(SEE NOTE 8 FOR OVERLAPS)



NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION FOR RETRO -REFLECTIVE BACKPLATES FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. REFER TO SPECIAL PROVISONS FOR DETAILS ON NEW REQUIRMENTS FOR PEDESTRIAN SIGNAL HEADS.
4. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A.S. STANDARDS.
5. THE GREEN AND YELLOW ARROW SIGNAL FACES ON SIGNAL HEADS 5, 12, AND 16 SHALL BE HARDWIRED TO RUN WITH PHASES 6, 1, AND 3, RESPECTIVELY, IN ORDER TO SIMULATE AN OVERLAP. THE SOLID SIGNAL FACES ON SIGNAL HEADS 5, 12, AND 16 SHALL BE HARDWIRED TO RUN WITH PHASES 4, 8, AND 1, RESPECTIVELY.

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:00 AM

GARVER
© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16675
CLAIRE E. MCKINNEY
Digitally Signed 03/01/2023

BY	DESCRIPTION	DATE	REV.

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SIGNALIZATION PLANS

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-613

LTFreedle 3/1/2023 4:57:59 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C613_SG.dgn
REVISED DATE:

LEGEND

- BENCHMARK
- CONTROL POINTS
- MAIL BOX
- SIGN
- GAS METER
- SANITARY MANHOLE
- WATER VALVE
- HYDRANT
- WATER METER
- STORM DRAIN MANHOLE
- STORM DRAIN GRATE
- TELEPHONE RISER
- TELEPHONE JUNCTION BOX
- FIBER OPTIC MANHOLE
- UTILITY POLE
- GUY ANCHOR
- LIGHT POLE
- GUY POLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- BOREHOLE

- EXISTING CENTERLINE
- EXISTING MAJOR CONTOUR (1260)
- EXISTING MINOR CONTOUR (1259)
- EXISTING STRUCTURE
- EXISTING TOB/TOS
- EXISTING GRAVEL DRIVE
- EXISTING GAS UTILITY
- EXISTING SANITARY UTILITY
- EXISTING WATER UTILITY
- EXISTING FENCE
- EXISTING STORM DRAIN
- EXISTING UNDERGROUND FIBER UTILITY
- EXISTING UNDERGROUND TELEPHONE UTILITY
- EXISTING TREE LINE
- EXISTING UNDERGROUND ELECTRIC UTILITY
- EXISTING OVERHEAD ELECTRIC UTILITY
- EXISTING PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- PROPOSED TEMP. CONST. EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED RIGHT-OF-WAY
- PROPOSED CENTERLINE
- PROPOSED CURB AND GUTTER
- PROPOSED ROADWAY OUTLINE
- PROPOSED STORM DRAIN
- PROPOSED TOP-OF-BANK
- PROPOSED TOE-OF-SLOPE
- PROPOSED UTILITY LINE ABANDONMENT
- PROPOSED C.L. DITCH / CHANNEL

GENERAL UTILITY NOTES:

1. SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR IN STRICT ACCORDANCE WITH OSHA STANDARDS. THE OWNER AND ENGINEER SHALL NOT BE RESPONSIBLE FOR SAFETY, MEANS AND METHODS OF THE CONTRACTOR.

2. CAUTION: UNDERGROUND UTILITIES MAY EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS. HOWEVER, ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM THE LOCATIONS SHOWN. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY. ARKANSAS STATE LAW, THE UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, REQUIRES TWO WORKING DAYS ADVANCE NOTIFICATION THROUGH THE ARKANSAS ONE-CALL SYSTEM CENTER BEFORE EXCAVATING USING MECHANIZED EQUIPMENT OR EXPLOSIVES (EXCEPT IN THE CASE OF EMERGENCY). THE ONE-CALL SYSTEM PHONE NUMBER IS 1-800-482-8998 OR 811. THE CONTRACTOR IS ADVISED THAT THERE IS A SEVERE PENALTY FOR NOT MAKING THIS CALL. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE ARKANSAS ONE-CALL SYSTEM. THEREFORE, THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITIES AS WELL AS THE ONE-CALL SYSTEM. THE LOCATION OF THE EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE, AND ARE THE LOCATIONS AT THE TIME OF DESIGN. SOME UTILITIES MAY HAVE BEEN RELOCATED BETWEEN THE TIME OF DESIGN AND THE CONTRACTOR'S NOTICE TO PROCEED. PRIOR TO ANY CONSTRUCTION, COORDINATE WITH UTILITY OWNER AND SPOT DIG AND VERIFY LOCATIONS WITH ENGINEER.

3. ALL UTILITY WORK SHALL BE PER THE 2021 EDITION OF THE CITY OF BENTONVILLE STANDARD WATER AND SEWER SPECIFICATIONS WHICH ARE INCLUDED IN THE CONTRACT DOCUMENTS BY REFERENCE.

4. CONTRACTOR SHALL NOTIFY APPLICABLE UTILITY OWNERS PRIOR TO ANY SPOT DIGGING. CONTRACTOR SHALL NOTIFY BLACK HILLS ENERGY ANYTIME WORKING NEAR GAS LINES. CONTRACTOR SHALL NOTIFY UTILITY OWNER IMMEDIATELY TO REPORT ANY DAMAGE TO EXISTING UTILITY. CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING UTILITIES INCLUDING STORM SEWERS.

5. CONTRACTOR SHALL PROVIDE CONSTRUCTION STAKING BY A QUALIFIED SURVEYOR LICENSED AS A PLS IN ARKANSAS. VERIFY SURVEY CONTROL PRIOR TO ANY CONSTRUCTION STAKING. PROPERTY MONUMENTS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED. CONTRACTOR SHALL PROVIDE SURVEY FOR VALVES, METERS, AND FIRE HYDRANTS FOR RECORD DRAWINGS.

6. CONTRACTOR SHALL ENSURE THAT STORMWATER DEBRIS AND WATER DO NOT ENTER PIPE ENDS AT ALL TIMES WITH TEMPORARY CAPS. CONTRACTOR SHALL PROTECT PIPE FROM FLOATING UNTIL FINAL COVER HAS BEEN PLACED.

7. ALL VALVES AND FITTINGS SHALL BE RESTRAINED WITH RESTRAINT GLANDS. ALL FITTINGS SHALL ALSO HAVE CONCRETE THRUST BLOCKING.

8. PIPE BACKFILL SHALL BE COMPACTED CLASS 7 AGGREGATE BASE COURSE AT EXISTING, PROPOSED, AND FUTURE TRAFFIC LOCATIONS AS SHOWN ON PROFILES IN 8" MAXIMUM LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY. TEMPORARY AND PERMANENT PAVEMENT REPAIR SHALL BE PER DETAILS.

9. CONTRACTOR SHALL SPOT DIG AND VERIFY LOCATIONS OF ALL UTILITIES AT CONNECTIONS AND INTERSECTIONS OF PROPOSED WATER AND SEWER FACILITIES PRIOR TO ANY CONSTRUCTION. PIPE ELEVATIONS ARE FOR REFERENCE ONLY. VERIFY EXISTING CONFLICTS AND COORDINATE WITH ENGINEER.

10. CONTRACTOR SHALL SPOT DIG AND VERIFY EXISTING JOINTS AT PROPOSED TAPPING SLEEVE LOCATIONS PRIOR TO ANY WORK. MAINTAIN 5' MINIMUM HORIZONTAL SEPARATION BETWEEN TAPPING SLEEVE AND EXISTING PIPE JOINTS. ADJUST TAPPING LOCATIONS AS APPROVED BY ENGINEER AND BENTONVILLE WATER UTILITIES (BWU).

11. CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTION ACTIVITIES WITHIN RIGHT-OF-WAY AND EASEMENTS.

12. WATER LINE PIPES SHALL BE CLASS 50 DUCTILE IRON (RATED AT 350 PSI) OR AWWA C-900 DR-14 PVC AS SPECIFIED IN THE DRAWINGS, IN ACCORDANCE WITH OWNER'S REQUIREMENTS.

13. CONTRACTOR SHALL PROVIDE GPS COORDINATES FOR ALL NEW SANITARY SEWER MANHOLES, WATER VALVES, AND HORIZONTAL WATER LINE BENDS FOR RECORD DRAWINGS.

14. INSTALL LINE/VALVE MARKERS AT LOCATIONS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER OR OWNER.

15. CONTINGENT UPON GROUNDWATER CONDITIONS, INSTALL WATER MITIGATION DAMS AT LOCATIONS AS DIRECTED BY ENGINEER/OWNER. MITIGATION DAMS SHALL BE FLOWABLE FILL, KEYED INTO UNDISTURBED SOIL 12", 4' ABOVE TOP OF PIPE, AND 3' MINIMUM LONGITUDINAL LENGTH.

16. CONTRACTOR SHALL IMMEDIATELY HALT CONSTRUCTION ACTIVITIES AND NOTIFY OWNER WHEN ANY CAVES OR ARCHEOLOGICAL REMAINS AND OR ARTIFACTS ARE DISCOVERED. THE OWNER WILL IMMEDIATELY NOTIFY USFWS FOR CAVES AND USACE FOR ARTIFACTS.

17. STORAGE AREA LOCATIONS OUTSIDE EASEMENTS SHALL BE APPROVED BY OWNER/ENGINEER.

18. PAINT FIRE HYDRANT BONNET AND CAP SAFETY YELLOW.

19. CONTRACTOR SHALL INSTALL SERVICE SADDLES AND CORP STOPS FOR PRESSURE TESTS, BLOWOFF, AND DISINFECTION AS APPROVED BY THE ENGINEER AND OWNER.

20. ALL WATER LINE TAPS SHALL BE PERFORMED BY BWU.

21. REGARDING SANITARY SEWER BYPASS PUMPING:

    A. NO PUMPING WILL BE ALLOWED OVERNIGHT. THE GRAVITY SEWER SYSTEM SHALL BE OPERATIONAL AT THE END OF EACH WORKING DAY.

    B. A REDUNDANT PUMP OF EQUAL OR GREATER CAPACITY SHALL BE AVAILABLE ON-SITE.

    C. PUMPING OPERATIONS SHALL NOT BE PERFORMED WHEN THERE IS A 20 PERCENT OR GREATER CHANCE OF RAIN.

    D. THE CONTRACTOR SHALL SUCCESSFULLY DEMONSTRATE THE SYSTEM'S ABILITY TO PUMP FOR FOUR (4) HOURS BEFORE BYPASS PUMPING WILL BE ALLOWED TO BEGIN.

    E. THE CONTRACTOR SHALL SUPPLY SUBMITTALS AND BYPASS PUMPING PLANS FOR APPROVAL BEFORE BYPASS PUMPING WILL BE ALLOWED.

    F. ADEQUATELY-TRAINED PERSONNEL SHALL BE ON-SITE AT ALL TIMES DURING SETUP, OPERATION, AND BREAK-DOWN OF BYPASS PUMPING .

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:00 AM

ARKANSAS ONE CALL
811
Know what's below.
Call before you dig.
SEE GENERAL UTILITY NOTE 2

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF [redacted]
ENGINEER
No.9637
LAWRENCE F. GREGORY

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

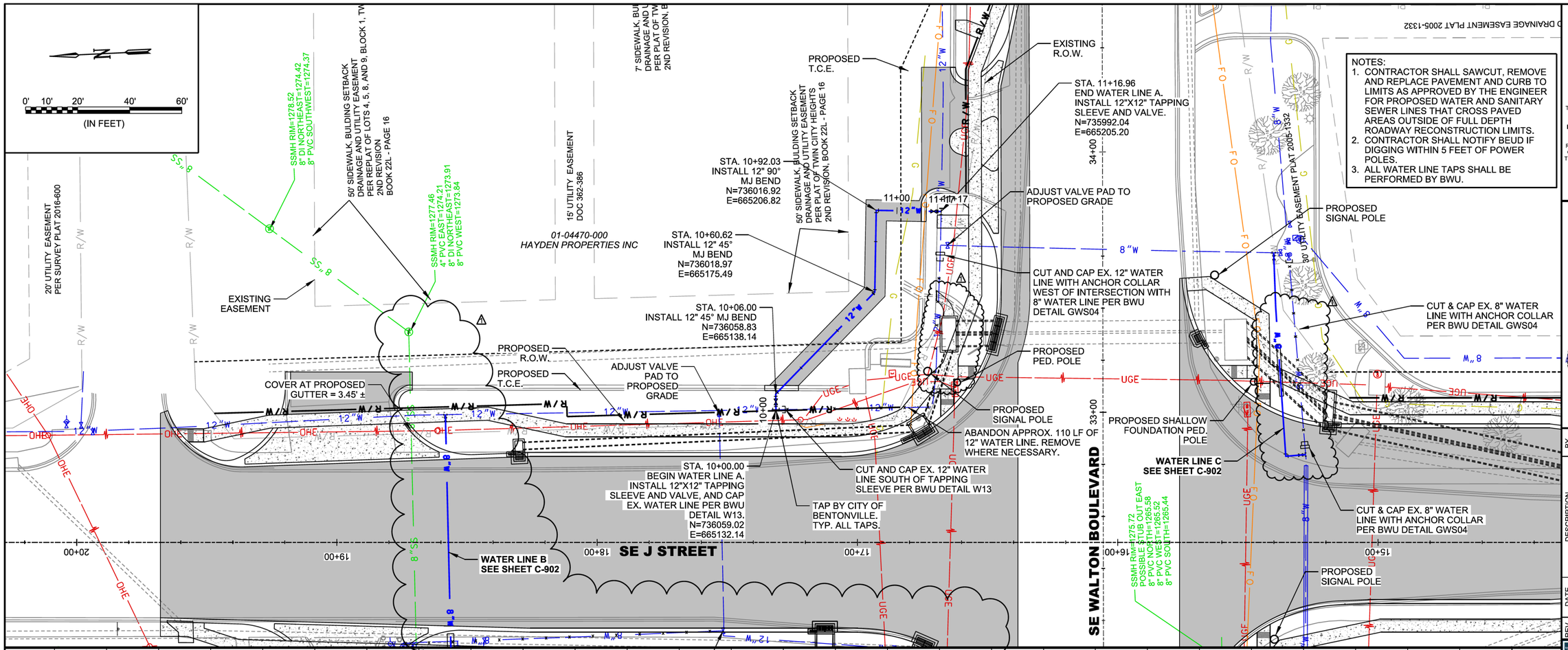
WATERLINE AND SEWERLINE GENERAL NOTES

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: LFG
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-900

LTFreedle 3/1/2023 4:58:05 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C900_WN.dgn
REVISED DATE:



NOTES:
1. CONTRACTOR SHALL SAWCUT, REMOVE AND REPLACE PAVEMENT AND CURB TO LIMITS AS APPROVED BY THE ENGINEER FOR PROPOSED WATER AND SANITARY SEWER LINES THAT CROSS PAVED AREAS OUTSIDE OF FULL DEPTH ROADWAY RECONSTRUCTION LIMITS.
2. CONTRACTOR SHALL NOTIFY BEUD IF DIGGING WITHIN 5 FEET OF POWER POLES.
3. ALL WATER LINE TAPS SHALL BE PERFORMED BY BWU.

GARVER

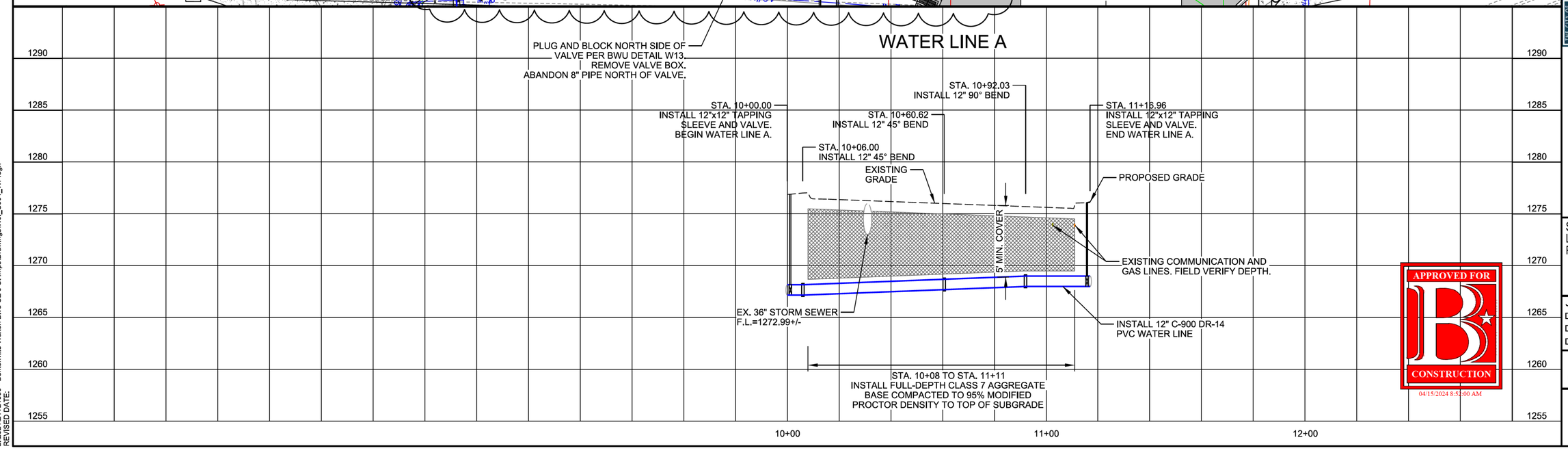
© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9637
LAWRENCE F. GREGORY
Digitally Signed 03/18/2024

DESCRIPTION	DATE	REV.	BY
REVISION 1	03/01/24	1	LTF

WATER LINE A



APPROVED FOR CONSTRUCTION
04/15/2024 8:52:00 AM

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

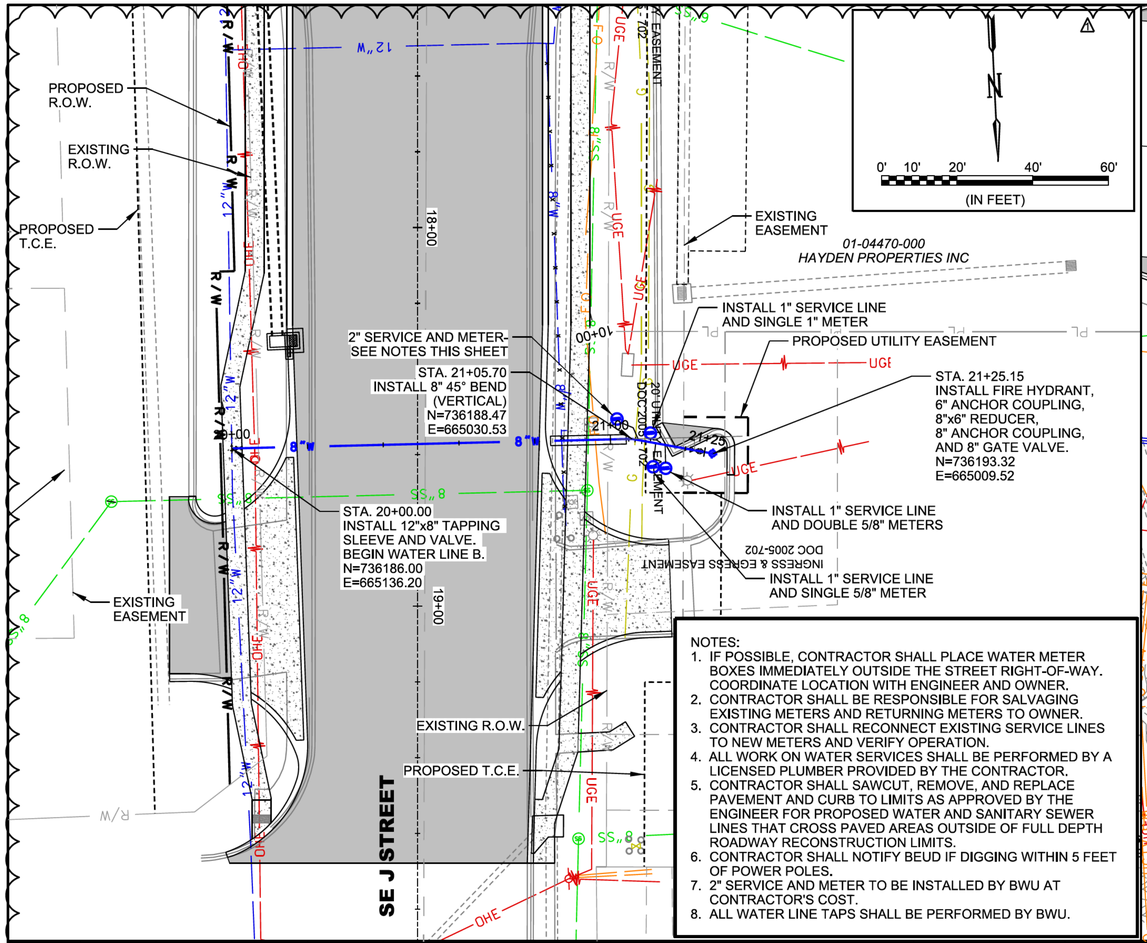
SE J STREET WATER LINE A PLAN AND PROFILE

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LFG
DRAWN BY: TWM

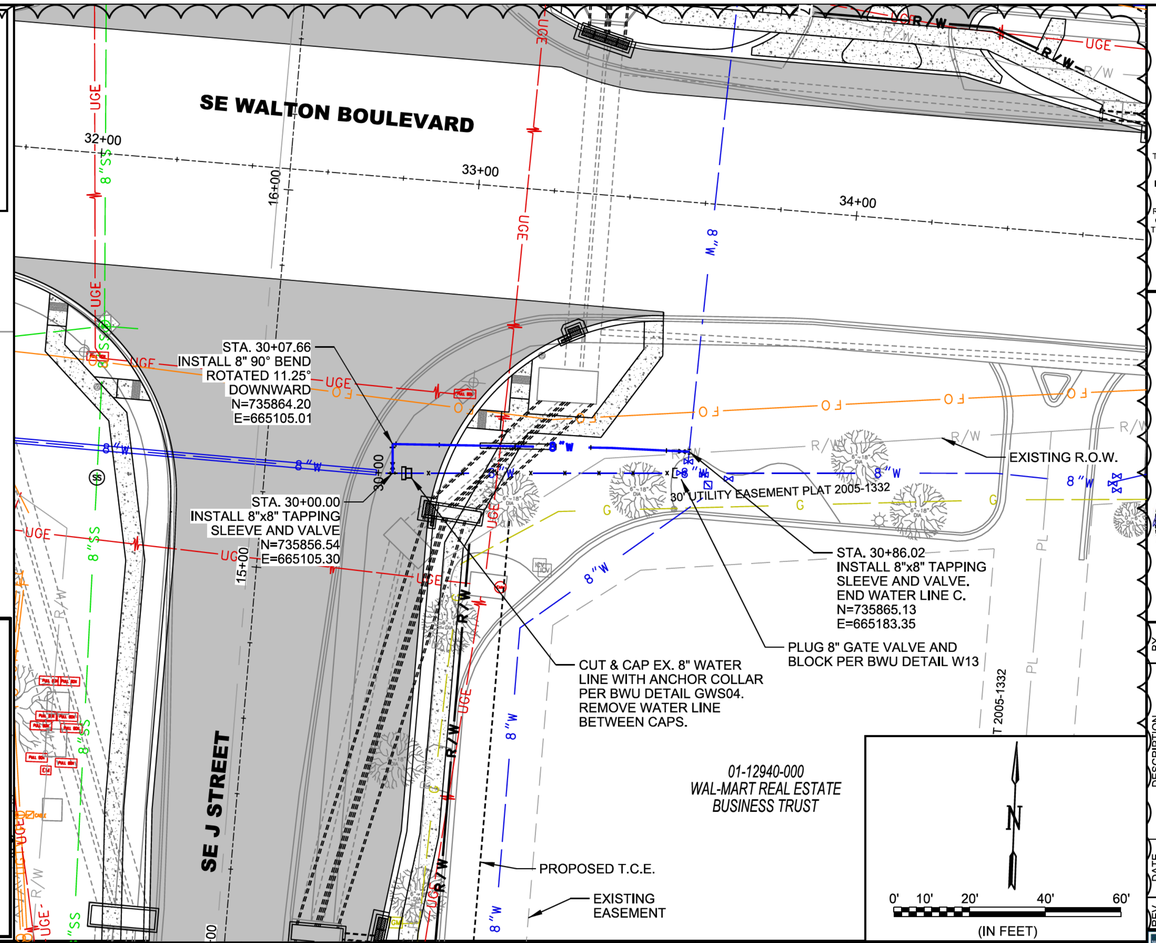
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

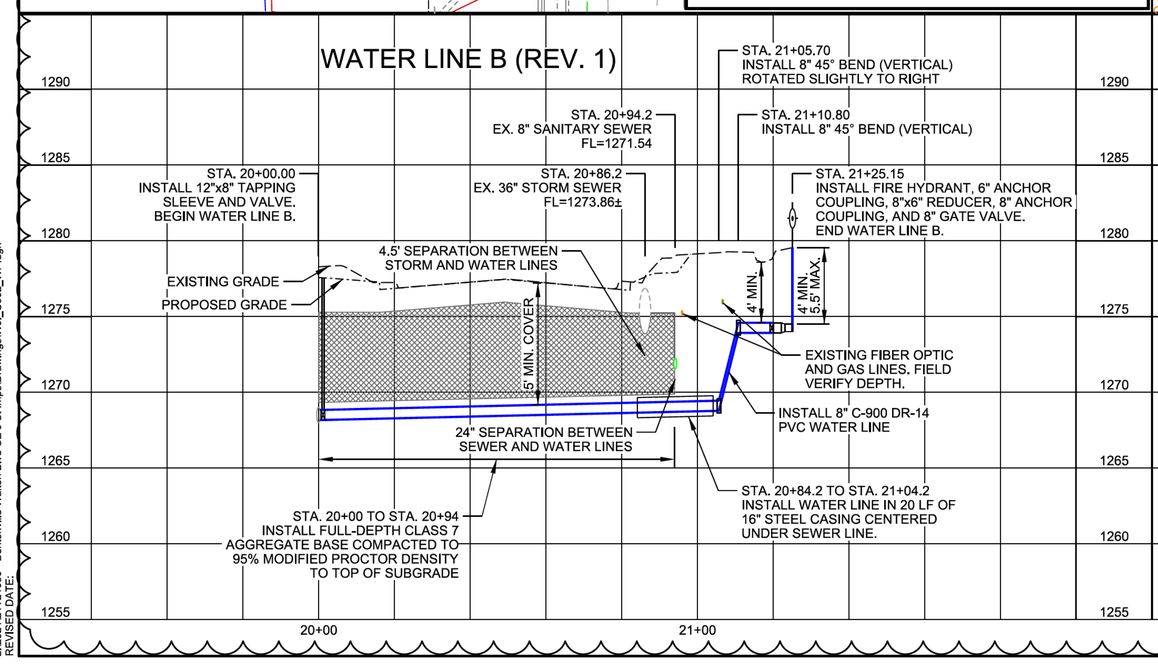
DRAWING NUMBER
C-901

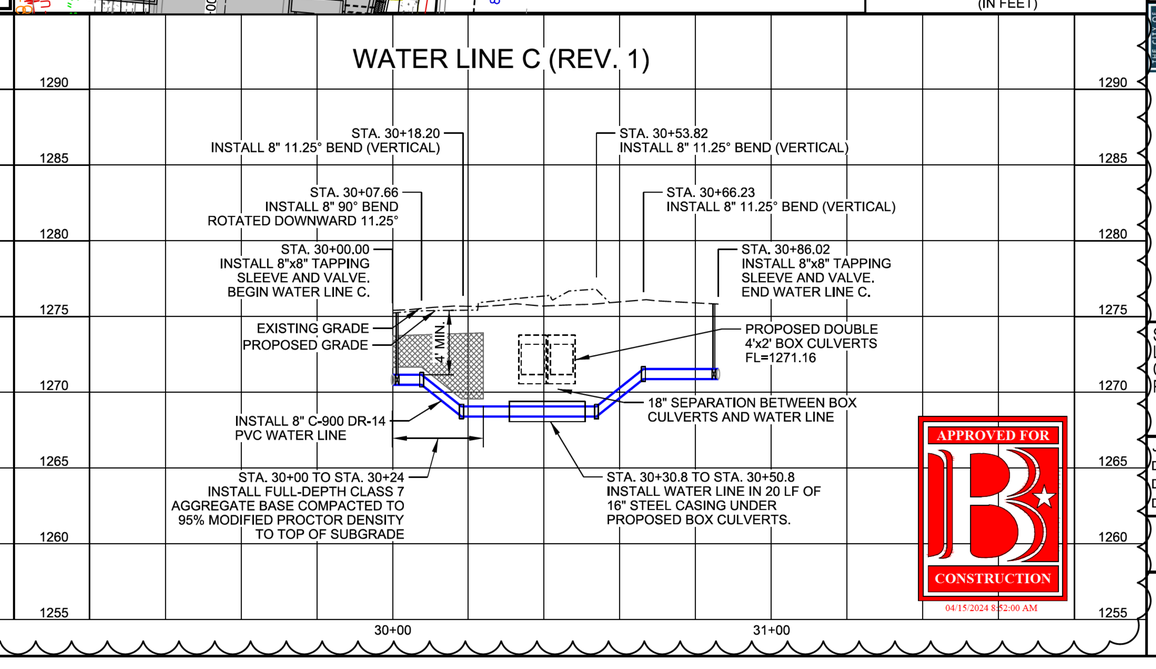
LFGregory 3/18/2024 8:07:30 AM
WORKSPACE:Garver_2012
L:\2021\21T21090 - Bentonville Walton Blvd-SE J St Impst\Drawings\WJL_C901_WP.dgn
REVISED DATE:



NOTES:
1. IF POSSIBLE, CONTRACTOR SHALL PLACE WATER METER BOXES IMMEDIATELY OUTSIDE THE STREET RIGHT-OF-WAY. COORDINATE LOCATION WITH ENGINEER AND OWNER.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SALVAGING EXISTING METERS AND RETURNING METERS TO OWNER.
3. CONTRACTOR SHALL RECONNECT EXISTING SERVICE LINES TO NEW METERS AND VERIFY OPERATION.
4. ALL WORK ON WATER SERVICES SHALL BE PERFORMED BY A LICENSED PLUMBER PROVIDED BY THE CONTRACTOR.
5. CONTRACTOR SHALL SAWCUT, REMOVE, AND REPLACE PAVEMENT AND CURB TO LIMITS AS APPROVED BY THE ENGINEER FOR PROPOSED WATER AND SANITARY SEWER LINES THAT CROSS PAVED AREAS OUTSIDE OF FULL DEPTH ROADWAY RECONSTRUCTION LIMITS.
6. CONTRACTOR SHALL NOTIFY BEUD IF DIGGING WITHIN 5 FEET OF POWER POLES.
7. 2" SERVICE AND METER TO BE INSTALLED BY BWU AT CONTRACTOR'S COST.
8. ALL WATER LINE TAPS SHALL BE PERFORMED BY BWU.







APPROVED FOR CONSTRUCTION
04/15/2024 8:52:00 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9637
LAWRENCE F. GREGORY
Digitally Signed 03/18/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/24	REVISION 1	LTF

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE J STREET WATER LINES B (REV. 1) AND C (REV. 1) PLAN AND PROFILE

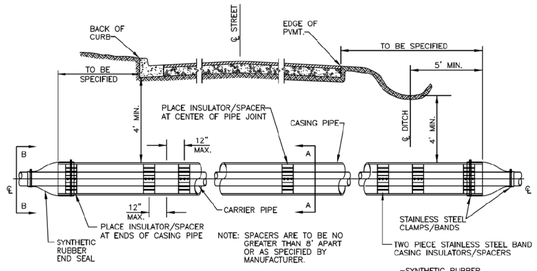
JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-902

LFGregory 3/18/2024 8:07:19 AM
WORKSPACE:Garver_2012
L:\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL\C902_WP.dgn
REVISED DATE:

ENCASEMENT DETAIL



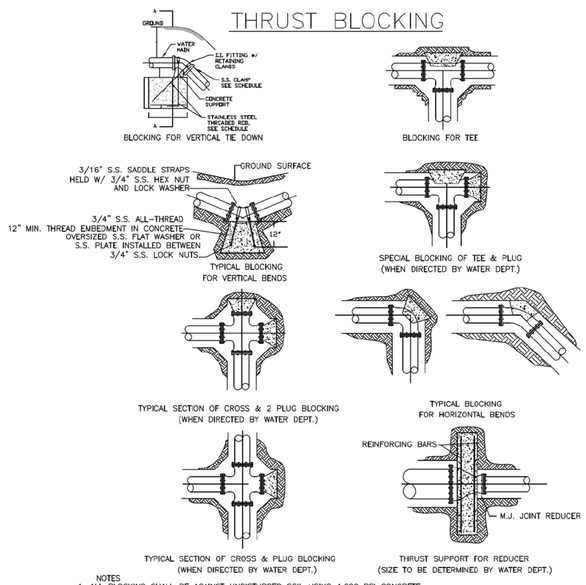
CARRIER & CASING SIZES									
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"
CASING	16"	16"	16"	18"	20"	24"	30"	30"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

*ALL BELLS SHALL BE RESTRAINED INSIDE ENCASEMENT BY APPROVED METHOD.

GENERAL WATER/SEWER DETAIL: GWS01

THRUST BLOCKING



NOTES
1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED SOIL USING 4,000 PSI CONCRETE.
2. WHERE SOIL CONDITIONS MAKE IT NECESSARY TO POUR CONCRETE OVER JOINTS, THE ENDS OF THE ADJACENT PIPES MUST HAVE A THRUST BLOCK TO RESIST MOVEMENT OF THESE JOINTS.
3. WEIGHT CALCULATIONS TO BE BASED ON REACTION BACKING TABLE (SEE GWS03).
4. WHEN BLOCKING AGAINST FITTINGS, FITTINGS SHALL BE COVERED WITH POLYETHYLENE WRAP TO PREVENT BONDING OF CONCRETE.
5. WHERE SHEAR BECOMES A PROBLEM PROPER REINFORCING MUST BE INSTALLED INTO THE BLOCKING.
6. CLEARANCE SHALL BE A MINIMUM OF 6" BETWEEN PIPE AND OBSTRUCTIONS.
7. CLEARANCE ON PIPES BELONGING TO OIL/GAS COMPANIES SHALL BE 18" UNLESS SPECIAL PERMISSION IS GIVEN BY THESE COMPANIES AND THE DEPARTMENT.
8. 12" OF ALL THREAD EMBEDED IN CONCRETE
9. MIN. 5/8" ALL THREAD FOR SECTIONS 10FT OR UNDER

GENERAL WATER/SEWER DETAIL: GWS02

REACTION BACKING TABLE

BLOCKING SCHEDULE					
PIPE SIZE		BENDS 45°	BENDS 22 1/2°	BENDS 11 1/4°	ROD DIA.
8"	VOLUME REQ'D (CU. FT.)	98.5	50.2	25.2	
	A (FT.)	5.00'	4.00'	3.00'	
	B (FT.)	4.00'	3.20'	2.80'	3/4 IN.
	C (FT.)	5.00'	4.00'	3.00'	
	MIN. CLAMP (2 EA.)	3/8 IN. x 2 IN.			
12"	VOLUME REQ'D (CU. FT.)	209.5	106.8	53.7	
	A (FT.)	6.00'	5.00'	4.00'	
	B (FT.)	6.00'	4.25'	3.50'	3/4 IN.
	C (FT.)	6.00'	5.00'	4.00'	
	MIN. CLAMP (2 EA.)	1/2 IN. x 2 IN.			
18"	VOLUME REQ'D (CU. FT.)	457.2	233.1	117.1	
	A (FT.)	8.00'	6.50'	5.00'	
	B (FT.)	7.25'	5.50'	4.75'	1 IN.
	C (FT.)	8.00'	5.50'	5.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			
24"	VOLUME REQ'D (CU. FT.)	800.3	408.0	205.0	
	A (FT.)	9.50'	7.50'	6.00'	
	B (FT.)	9.00'	7.25'	5.75'	1 1/4 IN.
	C (FT.)	9.50'	7.50'	6.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			

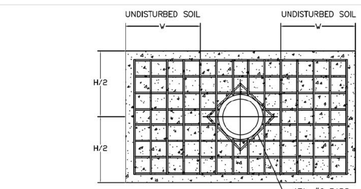
VOLUME CALCULATED ON THE BASIS OF CONCRETE REACTING THRUST ON THE RESPECTIVE BENDS UNDER AN INTERNAL PRESSURE OF 250 PSI, 50 PSI SURGE AND THE WEIGHT OF CONCRETE IS 150 POUNDS PER CU. FT.

NOTES:
1. ALL FITTINGS SHALL BE MECHANICAL JOINTS.
2. DO NOT COVER BELLS OR FLANGES WITH CONCRETE.
3. WRAP ALL FITTINGS WITH POLY WRAP.
4. BACK ALL TEES ACCORDING TO SIZE OF BRANCH.
5. BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE.
6. ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL, SHALL BE BACKED WITH CONCRETE.
7. REACTION BACKING TABLE IS BASED ON 150 PSI AND SOIL BEARING PRESSURE OF 2,000 LB/SQ. FT. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS REQUIRED BY CITY WATER DEPARTMENT.

GENERAL WATER/SEWER DETAIL: GWS03

ANCHOR COLLAR SPECIFICATIONS

ANCHOR COLLAR SCHEDULE						
PIPE SIZE	DIMENSIONS W	H	T	M	REINFORCING BARS "A" BARS	"B" BARS
6"	1.5'	2.0'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
8"	1.5'	2.5'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
12"	2.0'	4.0'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
16"	3.0'	4.5'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
20"	3.0'	5.0'	2.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
24"	3.5'	5.5'	2.0'	M.J. RETAINER GLAND	#7@6"	#6@10"
30"	6.5'	6.0'	2.5'	4"	#8@6"	#7@10"
36"	7.0'	7.0'	2.5'	4"	#8@6"	#7@10"



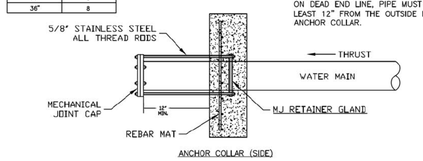
ANCHOR COLLAR (ELEVATION)

ROD REQUIREMENTS	
MAIN SIZE	NO. OF RODS
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

NOTE:
USE M.J. RETAINER GLANDS FOR PIPE 24" AND SMALLER.

NOTE:
PIPE SURFACES SHALL BE CLEANED OF ALL FOREIGN MATERIAL BEFORE 4000 PSI CONCRETE COLLAR IS POURED.

NOTE:
ON DEAD END LINE, PIPE MUST EXTEND AT LEAST 12" FROM THE OUTSIDE EDGE OF ANCHOR COLLAR.

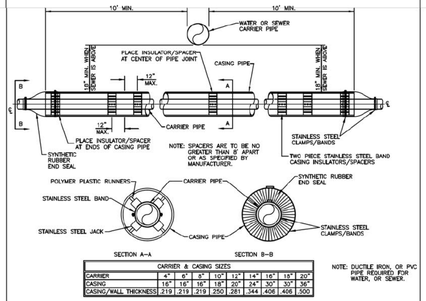


ANCHOR COLLAR (SIDE)

NOTE:
ALL-THREAD STEEL RODS SHALL BE 5/8" STAINLESS STEEL WITH STAINLESS STEEL HARDWARE.

GENERAL WATER/SEWER DETAIL: GWS04

ENCASEMENT CROSSING DETAIL



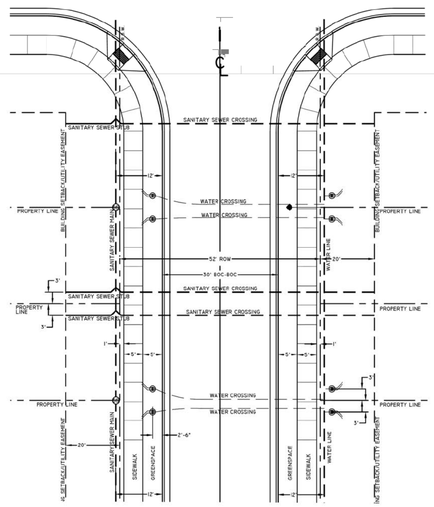
CARRIER & CASING SIZES									
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"
CASING	16"	16"	16"	18"	20"	24"	30"	30"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

*ALL BELLS SHALL BE RESTRAINED BY APPROVED METHOD.

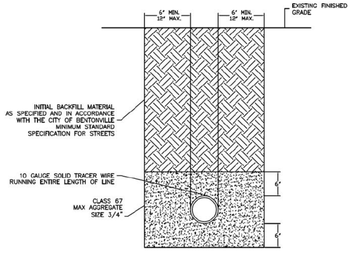
GENERAL WATER/SEWER DETAIL: GWS05

SUBDIVISION UTILITY PLACEMENT



GENERAL WATER/SEWER DETAIL: GWS06

TYPICAL BEDDING DETAIL



* REFER TO STREET SPECIFICATIONS FOR STREET REPAIR INFORMATION

GENERAL WATER/SEWER DETAIL: GWS07

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER/SEWER DETAILS

Know what's **below.**
Call before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

DRAWN BY:	JI	DATE:	03/16/2021
APPROVED BY:	PN	DATE:	03/16/2021
SHEET NUMBER:	1	OF	1

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:00 AM

BY	DESCRIPTION	REV.	DATE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

WATER AND SEWER DETAILS

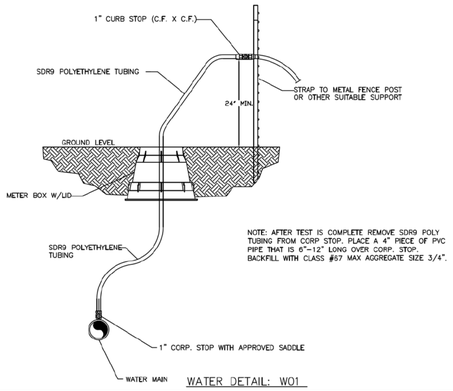
JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-951

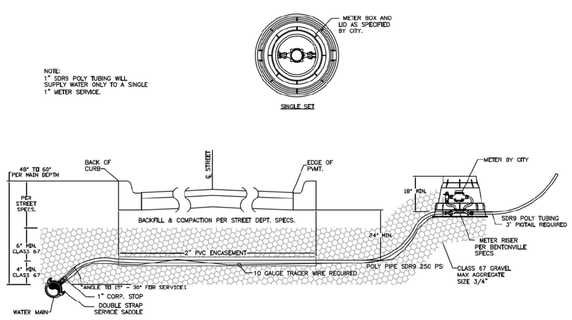
LTFreedle 3/1/2023 4:58:18 PM
WORKSPACE:Garver 2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_C951_WD.dgn
REVISED DATE:

TEMPORARY 1" BLOW OFF ASSEMBLY SAMPLE POINTS



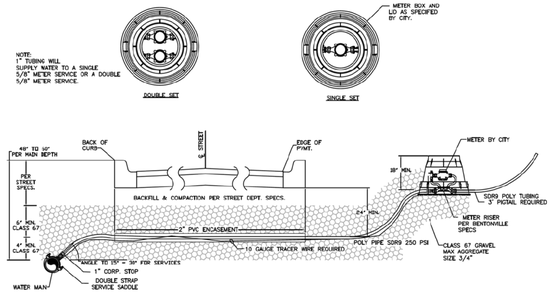
WATER DETAIL: W01

WATER SERVICE DETAIL 1"



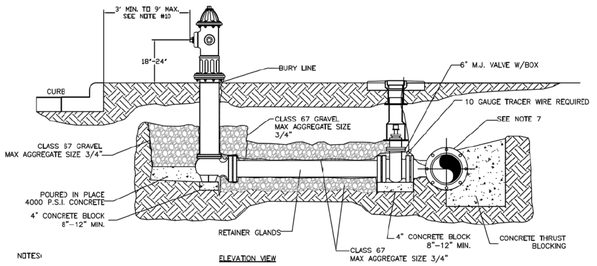
WATER DETAIL: W02

WATER SERVICE DETAIL 5/8"



WATER DETAIL: W03

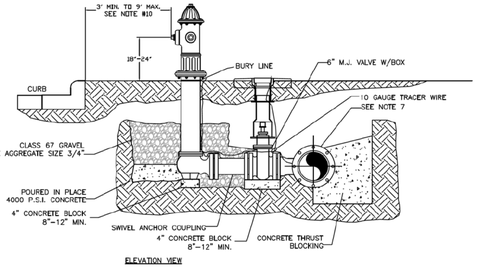
FIRE HYDRANT DETAIL W/ RETAINER GLANDS



NOTES:
1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
2. USE 6" NIPPLE WITH M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 1.5° SWIVEL ADAPTER.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS)
8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB OR EDGE OF DRAINING SURFACE, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

WATER DETAIL: W04

FIRE HYDRANT DETAIL W/SWIVEL ANCHOR COUPLING

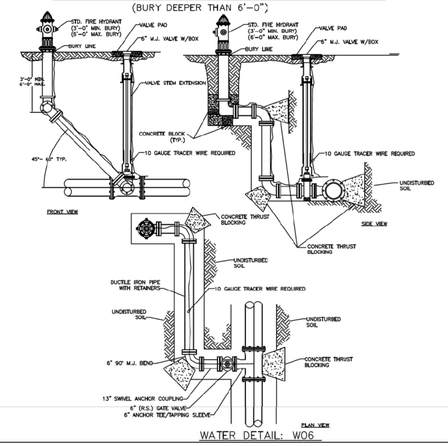


NOTES:
1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
2. M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 1.5° SWIVEL ADAPTER.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS)
8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

WATER DETAIL: W05

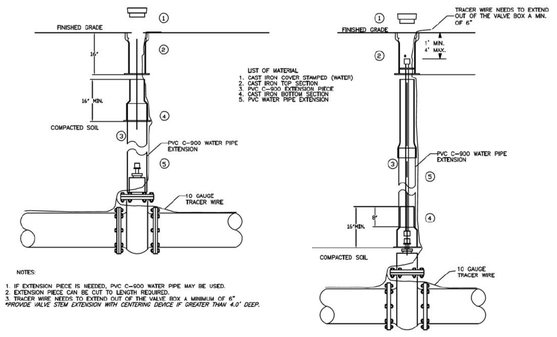
DEEP BURY FIRE HYDRANTS

(BURY DEEPER THAN 6'-0")



WATER DETAIL: W06

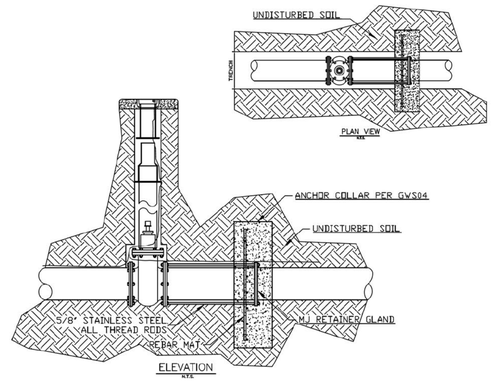
VALVE BOX VALVE STEM & TRACER WIRE INSTALLATION



NOTES:
1. IF EXTENSION PIECE IS NEEDED, PVC C-900 WATER PIPE MAY BE USED.
2. EXTENSION PIECE CAN BE CUT TO LENGTH REQUIRED.
3. TRACER WIRE NEEDS TO EXTEND OUT OF THE VALVE BOX A MINIMUM OF 6".
*PROVIDE VALVE STEM EXTENSION WITH CENTERING DEVICE IF GREATER THAN 4.0' DEEP.

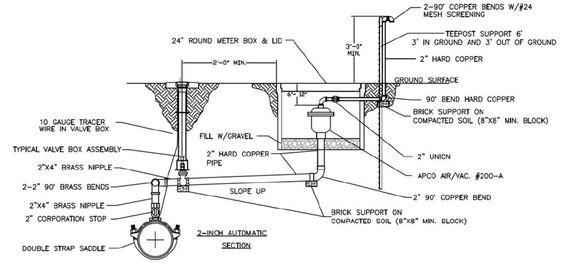
WATER DETAIL: W07

RESTRAINED GATE VALVE



WATER DETAIL: W08

2" COMBINATION AIR/VACUUM VALVE DETAIL



NOTES:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W09

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER DETAILS

Know what's **below.**
Call before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY:	JI	DATE:	03/16/2021
APPROVED BY:	PN	DATE:	03/16/2021
SHEET NUMBER:	1	OF	2

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:00 AM

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

WATER AND SEWER DETAILS

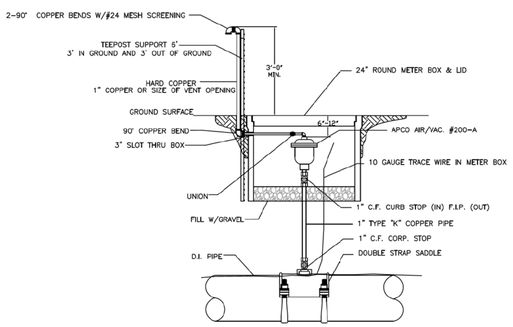
JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-952

LTFreedle 3/1/2023 4:58:42 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJJ_C951_WD.dgn
REVISED DATE:

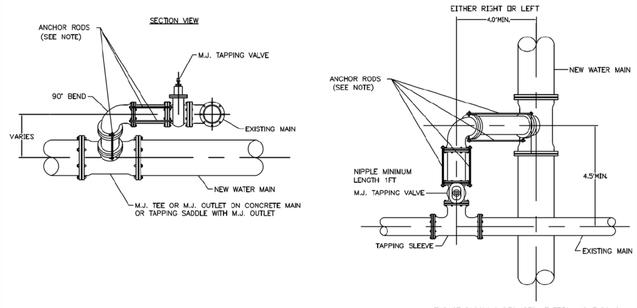
1" COMBINATION AIR/VACUUM VALVE DETAIL



NOTES:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W10

SWING CONNECTION – NEW MAIN TO EXISTING MAIN



THRUST BLOCKING REQUIRED AT TEES AND ELBOWS.

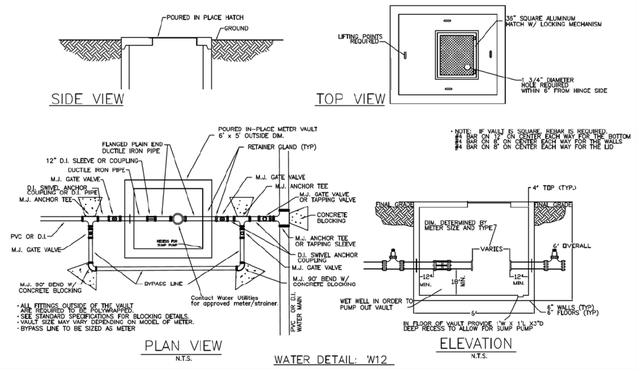
PIPE SIZE	6"	8"	12"
RODS PER NIPPLE	2	2	4

NOTES:
1. CONTRACTOR SHALL LOCATE EXISTING MAIN IN ADVANCE OF LAYING NEW LINE IN ORDER TO ASSURE ADEQUATE LENGTH TO ADJUST DEPTH OF NEW MAIN.
2. DIMENSIONS SHOWN ARE RECOMENDED MINIMUMS TO PROVIDE ADEQUATE ROOM FOR TIGHTENING BOLTS ON JOINTS. (OTHER DIMENSIONS MAY BE USED)
3. PROVIDE STAINLESS STEEL "ALL THREAD(MIN 5/8")" TIE RODS WITH EYE BOLTS FOR ANCHORING ALL JOINTS.
4. RODS SHALL BE FIELD CUT TO FIT & SHALL BE PROTECTED WITH POLYWRAP.
5. ROTATE TEE UP & ELBOW DOWN AS REQUIRED TO MATCH.
6. USE TYPICAL CONCRETE BLOCKING REQUIRED.

WATER DETAIL: W11

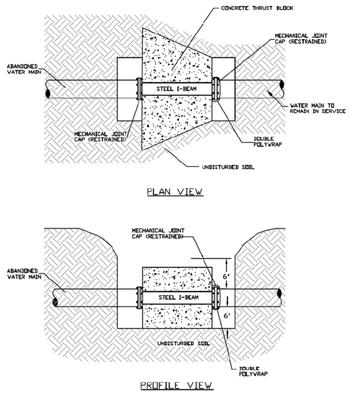
METER VAULT DETAIL FOR 4" – 8" METERS (TYPICAL)

(DIMENSIONS MAY VARY FOR METER SIZES)



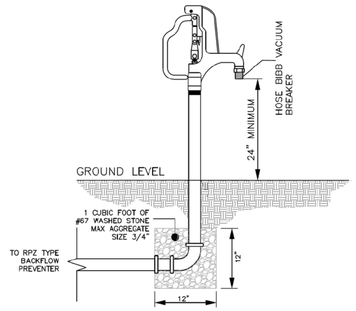
WATER DETAIL: W12

CUT/CAP DETAIL



WATER DETAIL: W13

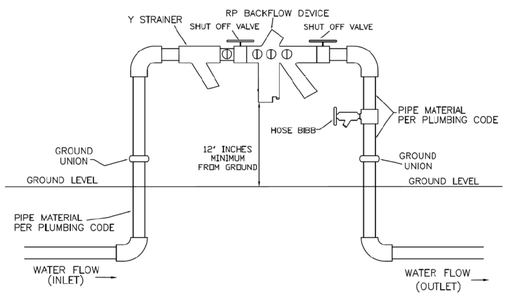
FROST FREE HOSE BIBB WITH VACUUM BREAKER



ELEVATION
N.T.S.

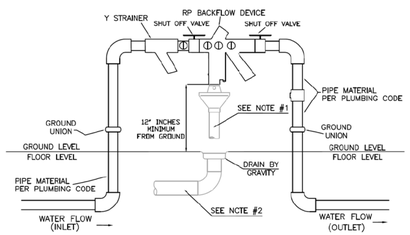
WATER DETAIL: W14

REDUCED PRESSURE (RP) IRRIGATION ONLY



WATER DETAIL: W15

REDUCED PRESSURE (RP) IRRIGATION ONLY



INDOOR APPLICATION ONLY NOTES:

1. AN AIR GAP DRAIN IS REQUIRED TO REDUCE SPLASHING OF MINOR DISCHARGES FROM THE RELIEF VALVE DRAIN PORT.
2. INDOOR INSTALLATION OF RP'S SHOULD PROVIDE FOR DRAINAGE CAPABLE OF HANDLING IN EXCESS OF THE MAXIMUM DISCHARGE RATE EXPECTED BY THE BACKFLOW ASSEMBLY MANUFACTURER.

WATER DETAIL: W16

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER DETAILS

Know what's **below.**
Call before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY: JI	DATE: 03/16/2021
APPROVED BY: PN	DATE: 03/16/2021
SHEET NUMBER: 2	OF 2

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:00 AM

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

WATER AND SEWER DETAILS

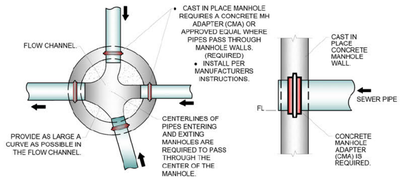
JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-953

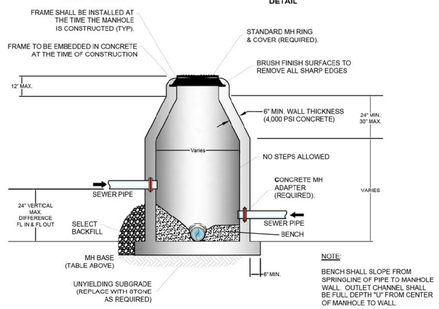
LTFreedle 3/1/2023 4:59:12 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C951_WD.dgn
REVISED DATE:

SANITARY SEWER
CAST IN PLACE MANHOLE



- CAST IN PLACE MANHOLE REQUIRES A CONCRETE MH ADAPTER (CMA) OR APPROVED EQUAL WHERE PIPES PASS THROUGH MANHOLE WALLS. (REQUIRED)
- INSTALL PER MANUFACTURERS INSTRUCTIONS.

CONCRETE MANHOLE ADAPTER (CMA) DETAIL



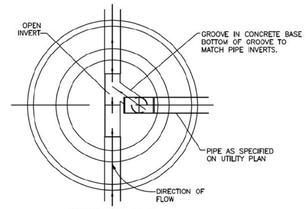
NOTE:
BENCH SHALL SLOPE FROM SPRINGLINE OF PIPE TO MANHOLE WALL. OUTLET CHANNEL SHALL BE FULL DEPTH "U" FROM CENTER OF MANHOLE TO WALL.

Inside Diameter of Manhole	Minimum Wall Thickness	Base Thickness	Minimum Ring & Cover Size
4' DIA	6"	8"	24" (< or Equal to 24" Pipes)
5' DIA	8"	10"	
6' DIA	8"	12"	36" (> 24" Pipes)

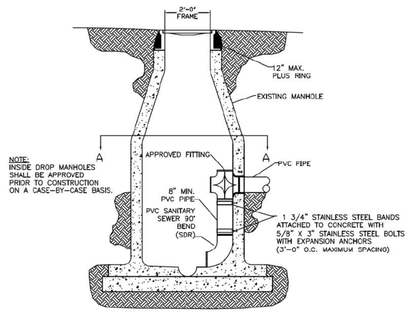
MANHOLE INFORMATION TABLE

SANITARY SEWER DETAIL: SS01

SANITARY SEWER
INTERIOR DROP MANHOLE



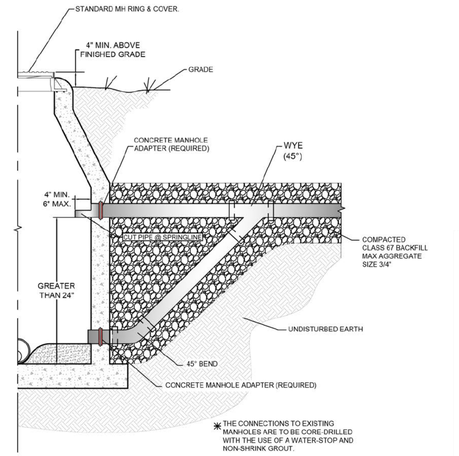
SECTION A-A



NOTE:
INSIDE DROP MANHOLES SHALL BE APPROVED PRIOR TO CONSTRUCTION ON A CASE-BY-CASE BASIS.

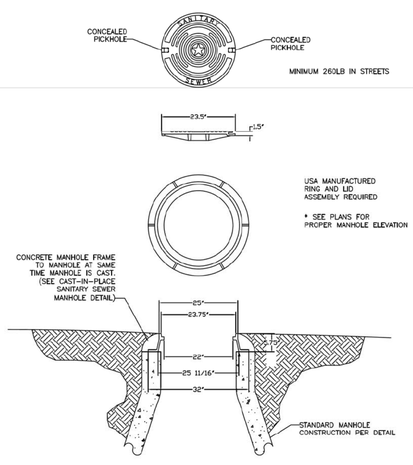
SANITARY SEWER DETAIL: SS02

SANITARY SEWER
EXTERIOR DROP MANHOLE



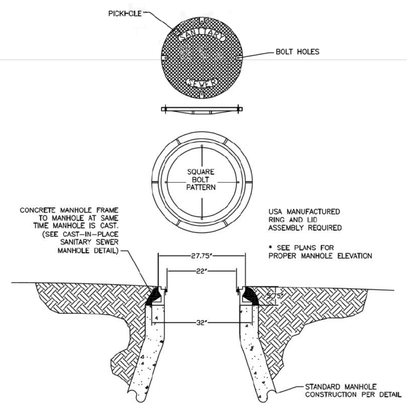
SANITARY SEWER DETAIL: SS03

HEAVY DUTY MANHOLE
LID & FRAME



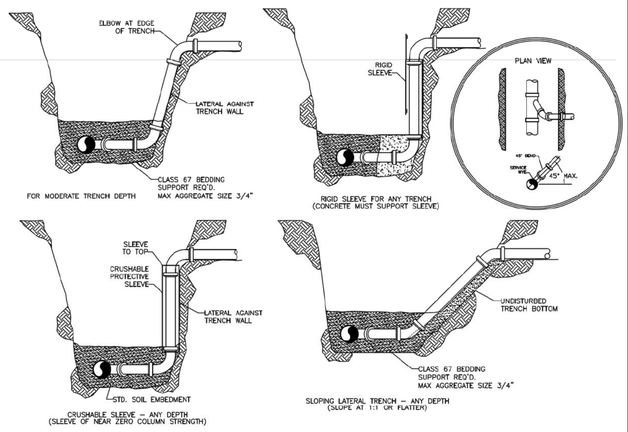
SANITARY SEWER DETAIL: SS04

WATER TIGHT BOLTED MANHOLE
LID & FRAME



SANITARY SEWER DETAIL: SS05

SANITARY SEWER
SERVICE WYE



SANITARY SEWER DETAIL: SS06

THE CITY OF WASTEWATER WATER BENTONVILLE

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

SAN.SEWER DETAILS

811 Know what's **below.** **Call** before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY:	JI	DATE:	03/16/2021
APPROVED BY:	PN	DATE:	03/16/2021
SHEET NUMBER:	1	OF	2

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:00 AM

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

WATER AND SEWER DETAILS

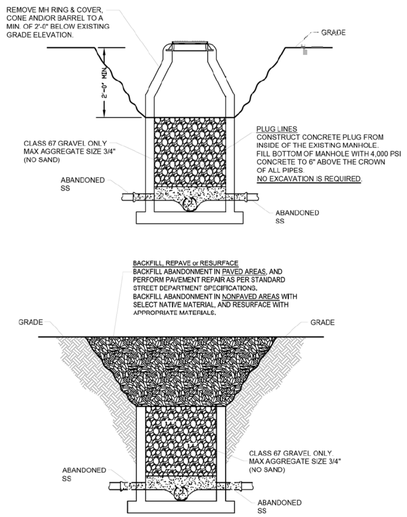
JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-954

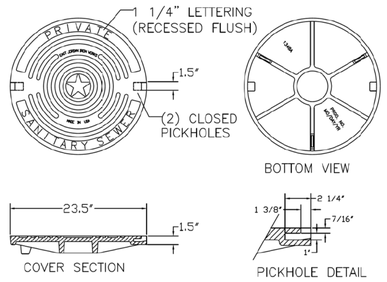
LTFreedle 3/1/2023 4:59:31 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C951_WD.dgn
REVISED DATE:

SANITARY SEWER MANHOLE ABANDONMENT



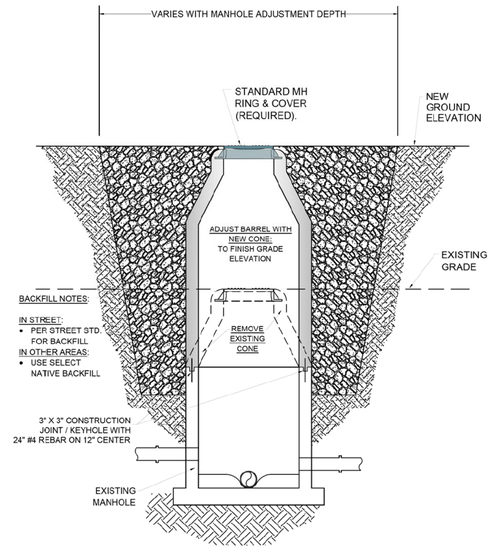
SANITARY SEWER DETAILS: SS07

PRIVATE MANHOLE RING AND LID



SANITARY SEWER DETAILS: SS08

TYPICAL MANHOLE ADJUST TO GRADE



SANITARY SEWER DETAILS: SS09

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

SAN.SEWER DETAILS

811 Know what's **below.** **Call** before you dig.

REVISIONS:

Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY: JI	DATE: 03/16/2021
APPROVED BY: PN	DATE: 03/16/2021
SHEET NUMBER: 2	OF 2

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:00 AM

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

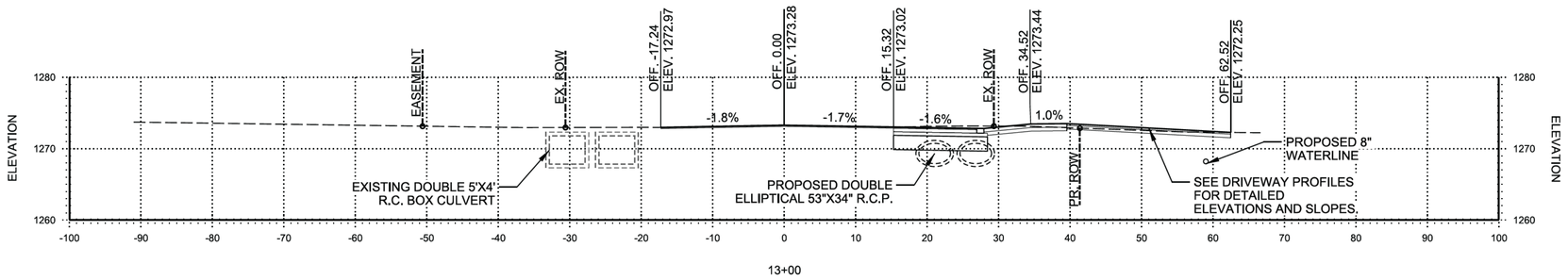
WATER AND SEWER DETAILS

JOB NO.: 21T21090
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

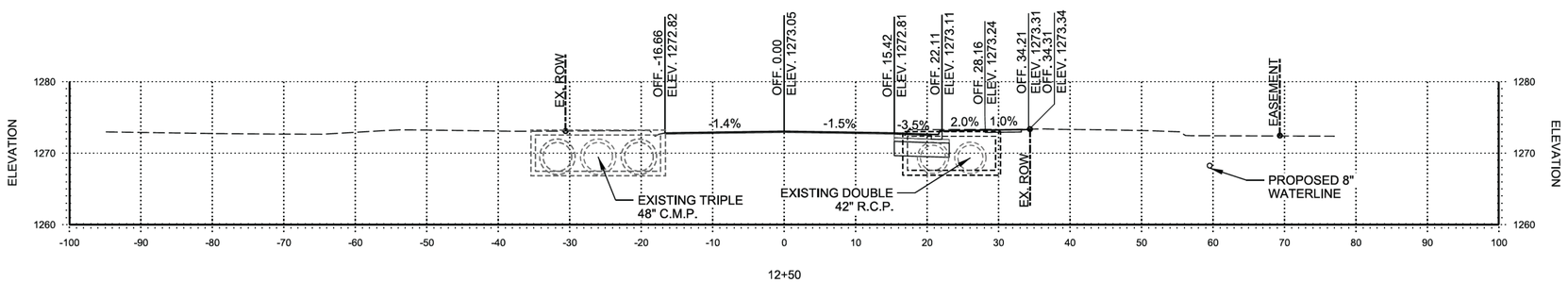
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-955

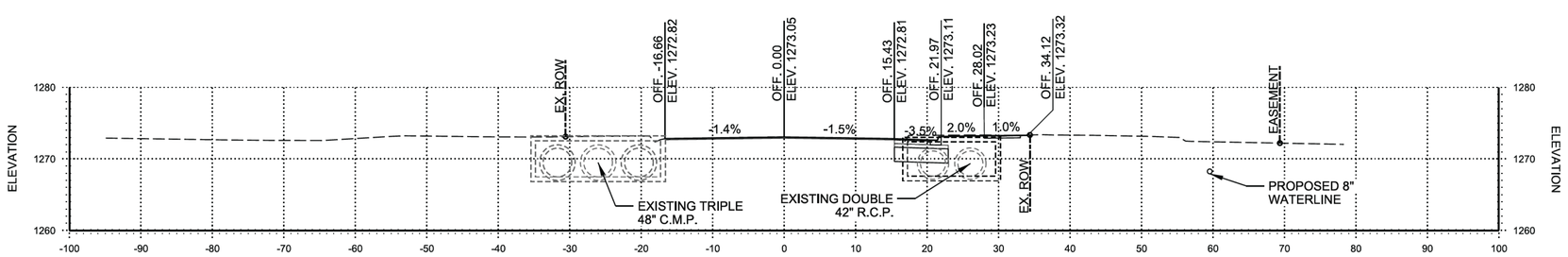
LTFreedle 3/1/2023 4:59:57 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_C951_WD.dgn
REVISED DATE:



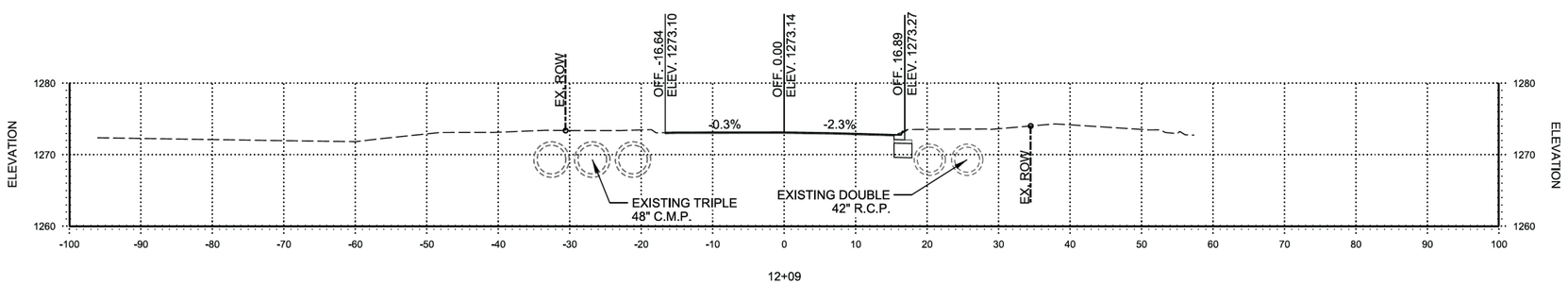
13+00



12+50



12+49



12+09

STA. 12+09 TO STA. 13+00

FOR REFERENCE ONLY

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:00 AM

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

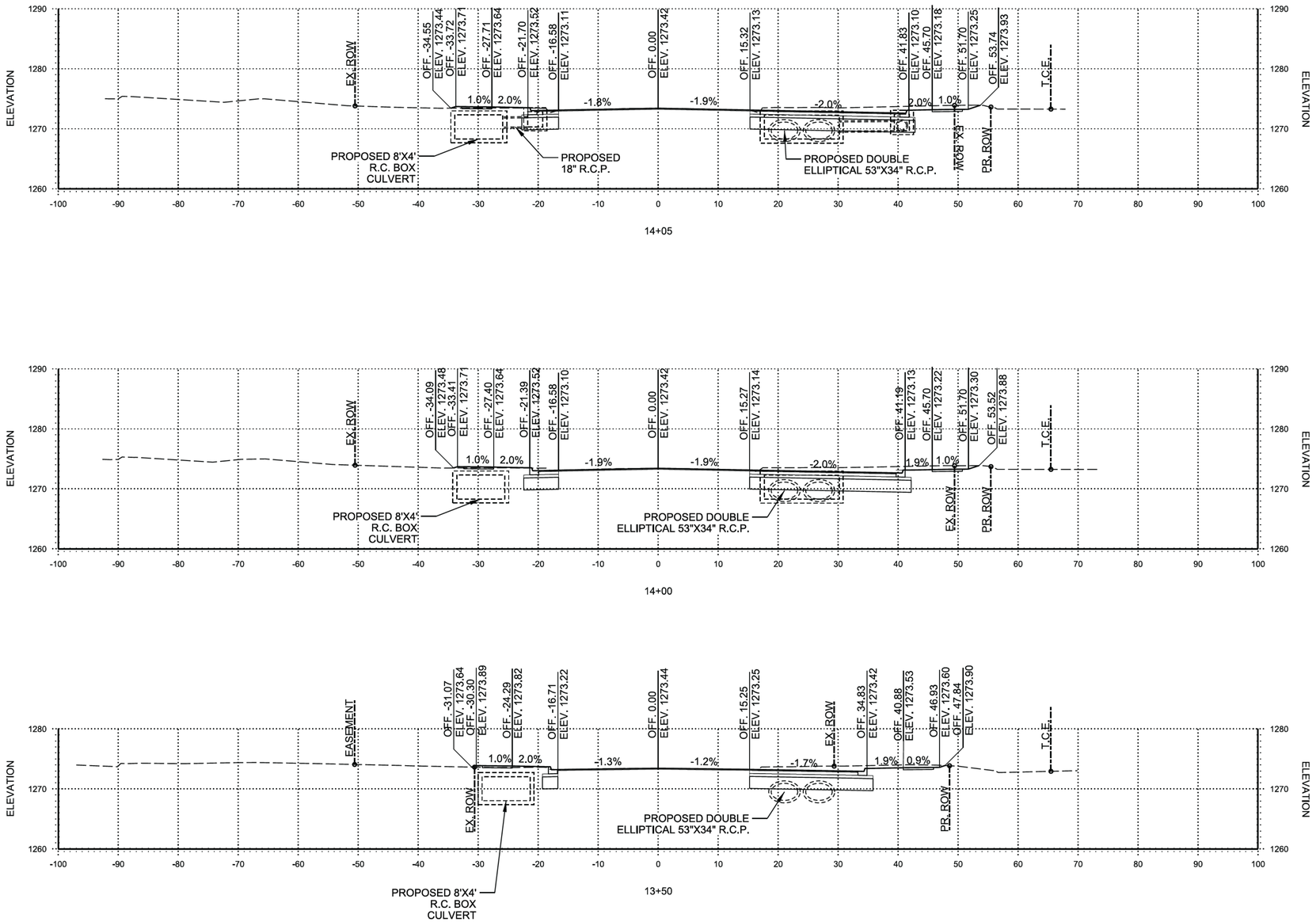
SE DODSON ROAD / SE J STREET CROSS SECTIONS

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: LTF

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-101

LTFreedle 2/29/2024 3:38:59 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_X101_CX.dgn
REVISED DATE:



STA. 13+50 TO STA. 14+05

FOR REFERENCE ONLY

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:00 AM

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS–ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE DODSON ROAD / SE J STREET CROSS SECTIONS

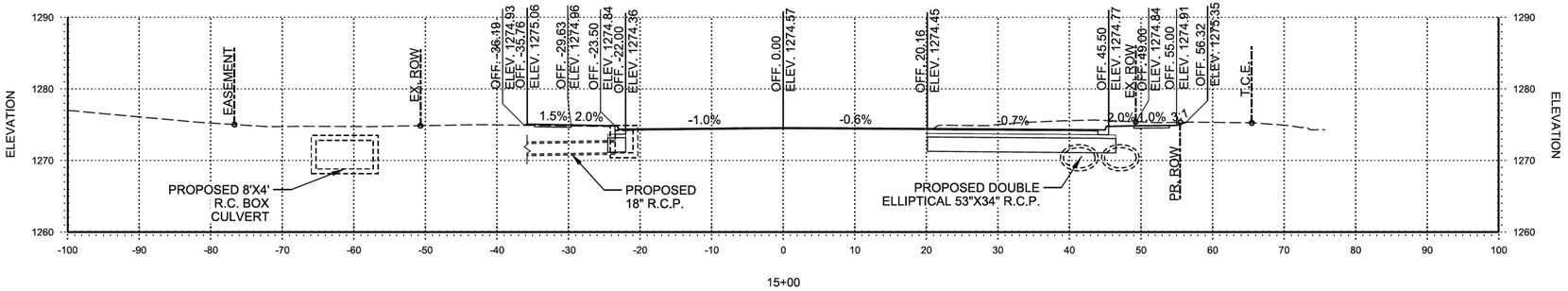
JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: LTF

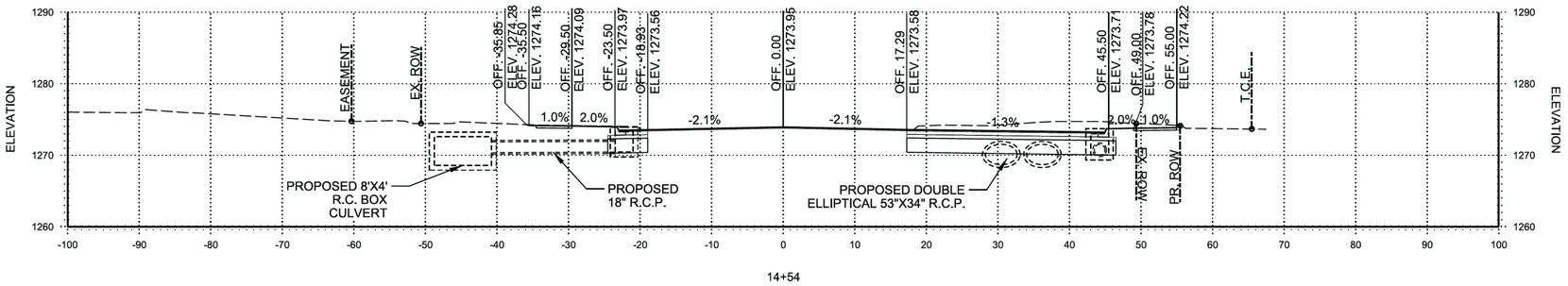
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

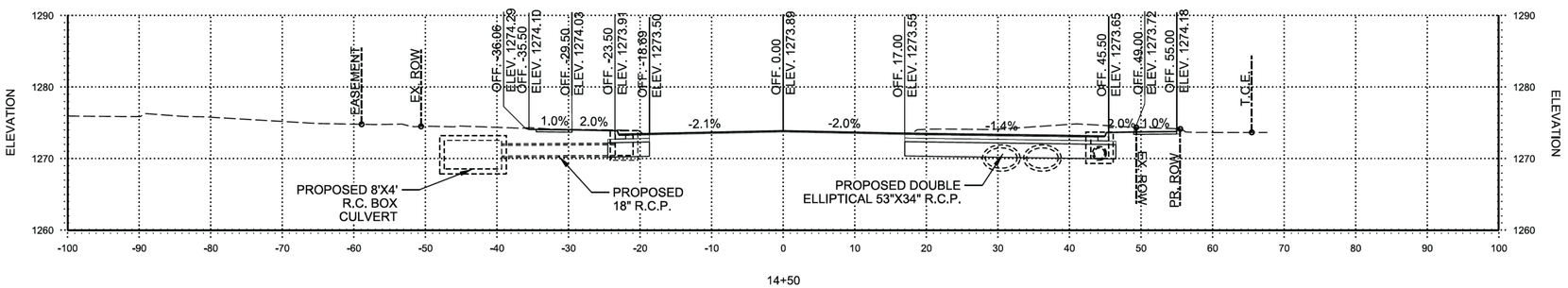
DRAWING NUMBER
X-102

LTFreedle 2/29/2024 3:38:59 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJL_X101_CX.dgn
REVISED DATE:

FOR REFERENCE ONLY







STA. 14+50 TO STA. 15+00

LTFreedle 2/29/2024 3:39:00 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_X101_CX.dgn
REVISED DATE:

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:00 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE DODSON ROAD / SE J STREET CROSS SECTIONS

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: LTF

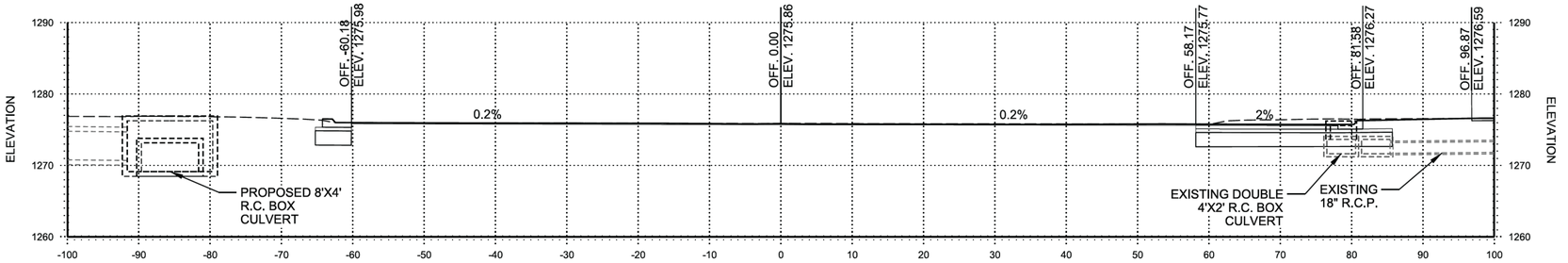
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-103

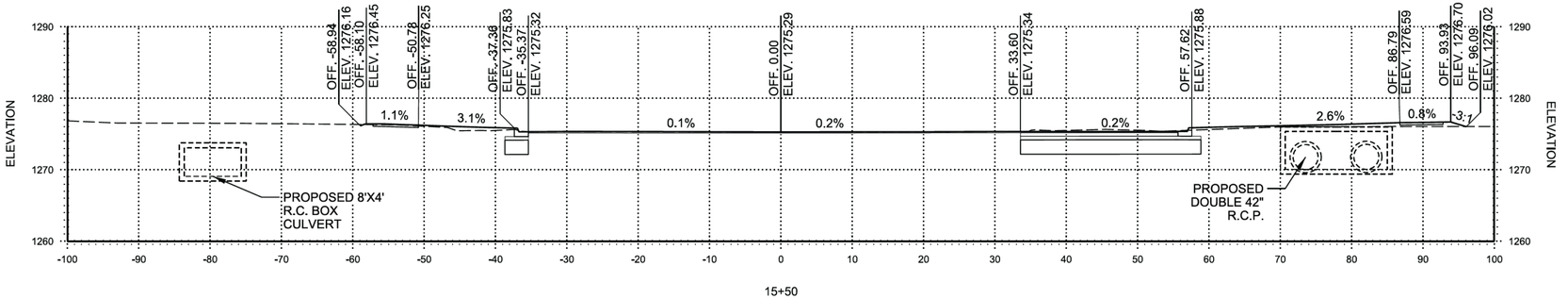
FOR REFERENCE ONLY

APPROVED FOR CONSTRUCTION

04/15/2024 8:52:01 AM



15+69



15+50

STA. 15+50 TO STA. 16+47

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS–ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE

Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE DODSON ROAD / SE J STREET CROSS SECTIONS

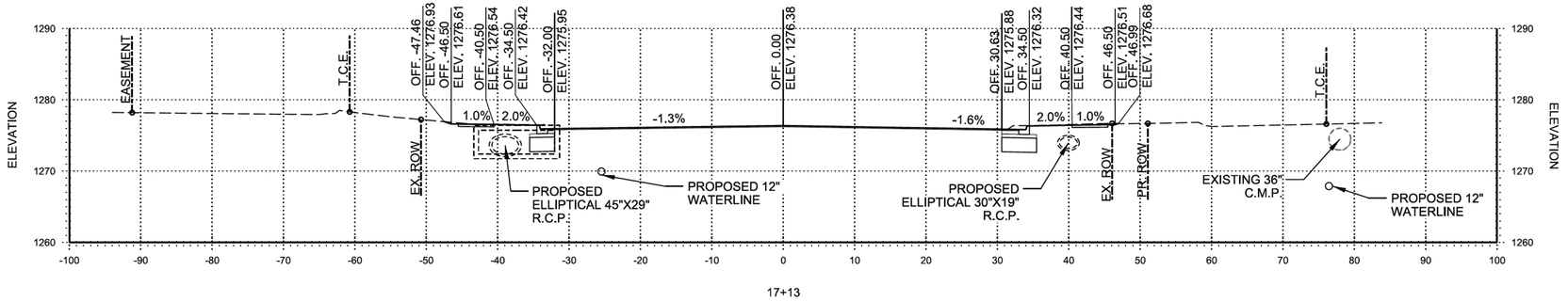
JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: LTF

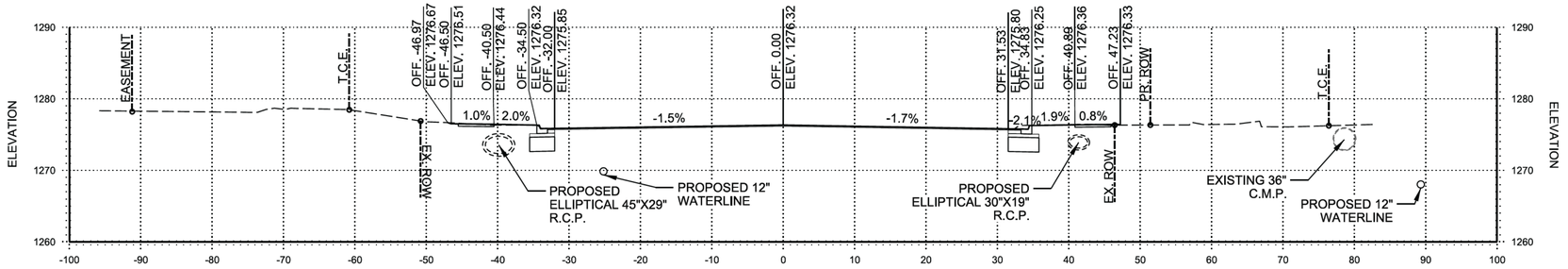
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

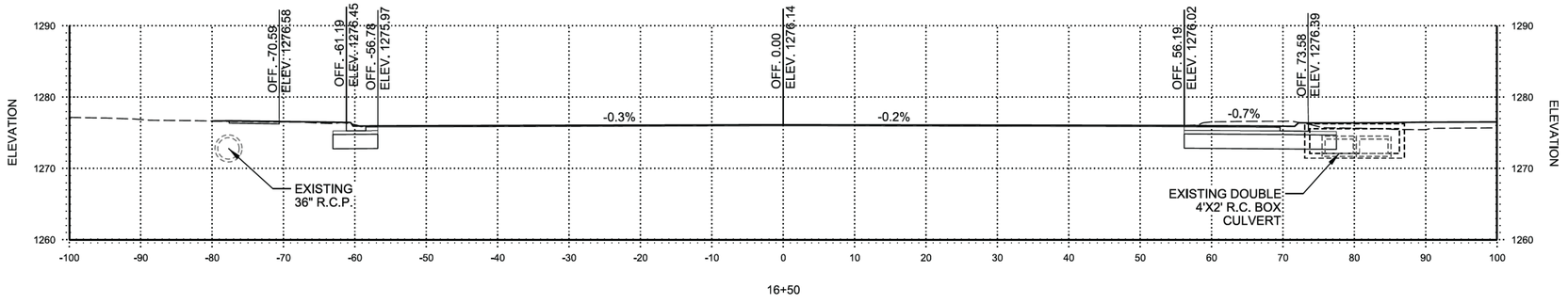
DRAWING NUMBER

X-104

LTFreedle 2/29/2024 3:39:00 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_X101_CX.dgn
REVISED DATE:







STA. 16+50 TO STA. 17+13

FOR REFERENCE ONLY

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:01 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS–ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE DODSON ROAD / SE J STREET CROSS SECTIONS

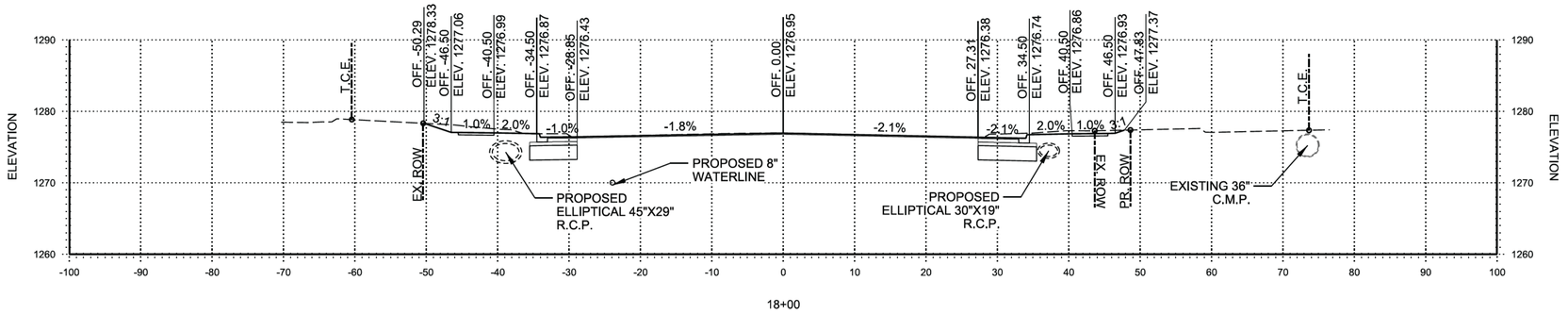
JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: LTF

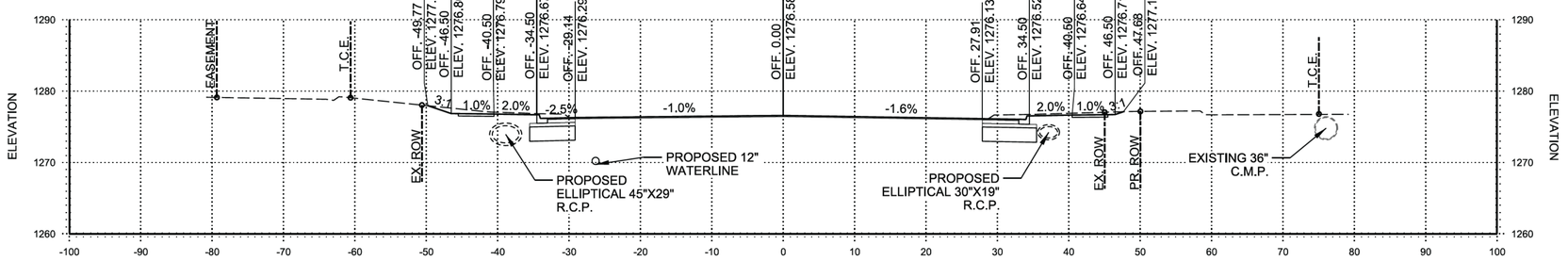
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

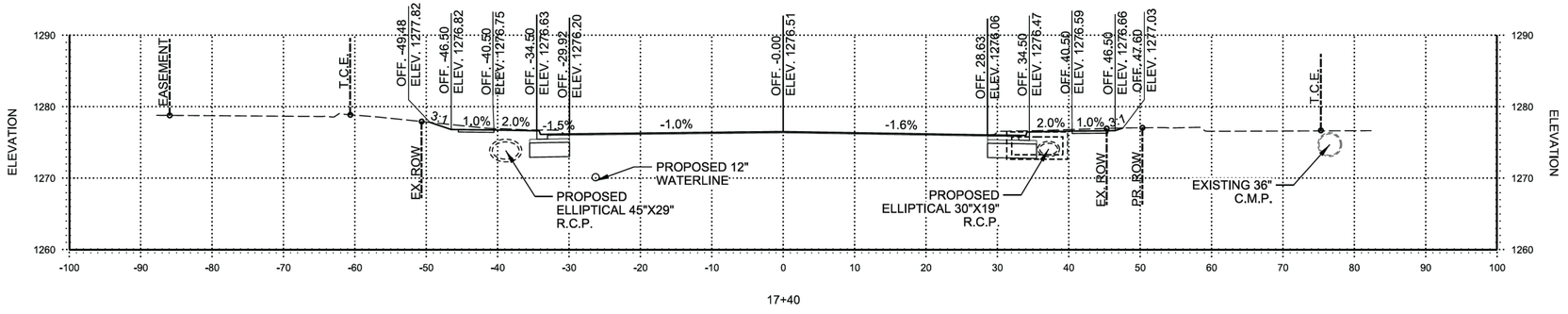
DRAWING NUMBER
X-105

LTFreedle 2/29/2024 3:39:00 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_X101_CX.dgn
REVISED DATE:

FOR REFERENCE ONLY







STA. 17+40 TO STA. 18+00

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:01 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE DODSON ROAD / SE J STREET CROSS SECTIONS

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: LTF

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

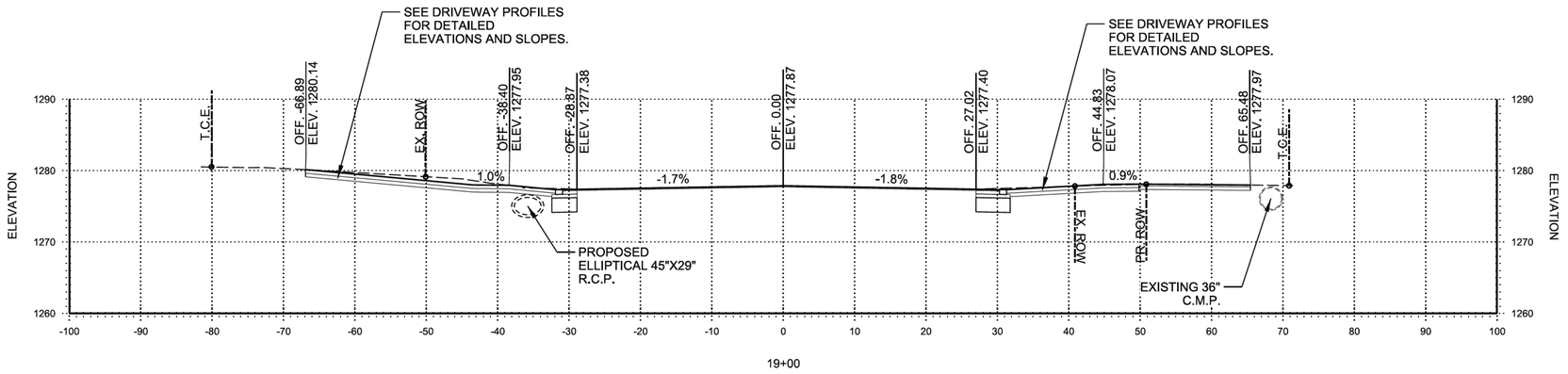
DRAWING NUMBER
X-106

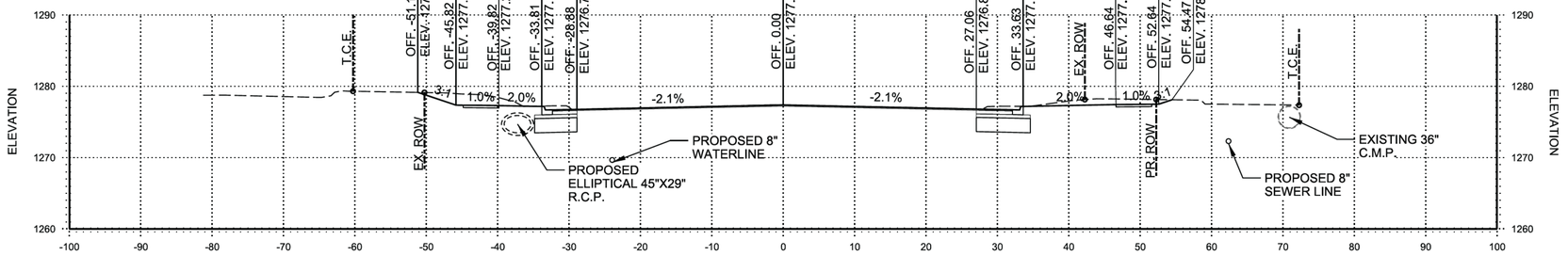
LTFreedle 2/29/2024 3:39:01 PM
\\GARVERINC.LOCAL\GDATA\PROJECTS\2021\21T21090 - BENTONVILLE WALTON BLVD-SE J ST IMPS\DRAWINGS\WJI_X101_CX.DGN
REVISED DATE:

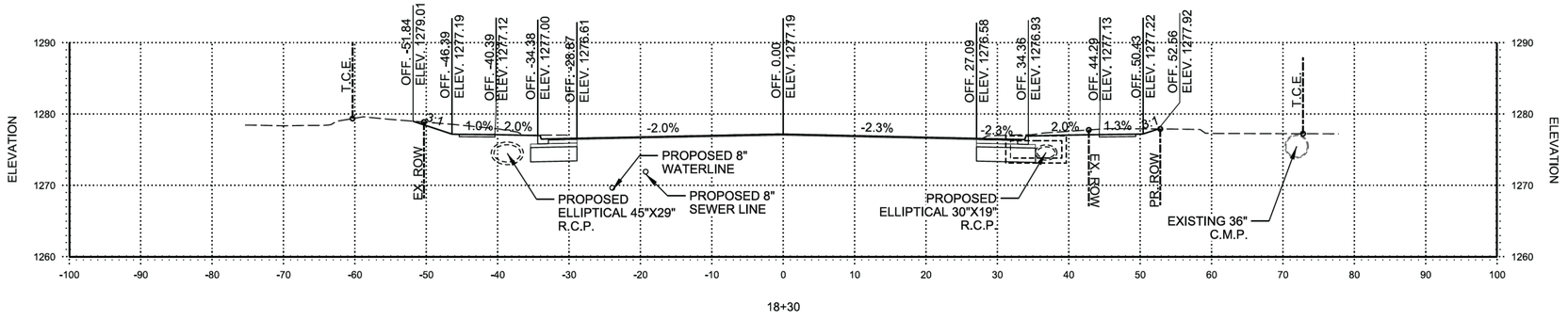
FOR REFERENCE ONLY

APPROVED FOR CONSTRUCTION

04/15/2024 8:52:01 AM







STA. 18+30 TO STA. 19+00

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

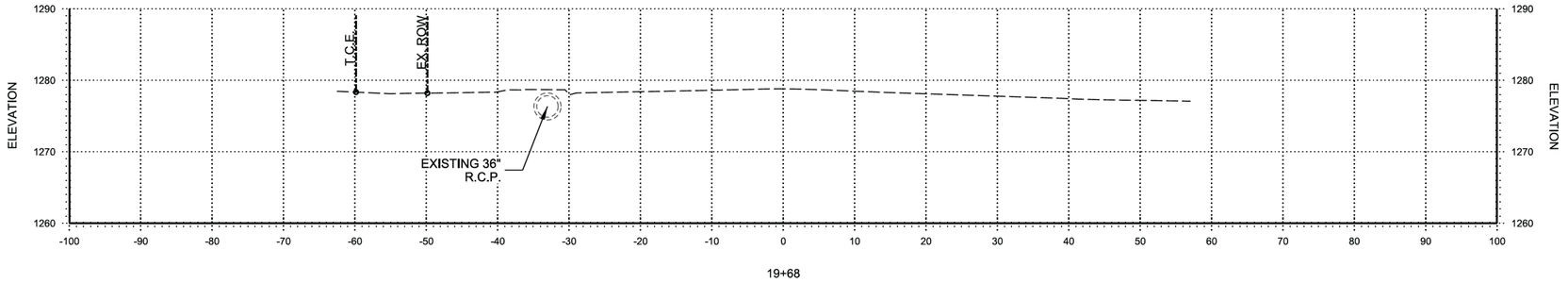
SE DODSON ROAD / SE J STREET CROSS SECTIONS

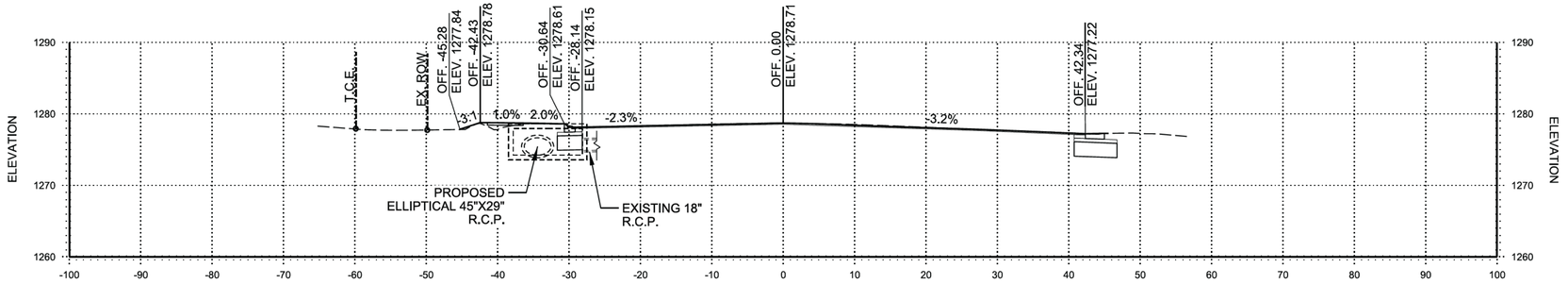
JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: LTF

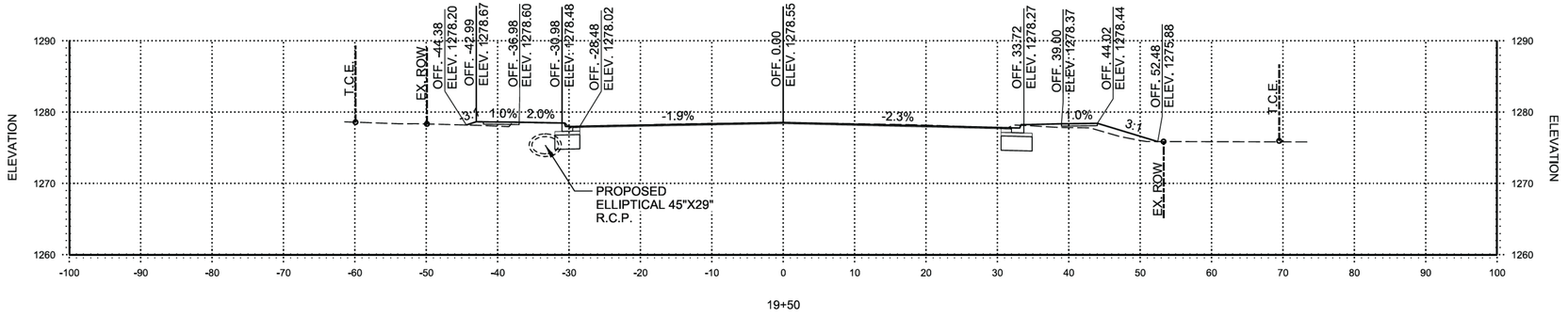
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-107

LTFreedle 2/29/2024 3:39:01 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_X101_CX.dgn
REVISED DATE:







STA. 19+50 TO STA. 19+68

FOR REFERENCE ONLY

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:01 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS–ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

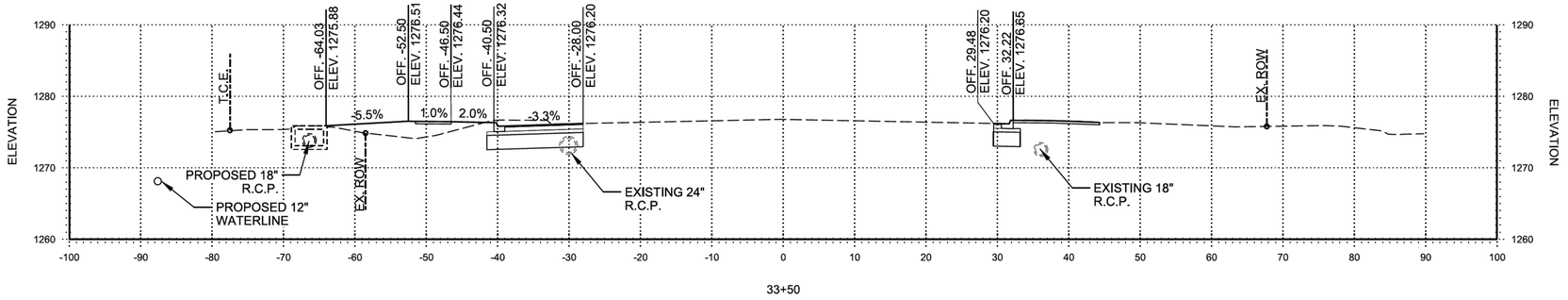
SE DODSON ROAD / SE J STREET CROSS SECTIONS

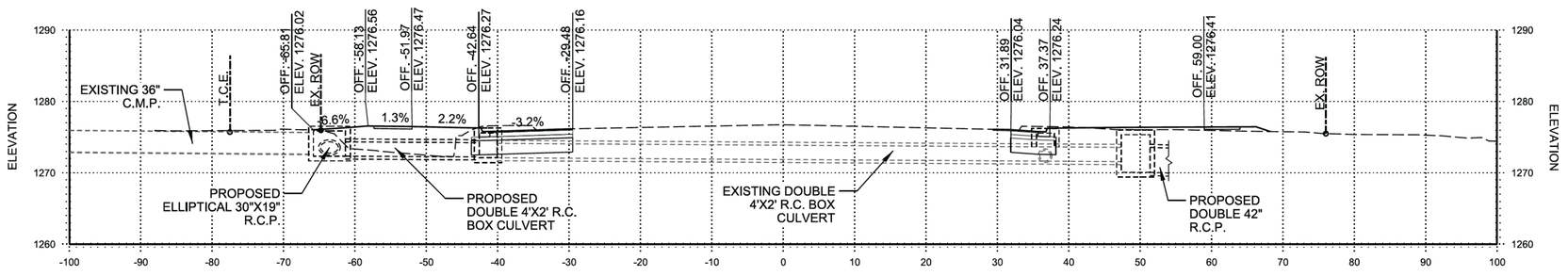
JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: LTF

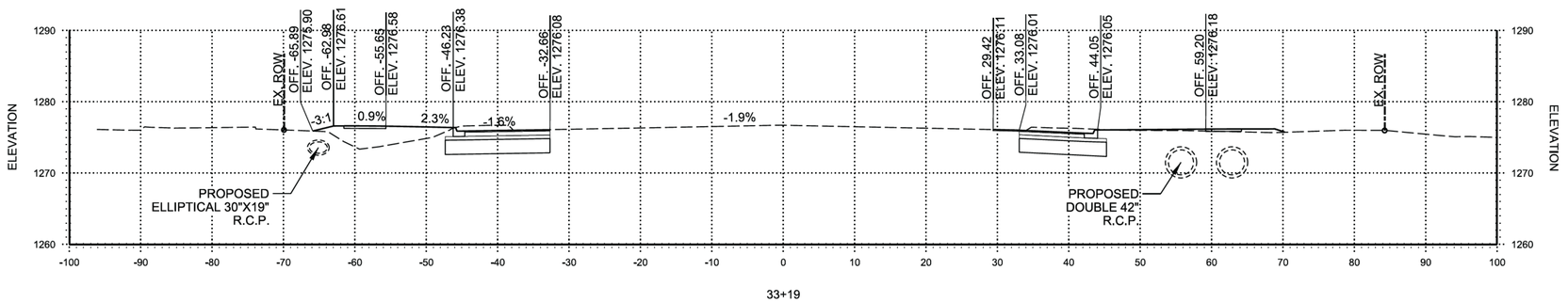
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-108

LTFreedle 2/29/2024 3:39:01 PM
\\GARVERINC.LOCAL\GDATA\PROJECTS\2021\21T21090 - BENTONVILLE WALTON BLVD-SE J ST IMPS\DRAWINGS\WJI_X101_CX.DGN
REVISED DATE:







STA. 33+19 TO STA. 33+50

FOR REFERENCE ONLY

APPROVED FOR CONSTRUCTION

04/15/2024 8:52:01 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS–ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE

Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

SE WALTON BOULEVARD CROSS SECTIONS

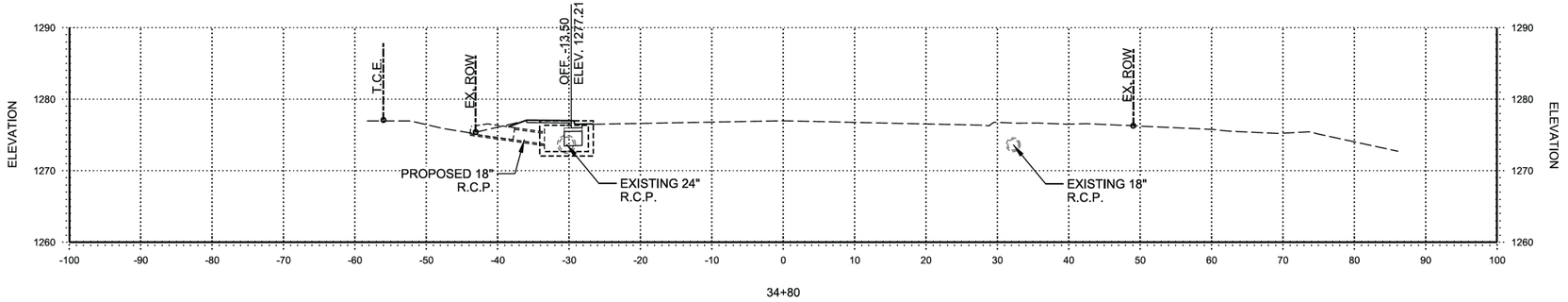
JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: LTF

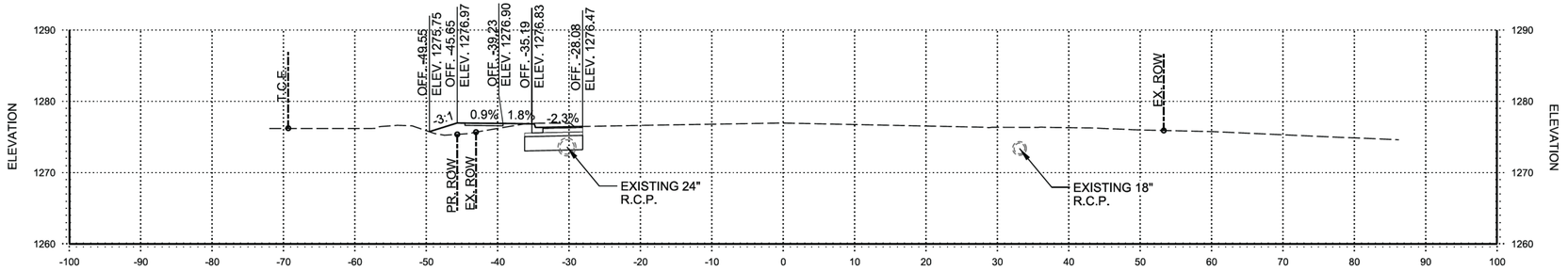
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

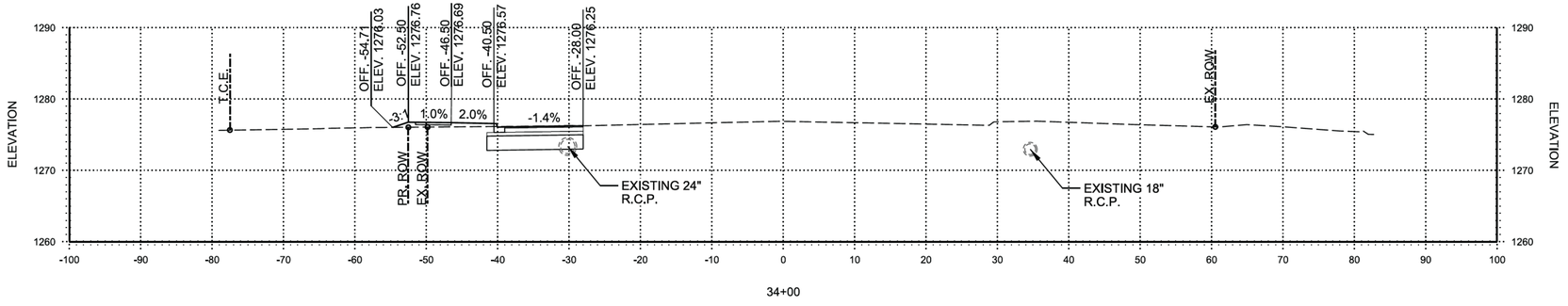
DRAWING NUMBER
X-201

LTFreedle 2/29/2024 3:39:01 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_X101_CX.dgn
REVISED DATE:

FOR REFERENCE ONLY







STA. 34+00 TO STA. 34+80

APPROVED FOR CONSTRUCTION
04/15/2024 8:52:01 AM

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS–ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND J STREET IMPROVEMENTS

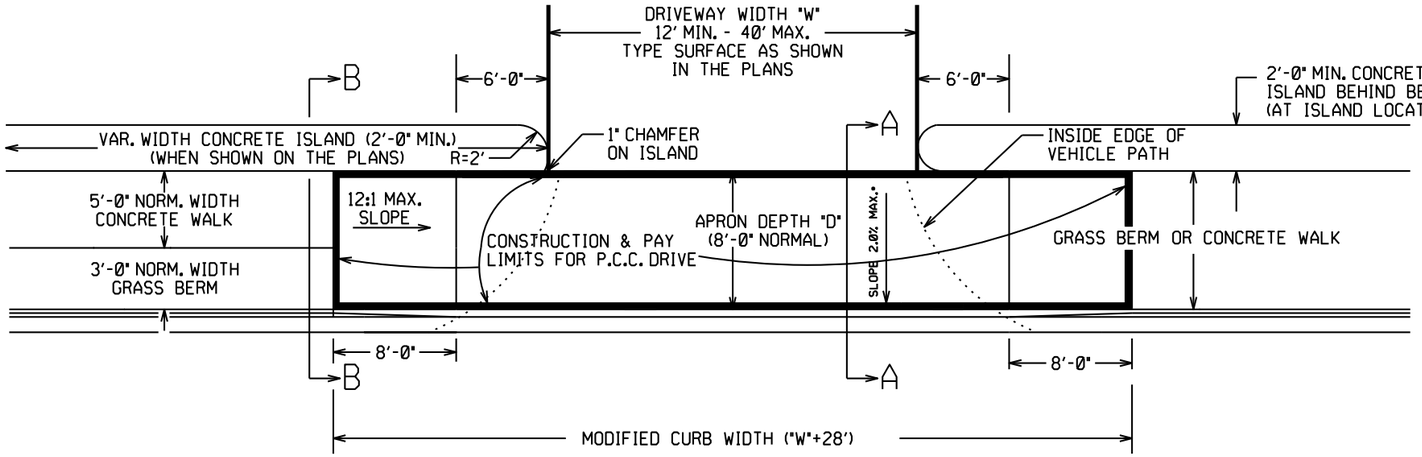
SE WALTON BOULEVARD CROSS SECTIONS

JOB NO.: 21T21090
DATE: MAR. 2024
DESIGNED BY: LTF
DRAWN BY: LTF

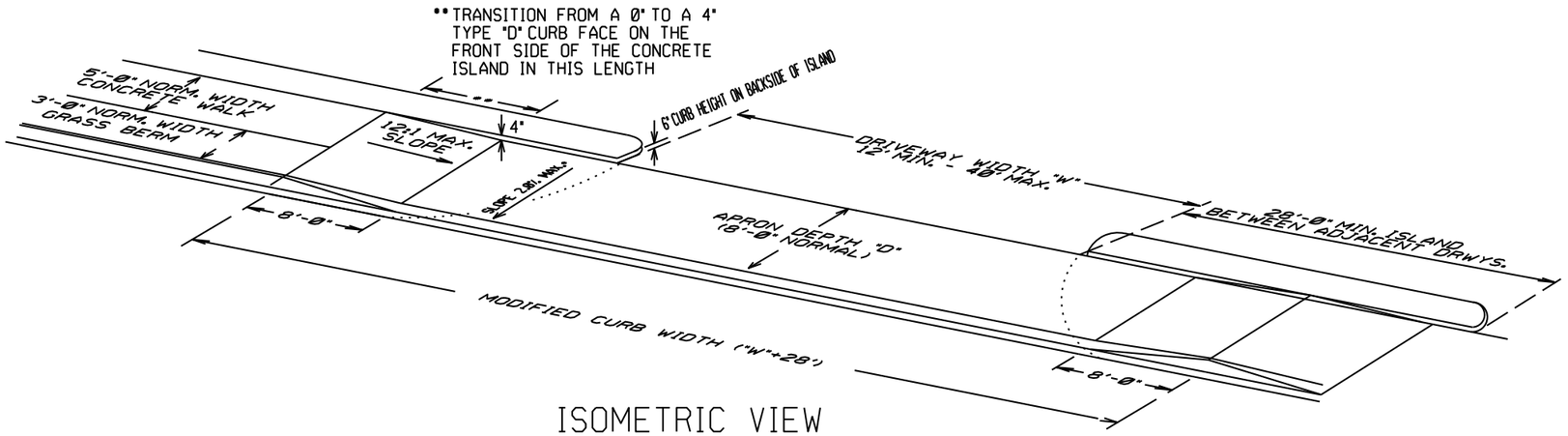
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-202

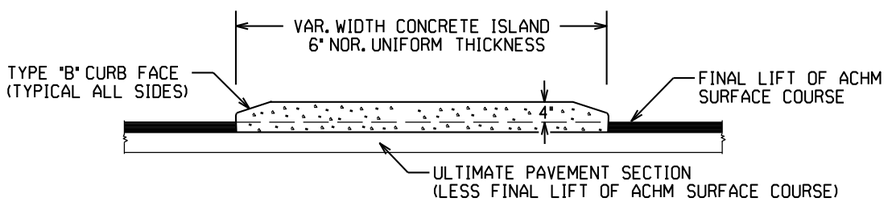
LTFreedle 2/29/2024 3:39:02 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21090 - Bentonville Walton Blvd-SE J St Imps\Drawings\WJI_X101_CX.dgn
REVISED DATE:



PLAN VIEW



ISOMETRIC VIEW

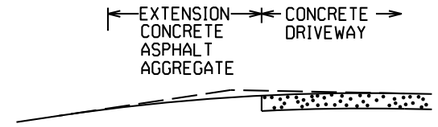


CURBED ISLANDS FOR CHANNELIZATION

CONCRETE ISLAND NOTES:

1. REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".

2. TRANSVERSE EXPANSION JOINTS, NOT LESS THAN 1/2" WIDE, SHALL BE PLACED AT MINIMUM INTERVAL OF 45'. TRANSVERSE JOINT SHALL BE CONSTRUCTED USING A JOINT FILLER COMPLYING WITH AASHTO M213.



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

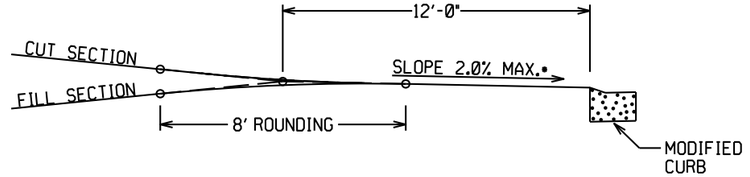
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE (1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

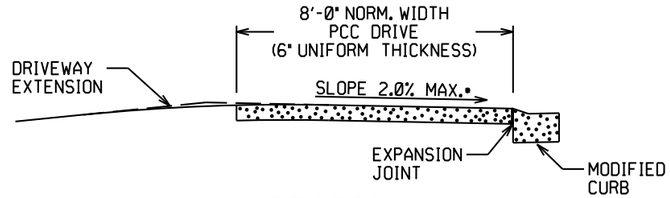
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

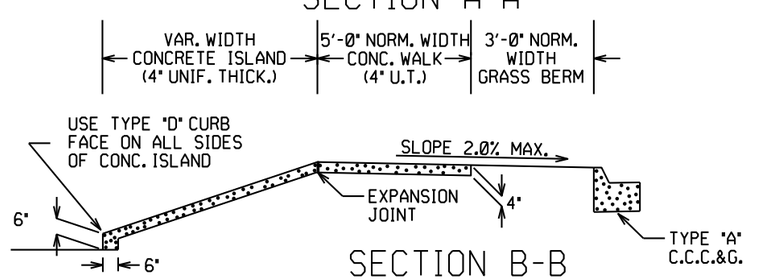


DRIVEWAY VERTICAL ALIGNMENT DETAILS

• NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



SECTION A-A



SECTION B-B
CURBED ISLAND BEHIND WALK

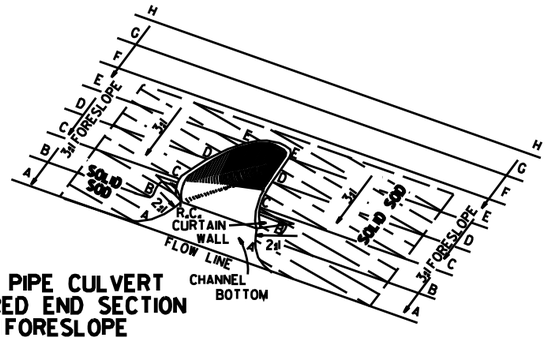
DATE REV	DATE FILMED	DESCRIPTION
5-19-22		REVISED ISLAND NOTES
11-07-19		REVISED WALK DETAILS
2-27-14		REVISED PLAN & ISOMETRIC VIEW
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98		REDRAWN AND REISSUED

ARKANSAS STATE HIGHWAY COMMISSION

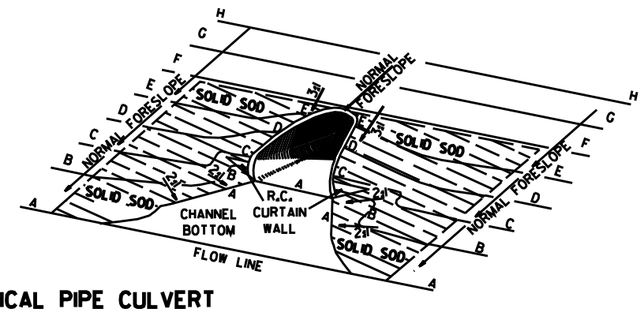
DETAILS OF DRIVEWAYS & ISLANDS

STANDARD DRAWING DR-1

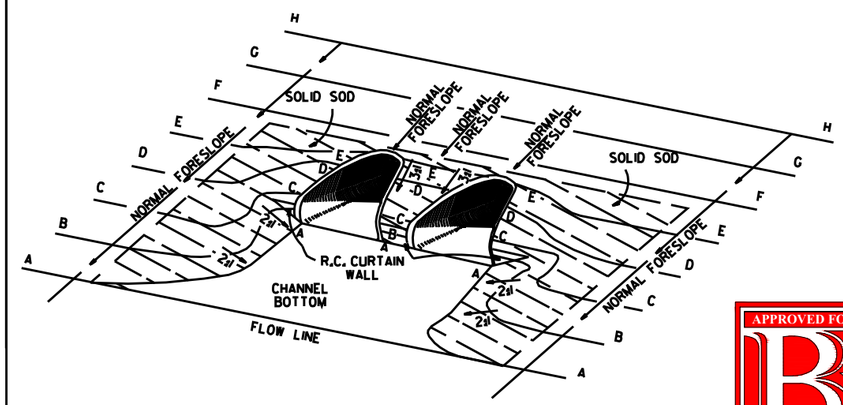
APPROVED FOR CONSTRUCTION
04/15/2024 8:56:26 AM



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



TYPICAL MULTIPLE PIPE CULVERT
WITH FLARED END SECTIONS
& FLATTENED ADJACENT SLOPES

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:52 AM

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

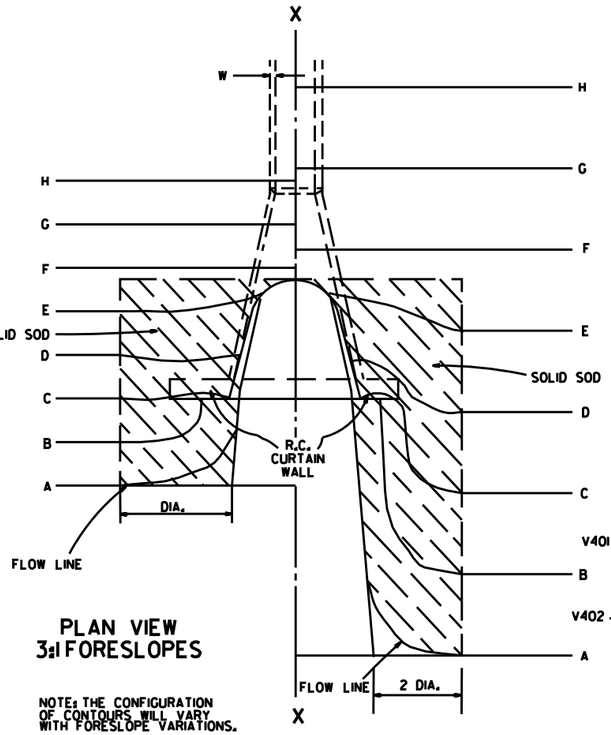
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC. CU. YDS.	SINGLE R.C.P.C. REINF. STEEL LBS.	DOUBLE R.C.P.C. CONC. CU. YDS.	DOUBLE R.C.P.C. REINF. STEEL LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9½"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	V401 L	V401 NO.	V402 L	V402 NO.	DOUBLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	H403 L	H403 NO.	V401 L	V401 NO.	V402 L	V402 NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

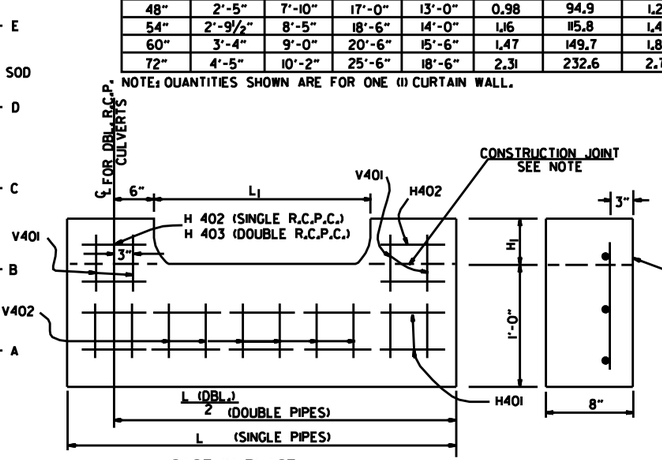
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

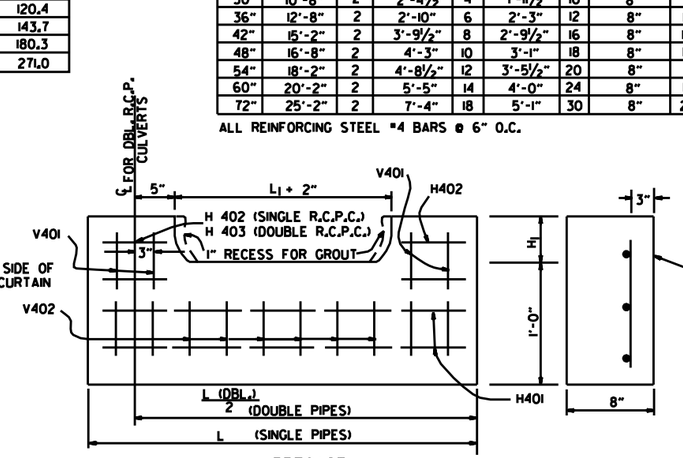
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



CAST-IN-PLACE

NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.



PRECAST

NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

R.C. CURTAIN WALL DETAILS

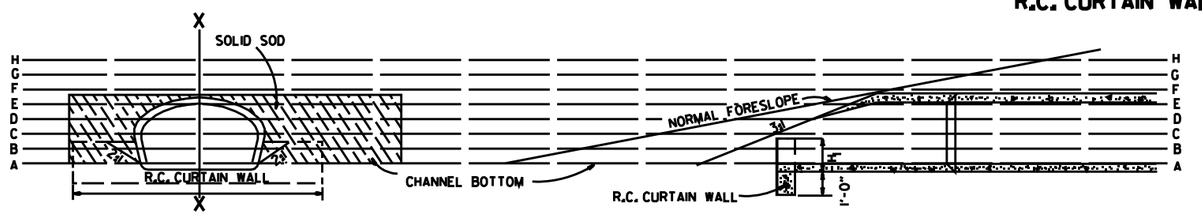
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C. 3:1 SQ. YDS.	SINGLE R.C.P.C. 4:1 SQ. YDS.	SINGLE R.C.P.C. 6:1 SQ. YDS.	DOUBLE R.C.P.C. 3:1 SQ. YDS.	DOUBLE R.C.P.C. 4:1 SQ. YDS.	DOUBLE R.C.P.C. 6:1 SQ. YDS.
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

SECTIONAL VIEW "X-X"

DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	
10-12-95	CORRECTED SPELLING	
11- 3-94	ADDED GENERAL NOTE NO. 4	
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.	
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES	
5-15-80	ADDED PRECAST WALL & GENERAL NOTES	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

STANDARD DRAWING FES-1

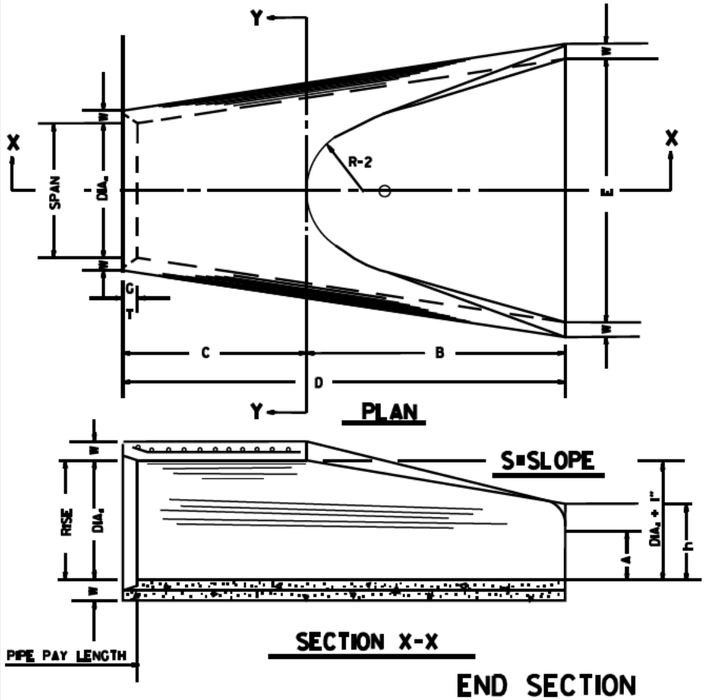


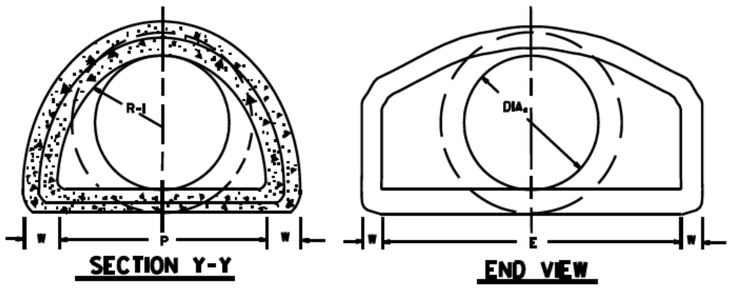
TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + I"	P	R-1	R-2	C-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3el	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-1½"	2'-6"	6'-8½"	4'-0"	3el	25"	33⅜"	16⅝"	14"	2½"	1600	1'-8½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1½"	5'-0"	3el	31"	37"	18½"	15"	3½"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¼"	8'-4½"	6'-0"	3el	37"	47⅛"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-8"	8'-2"	6'-6"	3el	43"	53⅞"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3el	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3el	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3el	61"	72½"	36⅝"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3el	73"	77⅝"	38⅝"	24"	5"	13250	4'-6"

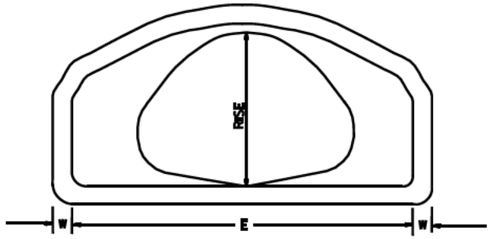
ARCH PIPE

EQUIV. DIA.	SPAN * AASHTO M 206	SPAN * AHD NOMINAL	RISE * AASHTO M 206	RISE * AHD NOMINAL	W	A	B	C	D	E	P	R2	C-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	½"	2/el
18	22	22	13½	14	2½"	5"	2'-0"	4'-4"	6'-1"	3'-6"	32⅛"	13"	½"	2/el
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	½"	2/el
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36⅝"	15"	½"	2/el
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47⅛"	20"	1"	2/el
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-8½"	6'-1½"	6'-6"	54⅞"	22"	1½"	2/el
42	51⅛	51	30⅝	31	4½"	11½"	4'-7"	1'-10½"	6'-5½"	7'-2"	59½"	23"	1¾"	2/el
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¼"	8'-1½"	7'-10"	70⅝"	24"	2¼"	2/el
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-8"	8'-2"	8'-6"	72⅛"	24"	2¼"	2/el
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77⅝"	24"	5"	2/el

* THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.

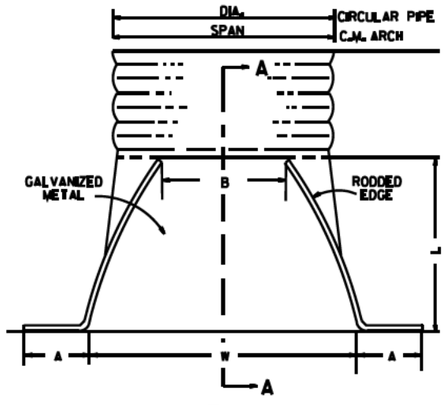


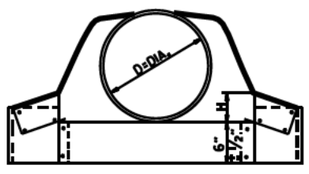
NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

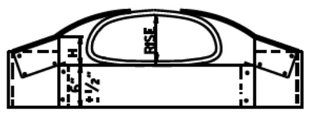


APPROVED FOR B CONSTRUCTION
04/15/2024 8:56:52 AM

END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS







CIRCULAR PIPE

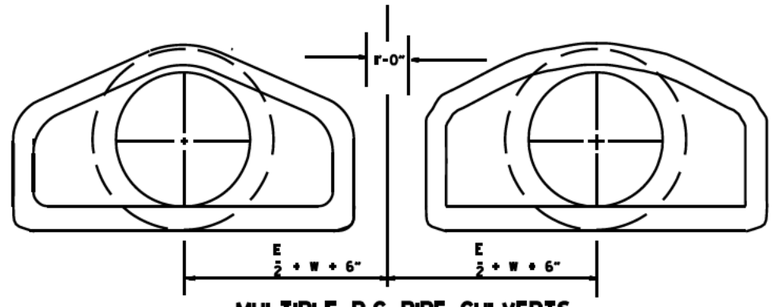
D. DIA.	GAUGE	A I" ±	B. MAX.	H I" ±	L ½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2/el
15	16	7	8	6	26	30	2/el
18	16	8	10	6	31	36	2/el
21	16	9	12	6	36	42	2/el
24	16	10	13	6	41	48	2/el
30	14	12	16	8	51	60	2/el
36	14	14	19	9	60	72	2/el
42	12	16	22	11	69	84	2/el
48	12	18	27	12	78	90	2/el
54	12	18	30	12	84	102	2el
60	12	18	33	12	87	114	1½el
66	12	18	36	12	87	120	1½el
72	12	18	39	12	87	126	1 ½el

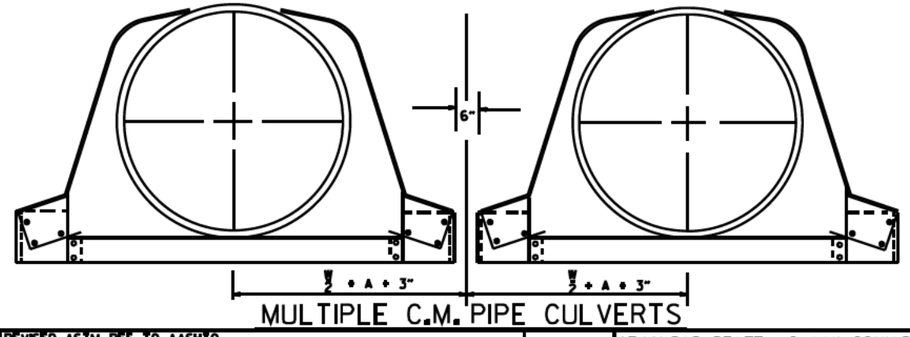
C.M. ARCH PIPE

EQUIV. DIA.	SPAN	RISE	A I" ±	B MAX.	H I" ±	L ½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2/el	16
18"	21	15	7	10	6	23	36	2/el	16
21"	24	18	8	12	6	28	42	2/el	16
24"	28	20	9	14	6	32	48	2/el	16
30"	35	24	10	16	6	39	60	2/el	14
36"	42	29	12	18	8	46	75	2/el	14
42"	49	33	13	21	9	53	85	2/el	12
48"	57	38	18	26	12	63	90	2/el	12
54"	64	43	18	30	12	70	102	2/el	12
60"	71	47	18	33	12	77	114	2/el	12

NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



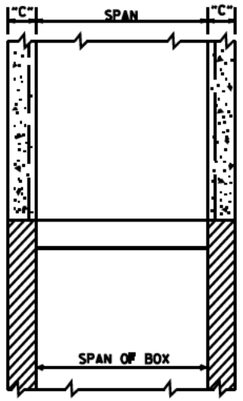


DATE	REVISION	REMO
10-18-96	REVISED ASTM REF. TO AASHTO	
5-5-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73
10-2-72	REVISED AND REDRAWN	760-10-2-72

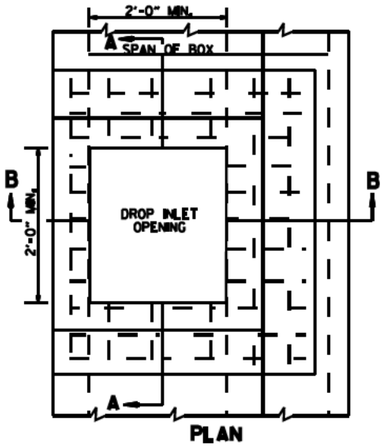
ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

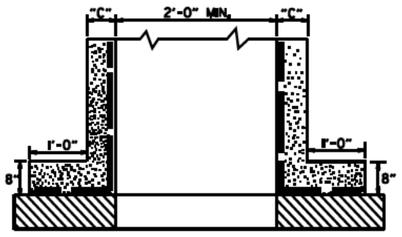
STANDARD DRAWING FES-2



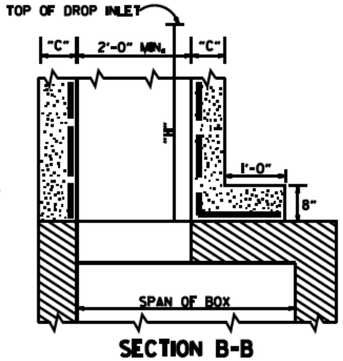
SECTION B-B



PLAN

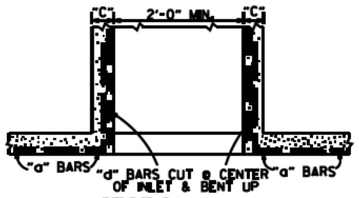


SECTION A-A

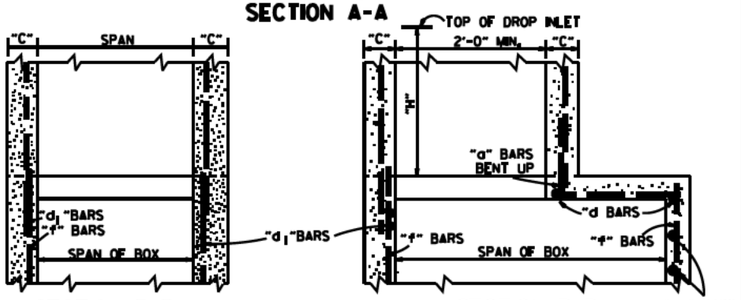


SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT



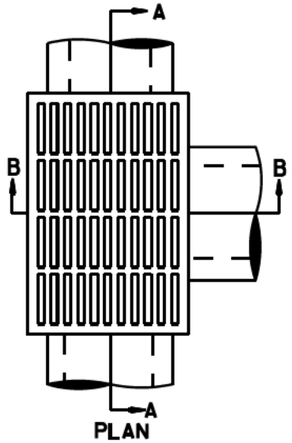
SECTION A-A



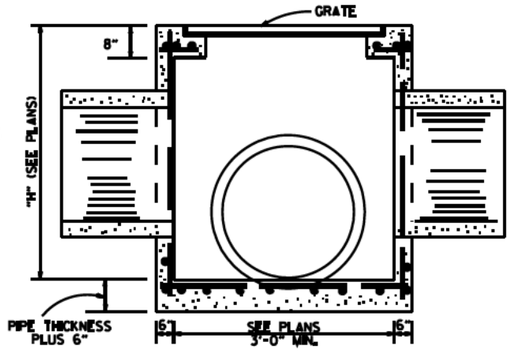
SECTION B-B SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.

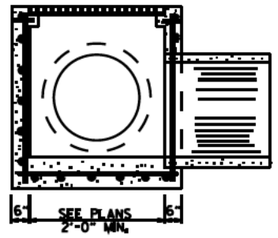


PLAN



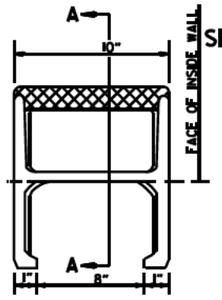
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



SECTION B-B

DROP INLET (TYPE E)

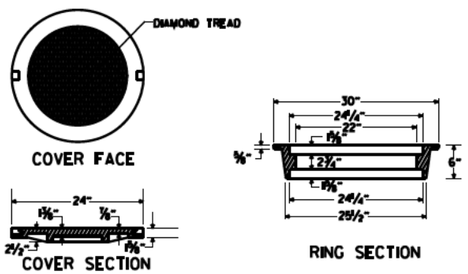


APPROX. WEIGHT = 81LBS. (CAST IRON)

PLAN

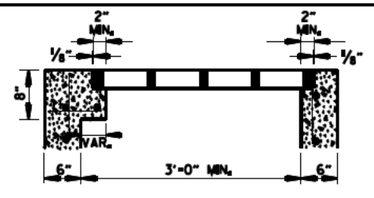
NOTE: THIS DETAIL IS TYPICAL, OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

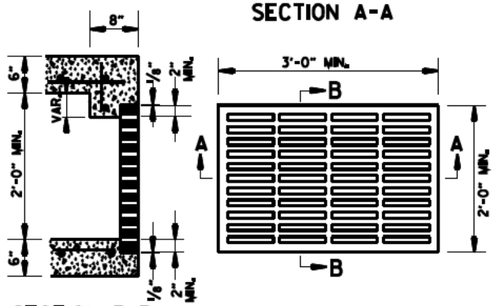


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



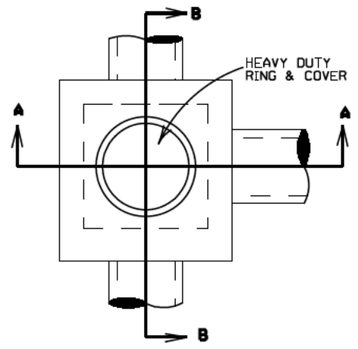
SECTION A-A



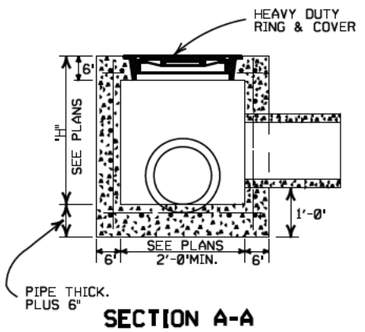
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

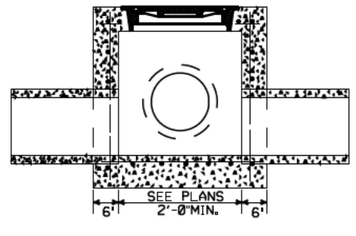


PLAN



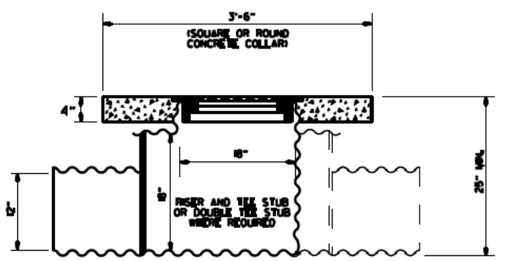
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.

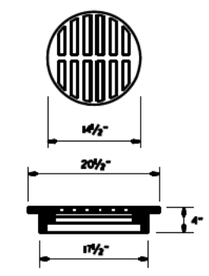


SECTION B-B

JUNCTION BOX (TYPE E)



NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".



USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

DETAIL OF YARD DRAIN

GENERAL NOTES:

1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
5. GRATE AND FRAME SHALL NOT BE PAINTED.
6. GRATE SHALL BE BICYCLE SAFE.
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER, REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

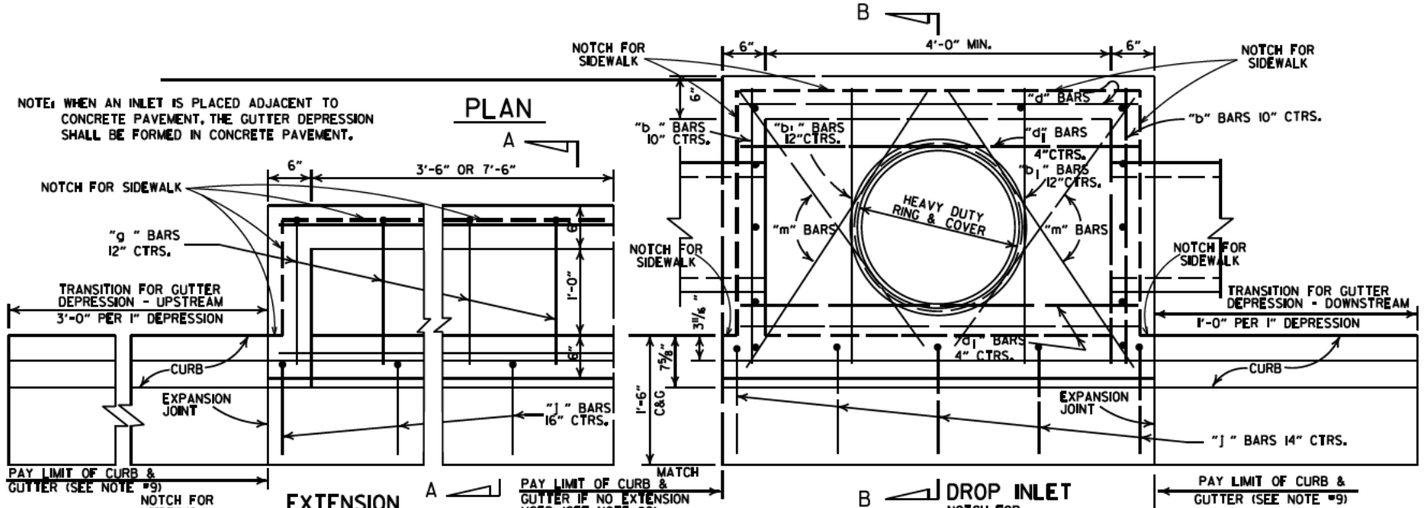
DATE REV.	REVISION	DATE FILMED
8-16-01	ADDED NOTE 10	
1-02-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED DI(TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
4-22-74	DELETED INLET (TYPE F) & GRATE (TYPE H)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

STANDARD DRAWING FPC-9

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:52 AM



4'-0" LENGTH DROP INLET

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC.	HEIGHT 5'-0" REINF. STEEL	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL
		CU. YDS.	POUNDS	CU. YDS.	POUNDS
18"	2'-6"	1.77	156	0.28	22
24"	2'-6"	1.79	156	0.28	22
30"	3'-2"	2.39	205	0.30	26
36"	3'-8"	2.63	236	0.32	28
42"	4'-4"	2.95	250	0.34	30
48"	4'-10"	3.21	265	0.36	32

NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

DROP INLET EXTENSION

4'-0" CLASS A CONC.	4'-0" REINF. STEEL	8'-0" CLASS A CONC.	8'-0" REINF. STEEL
CU. YDS.	POUNDS	CU. YDS.	POUNDS
0.58	38	0.87	72

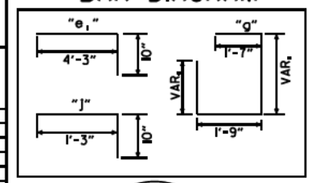
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.

0.04	3		

DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

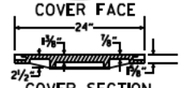
INSIDE DIA. PIPE	CLASS A CONC.	REINF. STEEL
INCHES	CU. YDS.	POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8

BAR DIAGRAM



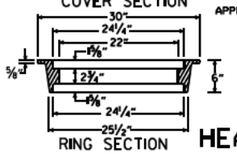


COVER FACE



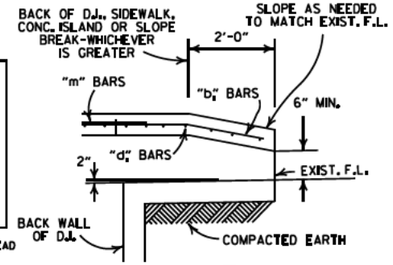
COVER SECTION

APPROXIMATE TOTAL WEIGHT = 333 LBS.



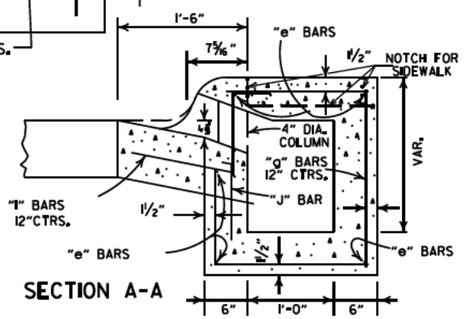
RING SECTION

HEAVY DUTY RING & COVER



BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).



SECTION A-A

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (FPC-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"×2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

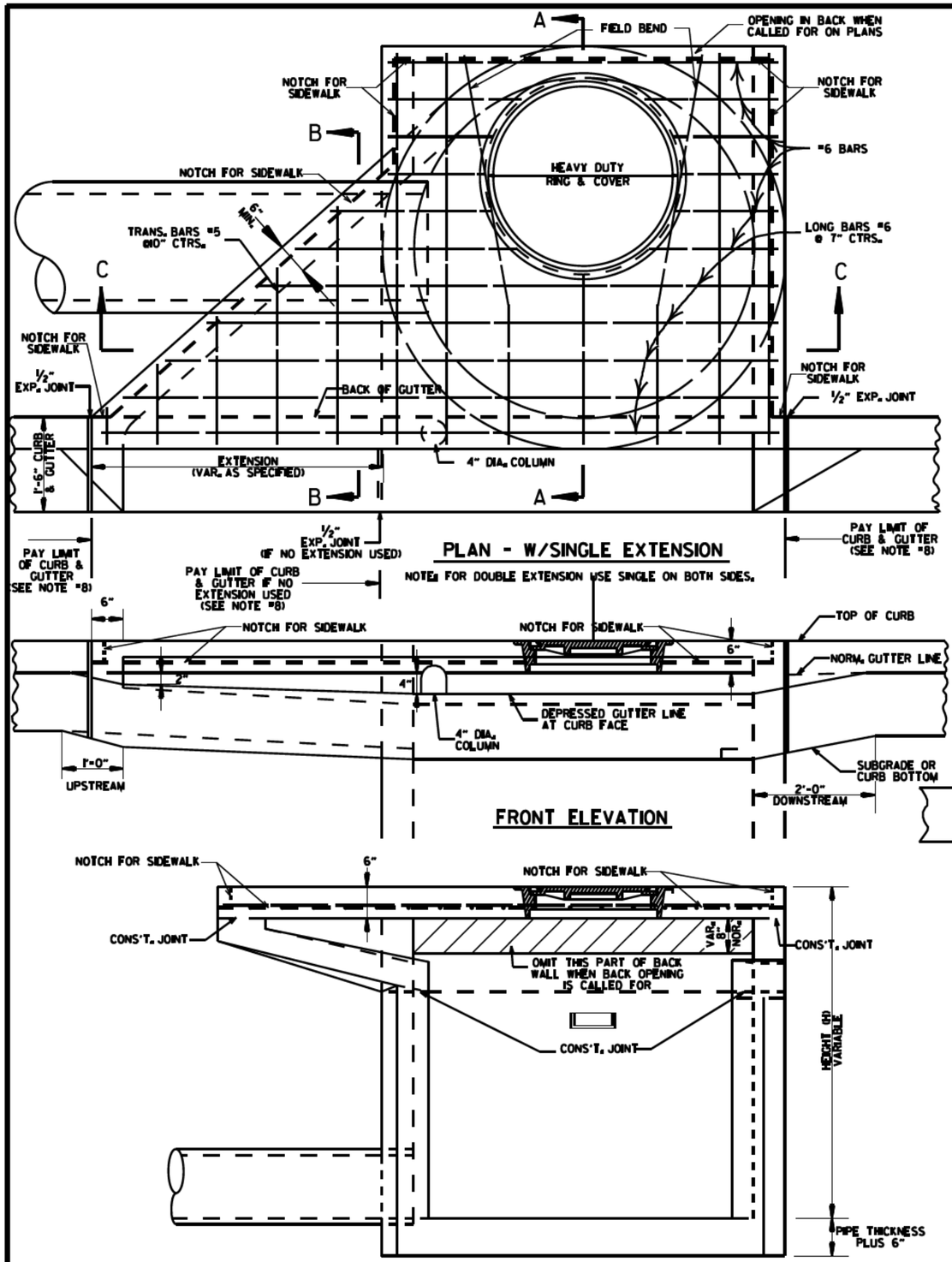
DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER ADDED NOTES 9,10,&11	
10-18-96	CORRECTED SPELLING	
4-26-96	ADDED NOTE 8 & REVISED (4')(8') EXTENSION TITLES	10-18-96
4-1-93	REVISED BACK OPENING & NOTE	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

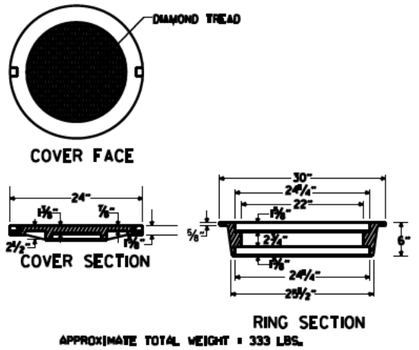
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS (TYPE C)

STANDARD DRAWING FPC-9E

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:53 AM

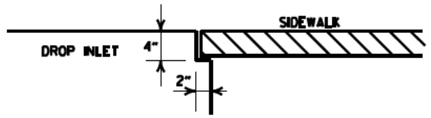




APPROXIMATE TOTAL WEIGHT = 333 LBS.

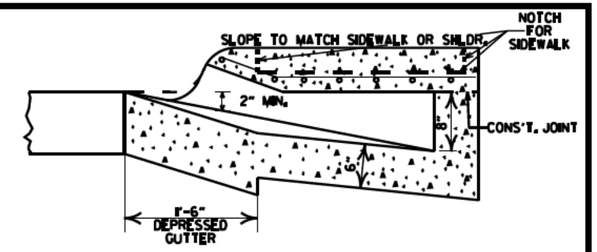
HEAVY DUTY RING & COVER

1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.

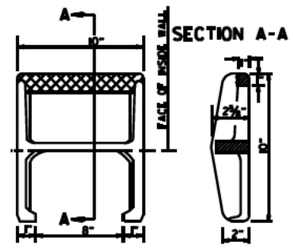


DETAIL OF NOTCH FOR SIDEWALKS

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:53 AM



SECTION B-B

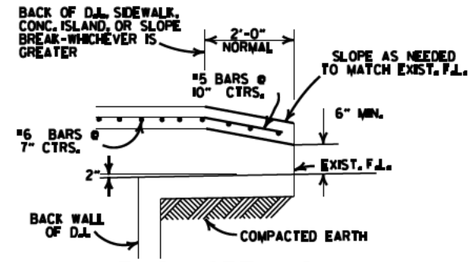


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

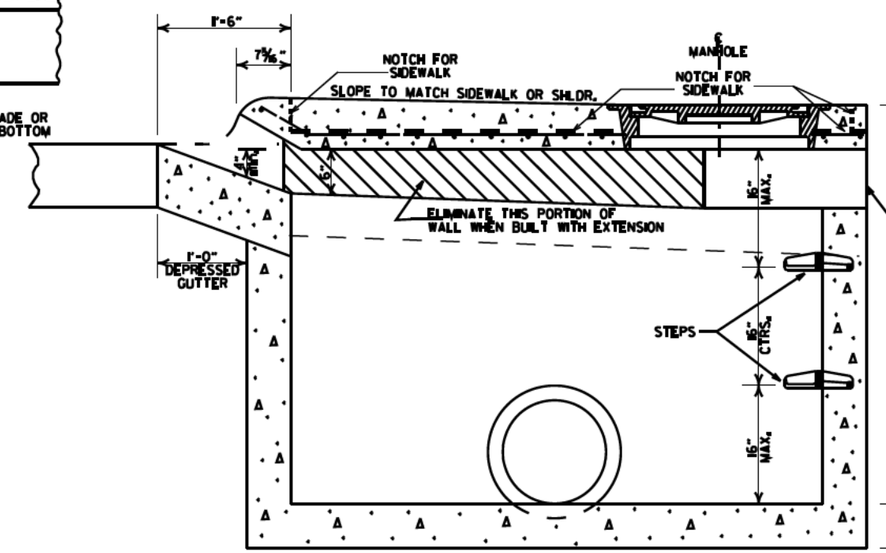


BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE MO).

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 2" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.



SECTION A-A

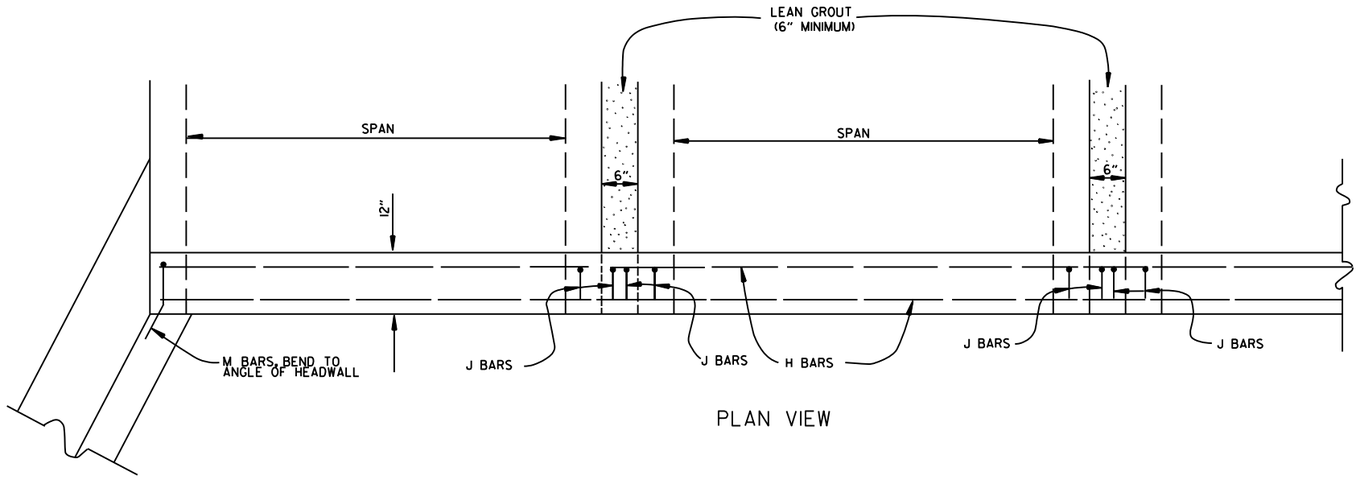
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS	
		CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE PLOTTED
8-22-02	ADDED PAY ITEM CURB NOTES TO SECTIONS A-A & B-B	
4-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
8-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REVISED NOTE 8 & DELETED PAY ITEM PICTURE FOR NEW RING & COVER. ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
12-21-95	ADDED NOTE 12 FOR OPENING DIMENSION	
4-25-95	ADDED NOTE 11 FOR CONSTRUCTION	
7-24-95	CORRECTED DIAMETER OF THROAT	
7-22-94	TYPE C TO MO (OPEN BACK DETAIL)	
8-1-89	REVISED GENERAL NOTES	D.C.S.M.
6-1-83	REVISED ORIENTATION & NOTE	D.C.S.M.
12-1-81	REVISED NOTES 1,2 & ADDED BICYCLE DETAIL	D.C.S.M.
5-1-81	ADDED NOTE NO. 10	D.C.S.M.
12-1-80	ADDED NOTE & CHANGED WALL THICKNESS	D.C.S.M.
12-1-78	ADDED NOTE & REVISED CURB TO SECTION A-A	D.C.S.M.
1-1-77	REVISED WALL THICKNESS	D.C.S.M.
1-1-74	ORIGINAL	D.C.S.M.

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

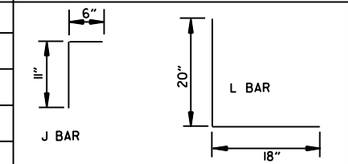
STANDARD DRAWING FPC-9M



PLAN VIEW

BAR LIST

BAR	NO.	SIZE	LENGTH	BAR BENDING DIAGRAM
H	2	#4	•	
I	•	#4	•	
J	•	#4	1'-5"	
L	•	#4	3'-2"	
M	•	#4	1'-8"	



• NOTE: LENGTH AND NUMBER OF BARS VARIES WITH SIZE OF CULVERT

GENERAL NOTES

WINGS, CURTAIN WALLS AND APRONS SHALL BE TIED TO THE PRECAST CULVERT SECTION BY CASTING BARS IN CULVERT END SECTIONS AS SHOWN OR BY DOWELING AND GROUTING. J BARS AND M BARS SHALL BE EMBEDDED A MINIMUM OF 10" IN PRECAST BOX.

WINGS, FOOTINGS, APRONS AND CURTAIN WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE WING DRAWING. STEEL AND CONCRETE QUANTITIES WILL BE ADJUSTED TO FIT THE IN-PLACE WIDTH & HEIGHT OF THE PRECAST CONCRETE BOX CULVERTS.

ALL EXPOSED CORNERS TO HAVE ¾" CHAMFERS.

WINGWALLS AND FOOTINGS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

ALL CONCRETE, REINFORCING STEEL, LEAN GROUT, MEMBRANE WATERPROOFING, DRAINAGE FILL MATERIAL, GEOTEXTILE FILTER FABRIC, LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR INSTALLING PRECAST BOX CULVERTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR THE ITEMS AS SPECIFIED IN SECTION 607 OF THE STANDARD SPECIFICATIONS.

LEAN GROUT SHALL CONSIST OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS:
PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85.
SAND SHALL MEET THE REQUIREMENTS OF FINE AGGREGATE AS SPECIFIED IN SECTION 802.02 OF THE STANDARD SPECIFICATIONS.
THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 1.5 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE.
THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENTS. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL VOIDS.

MEMBRANE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL BOX CULVERT JOINTS.

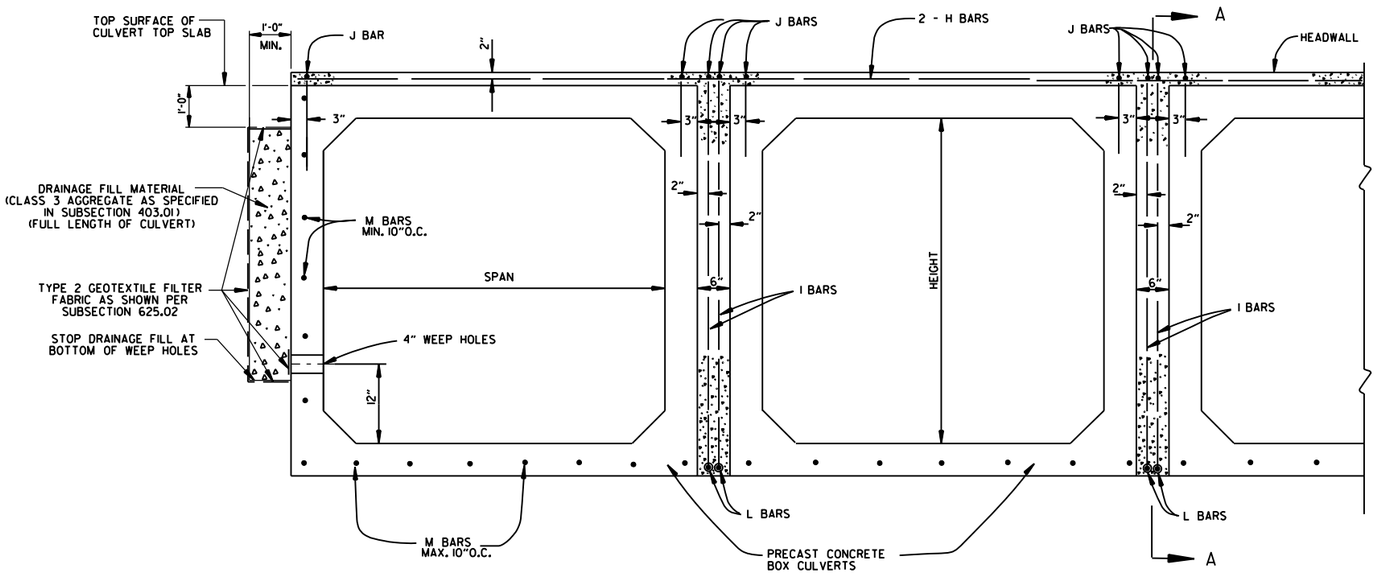
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

IN OUTER BARRELS, ONE WEEP HOLE IS REQUIRED IN EXTERIOR WALLS OF EACH PRECAST CULVERT SECTION. WEEP HOLES SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" IN THE ASSEMBLED CULVERT AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

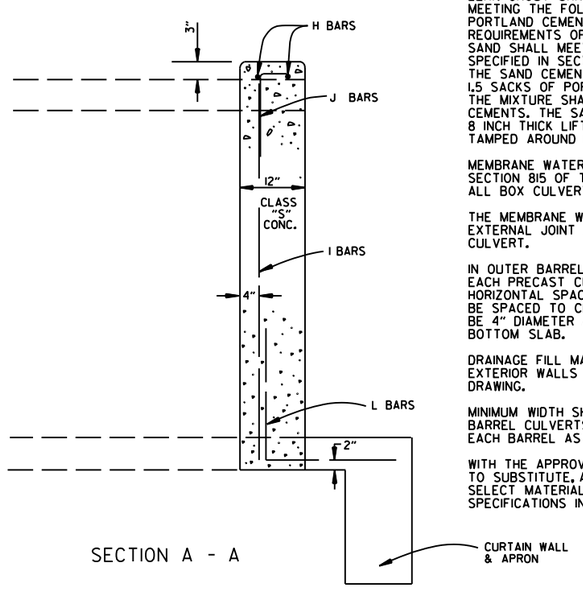
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

MINIMUM WIDTH SHALL BE 12" (6" ON EACH SIDE OF JOINT). ON MULTIPLE BARREL CULVERTS, MEMBRANE WATERPROOFING SHALL BE APPLIED TO EACH BARREL AS DESCRIBED ABOVE.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, FLOWABLE SELECT MATERIAL CONFORMING TO SECTION 206 OF THE STANDARD SPECIFICATIONS IN LIEU OF LEAN GROUT.



END VIEW



SECTION A - A

DATE	REVISION	DATE FILMED
1-28-15	REVISED GEOTEXTILE FABRIC PLACEMENT	
12-15-11	ADDED NOTE & DTLS FOR WEEP HOLE AND DRAINAGE FILL	
10-15-09	ADDED GENERAL NOTE	
11-10-05	REVISED SPACING OF "M" BARS	
4-10-03	REVISED GENERAL NOTES	
10-18-96	CORRECTED AASHTO REF.	
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING	
8-15-91	ADDED NOTE FOR LEAN GROUT	
11- 8-90	REVISED FOR 1991 SPECS	
11-30-89	ISSUED; JABE	

ARKANSAS STATE HIGHWAY COMMISSION

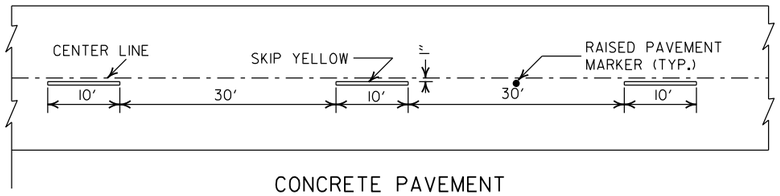
PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

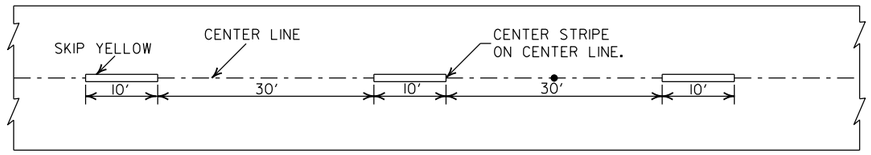
APPROVED FOR B CONSTRUCTION
04/15/2024 8:56:53 AM

NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:53 AM

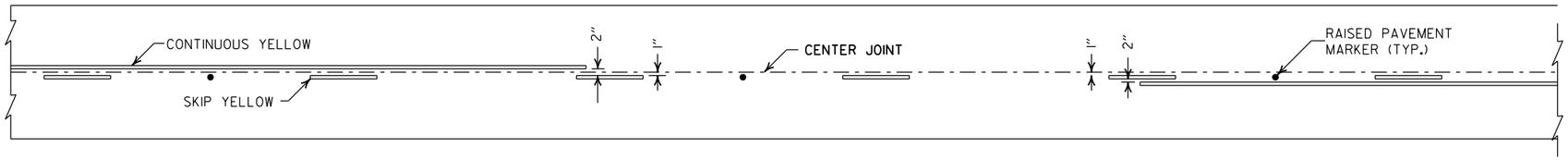


CONCRETE PAVEMENT

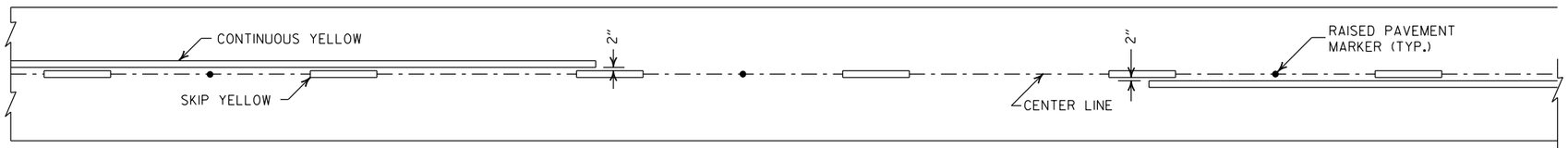


ASPHALT PAVEMENT

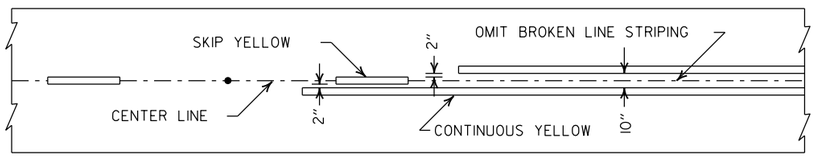
BROKEN LINE STRIPING



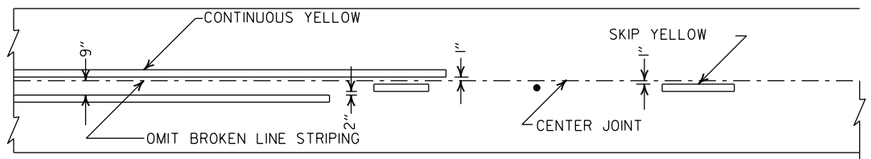
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

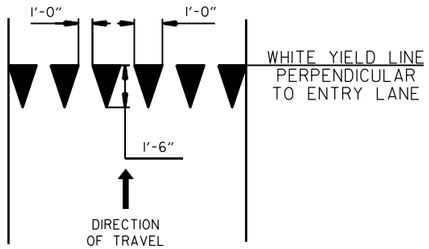


ASPHALT PAVEMENT

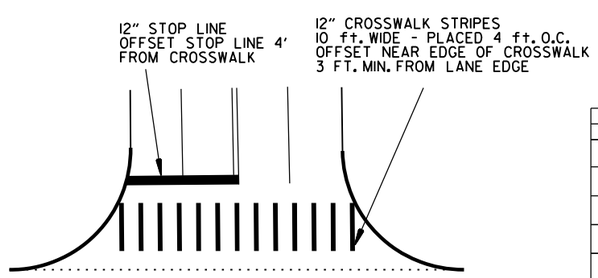


CONCRETE PAVEMENT

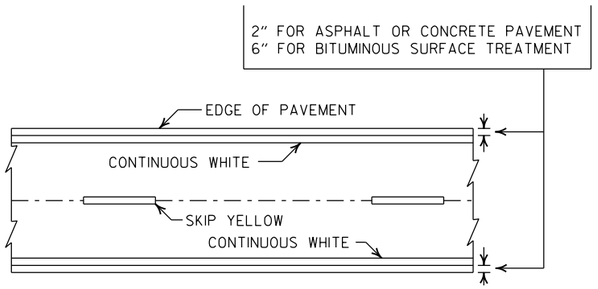
STRIPING AT ADJACENT NO PASSING LANES



YIELD LINE DETAIL



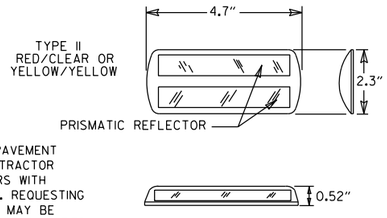
CROSSWALK AND STOP LINE DETAILS



PAVEMENT EDGE LINE MARKING

NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

DATE	REVISION	FILMED
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

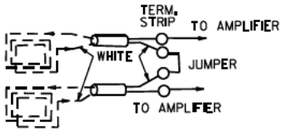
LOOP DETECTOR INSTALLATION AND TESTING

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:33 AM

NOTES:

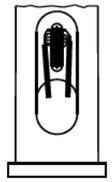
1. LOOPS WITH A PERIMETER GREATER THAN 40' SHALL HAVE TWO TURNS. LOOPS WITH A PERIMETER LESS THAN OR EQUAL TO 40' SHALL HAVE THREE TURNS, UNLESS OTHERWISE NOTED ON THE PLANS. QUADRUPOLE LOOPS SHALL BE TWO TURNS IN A (2-4-2 CONFIGURATION), UNLESS OTHERWISE NOTED ON THE PLANS.
2. LOOP AND FEEDER WIRE SHALL BE CONTINUOUS WITHOUT SPLICES EXCEPT AT THE LOOP/FEEDER WIRE SPLICE AS SHOWN. SPLICES SHALL BE ROSIN SOLDERED AND WATERPROOFED WITH AN ACCEPTED SPLICE KIT. A DRIAN WIRE SHALL BE GROUNDED IN THE CABINET AND INSULATED AT THE LOOP TO FEEDER WIRE SPLICE.
3. THE LOOP TO FEEDER WIRE SPLICE, THE FEEDER WIRE JACKET AND LOOP WIRE JACKET IN DUCT SHALL BE COMPLETELY SEALED AND WATERPROOFED.
4. THE CONTRACTOR MAY MAKE CONNECTIONS TO THE SIGNAL CABLE AND LOOP TO FEEDER WIRE CONNECTION AT THE TERMINAL STRIPS MOUNTED TO POLE INSIDE THE HAND HOLD COVER AS SHOWN IN DETAIL. HANDHOLE TERMINALS MUST BE EASILY ACCESSIBLE, BUT PROTECTED AGAINST ACCIDENTAL CONTACT. THE CONNECTION OF POWER CARRYING CIRCUITS MUST BE SEPERATED FROM LOOP OR LOGIC CIRCUITS. ALL CONNECTIONS TO TERMINAL STRIPS SHALL UTILIZE SPADE LUGS OR AS APPROVED BY THE ENGINEER.
5. EACH LOOP SHALL HAVE A SEPERATE "FEEDER WIRE" UNLESS OTHERWISE NOTED ON THE PLANS. ALL FEEDER WIRES SHALL BE LABELED AS TO LOOP NUMBER AS DESIGNATED ON THE PLANS.
6. ALL LOOP WIRE ENTERING CONCRETE PULL BOXES SHALL BE ENCLOSED IN CONDUIT. EACH LOOP WIRE SHALL ENTER CONCRETE PULL BOX OR POLE BASE THROUGH A SEPARATE PIECE OF ONE (1.25") INCH CONDUIT.
7. LOOP WIRE FROM LOOP TO CONDUIT IS NOT TWISTED. LOOP WIRE IN THE CONDUIT MUST BE TWISTED TWO TO FIVE TURNS PER FOOT.
8. "30-DAY PERFORMANCE TEST SHALL NOT COMMENCE UNTIL ALL LOOPS ARE TESTED BY THE CONTRACTOR, THEN APPROVED AND ACCEPTED BY THE ENGINEER, AND THE TESTING RECORDS HAVE BEEN SUBMITTED TO THE ENGINEER. THE WARRENTY PERIOD FOR LOOPS SHALL NOT COMMENCE UNTIL TESTED BY THE CONTRACTOR AND ACCEPTED BY THE ENGINEER. THE CONTRACTOR SHALL PERFORM TEST AND PROVIDE A RECORD TO THE ENGINEER AS LISTED IN THE LOOP DETECTOR TESTING PROCEDURE.
9. UNLESS OTHERWISE APPROVED BY THE ENGINEER, BACKER ROD SHALL BE INSTALLED IN SHORT SECTIONS SPACED NO MORE THAN 18" APART AND WEDGED INTO THE SLOT TO THE CABLE IN PLACE. CABLE SHALL BE TOTALLY ENCAPSULATED IN SEALER.
10. "HOT POUR" SEALER SHALL NOT ALLOW WITH 705-LOOP WIRING IN DUCT.
11. WHERE UNDERGROUND SPLICES OF SIGNAL CABLE ARE REQUIRED. CONNECTIONS SHALL BE SOLDERED AND COMPLETELY WATERPROOFED TO THE SATISIFACTION OF THE ENGINEER. WATERPROOFING SHALL EXTEND A MININUM OF TWO (2") INCHES PAST THE SIGNAL CABLE JACKET AND SHALL COMPLETELY COVER ALL INDIVIDUAL CONDUCTORS OF THE SIGNAL CABLE. WATERPROOFING DOES NOT APPLY TO CONNECTIONS MADE IN POLE BASES.
12. THE CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE. ONLY ONE NEUTRAL IS REQUIRED FOR PEDESTRIAN SIGNALS. A SEPERATE 5C (TYPICAL) IS PROVIDED FOR PEDESTRIAN PUSH BUTTONS.
13. TRAFFIC CONTROLLER CABINET LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER TO REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER. THE CONTROLLER CABINET SHALL BE WIRED SUCH THAT THE POWER TO LOAD SWITCHES CANNOT BACKFEED TO THE LOAD SWITCH POWER BUSS DURING FLASH OPERATION.

SERIES CONNECTED LOOPS

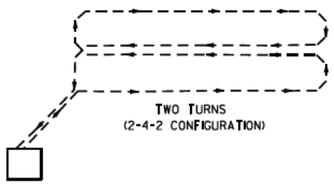


WIND LOOPS COUNTERCLOCKWISE; TAG WIRE EXITING SLOT AND TIE TO WHITE LEAD OF FEEDER WIRE; WHEN LOOPS ARE TIED TO SAME VEHICLE DETECTOR, SERIES CONNECT IN CABINET AS SHOWN.

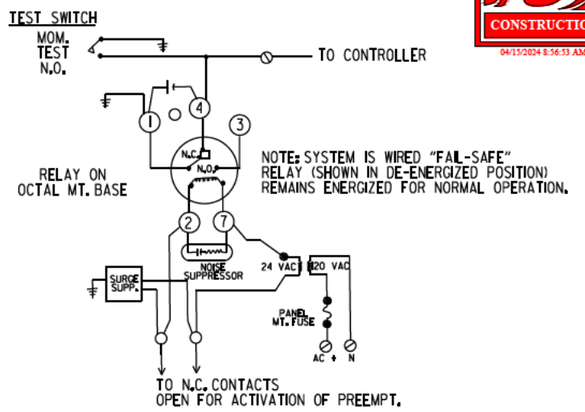
HANDHOLE TERMINAL



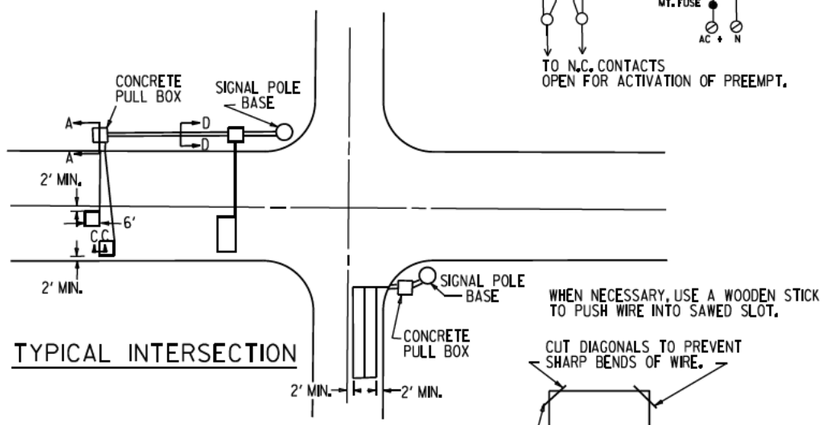
QUADRUPOLE LOOP



TRAFFIC SIGNAL PRE-EMPTION INTERFACE WIRING DIAGRAM



TYPICAL INTERSECTION



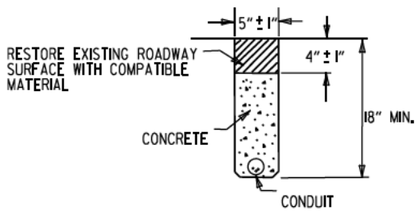
TYPICAL PROCEDURE FOR DETECTOR LOOP TESTING

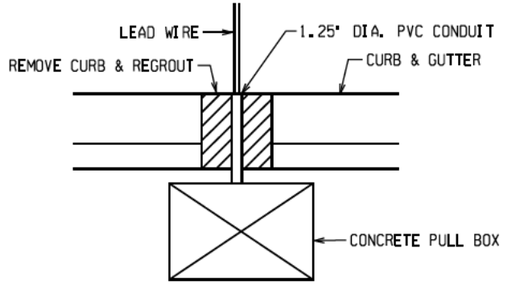
1. DISCONNECT AND TEST CONTINUITY (< 10 OHMS) IF CONTINUITY IS BAD, GO TO TEST 3.
2. TEST INSULATION (@ 500 VOLT TEST > 10 MEG-OHM)

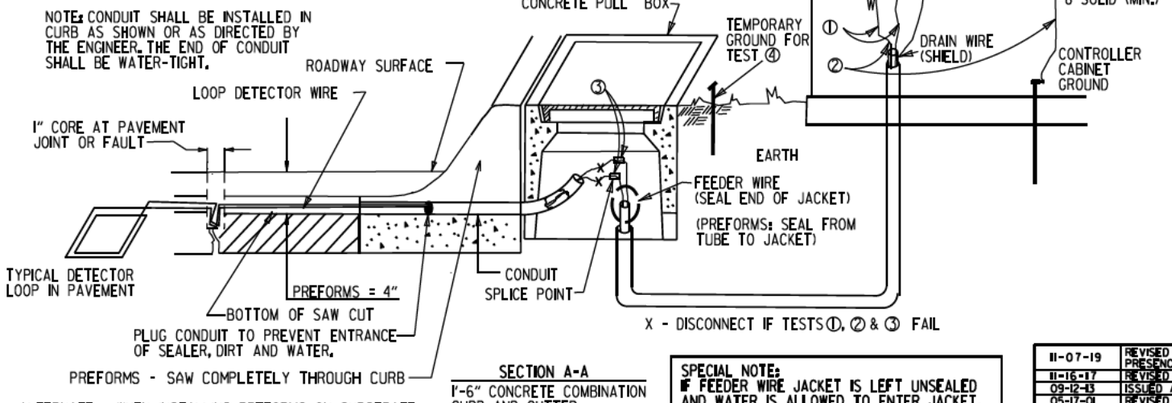
   IF TESTS 1& 2 ARE GOOD, NO FURTHER TESTING IS NECESSARY. RECORDED RESULTS CONSIST OF TESTS 1& 2 FROM CONTROL CABINET WITH FEEDER WIRE CONNECTED TO LOOP.
3. OPEN SPACE (DO NOT BREAK CONNECTION) REPEAT TEST 1& 2 IF TEST 3 IS BAD, GO TO TEST 4.
4. BREAK SPLICE, INSTALL JUMPER IN CABINET, REPEAT TESTS 1& 2 SEPARATELY FOR FEEDER AND FOR LOOP.

FAILURES TYPICALLY RESULT FROM BROKEN WIRE IN PAVEMENT, FAULTY INSULATION OF LOOP OR FEEDER WIRE, OR POORLY INSULATED SPLICE CONNECTION.

TRENCHING DETAIL
(FOR SAW CUT TRENCH IN ROADWAY)



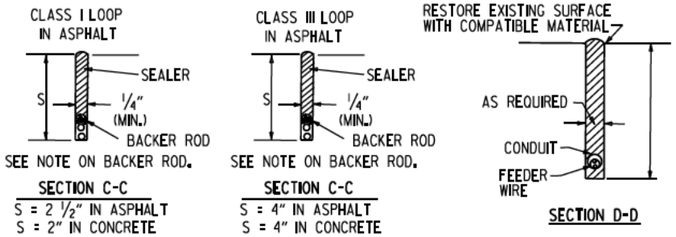




SECTION A-A
1'-6" CONCRETE COMBINATION CURB AND GUTTER

SPECIAL NOTE:
IF FEEDER WIRE JACKET IS LEFT UNSEALED AND WATER IS ALLOWED TO ENTER JACKET, CONTRACTOR WILL BE REQUIRED TO REPLACE FEEDER WIRE AT NO COST TO DEPARTMENT.

TYPICAL SECTIONS FOR PULSE AND PRESENCE LOOP DETECTORS



DATE	REVISION	FILMED
11-07-19	REVISED NOTE 6 & TYPICAL FOR PRESENCE LOOP DETECTORS	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
05-17-01	REVISED	
04-11-01	REVISED	
02-04-00	REVISED PRE-EMPTION TEST SWITCH	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

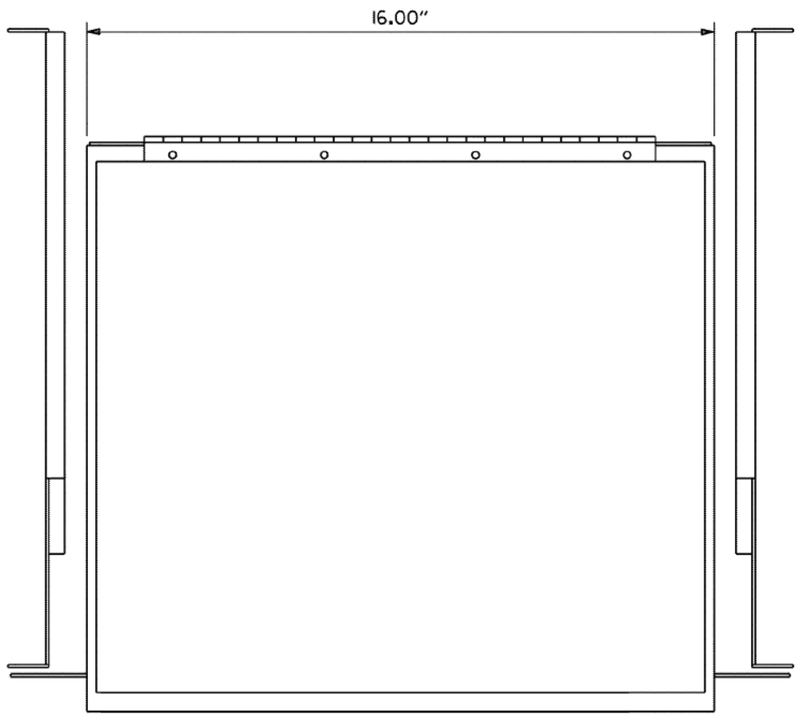
ARKANSAS STATE HIGHWAY COMMISSION

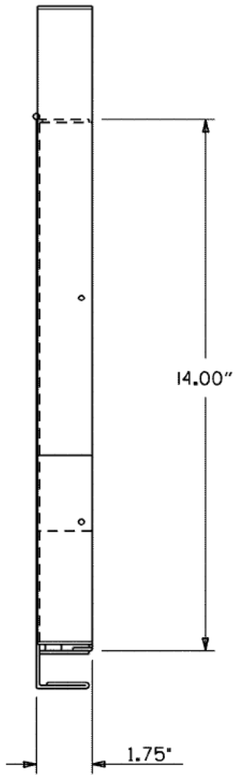
LOOP DETECTOR INSTALLATION

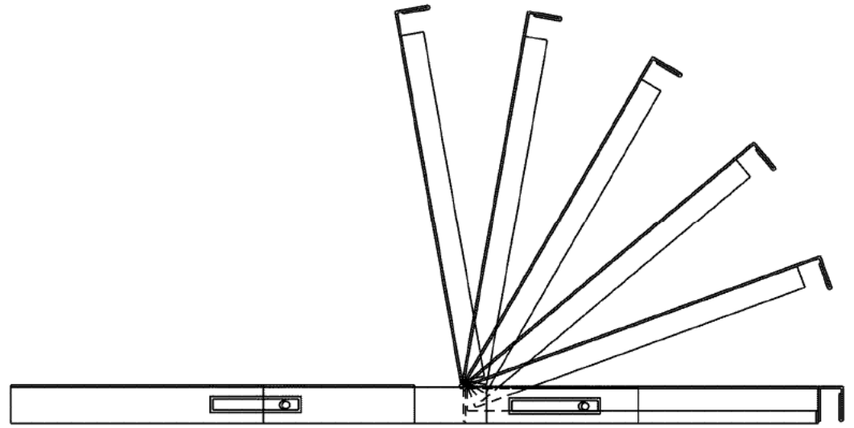
STANDARD DRAWING SD-4

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:53 AM

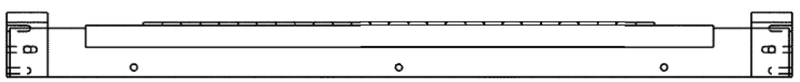
DRAWER PLAN VIEW



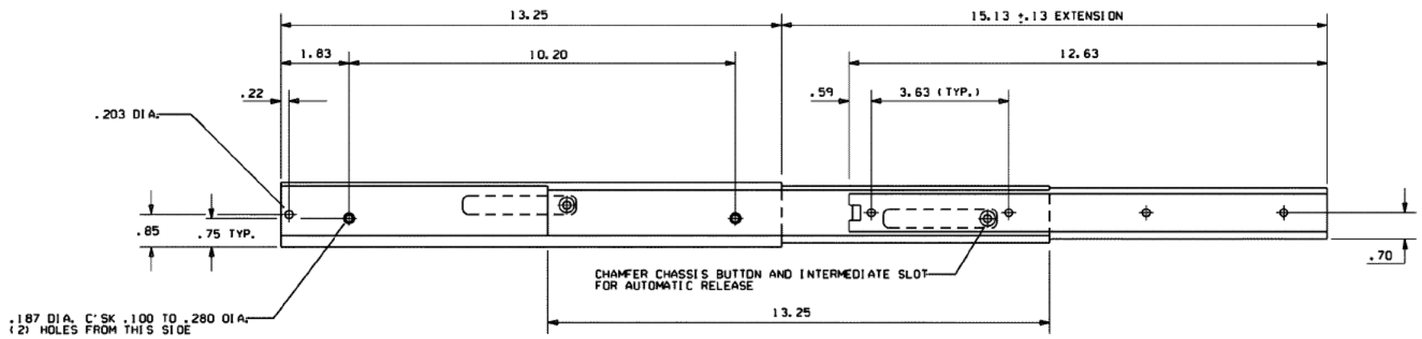




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3DD2-99-DID2) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
6-15-05	ISSUED	

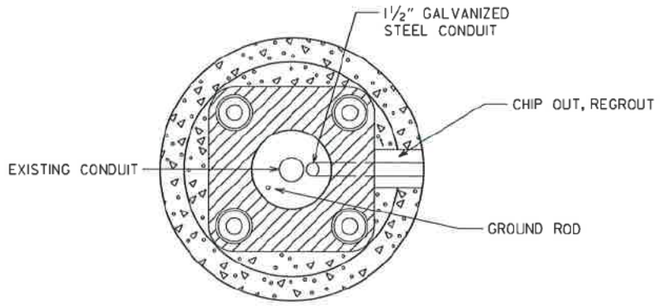
ARKANSAS STATE HIGHWAY COMMISSION

CONTROLLER CABINET UTILITY DRAWER

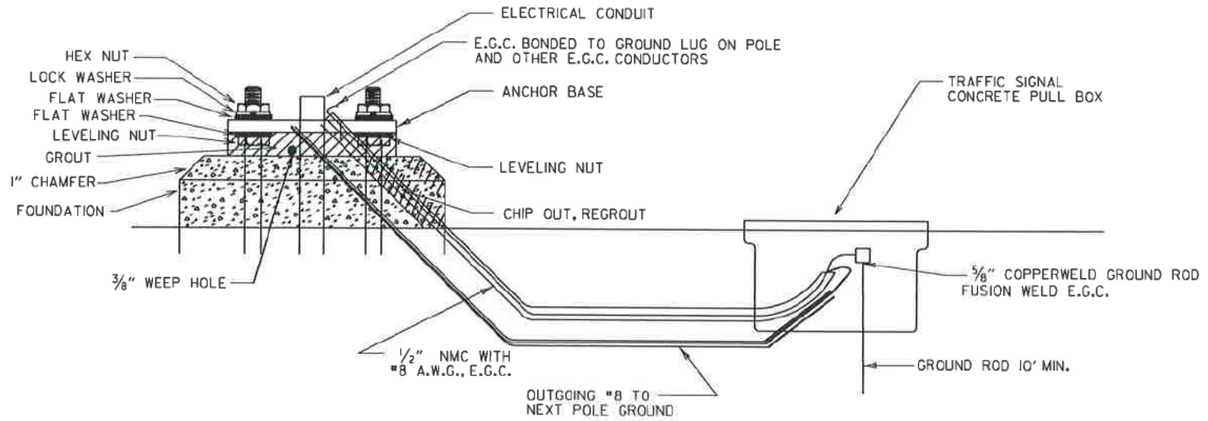
STANDARD DRAWING SD-5

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:53 AM

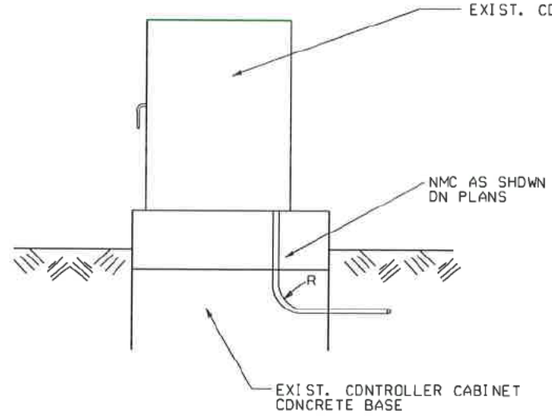
CONDUIT ENTRY TO EXISTING POLE BASE



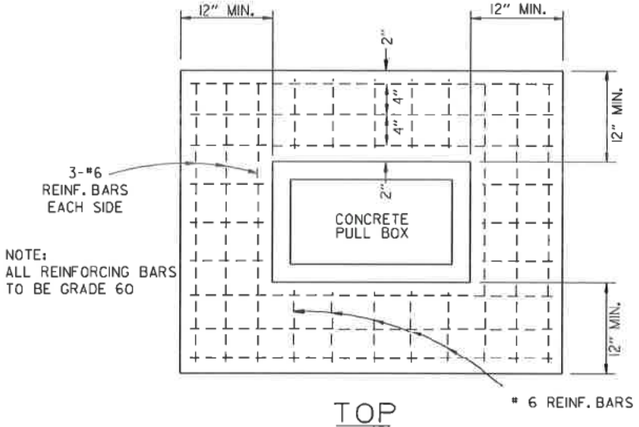
ANCHOR BASE



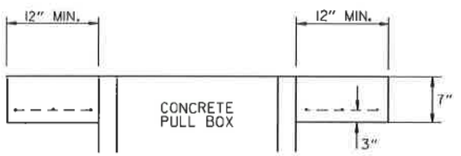
CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

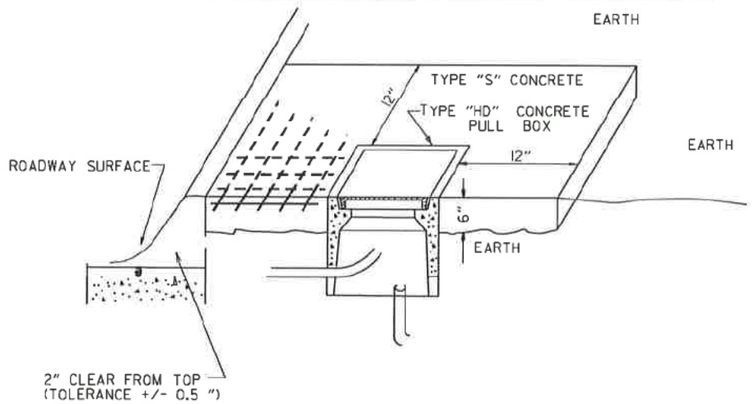


TOP



ELEVATION

TYPE "HD" CONCRETE PULL BOX DETAIL



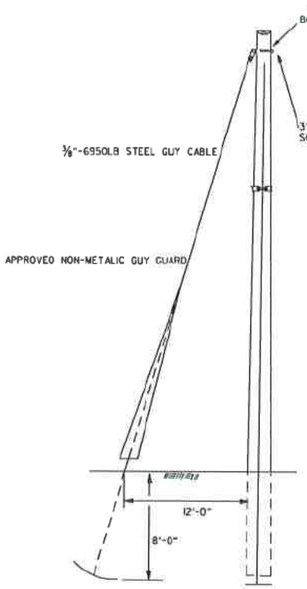
NOTE:
ALL TYPE I AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 7" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S". THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE CONCRETE PULL BOX IS REQUIRED IN CONCRETE.

DATE	REVISION	FILMED
11-16-17	REVISED NOTES	
09-02-15	REVISED PULL BOX DEPTH	
09-12-13	ISSUED AS STANDARD DRAWING	
05-21-09	REVISED GROUNDING	
07-31-08	ADDED & REVISED CONDUIT ENTRY	
06-23-04	REVISED CLEARANCE AT CURB ENTRY	
01-04-02	ADDED REINFORCING TO BOX APRON	
07-02-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

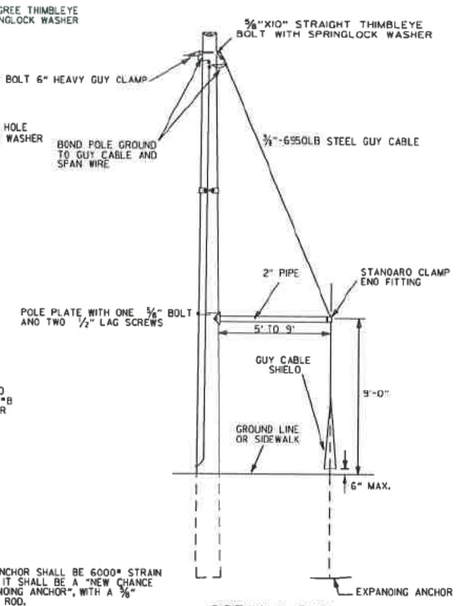
ARKANSAS STATE HIGHWAY COMMISSION

HEAVY DUTY PULL BOX

STANDARD DRAWING SD-6



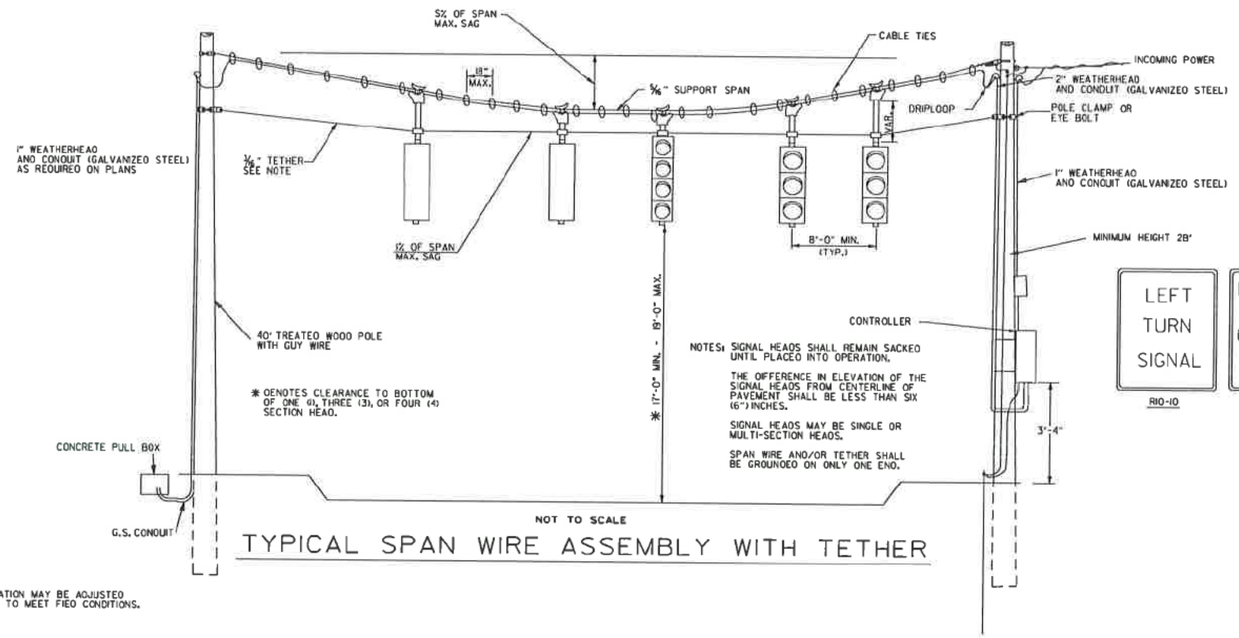
STANDARD GUY INSTALLATION



NOTE:
EXPANDING ANCHOR SHALL BE 6000# STRAIN OR GREATER. IT SHALL BE A "NEW CHANCE B-WAY EXPANDING ANCHOR", WITH A 5/8" MINIMUM GUY ROD.

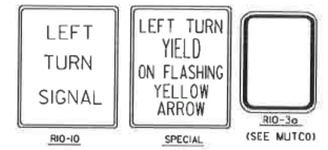
SIDEWALK GUY INSTALLATION

NOTE:
CONDUIT INSTALLATION MAY BE ADJUSTED BY THE ENGINEER TO MEET FIELD CONDITIONS.



NOT TO SCALE

TYPICAL SPAN WIRE ASSEMBLY WITH TETHER

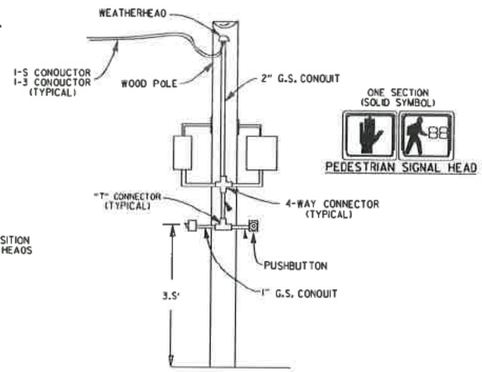


NOTES:
SPAN WIRE POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

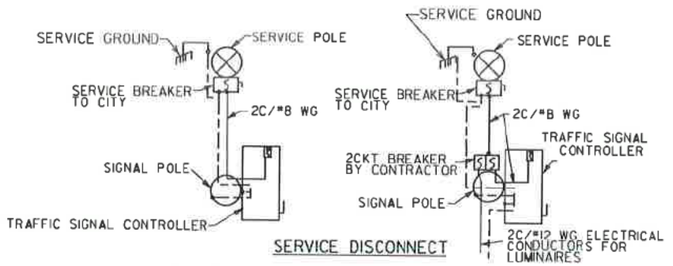
SPAN WIRE ASSEMBLIES WILL REQUIRE TETHER UNLESS OTHERWISE NOTED ON PLAN SHEETS.

CABLE TIES SHALL BE SUITABLE FOR OUTSIDE USE (BLACK).

THE CONTROLLER POWER SUPPLY GROUND BUSS SHALL BE BONDED TO THE FOUNDATION GROUND ROD WITH A #8 A.W.G. SOLID COPPER WIRE, ON EXISTING FOUNDATIONS WITH NO GROUND ROD, CONTRACTOR SHALL INSTALL A 10' X 5/8" COPPERWELD GROUND ROD.



WOODEN POLE INSTALLATION OF PED HEADS



NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

NOTES:

EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)", TO BE USED AS A LEFT TURN INDICATION ONLY, SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

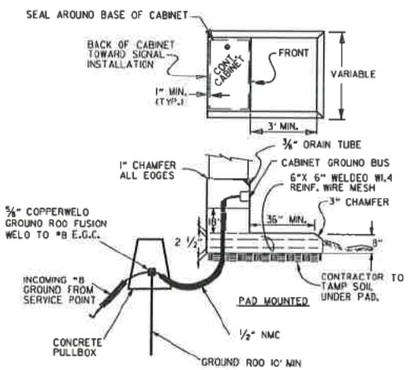
ALL SIGN BLANK SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209, ALLOY 5052-H38) WITH A THICKNESS OF 0.100 INCH.

ALL SIGN FACE SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

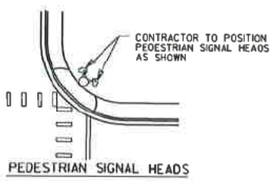
SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

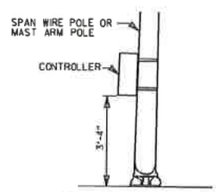
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS IN FLASH SEQUENCE.



CONCRETE BASE MOUNTED CABINET DETAILS



PEDESTRIAN SIGNAL HEADS



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED

CABINET NOTE:

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

MINIMUM STRUCTURAL REQUIREMENTS:

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

CONSTRUCTION SPECIFICATIONS: STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED SPAN WIRE SUPPORT POLE DETAIL, ADDED PEDESTRIAN SIGNAL HEAD DETAIL	
02-27-14	REVISED NOTES.	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED PEDESTRIAN SIGN & GROUNDING	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REV. CABINET ORIENTATION & SIGNAL OPERATION	
05-22-02	REV. TYP. SPAN WIRE ASSEMBLY	
12-27-99	REVISED	
11-18-98	REVISION TO NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

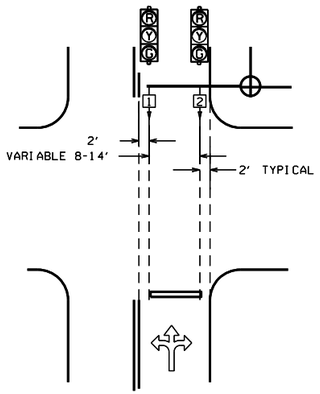
SPAN WIRE ASSEMBLY WOOD POLE

STANDARD DRAWING SD-7

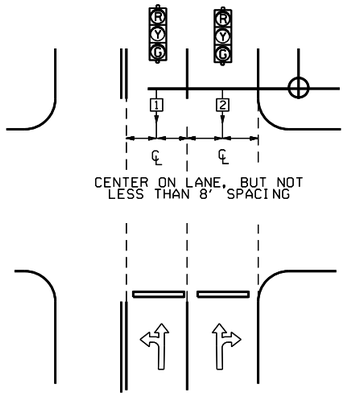
APPROVED FOR CONSTRUCTION
04/15/2024 8:56:53 AM

APPROVED FOR
B
CONSTRUCTION
04/15/2024 8:56:53 AM

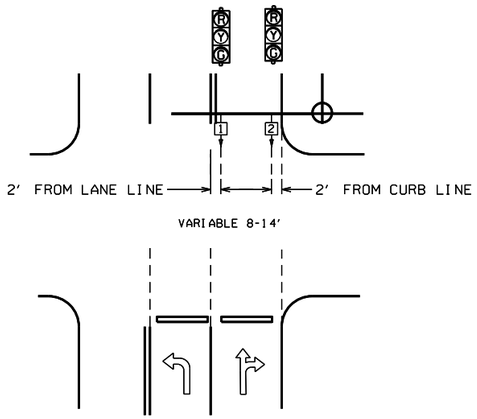
(A)



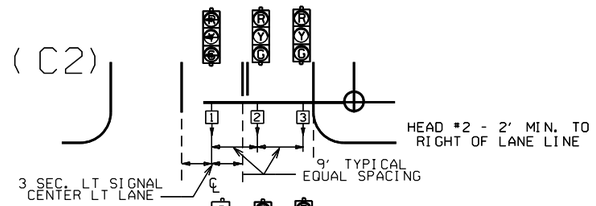
(B)



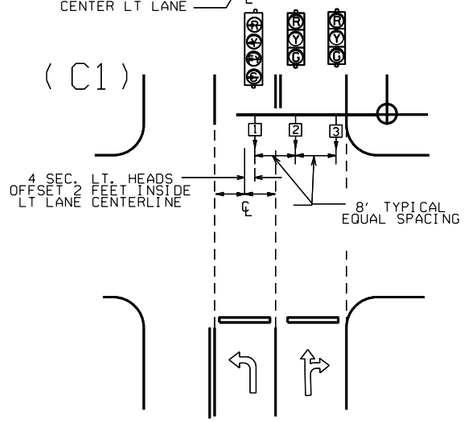
(C)



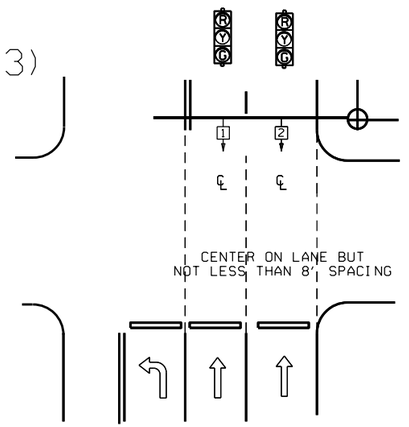
(C2)



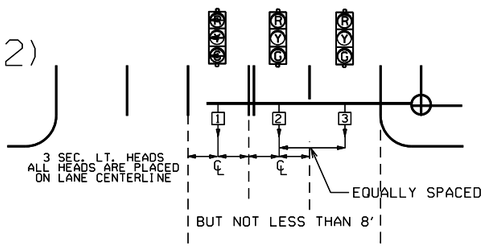
(C1)



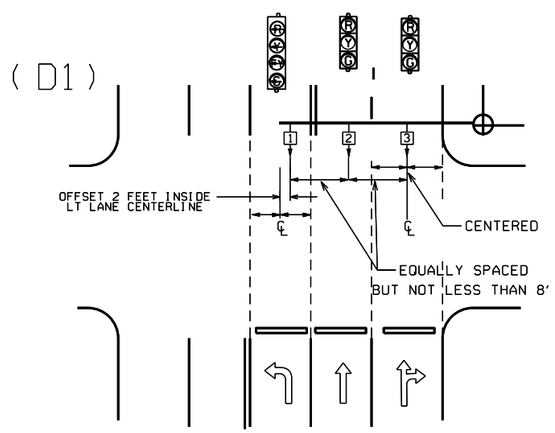
(C3)



(D2)

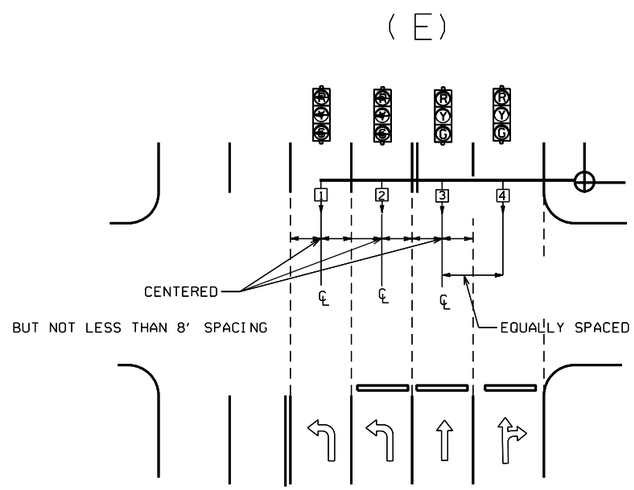


(D1)



NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS.

(E)



℄ = CENTER OF LANE FROM APPROACH SIDE

GENERAL NOTES:

1. FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.

4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.

6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-5 OF 2009 MUTCD.

12-8-16	REVISED NOTE 6	
9-12-13	ISSUED AS STANDARD DRAWING	
3-11-10	2009 MUTCD	
12-9-99	ISSUED	
DATE	REVISION	DATE FILM

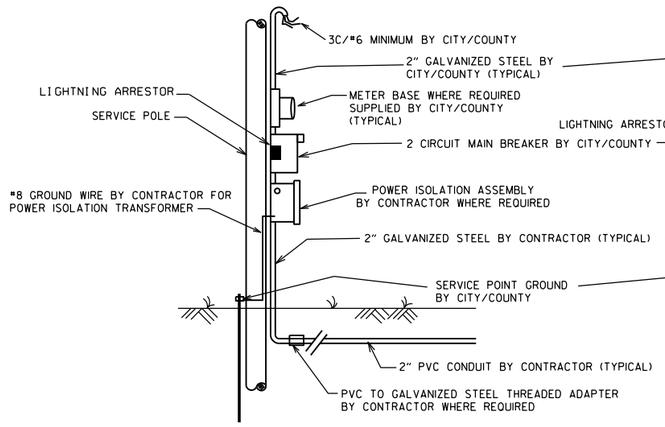
ARKANSAS STATE HIGHWAY COMMISSION

SIGNAL HEAD PLACEMENT

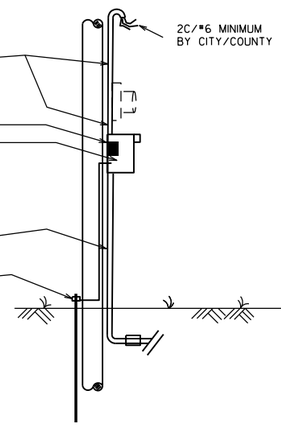
STANDARD DRAWING SD-8

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY



WITHOUT POWER ISOLATION ASSEMBLY



NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY):

ELECTRICAL SERVICE TYPICALLY FALLS INTO TWO CATEGORIES:
MAIN BREAKER NEAR CONTROLLER CABINET; AND MAIN BREAKER NOT NEAR CONTROLLER CABINET. THE CONTRACTOR'S AND THE CITY'S/COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

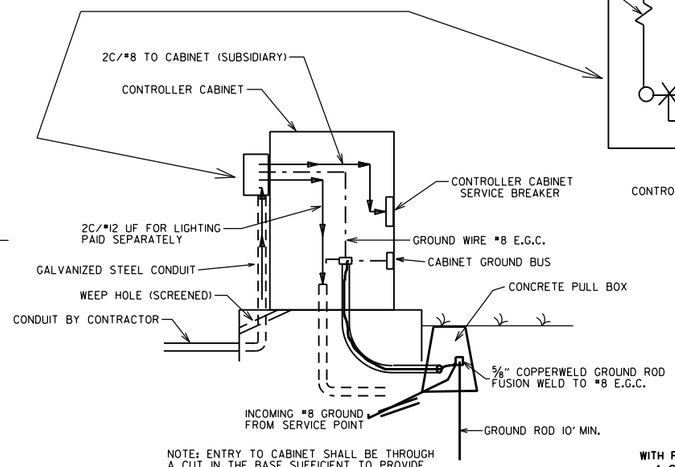
ALL SITUATIONS:
ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTOR, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY COMPANY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION STREET LIGHTING CIRCUIT (2C/#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT SEPARATE FROM THE CIRCUIT SERVING TRAFFIC SIGNAL. SERVICE WIRE AND WIRING FROM THE CONTROLLER TO MAIN BREAKER IS PROVIDED BY THE CONTRACTOR AS A PART OF THIS CONTRACT. WIRE AND WIRING FROM MAIN BREAKER, AND CONNECTION TO THE UTILITY IS THE RESPONSIBILITY OF THE CITY/COUNTY.

MAIN BREAKER NOT NEAR CONTROLLER CABINET:
THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT. WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY CITY/COUNTY. CONTRACTOR SHALL PROVIDE AS PART OF CONTRACT SECONDARY BREAKER, CONDUIT, WIRE AND WIRING TO THE MAIN BREAKER.

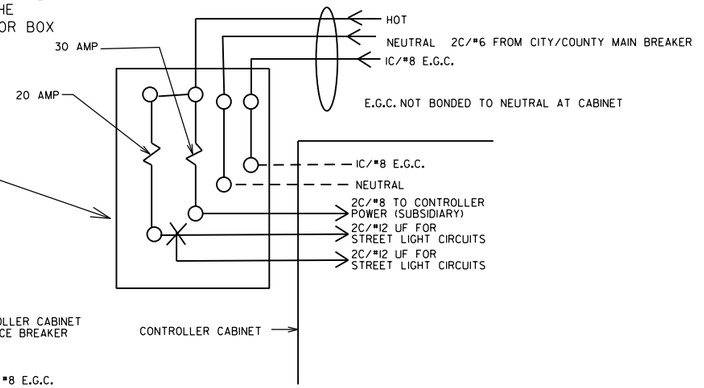
MAIN BREAKER NEAR CONTROLLER CABINET:
ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE AND HARDWARE IS PROVIDED BY THE CITY/COUNTY AND INSTALLED BY THE CONTRACTOR.

GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 701. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)



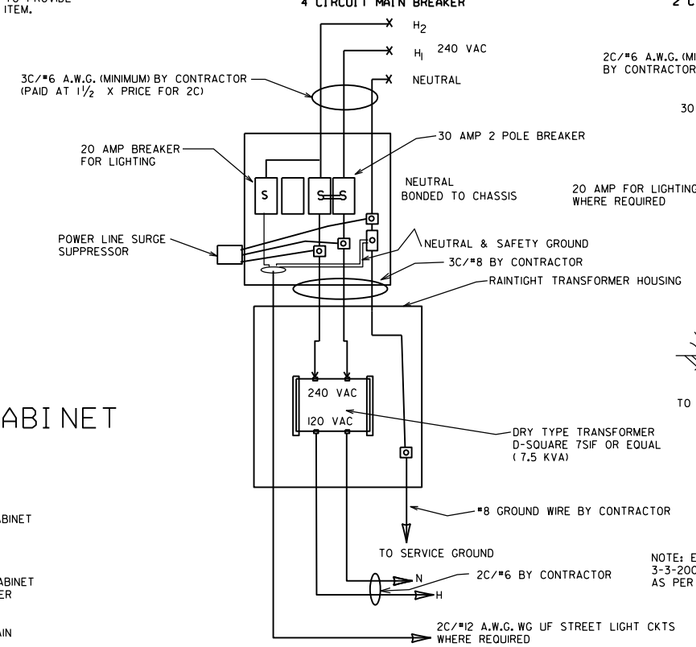
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



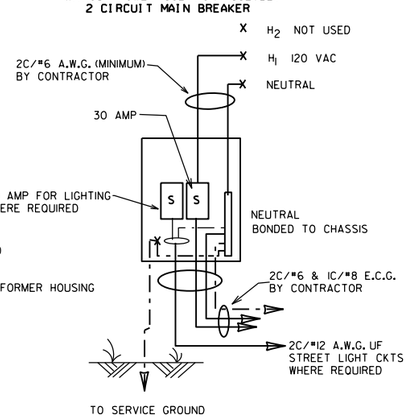
MAIN BREAKER WIRING (TYPICAL)

SERVICE GROUND IS TYPICALLY TIED TO NEUTRAL AT THE MAIN BREAKER. AS SUCH, CONTROLLER GROUND IS NOT TIED TO NEUTRAL AT SECONDARY BREAKER OR IN CONTROLLER CABINET.

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

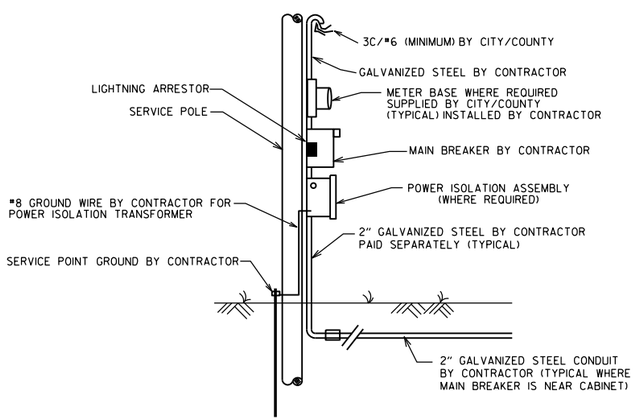


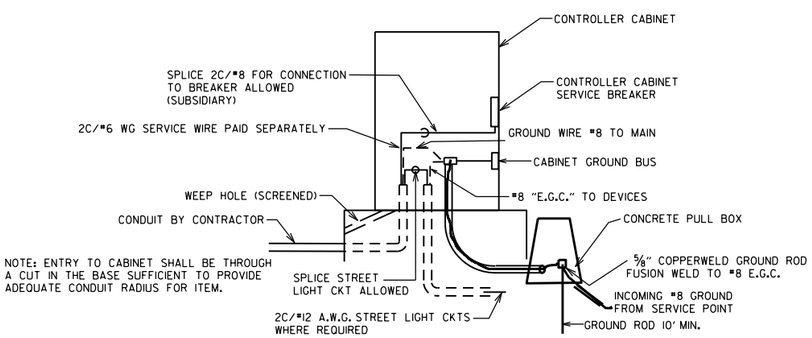
WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (E.C.G.) ADDED 3-3-2003, CONSISTING OF A IC/#8 A.W.G. CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED





NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

DATE	REVISION	FILMED
11-07-19	REVISED	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
04-18-13	ADDED LIGHTNING ARRESTOR	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
03-03-03	ADDED EGC NOTE	
09-26-01	REVISED	
12-27-99	REVISED	
07-28-99	REVISED	
02-05-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SERVICE POINT

STANDARD DRAWING SD-9

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:53 AM

NOTES:
PEDESTRIAN ANO TRAFFIC SIGNAL HEAO SIGNS:
EACH ITEM "TRAFFIC SIGNAL HEAO (4 SEC., I-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHEO TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAO UNLESS REMOVEO WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., I-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (RIO-IO) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE RIO-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGNS SHALL BE MANUFACTURED IN ACCOROANCE WITH SECTION 723 OF THE STANOARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209. ALLOY 505Z-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:
I. MAST ARM POLES SHALL BE MOUNTEO A MINIMUM OF FOUR (4') FEET BEHINO CURB OR SHOULDER.

2. OCTAGONAL POLES ANO ARMS MEETING THE REOUIREMENTS OF THE PLANS SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUNO. ALL POLES ANO ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REOUIREMENTS:
OESIGN SPECIFICATIONS: AASHTO STANOARO SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES ANO TRAFFIC SIGNALS, 4TH EOITION (2001) WITH 2003 ANO 2006 INTERIMS.

USE FATIGUE CATEGORY I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEEO LIMIT IS 65 MPH ANO GREATER AT THE STRUCTURE LOCATION ANO ON ROUTES WHERE THE SPEEO LIMIT IS GREATER THAN 45 MPH WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY II FOR ALL STRUCTURES ON ROUTES WHERE THE SPEEO LIMIT IS LESS THAN 65 MPH ANO GREATER THAN 45 MPH WITH MAST ARMS LESS THAN 60' ANO ON ROUTES WHERE THE SPEED LIMITS OF 45 MPH ANO LESS WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE THE SPEED LIMIT IS 45 MPH AND LESS ANO MAST ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS:
STANOARO SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EOITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS ANO SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

OEAD LOAO: AS A MINIMUM, OESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEAOS TO BE ONE WAY, TWELVE (12") INCH AND HAVE FIVE (5") INCH BACK PLATES:

SIGNAL HEAOS AT THE END OF MAST ARM - ONE 4 SEC., 85 LB., 14.5 SO. FT., ONE SIGN MOUNTED 3 FEET FROM SIGNAL HEAO (2'-0" X 2'-6"; 20 LB.) REMAINING SIGNAL HEAOS SPACED AT 8 FT. (3 SEC., 56 LB., 8.3 SO. FT.); DESIGN TO ACCOMMODATE:
2 SIGNAL HEADS FOR MAST ARMS 10 FT. TO 16 FT.
3 SIGNAL HEADS FOR MAST ARMS 18 FT. TO 24 FT.
4 SIGNAL HEADS FOR MAST ARMS OVER 26 FT.

STREET NAME SIGN - 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAT 12 FT. FROM POLE. DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT.
ROADWAY LUMINAIRES (WHERE REQUIREO ON PLAN SHEET) - VARIABLE ARM LENGTH (MAX. WT. 75 LB., 3.3 SO. FT.)
PEDESTRIAN SIGNALS - TWO 1 SEC., 12 INCH MOUNTEO 8 FT. FROM BASE OF POLE., POST MOUNTEO 3 SEC. SIGNAL HEAO AT 10 FT. ON SIOE OF POLE.

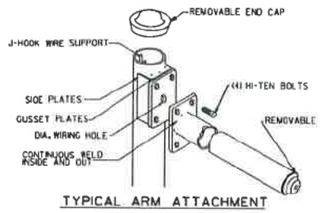
4. POLE/MAST ARM CAP - POLE ANO MAST ARM CAPS SHALL BE PROVIDED, FABRICATEO OF EITHER STEEL OR CAST ALUMINUM.

5. HANO HOLE - HANO HOLES SHALL BE 4 IN. X 6 IN. FOR STANOARO, ANO 3 IN. X 5 IN. FOR PED POLES. MINIMUM PLACEO APPROXIMATELY 12 INCHES FROM BASE, ANO SHALL BE FIXED WITH A BOLT OOWN COVER. A VACCUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROAOWAY LUMINAIRE ATTACHMENT) SHALL INCLUOEO A HAND HOLE WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

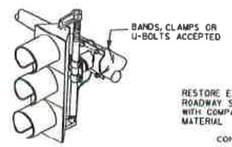
6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.12 5 TO 0.15 INCHES PER FOOT.

MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 OEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE MAST ARM SHALL MAINTAIN A POSITIVE SLOPE AFTER IT IS PLACEO UNDER LOAO.

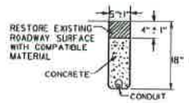
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT OOWN NUT COVER FOR EACH ANCHOR BOLT.



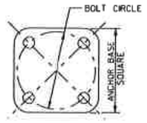
TYPICAL ARM ATTACHMENT



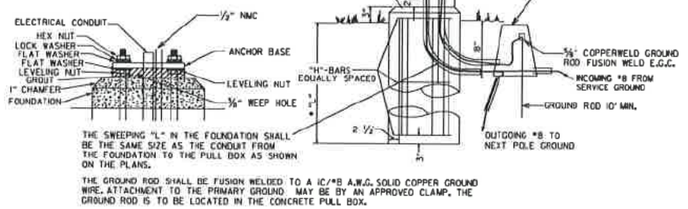
NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS ORECTED BY THE ENGINEER.



TRENCHING DETAIL
(FOR SAW CUT TRENCH IN ROADWAY)



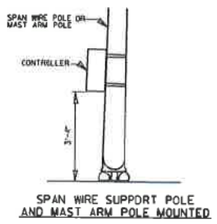
ANCHOR BASE



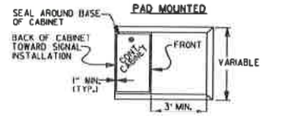
TYPICAL FOUNDATION DETAILS

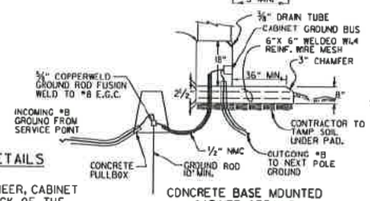
POLE FOUNOATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

ARM LENGTH	FOUNDATION DIAMETER	DEPTH "L"*	STEEL VERTICAL	STEEL HORIZONTAL	STEEL O.C.
PEO	30"	7'-0"	12-#7 (6'-6")	10-#4	8.44"
2' TO 12'	30"	10'-6"	12-#7 (10'-0")	15-#4	8.42"
OVER 12' TO 20'	30"	11'-6"	12-#7 (11'-0")	16-#4	8.66"
OVER 20' TO 35'	36"	12'-6"	13-#8 (12'-0")	17-#4	8.88"
OVER 35' TO 50'	36"	13'-6"	13-#8 (13'-0")	19-#4	8.56"
OVER 50' TO 72'	42"	14'-6"	18-#8 (14'-0")	20-#4	8.74"
TWINS TO 20'	30"	16'-0"	12-#6 (15'-6")	22-#4	8.76"
TWINS OVER 20' TO 44'	36"	16'-0"	13-#8 (15'-6")	22-#4	8.76"
TWINS OVER 44' TO 50'	42"	16'-0"	18-#8 (15'-6")	22-#4	8.76"
TWINS OVER 50' TO 72'	42"	16'-6"	18-#8 (16'-0")	23-#4	8.64"



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED





CONCRETE BASE MOUNTED CABINET DETAILS

CONTROLLER CABINET MOUNTING DETAILS

NOTE:
UNLESS OTHERWISE OIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET ANO POSITIONEO TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUNO ROO - A 10' X ⅝" GROUNO ROO SHALL BE INSTALLEO IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROO AND ½" NMC SHALL BE INCLUOEO IN ITEM 714 FOR SIGNAL POLES ANO ITEM 701 FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONOUCTOR BOX SHALL BE PAIO SEPERATELY.

9. POLE BASE/FOUNOATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTEO WITH A ¼" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.

11. PEOESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATEO AND CONCURRENTLY TIMEO, UNLESS OTHERWISE INOICATEO ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PEDESTRIAN PUSH SWITCH SHALL BE CONSIOEREO SUBSIDIARY TO THE ITEM 707 PEOESTRIAN SIGNAL HEAO.

* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS.

** IN LIEU OF OESIGNING THE STRUCTURE TO RESIST PERIOOIC GALLOPING, A VIBRATORY MITIGATION OEVICE MAY BE PROVIOEO BY THE POLE MANIFACTURER. THE VIBRATORY MITIGATION OEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60" X 16" X 0.125" SIGN BLANK MOUNTEO NEAR THE ENO OF THE MAST ARM NOT TO EXCEEO ONE OUARTER OF THE LENGTH OF THE MAST ARM FROM THE ENO OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM, THE PANEL SHOULO BE MOUNTEO AT SUCH THE HEIGHT AS TO PROVIOE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OF SIGN PANEL LOCATEO ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

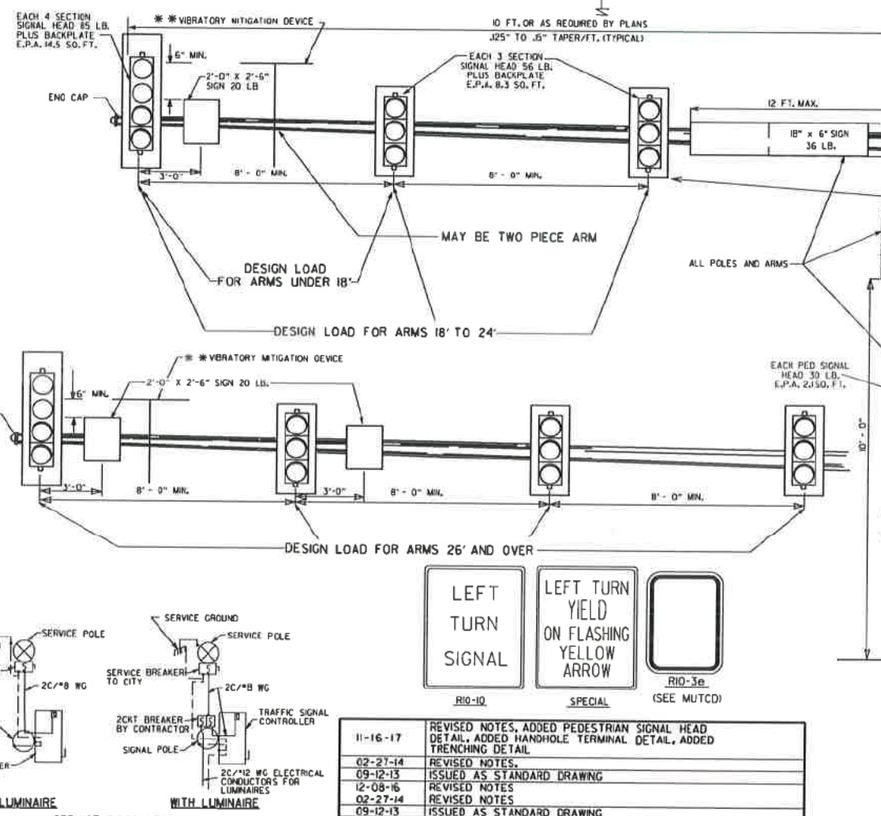
TRUCK-INOUCEO GUST LOAOS SHALL BE EXCLUOEO FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTEO OVER FACILITIES WITH POSTEO SPEEOS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHEO FOR A PERIOO OF 3 TO 5 WORK OAYS OR AS OIRECTEO BY THE ENGINEER. SIGNAL SHALL BE PLACEO IN OPERATION ONLY ON A REGULAR WORK OAY, EXCEPT FRIOAY.

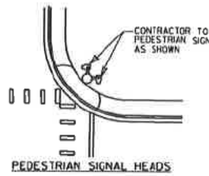
THE CONTRACTOR MAY BE REOUIREO TO ALTER THE FLASHING DISPLAY OURING THE TEMPORARY FLASH PERIOO. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEOUENCE SHALL THEN BE RETURNED TO THAT INDICATEO ON THE PLAN SHEETS. NO AOOITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATION IN FLASH SEOUENCE.

SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.



SERVICE DISCONNECT

NOTE: ELECTRICAL GROUND CONOUCTOR IS BONDED TO ALL METAL ENCLOSURES



PEDESTRIAN SIGNAL HEADS

DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED PEDESTRIAN SIGNAL HEAD DETAIL, ADDED HANDHOLE TERMINAL DETAIL, ADDED TRENCHING DETAIL	
02-27-14	REVISED NOTES.	
09-12-13	ISSUED AS STANDARD DRAWING	
12-08-16	REVISED NOTES	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED VMD, SIGNAL HEADS	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
04-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
04-18-08	REVISED AASHTO NOTES	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
06-23-04	REVISED	
05-11-04	REV. NOTE 3/AASHTO REQUIREMENTS	
06-11-01	REV. NOTES & POLE MAST ARM SLOPE	
04-11-01	REVISED POLE TAPERS	
04-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

STEEL POLE WITH MAST ARM

STANDARD DRAWING SD-11

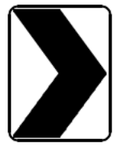
APPROVED FOR CONSTRUCTION
04/15/2024 8:56:33 AM



R1-1
30"X30"



W1-3
30"X30"
(LT. OR RT.)



W1-8
18"X24"



W2-5
30"X30"



W3-1
36"X36"



W5-1
36"X36"



M6-3
21"X15"



R1-2
36"X36"X36"



W1-4
30"X30"
(LT. or RT.)



W2-1
30"X30"



S1-1
36"X36"

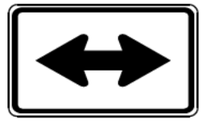


W3-2
36"X36"



County
Route Marker
M1-6
24"X24"

NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND.



M6-4
21"X15"



R2-1
24"X30"



W1-5
30"X30"
(LT. or RT.)



W2-2
30"X30"



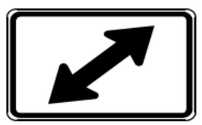
W5-2
36"X36"



W8-3
36"X36"



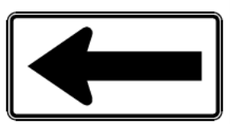
R1-3P
18"X6"



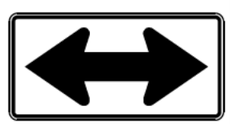
M6-5
21"X15"



W1-1
30"X30"
(LT. or RT.)



W1-6
48"X24"



W1-7
48"X24"



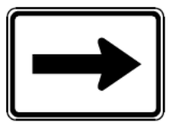
W2-3
30"X30"
(LT. or RT.)



W5-3
36"X36"



W13-1P
18"X18"



M6-1
21"X15"

NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW & BORDER WITH BLUE BACKGROUND.



M6-6
21"X15"



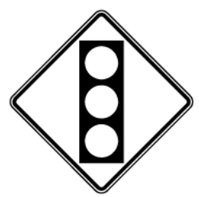
W1-2
30"X30"
(LT. or RT.)



W2-4
30"X30"



W10-1
36" DIAMETER



W3-3
36"X36"

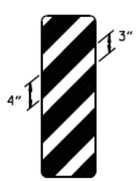


M6-2
21"X15"



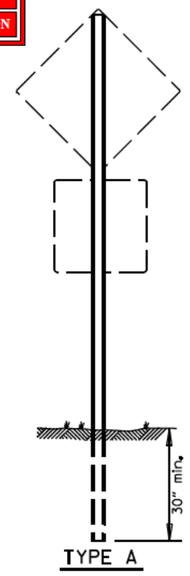
S4-3P
24"X8"

S4-2P
24"X10"



OM-3
12"X36"
(LT. or RT.)

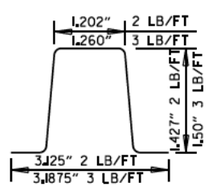
APPROVED FOR B CONSTRUCTION
04/15/2024 8:56:53 AM



TYPE A

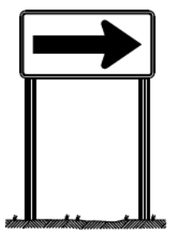
MINIMUM DIMENSIONS SHOWN

SUPPORT SECTION



(U-CHANNEL)
STANDARD SUPPORT
ASSEMBLIES

NOTE: LENGTH OF SIGN POSTS SHALL BE DETERMINED SO AS TO PROVIDE FOR MINIMUM VERTICAL CLEARANCES AS CALLED FOR IN THE SPECIFICATIONS PLUS A MINIMUM VERTICAL PENETRATION OF 30" IN THE SOIL.



TYPE B

TYPE C

MINIMUM WEIGHT

TYPE A & B = 3 LBS./FT.
TYPE C = 2 LBS./FT.

STANDARD HIGHWAY SIGNS

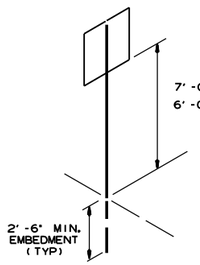
SUPPORT ASSEMBLIES

DATE	REVISION	DATE FILMED
9-12-13	DELETED JOB NO. BLOCK; REVISED RF-3 TO RF-3P	
4-17-08	REVISED SIGN DESIGNATION - W3-1& W3-2	
4-10-03	REVISED W5-2, W8-3, OM-3; ADDED W1-8	
1-5-81	REDRAWN.	960-1-15-81
9-15-78	ADDED W14-3	877-9-15-78
9-2-76	POST WT.	623-9-3-76
5-3-76	STEEL POST WT. FROM 28-30, ADDED S4-2 & S4-3	504-5-3-76
8-12-74	REV. WT. TYPE "C" ASSEMBLY	500-8-21-74
12-21-72	ADDED M6-2,3,4,5,6	500-12-21-72
12-1-72	ISSUED	562-12-1-72

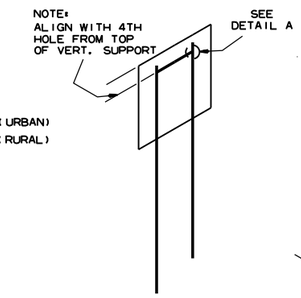
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES

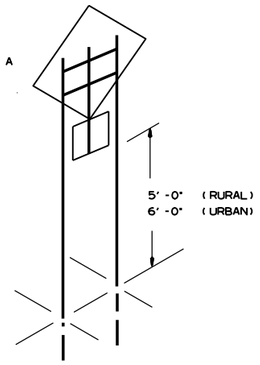
STANDARD DRAWING SHS-1



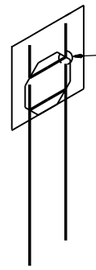
U-1



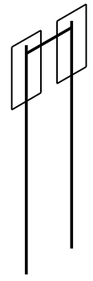
U-2



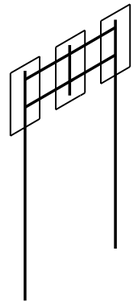
U-2 (A)



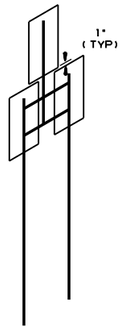
U-2 (B)



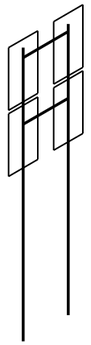
U-2 (1)



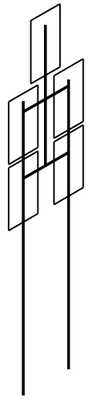
U-2 (2)



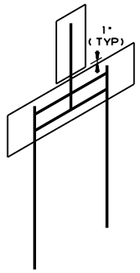
U-2 (3)



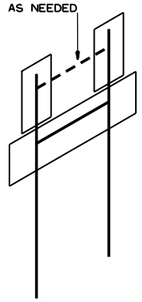
U-2 (4)



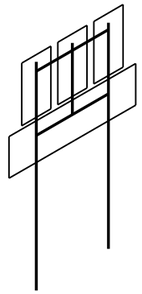
U-2 (5)



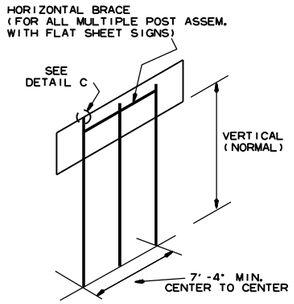
U-2 (6)



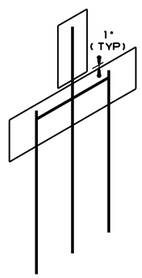
U-2 (7)



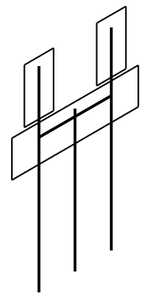
U-2 (8)



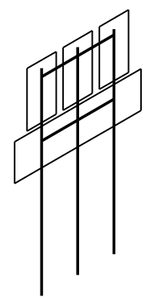
U-3



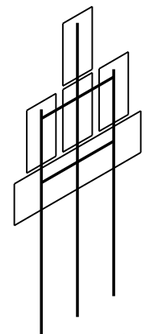
U-3 (1)



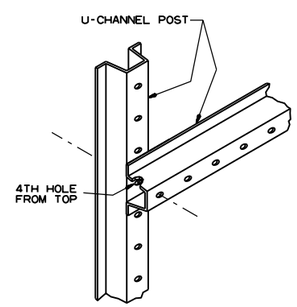
U-3 (2)



U-3 (3)

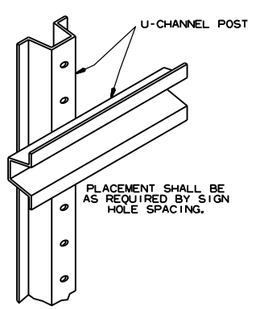


U-3 (4)



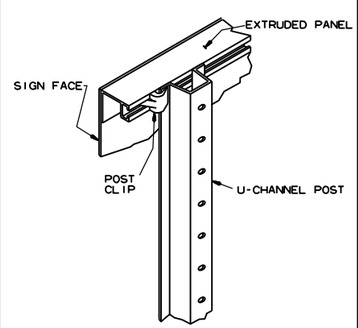
DETAIL A

SHOWING HORIZONTAL BRACE



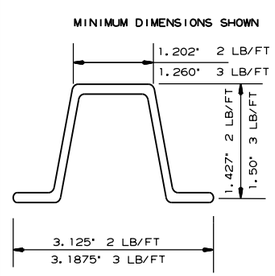
DETAIL B

SHOWING BACK-TO-BACK INSTALLATION



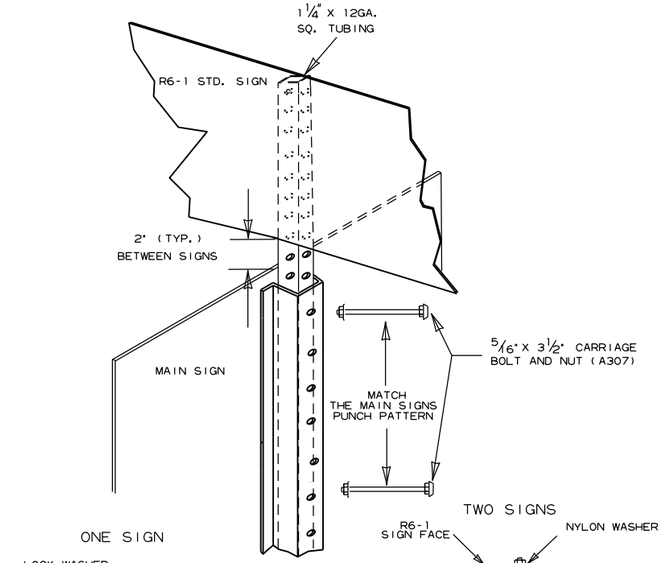
DETAIL C

SHOWING GUIDE SIGN MOUNTING WITH EXTRUDED PANELS



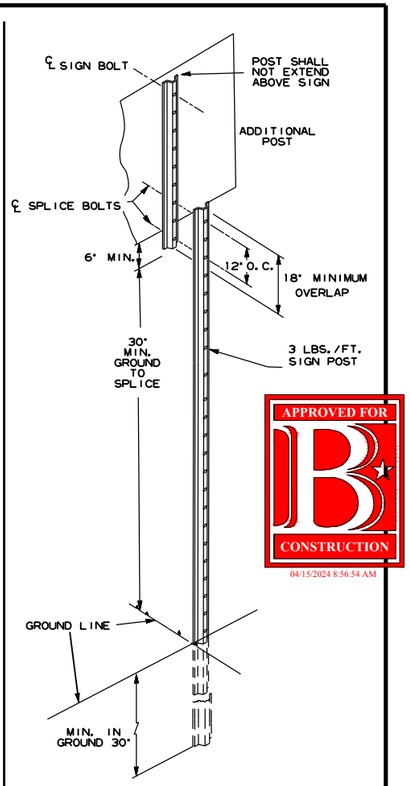
DETAIL C

U-CHANNEL POST



DETAIL E

R6-1 EXTENSION FOR U-CHANNEL POST



DETAIL F

DETAIL OF SPLICES

NOTES:

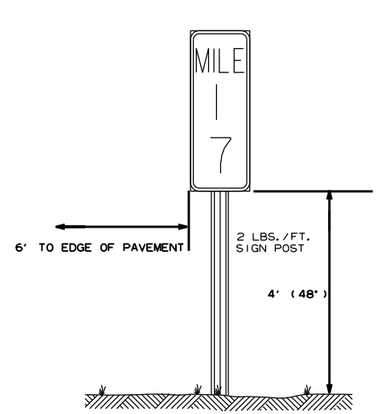
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (F).

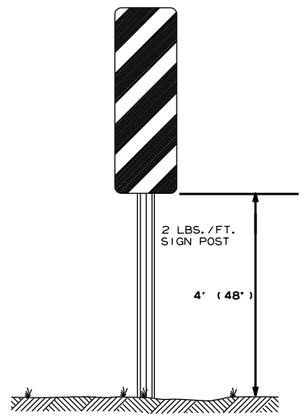
NORMAL INSTALLATIONS WILL REQUIRE 5/16" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

THE POST FOR "TYPE U" SUPPORTS SHALL BE HOT DIP GALVANIZED.



TYPICAL MILE MARKER INSTALLATION



TYPICAL OM-3 INSTALLATION AT EDGE OF OBSTRUCTION

DATE	REVISION	FILMED
7-25-19	REVISED CARRIAGE BOLT WITH MATERIAL REQUIREMENT	
2-27-14	REVISED NOTES.	
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D; ADDED DETAILS E & F; ADDED TYPICAL MARKERS	
10-9-03	REMOVED ROUND POST & REVISED SPACING	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL	6-8-95
2-2-95	REDRAWN	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

U-CHANNEL POST ASSEMBLIES

STANDARD DRAWING SHS-2

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:54 AM

R1-1



STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5



STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a



STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2



48"X30"

R11-3A



60"X30"

R11-4



60"X30"

W21-5a



STD. 36"X36"
FWY. 48"X48"

W1-1



STD. 36"X36"
FWY. 48"X48"

W1-2



STD. 36"X36"
FWY. 48"X48"

W1-3



STD. 48"X48"

W1-4



STD. 48"X48"

W1-6



STD. 48"X24"
SPECIAL 60"X30"

W1-8



STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1



STD. 36"X36"
SPECIAL 48"X48"

W6-3



EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7



EXPWY. 36"X36"
FWY. 48"X48"

W9-2



STD. 36"X36"
FWY. 48"X48"

W13-1



STD. 24"X24"

W20-1



STD. 48"X48"

W20-2



STD. 48"X48"

W20-3



STD. 48"X48"

W20-4



STD. 48"X48"

W20-5



STD. 48"X48"

W20-7a



STD. 36"X36"
FWY. 48"X48"

W21-2



STD. 30"X30"
SPECIAL 36"X36"

W21-5



STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

W1-4b



STD. 48"X48"

R56-1



STD. 18"X18"

W8-11



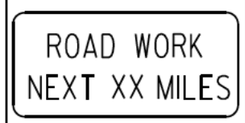
STD. 36"X36"
FWY. 48"X48"

W8-9



STD. 36"X36"
FWY. 48"X48"

G20-1



60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1

36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE
	AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.

2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.

3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.

• 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.

• 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.

6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.

7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.

8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.

9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.

10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

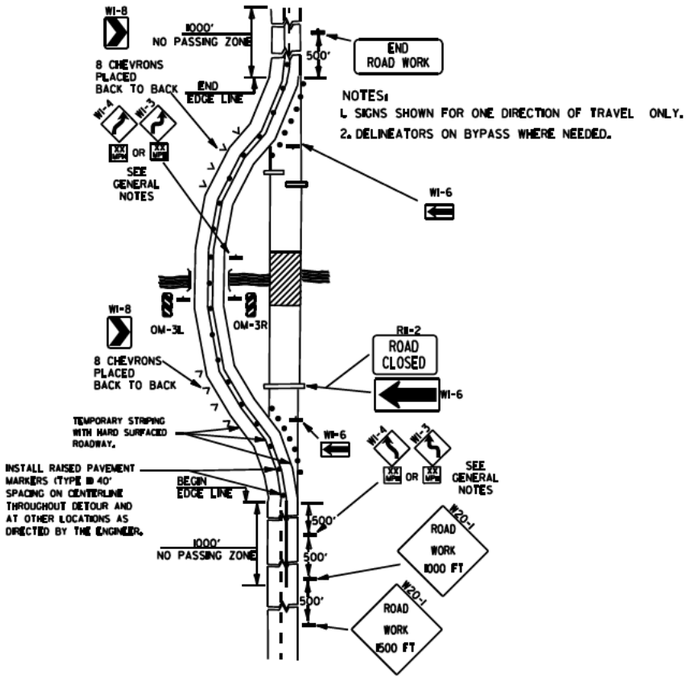
DATE	REVISION	FILMED
11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

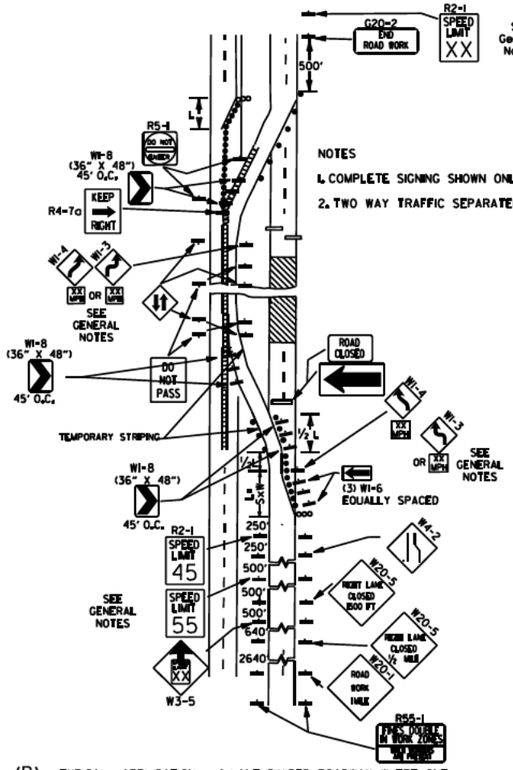
STANDARD DRAWING TC-1

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:54 AM



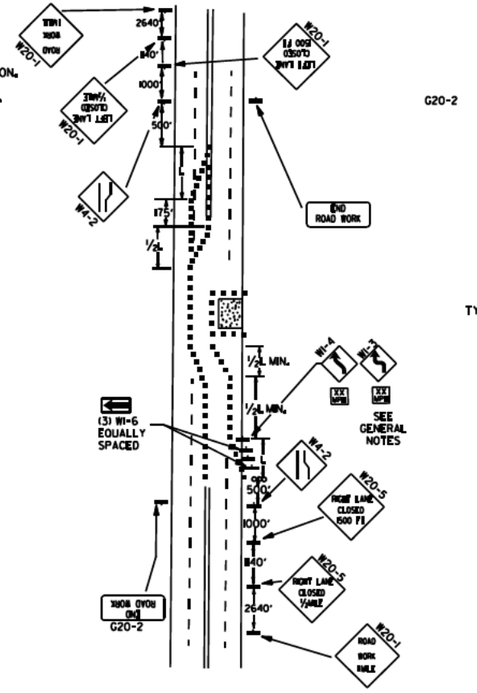
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

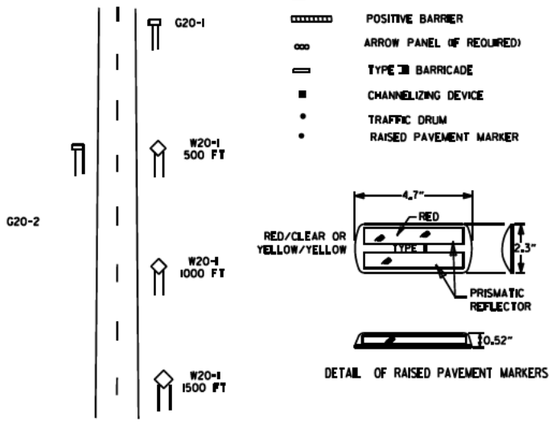


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

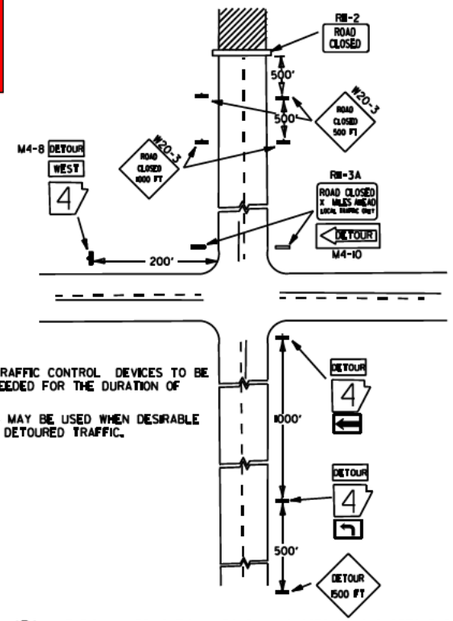
$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

GENERAL NOTES:

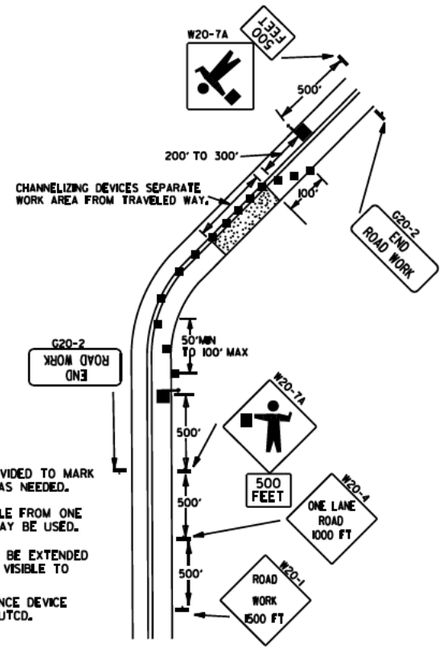
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-K(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-KXX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-K(45) SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-KXX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:54 AM



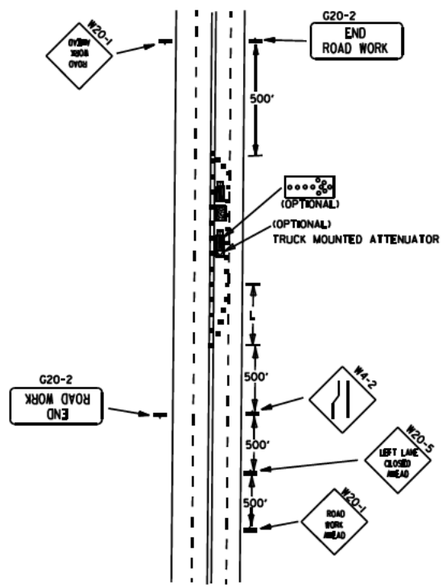
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



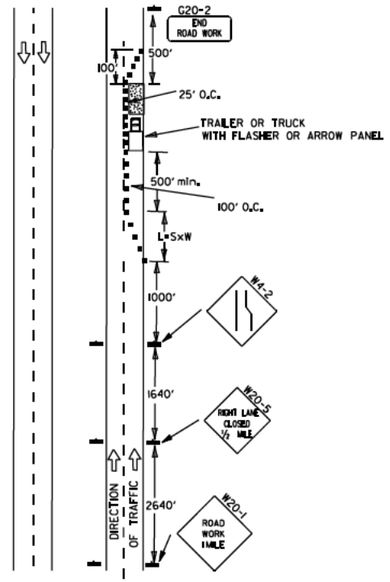
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
05-20-21	REVISED NOTE 7	
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W8-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

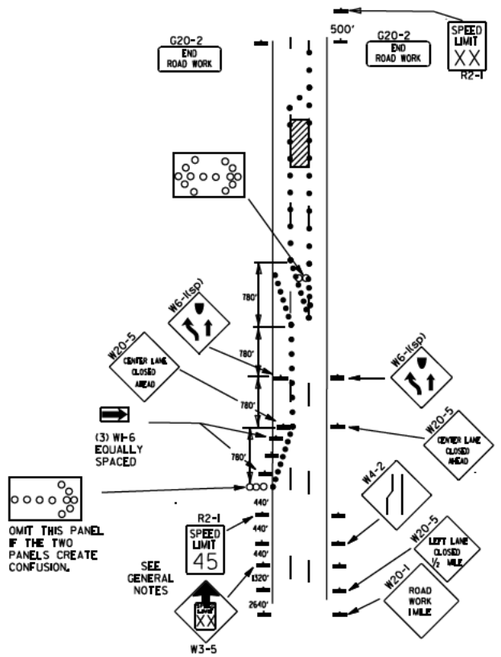
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2



(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

KEY:

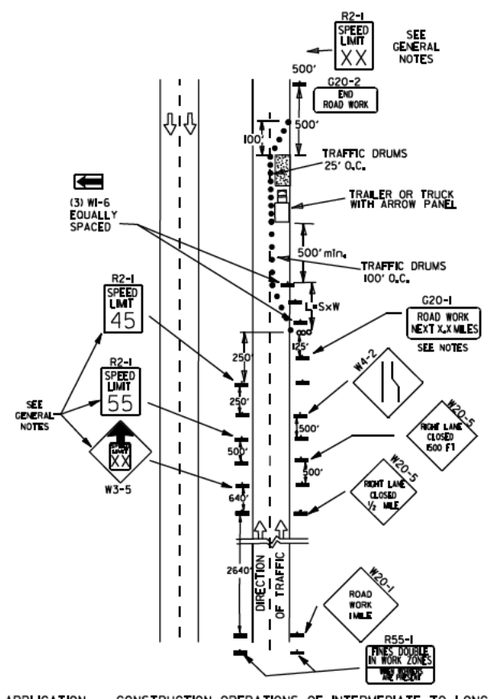
○○○ ARROW PANEL (IF REQUIRED)

■ CHANNELIZING DEVICE

● TRAFFIC DRUM

GENERAL NOTES:

1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS, AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. THE G20-1 SIGN WILL BE REQUIRED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1 (1 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
8. FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
10. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER, WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



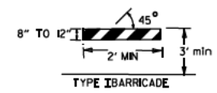
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

CHANNELIZING DEVICES

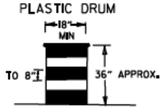


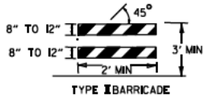
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

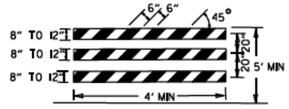
CONES



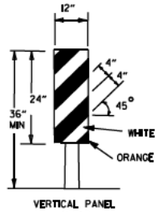
PLASTIC DRUM



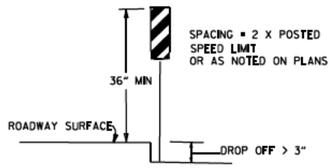




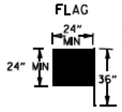
NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.



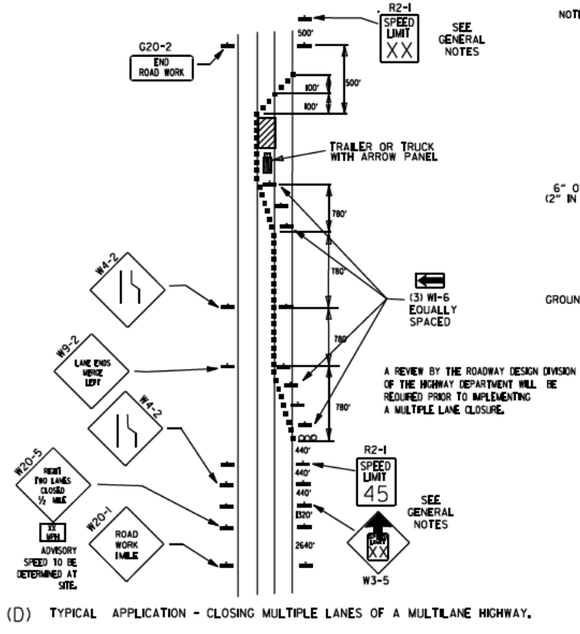
VERTICAL PANEL PLACEMENT



FLAG



FLAG SHALL BE OF GOOD GRADE RED MATERIAL



A REVIEW BY THE ROADWAY DESIGN DIVISION OF THE HIGHWAY DEPARTMENT WILL BE REQUIRED PRIOR TO IMPLEMENTING A MULTIPLE LANE CLOSURE.

(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

TRAFFIC CONTROL DEVICES

NON-INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL ≤ 45 MPH	TRAFFIC CONTROL > 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1" ≤ 3"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
> 3"	CENTERLINE	STANDARD LANE CLOSURE[6]	STANDARD LANE CLOSURE[6]
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9 AND TRAFFIC DRUMS[1]	W8-9 AND TRAFFIC DRUMS[1]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]
> 6" ≤ 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 18" ≤ 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING AND TRAFFIC DRUMS[1]
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER[4] & EDGE LINES	PRECAST CONCRETE BARRIER[4] & EDGE LINES

INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 3"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

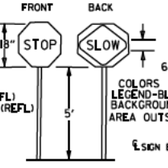
INTERSTATE AND NON-INTERSTATE

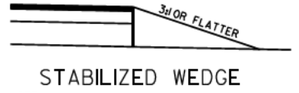
FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

GENERAL NOTES:

1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
4. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
5. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.
6. TIME LIMITATIONS MUST CONFORM TO SECTION 603 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).

STOP SLOW PADDLE





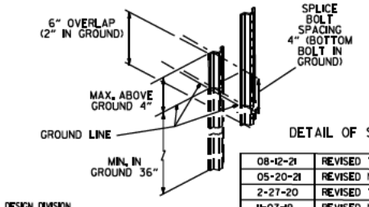
STABILIZED WEDGE

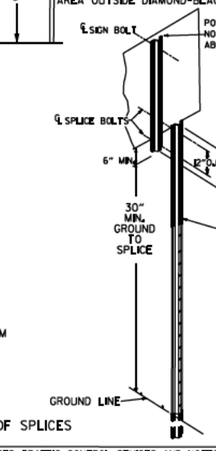
NOTES:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.





DETAIL OF SPLICES

DATE	REVISION	FILMED
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES	
05-20-21	REVISED NOTE 10	
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
8-18-04	ADDED NOTE	
10-4-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

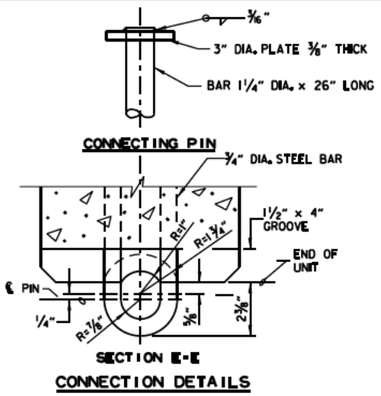
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

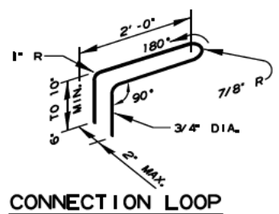
STANDARD DRAWING TC-3

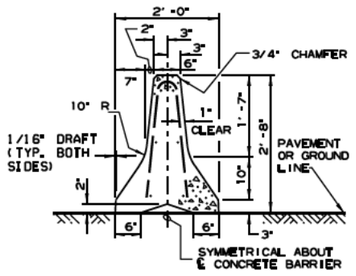
APPROVED FOR CONSTRUCTION
04/17/2024 8:56:54 AM

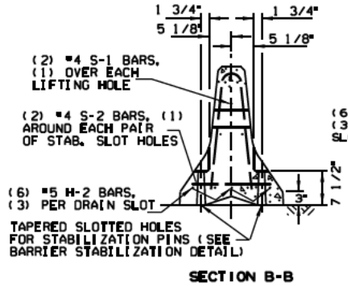
REINFORCING BAR TABLE PER BARRIER UNIT

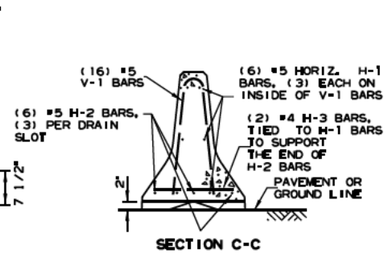
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 2'-1 3/8", 4 3/8"

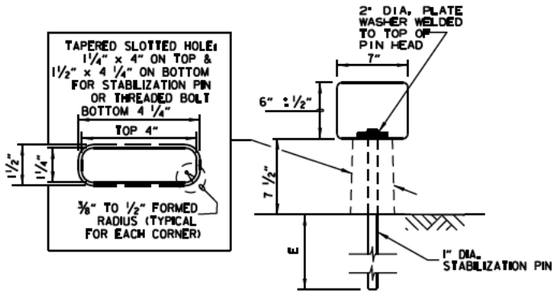


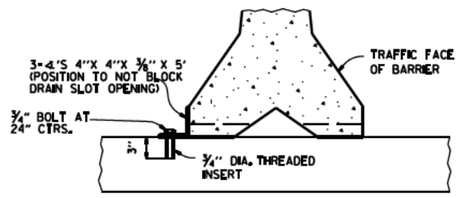


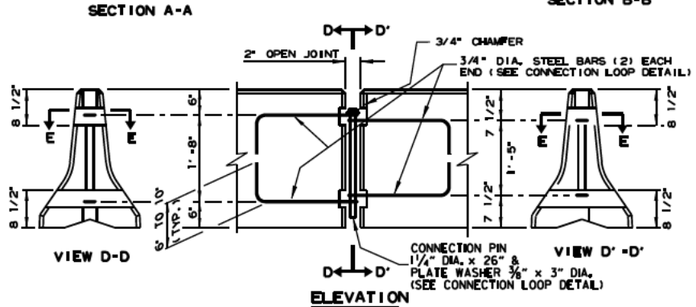


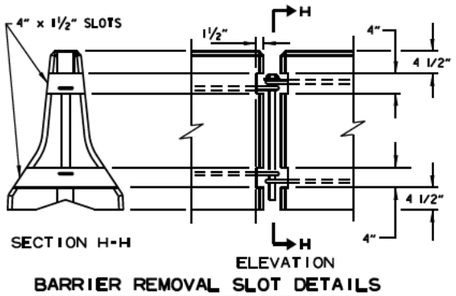


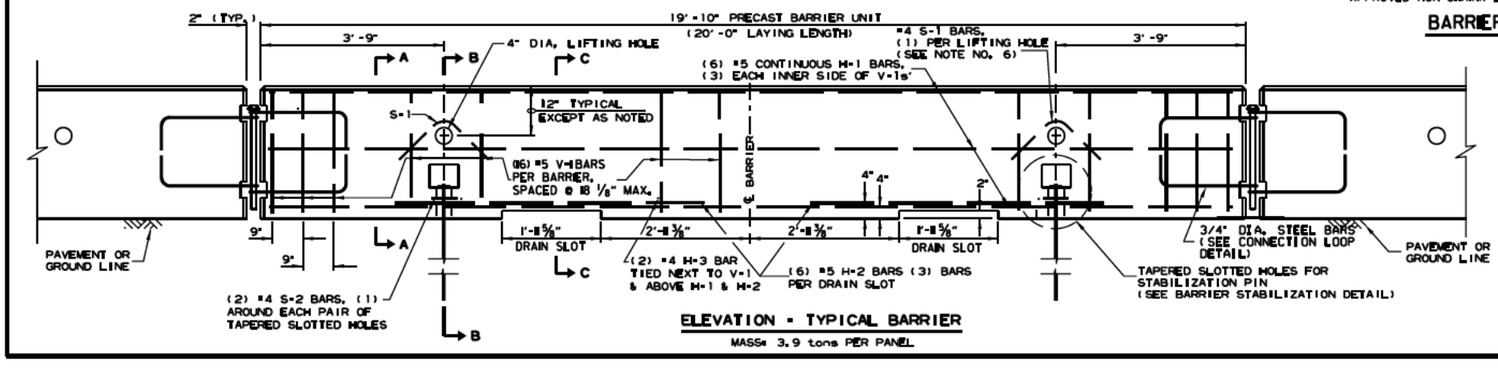












GENERAL NOTES

1. THE CONTRACTOR SHALL FURNISH THE PRECAST CONCRETE BARRIER UNITS AND SHALL BE RESPONSIBLE FOR THE MANUFACTURE, SHIPMENT, STORAGE, PLACEMENT AND REMOVAL. AT THE COMPLETION OF THE PROJECT, THE PRECAST UNITS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.

2. MATERIALS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
   CONCRETE: 2500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
   REINFORCING STEEL: AASHTO M 31 OR M 53, GRADE 60
   STRUCTURAL STEEL: AASHTO-M270 GRADE 36 SHALL BE USED FOR THE CONNECTION PIN, CONNECTION LOOPS, AND STABILIZATION PINS. A ONE PIECE PIN WITH A 3" ROUNDED TOP MAY BE USED IN PLACE OF THE DETAILED CONNECTION PIN.
   DELINEATORS: DELINEATORS SHALL BE MOUNTED AT 10' SPACING ON TOP OF PRECAST BARRIER.

   IN APPLICATIONS WHERE BARRIER WALL IS WITHIN 6 FEET OF A TRAFFIC LANE, ADDITIONAL DELINEATORS SHALL BE PLACED ON THE BARRIER AT 10' SPACING APPROXIMATELY ONE (1) FOOT FROM THE TOP OF THE BARRIER. DELINEATORS SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CONSTRUCTION CONCRETE BARRIER MARKERS.
   DELINEATOR COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
   PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR "FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER". THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THE MATERIAL AND THE DESIGN USED IN THE PRECAST BARRIER UNITS MEETS THE REQUIREMENTS AS SHOWN ON THIS STANDARD DRAWING.

3. OTHER PRECAST CONCRETE BARRIERS THAT HAVE BEEN CRASH TESTED AND APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION TO MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED IN LIEU OF THE BARRIER SHOWN. DRAIN SLOTS SHALL BE PROVIDED AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH A CERTIFICATION OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) COMPLIANCE FOR ANY OTHER TYPES OF PRECAST BARRIER TO BE USED. THE CERTIFICATION SHALL STATE THAT THE PRECAST CONCRETE BARRIER MEETS THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). MIXING OF SHAPES WILL NOT BE ALLOWED IN A CONTINUOUS LINE OF UNITS.

4. DOWEL HOLES IN PAVEMENT OR BRIDGE SLABS THAT ARE TO REMAIN IN PLACE SHALL BE FILLED. HOLES IN CONCRETE PAVEMENT AND BRIDGE SLABS SHALL BE FILLED WITH AN APPROVED NON-SHRINK EPOXY GROUT. HOLES IN ASPHALT PAVEMENT SHALL BE FILLED WITH AN APPROVED ASPHALT JOINT FILLER. PAYMENT FOR DRILLING AND FILLING HOLES TO BE INCLUDED IN THE PRICE FOR VARIOUS BARRIER ITEMS.

5. ATTACH UNITS TO ROADWAY SURFACE WITH STABILIZATION PINS AND TO DECK SLABS USING BOLTS WHEN REQUIRED.

6. A 4" WHITE PVC SLEEVE MAY BE USED TO FORM THE LIFTING HOLE AND IF USED THE SLEEVE IS TO BE LEFT IN PLACE.

DATE	REVISION	FILED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

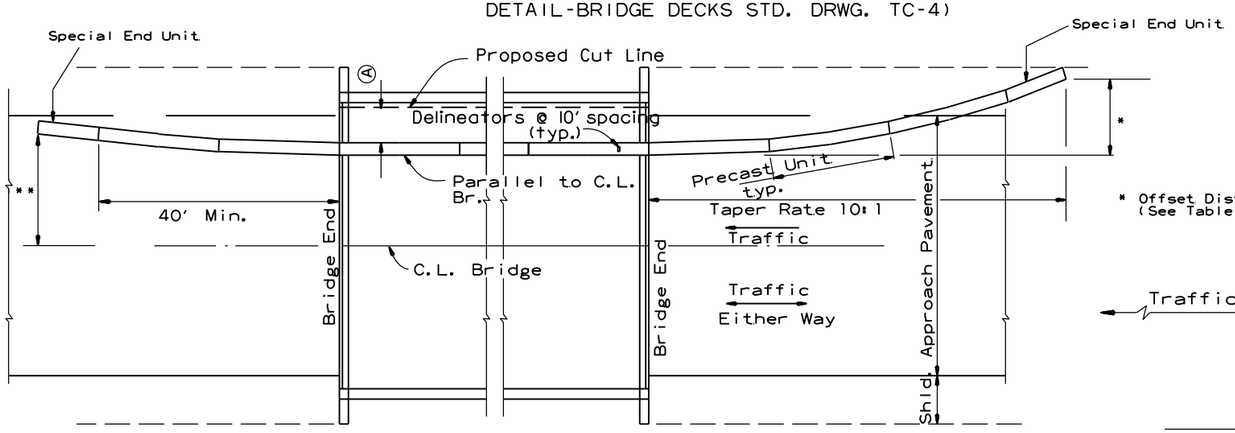
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:54 AM

APPROVED FOR CONSTRUCTION
04/15/2024 8:56:54 AM

Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)

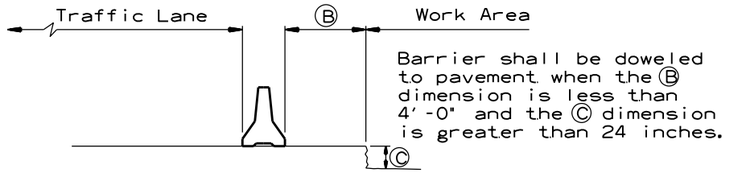


BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

** Offset Distance for Two Way Traffic Only

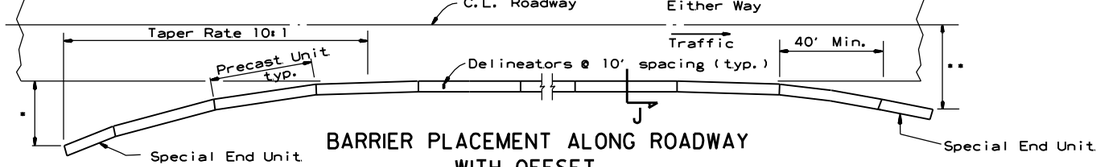
* Offset Distance (See Table)



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

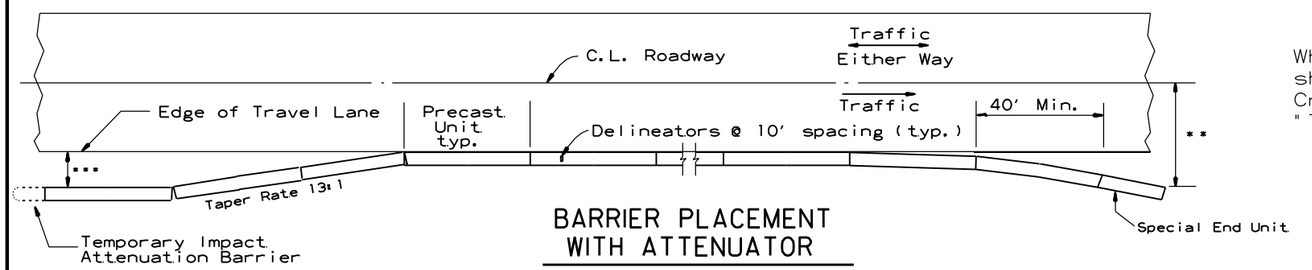
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see "Barrier Placement With Attenuator" Detail shown below.

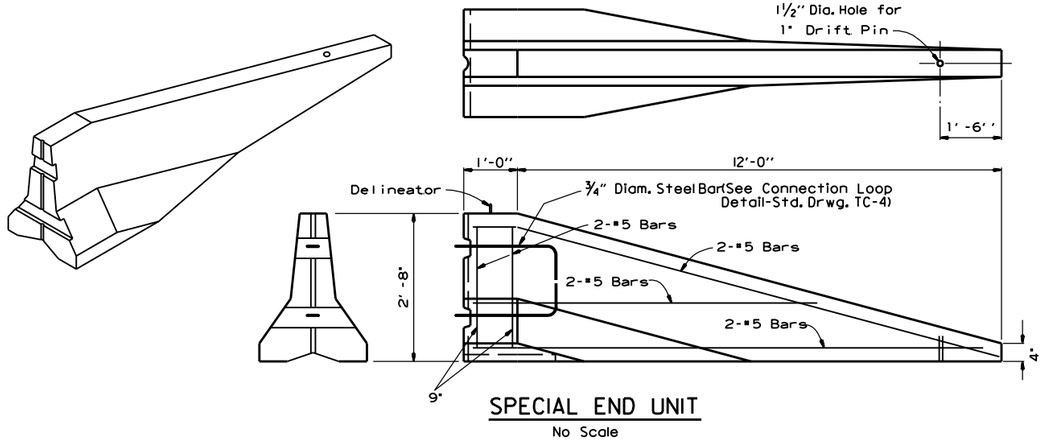


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

** Offset Distance For Two Way Traffic Only



SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with a Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
11-07-19	REVISED NOTE	
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

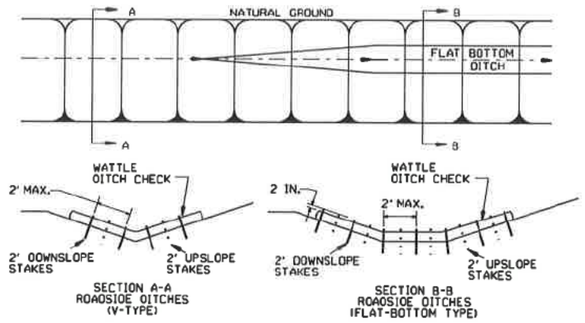
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

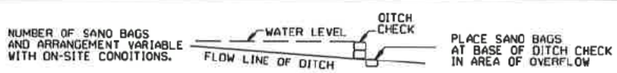
STANDARD DRAWING TC-5

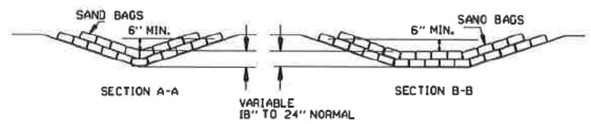
GENERAL NOTES

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

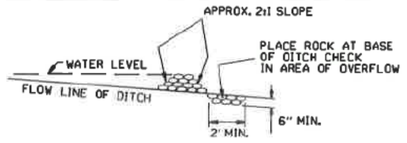


WATTLE DITCH CHECK (E-1)





SAND BAG DITCH CHECK (E-5)

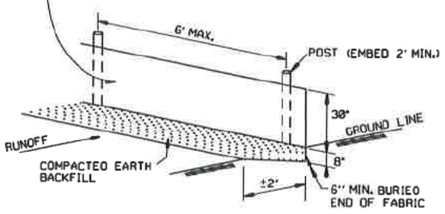


ROCK DITCH CHECK (E-6)

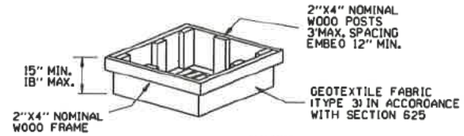
GENERAL NOTES

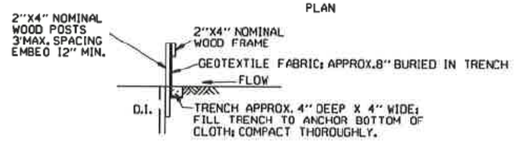
GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

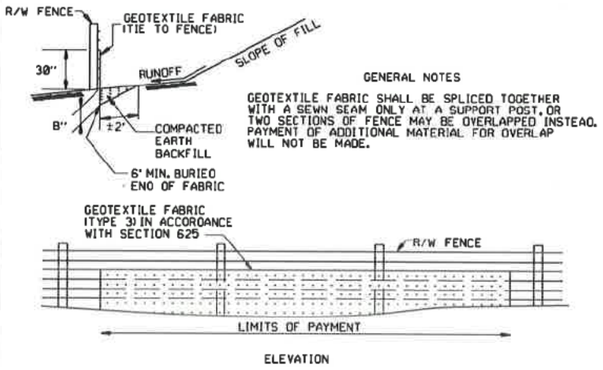


SILT FENCE (E-11)





DROP INLET SILT FENCE (E-7)



GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

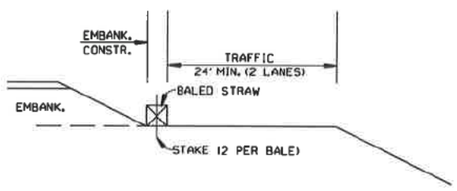
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

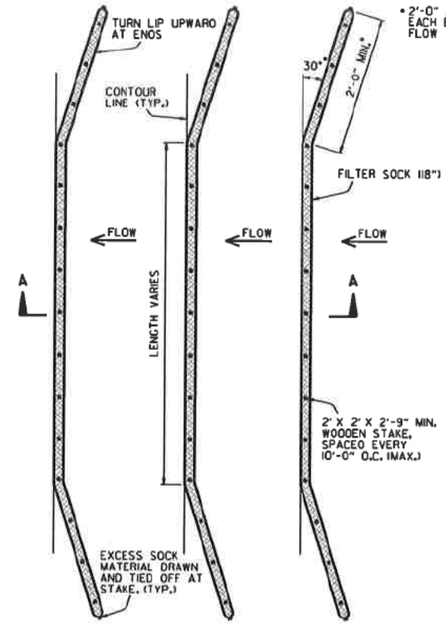
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

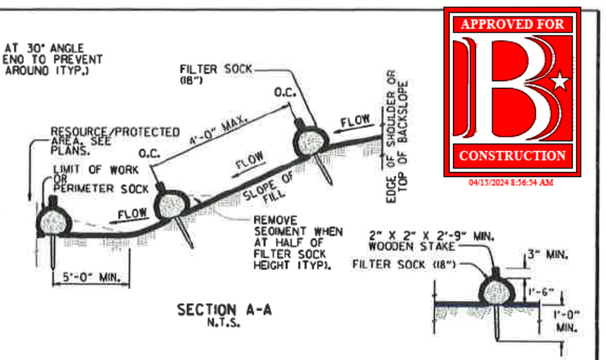
2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)





NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

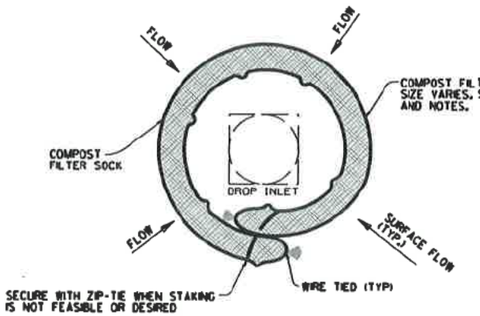
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBSIDIARY TO "FILTER SOCK (18")."

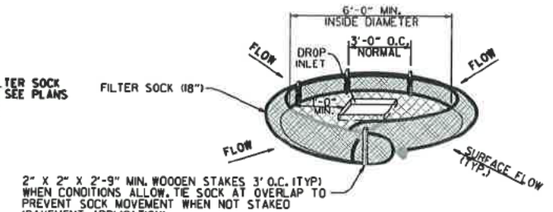
4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

FILTER SOCK ALONG SLOPE (E-3)



DROP INLET PLAN VIEW
N.T.S.



DROP INLET PERSPECTIVE VIEW
N.T.S.

NOTES:

1. OVERLAP ENDS OF SOCK 11' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

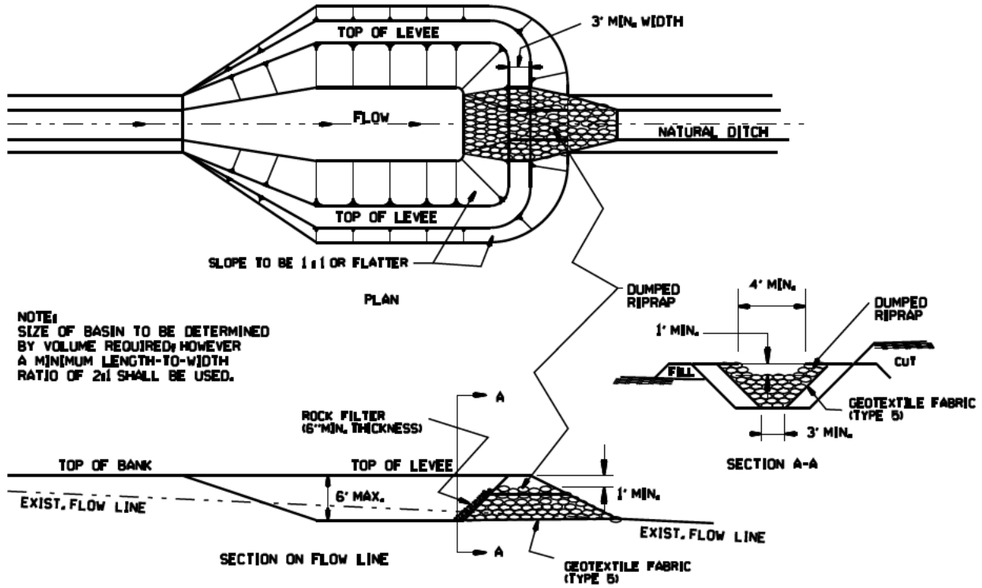
DATE	REVISION	FILMED
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-8 MIN. 12" BURIED END OF FABRIC	
06-02-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

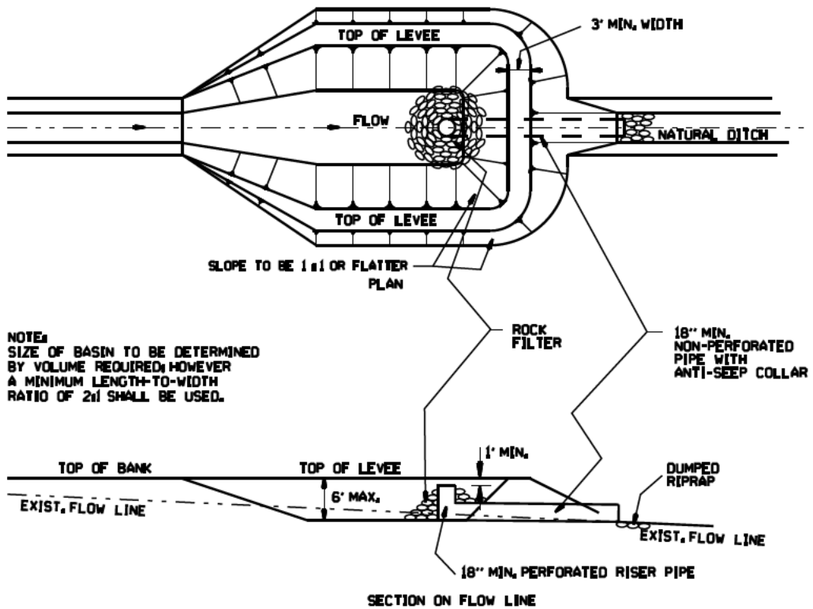
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-1

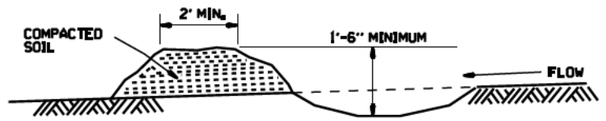
APPROVED FOR CONSTRUCTION
04/15/2024 8:56:54 AM



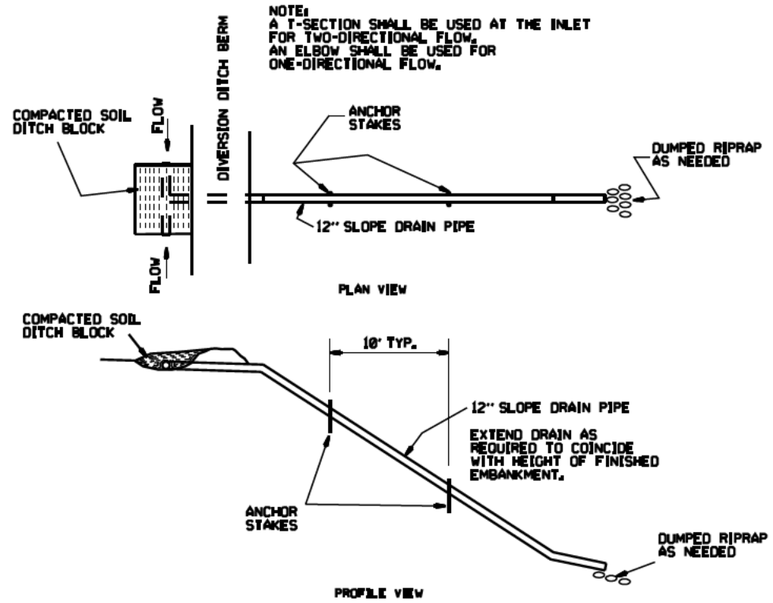
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



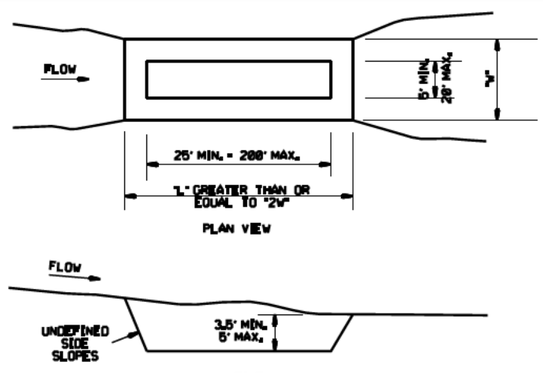
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-2

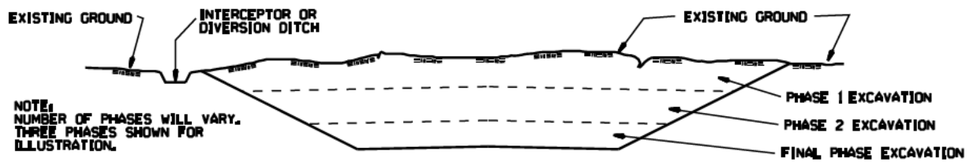
APPROVED FOR CONSTRUCTION
04/15/2024 8:56:54 AM

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



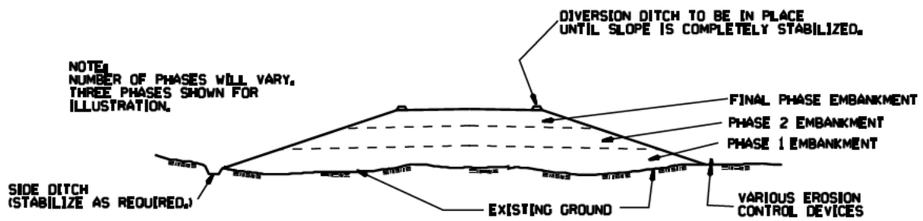
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS. DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

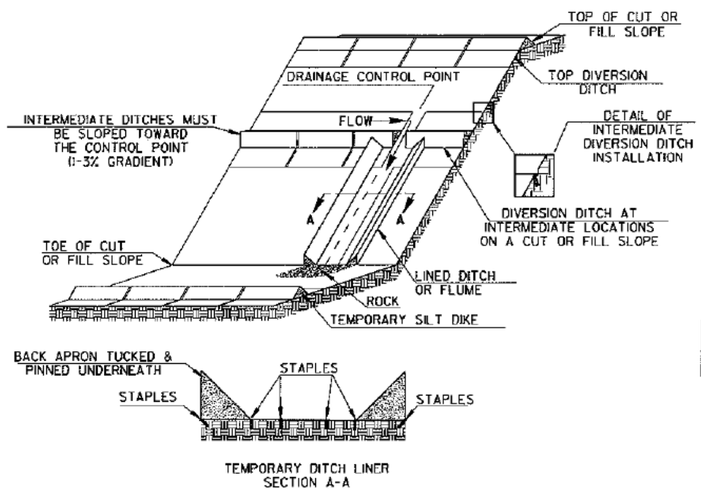
APPROVED FOR CONSTRUCTION
04/15/2024 8:56:54 AM

DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

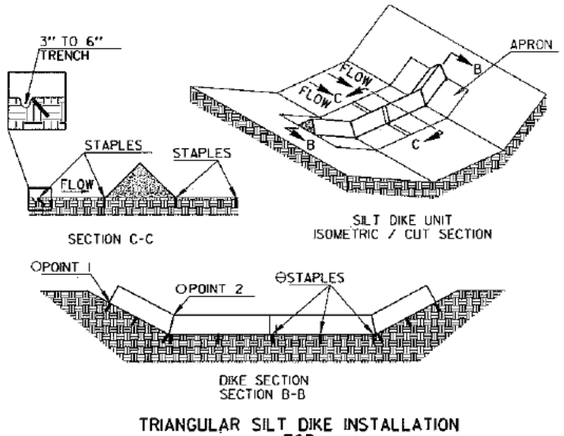
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3



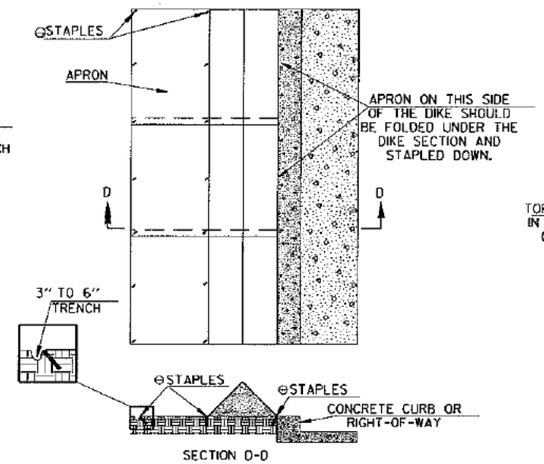
TRIANGULAR SILT DIKE INSTALLATION
FOR
DIVERSION DITCH AND/OR DITCH LINER



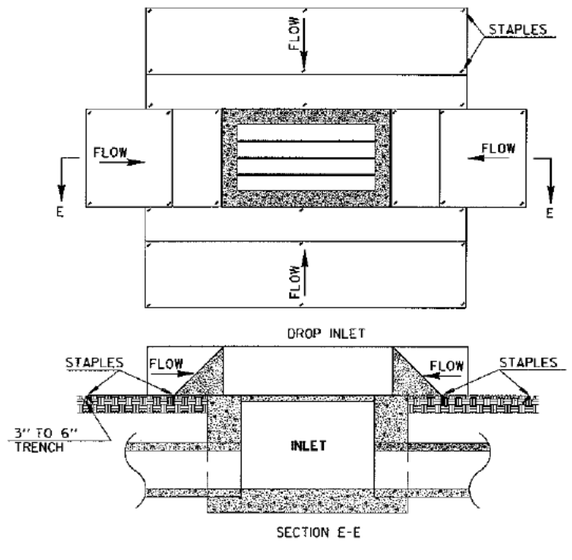
TRIANGULAR SILT DIKE INSTALLATION
FOR
ROADWAY DITCH OR DRAINAGE DITCH

○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

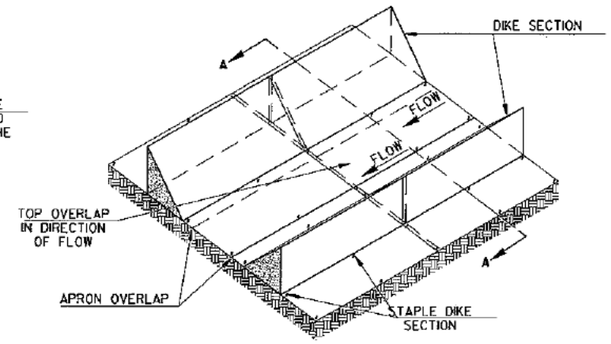
⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION
FOR
CONTINUOUS BARRIER



TRIANGULAR SILT DIKE INSTALLATION
FOR
DROP INLETS



TRIANGULAR SILT DIKE INSTALLATION
FOR
TEMPORARY DITCH LINER

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.

2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

   THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

SYMBOLOGY
SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

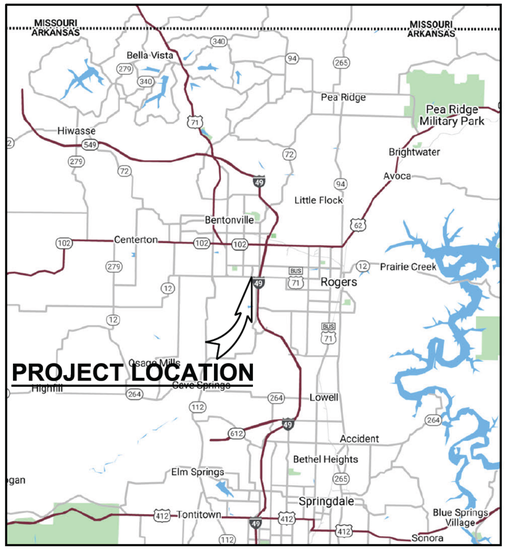
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4

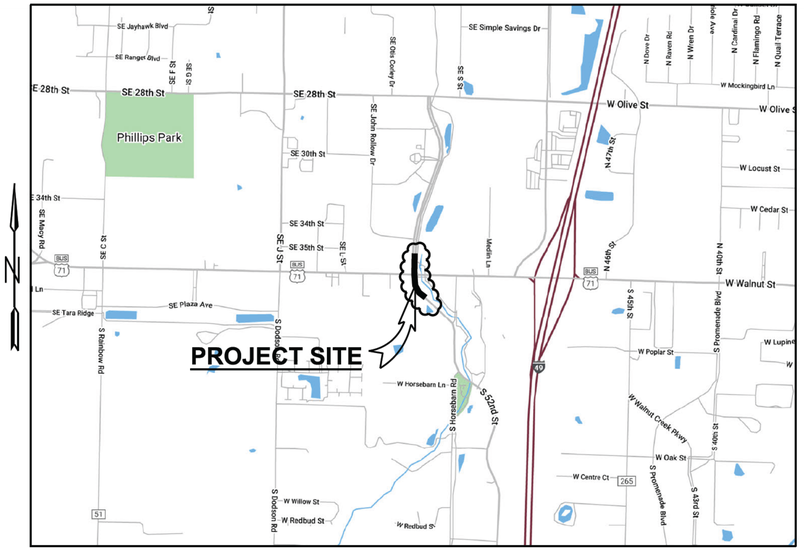
APPROVED FOR CONSTRUCTION
04/15/2024 8:56:54 AM

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

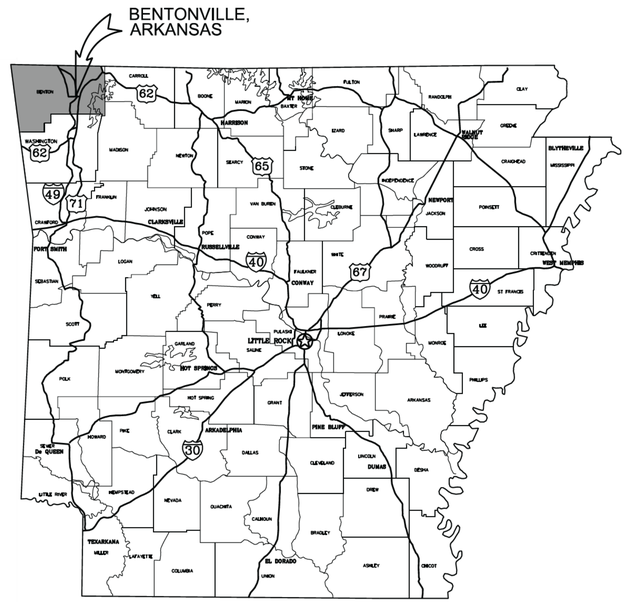


LOCATION MAP



VICINITY MAP

NO SCALE



STATE MAP

GARVER PROJECT NO. 21T21080
PROPOSAL #RFP-23-47
SEPTEMBER 2023

GARVER
4300 South J.B. Hunt Drive
Suite. 240
Rogers, AR 72758
(479) 257-9188

ARKANSAS ONE CALL 811
Know what's below. Call before you dig.
SEE GENERAL NOTE 1, SHEET G-002 OF THESE PLANS.

THE CITY OF BENTONVILLE

CONTACTS:
CITY OF BENTONVILLE (OWNER): JARROD BRIGHTWELL, 3200 SW MUNICIPAL DRIVE BENTONVILLE, AR - (479) 271-3168
FIRE DEPT: CITY OF BENTONVILLE, BRENT BOYDSTON, FIRE CHIEF, 800 SW "A" STREET BENTONVILLE, AR 72712 - (479) 271-3151
STREET DEPT: CITY OF BENTONVILLE, TONY DAVIS, 3200 SW MUNICIPAL DRIVE BENTONVILLE, AR 72712 - (479) 271-3130
WATER AND SEWER DEPT: CITY OF BENTONVILLE, PRESTON NEWBILL, 3200 SW MUNICIPAL DRIVE BENTONVILLE, AR 72712 - (479) 271-3140
ELECTRIC DEPT: CITY OF BENTONVILLE, CHARLIE BARNES, 3200 SW MUNICIPAL DRIVE BENTONVILLE, AR 72712 - (479) 271-5946
WASTEWATER DEPT: CITY OF BENTONVILLE, NANCY BUSEN, 1901 NE "A" STREET BENTONVILLE, AR 72712 - (479) 271-3160
PLANNING DEPT: CITY OF BENTONVILLE, TYLER OVERSTREET, 305 SW "A" STREET BENTONVILLE, AR - (479) 271-3122
CITY ENGINEER: CITY OF BENTONVILLE, ELLEN NORVELL, 3200 SW MUNICIPAL DRIVE BENTONVILLE, AR - (479) 271-5993
STORMWATER: CITY OF BENTONVILLE, JANET PAITH, 3200 SW MUNICIPAL DRIVE BENTONVILLE, AR - (479) 271-3168 JPAITH@BENTONVILLEAR.COM
BLACK HILLS ENERGY: JOSH KNIGHT, 1301 FEDERAL WAY PO BOX 2129 LOWELL, AR 72745 - (479) 721-4543 JOSHUA.KNIGHT@BLACKHILLSCORP.COM
AT&T: BRYAN WILLIAMS, 700 W WALNUT STREET, ROGERS, AR 72756 - (479) 249-5194, AW9156@ATT.COM
COX COMMUNICATIONS: BEN PLEDGER, 4901 S 48TH STREET SPRINGDALE, AR 72762 - (479) 957-2999 BEN.PLEDGER@COX.COM
DEPARTMENT OF HEALTH: ARKANSAS DEPARTMENT OF HEALTH DIVISION OF ENGINEERING, SLOT 37, 4815 W MARKHAM LITTLE ROCK, AR 72205 - (501) 661-2623
RITTER COMMUNICATIONS: KYLE GRAHAM, 5078 W NORTHGATE ROAD SUITE 220, ROGERS, AR 72758 - (479) 567-9370, KYLE.GRAHAM@RITTERCOMMUNICATIONS.COM

GARVER
© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 08/28/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

COVER SHEET

JOB NO.: 21T21080
DATE: SEPT. 2023
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-001

LTFreedle 8/28/2023 10:05:52 AM
\\WORKSPACE:Garver_2012\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_G001_CO.dgn
REVISED DATE:

CONSTRUCTION GENERAL NOTES:

1. CAUTION: UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS; HOWEVER, ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM THE LOCATIONS SHOWN. SOME UTILITIES MAY HAVE BEEN RELOCATED SINCE THE TIME OF DESIGN AND THE CONTRACTOR'S NOTICE TO PROCEED. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY. ARKANSAS STATE LAW, THE UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, REQUIRES TWO WORKING DAYS ADVANCE NOTIFICATION THROUGH THE ARKANSAS ONE-CALL SYSTEM CENTER BEFORE EXCAVATING USING MECHANIZED EQUIPMENT OR EXPLOSIVES (EXCEPT IN THE CASE OF EMERGENCY). THE ONE-CALL SYSTEM PHONE NUMBER IS 1-800-482-8998. THE CONTRACTOR IS ADVISED THAT THERE IS A SEVERE PENALTY FOR NOT MAKING THIS CALL. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE ARKANSAS ONE-CALL SYSTEM; THEREFORE, THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITIES AS WELL AS THE ONE-CALL SYSTEM. THE LOCATION OF THE EXISTING UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE, AND ARE THE LOCATIONS AT THE TIME OF DESIGN.
2. ALL PROPERTY CORNERS (IRON PINS) OR OTHER MONUMENTS LOCATED WITHIN THE PROPOSED CONSTRUCTION SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE ARDOT STANDARD SPECIFICATIONS.
3. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE PROTECTED AND SAVED. CARE AND DISCRETION SHALL BE USED TO PROTECT TREES NOT IDENTIFIED FOR REMOVAL.
4. THE SOD QUANTITY INCLUDES THE EASEMENT ADJACENT TO THE ROAD. THE CONTRACTOR SHALL BE RESPONSIBLE TO GRADE TOPSOIL AND SOD ALL OTHER DISTURBED AREAS AT NO ADDITIONAL COMPENSATION.
5. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF ALL UTILITIES, WATER LINES AND SANITARY SEWER LINES PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. THE ENGINEER WILL DETERMINE WHICH MAILBOXES WILL BE REMOVED AND REPLACED.
7. THE CONTRACTOR SHALL MOW GRASS WITHIN THE LIMITS OF THE PROJECT RIGHT OF WAY A MINIMUM OF TWO (2) TIMES AS DIRECTED BY THE OWNER AND THE ENGINEER. MOWING SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF SODDING.
8. ANY GRADE CHANGE OVER 12 INCHES WITHIN 5 FEET OF BEUD POLES OR DEVICES REQUIRES BEUD CONTACT AT 479-271-3135.

GOVERNING SPECIFICATIONS

CITY OF BENTONVILLE, MINIMUM STANDARD SPECIFICATIONS FOR STREETS, LATEST EDITION. SUPPLEMENTED BY THE ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.

(THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE ARDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.)

PERMITS

CITY OF BENTONVILLE: GRADING PERMIT, RETAINING WALL PERMIT, FLOODPLAIN DEVELOPMENT PERMIT
DEQ: SMALL SITE CONSTRUCTION PERMIT
ADH: ADH APPROVAL

DESIGN SPEED

MEDICAL CENTER PARKWAY (SOUTH OF WALTON)= 25 MPH
MEDICAL CENTER PARKWAY (NORTH OF WALTON)= 30 MPH
WALTON BLVD.= 45 MPH

LEGEND

- TOS — EXISTING TOE-OF-SLOPE
- TOB — EXISTING TOP-OF-BANK
- 1295 — EXISTING MINOR CONTOUR
- 1294 — EXISTING MAJOR CONTOUR
- P L — EXISTING PROPERTY LINE
- EXISTING EASEMENT
- G — EXISTING GAS UTILITY
- OHE — EXISTING ELECTRIC UTILITY
- F O — EXISTING FIBER OPTIC
- EXISTING BACK OF CURB
- R / W — EXISTING RIGHT OF WAY
- EXISTING EDGE OF PAVEMENT
- EXISTING GRAVEL DRIVE
- EXISTING FENCE
- EXISTING SIDEWALK
- EXISTING STORM SEWER
- 8"SS — EXISTING SANITARY SEWER
- 8"W — EXISTING WATER LINE
- FM — PROPOSED FORCE MAIN
- 12"SS — PROPOSED SANITARY SEWER
- 12"W — PROPOSED WATER LINE
- R / W — PROPOSED RIGHT OF WAY
- PROPOSED CENTERLINE
- PROPOSED BACK OF CURB
- PROPOSED SIDEWALK
- TOB — PROPOSED TOP-OF-BANK
- TOS — PROPOSED TOE-OF-SLOPE
- PROPOSED EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED FENCE
- PROPOSED DITCH
- PROPOSED MAILBOX
- PROPOSED LUMINAIRE POLE
- PROPOSED HANDICAP RAMP
- P — PROPOSED SIGN
- PROPOSED DRAINAGE INLET
- PROPOSED DECORATIVE GRAVEL
- DEMOLITION AREAS
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- EXISTING SIGN
- CONTROL POINT & BENCHMARK
- TRANSFORMER — EXISTING TRANSFORMER
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING TELECOMM BOX
- FOC — EXISTING FIBER OPTIC PEDESTAL
- GM — EXISTING GAS METER
- EXISTING WATER VALVE
- WM — WATER METER
- EXISTING FIRE HYDRANT
- SD — EXISTING STORM DRAIN INLET
- EXISTING SANITARY SEWER CLEANOUT
- SS — EXISTING SANITARY SEWER MANHOLE
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE
- B-4 — SOIL BORING LOCATION

SHEET INDEX

G-001	COVER SHEET
G-002	GENERAL NOTES, LEGEND, AND INDEX
G-003	SURVEY CONTROL
G-004 TO G-005	QUANTITY TABLES
G-101	PROPOSED RIGHT OF WAY LAYOUT PLANS
C-101 TO C-105	TYPICAL SECTIONS
C-151 TO C-162	MISCELLANEOUS DETAILS
C-190	EROSION CONTROL NOTES
C-191 TO C-192	EROSION CONTROL PLAN
C-201	MAINTENANCE OF TRAFFIC PLAN PHASE 1
C-202	MAINTENANCE OF TRAFFIC PLAN PHASE 2
C-203	MAINTENANCE OF TRAFFIC PLAN PHASE 3
C-204	MAINTENANCE OF TRAFFIC PLAN PHASE 4
C-251 TO C-252	DEMOLITION PLAN
C-301 TO C-302	PAVEMENT MARKING AND SIGNAGE PLAN
C-501	(S) MEDICAL CENTER PARKWAY PLAN AND PROFILE
C-502	(N) MEDICAL CENTER PARKWAY PLAN AND PROFILE
C-503	SE WALTON BOULEVARD PLAN AND PROFILE
~~C-521~~	~~DRIVEWAY PROFILES~~
~~C-522~~	~~DRIVEWAY PLAN~~
~~C-551~~	~~(S) MEDICAL CENTER PARKWAY DRAINAGE PLAN AND PROFILE~~
C-552	(N) MEDICAL CENTER PARKWAY DRAINAGE PLAN AND PROFILE
C-553	SE WALTON BOULEVARD DRAINAGE PLAN AND PROFILE
C-583 TO C-584	MEDICAL CENTER PARKWAY GRADING PLAN
C-590	SE WALTON BLOULEVARD AND MEDICAL CENTER PARKWAY INTERSECTION LAYOUT PLAN
C-600	SIGNAL NOTES AND QUANTITIES
C-601 TO C-604	SIGNALIZATION PLANS - PHASE 1
C-605 TO C-608	SIGNALIZATION PLANS - PHASE 2
C-609 TO C-610	SIGNALIZATION PLANS - PHASE 3
C-611 TO C-615	SIGNALIZATION PLANS
~~C-900~~	~~WATERLINE AND SEWERLINE GENERAL NOTES~~
~~C-901~~	~~(S) MEDICAL CENTER PARKWAY SEWER LINE A PLAN AND PROFILE~~
~~C-902~~	~~(N) MEDICAL CENTER PARKWAY WATER AND SEWER ADJUSTMENTS~~
C-951 TO C-955	WATER AND SEWER DETAILS
X-101 TO X-106	(S) MEDICAL CENTER PARKWAY CROSS SECTIONS
X-201 TO X-204	(N) MEDICAL CENTER PARKWAY CROSS SECTIONS
X-301 TO X-304	SE WALTON BOULEVARD CROSS SECTIONS

ARDOT STANDARD ROADWAY DRAWINGS

DRAWING NUMBER	TITLE
DR-1	DETAILS OF DRIVEWAYS & ISLANDS
FES-1	FLARED END SECTION
FES-2	FLARED END SECTION
FPC-9M	DETAILS OF DROP INLET (TYPE MO)
GR-7	GUARDRAIL DETAILS
GRT-1	GUARDRAIL DETAILS
PM-1	PAVEMENT MARKING DETAILS
SD-4	LOOP DETECTOR INSTALLATION
SD-5	CONTROLLER CABINET UTILITY DRAWER
SD-6	HEAVY DUTY PULL BOX
SD-7	SPAN WIRE ASSEMBLY WOOD POLE
SD-8	SIGNAL HEAD PLACEMENT
SD-9	SERVICE POINT
SD-11	STEEL POLE WITH MAST ARM
SHS-1	STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES
SHS-2	U-CHANNEL POST ASSEMBLIES
SI-1	DETAILS OF SPECIAL ITEMS
SI-2	REINFORCED CONCRETE RETAINING WALL (WITHOUT LIVE LOAD SURCHARGE)
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER
TC-5	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER
TEC-1	TEMPORARY EROSION CONTROL DEVICES
TEC-2	TEMPORARY EROSION CONTROL DEVICES
TEC-3	TEMPORARY EROSION CONTROL DEVICES
TEC-4	TEMPORARY EROSION CONTROL DEVICES
WR-1	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER
CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/24	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

GENERAL NOTES, LEGEND, AND INDEX

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-002

LTFreedle 3/1/2024 2:19:39 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_G002_GN.dgn
REVISED DATE:

SURVEY CONTROL POINTS				
POINT#	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	735792.2730	667153.9380	1262.837	1/2IN REBAR WITH GARVER CONTROL CAP
2	735787.1990	667344.3040	1263.215	1/2IN REBAR WITH GARVER CONTROL CAP
3	735520.4640	667143.3450	1268.987	1/2IN REBAR WITH GARVER CONTROL CAP
4	735900.4780	667048.6020	1264.443	1/2IN REBAR WITH GARVER CONTROL CAP
5	735897.3390	666850.9080	1269.965	1/2IN REBAR WITH GARVER CONTROL CAP
6	736330.1390	667092.9620	1263.765	1/2IN REBAR WITH GARVER CONTROL CAP

Survey Control for: Walton Boulevard and Medical Center Parkway Improvements

Control is based on NAD83 (2011) using Geoid12B. Coordinates are projected to Arkansas State Plane Coordinates, North Zone (301) US Survey Foot and elevations are based on NAVD88.

The data was derived from a found monument (BENTPORT) at Bentonville Airport.

SE WALTON BOULEVARD P.O.B. STA. 30+00.00 N 735857.83 E 666836.45

POB 30+00.00

CP#5

CP#4

CP#3

CP#1

CP#2

CP#6

01-11082-000 SPIRIT MASTER FUNDING II LLC

01-08826-001 FLEEMAN REVOCABLE TRUST, JEANNIE

01-10862-000 QHG OF SPRINGDALE INC D/B/A BATES MEDICAL CENTER

01-11084-001 MATHIAS SHOPPING CENTERS INC

01-05115-002 CITY OF BENTONVILLE

01-09230-000 CHECKK PROPERTIES LLC

PROPOSED C.L. OF CONSTRUCTION OF (N) MEDICAL CENTER PARKWAY

PROPOSED C.L. OF CONSTRUCTION OF (S) MEDICAL CENTER PARKWAY

PROPOSED C.L. OF CONSTRUCTION OF SE WALTON BOULEVARD

(S) MEDICAL CENTER PARKWAY P.O.E. STA. 15+00.00 N=735846.11 E=667095.09

(N) MEDICAL CENTER PARKWAY P.O.B. STA. 20+00.00 N=735845.88 E=667100.49

(N) MEDICAL CENTER PARKWAY P.O.E. STA. 26+00.00 N=736443.79 E=667145.62

(S) MEDICAL CENTER PARKWAY P.O.B. STA. 10+00.00 N=735434.26 E=667323.63

SE WALTON BOULEVARD P.O.E. STA. 35+00.00 N=735835.24 E=667335.94

PI 32+39.76

PI 32+76.31

PC 14+18.48

PT 14+29.31

PC 23+40.29

PT 24+70.29

PC 25+00.00

PT 26+00.00

POE 35+00.00

POB 10+00.00

MEDICAL CENTER PARKWAY

SE WALTON BOULEVARD

MEDICAL CENTER PARKWAY

0' 30' 60' 120' 180'

(IN FEET)

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER

CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER GARVER LLC No. 766

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.20393 LUKE T. FREEDLE

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SURVEY CONTROL

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

G-003

LTFreedle 3/1/2023 4:08:11 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_G003_SC.dgn
REVISED DATE:

SUMMARY OF QUANTITIES

DESCRIPTION	UNIT	QUANTITY
Site Preparation	LS	1
Unclassified Excavation (Plan Quantity)	CY	1190
Embankment Construction (Plan Quantity)	CY	680
Undercut Excavation	CY	1100
Rock Excavation	CY	250
Trench and Excavation Safety Systems	LS	1
Maintenance of Traffic	LS	1
18" Class III R.C. Pipe	LF	85
24" Class III R.C. Pipe	LF	133
24" Class III R.C. Flared End Section	EA	1
Pipe Collar	EA	5
Single Grate Combination Inlet	EA	3
Double Grate Combination Inlet	EA	3
Triple Grate Combination Inlet	EA	1
Double Grate Combination Inlet With 4'x4' Junction Box	EA	1
Special Double Grate Combination Inlet With 4'x1'-6" Junction Box	EA	1
Triple Grate Combination Inlet With 8'x4'-6" Junction Box	EA	0
4' Type MO Junction Box	EA	1
Additional Curb Openings	EA	3
Asphalt Pavement Repair	SY	35
Temporary Pavement Repair	SY	35
Guardrail	LF	277
Temporary Erosion Control	LS	1
Sodding	SY	2962
Concrete Island (4")	SY	2
Concrete Island (6")	SY	0
4" Concrete Sidewalk	SY	255
6" Concrete Sidewalk	SY	0
Handicap Ramp Concrete	SY	81
Retaining Wall Integral with 6" Thick Sidewalk	SY	60
Retaining Wall Integral with 6" Handicap Ramp Concrete	SY	5
Concrete Curb and Gutter (Type A) (1'-6")	LF	792
Concrete Curb and Gutter (Type A) (2'-0")	LF	130
Roadway Construction Control	LS	1
Cold Milling Asphalt Pavement	SY	3419
6" Aggregate Base Course (Class 7)	SY	1532
ACHM Surface Course (PG 70-22)	TON	564
ACHM Binder Course (PG 64-22)	TON	404
Concrete Driveways	SY	0
Concrete Aprons	SY	0
Asphalt Driveways	SY	0
Concrete Retaining Wall	SF	771
Thermoplastic Pavement Marking - 6" Yellow	LF	1428
Thermoplastic Pavement Marking - 6" White	LF	1353
Thermoplastic Pavement Marking - 12" White	LF	836
Thermoplastic Pavement Marking (Words)	EA	8
Thermoplastic Pavement Marking (Arrows)	EA	19
Standard Street Sign Installation	EA	6
6" Portland Cement Concrete Base	SY	138
Washed River Rock Mulch, Installed	SY	169
Remove, Salvage, and Reinstall Existing Handrail	LF	18
Remove, Salvage, and Reinstall Existing Monument Sign	EA	2

SUMMARY OF QUANTITIES (CONT.)

DESCRIPTION	UNIT	QUANTITY
System Local Controller-Fiber (8 Phases)	EA	1
Ethernet Switch	EA	1
GPS Preemption System	EA	1
Battery Backup System	EA	1
WIC Fiber Enclosure	EA	1
Traffic Signal Head, LED, (3 Section, 1 Way)	EA	18
Traffic Signal Head, LED, (4 Section, 1 Way)	EA	7
Traffic Signal Head, LED, (5 Section, 1 Way)	EA	3
Relocation of Traffic Signal Head	EA	3
Central Control Unit	EA	1
Pole Mounted Assembly	EA	8
Infrared Programming Device	EA	1
Countdown Pedestrian Signal Head, Led	EA	8
Traffic Signal Cable (5C/14 A.W.G.)	LF	2920
Traffic Signal Cable (7C/14 A.W.G.)	LF	2632
Traffic Signal Cable (20C/14 A.W.G.)	LF	730
Electrical Conductors-In-Conduit (1C/8 A.W.G., E.G.C.)	LF	903
Electrical Conductors-In-Conduit (1C/12 A.W.G., E.G.C.)	LF	220
Electrical Conductors-In-Conduit (2C/6 A.W.G.)	LF	37
Electrical Conductors For Luminaires	LF	950
Communication Cable, Fiber (12 Channel)	LF	72
Fiber Tracer Wire, #14 AWG, Polyethlene Insulation Orange in Color	LF	72
Fiber Optic Pigtail, 12 SM	LF	20
Galvanized Steel Conduit (2")	LF	37
Galvanized Steel Conduit (3")	LF	108
Non-Metallic Conduit (2")	LF	101
Non-Metallic Conduit (3")	LF	1063
Concrete Pull Box (Type 3)	EA	4
Concrete Pull Box (Type 1 HD)	EA	1
Concrete Pull Box (Type 3 HD)	EA	8
Pull Box For Fiber, DS-1609, 24"X36"X24"	EA	2
Traffic Signal Mast Arm And Pole With Foundation (36')	EA	1
Traffic Signal Mast Arm And Pole With Foundation (38')	EA	1
Traffic Signal Mast Arm And Pole With Foundation (48')	EA	1
Traffic Signal Mast Arm And Pole With Foundation (54')	EA	1
LED Luminaire Assembly	EA	4
Traffic Signal Pedestal Pole With Foundation	EA	6
Service Point Assembly (2 Circuits)	EA	1
Removal of Traffic Signal Equipment	LUMP SUM	1
Treated Wood Pole (Class 2, 45')	EA	4
18" Street Name Sign (Install Only)	EA	4
Video Detector Rotation	EA	2
Video Detector Rack (16 Channel)	EA	1
Video Detector (IP)	EA	9
Video Cable (Exterior Cat 5E)	LF	1857
Video Monitor (CLR)	EA	1
Central Control Unit (4 Channel)	EA	2
SDLC and Cables	LS	1
Bluetooth System	EA	1

SUMMARY OF QUANTITIES (CONT.)

DESCRIPTION	UNIT	QUANTITY
Utility Mobilization	LS	0
Utility Trench Excavation Safety Systems	LS	0
Spot Dig and Verify Exiting Utility Locations	LS	1
Bypass Pumping	LS	0
8" SDR-26 PVC Sewer Line	LF	0
4' ID San. Sewer Manhole, Cast-in-Place, 0' to 6' Depth	EA	0
4' ID San. Sewer Manhole Additional Depth, Over 6'	VF	0
6' ID San. Sewer Manhole with Watertight Ring and Lid, Cast-in-Place, 0' to 6' Depth	EA	0
6' ID San. Sewer Manhole Additional Depth, Over 6'	VF	0
Core Existing Manhole	EA	0
Raise Manhole Rim to Proposed Grade	EA	1
Lower Manhole Rim to Proposed Grade	EA	1
Fire Hydrant	EA	0
Salvage Fire Hydrant	EA	0
Relocate and Connect 1" Water Service Line and 1" Meter Set	EA	0
Adjust Valve Box to Proposed Grade	EA	0
Flowable Fill for Abandoned Pipe	CY	0
Trench Undercut and Backfill	CY	0
Rock Excavation for Utilities	CY	0
Bid Schedule 1 Contingency Allowance ($250,000)	LS	1
Utility Adjustment Delays (Rev. 1)	DAY	
4' Curb Inlet Extension (Rev. 1)	EA	1

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LUKE T. FREEDLE — LICENSED PROFESSIONAL ENGINEER — No.20393

Digitally Signed 03/04/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

QUANTITY TABLES

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: LTF
DRAWN BY: JAA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-004

LTFreedle 3/4/2024 1:27:49 PM
WORKSPACE:Garver, 2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Impst\Drawings\WMC_G004_QTY.dgn
REVISED DATE:

SITE PREPARATION
1 LUMP SUM

TRENCH AND EXCAVATION SAFETY SYSTEMS
1 LUMP SUM

MAINTENANCE OF TRAFFIC
1 LUMP SUM

ROCK EXCAVATION (CY)
250

EARTHWORK

LOCATION	UNCLASSIFIED EXCAVATION (CY)	EMBANKMENT CONSTRUCTION (CY)	UNDERCUT EXCAVATION (CY)
SOUTH	900	540	800
NORTH	290	140	300
TOTAL	**1,190**	**680**	**1,100**

PAVEMENT SECTION

LOCATION	ASPHALT PAVEMENT REPAIR (SY)	TEMPORARY PAVEMENT REPAIR (SY)	COLD MILLING ASPHALT PAVEMENT (SY)	6" AGGREGATE BASE COURSE (CLASS 7) (SY)	ACHM SURFACE COURSE (PG 70-22) (TON)	ACHM BINDER COURSE (PG 64-22) (TON)	6" PORTLAND CEMENT CONCRETE BASE (SY)
SOUTH	30	30	1746	1101	322	296	97
NORTH	5	5	1673	431	242	108	41
TOTAL	**35**	**35**	**3,419**	**1,532**	**564**	**404**	**138**

CURB AND GUTTER

LOCATION	CONCRETE CURB AND GUTTER (Type A) (1'-6") (LF)	CONCRETE CURB AND GUTTER (Type A) (2'-0") (LF)
SOUTH	607	17
NORTH	185	113
TOTAL	**792**	**130**

STORM DRAINAGE PIPES

LOCATION	18" CLASS III R.C. PIPE (LF)	24" CLASS III R.C. PIPE (LF)	24" CLASS III R.C. FLARED END SECTION (EA)	PIPE COLLAR (EA)
SOUTH	36	133	1	3
NORTH	49	0	0	2
TOTAL	**85**	**133**	**1**	**5**

STORM DRAINAGE INLETS

LOCATION	SINGLE GRATE COMBINATION INLET (EA)	DOUBLE GRATE COMBINATION INLET (EA)	TRIPLE GRATE COMBINATION INLET (EA)	DOUBLE GRATE COMBINATION INLET WITH 4'X4' JUNCTION BOX (EA)	SPECIAL DOUBLE GRATE COMBINATION INLET WITH 4'X1'-6" JUNCTION BOX (EA)	4' CURB INLET EXTENSION	4' TYPE MO JUNCTION BOX (EA)	ADDITIONAL CURB OPENINGS (EA)
SOUTH	1	3	0	1	1	0	1	1
NORTH	2	0	1	0	0	1	0	2
TOTAL	**3**	**3**	**1**	**1**	**1**	**1**	**1**	**3**

SOD

LOCATION	SODDING (SY)
SOUTH	1998
NORTH	964
TOTAL	**2,962**

SIDEWALKS

LOCATION	CONCRETE ISLAND (4") (SY)	4" CONCRETE SIDEWALK (SY)	6" CONCRETE SIDEWALK (SY)	HANDICAP RAMP CONCRETE (SY)	RETAINING WALL INTEGRAL WITH 6" THICK SIDEWALK (SY)	RETAINING WALL INTEGRAL WITH 6" HANDICAP RAMP CONCRETE (SY)
SOUTH	2	194	0	42	46	0
NORTH	0	61	0	39	14	5
TOTAL	**2**	**255**	**0**	**81**	**60**	**5**

PAVEMENT MARKING

LOCATION	THERMOPLASTIC PAVEMENT MARKING - 6" YELLOW (LF)	THERMOPLASTIC PAVEMENT MARKING - 6" WHITE (LF)	THERMOPLASTIC PAVEMENT MARKING - 12" WHITE (LF)	THERMOPLASTIC PAVEMENT MARKING (WORDS) (EA)	THERMOPLASTIC PAVEMENT MARKING (ARROWS) (EA)	STANDARD SIGN INSTALLATION (EA)
SOUTH	899	783	413	5	11	1
NORTH	529	570	423	3	8	5
TOTAL	**1,428**	**1,353**	**836**	**8**	**19**	**6**

DRIVEWAYS

LOCATION	CONCRETE ISLAND (6") (SY)	CONCRETE DRIVEWAYS (SY)	CONCRETE APRONS (SY)	ASPHALT DRIVEWAYS (SY)
SOUTH	0	0	0	0
NORTH	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

TEMPORARY EROSION CONTROL
1 LUMP SUM

BID SCHEDULE 1 CONTINGENCY ALLOWANCE ($250,000)
1 LUMP SUM

ROADWAY CONSTRUCTION CONTROL
1 LUMP SUM

INCIDENTAL CONSTRUCTION

LOCATION	GUARDRAIL (LF)	CONCRETE RETAINING WALL (SF)	WASHED RIVER ROCK MULCH, INSTALLED (SY)	REMOVE, SALVAGE, AND REINSTALL EXISTING HANDRAIL (LF)	REMOVE, SALVAGE, AND REINSTALL EXISTING MONUMENT SIGN (EA)
SOUTH	277	771	169	18	1
NORTH	0	0	0	0	1
TOTAL	**277**	**771**	**169**	**18**	**2**

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS–ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.20393 — LUKE T. FREEDLE

Digitally Signed 03/04/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

QUANTITY TABLES

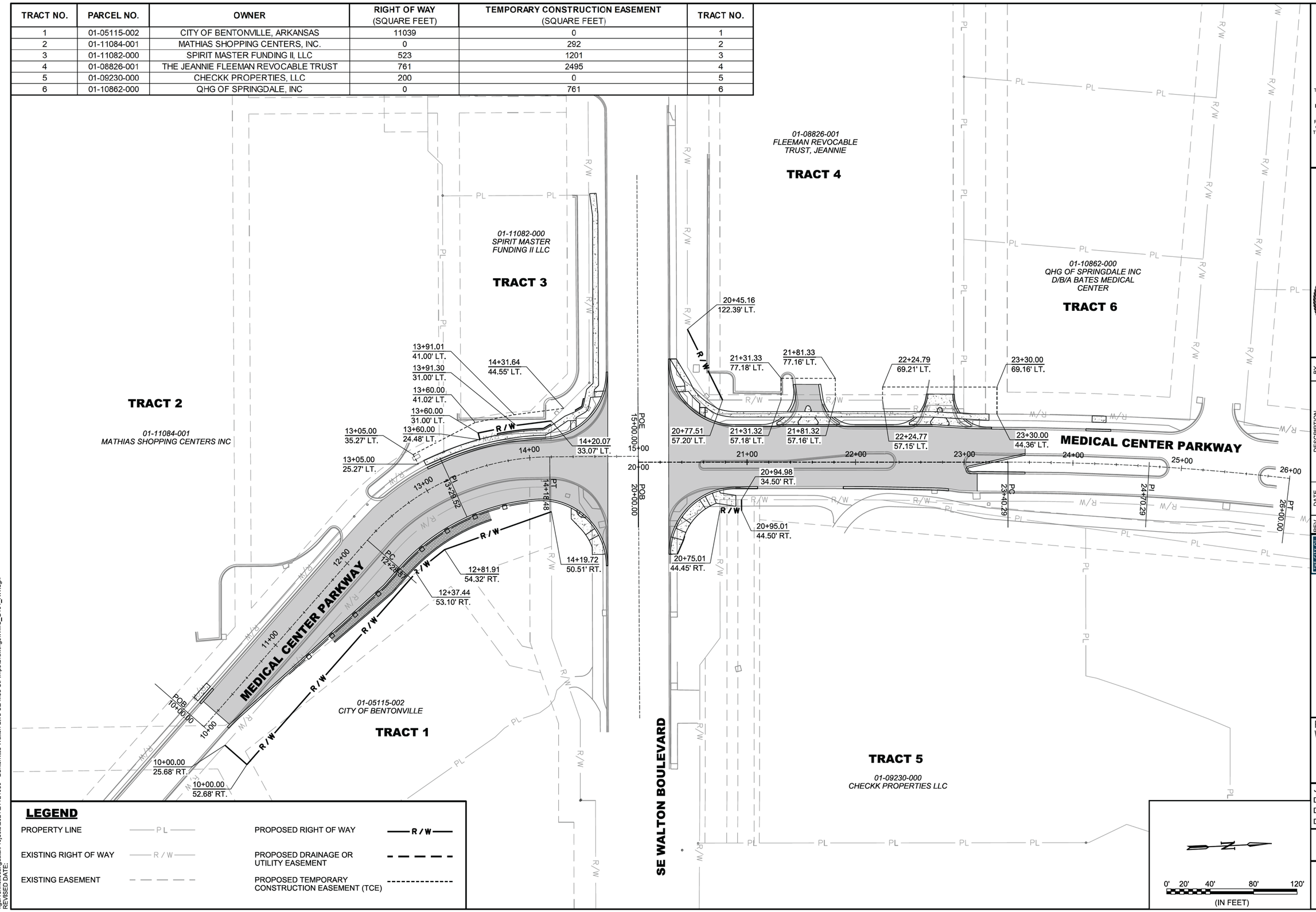
JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: LTF
DRAWN BY: JAA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-005

LTFreedle
3/4/2024 1:27:52 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_G004_QTY.dgn
REVISED DATE:

TRACT NO.	PARCEL NO.	OWNER	RIGHT OF WAY (SQUARE FEET)	TEMPORARY CONSTRUCTION EASEMENT (SQUARE FEET)	TRACT NO.
1	01-05115-002	CITY OF BENTONVILLE, ARKANSAS	11039	0	1
2	01-11084-001	MATHIAS SHOPPING CENTERS, INC.	0	292	2
3	01-11082-000	SPIRIT MASTER FUNDING II, LLC	523	1201	3
4	01-08826-001	THE JEANNIE FLEEMAN REVOCABLE TRUST	761	2495	4
5	01-09230-000	CHECKK PROPERTIES, LLC	200	0	5
6	01-10862-000	QHG OF SPRINGDALE, INC	0	761	6



LEGEND

PROPERTY LINE	P L	PROPOSED RIGHT OF WAY	R / W
EXISTING RIGHT OF WAY	R / W	PROPOSED DRAINAGE OR UTILITY EASEMENT	
EXISTING EASEMENT		PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TCE)	

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

BY	DESCRIPTION	DATE	REV.

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

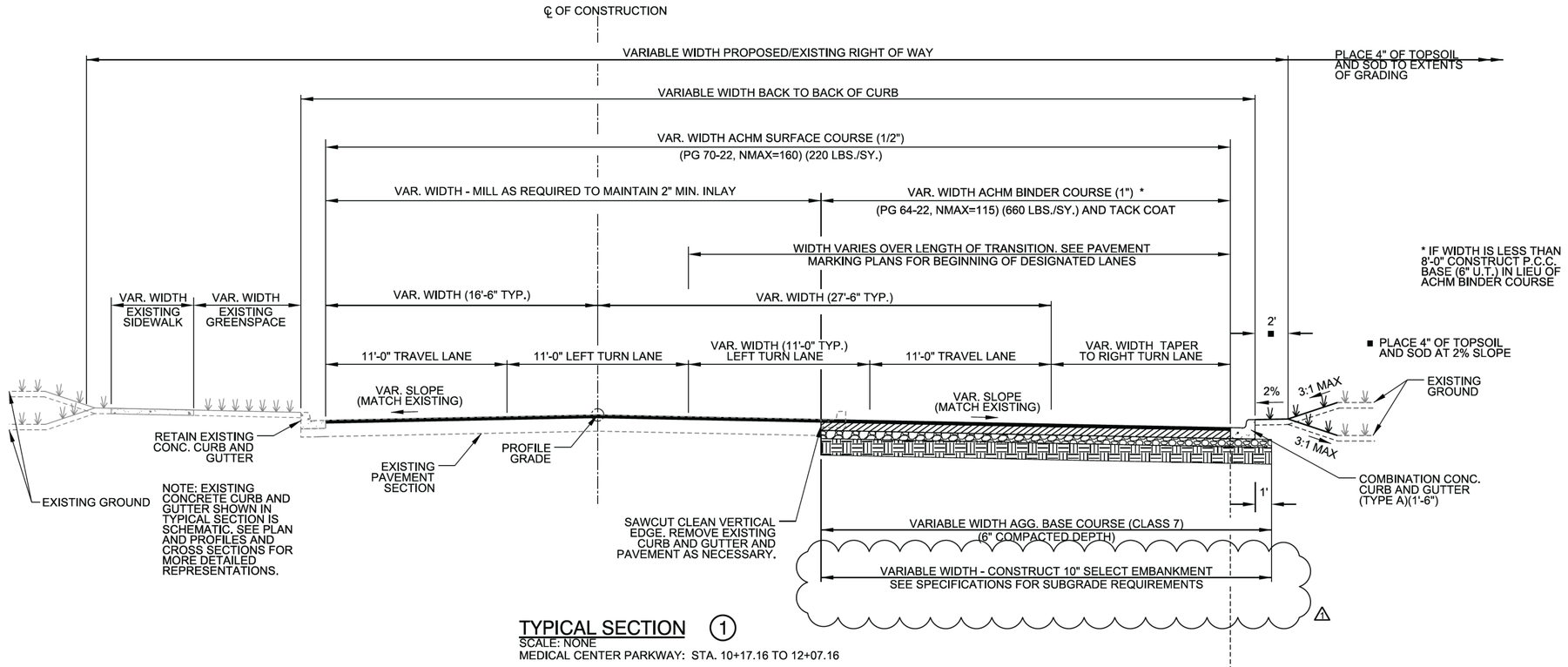
PROPOSED RIGHT OF WAY LAYOUT PLANS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: JAA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-101

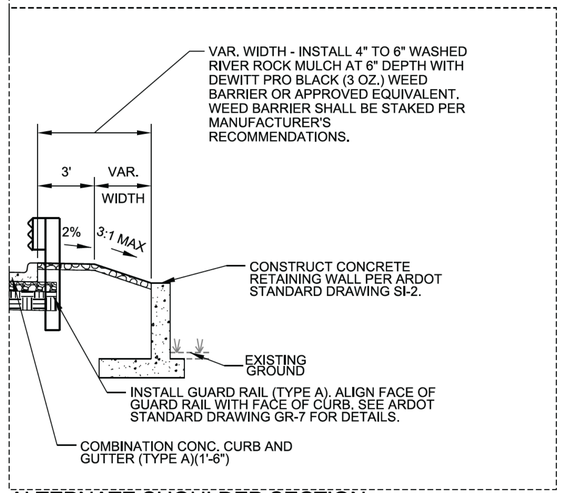
LTFreedle
3/1/2023 4:08:50 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_G101_RW.dgn
REVISED DATE:



TYPICAL SECTION (1)

SCALE: NONE

MEDICAL CENTER PARKWAY: STA. 10+17.16 TO 12+07.16



ALTERNATE SHOULDER SECTION

MEDICAL CENTER PARKWAY: STA. 11+37.88 TO STA. 12+07.16 RT.

TYPICAL SECTION GENERAL NOTES

1. CROSS SLOPES OF ROADWAY WIDENING SHALL MATCH EXISTING ROADWAY CROSS SLOPES UNLESS OTHERWISE NOTED. REFER TO CROSS SECTIONS AND GRADING PLAN FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
4. THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1/2" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
5. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE TO THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. SELECT EMBANKMENT SHALL MEET THE REQUIREMENTS OF MATERIAL FOR FILL OR BACKFILL UNDER PAVEMENTS AS SPECIFIED IN SECTION E-2 - EXCAVATION AND EMBANKMENT OF THE SPECIFICATIONS.
7. TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT AN INTERVAL EQUAL TO FIVE (5) TIMES THE SIDEWALK WIDTH. CONTRACTION JOINTS SHALL BE PLACED AT AN INTERVAL MATCHING THE SIDEWALK WIDTH.
8. THE THICKNESS OF THE CURB AND GUTTER SHALL MATCH THE THICKNESS OF THE ADJACENT ASPHALT PAVEMENT.

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

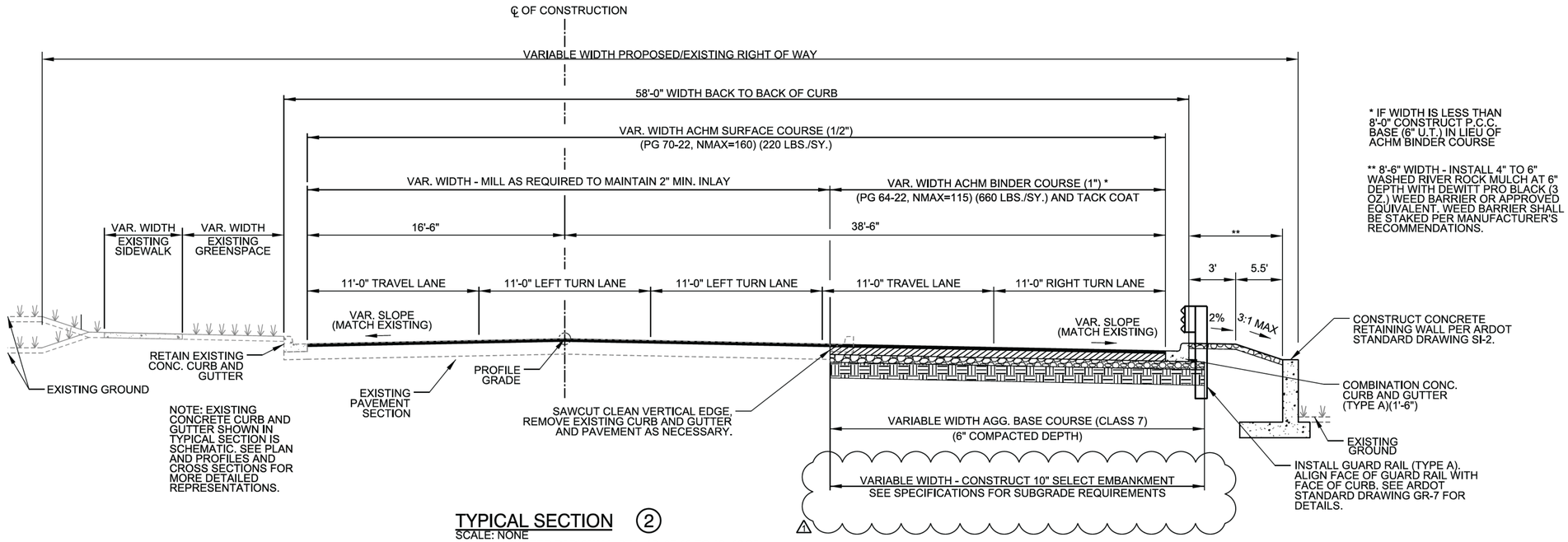
TYPICAL SECTIONS

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-101

LTFreedle 2/29/2024 3:41:16 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C101_TS.dgn
REVISED DATE:



* IF WIDTH IS LESS THAN 8'-0" CONSTRUCT P.C.C. BASE (6" U.T.) IN LIEU OF ACHM BINDER COURSE

** 8'-6" WIDTH - INSTALL 4" TO 6" WASHED RIVER ROCK MULCH AT 6" DEPTH WITH DEWITT PRO BLACK (3 OZ.) WEED BARRIER OR APPROVED EQUIVALENT. WEED BARRIER SHALL BE STAKED PER MANUFACTURER'S RECOMMENDATIONS.

TYPICAL SECTION ②

SCALE: NONE

MEDICAL CENTER PARKWAY: STA. 12+07.16 TO 13+10.25

TYPICAL SECTION GENERAL NOTES

1. CROSS SLOPES OF ROADWAY WIDENING SHALL MATCH EXISTING ROADWAY CROSS SLOPES UNLESS OTHERWISE NOTED. REFER TO CROSS SECTIONS AND GRADING PLAN FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
4. THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1/2" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
5. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE TO THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. SELECT EMBANKMENT SHALL MEET THE REQUIREMENTS OF MATERIAL FOR FILL OR BACKFILL UNDER PAVEMENTS AS SPECIFIED IN SECTION E-2 - EXCAVATION AND EMBANKMENT OF THE SPECIFICATIONS.
7. TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT AN INTERVAL EQUAL TO FIVE (5) TIMES THE SIDEWALK WIDTH. CONTRACTION JOINTS SHALL BE PLACED AT AN INTERVAL MATCHING THE SIDEWALK WIDTH.
8. THE THICKNESS OF THE CURB AND GUTTER SHALL MATCH THE THICKNESS OF THE ADJACENT ASPHALT PAVEMENT.

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS–ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

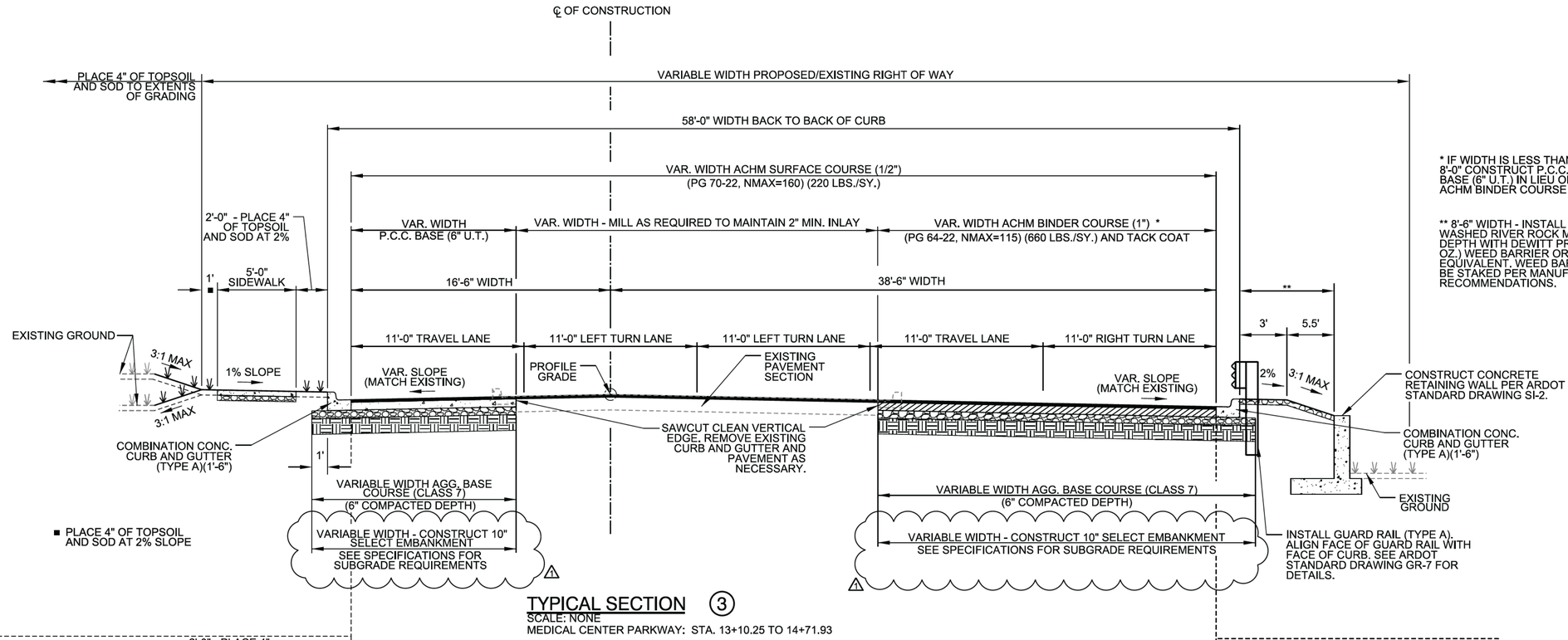
TYPICAL SECTIONS

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-102

LTFreedle 2/29/2024 3:41:16 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C101_TS.dgn
REVISED DATE:



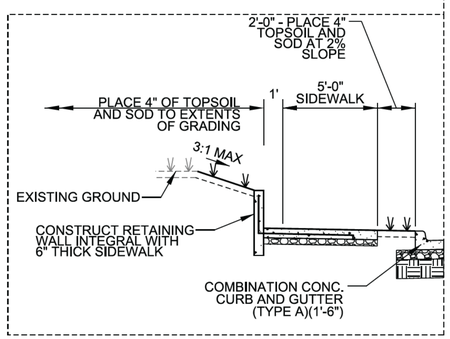
TYPICAL SECTION ③

SCALE: NONE

MEDICAL CENTER PARKWAY: STA. 13+10.25 TO 14+71.93

* IF WIDTH IS LESS THAN 8'-0" CONSTRUCT P.C.C. BASE (6" U.T.) IN LIEU OF ACHM BINDER COURSE

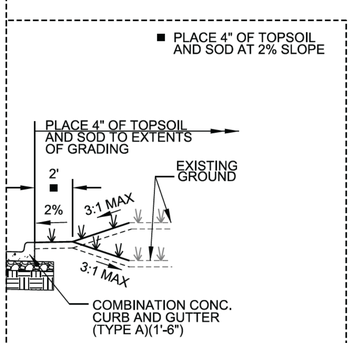
** 8'-6" WIDTH - INSTALL 4" TO 6" WASHED RIVER ROCK MULCH AT 6" DEPTH WITH DEWITT PRO BLACK (3 OZ.) WEED BARRIER OR APPROVED EQUIVALENT. WEED BARRIER SHALL BE STAKED PER MANUFACTURER'S RECOMMENDATIONS.



ALTERNATE INTEGRAL WALL SECTION

MEDICAL CENTER PARKWAY: STA. 13+75.00 TO STA. 14+19.40 LT.

NOTE: EXISTING CONCRETE CURB AND GUTTER LOCATION SHOWN IN TYPICAL SECTION IS SCHEMATIC. SEE PLAN AND PROFILES AND CROSS SECTIONS FOR MORE DETAILED REPRESENTATIONS.



ALTERNATE SHOULDER SECTION

MEDICAL CENTER PARKWAY: STA. 13+48.00 TO STA. 14+71.93 LT.

TYPICAL SECTION GENERAL NOTES

1. CROSS SLOPES OF ROADWAY WIDENING SHALL MATCH EXISTING ROADWAY CROSS SLOPES UNLESS OTHERWISE NOTED. REFER TO CROSS SECTIONS AND GRADING PLAN FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
4. THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1/2" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
5. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE TO THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. SELECT EMBANKMENT SHALL MEET THE REQUIREMENTS OF MATERIAL FOR FILL OR BACKFILL UNDER PAVEMENTS AS SPECIFIED IN SECTION E-2 - EXCAVATION AND EMBANKMENT OF THE SPECIFICATIONS.
7. TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT AN INTERVAL EQUAL TO FIVE (5) TIMES THE SIDEWALK WIDTH. CONTRACTION JOINTS SHALL BE PLACED AT AN INTERVAL MATCHING THE SIDEWALK WIDTH.
8. THE THICKNESS OF THE CURB AND GUTTER SHALL MATCH THE THICKNESS OF THE ADJACENT ASPHALT PAVEMENT.

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS–ENGINEER

STATE OF ARKANSAS LUKE T. FREEDLE LICENSED PROFESSIONAL ENGINEER No.20393
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

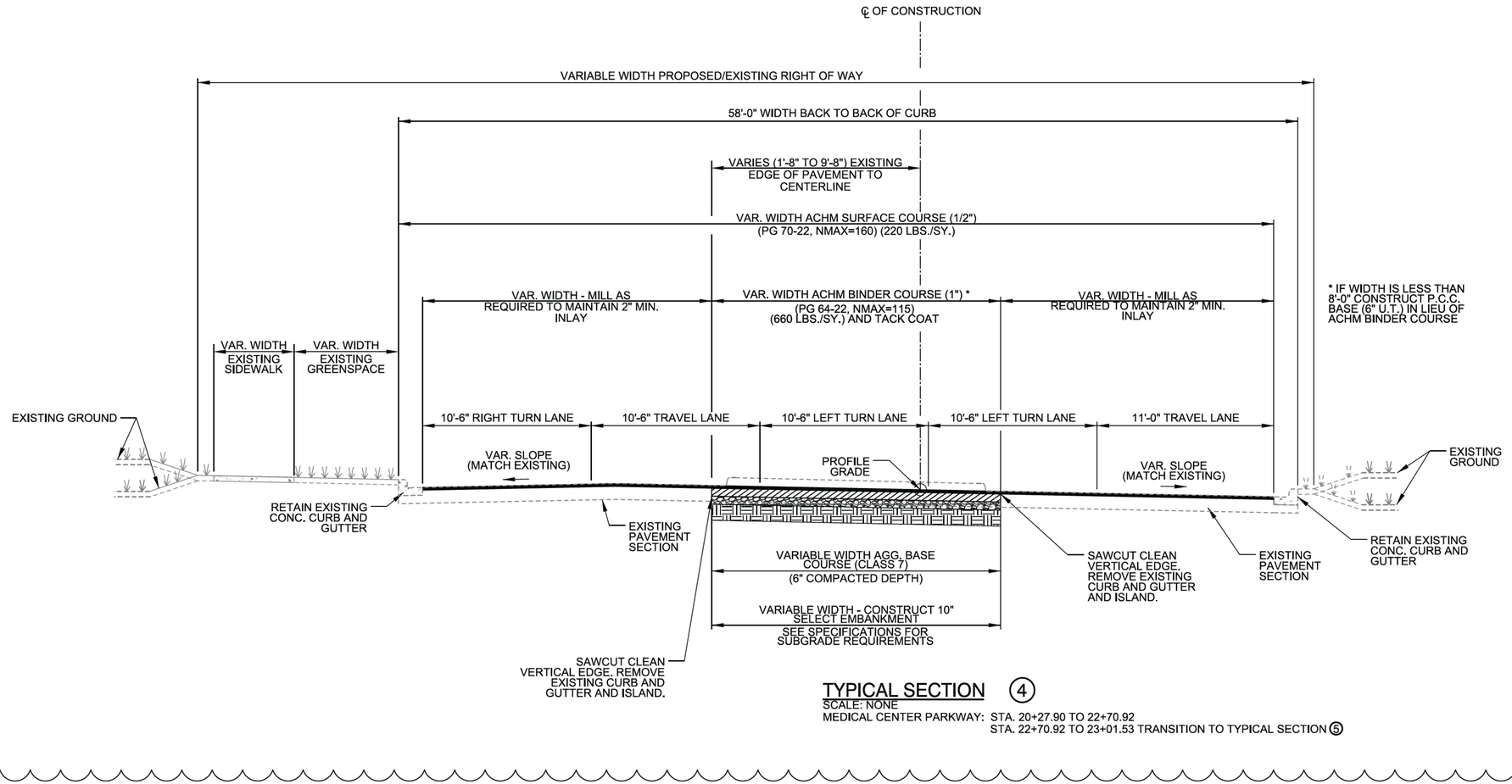
TYPICAL SECTIONS

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-103

LTFreedle 2/29/2024 3:41:17 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C101_TS.dgn
REVISED DATE:



TYPICAL SECTION ④

SCALE: NONE

MEDICAL CENTER PARKWAY: STA. 20+27.90 TO 22+70.92
STA. 22+70.92 TO 23+01.53 TRANSITION TO TYPICAL SECTION ⑤

TYPICAL SECTION GENERAL NOTES

1. CROSS SLOPES OF ROADWAY WIDENING SHALL MATCH EXISTING ROADWAY CROSS SLOPES UNLESS OTHERWISE NOTED. REFER TO CROSS SECTIONS AND GRADING PLAN FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
4. THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1/2" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
5. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE TO THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. SELECT EMBANKMENT SHALL MEET THE REQUIREMENTS OF MATERIAL FOR FILL OR BACKFILL UNDER PAVEMENTS AS SPECIFIED IN SECTION E-2 - EXCAVATION AND EMBANKMENT OF THE SPECIFICATIONS.
7. TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT AN INTERVAL EQUAL TO FIVE (5) TIMES THE SIDEWALK WIDTH. CONTRACTION JOINTS SHALL BE PLACED AT AN INTERVAL MATCHING THE SIDEWALK WIDTH.
8. THE THICKNESS OF THE CURB AND GUTTER SHALL MATCH THE THICKNESS OF THE ADJACENT ASPHALT PAVEMENT.

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 20393 — LUKE T. FREEDLE

Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

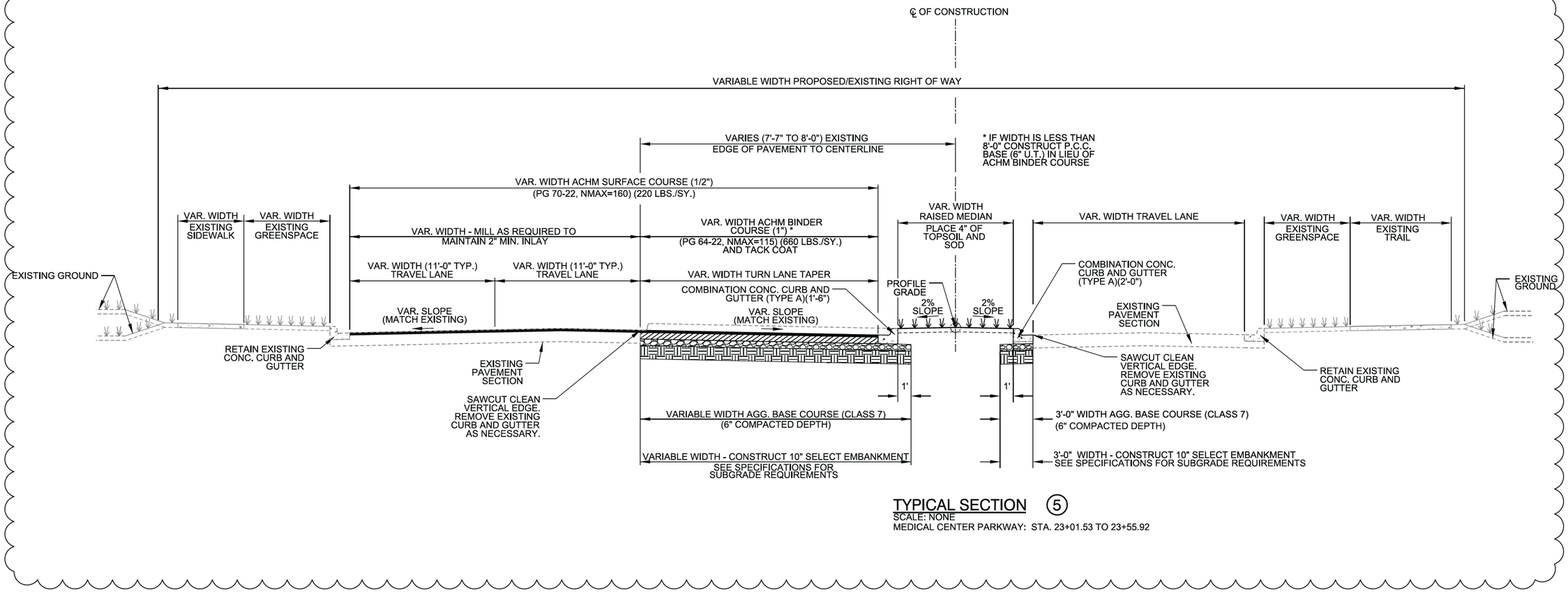
TYPICAL SECTIONS

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-104

LTFreedle 2/29/2024 3:41:17 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C101_TS.dgn
REVISED DATE:



TYPICAL SECTION ⑤

SCALE: NONE

MEDICAL CENTER PARKWAY: STA. 23+01.53 TO 23+55.92

TYPICAL SECTION GENERAL NOTES

1. CROSS SLOPES OF ROADWAY WIDENING SHALL MATCH EXISTING ROADWAY CROSS SLOPES UNLESS OTHERWISE NOTED. REFER TO CROSS SECTIONS AND GRADING PLAN FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
4. THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1/2" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
5. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE TO THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. SELECT EMBANKMENT SHALL MEET THE REQUIREMENTS OF MATERIAL FOR FILL OR BACKFILL UNDER PAVEMENTS AS SPECIFIED IN SECTION E-2 - EXCAVATION AND EMBANKMENT OF THE SPECIFICATIONS.
7. TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT AN INTERVAL EQUAL TO FIVE (5) TIMES THE SIDEWALK WIDTH. CONTRACTION JOINTS SHALL BE PLACED AT AN INTERVAL MATCHING THE SIDEWALK WIDTH.
8. THE THICKNESS OF THE CURB AND GUTTER SHALL MATCH THE THICKNESS OF THE ADJACENT ASPHALT PAVEMENT.

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS–ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.20393 — LUKE T. FREEDLE

Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

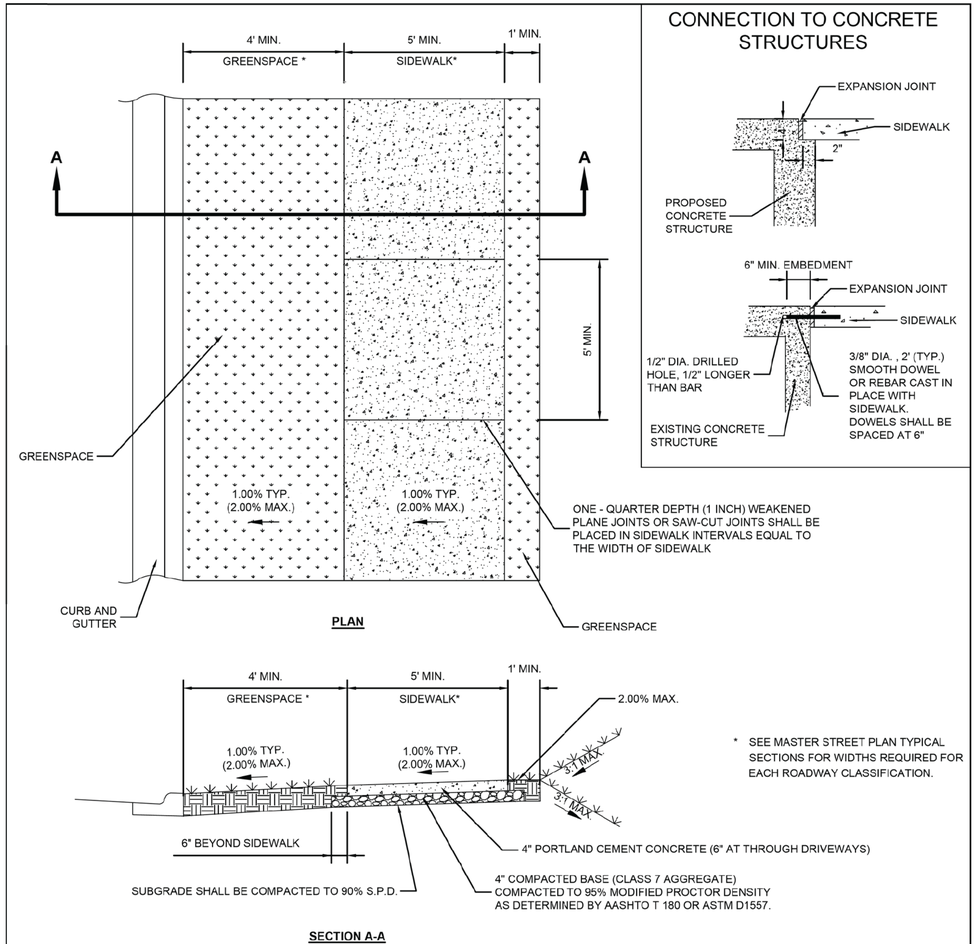
TYPICAL SECTIONS

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-105

LTFreedle 2/29/2024 3:41:17 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C101_TS.dgn
REVISED DATE:



PLAN

CONNECTION TO CONCRETE STRUCTURES

* SEE MASTER STREET PLAN TYPICAL SECTIONS FOR WIDTHS REQUIRED FOR EACH ROADWAY CLASSIFICATION.

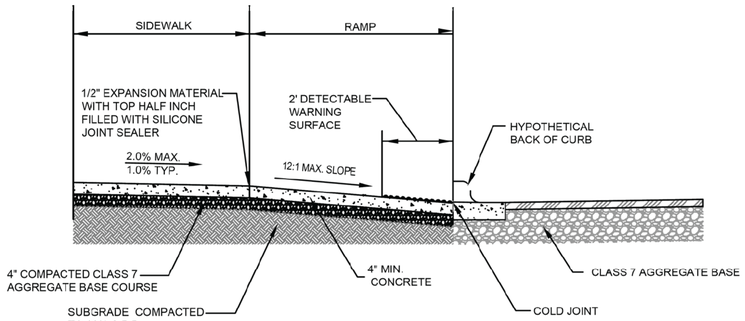
SECTION A-A

SIDEWALK CONSTRUCTION NOTES:

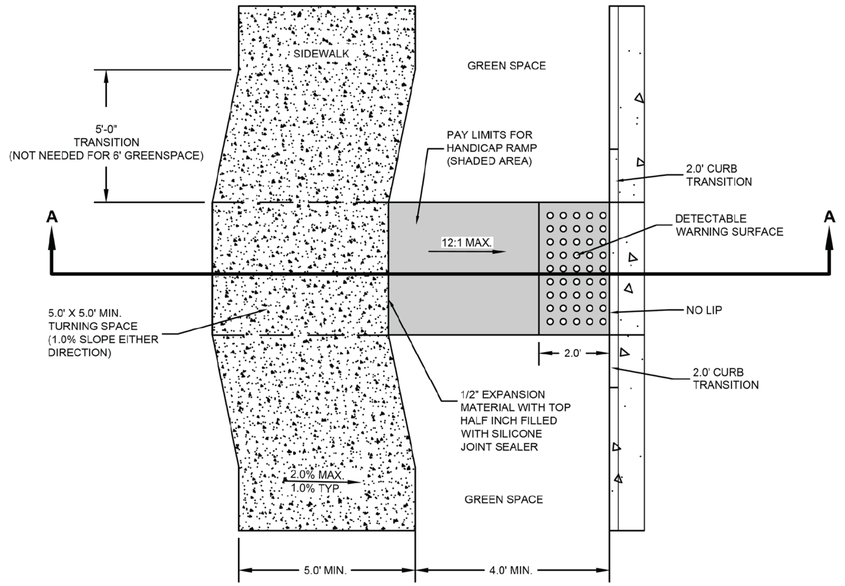
1. CONTRACTION (WEAKENED PLAN) JOINTS SHALL HAVE TOOLED OR SAW-CUT TRANSVERSE JOINTS WITH JOINT SPACING MATCHING SIDEWALK WIDTH. THE CONTRACTION JOINTS SHALL BE CONSTRUCTED TO 1/4 DEPTH OF THE SIDEWALK THICKNESS AND SHALL BE 1/8" TO 3/8" WIDE. EXPANSION JOINTS SHALL BE INSTALLED PERPENDICULAR TO THE SIDEWALK AT INTERVALS EQUAL TO FIVE (5) TIMES THE SIDEWALK WIDTH. EXPANSION JOINTS SHALL BE A MINIMUM OF 1/2" WIDTH AND EXTEND THE FULL DEPTH OF THE CONCRETE.
2. EXPANSION JOINT MATERIAL SHALL MEET AASHTO M213 FOR AN ASPHALTIC FIBER EXPANSION JOINT MATERIAL AND BE INSTALLED WITH A ZIP STRIP WHICH IS REMOVED AFTER THE CONCRETE HAS CURED AND SEALED WITH A MASTIC SEALER. EXPANSION JOINT MATERIAL SHALL BE LEFT 1/2" LOWER THAN GRADE OR TRIMMED 1/2" LOWER, AND FILLED WITH SELF-LEVELING SEALANT TO FINISHED GRADE.
3. ALL SIDEWALKS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
4. CONCRETE FOR SIDEWALK SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT.
5. ALL CONTRACTION JOINTS AND COLD JOINTS SHALL BE FILLED TO FINISHED GRADE WITH SELF-LEVELING SEALANT SUCH AS SONNEBORN SL-1 OR EQUIVALENT MEETING THE REQUIREMENTS OF ASTM C 920, TYPE S.
6. CLOSED CELL BACKER ROD SHALL BE USED IN DEEP JOINTS, AS NEEDED, ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
7. WHEN PLACING SIDEWALK AGAINST AN EXISTING CONCRETE STRUCTURE WHERE IT IS DESIRABLE THAT THE SIDEWALK REMAIN FLUSH, THE SIDEWALK SHALL BE DOWELED INTO THE STRUCTURE.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: SIDEWALK WITH GREENSPACE	DATE: FEBRUARY, 2021
		TITLE: ***SIDEWALK DETAILS***	SHEET: **SW-1**

1 C-151 SIDEWALK DETAILS
SCALE: NONE



SECTION A-A



PLAN

NOTES:

1. CONCRETE FOR SIDEWALK RAMPS SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT. ALL SIDEWALK RAMPS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
2. DETECTABLE WARNING SURFACES SHALL BE PLACED AT ALL LOCATIONS WHERE RAMPS CROSS A STREET OR A SIGNALIZED COMMERCIAL DRIVEWAY FOR THE FULL WIDTH OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS LOCATED AT THE BACK OF CURB AND PERPENDICULAR TO THE EDGE OF THE SIDEWALK RAMP. AT CURB RADII WHERE THE DISTANCE FROM THE PERPENDICULAR DETECTABLE WARNING SURFACE TO THE BACK OF CURB EXCEEDS 5-FT., THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE BACK OF CURB.
3. ALL SIDEWALK RAMPS REQUIRE A CITY INSPECTION PRIOR TO CONCRETE PLACEMENT.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: SIDEWALK RAMP WITH 2' CURB TRANSITION	DATE: FEBRUARY, 2021
		TITLE: ***SIDEWALK RAMP DETAIL***	SHEET: **SR-1**

2 C-151 SIDEWALK RAMP WITH 2' CURB TRANSITION
SCALE: NONE

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.20393 LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

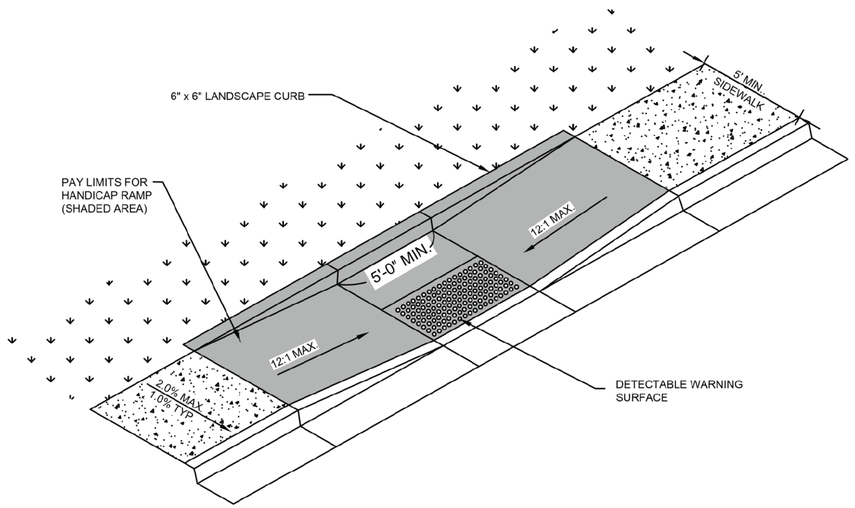
MISCELLANEOUS DETAILS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-151

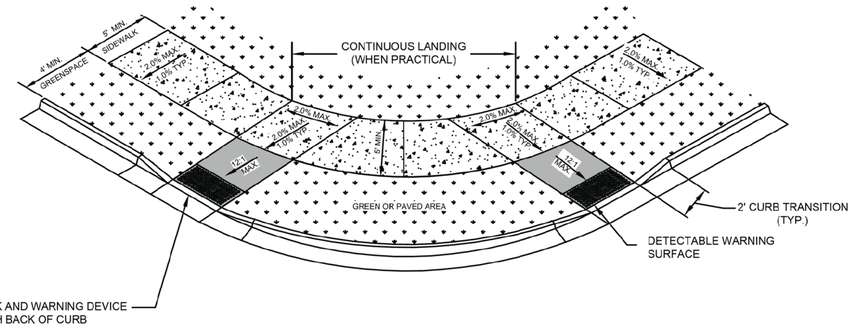
LTFreedle 3/1/2023 4:09:06 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Impst\Drawings\WMC_C151_SD.dgn
REVISED DATE:



NOTES:
1. CONCRETE FOR SIDEWALK RAMPS SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT. ALL SIDEWALK RAMPS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
2. DETECTABLE WARNING SURFACES SHALL BE PLACED AT ALL LOCATIONS WHERE RAMPS CROSS A STREET OR A SIGNALIZED COMMERCIAL DRIVEWAY FOR THE FULL WIDTH OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS LOCATED AT THE BACK OF CURB AND PERPENDICULAR TO THE EDGE OF THE SIDEWALK RAMP. AT CURB RADII WHERE THE DISTANCE FROM THE PERPENDICULAR DETECTABLE WARNING SURFACE TO THE BACK OF CURB EXCEEDS 5-FT., THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE BACK OF CURB.
3. ALL SIDEWALK RAMPS REQUIRE A CITY INSPECTION PRIOR TO CONCRETE PLACEMENT.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: SIDEWALK RAMP WITH SIDEWALK ADJACENT TO CURB	DATE: MARCH, 2021
		TITLE: *SIDEWALK RAMP DETAIL*	SHEET: SR-3

1 C-152 SIDEWALK RAMP WITH SIDEWALK ADJACENT TO CURB
SCALE: NONE



NOTES:
1. CONCRETE FOR SIDEWALK RAMPS SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT. ALL SIDEWALK RAMPS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
2. DETECTABLE WARNING SURFACES SHALL BE PLACED AT ALL LOCATIONS WHERE RAMPS CROSS A STREET OR A SIGNALIZED COMMERCIAL DRIVEWAY FOR THE FULL WIDTH OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS LOCATED AT THE BACK OF CURB AND PERPENDICULAR TO THE EDGE OF THE SIDEWALK RAMP. AT CURB RADII WHERE THE DISTANCE FROM THE PERPENDICULAR DETECTABLE WARNING SURFACE TO THE BACK OF CURB EXCEEDS 5-FT., THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE BACK OF CURB.
3. ALL SIDEWALK RAMPS REQUIRE A CITY INSPECTION PRIOR TO CONCRETE PLACEMENT.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: SIDEWALK RAMP LOCATIONS AT RADIUS	DATE: MARCH, 2021
		TITLE: *SIDEWALK RAMP DETAIL*	SHEET: SR-4

2 C-152 SIDEWALK RAMP LOCATIONS AT RADIUS
SCALE: NONE

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.20393 — LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

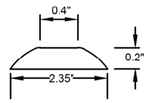
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-152

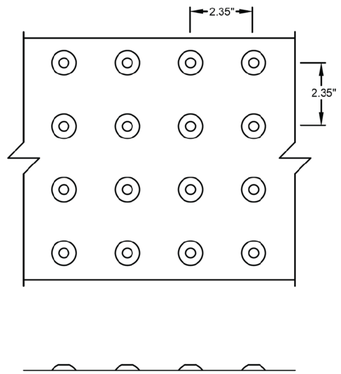
LTFreedle 3/1/2023 4:09:21 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C151_SD.dgn
REVISED DATE:

NOTES:

1. THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS LOCATED AT THE BACK OF CURB.
2. TRUNCATED DOMES SHALL HAVE A DIAMETER OF 0.9 INCH AT THE BOTTOM, A DIAMETER OF 0.4 INCH AT THE TOP, A HEIGHT OF 0.2 INCH, AND A CENTER-TO-CENTER SPACING OF 2.35 INCHES MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT.
3. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
4. DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE. (MIN 4')
5. TYPE OF DETECTABLE WARNING DEVICE SHALL BE APPROVED BY THE CITY OF BENTONVILLE PRIOR TO INSTALLATION. STAMPED CONCRETE SHALL NOT BE USED AS A DETECTABLE WARNING DEVICE.



TRUNCATED DOME SECTION

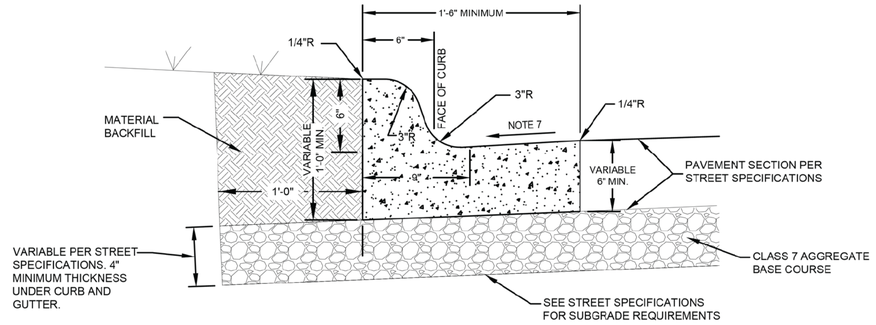


TRUNCATED DOME SPACING

DETECTABLE WARNING DEVICE DETAIL

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: *DETECTABLE WARNING DEVICE*	DATE: MARCH, 2021
		TITLE: **SIDEWALK RAMP DETAIL**	SHEET: **SR-5**

1 C-153 DETECTABLE WARNING DEVICE
SCALE: NONE



CURB & GUTTER NOTES:

1. CONCRETE SHALL BE CLASS "S" PORTLAND CEMENT CONCRETE IN ACCORDANCE WITH SECTION 802 OR 501, ARDOT STANDARD SPECIFICATIONS WITH A 28-DAY COMPRESSIVE STRENGTH OF 3,500 p.s.i. ADMIXTURES SHALL NOT BE USED UNLESS SPECIFICALLY APPROVED BY THE CITY ENGINEER. MAXIMUM SLUMP SHALL NOT EXCEED 4". CONCRETE MAY NOT BE POURED IF A FALLING AIR TEMPERATURE FALLS BELOW 40°F NOR RESUMED UNTIL AN ASCENDING AIR TEMPERATURE RISES ABOVE 35°F WITHOUT SPECIFIC AUTHORITY FROM THE CITY REPRESENTATIVE.
2. ½" WIDE EXPANSION JOINTS SHALL BE REQUIRED AT 75 FT. INTERVALS AND AT ALL STATIONARY STRUCTURES AND ENDS OF CURB RETURNS. EXPANSION JOINTS SHALL BE MADE WITH 1/2 " ASPHALT IMPREGNATED FIBERBOARD CONFORMING TO AASHTO M-213 . ACCEPTABLE MATERIAL MAY BE FOUND ON THE CURRENT ARDOT "QUALIFIED PRODUCTS LIST". EXPANSION JOINT MATERIAL SHALL BE LEFT 1/2" LOWER THAN GRADE OR TRIMMED 1/2" LOWER THAN GRADE.
3. EXPANSION JOINT MATERIAL SHALL BE FULL DEPTH OF THE CURB AND PERPENDICULAR TO THE CURB LINE.
4. FINISH SHALL BE MEDIUM BROOM FINISH.
5. CURING COMPOUND SHALL BE A WHITE PIGMENTED MEMBRANE-FORMING LIQUID CONFORMING TO THE REQUIREMENTS OF ASTM DESIGNATION C309, TYPE 2.
6. CONTRACTION JOINTS SHALL BE 1/8" TO 3/8" X 1 1/2" AT 15 FT. INTERVALS. ALL CONTRACTION JOINTS AND COLD JOINTS SHALL BE FILLED WITH JOINT SEALANT TO FINISHED GRADE. JOINT SEALING COMPOUND FOR CONTRACTION JOINTS SHALL BE SONNEBORN "SONOLASTIC SLI" OR APPROVED EQUAL. CLOSED CELL BACKER ROD SHALL BE USED IN DEEP JOINTS, AS NEEDED, ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
7. GUTTER CROSS SLOPE BE 2% WITHIN ± 0.5%. GUTTER DRAINING THE OPPOSITE DIRECTION AS THE ROAD WILL NOT BE ACCEPTED.
8. CONTRACTOR SHALL GIVE THE CITY AT LEAST TWENTY-FOUR (24) HOURS ADVANCE NOTICE BEFORE PLACING CONCRETE, AND THE SUBGRADE SHALL BE CHECKED AND APPROVED BY THE CITY REPRESENTATIVE BEFORE ANY CONCRETE IS PLACED.
9. AFTER CURBS HAVE SET SUFFICIENTLY, THEY SHALL BE BACKFILLED WITH APPROVED MATERIAL AND GRADED SO THAT NO PONDING WILL OCCUR. AREAS ON WHICH SIDEWALK OR DRIVEWAYS ARE TO BE CONSTRUCTED SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS MEASURED BY AASHTO T99 OR ASTM D698 (STANDARD PROCTOR).
10. FOR CONCRETE STREETS, IF THE CURB AND GUTTER IS CAST SEPARATELY, 1/2 " DIAMETER DOWEL RODS 30" LONG SHALL BE PROVIDED A MINIMUM OF EVERY 30" ON-CENTER.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: **TYPE "A" CURB & GUTTER**	DATE: FEBRUARY, 2021
		TITLE: ***CURB & GUTTER DETAILS***	SHEET: **CG-1**

2 C-153 TYPE "A" CURB & GUTTER
SCALE: NONE

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION GARVER LLC No. 766 ARKANSAS ENGINEER

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.20393 LUKE T. FREEDLE
Digitally Signed 03/01/2023

BY	DESCRIPTION	DATE	REV.

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

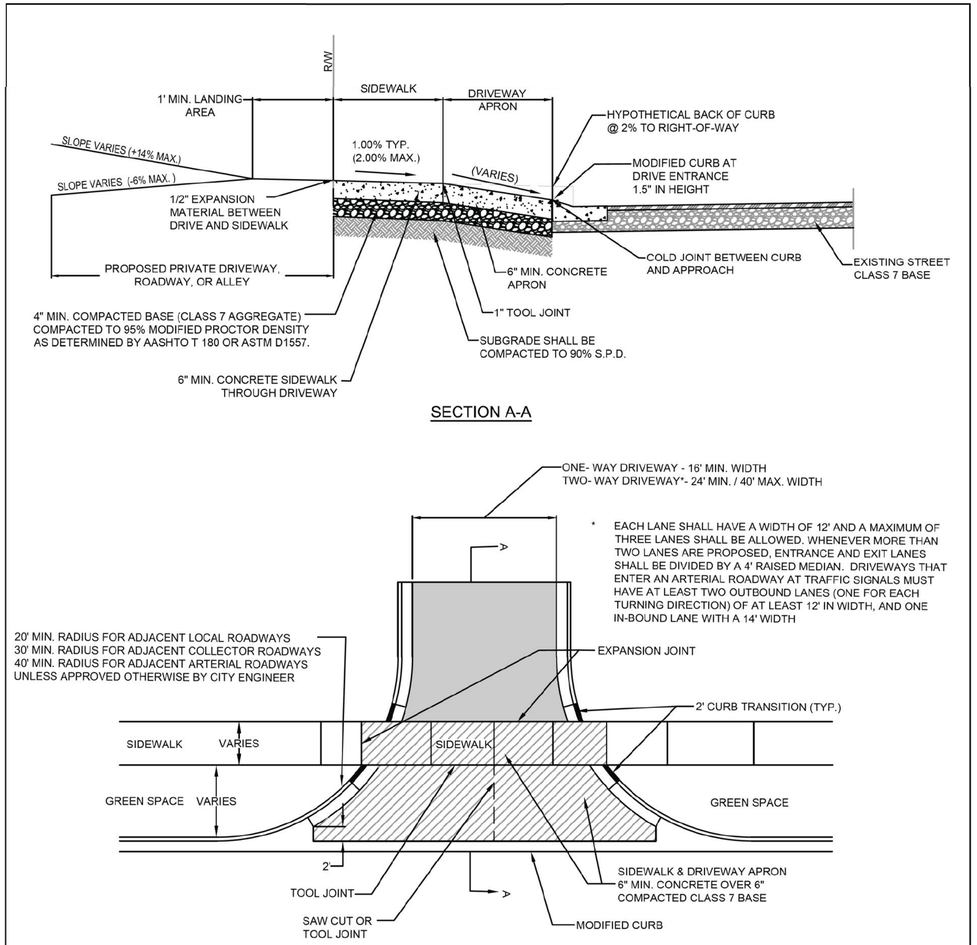
MISCELLANEOUS DETAILS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-153

LTFreedle 3/1/2023 4:09:40 PM
W:\WORKSPACE\Garver_2012_\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C151_SD.dgn
REVISED DATE:



SECTION A-A

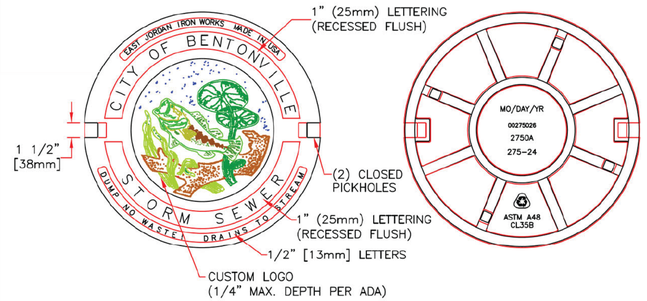
* EACH LANE SHALL HAVE A WIDTH OF 12' AND A MAXIMUM OF THREE LANES SHALL BE ALLOWED. WHENEVER MORE THAN TWO LANES ARE PROPOSED, ENTRANCE AND EXIT LANES SHALL BE DIVIDED BY A 4' RAISED MEDIAN. DRIVEWAYS THAT ENTER AN ARTERIAL ROADWAY AT TRAFFIC SIGNALS MUST HAVE AT LEAST TWO OUTBOUND LANES (ONE FOR EACH TURNING DIRECTION) OF AT LEAST 12' IN WIDTH, AND ONE IN-BOUND LANE WITH A 14' WIDTH

PLAN VIEW

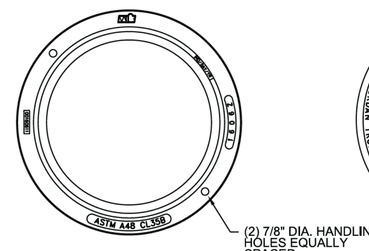
NOTES:
1. FULL DEPTH EXPANSION JOINTS (SIX INCHES) SHALL BE PROVIDED AT THE BACK OF THE SIDEWALK THROUGH THE DRIVEWAY AND AT THE EDGE OF DRIVEWAY AS SHOWN ABOVE. EXPANSION MATERIAL SHALL BE ASPHALT IMPREGNATED FIBERBOARD OR APPROVED EQUAL. (NO WOOD)
2. CONCRETE TO BE SAW CUT OR PLACE A TOOL JOINT AT THE CENTER OF DRIVE AND SEALED. IF POSSIBLE CONTRACTOR SHALL TRY TO ALIGN THE JOINT AT THE CENTER OF THE DRIVE WITH THE A JOINT IN THE ADJACENT SIDEWALK. JOINTS SHALL BE PLACED SO THAT NO SLAB DIMENSION IS GREATER THAN 15'.
3. CONCRETE FOR DRIVEWAYS SHALL BE CLASS "S" PORTLAND CEMENT CONCRETE IN ACCORDANCE WITH SECTION 802 OR 501, ARDOT STANDARD SPECIFICATIONS WITH A 28-DAY COMPRESSIVE STRENGTH OF 3,500 PSI AND 4% TO 7% AIR ENTRAINED.
4. ALL SIDEWALKS REQUIRE A CONCRETE CURING COMPOUND, SUCH AS SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL
5. ALL DRIVEWAY APRONS SHALL BE CONSTRUCTED WITH A BROOM FINISH. TEXTURED, STAMPED, OR EXPOSED AGGREGATE CONCRETE IS NOT ALLOWED WITHIN STREET RIGHT OF WAY.
6. ALL CURB CUTS FOR DRIVEWAY APPROACHES REQUIRE AN INSPECTION PRIOR TO AND AFTER CONCRETE PLACEMENT.
7. CONCRETE DRIVEWAYS SHALL BE A MINIMUM OF 6 INCHES OF CONCRETE OVER 4 INCHES OF COMPACTED CLASS 7 AGGREGATE BASE COURSE OVER PREPARED SUBGRADE. COMMERCIAL ASPHALT DRIVEWAYS BEYOND THE CONCRETE APRON SHALL BE A MINIMUM OF 3 INCHES OF ASPHALT SURFACE COURSE OVER 6 INCHES OF COMPACTED CLASS 7 AGGREGATE BASE COURSE OVER PREPARED SUBGRADE.
8. DRIVEWAY APRON AND MODIFIED CURB SHALL BE PLACED MONOLITHICALLY.

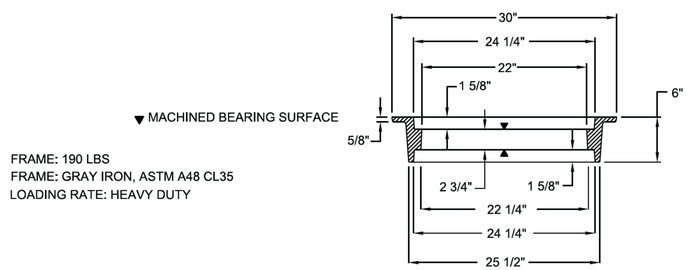
CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-8840	DESCRIPTION: STANDARD COMMERCIAL DRIVEWAY WITH GREEN SPACE TITLE: *COMMERCIAL DRIVEWAY DETAIL*	DATE: MARCH, 2021 SHEET: DW-2

1 / C-154 — STANDARD COMMERCIAL DRIVEWAY WITH GREEN SPACE
SCALE: NONE



EAST JORDAN IRON WORKS, INC. P.O. BOX 439 EAST JORDAN, MI. 49727 1-800-874-4100 FAX 231-536-4458	
DRAWN: SMH	DATE: 08/01/06
APPROVED	DATE
MANHOLE COVER (275-24)	
PRODUCT NO. **00275026**	
CATALOG NO. **2750A**	
REF. LOGO DRAWING: 00275026	
EST. WT.: COVER: 140 LBS 64kg	
OPEN AREA: N/A	
MAT'L SPEC.: COVER – GRAY IRON ASTM A48 CL35B	
LOAD RATING: **HEAVY DUTY**	





REVERSIBLE RING SECTION

2 / C-154 — STORM SEWER RING AND COVER
SCALE: NONE

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER
CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER
STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.20393 — LUKET FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

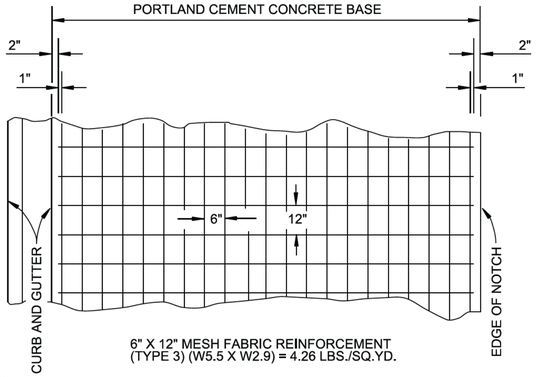
CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS
WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS
MISCELLANEOUS DETAILS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-154

LTFreedle 3/1/2023 4:09:47 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C151_SD.dgn
REVISED DATE:

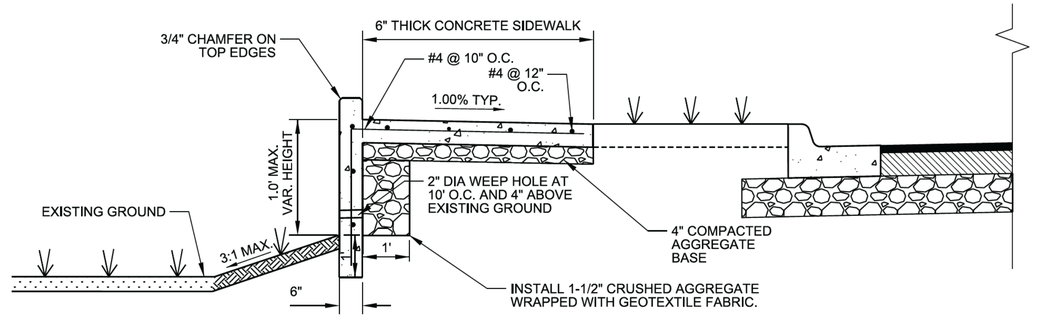


NOTES:

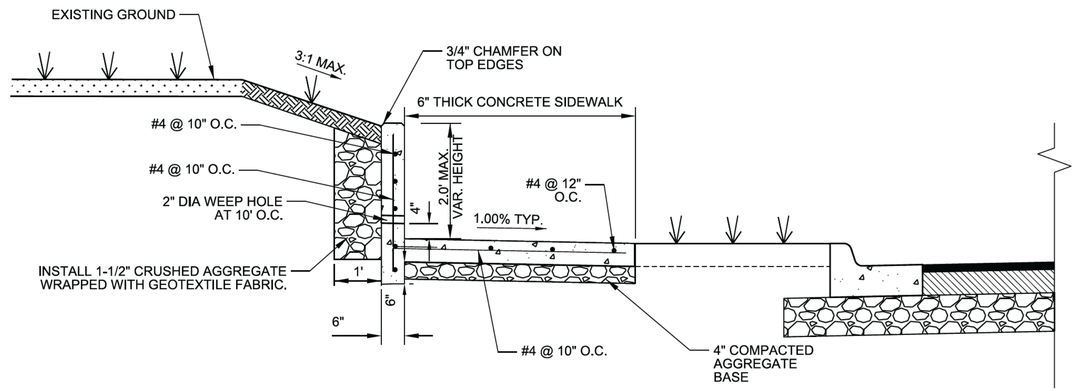
1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (6" U.T.).

1 / C-155 **P.C.C. BASE DETAIL**

NO SCALE



FILL



CUT

NOTE:
1. RETAINING WALLS CONSTRUCTED INTEGRAL WITH SIDEWALK, INCLUDING THE ADJACENT 6" THICK CONCRETE SIDEWALK, WHERE SHOWN ON THE PLANS SHALL BE MEASURED BY THE SQUARE YARD, NOT INCLUDING THE WALL, AND PAID FOR AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD FOR "RETAINING WALL INTEGRAL WITH 6"THICK SIDEWALK" WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS, INCLUDING CONCRETE, REINFORCING STEEL, WEEPHOLES, GEOTEXTILE FABRIC, AND AGGREGATE BASE; FOR STRUCTURAL EXCAVATION AND COMPACTION; FOR ALL FORMING AND BRACING; FOR MIXING, TRANSPORTING, PLACING, FINISHING, AND CURING; AND FOR ALL EQUIPMENT, TOOLS, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN PLACE AS SHOWN ON THE PLANS, AS SPECIFIED IN THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS, AND AS DIRECTED BY THE ENGINEER.
2. JOINTS IN THE WALL SHALL MATCH TYPE AND SPACING OF THE JOINTS IN THE WALK.

2 / C-155 **RETAINING WALL INTEGRAL WITH 6"THICK SIDEWALK**

SCALE: NONE

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
AND MEDICAL CENTER
PARKWAY IMPROVEMENTS

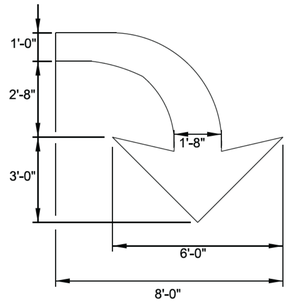
MISCELLANEOUS DETAILS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

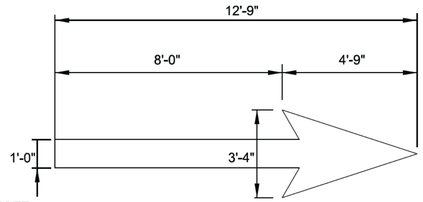
DRAWING NUMBER
C-155

LTFreedle 3/1/2023 4:09:56 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C155_SD.dgn
REVISED DATE:



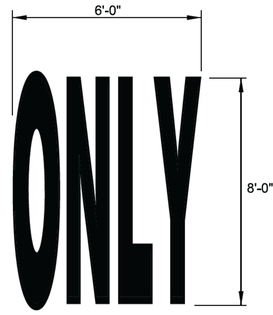
NOTE:
PAVEMENT MARKING TO BE THERMOPLASTIC MATERIAL.

1 C-156 **TURN LANE USE ARROW**
NO SCALE



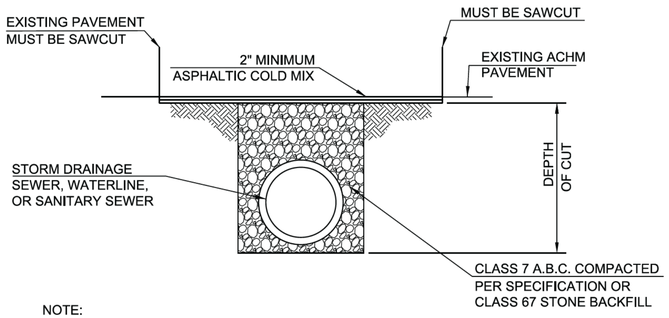
NOTE:
PAVEMENT MARKING TO BE THERMOPLASTIC MATERIAL.

2 C-156 **THROUGH LANE USE ARROW**
NO SCALE



NOTE:
PAVEMENT MARKING TO BE WHITE THERMOPLASTIC MATERIAL.

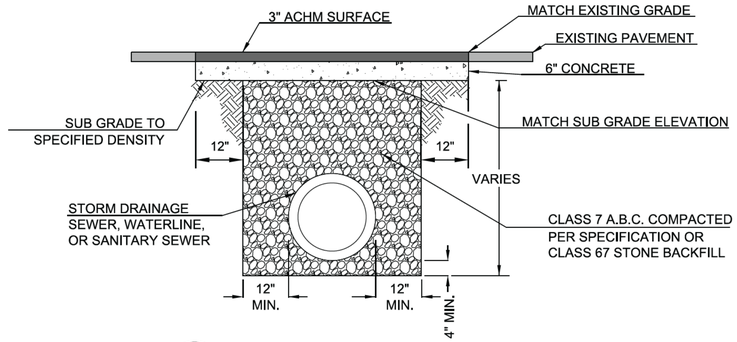
3 C-156 **"ONLY" MARKING DETAIL**
NO SCALE



NOTE:

1. ASPHALTIC COLD MIX SHALL BE PAID FOR AS SQUARE YARDS OF TEMPORARY PAVEMENT REPAIR PER SECTION I-8 - PAVEMENT REPAIRS OF THE SPECIFICATIONS. PIPE BACKFILL SHALL BE CONSIDERED SUBSIDIARY TO THE PIPE.

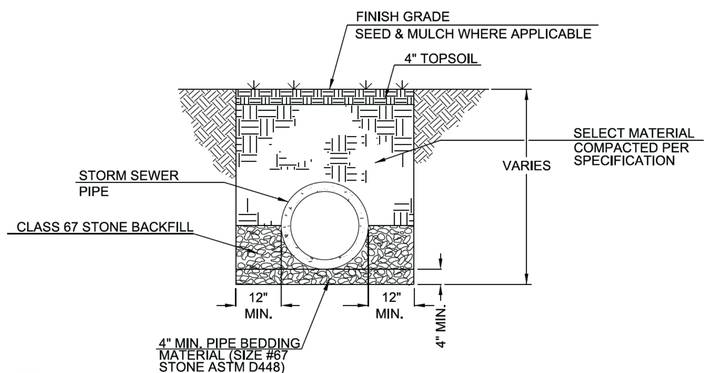
4 C-156 **ASPHALT PAVEMENT TEMPORARY REPAIR DETAIL**
NO SCALE



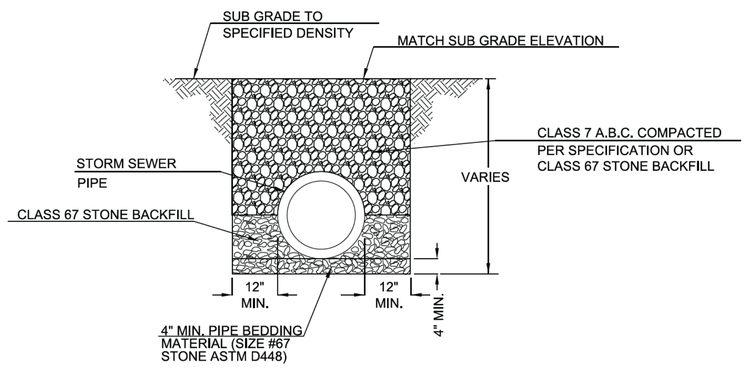
NOTES:

1. ASPHALT SURFACE COURSE AND CONCRETE SHALL BE PAID FOR AS SQUARE YARDS OF "ASPHALT PAVEMENT REPAIR" PER SECTION I-8 - PAVEMENT REPAIRS. PIPE BACKFILL SHALL BE CONSIDERED SUBSIDIARY TO INSTALLATION OF PIPE.

5 C-156 **ASPHALT PAVEMENT PERMANENT REPAIR**
NO SCALE



6 C-156 **TYPICAL DRAINAGE PIPE TRENCH - NOT UNDER PAVEMENT**
NO SCALE



7 C-156 **TYPICAL DRAINAGE PIPE TRENCH - PAVED AREAS**
NO SCALE

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEERING

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
AND MEDICAL CENTER
PARKWAY IMPROVEMENTS

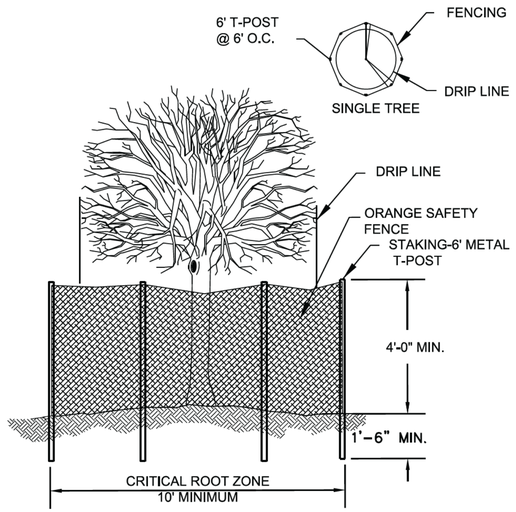
MISCELLANEOUS DETAILS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

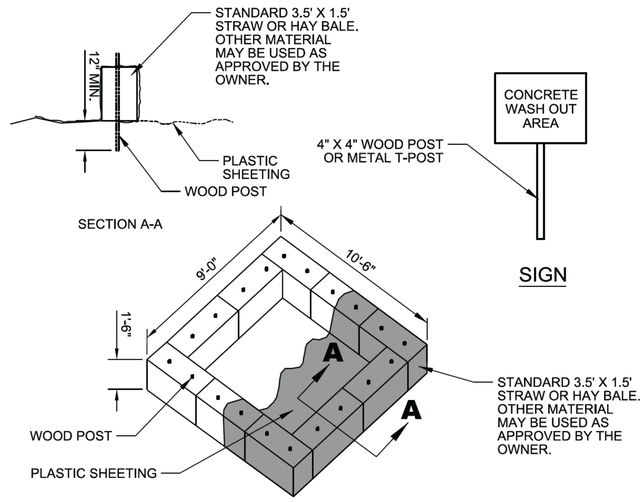
DRAWING NUMBER
C-156

LTFreedle 3/1/2023 4:09:57 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C155_SD.dgn
REVISED DATE:



1. ALL TREES WITHIN THE PROJECT LIMITS TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING. TREE PROTECTION FENCING SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO EROSION CONTROL.
2. PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
3. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIPLINES.
4. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
5. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.
6. ALL FINISHED PRUNING MUST BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES).

1 / C-157 TREE PROTECTION FENCING
NO SCALE



CONCRETE WASH OUT AREA NOTES:

1. PLASTIC SHEETING MUST BE 10 MIL THICK OR TWO 6 MIL PIECES OVERLAPPED.
2. ONCE CONCRETE DRIES, IT CAN BE ROLLED UP IN THE PLASTIC.
3. HAY BALES MUST BE STAKED WITH POSTS HOLDING PLASTIC LINER IN PLACE AND COVERING ALL BALES. WOODEN POSTS MUST BE 3 FEET IN LENGTH.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A WASH OUT AREA.
5. THE CONCRETE TRUCK DRIVER AND CONTRACTOR CAN BE CITED FOR WASH OUTS CONDUCTED IN A NON-DESIGNATED AREA.
6. AFTER THE DESIGNATED AREA FOR THE WASH OUT IS DETERMINED, SIGNAGE INDICATING CONCRETE WASH OUT AREA SHALL BE INSTALLED THAT IS VISIBLE TO EXITING VEHICLES. THE SIGN SHALL BE PLACED ON A WOOD POST AND EMBEDED 12".

2 / C-157 CONCRETE WASH OUT AREA DETAIL
NO SCALE

GARVER
© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
AND MEDICAL CENTER
PARKWAY IMPROVEMENTS

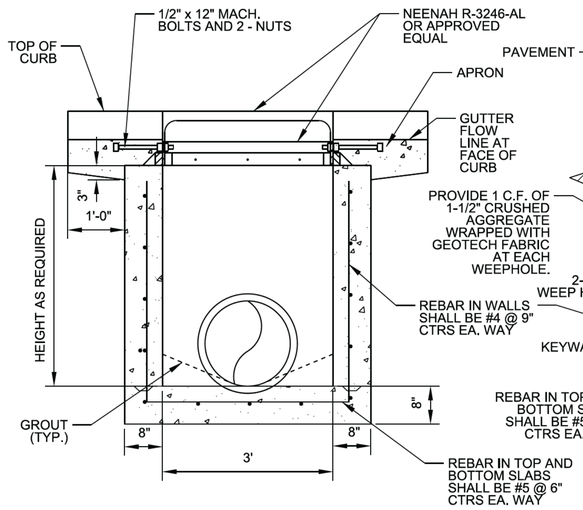
MISCELLANEOUS DETAILS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

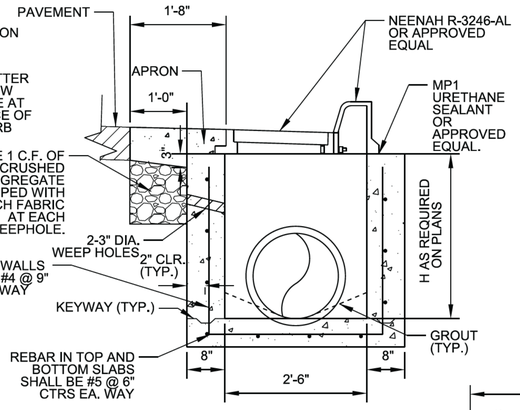
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-157

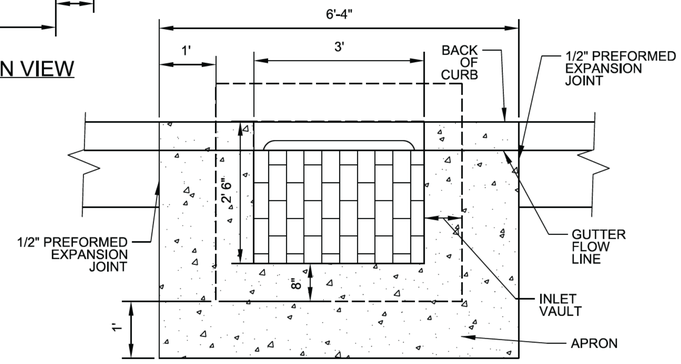
LTFreedle 3/1/2023 4:09:57 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C155_SD.dgn
REVISED DATE:



FRONT VIEW

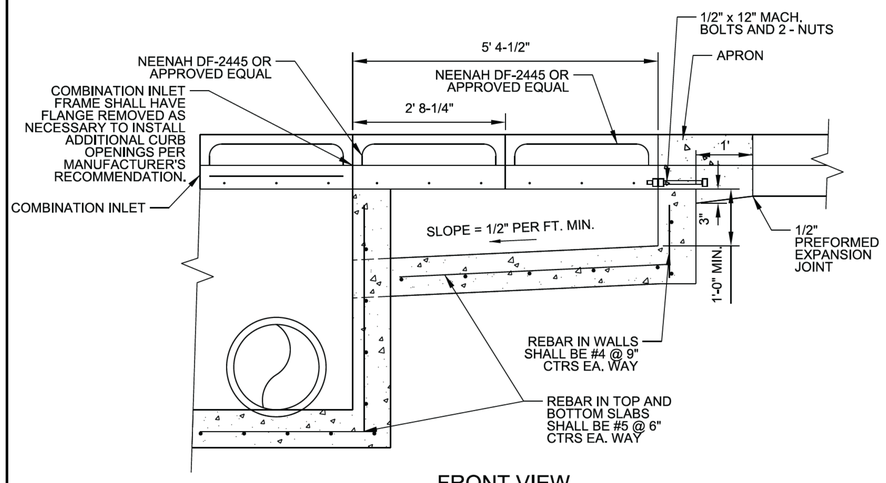


SECTION VIEW

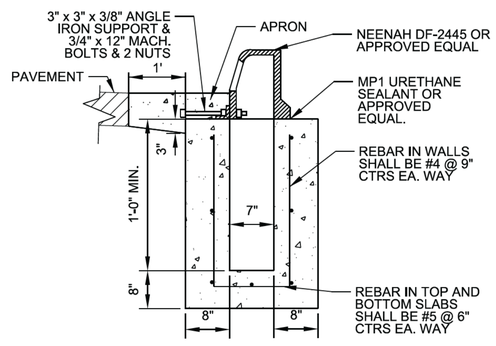


PLAN VIEW

1 C-158 **SINGLE GRATE COMBINATION INLET**
NO SCALE



FRONT VIEW



SECTION VIEW

2 C-158 **ADDITIONAL CURB OPENING(S)**
NO SCALE

COMBINATION INLET NOTES:

1. THE APRON AROUND THE INLET SHALL BE THE SAME SIZE AS SHOWN AND BUILT OF P.C. CONCRETE TO A MINIMUM 8" THICKNESS. COST OF APRON TO BE INCLUDED IN THE PRICE BID FOR INLET.
2. BOLTS WITH EXPANSION DEVICES OR EPOXY TYPE PUTTY TO BE USED TO INSTALL CURB OPENINGS INTO CONCRETE CURB.
3. THE GRATE DESIGN, JUNCTION BOX DIMENSIONS (IF APPLICABLE), AND NUMBER OF ADDITIONAL CURB OPENINGS SHALL BE INDICATED IN THE PLANS.
4. ALL NUTS AND BOLTS REQUIRED FOR THESE STRUCTURES SHALL BE CADMIUM PLATED, GALVANIZED, OR APPROVED EQUAL.
5. CURB OPENING SHALL BE PLACED ON UPSTREAM SIDE OF GRATE INLETS FOR TYPICAL INSTALLATIONS UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER.
6. GUTTER FLOW LINES SHALL REMAIN CONSTANT THROUGH CURB OPENINGS AND INLETS.
7. SINGLE GRATE COMBINATION INLET FRAME, CRATE, AND CURB BOX SHALL BE NEENAH R-3246-AL OR APPROVED EQUAL.
8. DOUBLE GRATE COMBINATION INLET FRAME, GRATE, AND CURB BOX SHALL BE NEENAH R-3293-2 OR APPROVED EQUAL.
9. TRIPLE GRATE COMBINATION INLET FRAME, GRATE, AND CURB BOX SHALL BE NEENAH R-3293-3 OR APPROVED EQUAL.
10. ADDITIONAL CURB OPENINGS SHALL BE NEENAH DF-2445 OR APPROVED EQUAL.
11. COST OF STRUCTURAL STEEL I-BEAMS AND ANGLE IRON TO BE INCLUDED IN THE PRICE BID FOR INLET. ANGLE IRON SHALL CONFORM TO ASTM-A7 OR A36
12. CASTING SHALL CONFORM TO ASTM SPECIFICATION FOR GREY IRON CASTINGS, SERIAL DESIGNATION A-48-CLASS 20.
13. IF PRECAST INLET IS USED, CLASS 7 AGGREGATE BASE MUST BE USED AS BACKFILL AROUND THE ENTIRE INLET.
14. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
15. ALL REINFORCEMENT BARS SHALL BE GRADE 60 AND SHALL HAVE A MINIMUM 2" COVER UNLESS OTHERWISE NOTED.
16. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI.
17. INVERTS SHALL BE POURED MONOLITHICALLY WITH FOOTING.
18. PIPE MAY ENTER BOX FROM ANY ANGLE OR ELEVATION AS DIRECTED BY THE ENGINEER. REINFORCING BARS SHALL BE CUT TO CLEAR PIPE BY 2".
19. EXPANSION JOINTS SHALL HAVE A THICKNESS OF 1/2" AND CONFORM TO AASHTO M213.
20. REFER TO PLAN AND PROFILE SHEETS TO DETERMINE QUANTITY OF ADDITIONAL CURB OPENINGS (IF ANY) AND ACCOMPANYING JUNCTION BOX DIMENSIONS.
21. STEPS ARE REQUIRED IN STORM DRAIN MANHOLES THAT ARE AT 4 FT DEPTH AND GREATER (FROM INVERT TO RIM). CENTERLINE OF MANHOLE LID SHALL BE 2 FT FROM THE WALL WHERE STEPS ARE LOCATED. STEPS (5" X 12") SHALL BE COPOLYMER POLYPROPYLENE PLASTIC WITH STEEL CORE AT 16" APART.
22. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF INLETS, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED FOR THIS WORK SHALL BE APPROVED BY THE ENGINEER.
23. ALL GRATES, FRAMES, AND CURB BOX OPENINGS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
24. ALL GRATES SHALL BE TYPE L UNLESS OTHERWISE SPECIFIED.

GARVER
© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

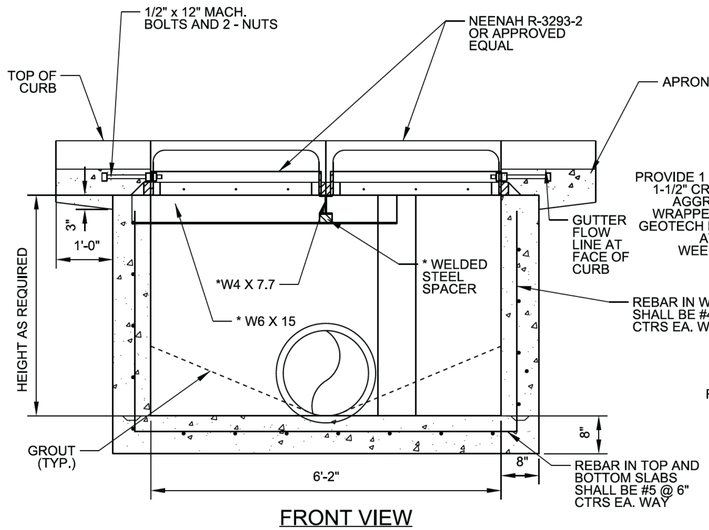
MISCELLANEOUS DETAILS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

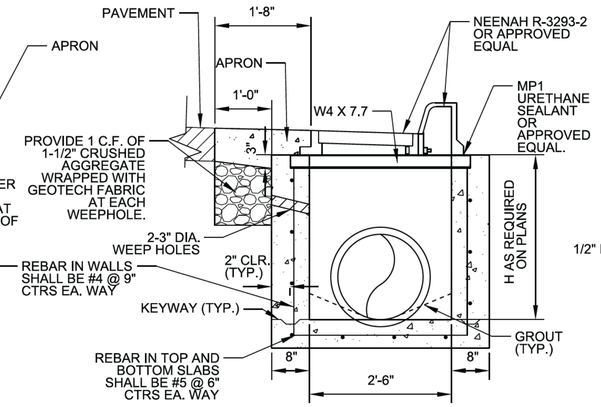
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-158

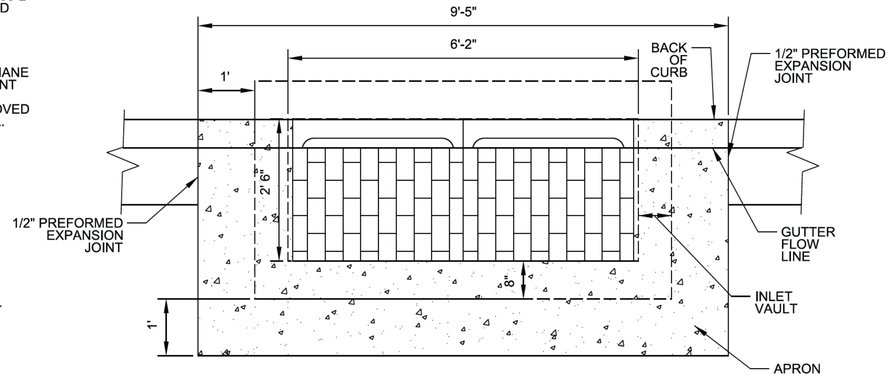
LTFreedle 3/1/2023 4:09:57 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C155_SD.dgn
REVISED DATE:



FRONT VIEW



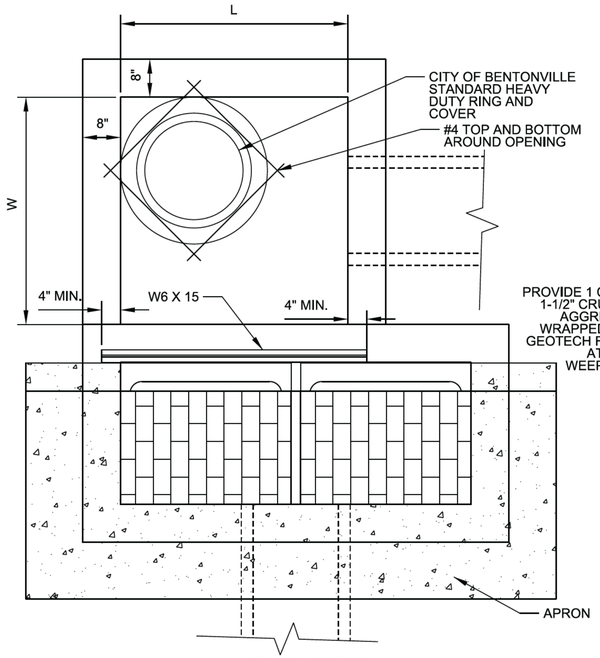
SECTION VIEW



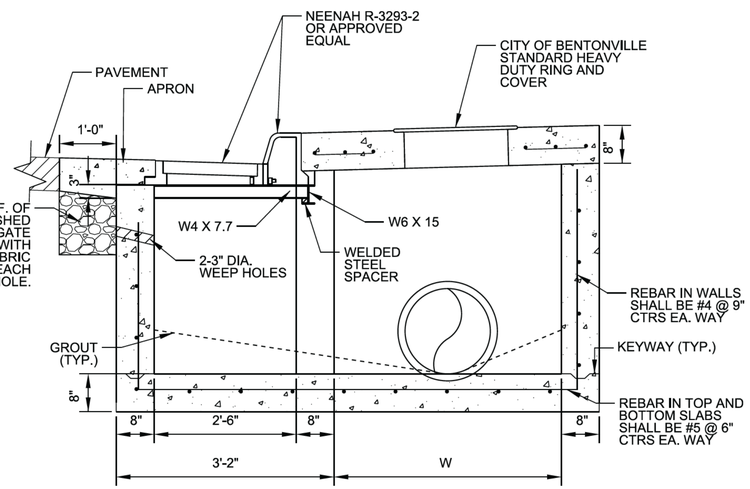
PLAN VIEW

* WELDED STEEL SPACER AND W6 X 15 USED IN CONJUNCTION WITH ADDITION OF JUNCTION BOX PER BEAM SUPPORT DETAIL. (CUT TOP FLANGE OF W4 X7.7 TO FIT AS SHOWN)

1 / C-159 **DOUBLE GRATE COMBINATION INLET**
NO SCALE

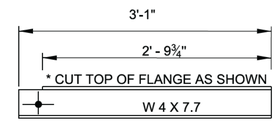


PLAN VIEW

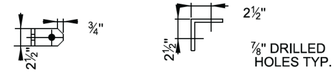


SECTION VIEW

2 / C-159 **DOUBLE GRATE COMBINATION INLET WITH JUNCTION BOX**
NO SCALE



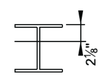
* ONLY WHEN CONNECTING TO W6 X15



4" x 4" x ⅜" x 2 ½" CONNECTION CLIPS

1 - W 4 X 7.7 AND 2 - 4" x 4" x ⅜" x 2½ CONNECTION CLIPS FOR ANY DOUBLE GRATE CONFIGURATION

2 - W 4 X 7.7 AND 4 - 4" x 4" x ⅜" x 2½ CONNECTION CLIPS FOR ANY TRIPLE GRATE CONFIGURATION



W6 x 15 x (LENGTH OF JUNCTION BOX PLUS 8") FOR ANY GRATE CONFIGURATION

1. LOWER DRILLED HOLES ⅜" WHEN STRUCTURE IS BUILT ON A CURVED CURB.

3 / C-159 **COMBINATION INLET BEAM SUPPORT**
NO SCALE

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

BY	DESCRIPTION	DATE	REV.

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

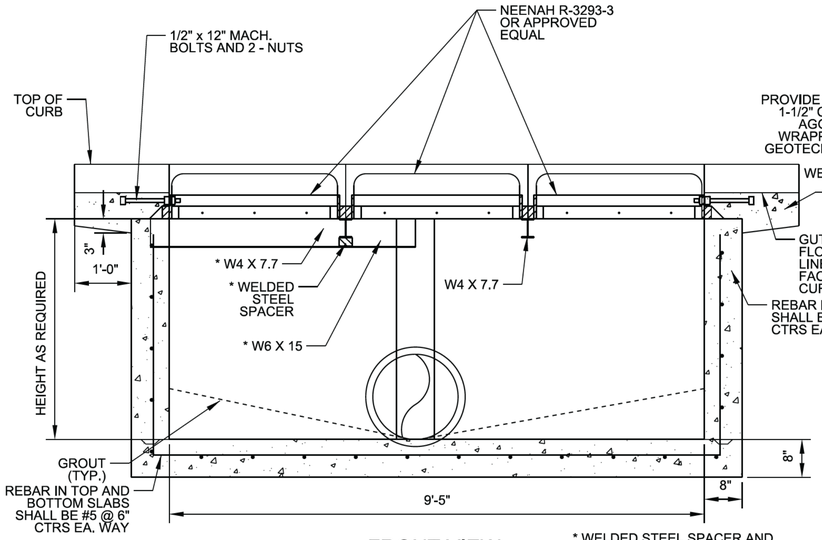
MISCELLANEOUS DETAILS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

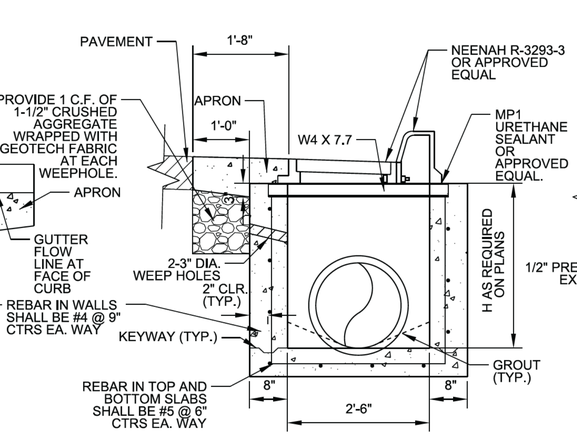
DRAWING NUMBER
C-159

LTFreedle 3/1/2023 4:09:58 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Impa\Drawings\WMC_C155_SD.dgn
REVISED DATE:

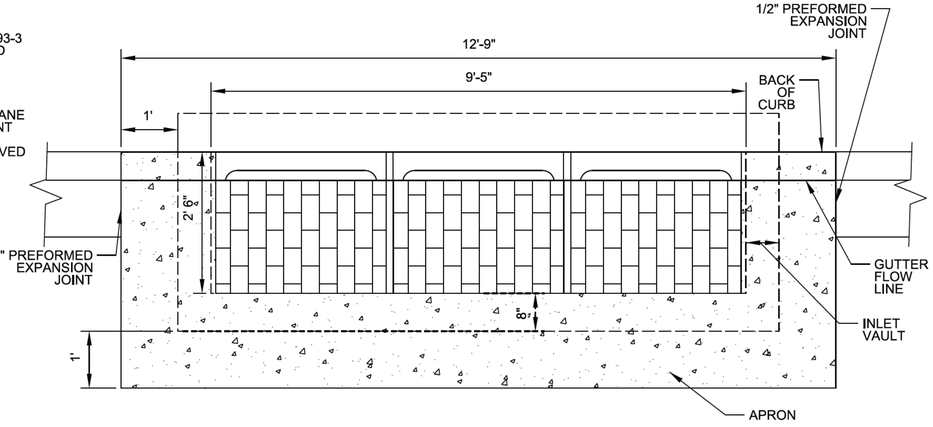


FRONT VIEW

* WELDED STEEL SPACER AND W6 X 15 USED IN CONJUNCTION WITH ADDITION OF JUNCTION BOX PER BEAM SUPPORT DETAIL. (CUT TOP FLANGE OF W4 X7.7 TO FIT AS SHOWN)



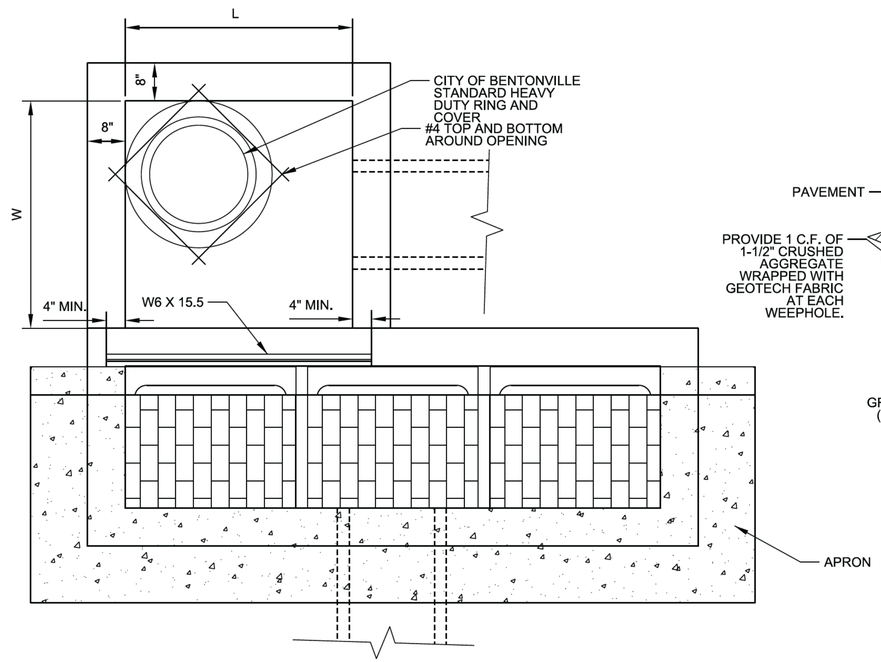
SECTION VIEW



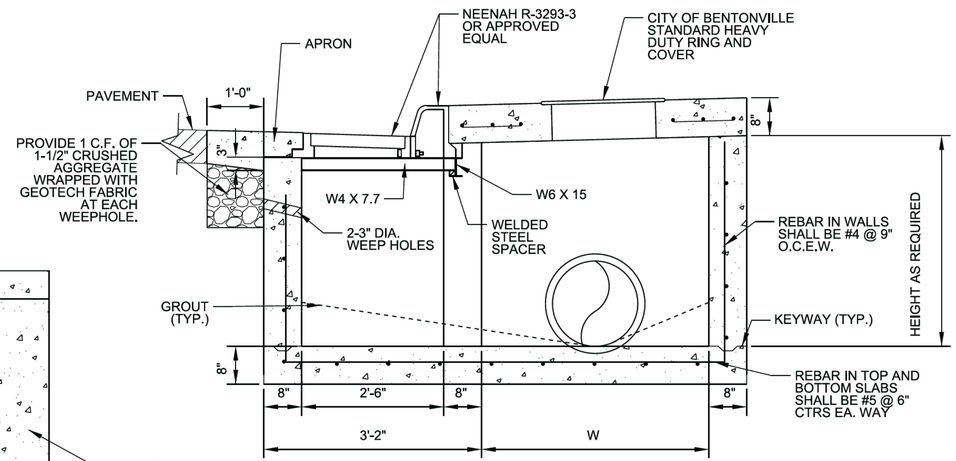
PLAN VIEW

1 C-160 TRIPLE GRATE COMBINATION INLET

NO SCALE



PLAN VIEW



SECTION VIEW

2 C-160 TRIPLE GRATE COMBINATION INLET WITH JUNCTION BOX

NO SCALE

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

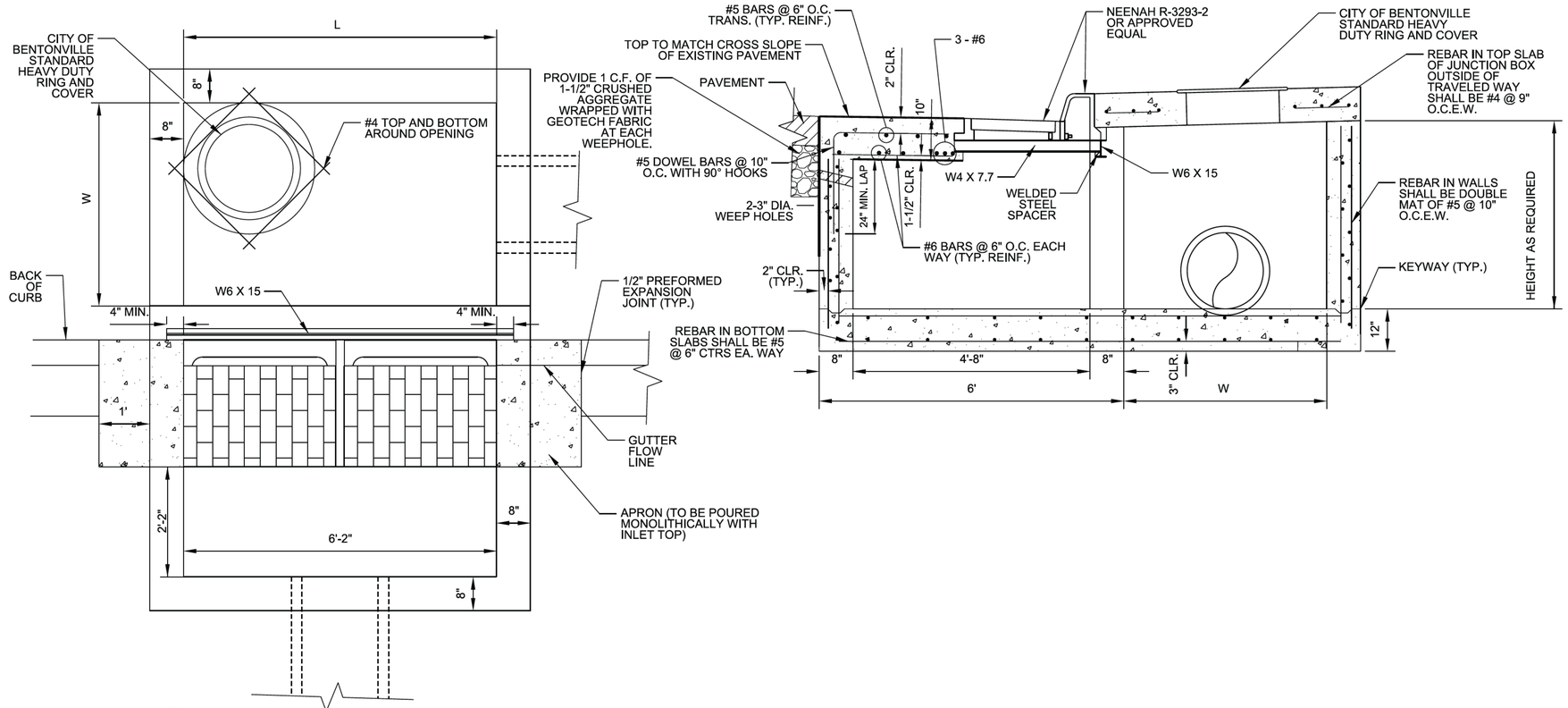
MISCELLANEOUS DETAILS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-160

LTFreedle 3/1/2023 4:09:58 PM
WORKSPACE=Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C155_SD.dgn
REVISED DATE:



1 C-161

SPECIAL DOUBLE GRATE COMBINATION INLET WITH JUNCTION BOX

NO SCALE

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-161

LTFreedle 3/1/2023 4:09:59 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C155_SD.dgn
REVISED DATE:

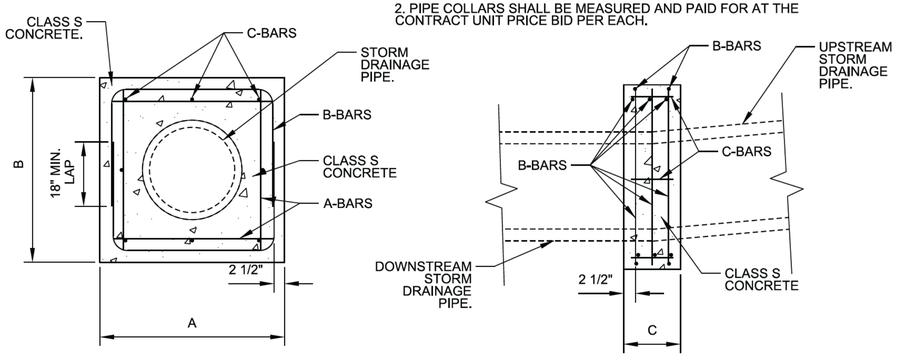


BENDING DIAGRAM FOR B-BARS

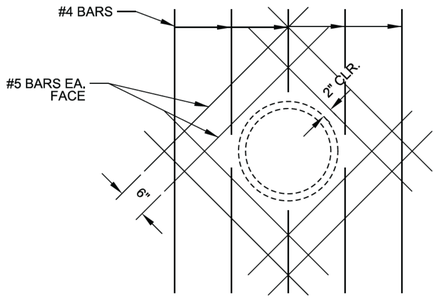
TABLE OF DIMENSIONS					
SIZE OF PIPE	DIMENSIONS		LENGTH OF BARS		
DIAMETER (IN.)	A & B (FT. - IN.)	C (FT. - IN.)	A (#5) 12 REQUIRED (FT. - IN.)	B (#6) 4 REQUIRED (FT. - IN.)	C (#4) 8 REQUIRED (FT. - IN.)
18	3-3	1-0	3-0	7-0	0-9
24	3-10	1-0	3-6	8-2	0-9

NOTES:

1. CONCRETE PIPE COLLARS SHALL MEET THE REQUIREMENTS OF CLASS S CONCRETE.
2. PIPE COLLARS SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE BID PER EACH.

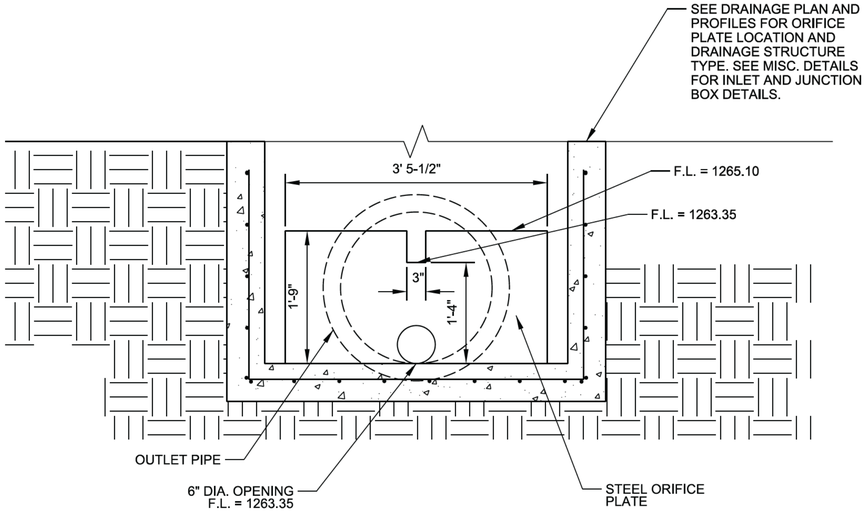


1 C-162 **PIPE COLLAR**
NO SCALE



THE R.C. PIPE SHALL BE CUT FLUSH WITH THE FRONT FACE OF THE RETAINING WALL. AN APPROVED GROUT SHALL BE USED TO FILL ANY VOIDS BETWEEN THE RETAINING WALL AND R.C. PIPE. LABOR AND MATERIAL SHALL BE CONSIDERED SUBSIDIARY TO CONCRETE RETAINING WALL.

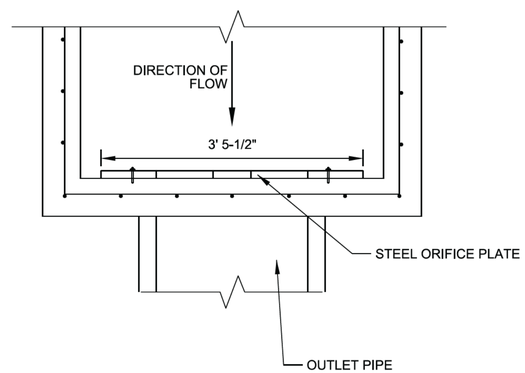
2 C-162 **REINFORCING DETAIL FOR 18" R.C. PIPE OUTLET THROUGH RETAINING WALL**
NO SCALE



FRONT VIEW

NOTES:

1. STEEL PLATE TO OVERLAP OUTLET PIPE 6" MIN. ON EITHER SIDE.
2. ANCHOR BOLTS SHALL CONNECT THE STEEL PLATE TO THE OUTLET STRUCTURE AND SHALL HAVE A MAXIMUM VERTICAL SPACING OF 12".
3. STEEL SHALL BE STAINLESS OR GALVANIZED.
4. ORIFICE PLATES SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO THE PRICE BID PER EACH INLET OR JUNCTION BOX.



TOP VIEW

3 C-162 **ORIFICE PLATE DETAIL**
NO SCALE

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.20393 — LUKE T. FREEDLE

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

MISCELLANEOUS DETAILS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-162

LTFreedle 3/1/2023 4:09:58 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C155_SD.dgn
REVISED DATE:

EROSION CONTROL NOTES

1. THE SYMBOLS SHOWN ON THE EROSION CONTROL PLAN SHEETS REPRESENT EROSION CONTROL DEVICES AS DETAILED IN THE ARDOT STANDARD ROADWAY DRAWINGS. THE SYMBOLS ARE NOT TO SCALE AND REPRESENT THE GENERAL LOCATION TO WHICH THE DEVICES SHALL BE PLACED.
2. EROSION AND SEDIMENT CONTROL FEATURES SHALL BE PLACED PRIOR TO THE EXCAVATION OPERATIONS.
3. EROSION CONTROL MEASURES IN ADDITION TO THOSE SHOWN IN THE PLANS WILL BE REQUIRED AT INTERMEDIATE STAGES AS REQUIRED BY THE CONTRACTOR'S CONSTRUCTION SEQUENCE.
4. ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS. CONTRACTOR MAY CHOOSE TO UTILIZE ALTERNATIVE EROSION CONTROL PRODUCTS SUCH AS SILT FENCE AS APPROVED BY THE ENGINEER.
5. ALL EROSION CONTROL DEVICES SHALL BE INSTALLED AS SHOWN ON ARDOT STANDARD DRAWING TEC-1 ACCORDING TO THE DEVICE DESIGNATION.
6. CONCRETE WASHOUT SHALL BE LOCATED IN THE STAGING AREA IN A LOCATION APPROVED BY THE ENGINEER.
7. POST GRADING SLOPES WILL NOT BE SIGNIFICANTLY STEEPER THAN EXISTING GRADES.
8. AREAS WHERE CONSTRUCTION CEASES FOR MORE THAN 14 DAYS SHALL BE STABILIZED IN ACCORDANCE WITH SWPPP AND SPECIFICATIONS.
9. CONTRACTOR SHALL EMPLOY BEST MANAGEMENT PRACTICES TO PREVENT AND CONTROL DUST IN AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST.
10. IN THE EVENT OF A SPILL WHICH MAY BE HAZARDOUS, ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF AS SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE PRODUCT MANUFACTURER.
11. SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAPS WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
12. PRIOR TO LEAVING THE CONSTRUCTION SITE, STORMWATER RUNOFF MUST PASS THROUGH APPROPRIATE SEDIMENT REMOVAL BEST MANAGEMENT PRACTICE.
13. CONTRACTOR SHALL SCHEDULE AND COMPLETE SWPPP INSPECTION WITH THE CITY OF BENTONVILLE AFTER BMP INSTALLATION AND PRIOR TO SITE DISTURBANCE.

SEQUENCE OF CONSTRUCTION OF EROSION AND SEDIMENT CONTROL FEATURES:

STAGE 1

1. INSTALL FILTER SOCKS.
2. CLEARING/GRUBBING ACTIVITIES.
3. INSTALL DITCH CHECKS.
4. PERFORM EARTHWORK OPERATIONS AND INSTALL DRAINAGE.

STAGE 2

1. INSTALL INLET PROTECTION.
2. CONSTRUCT REMAINDER OF ROADWAY.
3. TEMPORARY SEEDING/SODDING.
4. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL FEATURES AFTER FINAL STABILIZATION.

EROSION CONTROL MEASURES ARE TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

CONSTRUCTION POLLUTION PREVENTION PLAN:

THE TEMPORARY EROSION CONTROL POLICIES SHOWN ON THE PLANS SHOW THE ENGINEERS ESTIMATE OF A MINIMUM EFFORT NEEDED TO MAINTAIN PROPER EROSION CONTROL DURING CONSTRUCTION. SEE THE SPECIFICATIONS FOR FURTHER INFORMATION.

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- FLOW DIRECTION ARROW
- E-3 - FILTER SOCK
- E-6 - ROCK DITCH CHECK
- TREE PROTECTION FENCING
- LIMITS OF SOIL DISTURBANCE
- E-13 - FILTER SOCK DROP INLET PROTECTION
- PROJECT LIMITS
- CW - CONCRETE WASHOUT

ROADWAY SIDE SLOPES
ALL ROADWAYS: VARIES: 33.00% TYPICAL, 33.00% MAXIMUM

PROJECT AREA: 2.54 ACRES
DISTURBED AREA: 0.82 ACRES

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER
CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

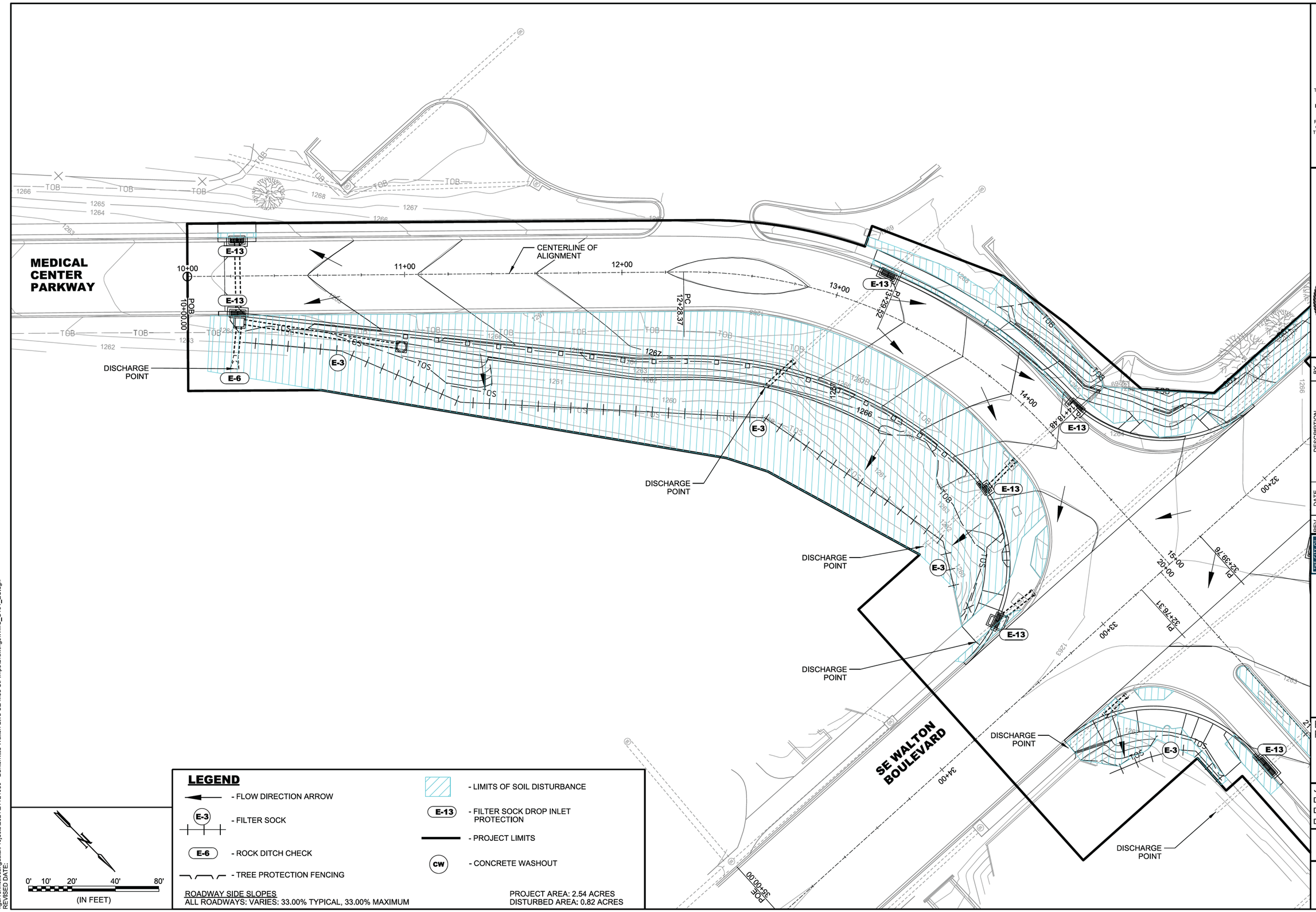
EROSION CONTROL NOTES

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-190

LTFreedle 3/1/2023 4:10:00 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C190_EC.dgn
REVISED DATE:



LEGEND

- FLOW DIRECTION ARROW
- E-3 - FILTER SOCK
- E-6 - ROCK DITCH CHECK
- TREE PROTECTION FENCING
- LIMITS OF SOIL DISTURBANCE
- E-13 - FILTER SOCK DROP INLET PROTECTION
- PROJECT LIMITS
- CW - CONCRETE WASHOUT

ROADWAY SIDE SLOPES
ALL ROADWAYS: VARIES: 33.00% TYPICAL, 33.00% MAXIMUM

PROJECT AREA: 2.54 ACRES
DISTURBED AREA: 0.82 ACRES

LTFreedle 3/1/2023 4:10:02 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C191_EC.dgn
REVISED DATE:

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

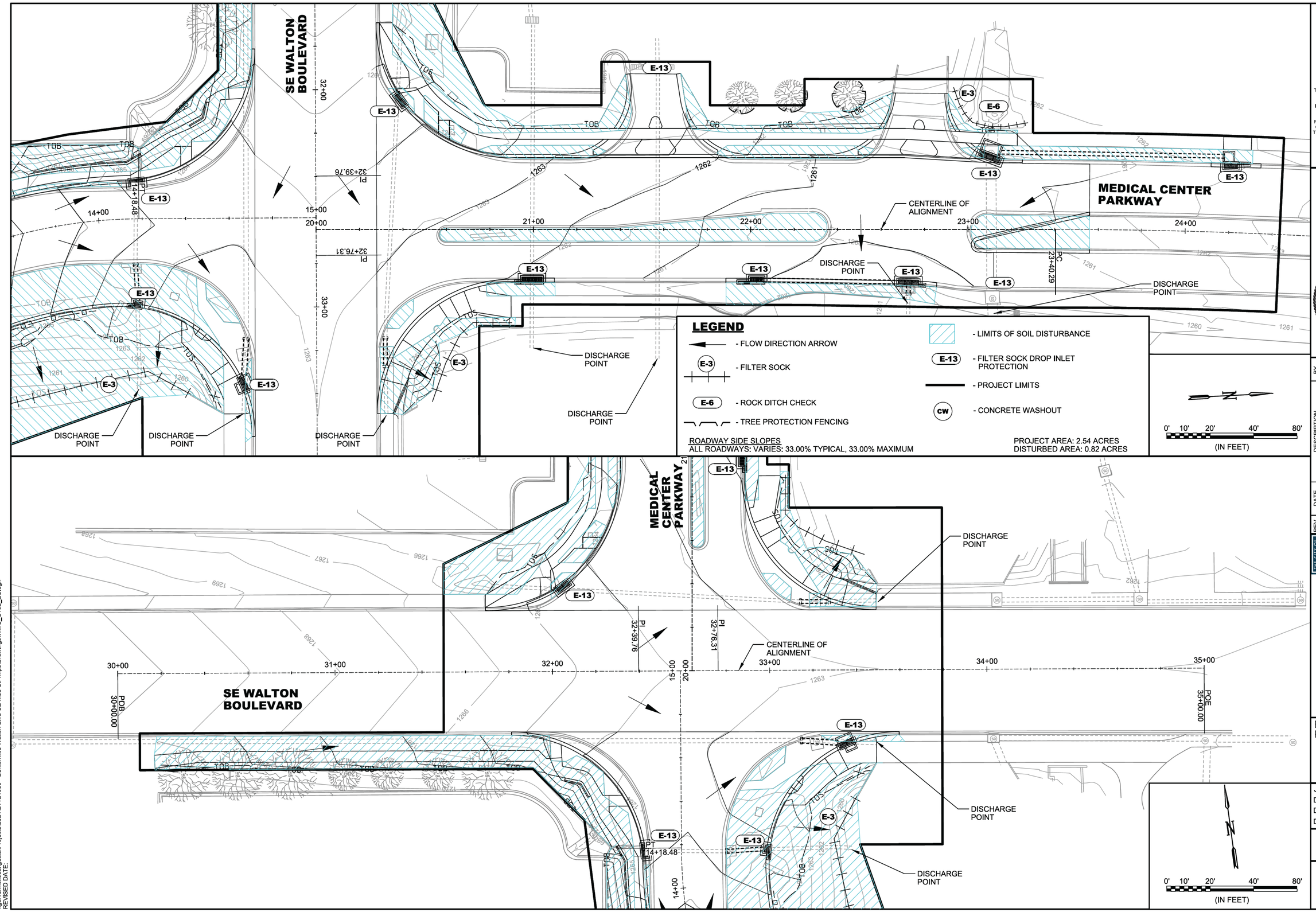
WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

EROSION CONTROL PLAN

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-191



GARVER
© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

EROSION CONTROL PLAN

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-192

LTFreedle 3/1/2023 4:10:03 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C192_EC.dgn
REVISED DATE:

ADVANCED WARNING SIGN NOTES:

ADVANCE WARNING SIGNS SHOWN ON THIS SHEET SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO THE START OF ANY CONSTRUCTION.

ADVANCE WARNING SIGNS SHALL NOT OBSTRUCT THE VIEW OF AN EXISTING SIGN, BUT SHALL BE LOCATED IN A POSITION TO MAINTAIN CLEAR VISIBILITY.

ADDITIONAL SIGNS AS NECESSARY INCLUDING BUT NOT LIMITED TO SPEED REDUCTION, LANE SHIFTS, LANE CLOSURES, ETC..., SHALL BE PROPOSED BY THE CONTRACTOR WITHIN THE CONTRACTOR'S SUBMITTAL.

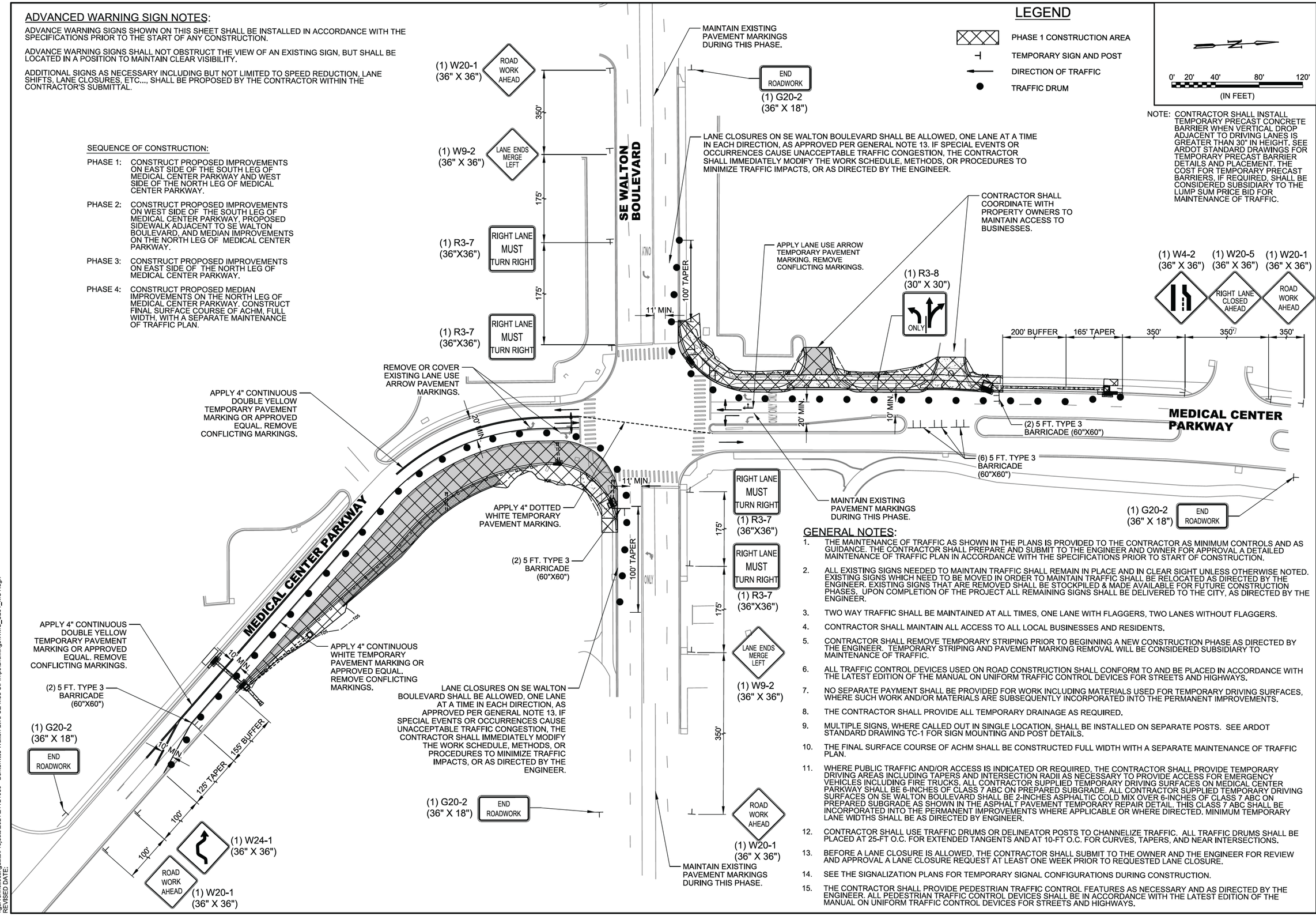
SEQUENCE OF CONSTRUCTION:

PHASE 1: CONSTRUCT PROPOSED IMPROVEMENTS ON EAST SIDE OF THE SOUTH LEG OF MEDICAL CENTER PARKWAY AND WEST SIDE OF THE NORTH LEG OF MEDICAL CENTER PARKWAY.

PHASE 2: CONSTRUCT PROPOSED IMPROVEMENTS ON WEST SIDE OF THE SOUTH LEG OF MEDICAL CENTER PARKWAY. PROPOSED SIDEWALK ADJACENT TO SE WALTON BOULEVARD, AND MEDIAN IMPROVEMENTS ON THE NORTH LEG OF MEDICAL CENTER PARKWAY.

PHASE 3: CONSTRUCT PROPOSED IMPROVEMENTS ON EAST SIDE OF THE NORTH LEG OF MEDICAL CENTER PARKWAY.

PHASE 4: CONSTRUCT PROPOSED MEDIAN IMPROVEMENTS ON THE NORTH LEG OF MEDICAL CENTER PARKWAY. CONSTRUCT FINAL SURFACE COURSE OF ACHM, FULL WIDTH, WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.



LEGEND

- PHASE 1 CONSTRUCTION AREA
- TEMPORARY SIGN AND POST
- DIRECTION OF TRAFFIC
- TRAFFIC DRUM

0' 20' 40' 80' 120'
(IN FEET)

NOTE: CONTRACTOR SHALL INSTALL TEMPORARY PRECAST CONCRETE BARRIER WHEN VERTICAL DROP ADJACENT TO DRIVING LANES IS GREATER THAN 30" IN HEIGHT. SEE ARDOT STANDARD DRAWINGS FOR TEMPORARY PRECAST BARRIER DETAILS AND PLACEMENT. THE COST FOR TEMPORARY PRECAST BARRIERS, IF REQUIRED, SHALL BE CONSIDERED SUBSIDIARY TO THE LUMP SUM PRICE BID FOR MAINTENANCE OF TRAFFIC.

GENERAL NOTES:

1. THE MAINTENANCE OF TRAFFIC AS SHOWN IN THE PLANS IS PROVIDED TO THE CONTRACTOR AS MINIMUM CONTROLS AND AS GUIDANCE. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER AND OWNER FOR APPROVAL A DETAILED MAINTENANCE OF TRAFFIC PLAN IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO START OF CONSTRUCTION.
2. ALL EXISTING SIGNS NEEDED TO MAINTAIN TRAFFIC SHALL REMAIN IN PLACE AND IN CLEAR SIGHT UNLESS OTHERWISE NOTED. EXISTING SIGNS WHICH NEED TO BE MOVED IN ORDER TO MAINTAIN TRAFFIC SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXISTING SIGNS THAT ARE REMOVED SHALL BE STOCKPILED & MADE AVAILABLE FOR FUTURE CONSTRUCTION PHASES. UPON COMPLETION OF THE PROJECT ALL REMAINING SIGNS SHALL BE DELIVERED TO THE CITY, AS DIRECTED BY THE ENGINEER.
3. TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, ONE LANE WITH FLAGGERS, TWO LANES WITHOUT FLAGGERS.
4. CONTRACTOR SHALL MAINTAIN ALL ACCESS TO ALL LOCAL BUSINESSES AND RESIDENTS.
5. CONTRACTOR SHALL REMOVE TEMPORARY STRIPING PRIOR TO BEGINNING A NEW CONSTRUCTION PHASE AS DIRECTED BY THE ENGINEER. TEMPORARY STRIPING AND PAVEMENT MARKING REMOVAL WILL BE CONSIDERED SUBSIDIARY TO MAINTENANCE OF TRAFFIC.
6. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO AND BE PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
7. NO SEPARATE PAYMENT SHALL BE PROVIDED FOR WORK INCLUDING MATERIALS USED FOR TEMPORARY DRIVING SURFACES, WHERE SUCH WORK AND/OR MATERIALS ARE SUBSEQUENTLY INCORPORATED INTO THE PERMANENT IMPROVEMENTS.
8. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DRAINAGE AS REQUIRED.
9. MULTIPLE SIGNS, WHERE CALLED OUT IN SINGLE LOCATION, SHALL BE INSTALLED ON SEPARATE POSTS. SEE ARDOT STANDARD DRAWING TC-1 FOR SIGN MOUNTING AND POST DETAILS.
10. THE FINAL SURFACE COURSE OF ACHM SHALL BE CONSTRUCTED FULL WIDTH WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.
11. WHERE PUBLIC TRAFFIC AND/OR ACCESS IS INDICATED OR REQUIRED, THE CONTRACTOR SHALL PROVIDE TEMPORARY DRIVING AREAS INCLUDING TAPERS AND INTERSECTION RADII AS NECESSARY TO PROVIDE ACCESS FOR EMERGENCY VEHICLES INCLUDING FIRE TRUCKS. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON MEDICAL CENTER PARKWAY SHALL BE 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON SE WALTON BOULEVARD SHALL BE 2-INCHES ASPHALTIC COLD MIX OVER 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE AS SHOWN IN THE ASPHALT PAVEMENT TEMPORARY REPAIR DETAIL. THIS CLASS 7 ABC SHALL BE INCORPORATED INTO THE PERMANENT IMPROVEMENTS WHERE APPLICABLE OR WHERE DIRECTED. MINIMUM TEMPORARY LANE WIDTHS SHALL BE AS DIRECTED BY ENGINEER.
12. CONTRACTOR SHALL USE TRAFFIC DRUMS OR DELINEATOR POSTS TO CHANNELIZE TRAFFIC. ALL TRAFFIC DRUMS SHALL BE PLACED AT 25-FT O.C. FOR EXTENDED TANGENTS AND AT 10-FT O.C. FOR CURVES, TAPERS, AND NEAR INTERSECTIONS.
13. BEFORE A LANE CLOSURE IS ALLOWED, THE CONTRACTOR SHALL SUBMIT TO THE OWNER AND THE ENGINEER FOR REVIEW AND APPROVAL A LANE CLOSURE REQUEST AT LEAST ONE WEEK PRIOR TO REQUESTED LANE CLOSURE.
14. SEE THE SIGNALIZATION PLANS FOR TEMPORARY SIGNAL CONFIGURATIONS DURING CONSTRUCTION.
15. THE CONTRACTOR SHALL PROVIDE PEDESTRIAN TRAFFIC CONTROL FEATURES AS NECESSARY AND AS DIRECTED BY THE ENGINEER. ALL PEDESTRIAN TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.20393 — LUKE T. FREEDLE

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

MAINTENANCE OF TRAFFIC PLAN PHASE 1

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-201

LTFreedle 3/1/2023 4:10:05 PM
WORKSPACE:Garver, 2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C201_MOT.dgn
REVISED DATE:

ADVANCED WARNING SIGN NOTES:

ADVANCE WARNING SIGNS SHOWN ON THIS SHEET SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO THE START OF ANY CONSTRUCTION.

ADVANCE WARNING SIGNS SHALL NOT OBSTRUCT THE VIEW OF AN EXISTING SIGN, BUT SHALL BE LOCATED IN A POSITION TO MAINTAIN CLEAR VISIBILITY.

ADDITIONAL SIGNS AS NECESSARY INCLUDING BUT NOT LIMITED TO SPEED REDUCTION, LANE SHIFTS, LANE CLOSURES, ETC.... SHALL BE PROPOSED BY THE CONTRACTOR WITHIN THE CONTRACTOR'S SUBMITTAL.

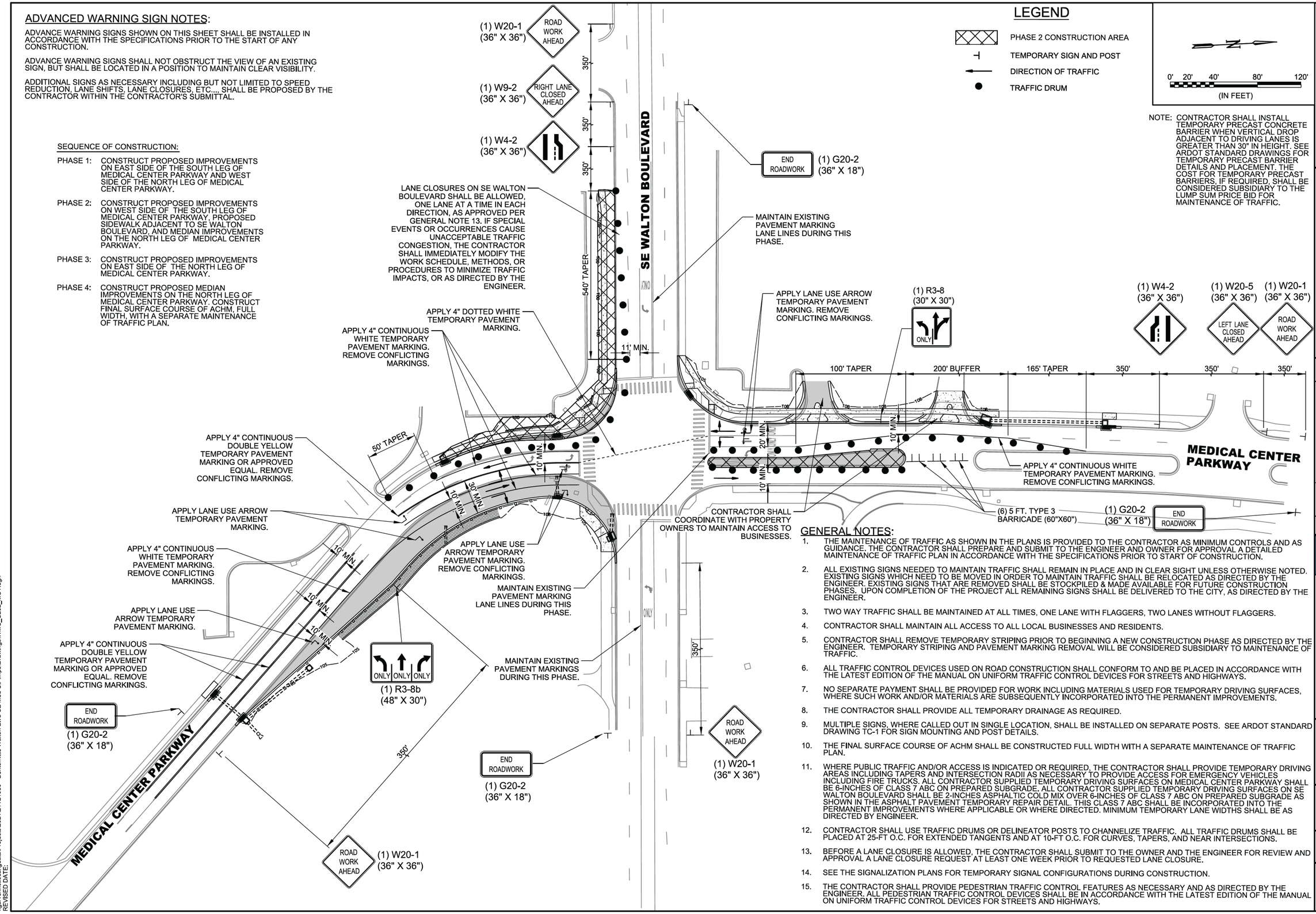
SEQUENCE OF CONSTRUCTION:

PHASE 1: CONSTRUCT PROPOSED IMPROVEMENTS ON EAST SIDE OF THE SOUTH LEG OF MEDICAL CENTER PARKWAY AND WEST SIDE OF THE NORTH LEG OF MEDICAL CENTER PARKWAY.

PHASE 2: CONSTRUCT PROPOSED IMPROVEMENTS ON WEST SIDE OF THE SOUTH LEG OF MEDICAL CENTER PARKWAY, PROPOSED SIDEWALK ADJACENT TO SE WALTON BOULEVARD, AND MEDIAN IMPROVEMENTS ON THE NORTH LEG OF MEDICAL CENTER PARKWAY.

PHASE 3: CONSTRUCT PROPOSED IMPROVEMENTS ON EAST SIDE OF THE NORTH LEG OF MEDICAL CENTER PARKWAY.

PHASE 4: CONSTRUCT PROPOSED MEDIAN IMPROVEMENTS ON THE NORTH LEG OF MEDICAL CENTER PARKWAY. CONSTRUCT FINAL SURFACE COURSE OF ACHM, FULL WIDTH, WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.



LEGEND

- PHASE 2 CONSTRUCTION AREA
- TEMPORARY SIGN AND POST
- DIRECTION OF TRAFFIC
- TRAFFIC DRUM

0' 20' 40' 80' 120'
(IN FEET)

NOTE: CONTRACTOR SHALL INSTALL TEMPORARY PRECAST CONCRETE BARRIER WHEN VERTICAL DROP ADJACENT TO DRIVING LANES IS GREATER THAN 30" IN HEIGHT. SEE ARDOT STANDARD DRAWINGS FOR TEMPORARY PRECAST BARRIER DETAILS AND PLACEMENT. THE COST FOR TEMPORARY PRECAST BARRIERS, IF REQUIRED, SHALL BE CONSIDERED SUBSIDIARY TO THE LUMP SUM PRICE BID FOR MAINTENANCE OF TRAFFIC.

GENERAL NOTES:

1. THE MAINTENANCE OF TRAFFIC AS SHOWN IN THE PLANS IS PROVIDED TO THE CONTRACTOR AS MINIMUM CONTROLS AND AS GUIDANCE. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER AND OWNER FOR APPROVAL A DETAILED MAINTENANCE OF TRAFFIC PLAN IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO START OF CONSTRUCTION.
2. ALL EXISTING SIGNS NEEDED TO MAINTAIN TRAFFIC SHALL REMAIN IN PLACE AND IN CLEAR SIGHT UNLESS OTHERWISE NOTED. EXISTING SIGNS WHICH NEED TO BE MOVED IN ORDER TO MAINTAIN TRAFFIC SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXISTING SIGNS THAT ARE REMOVED SHALL BE STOCKPILED & MADE AVAILABLE FOR FUTURE CONSTRUCTION PHASES. UPON COMPLETION OF THE PROJECT ALL REMAINING SIGNS SHALL BE DELIVERED TO THE CITY, AS DIRECTED BY THE ENGINEER.
3. TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, ONE LANE WITH FLAGGERS, TWO LANES WITHOUT FLAGGERS.
4. CONTRACTOR SHALL MAINTAIN ALL ACCESS TO ALL LOCAL BUSINESSES AND RESIDENTS.
5. CONTRACTOR SHALL REMOVE TEMPORARY STRIPING PRIOR TO BEGINNING A NEW CONSTRUCTION PHASE AS DIRECTED BY THE ENGINEER. TEMPORARY STRIPING AND PAVEMENT MARKING REMOVAL WILL BE CONSIDERED SUBSIDIARY TO MAINTENANCE OF TRAFFIC.
6. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO AND BE PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
7. NO SEPARATE PAYMENT SHALL BE PROVIDED FOR WORK INCLUDING MATERIALS USED FOR TEMPORARY DRIVING SURFACES, WHERE SUCH WORK AND/OR MATERIALS ARE SUBSEQUENTLY INCORPORATED INTO THE PERMANENT IMPROVEMENTS.
8. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DRAINAGE AS REQUIRED.
9. MULTIPLE SIGNS, WHERE CALLED OUT IN SINGLE LOCATION, SHALL BE INSTALLED ON SEPARATE POSTS. SEE ARDOT STANDARD DRAWING TC-1 FOR SIGN MOUNTING AND POST DETAILS.
10. THE FINAL SURFACE COURSE OF ACHM SHALL BE CONSTRUCTED FULL WIDTH WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.
11. WHERE PUBLIC TRAFFIC AND/OR ACCESS IS INDICATED OR REQUIRED, THE CONTRACTOR SHALL PROVIDE TEMPORARY DRIVING AREAS INCLUDING TAPERS AND INTERSECTION RADII AS NECESSARY TO PROVIDE ACCESS FOR EMERGENCY VEHICLES INCLUDING FIRE TRUCKS. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON MEDICAL CENTER PARKWAY SHALL BE 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON SE WALTON BOULEVARD SHALL BE 2-INCHES ASPHALTIC COLD MIX OVER 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE AS SHOWN IN THE ASPHALT PAVEMENT TEMPORARY REPAIR DETAIL. THIS CLASS 7 ABC SHALL BE INCORPORATED INTO THE PERMANENT IMPROVEMENTS WHERE APPLICABLE OR WHERE DIRECTED. MINIMUM TEMPORARY LANE WIDTHS SHALL BE AS DIRECTED BY ENGINEER.
12. CONTRACTOR SHALL USE TRAFFIC DRUMS OR DELINEATOR POSTS TO CHANNELIZE TRAFFIC. ALL TRAFFIC DRUMS SHALL BE PLACED AT 25-FT O.C. FOR EXTENDED TANGENTS AND AT 10-FT O.C. FOR CURVES, TAPERS, AND NEAR INTERSECTIONS.
13. BEFORE A LANE CLOSURE IS ALLOWED, THE CONTRACTOR SHALL SUBMIT TO THE OWNER AND THE ENGINEER FOR REVIEW AND APPROVAL A LANE CLOSURE REQUEST AT LEAST ONE WEEK PRIOR TO REQUESTED LANE CLOSURE.
14. SEE THE SIGNALIZATION PLANS FOR TEMPORARY SIGNAL CONFIGURATIONS DURING CONSTRUCTION.
15. THE CONTRACTOR SHALL PROVIDE PEDESTRIAN TRAFFIC CONTROL FEATURES AS NECESSARY AND AS DIRECTED BY THE ENGINEER. ALL PEDESTRIAN TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.20393 — LUKET FREEDLE

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

MAINTENANCE OF TRAFFIC PLAN PHASE 2

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-202

LTFreedle 3/1/2023 4:10:07 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C202_MOT.dgn
REVISED DATE:

ADVANCED WARNING SIGN NOTES:

ADVANCE WARNING SIGNS SHOWN ON THIS SHEET SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO THE START OF ANY CONSTRUCTION.

ADVANCE WARNING SIGNS SHALL NOT OBSTRUCT THE VIEW OF AN EXISTING SIGN, BUT SHALL BE LOCATED IN A POSITION TO MAINTAIN CLEAR VISIBILITY.

ADDITIONAL SIGNS AS NECESSARY INCLUDING BUT NOT LIMITED TO SPEED REDUCTION, LANE SHIFTS, LANE CLOSURES, ETC..., SHALL BE PROPOSED BY THE CONTRACTOR WITHIN THE CONTRACTOR'S SUBMITTAL.

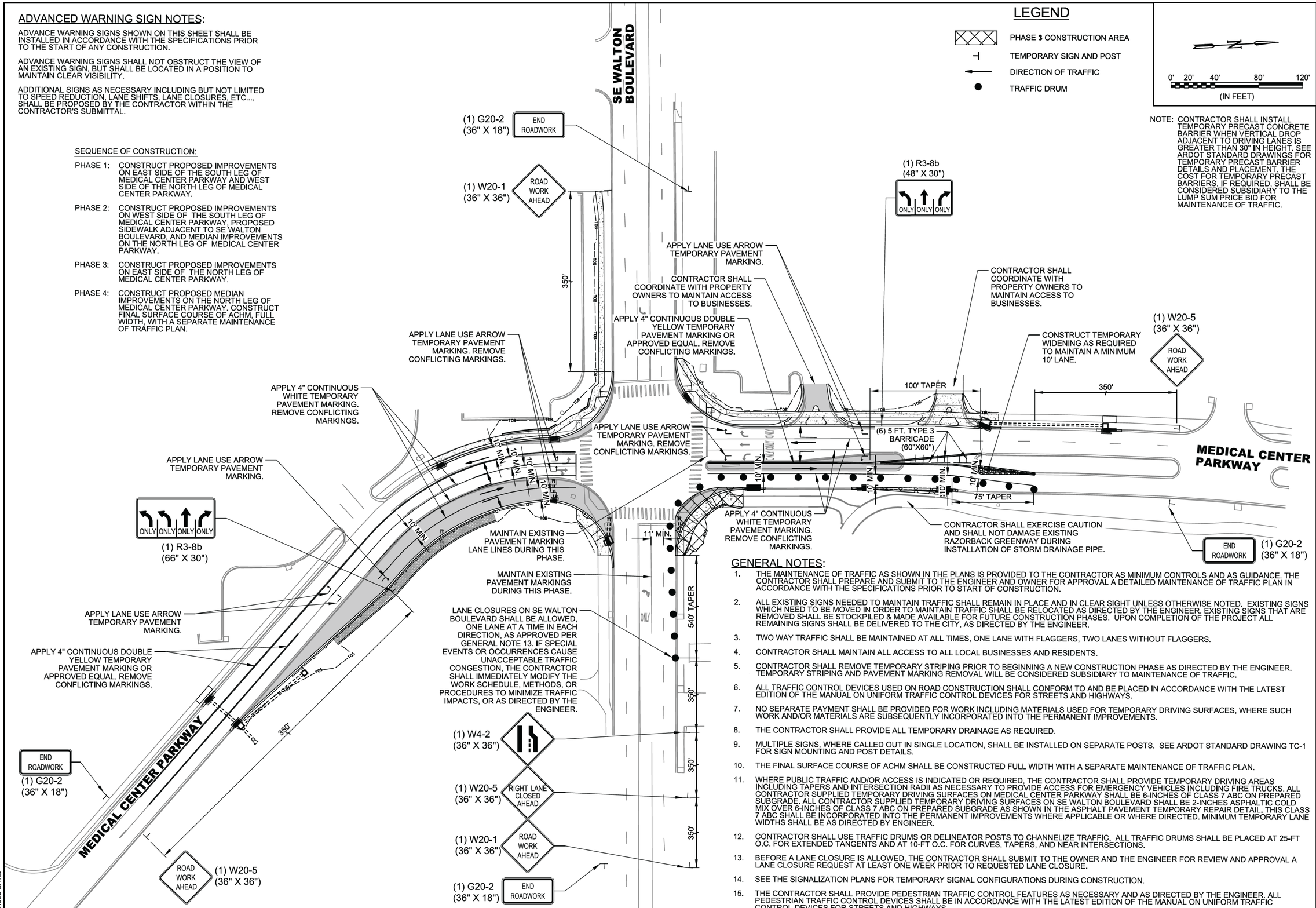
SEQUENCE OF CONSTRUCTION:

PHASE 1: CONSTRUCT PROPOSED IMPROVEMENTS ON EAST SIDE OF THE SOUTH LEG OF MEDICAL CENTER PARKWAY AND WEST SIDE OF THE NORTH LEG OF MEDICAL CENTER PARKWAY.

PHASE 2: CONSTRUCT PROPOSED IMPROVEMENTS ON WEST SIDE OF THE SOUTH LEG OF MEDICAL CENTER PARKWAY, PROPOSED SIDEWALK ADJACENT TO SE WALTON BOULEVARD, AND MEDIAN IMPROVEMENTS ON THE NORTH LEG OF MEDICAL CENTER PARKWAY.

PHASE 3: CONSTRUCT PROPOSED IMPROVEMENTS ON EAST SIDE OF THE NORTH LEG OF MEDICAL CENTER PARKWAY.

PHASE 4: CONSTRUCT PROPOSED MEDIAN IMPROVEMENTS ON THE NORTH LEG OF MEDICAL CENTER PARKWAY. CONSTRUCT FINAL SURFACE COURSE OF ACHM, FULL WIDTH, WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.



LEGEND

- PHASE 3 CONSTRUCTION AREA
- TEMPORARY SIGN AND POST
- DIRECTION OF TRAFFIC
- TRAFFIC DRUM

0' 20' 40' 80' 120'
(IN FEET)

NOTE: CONTRACTOR SHALL INSTALL TEMPORARY PRECAST CONCRETE BARRIER WHEN VERTICAL DROP ADJACENT TO DRIVING LANES IS GREATER THAN 30" IN HEIGHT. SEE ARDOT STANDARD DRAWINGS FOR TEMPORARY PRECAST BARRIER DETAILS AND PLACEMENT. THE COST FOR TEMPORARY PRECAST BARRIERS, IF REQUIRED, SHALL BE CONSIDERED SUBSIDIARY TO THE LUMP SUM PRICE BID FOR MAINTENANCE OF TRAFFIC.

GENERAL NOTES:

1. THE MAINTENANCE OF TRAFFIC AS SHOWN IN THE PLANS IS PROVIDED TO THE CONTRACTOR AS MINIMUM CONTROLS AND AS GUIDANCE. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER AND OWNER FOR APPROVAL A DETAILED MAINTENANCE OF TRAFFIC PLAN IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO START OF CONSTRUCTION.
2. ALL EXISTING SIGNS NEEDED TO MAINTAIN TRAFFIC SHALL REMAIN IN PLACE AND IN CLEAR SIGHT UNLESS OTHERWISE NOTED. EXISTING SIGNS WHICH NEED TO BE MOVED IN ORDER TO MAINTAIN TRAFFIC SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXISTING SIGNS THAT ARE REMOVED SHALL BE STOCKPILED & MADE AVAILABLE FOR FUTURE CONSTRUCTION PHASES. UPON COMPLETION OF THE PROJECT ALL REMAINING SIGNS SHALL BE DELIVERED TO THE CITY, AS DIRECTED BY THE ENGINEER.
3. TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, ONE LANE WITH FLAGGERS, TWO LANES WITHOUT FLAGGERS.
4. CONTRACTOR SHALL MAINTAIN ALL ACCESS TO ALL LOCAL BUSINESSES AND RESIDENTS.
5. CONTRACTOR SHALL REMOVE TEMPORARY STRIPING PRIOR TO BEGINNING A NEW CONSTRUCTION PHASE AS DIRECTED BY THE ENGINEER. TEMPORARY STRIPING AND PAVEMENT MARKING REMOVAL WILL BE CONSIDERED SUBSIDIARY TO MAINTENANCE OF TRAFFIC.
6. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO AND BE PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
7. NO SEPARATE PAYMENT SHALL BE PROVIDED FOR WORK INCLUDING MATERIALS USED FOR TEMPORARY DRIVING SURFACES, WHERE SUCH WORK AND/OR MATERIALS ARE SUBSEQUENTLY INCORPORATED INTO THE PERMANENT IMPROVEMENTS.
8. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DRAINAGE AS REQUIRED.
9. MULTIPLE SIGNS, WHERE CALLED OUT IN SINGLE LOCATION, SHALL BE INSTALLED ON SEPARATE POSTS. SEE ARDOT STANDARD DRAWING TC-1 FOR SIGN MOUNTING AND POST DETAILS.
10. THE FINAL SURFACE COURSE OF ACHM SHALL BE CONSTRUCTED FULL WIDTH WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.
11. WHERE PUBLIC TRAFFIC AND/OR ACCESS IS INDICATED OR REQUIRED, THE CONTRACTOR SHALL PROVIDE TEMPORARY DRIVING AREAS INCLUDING TAPERS AND INTERSECTION RADII AS NECESSARY TO PROVIDE ACCESS FOR EMERGENCY VEHICLES INCLUDING FIRE TRUCKS. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON MEDICAL CENTER PARKWAY SHALL BE 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON SE WALTON BOULEVARD SHALL BE 2-INCHES ASPHALTIC COLD MIX OVER 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE AS SHOWN IN THE ASPHALT PAVEMENT TEMPORARY REPAIR DETAIL. THIS CLASS 7 ABC SHALL BE INCORPORATED INTO THE PERMANENT IMPROVEMENTS WHERE APPLICABLE OR WHERE DIRECTED. MINIMUM TEMPORARY LANE WIDTHS SHALL BE AS DIRECTED BY ENGINEER.
12. CONTRACTOR SHALL USE TRAFFIC DRUMS OR DELINEATOR POSTS TO CHANNELIZE TRAFFIC. ALL TRAFFIC DRUMS SHALL BE PLACED AT 25-FT O.C. FOR EXTENDED TANGENTS AND AT 10-FT O.C. FOR CURVES, TAPERS, AND NEAR INTERSECTIONS.
13. BEFORE A LANE CLOSURE IS ALLOWED, THE CONTRACTOR SHALL SUBMIT TO THE OWNER AND THE ENGINEER FOR REVIEW AND APPROVAL A LANE CLOSURE REQUEST AT LEAST ONE WEEK PRIOR TO REQUESTED LANE CLOSURE.
14. SEE THE SIGNALIZATION PLANS FOR TEMPORARY SIGNAL CONFIGURATIONS DURING CONSTRUCTION.
15. THE CONTRACTOR SHALL PROVIDE PEDESTRIAN TRAFFIC CONTROL FEATURES AS NECESSARY AND AS DIRECTED BY THE ENGINEER. ALL PEDESTRIAN TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEERING GARVER LLC No. 766

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.20393 LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

MAINTENANCE OF TRAFFIC PLAN PHASE 3

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-203

LTFreedle 3/1/2023 4:10:09 PM
WORKSPACE-Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C203_MOT.dgn
REVISED DATE:

ADVANCED WARNING SIGN NOTES:

ADVANCE WARNING SIGNS SHOWN ON THIS SHEET SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO THE START OF ANY CONSTRUCTION.

ADVANCE WARNING SIGNS SHALL NOT OBSTRUCT THE VIEW OF AN EXISTING SIGN, BUT SHALL BE LOCATED IN A POSITION TO MAINTAIN CLEAR VISIBILITY.

ADDITIONAL SIGNS AS NECESSARY INCLUDING BUT NOT LIMITED TO SPEED REDUCTION, LANE SHIFTS, LANE CLOSURES, ETC..., SHALL BE PROPOSED BY THE CONTRACTOR WITHIN THE CONTRACTOR'S SUBMITTAL.

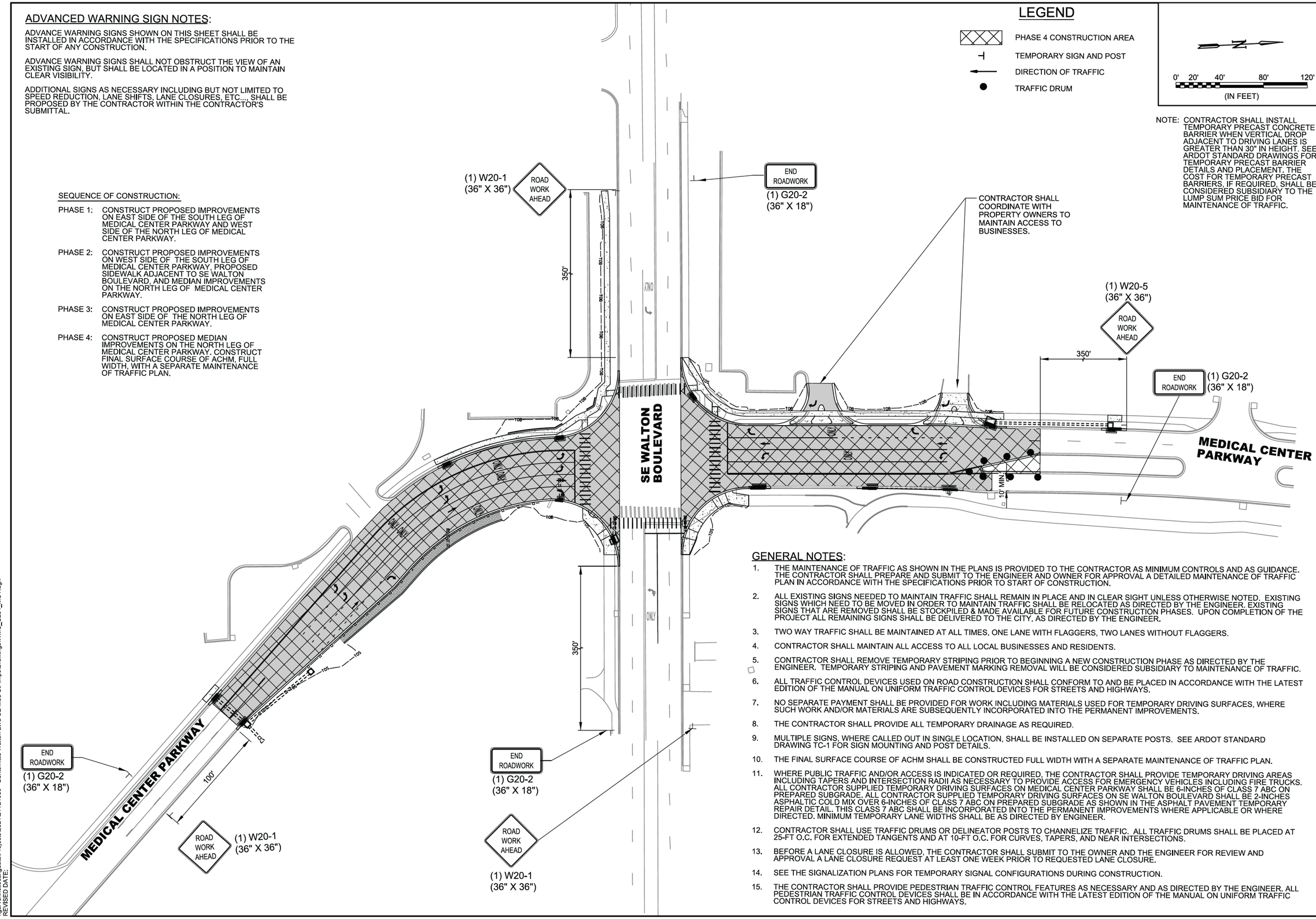
SEQUENCE OF CONSTRUCTION:

PHASE 1: CONSTRUCT PROPOSED IMPROVEMENTS ON EAST SIDE OF THE SOUTH LEG OF MEDICAL CENTER PARKWAY AND WEST SIDE OF THE NORTH LEG OF MEDICAL CENTER PARKWAY.

PHASE 2: CONSTRUCT PROPOSED IMPROVEMENTS ON WEST SIDE OF THE SOUTH LEG OF MEDICAL CENTER PARKWAY, PROPOSED SIDEWALK ADJACENT TO SE WALTON BOULEVARD, AND MEDIAN IMPROVEMENTS ON THE NORTH LEG OF MEDICAL CENTER PARKWAY.

PHASE 3: CONSTRUCT PROPOSED IMPROVEMENTS ON EAST SIDE OF THE NORTH LEG OF MEDICAL CENTER PARKWAY.

PHASE 4: CONSTRUCT PROPOSED MEDIAN IMPROVEMENTS ON THE NORTH LEG OF MEDICAL CENTER PARKWAY. CONSTRUCT FINAL SURFACE COURSE OF ACHM, FULL WIDTH, WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.



GENERAL NOTES:

1. THE MAINTENANCE OF TRAFFIC AS SHOWN IN THE PLANS IS PROVIDED TO THE CONTRACTOR AS MINIMUM CONTROLS AND AS GUIDANCE. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER AND OWNER FOR APPROVAL A DETAILED MAINTENANCE OF TRAFFIC PLAN IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO START OF CONSTRUCTION.
2. ALL EXISTING SIGNS NEEDED TO MAINTAIN TRAFFIC SHALL REMAIN IN PLACE AND IN CLEAR SIGHT UNLESS OTHERWISE NOTED. EXISTING SIGNS WHICH NEED TO BE MOVED IN ORDER TO MAINTAIN TRAFFIC SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXISTING SIGNS THAT ARE REMOVED SHALL BE STOCKPILED & MADE AVAILABLE FOR FUTURE CONSTRUCTION PHASES. UPON COMPLETION OF THE PROJECT ALL REMAINING SIGNS SHALL BE DELIVERED TO THE CITY, AS DIRECTED BY THE ENGINEER.
3. TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, ONE LANE WITH FLAGGERS, TWO LANES WITHOUT FLAGGERS.
4. CONTRACTOR SHALL MAINTAIN ALL ACCESS TO ALL LOCAL BUSINESSES AND RESIDENTS.
5. CONTRACTOR SHALL REMOVE TEMPORARY STRIPING PRIOR TO BEGINNING A NEW CONSTRUCTION PHASE AS DIRECTED BY THE ENGINEER. TEMPORARY STRIPING AND PAVEMENT MARKING REMOVAL WILL BE CONSIDERED SUBSIDIARY TO MAINTENANCE OF TRAFFIC.
6. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO AND BE PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
7. NO SEPARATE PAYMENT SHALL BE PROVIDED FOR WORK INCLUDING MATERIALS USED FOR TEMPORARY DRIVING SURFACES, WHERE SUCH WORK AND/OR MATERIALS ARE SUBSEQUENTLY INCORPORATED INTO THE PERMANENT IMPROVEMENTS.
8. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DRAINAGE AS REQUIRED.
9. MULTIPLE SIGNS, WHERE CALLED OUT IN SINGLE LOCATION, SHALL BE INSTALLED ON SEPARATE POSTS. SEE ARDOT STANDARD DRAWING TC-1 FOR SIGN MOUNTING AND POST DETAILS.
10. THE FINAL SURFACE COURSE OF ACHM SHALL BE CONSTRUCTED FULL WIDTH WITH A SEPARATE MAINTENANCE OF TRAFFIC PLAN.
11. WHERE PUBLIC TRAFFIC AND/OR ACCESS IS INDICATED OR REQUIRED, THE CONTRACTOR SHALL PROVIDE TEMPORARY DRIVING AREAS INCLUDING TAPERS AND INTERSECTION RADII AS NECESSARY TO PROVIDE ACCESS FOR EMERGENCY VEHICLES INCLUDING FIRE TRUCKS. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON MEDICAL CENTER PARKWAY SHALL BE 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE. ALL CONTRACTOR SUPPLIED TEMPORARY DRIVING SURFACES ON SE WALTON BOULEVARD SHALL BE 2-INCHES ASPHALTIC COLD MIX OVER 6-INCHES OF CLASS 7 ABC ON PREPARED SUBGRADE AS SHOWN IN THE ASPHALT PAVEMENT TEMPORARY REPAIR DETAIL. THIS CLASS 7 ABC SHALL BE INCORPORATED INTO THE PERMANENT IMPROVEMENTS WHERE APPLICABLE OR WHERE DIRECTED. MINIMUM TEMPORARY LANE WIDTHS SHALL BE AS DIRECTED BY ENGINEER.
12. CONTRACTOR SHALL USE TRAFFIC DRUMS OR DELINEATOR POSTS TO CHANNELIZE TRAFFIC. ALL TRAFFIC DRUMS SHALL BE PLACED AT 25-FT O.C. FOR EXTENDED TANGENTS AND AT 10-FT O.C. FOR CURVES, TAPERS, AND NEAR INTERSECTIONS.
13. BEFORE A LANE CLOSURE IS ALLOWED, THE CONTRACTOR SHALL SUBMIT TO THE OWNER AND THE ENGINEER FOR REVIEW AND APPROVAL A LANE CLOSURE REQUEST AT LEAST ONE WEEK PRIOR TO REQUESTED LANE CLOSURE.
14. SEE THE SIGNALIZATION PLANS FOR TEMPORARY SIGNAL CONFIGURATIONS DURING CONSTRUCTION.
15. THE CONTRACTOR SHALL PROVIDE PEDESTRIAN TRAFFIC CONTROL FEATURES AS NECESSARY AND AS DIRECTED BY THE ENGINEER. ALL PEDESTRIAN TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.20393 — LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

MAINTENANCE OF TRAFFIC PLAN PHASE 4

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-204

LTFreedle 3/1/2023 4:10:11 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C204_MOT.dgn
REVISED DATE:

A MAINTAIN EXISTING RETAINING WALL. SAWCUT CLEAN VERTICAL EDGE AT PROPOSED RETAINING WALL INTEGRAL WITH SIDEWALK (SEE PLAN AND PROFILE SHEETS FOR LOCATION). PRESERVE AND CLEAN 2' OF EXISTING LONGITUDINAL REINFORCEMENT FOR USE IN PROPOSED INTEGRAL WALL (FIELD BEND AS REQUIRED).

RETAIN EXISTING SIDEWALK.

REMOVE EXISTING ASPHALT PAVEMENT AND CURB AND GUTTER, AND SIDEWALK.

RETAIN EXISTING SIDEWALK, RAMPS, AND CURB AND GUTTER.

MEDICAL CENTER PARKWAY

10+00

11+00

12+00

13+00

14+00

POB 10+00.00

PC 12+28.37

PI 13+29.52

RETAIN EXISTING CURB AND GUTTER.

REMOVE EXISTING CURB AND GUTTER.

RETAIN EXISTING 18" R.C. PIPE

REMOVE EXISTING 18" R.C. FLARED END SECTION.

DO NOT DISTURB EXISTING LANDSCAPING.

REMOVE EXISTING CURB AND GUTTER AND SIDEWALK.

REMOVE EXISTING LANDSCAPING AS NEEDED TO RE-CONSTRUCT SLOPE.

REMOVE EXISTING INLET

RETAIN CELL - BOOSTER TOWER

RETAIN EXISTING 18" R.C. PIPE.

REMOVE 29 L.F. OF 18" C.M. PIPE

REMOVE EXISTING INLET.

REMOVE SIGNAL POLE, MAST ARM, AND FOUNDATION PER SIGNAL PLANS.

RETAIN EXISTING 24" R.C. PIPE.

REMOVE EXISTING SIDEWALK, RAMPS, AND CURB AND GUTTER.

PI 14+16.48

REMOVE, SALVAGE, AND REINSTALL EXISTING "WELCOME TO BENTONVILLE" MONUMENT SIGN, DECORATIVE ROCKS, AND SOLAR PANEL AS DIRECTED BY THE ENGINEER. REMOVE ASSOCIATED LANDSCAPING.

REMOVE SIGNAL POLE, MAST ARM, FOUNDATION, AND TRAFFIC CONTROL BOX PER SIGNAL PLANS.

RETAIN EXISTING IRRIGATION CONTROL VALVES.

REMOVE EXISTING INLET

REMOVE, SALVAGE, AND REINSTALL EXISTING HANDRAIL AS DIRECTED.

REMOVE EXISTING BOLLARD.

RETAIN EXISTING 24" R.C. PIPE.

REMOVE EXISTING 4 L.F. 24" R.C.P.

PI 32+38.76

PI 32+76.31

15+00

20+00

32+00

33+00

34+00

SE WALTON BOULEVARD

POE 35+00.00

0' 10' 20' 40' 60'

(IN FEET)

NOTES:

1. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE PROTECTED.
2. REMOVED LANDSCAPING AND IRRIGATION SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS.

LTFreedle 2/29/2024 3:41:21 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C251_DM.dgn
REVISED DATE:

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

DEMOLITION PLAN

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-251

SE WALTON BOULEVARD

MEDICAL CENTER PARKWAY

REMOVE SIGNAL POLE, MAST ARM, AND FOUNDATION PER SIGNAL PLANS.

RETAIN CELL - BOOSTER TOWER

REMOVE EXISTING CURB AND GUTTER.

RETAIN EXISTING 24" R.C. PIPE.

REMOVE EXISTING CURB AND GUTTER.

REMOVE EXISTING INLET.

REMOVE 29 L.F. OF 18" C.M. PIPE.

REMOVE SIGNAL POLE, MAST ARM, FOUNDATION, AND TRAFFIC CONTROL BOX PER SIGNAL PLANS.

REMOVE EXISTING 4 L.F. 24" R.C.P.

REMOVE EXISTING INLET.

REMOVE EXISTING BOLLARD.

REMOVE SIGNAL POLE, MAST ARM, FOUNDATION, AND TRAFFIC CONTROL BOX PER SIGNAL PLANS.

REMOVE EXISTING CURB AND GUTTER AND SIDEWALK RAMPS.

RETAIN EXISTING 18" R.C. PIPE

REMOVE EXISTING CURB AND GUTTER AND SIDEWALK RAMPS.

RETAIN EXISTING CURB AND GUTTER.

REMOVE SIGNAL POLE, MAST ARM, FOUNDATION, AND TRAFFIC CONTROL BOX PER SIGNAL PLANS.

REMOVE EXISTING SIDEWALK RAMP.

REMOVE EXISTING INLET

RETAIN EXISTING 18" R.C. PIPE

RETAIN EXISTING CURB AND GUTTER.

RETAIN EXISTING 18" R.C. PIPE

REMOVE, SALVAGE, AND REINSTALL EXISTING "NORTHWEST MEDICAL CENTER" MONUMENT SIGN AS DIRECTED BY ENGINEER.

REMOVE EXISTING CURB AND GUTTER AND PAVEMENT.

CAUTION: UNDERGROUND ELECTRIC LINES IN CONSTRUCTION ZONE.

RETAIN EXISTING INLET AND CURB AND GUTTER.

RETAIN EXISTING 36"X54" R.C. PIPE

REMOVE EXISTING CURB AND GUTTER AND PAVEMENT AS NECESSARY TO INSTALL COMBINATION INLET.

RETAIN EXISTING 18" R.C. PIPE

REMOVE EXISTING ISLAND, CURB AND GUTTER, AND ASSOCIATED TREES AND LANDSCAPING.

RETAIN EXISTING 36"X54" R.C. PIPE

REMOVE EXISTING CURB AND GUTTER.

RETAIN EXISTING INLET

RETAIN STREET LIGHT

CAUTION: UNDERGROUND ELECTRIC LINES IN CONSTRUCTION ZONE.

REMOVE EXISTING CURB AND GUTTER AND PAVEMENT.

RETAIN EXISTING CURB AND GUTTER.

0' 10' 20' 40' 60'
(IN FEET)

NOTES:

1. ⊠ - REMOVE TREE

REMOVE SIGNAL POLE, MAST ARM, FOUNDATION, AND TRAFFIC CONTROL BOX PER SIGNAL PLANS.

REMOVE EXISTING CURB AND GUTTER AND SIDEWALK RAMPS.

REMOVE SIGNAL POLE, MAST ARM, AND FOUNDATION PER SIGNAL PLANS.

REMOVE EXISTING 21 L.F. 18" R.C.P.

REMOVE EXISTING INLET, SIDEWALK, AND RAMPS.

RETAIN EXISTING 18" R.C. PIPE

RETAIN EXISTING INLET

RETAIN EXISTING 24" R.C. PIPE

RETAIN EXISTING INLET

NOTES:

1. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE PROTECTED.
2. REMOVED LANDSCAPING AND IRRIGATION SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS.

DO NOT DISTURB EXISTING TREES OR LANDSCAPING

REMOVE SIGNAL POLE, MAST ARM, AND FOUNDATION PER SIGNAL PLANS.

RETAIN CELL - BOOSTER TOWER

REMOVE EXISTING INLET

RETAIN EXISTING 18" C.M. PIPE

REMOVE 16 L.F. OF EXISTING 18" C.M. PIPE

REMOVE EXISTING CURB AND GUTTER.

REMOVE EXISTING 4 L.F. 24" R.C.P.

REMOVE EXISTING INLET

RETAIN EXISTING INLET

RETAIN EXISTING 30" R.C. PIPE

RETAIN EXISTING 36" R.C. PIPE

REMOVE EXISTING BOLLARD

REMOVE, SALVAGE, AND REINSTALL EXISTING HANDRAIL AS DIRECTED BY THE ENGINEER.

REMOVE SIGNAL POLE, MAST ARM, FOUNDATION, AND TRAFFIC CONTROL BOX PER SIGNAL PLANS.

N

0' 10' 20' 40' 60'
(IN FEET)

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS–ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

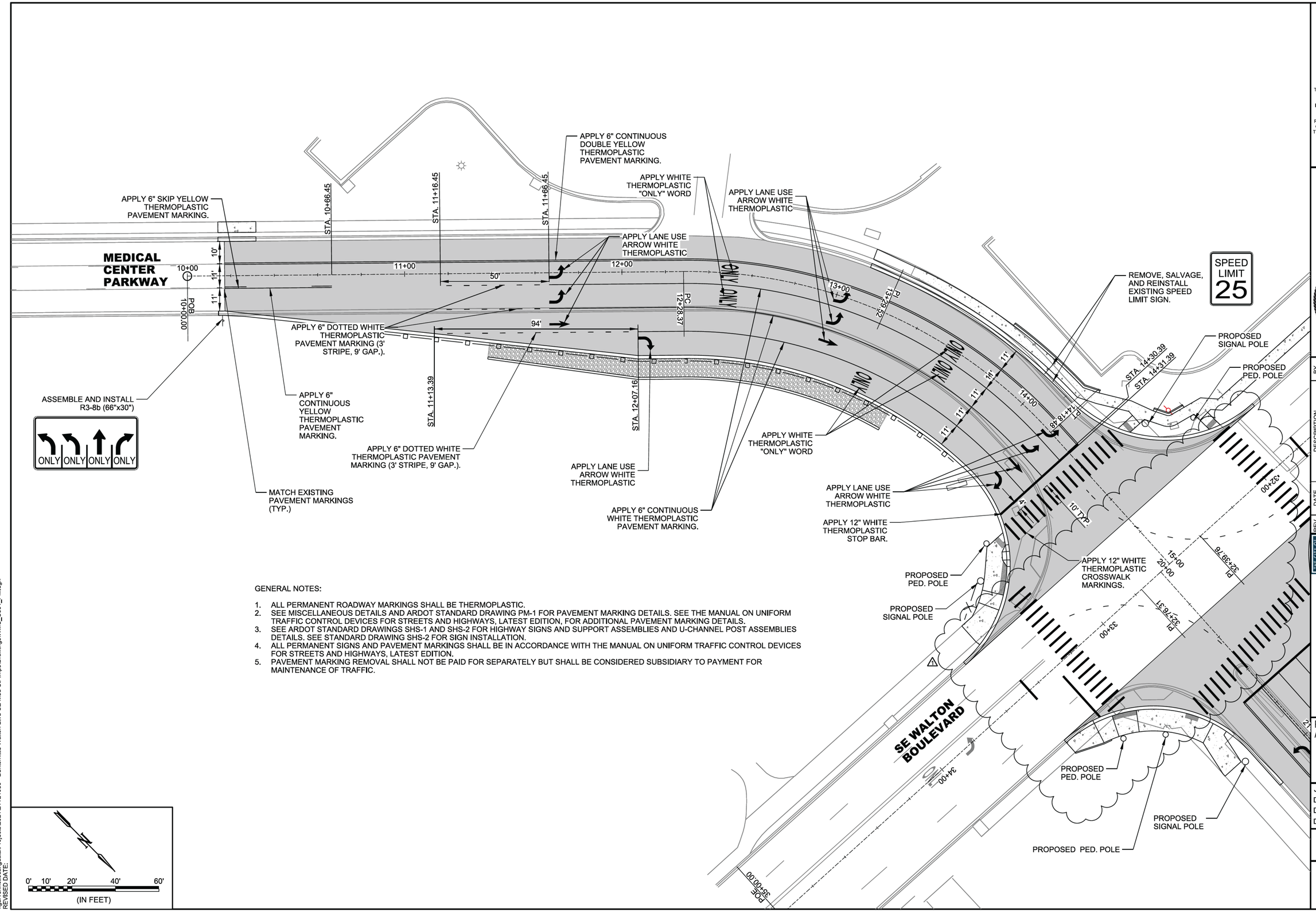
DEMOLITION PLAN

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-252

LTFreedle 3/1/2024 8:47:31 AM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C252_DM.dgn
REVISED DATE:



GENERAL NOTES:

1. ALL PERMANENT ROADWAY MARKINGS SHALL BE THERMOPLASTIC.
2. SEE MISCELLANEOUS DETAILS AND ARDOT STANDARD DRAWING PM-1 FOR PAVEMENT MARKING DETAILS. SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION, FOR ADDITIONAL PAVEMENT MARKING DETAILS.
3. SEE ARDOT STANDARD DRAWINGS SHS-1 AND SHS-2 FOR HIGHWAY SIGNS AND SUPPORT ASSEMBLIES AND U-CHANNEL POST ASSEMBLIES DETAILS. SEE STANDARD DRAWING SHS-2 FOR SIGN INSTALLATION.
4. ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION.
5. PAVEMENT MARKING REMOVAL SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO PAYMENT FOR MAINTENANCE OF TRAFFIC.

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/27/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

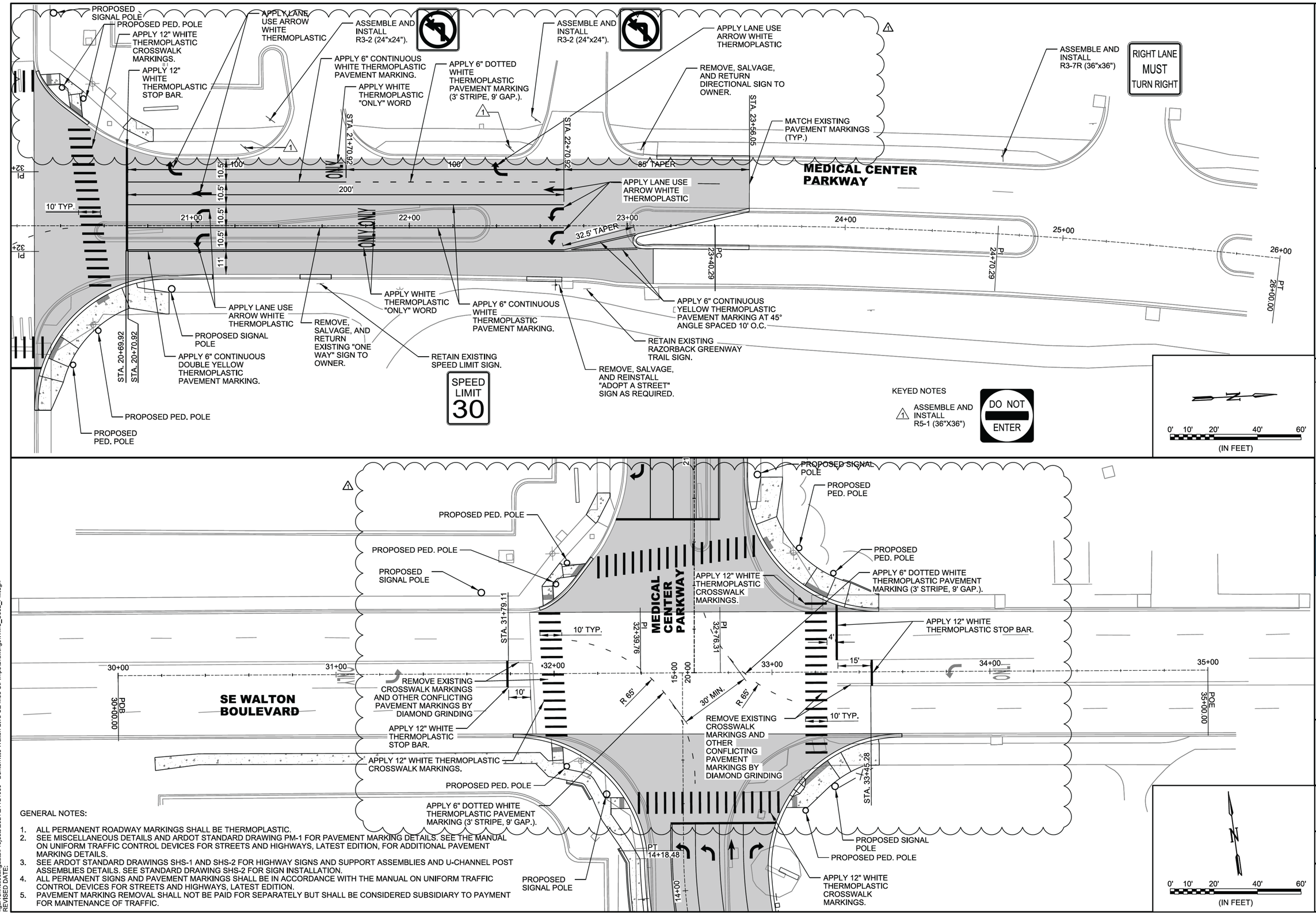
PAVEMENT MARKING AND SIGNAGE PLAN

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-301

LTFreedle 3/27/2024 1:38:32 PM
\\WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C301_PM.dgn
REVISED DATE:



GENERAL NOTES:

1. ALL PERMANENT ROADWAY MARKINGS SHALL BE THERMOPLASTIC.
2. SEE MISCELLANEOUS DETAILS AND ARDOT STANDARD DRAWING PM-1 FOR PAVEMENT MARKING DETAILS. SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION, FOR ADDITIONAL PAVEMENT MARKING DETAILS.
3. SEE ARDOT STANDARD DRAWINGS SHS-1 AND SHS-2 FOR HIGHWAY SIGNS AND SUPPORT ASSEMBLIES AND U-CHANNEL POST ASSEMBLIES DETAILS. SEE STANDARD DRAWING SHS-2 FOR SIGN INSTALLATION.
4. ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION.
5. PAVEMENT MARKING REMOVAL SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO PAYMENT FOR MAINTENANCE OF TRAFFIC.

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER GARVER LLC No. 766

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.20393 LUKE T. FREEDLE

Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

PAVEMENT MARKING AND SIGNAGE PLAN

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-302

LTFreedle 3/27/2024 1:38:34 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C302_PM.dgn
REVISED DATE:

EXISTING UTILITY EASEMENT

EXISTING R.O.W.

RECONSTRUCT 9.5 S.Y. OF SIDEWALK AND 8 L.F. OF CURB AND GUTTER AS NECESSARY TO CONSTRUCT PROPOSED INLET.

EXISTING UTILITY EASEMENT

CP#3

01-11084-001
MATHIAS SHOPPING CENTERS INC

STA. 12+07.16
END TYPICAL SECTION①. BEGIN TYPICAL SECTION②.

EXISTING UTILITY EASEMENT

01-11082-000
SPIRIT MASTER FUNDING II LLC

STA. 10+17.16
BEGIN TYPICAL SECTION ①. MATCH EXISTING WIDTHS AND CROSS SLOPES.

PROPOSED T.C.E.

STA. 13+10.25
END TYPICAL SECTION ② . BEGIN TYPICAL SECTION ③.

PROPOSED R.O.W.

STA. 13+75.00; 26.50' LT.
BEGIN RETAINING WALL INTEGRAL WITH SIDEWALK IN CUT.

STA 14+19.40; 30.18' LT.
END PROPOSED RETAINING WALL INTEGRAL WITH SIDEWALK AT SAWCUT LINE OF EXISTING RETAINING WALL. MATCH EXISTING RETAINING WALL HEIGHT. FIELD BEND EXISTING WALL LONGITUDINAL REINFORCEMENT FOR USE IN PROPOSED RETAINING WALL INTEGRAL WITH SIDEWALK. SEE DEMOLITION PLAN.

MEDICAL CENTER PARKWAY

60' RADIUS
14+12.80
78.00' LT.

STA. 10+00.00
BEGIN JOB
N=735434.2594
E=667323.6287

228.37'
N45°53'13"W

POB
10+00.00

54.93'

17'

38.5'

PC
12+28.37

CURVE NO. 1

RETAIN CELL BOOSTER TOWER

EXISTING R.O.W.

190' TAPER

STA. 14+13.40; 26.50' LT.
CONTINUE RETAINING WALL INTEGRAL WITH SIDEWALK IN CUT. BEGIN VERTICAL TRANSITION TO MATCH HEIGHT OF EXISTING WALL.

RECONSTRUCT 3 L.F. OF CURB AND GUTTER AS NECESSARY TO CONSTRUCT PROPOSED INLET.

PROPOSED R.O.W.

STA. 11+37.88; 39.44' RT.
BEGIN CONCRETE RETAINING WALL IN FILL.

STA. 12+07.16; 49.50' RT.
CONTINUE CONCRETE RETAINING WALL IN FILL.

PROPOSED SIGNAL POLE

PROPOSED PED. POLE

EXISTING UTILITY EASEMENT

STA. 10+88.00 TO STA. 13+95.00
INSTALL 275 L.F. OF GUARD RAIL (TYPE A) WITH GUARD RAIL TERMINALS (TYPE 1) AT EACH END. ALIGN FACE OF GUARD RAIL WITH FACE OF CURB. SEE ARDOT STANDARD DRAWINGS GR-7 AND GRT-1 FOR DETAILS.

EFFECTIVE 1% FLOODPLAIN BOUNDARY

STA. 13+48.00; 49.50' RT.
END CONCRETE RETAINING WALL IN FILL.

STA. 14+71.93
END TYPICAL SECTION③.

REMOVE, SALVAGE, AND REINSTALL EXISTING "WELCOME TO BENTONVILLE" MONUMENT SIGN, DECORATIVE ROCKS, AND SOLAR PANEL AS DIRECTED BY ENGINEER. REMOVE ASSOCIATED LANDSCAPING.

EFFECTIVE FLOODWAY

01-05115-002
CITY OF BENTONVILLE

CONSTRUCT CONCRETE ISLAND PER ARDOT DETAIL WR-1.

PROPOSED PED. POLE

SE WALTON BOULEVARD

CP#1

60' RADIUS
14+03.02
100.00' RT.

ADJUST MANHOLE LID TO GRADE.
EX. RIM ELEVATION=1262.48
PROP. RIM ELEVATION=1262.58

PROPOSED SIGNAL POLE

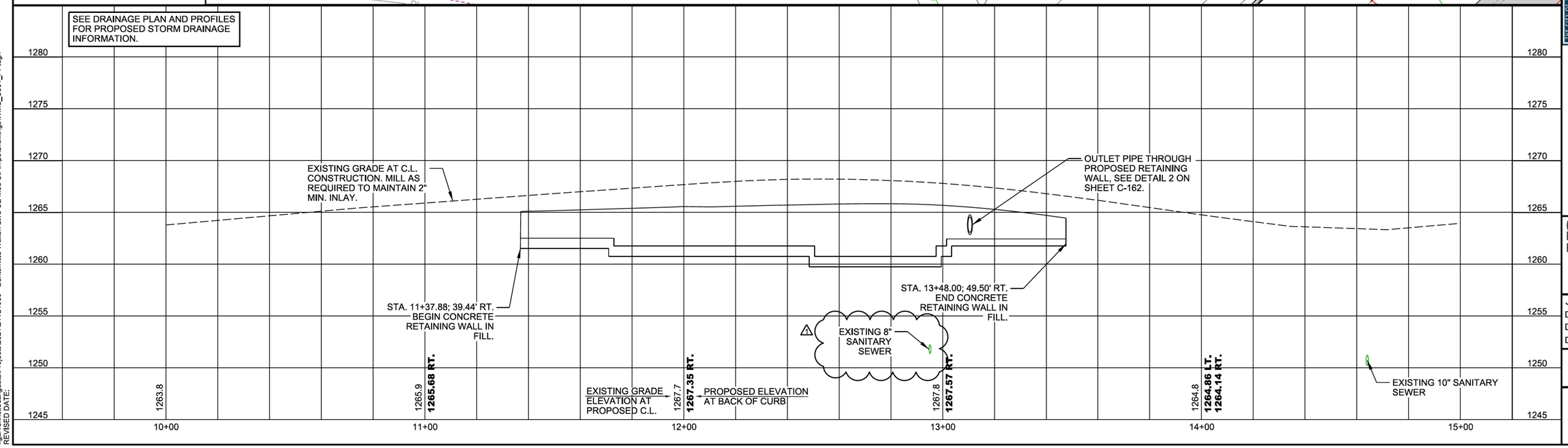
REMOVE, SALVAGE, AND REINSTALL HANDRAIL AS DIRECTED. SEE ARDOT STANDARD DRAWING SI-1 FOR HANDRAILING DETAILS.

NOTES:
1. ♿ - CONSTRUCT SIDEWALK CURB RAMP.

CURVE NO. 1
PI STA. 13+29.52
N = 735663.6274
E = 667087.0463
R = 225.00'
Dc = 25°27'53.25"
L = 190.10'
Delta = 48°24'34.32" RT.
T = 101.14'

0' 10' 20' 40' 60'
(IN FEET)

SEE DRAINAGE PLAN AND PROFILES FOR PROPOSED STORM DRAINAGE INFORMATION.



GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

(S) MEDICAL CENTER PARKWAY PLAN AND PROFILE

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-501

LTFreedle
3/27/2024
1:38:38 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C501_PP.dgn
REVISED DATE:

SE WALTON BOULEVARD

01-08826-001
FLEEMAN REVOCABLE TRUST, JEANNIE

01-10862-000
QHG OF SPRINGDALE INC
D/B/A BATES MEDICAL CENTER

NOTES:
1. [R] - CONSTRUCT SIDEWALK CURB RAMP.

PROPOSED SIGNAL POLE
PROPOSED R.O.W.
EXISTING UTILITY EASEMENT
REMOVE AND RECONSTRUCT SIDEWALK AND CURB RAMPS.
REINSTALL SALVAGED "NORTHWEST MEDICAL CENTER" MONUMENT SIGN AS DIRECTED BY THE ENGINEER.
PROPOSED T.C.E.
EXISTING R.O.W.
EXISTING UTILITY EASEMENT
PROPOSED T.C.E.
RECONSTRUCT 43 L.F. OF CURB AND GUTTER AS NECESSARY TO CONSTRUCT PROPOSED INLET AND PIPE.
RECONSTRUCT 44 L.F. OF CURB AND GUTTER (TYPE A) (2'-0")
EFFECTIVE 1% FLOODPLAIN BOUNDARY
PROPOSED PED. POLE
RECONSTRUCT 34 L.F. OF CURB AND GUTTER AS NECESSARY TO CONSTRUCT PROPOSED SIDEWALK AND CURB RAMPS.
CP#4
CP#6
PROPOSED PED. POLE
PI 32+39.76
S87°28'39"E 36.55'
STA. 20+27.90 BEGIN TYPICAL SECTION④.
STA. 20+00.00 N=735845.8754 E=667100.4898
PI 32+76.31
S87°24'33"E 223.68'
340.29' N2°53'07"E
30.65'
22.39'
30.52'
23.37'
2' RADIUS 23+05.01 6.99' RT
STA. 23+55.92 END TYPICAL SECTION⑤. MATCH EXISTING WIDTHS AND CROSS SLOPES.
RECONSTRUCT 16 L.F. OF CURB AND GUTTER AS NECESSARY TO CONSTRUCT PROPOSED INLET EXTENSION.
PROPOSED SIGNAL POLE
PROPOSED PED. POLE
MEDICAL CENTER PARKWAY
PC 23+40.29
PI 24+70.29
CURVE NO. 2
ADJUST MANHOLE LID TO GRADE.
EX. RIM ELEVATION=1262.92
PROP. RIM ELEVATION=1262.20
CONSTRUCT 66 L.F. OF CURB AND GUTTER (TYPE A) (1'-6")
EXISTING R.O.W.
RAZORBACK GREENWAY
PROPOSED R.O.W.
EXISTING UTILITY EASEMENT
CONTRACTOR SHALL EXERCISE CAUTION AND SHALL NOT DAMAGE EXISTING RAZORBACK GREENWAY DURING INSTALLATION OF STORM DRAINAGE PIPE.
STA. 22+70.92 END TYPICAL SECTION ④. BEGIN TRANSITION TO TYPICAL SECTION ⑤.
51.67' TAPER
+04.25
+55.92
STA. 23+01.53 END TRANSITION. BEGIN TYPICAL SECTION⑤.
EFFECTIVE FLOODWAY
PROPOSED PED. POLE
60' RADIUS 20+89.63 84.50' RT
STA. 20+36.13; 84.88' RT. BEGIN RETAINING WALL INTEGRAL WITH SIDEWALK FILL.
STA. 20+42.83; 68.39' RT. END RETAINING WALL INTEGRAL WITH SIDEWALK FILL.
RECONSTRUCT 14 L.F. OF CURB AND GUTTER AS NECESSARY TO CONSTRUCT PROPOSED INLET.

01-09230-000
CHECKK PROPERTIES LLC

CURVE NO. 2
PI STA. 24+70.29
N = 736315.5694
E = 667124.1625
R = 2250.00'
Dc = 2°32'47.32"
L = 259.71'
Delta = 6°36'48.31" RT.
T = 130.00'

0' 10' 20' 40' 60'
(IN FEET)

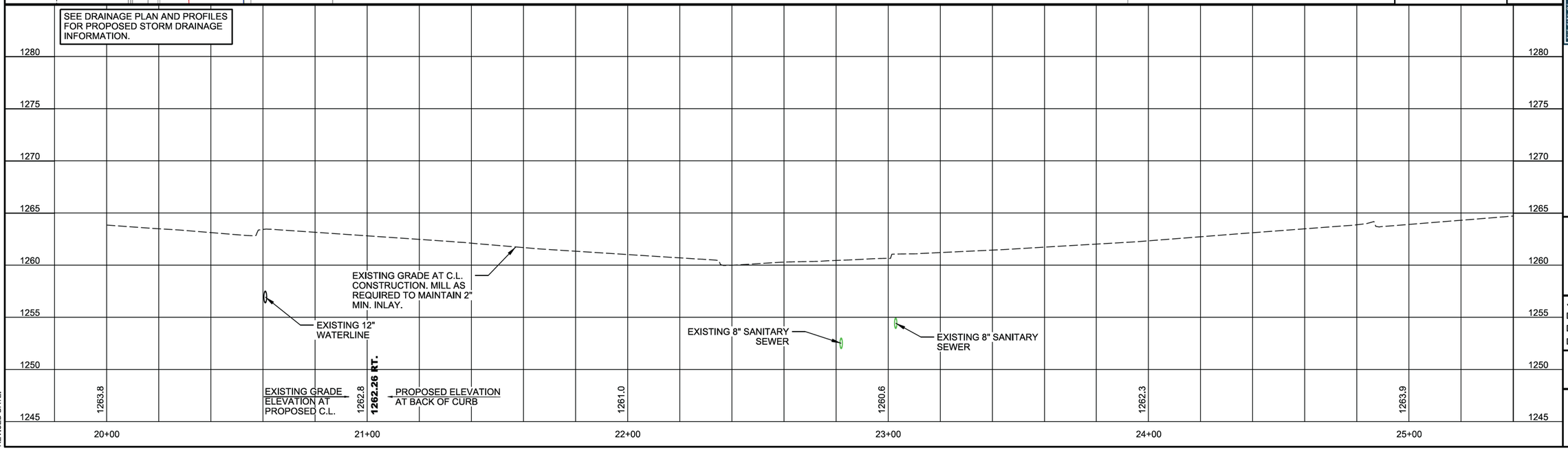
© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
Digitally Signed 03/01/2024

REV	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

SEE DRAINAGE PLAN AND PROFILES FOR PROPOSED STORM DRAINAGE INFORMATION.



THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

(N) MEDICAL CENTER PARKWAY PLAN AND PROFILE

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-502

LTFreedle
3/1/2024
2:08:28 PM
\\WORKSPACE\Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C502_PP.dgn
REVISED DATE:

NOTES:
1. [R] - CONSTRUCT SIDEWALK CURB RAMP.

01-09230-000
FLEEMAN REVOCABLE TRUST, JEANNIE

01-09230-000
CHECKK PROPERTIES LLC

01-11082-000
SPIRIT MASTER FUNDING II LLC

01-05115-002
CITY OF BENTONVILLE

SE WALTON BOULEVARD

MEDICAL CENTER PARKWAY

EXISTING UTILITY EASEMENT

EXISTING R.O.W.

PROPOSED R.O.W.

PROPOSED PED. POLE

PROPOSED SIGNAL POLE

REMOVE AND RECONSTRUCT SIDEWALK AND CURB RAMPS.

WALTON BOULEVARD
STA. 32+58.90 =
(S) MEDICAL CENTER PARKWAY
STA. 15+00.00

PI 15+39.76

PI 32+76.31

EFFECTIVE FLOODWAY

STA. 30+00.00
N=735857.8327
E=666836.4489

PBB 30+00.00

239.76'
S87°24'00"E

223.69'
S87°24'33"E

POE 35+00.00

RECONSTRUCT 34 L.F. OF CURB AND GUTTER AS NECESSARY TO CONSTRUCT PROPOSED SIDEWALK AND CURB RAMPS.

STA. 30+16.65; 37.62' RT.
CONSTRUCT SIDEWALK FROM END OF EXISTING SIDEWALK TO PROPOSED SIDEWALK CURB RAMP AS SHOWN AND AS DIRECTED BY THE ENGINEER.

CURVE NO. 3
PI STA. 32+39.76
N = 735846.9560
E = 667075.9610
Delta = 0°04'39.48" LT.

CURVE NO. 4
PI STA. 32+76.31
N = 735845.3473
E = 667112.4784
Delta = 0°04'05.92" RT.

CURVE NO. 3
S87°28'39"E

CURVE NO. 4

WALTON BOULEVARD
STA. 32+64.31 =
(N) MEDICAL CENTER PARKWAY
STA. 20+80.00

REMOVE, SALVAGE, AND REINSTALL HANDRAIL AS DIRECTED. SEE ARDOT STANDARD DRAWING SI-1 FOR HANDRAILING DETAILS.

EFFECTIVE 1% FLOODPLAIN BOUNDARY

CONSTRUCT CONCRETE ISLAND PER ARDOT DETAIL WR-1.

60' RADIUS
20+89.63
84.50' RT.

60' RADIUS
14+03.02
100.00' RT.

60' RADIUS
14+12.80
78.00' LT.

STA. 32+05.39; 50.48' RT.
BEGIN RETAINING WALL INTEGRAL WITH SIDEWALK CUT AT THE BASE OF THE BOOSTER TOWER.

RETAIN CELL BOOSTER TOWER

STA. 32+16.00; 58.04' RT.
END RETAINING WALL INTEGRAL WITH SIDEWALK IN CUT.

PT 14+18.48

81.52'
N2°31'21"E

340.29'
N2°56'30"E

CP#1
CP#2
CP#4
CP#5

SEE DRAINAGE PLAN AND PROFILES FOR PROPOSED STORM DRAINAGE INFORMATION.

EXISTING GRADE AT C.L. CONSTRUCTION.

EXISTING GRADE ELEVATION AT PROPOSED C.L. 1265.4

PROPOSED ELEVATION AT BACK OF CURB 1264.79 RT.

EXISTING 18" SANITARY SEWER

1263.2
1262.61 LT.
1263.61 RT.

1268.1
1262.9
1263.1

0' 10' 20' 40' 60'
(IN FEET)

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER
CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LUKE T. FREEDLE
LICENSED PROFESSIONAL ENGINEER
No.20393
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SE WALTON BOULEVARD PLAN AND PROFILE

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-503

LTFreedle
3/27/2024 1:38:40 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2022\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C503_PP.dgn
REVISED DATE:

EXISTING UTILITY EASEMENT

EXISTING R.O.W.

STA. 10+23.00; 16.53' LT. CONSTRUCT DOUBLE GRATE COMBINATION INLET. TOP=1264.43 F.L. OUT=1260.60(NE)

EXISTING UTILITY EASEMENT

01-11084-001
MATHIAS SHOPPING CENTERS INC

EXISTING UTILITY EASEMENT

PROPOSED T.C.E.

STA. 13+18.28; 17.01' LT. CONSTRUCT DOUBLE GRATE COMBINATION INLET OVER EXISTING PIPE. TOP=1267.51 F.L. IN=1263.66(W)(FIELD VERIFY) F.L. OUT=1263.56(E)(FIELD VERIFY)

EXISTING UTILITY EASEMENT

MEDICAL CENTER PARKWAY

INSTALL 31 L.F. OF 24" R.C.P. AT 0.50% SLOPE (UNDERGROUND DETENTION CHAMBER)

10+00

11+00

12+00

13+00

14+00

POB 10+00.00

PC 12+28.37

13+29.52

01-11082-000
SPIRIT MASTER FUNDING II LLC

PROPOSED R.O.W.

STA. 14+17.50; 16.99' LT. CONSTRUCT DOUBLE GRATE COMBINATION INLET OVER EXISTING PIPE. TOP=1264.19 F.L. OUT=1259.41(E)(FIELD VERIFY)

14+18.48

STA. 10+23.00; 17.38' RT. CONSTRUCT DOUBLE GRATE COMBINATION INLET WITH 4'X4' JUNCTION BOX AND ORIFICE PLATE AT OUTFLOW, SEE SPECIAL DETAILS FOR MORE INFORMATION. TOP=1264.44 F.L. IN=1260.45(SW) F.L. IN=1260.45(NW) F.L. OUT=1260.35(NE)

EXISTING R.O.W.

INSTALL 72 L.F. OF 24" R.C.P. AT 0.50% SLOPE (UNDERGROUND DETENTION CHAMBER)

STA. 10+98.27; 33.28' RT. CONSTRUCT 4' TYPE MO JUNCTION BOX. TOP=1264.50 F.L. OUT=1260.83(SE)

STA.10+21.37; 42.65' RT. INSTALL 24" R.C. FLARED END SECTION. F.L. OUT=1260.23

INSTALL 13 L.F. OF 24" R.C.P. AT 0.50% SLOPE.

PROPOSED R.O.W.

EFFECTIVE 1% FLOODPLAIN BOUNDARY

EFFECTIVE FLOODWAY

INSTALL 18 L.F. OF 18" R.C.P. AT 2.81% SLOPE. CONNECT TO EXISTING PIPE WITH PIPE COLLAR AS SHOWN. F.L. OUT=1261.53

STA. 14+17.55; 39.56' RT. CONSTRUCT SINGLE GRATE COMBINATION INLET OVER EXISTING PIPE WITH (1) ADDITIONAL CURB OPENING. TOP=1263.64 F.L. IN=1258.23(W) F.L. OUT=1258.15(E)(FIELD VERIFY)

INSTALL 18 L.F. OF 18" R.C.P. AT 2.10% SLOPE. CONNECT TO EXISTING PIPE WITH PIPE COLLAR AS SHOWN.

RETAIN EXISTING 18" C.M.P.

INSTALL 17 L.F. OF 24" R.C.P. CONNECT TO EXISTING PIPE ON UPSTREAM SIDE WITH PIPE COLLAR AS SHOWN. FIELD VERIFY SLOPE.

01-05115-002
CITY OF BENTONVILLE

SE WALTON BOULEVARD

STA. 14+66.23; 76.25' RT. CONSTRUCT SPECIAL DOUBLE GRATE COMBINATION INLET OVER EXISTING PIPE WITH 4'X1'-6" JUNCTION BOX. TOP=1262.46 F.L. IN=1257.78(FIELD VERIFY) F.L. OUT=1257.63(E)(FIELD VERIFY)

15+00

20+00

32+76.31

33+00

0' 10' 20' 40' 60'
(IN FEET)

NOTE:
1. ALL DRAINAGE STRUCTURE STATION OFFSETS ARE TO CENTER OF INLET VAULT
2. ALL RIM ELEVATION CALLOUTS ON COMBINATION GRATE / CURB INLETS ARE LOCATED AT THE BACK OF CURB.

(S) MEDICAL CENTER PARKWAY RIGHT STORM DRAINAGE TRUNKLINE

STA. 10+23.00; 17.38' RT. CONSTRUCT DOUBLE GRATE COMBINATION INLET WITH 4'X4' JUNCTION BOX AND ORIFICE PLATE AT OUTFLOW, SEE SPECIAL DETAILS FOR MORE INFORMATION. TOP=1264.44 F.L. IN=1260.45(SW) F.L. IN=1260.45(NW) F.L. OUT=1260.35(NE)

INSTALL 72 L.F. OF 24" R.C.P. AT 0.50% SLOPE (UNDERGROUND DETENTION CHAMBER)

STA. 10+98.27; 33.28' RT. CONSTRUCT 4' JUNCTION BOX. TOP=1264.50 F.L. OUT=1260.83(SE)

EXISTING GRADE AT C.L. CONSTRUCTION. MILL AS REQUIRED TO MAINTAIN 2" MIN. INLAY.

INSTALL 18 L.F. OF 18" R.C.P. AT 2.81% SLOPE. CONNECT TO EXISTING PIPE WITH PIPE COLLAR AS SHOWN. OUTLET PIPE THROUGH PROPOSED RETAINING WALL, SEE DETAIL 2 ON SHEET C-162. F.L. OUT=1261.53

STA. 14+17.55; 39.56' RT. CONSTRUCT SINGLE GRATE COMBINATION INLET OVER EXISTING PIPE WITH (1) ADDITIONAL CURB OPENING. TOP=1263.64 F.L. IN=1258.23(W) F.L. OUT=1258.15(E)(FIELD VERIFY)

STA. 14+66.23; 76.25' RT. CONSTRUCT SPECIAL DOUBLE GRATE COMBINATION INLET OVER EXISTING PIPE WITH 4'X1'-6" JUNCTION BOX. TOP=1262.46 F.L. IN=1257.78(FIELD VERIFY) F.L. OUT=1257.63(E)(FIELD VERIFY)

EXISTING 8" SANITARY SEWER

EXISTING 10" SANITARY SEWER

1263.8	1265.9	**1265.68 RT.**	1267.7	**1267.35 RT.**	1267.8	**1267.57 RT.**
			EXISTING GRADE ELEVATION AT PROPOSED C.L.		PROPOSED ELEVATION AT BACK OF CURB	

1264.8	**1264.86 LT.** **1264.14 RT.**					

1280 1275 1270 1265 1260 1255 1250 1245

10+00 11+00 12+00 13+00 14+00 15+00

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER

STATE OF ARKANSAS LUKE T. FREEDLE LICENSED PROFESSIONAL ENGINEER No.20393

Digitally Signed 03/27/2024

BY	DESCRIPTION	DATE	REV.
LTF	REVISION 1	03/01/2024	1

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

(S) MEDICAL CENTER PARKWAY DRAINAGE PLAN AND PROFILE

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-551

LTFreedle
3/27/2024 1:38:42 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C551_DR.dgn
REVISED DATE:

SE WALTON BOULEVARD

EXISTING UTILITY EASEMENT

PROPOSED R.O.W.

01-08826-001
FLEEMAN REVOCABLE TRUST, JEANNIE

EXISTING UTILITY EASEMENT

EXISTING R.O.W.

EFFECTIVE 1% FLOODPLAIN BOUNDARY

PROPOSED T.C.E.

PROPOSED T.C.E.

EXISTING UTILITY EASEMENT

01-10862-000
QHG OF SPRINGDALE INC
D/B/A BATES MEDICAL CENTER

NOTE:
1. ALL DRAINAGE STRUCTURE STATION OFFSETS ARE TO CENTER OF INLET VAULT
2. ALL RIM ELEVATION CALLOUTS ON COMBINATION GRATE / CURB INLETS ARE LOCATED AT THE BACK OF CURB.

0' 10' 20' 40' 60'
(IN FEET)

CONTRACTOR SHALL EXERCISE CAUTION AND SHALL NOT DAMAGE SIDEWALK DURING INSTALLATION OF STORM DRAINAGE PIPE.

RETAIN EXISTING INLET. CORE DRILL INTO EXISTING INLET AND INSTALL 36 L.F. OF 18" R.C.P. AT 0.50% SLOPE. SOFFIT OF PROPOSED PIPE SHALL MATCH SOFFIT OF DOWNSTREAM EXISTING PIPE.
F.L.=1257.50 (FIELD VERIFY)

STA. 23+50.14; 30.87' LT.
CONSTRUCT SINGLE GRATE COMBINATION INLET.
TOP=1261.14
F.L. OUT=1257.68

PI 32+39.76

PI 32+76.31

STA. 20+00.00
N=735845.8754
E=667100.4898

PC 23+40.29

PT 24+02.26

MEDICAL CENTER PARKWAY

RAZORBACK GREENWAY

EXISTING R.O.W.

PROPOSED R.O.W.

STA. 20+99.35; 23.22' RT.
CONSTRUCT TRIPLE GRATE COMBINATION INLET WITH (2) ADDITIONAL CURB OPENINGS OVER EXISTING PIPE.
TOP=1262.26
F.L. IN=1256.98(W)(FIELD VERIFY)
F.L. OUT=1256.90(E)(FIELD VERIFY)

STA. 21+57.00; 23.24' RT.
CONSTRUCT SINGLE GRATE COMBINATION INLET OVER EXISTING PIPE.
TOP=1261.37
F.L. IN=1257.14(W)(FIELD VERIFY)
F.L. OUT=1257.08(E)(FIELD VERIFY)

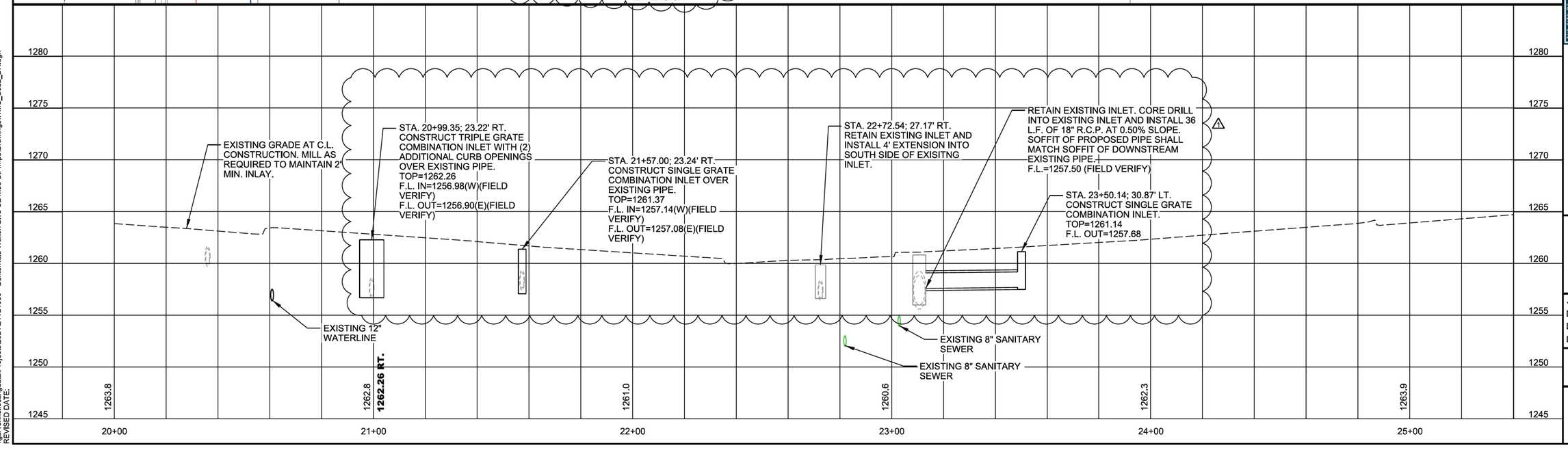
STA. 22+72.54; 27.17' RT.
RETAIN EXISTING INLET AND INSTALL 4' EXTENSION INTO SOUTH SIDE OF EXISITNG INLET.

EFFECTIVE FLOODWAY

EXISTING UTILITY EASEMENT

CONTRACTOR SHALL EXERCISE CAUTION AND SHALL NOT DAMAGE EXISTING RAZORBACK GREENWAY DURING INSTALLATION OF INLET EXTENSION.

01-09230-000
CHECKK PROPERTIES LLC



GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

(N) MEDICAL CENTER PARKWAY DRAINAGE PLAN AND PROFILE

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-552

LTFreedle 2/29/2024 3:41:37 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C552_DR.dgn
REVISED DATE:

01-09230-000
FLEEMAN REVOCABLE TRUST, JEANNIE

EXISTING UTILITY EASEMENT

EXISTING R.O.W.

PROPOSED R.O.W.

CP#5

SE WALTON BOULEVARD

STA. 30+00.00
N=735857.8327
E=666836.4489

POB 30+00.00

01-09230-000
CHECKK PROPERTIES LLC

EXISTING UTILITY EASEMENT

EXISTING R.O.W.

INSTALL 13 L.F. OF 18" R.C.P. CONNECT TO EXISTING PIPES ON UPSTREAM AND DOWNSTREAM SIDES WITH PIPE COLLARS AS SHOWN. FIELD VERIFY SLOPE.

PI 32+39.76

PI 32+76.31

EFFECTIVE 1% FLOODPLAIN BOUNDARY

EFFECTIVE FLOODWAY

POE 35+00.00

EXISTING R.O.W.

01-11082-000
SPIRIT MASTER FUNDING II LLC

EXISTING UTILITY EASEMENT

MEDICAL CENTER PARKWAY

PT 14+18.48

STA. 14+66.23; 76.25' RT. CONSTRUCT SPECIAL DOUBLE GRATE COMBINATION INLET OVER EXISTING PIPE WITH 4'X1'-6" JUNCTION.
TOP=1262.46
F.L. IN=1257.78(FIELD VERIFY)
F.L. OUT=1257.63(E)(FIELD VERIFY)

INSTALL 17 L.F. OF 24" R.C.P. CONNECT TO EXISTING PIPE ON UPSTREAM SIDE WITH PIPE COLLAR AS SHOWN. FIELD VERIFY SLOPE.

RETAIN EXISTING 18" C.M.P.

EFFECTIVE FLOODWAY

EXISTING R.O.W.

EXISTING UTILITY EASEMENT

01-05115-002
CITY OF BENTONVILLE

PROPOSED R.O.W.

PROPOSED T.C.E.

PROPOSED R.O.W.

NOTE:
1. ALL DRAINAGE STRUCTURE STATION OFFSETS ARE TO CENTER OF INLET VAULT
2. ALL RIM ELEVATION CALLOUTS ON COMBINATION GRATE / CURB INLETS ARE LOCATED AT THE BACK OF CURB.

0' 10' 20' 40' 60'
(IN FEET)

EXISTING GRADE AT C.L. CONSTRUCTION

EXISTING GRADE ELEVATION AT PROPOSED C.L. 1265.4

1264.79 RT. ← PROPOSED ELEVATION AT BACK OF CURB

1262.61 LT.
1263.61 RT.

1270.5 1268.1 1263.2 1262.9 1263.1

30+00 31+00 32+00 33+00 34+00 35+00

1280 1275 1270 1265 1260 1255 1250 1245

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER

STATE OF ARKANSAS LUKE T. FREEDLE LICENSED PROFESSIONAL ENGINEER No.20393

Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SE WALTON BOULEVARD DRAINAGE PLAN AND PROFILE

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-553

LTFreedle
3/27/2024 1:38:44 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C553_DR.dgn
REVISED DATE:

N

0' 5' 10' 20' 30'

(IN FEET)

+72.33; 77.77' LT.
F.G.=1265.18

+60.00
F.G.=1263.93

+19.35
F.G.=1263.65

+40.00
F.G.=1263.78

+60.00
F.G.=1263.82

+25.00
F.G.=1263.68

+12.80; 16.50' LT.
F.G. = 1263.89

PT
14+18.48

+00.00
F.G.=1264.38

-2.30%

-1.59%

0.69%

1.21%

+60.00
F.G.=1263.44

+71.93
F.G.=1263.34

14+00

+25.00
F.G.=1263.96

+40.00
F.G.=1263.59

CENTERLINE
ALIGNMENT OF SE
MEDICAL CENTER
PARKWAY (S)

+00.00
F.G.=1264.76

PI
13+29.52

-3.44%

-2.88%

-2.86%

+25.00
F.G.=1263.30

-2.57%

+40.00
F.G.=1262.92

-1.62%

-1.67%

MEDICAL CENTER PARKWAY

13+00

+03.02; 38.50' RT.
F.G.=1263.51

+60.00
F.G.=1262.47

+80.00
F.G.=1268.07

+00.00
F.G.=1263.66

+25.00
F.G.=1262.95

+40.00
F.G.=1262.53

-2.16%

-1.27%

+80.00
F.G.=1267.75

+60.00
F.G.=1268.21

-2.59%

+60.00
F.G.=1262.13

-2.16%

+60.00
F.G.=1267.82

+40.00
F.G.=1268.18

-2.84%

-2.54%

+40.00
F.G.=1267.74

+80.00
F.G.=1267.24

+75.00
F.G.=1267.25

+20.00
F.G.=1267.99

PC
12+28.37

-2.74%

-2.44%

+60.00
F.G.=1267.22

+66.46
F.G.=1261.98

12+00

+20.00
F.G.=1267.60

-2.68%

+40.00
F.G.=1267.11

+95.00
F.G.=1267.60

-2.25%

+71.40; 100.58' RT.
F.G.=1262.26

+20.00
F.G.=1267.00

+95.00
F.G.=1267.24

-2.25%

+95.00
F.G.=1266.77

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER
LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
AND MEDICAL CENTER
PARKWAY IMPROVEMENTS

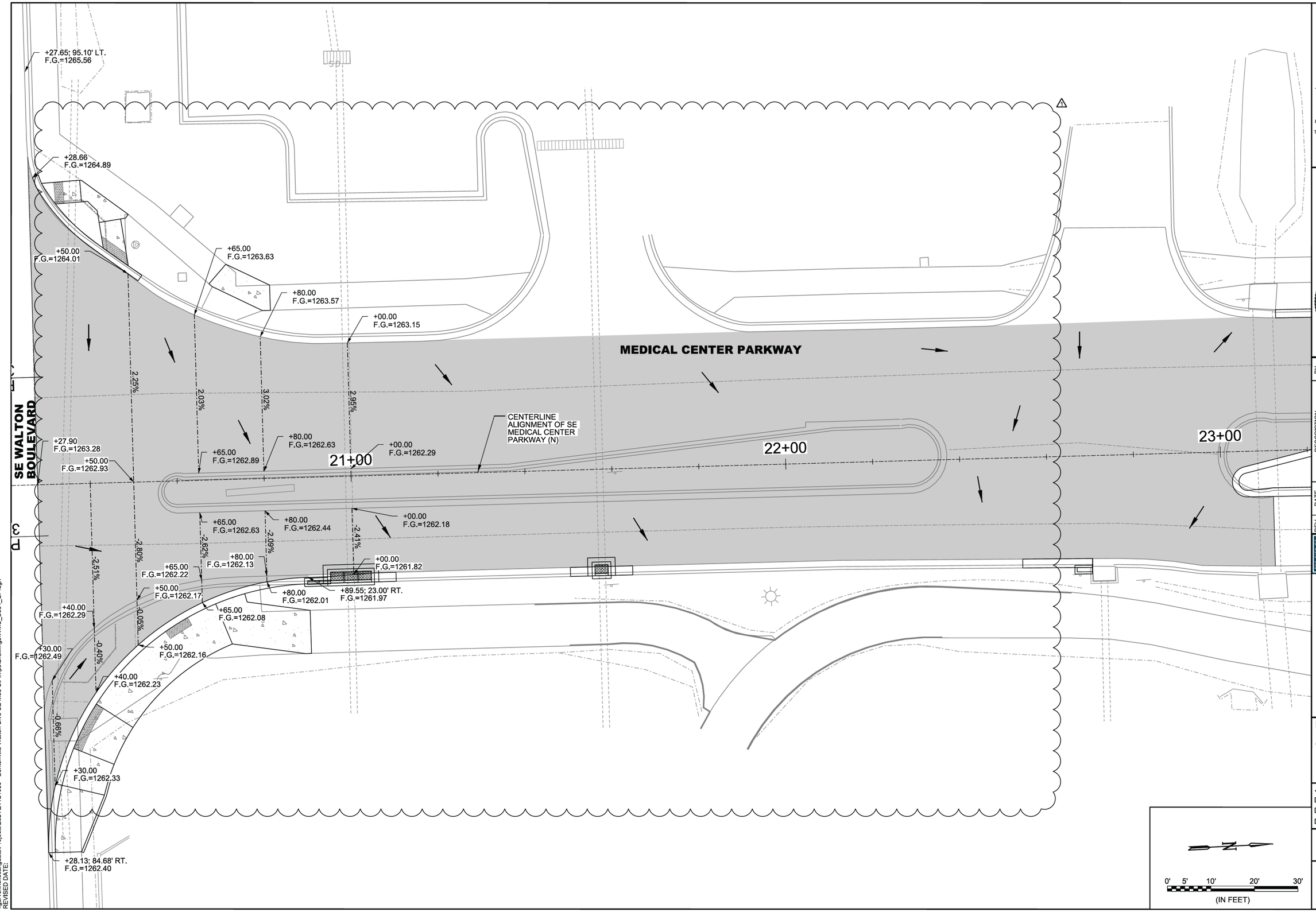
MEDICAL CENTER
PARKWAY
GRADING PLAN

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-583

LTFreedle 3/1/2023 4:10:41 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C583_GP.dgn
REVISED DATE:



© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS–ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

MEDICAL CENTER PARKWAY GRADING PLAN

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-584

LTFreedle 3/1/2024 10:12:14 AM
WORKSPACE:Garver_2012
\\garverfnc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C584_GP.dgn
REVISED DATE:

NOTES:
1. R - CONSTRUCT SIDEWALK CURB RAMP.

01-11082-000
SPIRIT MASTER FUNDING II LLC

CONSTRUCT 5' CONCRETE SIDEWALK.

STA. 31+81.17; 29.24' RT.

60' RADIUS 14+12.80 78.00' LT.

PROPOSED PED. POLE

EXISTING BOOSTER TOWER

PROPOSED SIGNAL POLE

PROPOSED T.C.E.

CONSTRUCT 5' CONCRETE SIDEWALK.

PROPOSED R.O.W.

EXISTING R.O.W.

R 43.04'

R 250'

STA. 14+12.80; 18.00' LT.

STA. 13+64.68; 18.00' LT.

PT 14+18.48

14+00

CENTERLINE ALIGNMENT OF MEDICAL CENTER PARKWAY (SOUTH)

CURVE NO. 1

55'

MEDICAL CENTER PARKWAY

SE WALTON BOULEVARD STA. 32+64.31 = (N) MEDICAL CENTER PARKWAY STA. 20+00.00

15+00

20+00

SE WALTON BOULEVARD STA. 32+58.90 = (S) MEDICAL CENTER PARKWAY STA. 15+00.00

32+00

PI 32+39.76

33+00

PI 32+76.31

SE WALTON BOULEVARD

CONSTRUCT CONCRETE ISLAND PER ARDOT DETAIL WR-1

PROPOSED SIGNAL POLE

60' RADIUS 14+03.02 100.00' RT.

PROPOSED R.O.W.

PROPOSED PED. POLE

CENTERLINE ALIGNMENT OF SE WALTON BOULEVARD

CONSTRUCT CONCRETE SIDEWALK.

STA. 33+59.51; 30.00' RT.

STA. 14+03.02; 40.00' RT.

01-05115-002
CITY OF BENTONVILLE

0' 5' 10' 20' 30'
(IN FEET)

01-08826-001
FLEEMAN REVOCABLE TRUST, JEANNIE

PROPOSED SIGNAL POLE

PROPOSED R.O.W.

PROPOSED T.C.E.

EXISTING R.O.W.

PROPOSED PED. POLE

RECONSTRUCT 34 L.F. OF CURB AND GUTTER AS NECESSARY TO CONSTRUCT PROPOSED SIDEWALK AND CURB RAMPS.

REMOVE AND RECONSTRUCT SIDEWALK AND CURB RAMPS.

PROPOSED PED. POLE

REMOVE AND RECONSTRUCT SIDEWALK.

CENTERLINE ALIGNMENT OF MEDICAL CENTER PARKWAY (NORTH)

21+00

STA. 20+89.55; 24.50' RT.

PROPOSED SIGNAL POLE

STA. 21+09.72; 24.47' RT.

CONSTRUCT 10' CONCRETE SIDEWALK.

PROPOSED R.O.W.

EXISTING R.O.W.

PROPOSED PED. POLE

PROPOSED PED. POLE

60' RADIUS 20+89.63 84.50' RT

STA. 33+49.14; 29.18' LT.

EXISTING R.O.W.

01-09230-000
CHECKK PROPERTIES LLC

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER

STATE OF ARKANSAS LUKE T. FREEDLE LICENSED PROFESSIONAL ENGINEER No.20393

Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SE WALTON BOULEVARD AND MEDICAL CENTER PARKWAY INTERSECTION LAYOUT PLAN

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TWM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-590

LTFreedle 3/27/2024 1:38:46 PM
\\WORKSPACE:Garver_2012\garvinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C590_IL.dgn
REVISED DATE:

TRAFFIC SIGNAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (CURRENT EDITION) NATIONAL ELECTRICAL CODE, NFPA 101 (CURRENT EDITION) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND E.G.C. TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.
3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c/#6 A.W.G. USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S/ COUNTY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT, ARE NEEDED WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE
4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
5. TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.
6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.
7. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FCR HIGHWAY CONSTRUCTION, STANDARD DRAWINGS, AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.
8. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE STANDARD DRAWINGS MAY BE USED.
9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.
10. PAVEMENT MARKINGS SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING DETAILS.
11. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON STANDARD DRAWING). PAYMENT WILL BE INCLUDED IN SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.
12. ALL CONCRETE PULL BOXES SHALL BE (TYPE 3 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS.
13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
14. LED LUMINAIRE ASSEMBLIES SHALL HAVE A BUG RATING OF U0.
15. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.
16. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM IN THE CITY/COUNTY.
17. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, THIRTY-EIGHT (38') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF TWENTY-ONE (21') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL SIX (6') FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.
18. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS SIX (6') FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.
19. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.
20. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.
21. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.
22. ONE VIDEO PROGRAMMNG MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.
23. TRAFFIC SIGNAL CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.
24. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4th EDITION (2001) WITH 2003 AND 2006 INTERIMS.
25. DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL JUMPERS MAY REQUIRE MODIFICATION.
26. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.
27. IN PULL BOXES, POLE BASES, JUNCTION BOXES, AND CONTROLLER CABINETS, THE DIRECTION OF EACH CABLE RUN SHALL BE INDICATED BY ATTACHING A PERMANENT TAG OF RIGID PLASTIC OR NON-FERROUS METAL TO THE CONDUIT. TAGS SHALL BE EMBOSSED, STAMPED OR ENGRAVED WITH LETTERS 1/4" OR GREATER IN HEIGHT AND SECURED TO THE CONDUIT WITH NYLON OR PLASTIC TIES. IN INSTANCES WHERE THE CONDUIT OR CONDUIT ENTRANCES ARE NOT VISIBLE OR ACCESSIBLE, A DIRECTION TAG SHALL BE ATTACHED TO
28. THE CONTRACTOR SHALL PERFORM ALL WORK POSSIBLE THAT WILL MINIMIZE THE TIME THAT THE TRAFFIC SIGNAL IS OUT OF OPERATION. IF, IN THE OPINION OF THE ENGINEER, TRAFFIC CONDITIONS WARRANT, THE CONTRACTOR SHALL PROVIDE FLAGMEN TO DIRECT TRAFFIC WHILE THE TRAFFIC SIGNAL IS OUT OF OPERATION.
29. ALL NON-METALLIC CONDUIT RUNS SHALL HAVE BELL RING FITTINGS INSTALLED ON THE TERMINATING ENDS OF THE CONDUIT. THIS INCLUDES PULL BOXES, POLE BASES, AND TRAFFIC SIGNAL CABINETS.
30. ALL CONCRETE PULL BOXES SHALL BE SET ON A GRAVEL OR CRUSHED STONE BEDDING AS SPECIFIED IN SECTION 711, CONCRETE PULL BOX, OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.
31. THE CONTROLLER SHALL BE SIEMENS EAGLE M62 CONTROLLER CONSISTENT AND COMPATIBLE WITH THE CITY OF BENTONVILLE EXISTING EQUIPMENT, SOFTWARE, HARDWARE,
32. VIDEO DETECTION SHALL BE ITERIS VANTAGE NEXT VIDEO DETECTION. MUST BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT, SOFTWARE, AND NETWORK.
33. VIDEO CABLE SHALL BE AS RECOMMENDED BY THE MANUFACTURER OF THE VIDEO PROCESSOR UNIT AND COMPATIBLE WITH THE SPECIFIED VIDEO DETECTORS.
34. TRAFFIC SIGNAL POLES, MAST ARMS, PEDESTRIAN POLES, AND LUMINAIRE ARMS SHALL BE PELCO DECORATIVE PER SPECIAL PROVISIONS.
35. PEDESTRIAN SIGNAL HEADS SHALL BE BLACK CLAMSHELL TYPE HOUSING WITH POLARA APS PUSH BUTTON WITH SPECIAL MESSAGES.
36. INSTALL AN EAGLE SIZE SUPER P CABINET (WITH INTEGRATED BBS COMPARTMENT) BLACK IN COLOR WITH FRONT, REAR, AND RIGHT SIDE OPENING DOORS. INSIDE SHALL BE WHITE
37. BATTERY BACKUP SYSTEM SHALL BE CLARY UPS SYSTEM OPERATING AS LINE FILTER FOR INCOMING SINGALS. MUST BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT, SOFTWARE, AND NETWORK.
38. PREEMPTION SHALL BE GLOBAL TRAFFIC TECHNOLOGIES OPTICOM GPS PREEMPTION AND MUST BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT, SOFTWARE, SERVER, AND
39. LUMINARIES SHALL BE HOLOPHANE MEMPHIS STYLE DECORATIVE LED LUMINARIES.
40. THE POSITION OF DETECTOR ZONES MAY BE FIELD ADJUSTED TO ACHIEVE MAXIMUM EFFICIENCY IN COUNT DATA AND VEHICLE ACTUATION, AS APPROVED BY THE ENGINEER.
41. THERE SHALL BE NO DEVIATION FROM THIS PLAN WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.
42. CONTRACTOR SHALL COORDINATE WITH T.E.C. INC., FOR COORDINATION TIMING DATA. CONTROLLER SHALL BE PROGRAMMED AND TESTED WITH COORDINATION DATA PRIOR TO
43. CONTRACTOR SHALL INSTALL, TERMINATE, AND TEST FIBER FROM NEAREST SERVICE POINT INTO CABINET, PRIOR TO TURN ON.
44. CITY OF BENTONVILLE WILL PROVIDE STREET NAME SIGNS AND THE CONTRACTOR SHALL INSTALL. CONTRACTOR SHALL PROVIDE AND INSTALL ALL OTHER SIGNS.
45. ALL POLES, MAST ARMS, AND ACCESSORIES SHALL BE BLACK IN COLOR.
46. CONTRACTOR SHALL REPAIR ALL SCUFFS, SCRATCHES, ETC., WITH CITY APPROVED MATERIALS.
47. CONTRACTOR SHALL PROVIDE EQUIPMENT SUBMITTALS TO THE CITY OF BENTONVILLE FOR APPROVAL PRIOR TO PURCHASING.
48. CONTRACTOR SHALL PROVIDE FINAL AS-BUILT DRAWINGS TO THE CITY OF BENTONVILLE.
49. THE CITY OF BENTONVILLE RESERVES THE RIGHT TO REJECT ANY MATERIALS OR EQUIPMENT THAT HAS BEEN DAMAGED IN SHIPPING, HANDLING, OR UNLOADING AND MAY REQUIRE REPLACEMENT AT NO COST TO THE CITY.
50. NEW TRAFFIC SIGNALS SHALL BE OPERATIONAL PRIOR TO REMOVAL OF EXISTING SIGNALS.
51. TRAFFIC SIGNAL EQUIPMENT REMOVED FROM THE INTERSECTIONS SHALL BECOME THE PROPERTY OF THE CITY OF BENTONVILLE. (SEE SPECIAL PROVISION)

* CLARIFICATION TO TRAFFIC SIGNAL NOTE 3:
ELECTRICAL SERVICE SHALL BE INSTALLED BY THE CONTRACTOR AND THE CONTRACTOR TO COORDINATE THE SERVICE CONNECTION WITH THE ELECTRIC DEPARTMENT. ADDITIONALLY, FOR ELECTRICAL SERVICE, A FREE-STANDING RACK SIMILAR TO A DS-1003 STANDARD SHOULD BE INSTALLED PER THE BEUD.

⚠TRAFFIC SIGNAL QUANTITIES

ITEM NUMBER	ITEM	PHASE 1 QUANTITIES	PHASE 2 QUANTITIES	FINAL QUANTITIES	TOTAL QUANTITIES	UNIT
SP & 701	SYSTEM LOCAL CONTROLLER-FIBER (8 PHASES)	1			1	EA
SP	ETHERNET SWITCH	1			1	EA
SP	GPS PREEMPTION SYSTEM	1			1	EA
SP	BATTERY BACKUP SYSTEM	1			1	EA
SP	WIC FIBER ENCLOSURE	1			1	EA
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	8		10	18	EA
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	3	2	2	7	EA
SP & 706	TRAFFIC SIGNAL HEAD, LED, (5 SECTION, 1 WAY)		1	2	3	EA
SP	RELOCATION OF TRAFFIC SIGNAL HEAD		3		3	EACH
SP & 707	CENTRAL CONTROL UNIT	1			1	EA
SP & 707	POLE MOUNTED ASSEMBLY			8	8	EA
SP & 707	INFRARED PROGRAMMING DEVICE	1			1	EA
SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED			8	8	EA
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)			⚠ 2920	2920	LF
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	2132	236	264	2632	LF
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)			⚠ 730	730	LF
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	96		⚠ 807	903	LF
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)			220	220	LF
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	37			37	LF
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES			⚠ 950	950	LF
SP	COMMUNICATION CABLE, FIBER (12 CHANNEL)	72			72	LF
sp	FIBER TRACER WIRE, #14 AWG, POLYETHYLENE INSULATION ORANGE IN COLOR	72			72	LF
SP	FIBER OPTIC PIGTAIL, 12 SM	20			20	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	37			37	LF
709	GALVANIZED STEEL CONDUIT (3")	108			108	LIN. FT.
710	NON-METALLIC CONDUIT (2")	101			101	LF
710	NON-METALLIC CONDUIT (3")	232		⚠ 831	1063	LF
SP & 711	CONCRETE PULL BOX (TYPE 3)			4	4	EACH
SP & 711	CONCRETE PULL BOX (TYPE 1 HD)	1			1	EACH
SP & 711	CONCRETE PULL BOX (TYPE 3 HD)	3		5	8	EA
SP & 711	PULL BOX FOR FIBER, DS-1609, 24"x36"x24"	2			2	EA
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (36')			1	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (38')			1	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (48')			1	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (54')			1	1	EACH
SP	LED LUMINAIRE ASSEMBLY			4	4	EA
SP & 715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION			6	6	EA
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1			1	EA
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.33	0.33	0.34	1.00	LUMP SUM
716	TREATED WOOD POLE (CLASS 2, 45')	4			4	EACH
SP	18" STREET NAME SIGN (INSTALL ONLY)			4	4	EA
SP	VIDEO DETECTOR ROTATION		2		2	EACH
SP & 733	VIDEO DETECTOR RACK (16 CHANNEL)	1			1	EA
* SP & 733	VIDEO DETECTOR (IP)	4		5	9	EA
SP & 733	VIDEO CABLE (EXTERIOR CAT 5E)	864		⚠ 993	1857	LF
733	VIDEO MONITOR (CLR)	1			1	EA
SP & 733	CENTRAL CONTROL UNIT (4 CHANNEL)	2			2	EA
SP	SDLC AND CABLES	1			1	LUMP SUM
SP	BLUETOOTH SYSTEM	1			1	EACH

* ONE SPARE VIDEO DETECTOR SHALL BE SUPPLIED

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS–ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.16675 — CLAIRE E. MCKINNEY

Digitally Signed 03/01/2024

BY	DESCRIPTION	DATE	REV.
AS	REVISION #1	03/01/2024	⚠

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNAL NOTES AND QUANTITIES

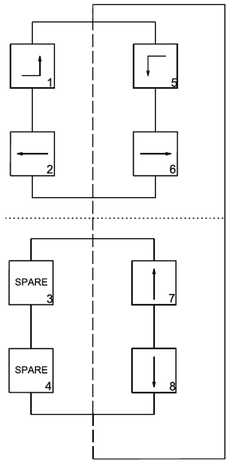
JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-600

LTFreedle 3/1/2024 12:39:21 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C600_SG.dgn
REVISED DATE:

PHASE 1 - PHASING DIAGRAM



NOTES:
1. TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF CONSTRUCTION.
2. CONTRACTOR SHALL HAVE PHASE 1 TRAFFIC SIGNAL OPERATIONAL PRIOR TO PHASE 1 CONSTRUCTION BEGINNING.
3. EXISTING SIGNAL EQUIPMENT SHALL BE REMOVED AFTER TEMPORARY SIGNALS ARE OPERATIONAL.
4. ALL GUY WIRE INSTALLATIONS SHALL BE STANDARD GUY INSTALLATION UNLESS OTHERWISE NOTED.
5. INSTALL 2-3" G.S. CONDUIT DOWN WOOD POLE AND INTO NEAREST PULL BOX.
6. PRIOR TO PHASE 1 CONSTRUCTION BEGINNING, CONTRACTOR SHALL INSTALL FIBER OPTIC COMMUNICATIONS AS SHOWN ON SHEET C-613.
7. SERVICE POINT TO BE INSTALLED IN FINAL LOCATION.
8. EXISTING CONDUIT TO BE ABANDONED.
9. FIBER CONNECTIVITY SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
10. SPAN WIRE ASSEMBLY SHALL BE SUBSIDIARY TO TREATED WOOD POLE(S) (1 ASSEMBLY EACH PER INTERSECTION), NO ADDITIONAL PAYMENT WILL BE MADE. THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING SPAN WIRE ASSEMBLIES (1 EACH), PER ARDOT SPECIFICATION 713 AT THE LOCATIONS SHOWN ON THE PLANS.

WALTON BLVD. AND MEDICAL CENTER PKWY. PHASES 1 & 2 - POLE DIMENSIONS

POLE	MAST ARM	MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	LUM. ANGLE
K	-	-	45'	15'	AS SHOWN
L	-	-	45'	15'	AS SHOWN
M	-	-	45'	-	-
N	-	-	45'	15'	AS SHOWN

PHASE 1 - SIGNAL FACES

12" LENSES

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

PHASES 1, 2, & 3 - DETECTOR SPACING CHART

WALTON BLVD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
MEDICAL CENTER PKWY. (NORTH APPROACH) VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
30 MPH	85'	N/A
MEDICAL CENTER PKWY. (SOUTH APPROACH) VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
25 MPH	85'	N/A

SCALE IN FEET
0 30 60 120

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 16675 — CLAIRE E. MCKINNEY

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 1

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: AS

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-601

LTFreedle 3/1/2023 4:11:02 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C601_SG.dgn
REVISED DATE:

WALTON BLVD. AND MEDICAL CENTER PKWY.
PHASES 1 & 2 - POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X,Y COORDINATES
K	WALTON BLVD. - STA. 31+86.02	36' LT.	667023.91, 735885.34
L	WALTON BLVD. - STA. 33+20+86	42' LT.	667159.69, 735884.92
M	WALTON BLVD. - STA. 33+16.23	56' RT.	667149.80, 735787.13
N	WALTON BLVD. - STA. 32+21.68	57' RT.	667054.48, 735790.52

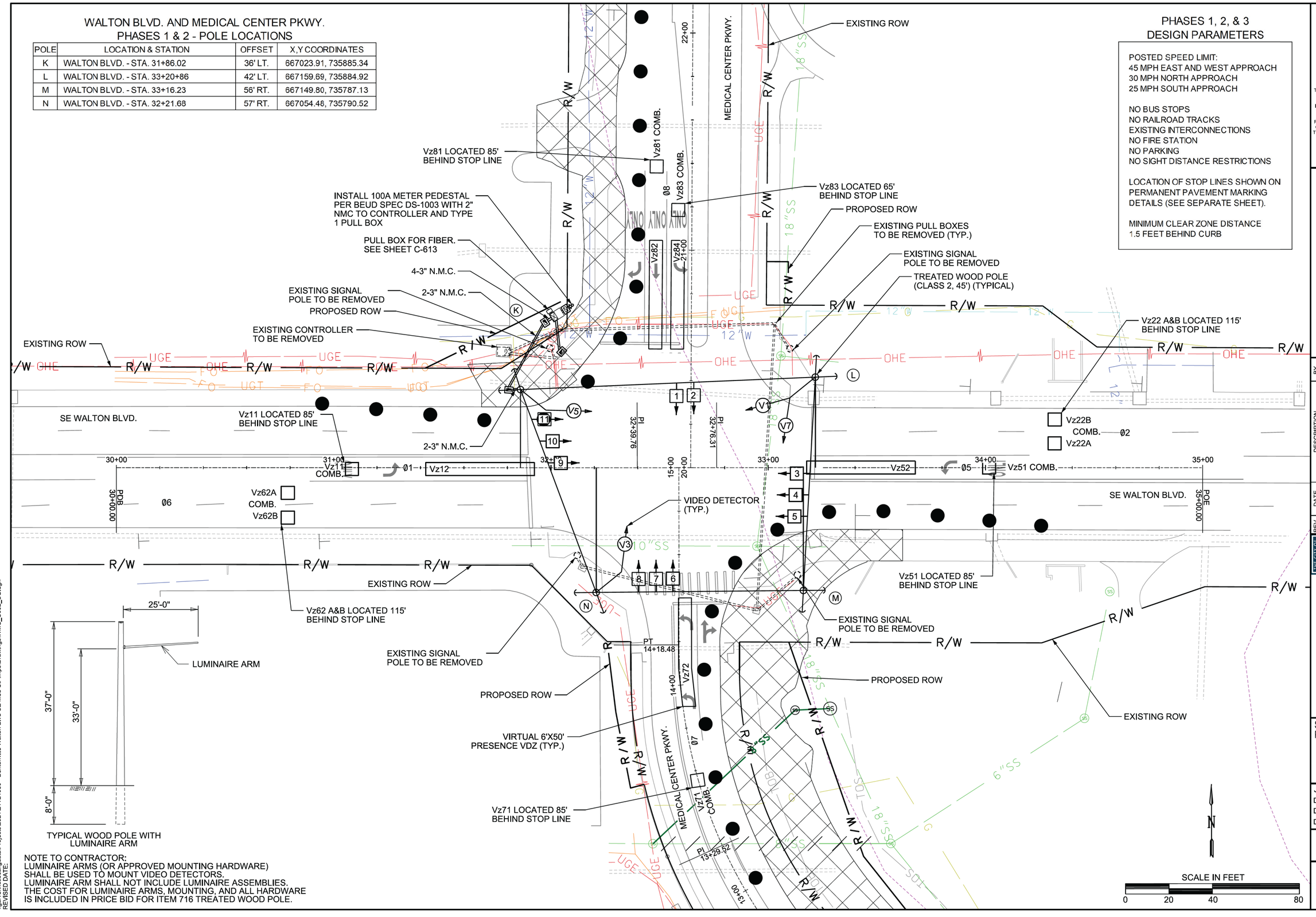
PHASES 1, 2, & 3
DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST AND WEST APPROACH
30 MPH NORTH APPROACH
25 MPH SOUTH APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP LINES SHOWN ON PERMANENT PAVEMENT MARKING DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
1.5 FEET BEHIND CURB



TYPICAL WOOD POLE WITH LUMINAIRE ARM

NOTE TO CONTRACTOR:
LUMINAIRE ARMS (OR APPROVED MOUNTING HARDWARE) SHALL BE USED TO MOUNT VIDEO DETECTORS.
LUMINAIRE ARM SHALL NOT INCLUDE LUMINAIRE ASSEMBLIES.
THE COST FOR LUMINAIRE ARMS, MOUNTING, AND ALL HARDWARE IS INCLUDED IN PRICE BID FOR ITEM 716 TREATED WOOD POLE.

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16675
CLAIRE E. MCKINNEY
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 1

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: AS

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-602

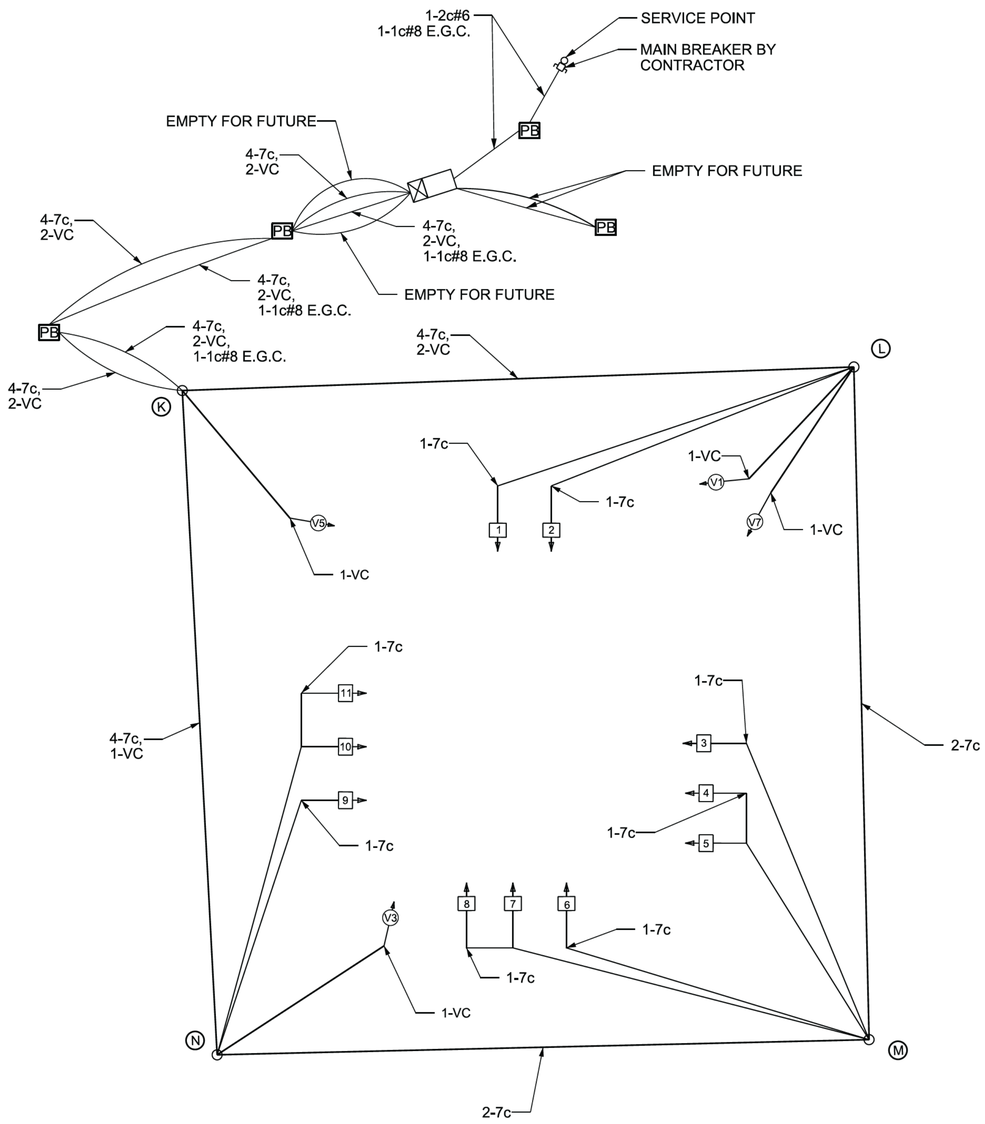
LTFreedle 3/1/2023 4:11:07 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C602_SG.dgn
REVISED DATE:

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.
3. SEE SHEET NUMBER C-614 FOR GROUNDING ARRAY DETAIL.

PHASE 1 - WIRING DIAGRAM

(NOT TO SCALE)



GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16675
CLAIRE E. MCKINNEY

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 1

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: AS

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

C-603

LTFreedle 3/1/2023 4:11:09 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C603_SG.dgn
REVISED DATE:

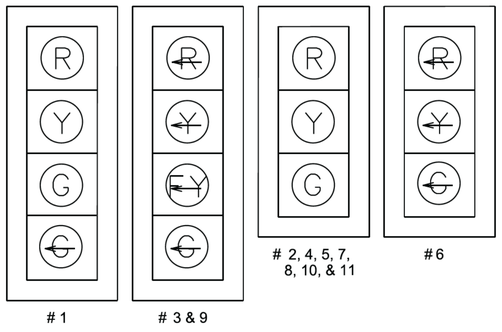
PHASE 1 - INTERVAL CHART

SIGNAL FACES	WALTON BLVD. AND MEDICAL CENTER PKWY.												FLASH SEQUEN
	1+5	CLR.	2+5	CLR.	1+6	CLR.	2+6	CLR.	7	CLR.	8	CLR.	
1	R	R	R	R	R	R	R	R	G ~~G~~	Y	R	R	R
2	R	R	R	R	R	R	R	R	G	Y	R	R	R
3	~~G~~	*	~~G~~	*	~~FY~~	***	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
4 & 5	R	R	G	**	R	R	G	**	R	R	R	R	R
6	R	R	R	R	R	R	R	R	R	R	G ~~G~~	Y	R
7 & 8	R	R	R	R	R	R	R	R	R	R	G	Y	R
9	~~G~~	*	~~FY~~	***	~~G~~	*	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
10 & 11	R	R	R	R	G	**	G	**	R	R	R	R	R

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
'** DENOTES YELLOW OR FLASHING YELLOW ARROW DEPENDING ON NEXT PHASE

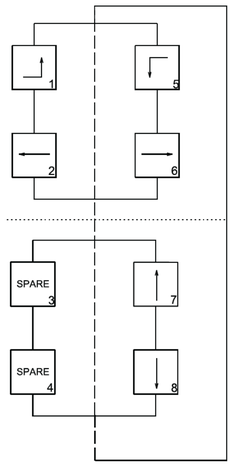
PHASE 1 - SIGNAL FACES

12" LENSES



NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION FOR RETRO -REFLECTIVE BACKPLATES FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

PHASE 1 - PHASING DIAGRAM



PHASE 1 - DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION											
WALTON BLVD. AND MEDICAL CENTER PKWY. DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			VIDEO DET. TUBE LENGTHS	COMMENTS
							LOCAL		MASTER SYSTEM DETECTOR NUMBERS		
DET. ID #	LOCATION DIRECTION	TPYE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #			
Vz11	EB TURN LEFT FAR	COMB.			1	V9	1	1		23"	V1
Vz12	EB LEFT TURN	LOCAL			2	V1	1			23"	V1
Vz21 A&B	WB ADVANCE	LOCAL			5	V2	2			23"	V5
Vz22 A&B	WB NEAR	COMB.			6	V10	2	2		23"	V5
Vz51	WB LEFT TURN FAR	COMB.			7	V13	5	5		23"	V5
Vz52	WB LEFT TURN	LOCAL			8	V5	5			23"	V5
Vz61	EB ADVANCE	LOCAL			3	V6	6			23"	V1
Vz62	EB NEAR	COMB.			4	V14	6	6		23"	V1
Vz71	NB ADVANCE	COMB.			11	V16	7	3		23"	V3
Vz72	NB NEAR	LOCAL			12	V8	7			23"	V3
Vz81	SB ADVANCE	COMB.			13	V12	8	4		23"	V7
Vz82	SB NEAR	LOCAL			14	V15	8			23"	V7
Vz83	SB LEFT TURN FAR	COMB.			15	V15	8	4		23"	V7
Vz84	SB LEFT TURN	LOCAL			16	V7	8			23"	V7
				SPARE: AMP CHN. # = 9 & 10							

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16675
CLAIRE E. MCKINNEY

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 1

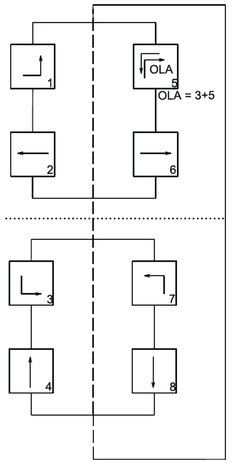
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: AS

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-604

LTFreedle 3/1/2023 4:11:10 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C604_SG.dgn
REVISED DATE:

PHASE 2 - PHASING DIAGRAM



NOTES:
1. TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF CONSTRUCTION.
2. CONTRACTOR SHALL HAVE PHASE 2 TRAFFIC SIGNAL OPERATIONAL PRIOR TO PHASE 2 CONSTRUCTION BEGINNING.
3. SIGNAL HEADS 2, 7, AND 8 SHALL BE RELOCATED ALONG SPAN WIRE AS SHOWN.
4. ROTATE VIDEO DETECTORS V3 AND V7 AS SHOWN TO ACCOMMODATE LANE SHIFTS.
5. SIGNAL HEADS 1 & 6 SHALL BE REMOVED.
6. THE GREEN AND YELLOW ARROW SIGNAL FACE ON SIGNAL HEAD 13 SHALL BE HARDWIRED TO RUN WITH PHASE 5 RESPECTIVELY, IN ORDER TO SIMULATE AN OVERLAP. THE SOLID SIGNAL FACE ON SIGNAL HEAD 13 SHALL BE HARDWIRED TO RUN WITH PHASE 4 RESPECTIVELY.
7. DURING PHASE 2 THE PERMANENT SIGNALS SHALL BE INSTALLED. UPON COMPLETION OF PHASE 2, THE TEMPORARY SIGNAL POLES SHALL BE REMOVED.
8. SEE FINAL PLANS FOR PERMANENT SIGNAL INFORMATION.
9. FIBER CONNECTIVITY SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

PHASE 2 - SIGNAL FACES

12" LENSES

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

PHASES 1, 2, & 3 - DETECTOR SPACING CHART

WALTON BLVD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
MEDICAL CENTER PKWY. (NORTH APPROACH) VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
30 MPH	85'	N/A
MEDICAL CENTER PKWY. (SOUTH APPROACH) VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
25 MPH	85'	N/A

SCALE IN FEET
0 30 60 120

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 — CERTIFICATE OF AUTHORIZATION — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 16675 — CLAIRE E. MCKINNEY

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 2

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: AS

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-605

LTFreedle 3/1/2023 4:11:19 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C605_SG.dgn
REVISED DATE:

PHASES 1, 2, & 3
DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST AND WEST APPROACH
30 MPH NORTH APPROACH
25 MPH SOUTH APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP LINES SHOWN ON PERMANENT PAVEMENT MARKING DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
1.5 FEET BEHIND CURB

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 — CERTIFICATE OF AUTHORIZATION — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 16675 — CLAIRE E. MCKINNEY
Digitally Signed 03/01/2023

BY	DESCRIPTION	DATE	REV.

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 2

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: AS

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-606

SCALE IN FEET
0 20 40 80

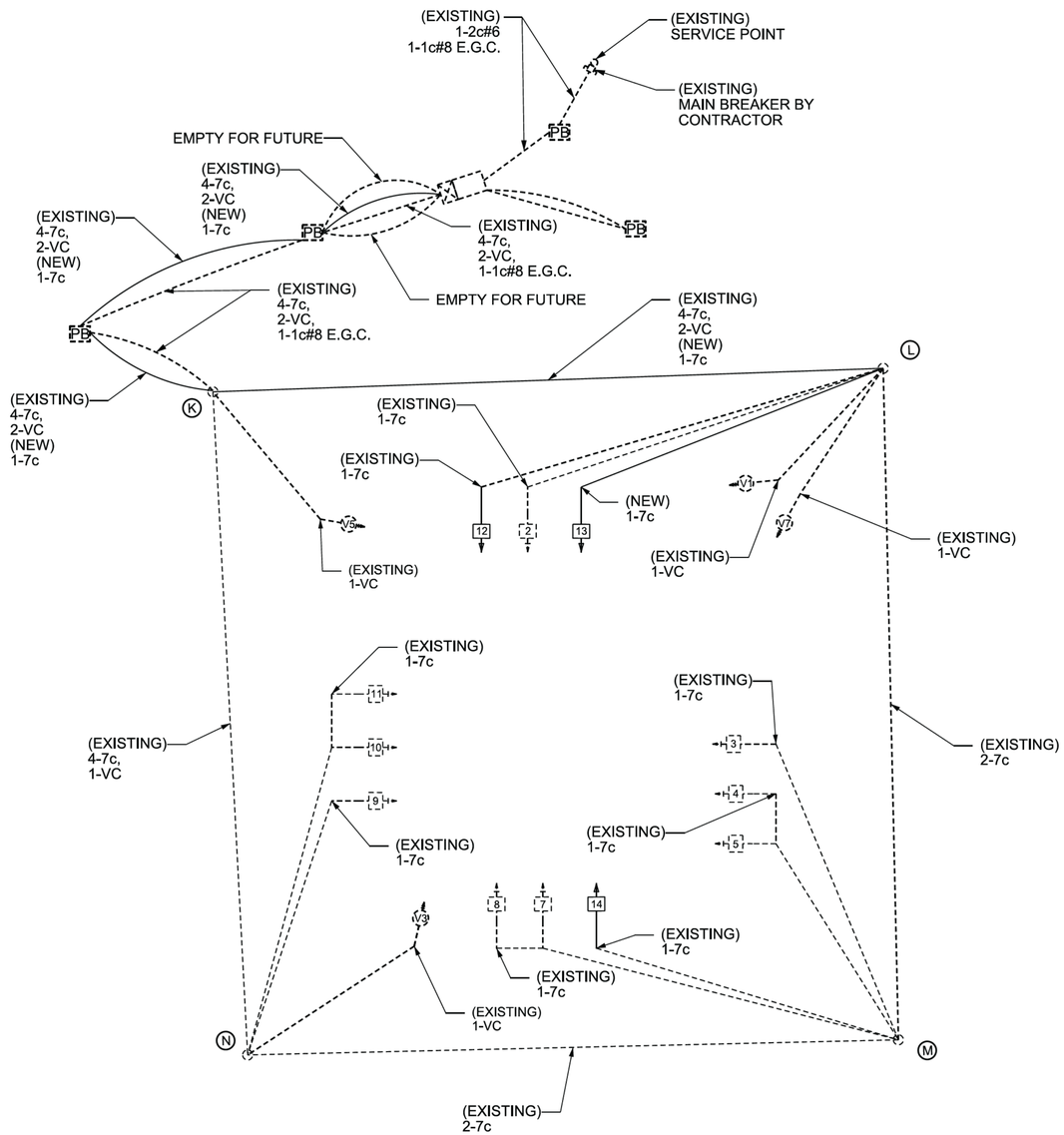
LTFreedle 3/1/2023 4:11:23 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C606_SG.dgn
REVISED DATE:

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

PHASE 2 - WIRING DIAGRAM

(NOT TO SCALE)



GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 16675 — CLAIRE E. MCKINNEY

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 2

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: AS

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

C-607

LTFreedle 3/1/2023 4:11:24 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C607_SG.dgn
REVISED DATE:

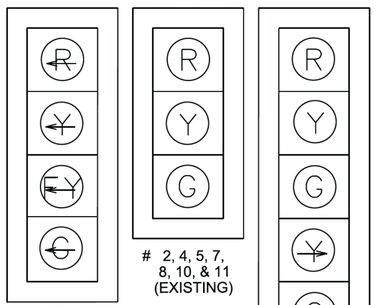
PHASE 2 - INTERVAL CHART

SIGNAL FACES	ID MEDICAL CENTER PKWY.																FLASH
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3+7	CLR.	4+7	CLR.	3+8	CLR.	4+8	CLR.	
2	R	R	R	R	R	R	R	R	R	R	R	R	G	**	G	**	R
3	~~G~~	*	~~G~~	*	~~FY~~	***	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
4 & 5	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R
7 & 8	R	R	R	R	R	R	R	R	R	R	G	**	R	R	G	**	R
9	~~G~~	*	~~FY~~	***	~~G~~	*	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
10 & 11	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
12	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~FY~~	***	~~G~~	*	~~FY~~	***	~~R~~
13	R ~~G~~	R	R	R *	R ~~G~~	R *	R	R	R	R	R	R	G	**	G	**	R
14	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~G~~	*	~~FY~~	***	~~FY~~	***	~~R~~

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES YELLOW OR FLASHING YELLOW ARROW DEPENDING ON NEXT PHASE

PHASE 2 - SIGNAL FACES

12" LENSES

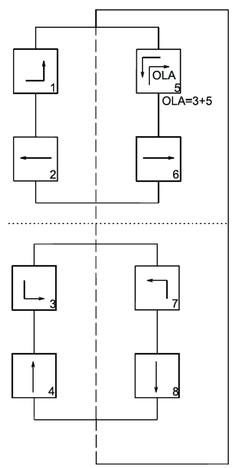


3 & 9
(EXISTING)
#12 & 14
(NEW)

2, 4, 5, 7, 8, 10, & 11
(EXISTING)

13
(NEW)

PHASE 2 - PHASING DIAGRAM



NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION FOR RETRO -REFLECTIVE BACKPLATES FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

PHASE 2 - DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION											
WALTON BLVD. AND MEDICAL CENTER PKWY. DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			VIDEO DET. TUBE LENGTHS	COMMENTS
							LOCAL		MASTER SYSTEM		
DET. ID #	LOCATION DIRECTION	TPYE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #	DETECTOR NUMBERS		
Vz11	EB TURN LEFT FAR	COMB.			1	V9	1	1		23"	V1
Vz12	EB LEFT TURN	LOCAL			2	V1	1			23"	V1
Vz21 A&B	WB ADVANCE	LOCAL			5	V2	2			23"	V5
Vz22 A&B	WB NEAR	COMB.			6	V10	2	2		23"	V5
Vz31A	SB LEFT FAR	COMB.			9	V11	3	3		23"	V3
Vz32A	SB LEFT	LOCAL			10	V3	3			23"	V3
Vz41	NB ADVANCE	COMB.			13	V12	4	4		23"	V7
Vz42	NB NEAR	LOCAL			14	V4	4			23"	V7
Vz51	WB LEFT TURN FAR	COMB.			7	V13	5	5		23"	V5
Vz52	WB LEFT TURN	LOCAL			8	V5	5			23"	V5
Vz61	EB ADVANCE	LOCAL			3	V6	6			23"	V1
Vz62	EB NEAR	COMB.			4	V14	6	6		23"	V1
Vz71A	NB LEFT FAR	COMB.			15	V15	7	7		23"	V7
Vz72A	NB LEFT	LOCAL			16	V7	7			23"	V7
Vz81	SB ADVANCE	COMB.			11	V16	8	8		23"	V3
Vz82	SB NEAR	LOCAL			12	V8	8			23"	V3
				SPARE: AMP CHN. # = NONE							

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16675
CLAIRE E. MCKINNEY
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 2

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: AS

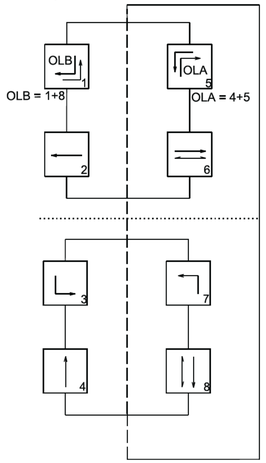
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-608

LTFreedle 3/1/2023 4:11:26 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C608_SG.dgn
REVISED DATE:

PHASE 3 - PHASING DIAGRAM

(SEE NOTE 8 FOR OVERLAPS)



NOTES:

1. TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF CONSTRUCTION.
2. CONTRACTOR SHALL HAVE FINAL TRAFFIC SIGNAL OPERATIONAL PRIOR TO PHASE 3 CONSTRUCTION BEGINNING.
3. SEE FINAL PLANS FOR PERMANENT SIGNAL INFORMATION.
4. DURING PHASE 2 THE PERMANENT SIGNALS SHALL BE INSTALLED. UPON COMPLETION OF PHASE 2, THE TEMPORARY SIGNAL POLES SHALL BE REMOVED.
5. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A.S. STANDARDS.
6. SIGNAL HEAD 8 SHALL BE BAGGED DURING PHASE 3 CONSTRUCTION.
7. PEDESTRIAN SIGNAL HEADS 15, 16, 21 & 22 SHALL REMAIN BLANK DURING PHASE 3 CONSTRUCTION.
8. THE GREEN AND YELLOW ARROW SIGNAL FACES ON SIGNAL HEADS 4 & 11 SHALL BE HARDWIRED TO RUN WITH PHASES 5 AND 1, RESPECTIVELY, IN ORDER TO SIMULATE AN OVERLAP. THE SOLID SIGNAL FACES ON SIGNAL HEADS 4 AND 11 SHALL BE HARDWIRED TO RUN WITH PHASES 4 AND 8, RESPECTIVELY.
9. FIBER CONNECTIVITY SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

PHASE 3 - SIGNAL FACES

12" LENSES

ONE SECTION (SOLID SYMBOL)

NOTES:

1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

PHASES 1, 2, & 3 - DETECTOR SPACING CHART

WALTON BLVD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
MEDICAL CENTER PKWY. (NORTH APPROACH) VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
30 MPH	85'	N/A
MEDICAL CENTER PKWY. (SOUTH APPROACH) VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
25 MPH	85'	N/A

SCALE IN FEET

0 30 60 120

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER GARVER LLC No. 766

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.16675 CLAIRE E. MCELHANEY

Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION #1	AS

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 3

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: CEM
DRAWN BY: AS

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

C-609

LTFreedle 3/27/2024 1:42:44 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C609_SG.dgn
REVISED DATE:

PHASES 1, 2, & 3
DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST AND WEST APPROACH
30 MPH NORTH APPROACH
25 MPH SOUTH APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP LINES SHOWN ON PERMANENT PAVEMENT MARKING DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
1.5 FEET BEHIND CURB

Vz81 LOCATED 85' BEHIND STOP LINE
VIRTUAL 6'X50' PRESENCE VDZ (TYP.)
Vz31 LOCATED 65' BEHIND STOP LINE
EXISTING ROW
PROPOSED ROW
Vz11 LOCATED 85' BEHIND STOP LINE
VIRTUAL 6'X50' PRESENCE VDZ (TYP.)
Vz22 A&B LOCATED 115' BEHIND STOP LINE
Vz62 A&B LOCATED 115' BEHIND STOP LINE
Vz71 A&B LOCATED 65' BEHIND STOP LINE
Vz41 LOCATED 85' BEHIND STOP LINE
SE WALTON BLVD.
MEDICAL CENTER PKWY.

Vz81 COMB. Ø3
Vz31 COMB. Ø8
Vz82
Vz32
Vz12
Vz11 COMB. Ø1
Vz52
Vz51 COMB. Ø5
Vz22B COMB. Ø2
Vz22A
Vz62A COMB.
Vz62B Ø6
Vz72A
Vz72B
Vz42
Vz71A COMB.
Vz71B Ø7
Vz41 COMB.

PI 32+39.76
PI 32+76.31
PT 14+18.48
PI 13+29.52

22+00 21+00 30+00 31+00 32+00 15+00 20+00 33+00 34+00 35+00 36+00 14+00 13+00

SCALE IN FEET
0 20 40 80

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER
CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16675
CLAIRE E. MCKINNEY
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION #1	AS

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS - PHASE 3

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: CEM
DRAWN BY: AS

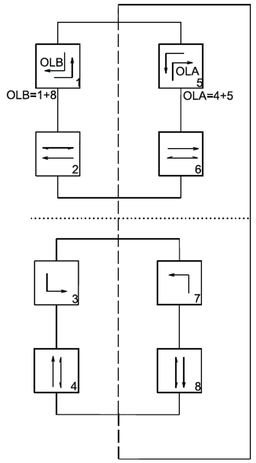
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-610

LTFreedle
3/27/2024 1:42:49 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C610_SG.dgn
REVISED DATE:

PHASING DIAGRAM

(SEE NOTE 8 FOR OVERLAPS)



WALTON BLVD. AND MEDICAL CENTER PKWY.
POLE DIMENSIONS

POLE	MAST ARM	* MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	* LUM. ANGLE
A	36'	270°	35'	15'	270°
B	-	-	12'	-	-
C	-	-	12'	-	-
D	38'	180°	35'	15'	180°
E	-	-	12'	-	-
F	-	-	12'	-	-
G	54'	180°	35'	15'	180°
H	-	-	12'	-	-
I	48'	180°	35'	15'	180°
J	-	-	12'	-	-

* ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

SIGNAL FACES

12" LENSES

4 & 11

3, 6, 7, 10 13, & 14

1, 2, 8, & 9

5 & 12

ONE SECTION (SOLID SYMBOL)

15-22

NOTES:

1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION FOR RETRO -REFLECTIVE BACKPLATES FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. REFER TO SPECIAL PROVISONS FOR DETAILS ON NEW REQUIRMENTS FOR PEDESTRIAN SIGNAL HEADS.
4. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A.S. STANDARDS.
5. CROSSWALKS NOT SHOWN FOR CLARITY.
6. SEE DRAWING NUMBER C-613 FOR AERIAL FIBER COMMUNICATION DETAILS.
7. PULL BOXES FOR FIBER SHALL BE LABELED "CITY FIBER"AND PULL BOXES FOR SIGNAL SHALL BE LABELED "TRAFFIC SIGNALS".
8. THE GREEN AND YELLOW ARROW SIGNAL FACES ON SIGNAL HEADS 4 AND 11 SHALL BE HARDWIRED TO RUN WITH PHASES 5 AND 1, RESPECTIVELY, IN ORDER TO SIMULATE AN OVERLAP. THE SOLID SIGNAL FACES ON SIGNAL HEADS 4 AND 11 SHALL BE HARDWIRED TO RUN WITH PHASES 4 AND 8, RESPECTIVELY.

DETECTOR SPACING CHART

WALTON BLVD. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
MEDICAL CENTER PKWY. (NORTH APPROACH) VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
30 MPH	85'	N/A
MEDICAL CENTER PKWY. (SOUTH APPROACH) VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
25 MPH	85'	N/A

SCALE IN FEET

0 30 60 120

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.16675 — CLAIRE E. MCKINNEY

Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/27/2024	REVISION 1	CEM

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS

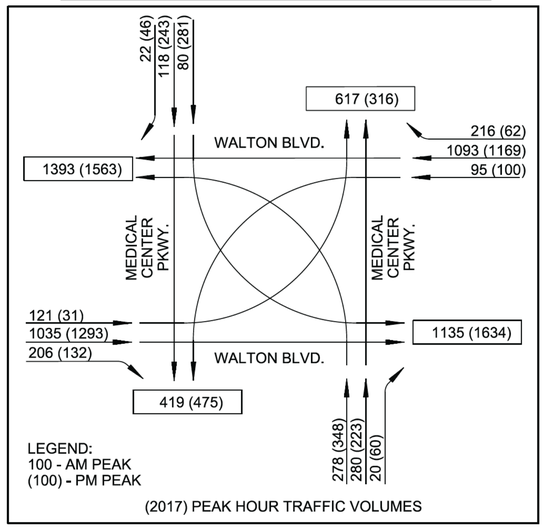
JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-611

LTFreedle 3/27/2024 1:42:53 PM
WORKSPACE:Garver: 2012 \\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C611_SG.dgn
REVISED DATE:

TRAFFIC FLOW DIAGRAM



(2017) PEAK HOUR TRAFFIC VOLUMES

DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST AND WEST APPROACH
30 MPH NORTH APPROACH
25 MPH SOUTH APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP LINES SHOWN ON PERMANENT PAVEMENT MARKING DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
1.5 FEET BEHIND CURB

WALTON BLVD. AND MEDICAL CENTER PKWY.
POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X,Y COORDINATES
A	WALTON BLVD. - STA. 31+66.83	37' LT.	667004.78, 735887.51
B	WALTON BLVD. - STA. 32+01.09	41' LT.	667039.20, 735889.68
C	WALTON BLVD. - STA. 32+06.23	51' LT.	667044.74, 735899.15
D	WALTON BLVD. - STA. 32+93.78	91' LT.	667134.04, 735935.31
E	WALTON BLVD. - STA. 33+12.77	57' LT.	667151.48, 735900.67
F	WALTON BLVD. - STA. 33+28.39	45' LT.	667166.56, 735888.31
G	WALTON BLVD. - STA. 33+28.77	52' RT.	667162.41, 735790.60
H	WALTON BLVD. - STA. 33+15.12	63' RT.	667148.38, 735780.21
I	WALTON BLVD. - STA. 32+23.07	56' RT.	667057.57, 735792.23
J	WALTON BLVD. - STA. 32+05.64	43' RT.	667039.95, 735805.96

NOTE:
1. CROSSWALKS NOT SHOWN FOR CLARITY. SEE DRAWING NUMBER C-302 FOR DETAILS.
2. SEE DRAWING NUMBER C-613 FOR AERIAL FIBER COMMUNCIATION DETAILS.

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16675
CLAIRE E. MCELHANEY

Digitally Signed 03/27/2024

BY	DESCRIPTION	DATE	REV.
CEM	REVISION #1	03/27/2024	1

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: CEM
DRAWN BY: HRH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

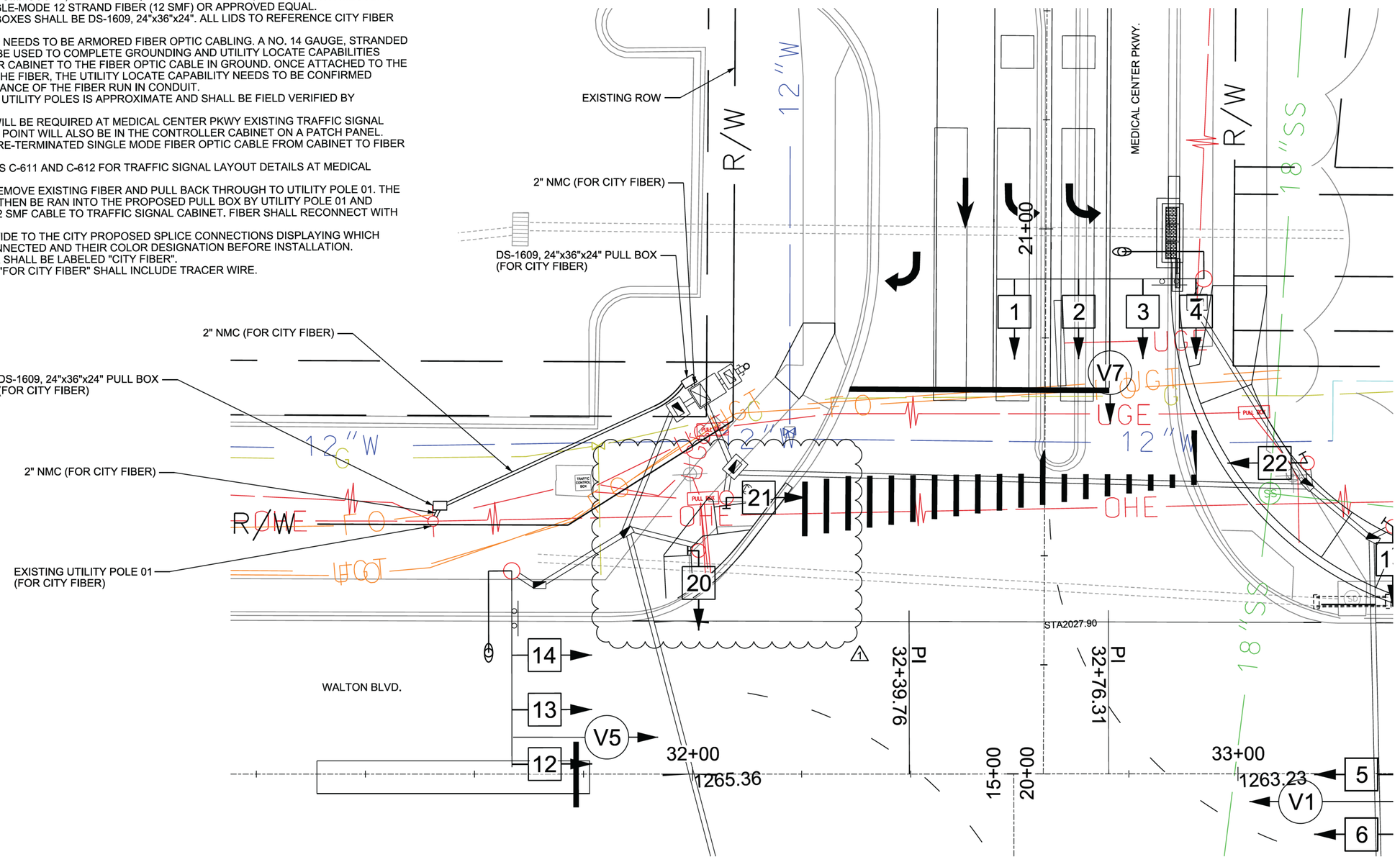
DRAWING NUMBER
C-612

SCALE IN FEET
0 20 40 80

LTFreedle 3/27/2024 1:42:57 PM
WORKSPACE:Garver 2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C612_SG.dgn
REVISED DATE:

NOTES:

1. THIS PROJECT INVOLVES THE MODIFICATION & INSTALLATION OF FIBER OPTIC CABLE TO INTERCONNECT THE PROPOSED TRAFFIC SIGNAL AT WALTON AND MEDICAL CENTER PKWY. TO THE EXISTING SYSTEM. ALL FIBER OPTIC WORK MUST BE COORDINATED WITH THE CITY'S TRAFFIC ENGINEERING AND IT DEPARTMENTS RESPECTFULLY BEFORE MODIFYING THE CURRENT FIBER INSTALLATION.
2. ALL FIBER SHOULD BE COMMSCOPE, LIGHTSCOPE, OR CORNING ALTOS, OUTSIDE WITH MESSENGER WIRE (AS NEEDED) SINGLE-MODE 12 STRAND FIBER (12 SMF) OR APPROVED EQUAL.
3. ALL FIBER OPTIC PULL BOXES SHALL BE DS-1609, 24"x36"x24". ALL LIDS TO REFERENCE CITY FIBER OPTIC LINE.
4. ALL FIBER OPTIC CABLE NEEDS TO BE ARMORED FIBER OPTIC CABLING. A NO. 14 GAUGE, STRANDED COPPER CABLE SHALL BE USED TO COMPLETE GROUNDING AND UTILITY LOCATE CAPABILITIES FROM THE CONTROLLER CABINET TO THE FIBER OPTIC CABLE IN GROUND. ONCE ATTACHED TO THE ARMORED JACKET ON THE FIBER, THE UTILITY LOCATE CAPABILITY NEEDS TO BE CONFIRMED CAPABLE FOR THE DISTANCE OF THE FIBER RUN IN CONDUIT.
5. LOCATION OF EXISTING UTILITY POLES IS APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.
6. FIBER OPTIC SPLICES WILL BE REQUIRED AT MEDICAL CENTER PKWY EXISTING TRAFFIC SIGNAL CABINET. TERMINATION POINT WILL ALSO BE IN THE CONTROLLER CABINET ON A PATCH PANEL. PIGTAIL SHALL BE SC PRE-TERMINATED SINGLE MODE FIBER OPTIC CABLE FROM CABINET TO FIBER PULL BOX..
7. SEE DRAWING NUMBERS C-611 AND C-612 FOR TRAFFIC SIGNAL LAYOUT DETAILS AT MEDICAL CENTER PKWY.
8. CONTRACTOR SHALL REMOVE EXISTING FIBER AND PULL BACK THROUGH TO UTILITY POLE 01. THE EXISTING FIBER SHALL THEN BE RAN INTO THE PROPOSED PULL BOX BY UTILITY POLE 01 AND SPLICED WITH A NEW 12 SMF CABLE TO TRAFFIC SIGNAL CABINET. FIBER SHALL RECONNECT WITH NEW CABINET.
9. CONTRACTOR TO PROVIDE TO THE CITY PROPOSED SPLICE CONNECTIONS DISPLAYING WHICH CABLES ARE TO BE CONNECTED AND THEIR COLOR DESIGNATION BEFORE INSTALLATION.
10. PULL BOXES FOR FIBER SHALL BE LABELED "CITY FIBER".
11. ALL CONDUIT LABELED "FOR CITY FIBER" SHALL INCLUDE TRACER WIRE.



SCALE IN FEET
0 10 20 40

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER
CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER
GARVER LLC No. 766
STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.16675 CLAIRE E. MCELHANEY
Digitally Signed 03/27/2024

REV.	DATE	DESCRIPTION	BY
1	03/27/2024	REVISION #1	AS

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: CEM
DRAWN BY: JRM

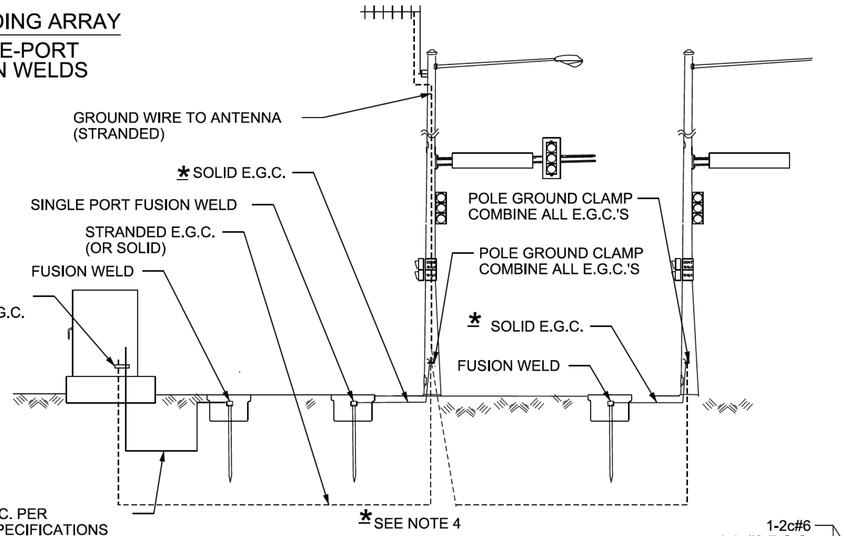
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-613

LTFreedle 3/27/2024 1:43:00 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C613_SG.dgn
REVISED DATE:

GROUNDING ARRAY

SINGLE-PORT FUSION WELDS

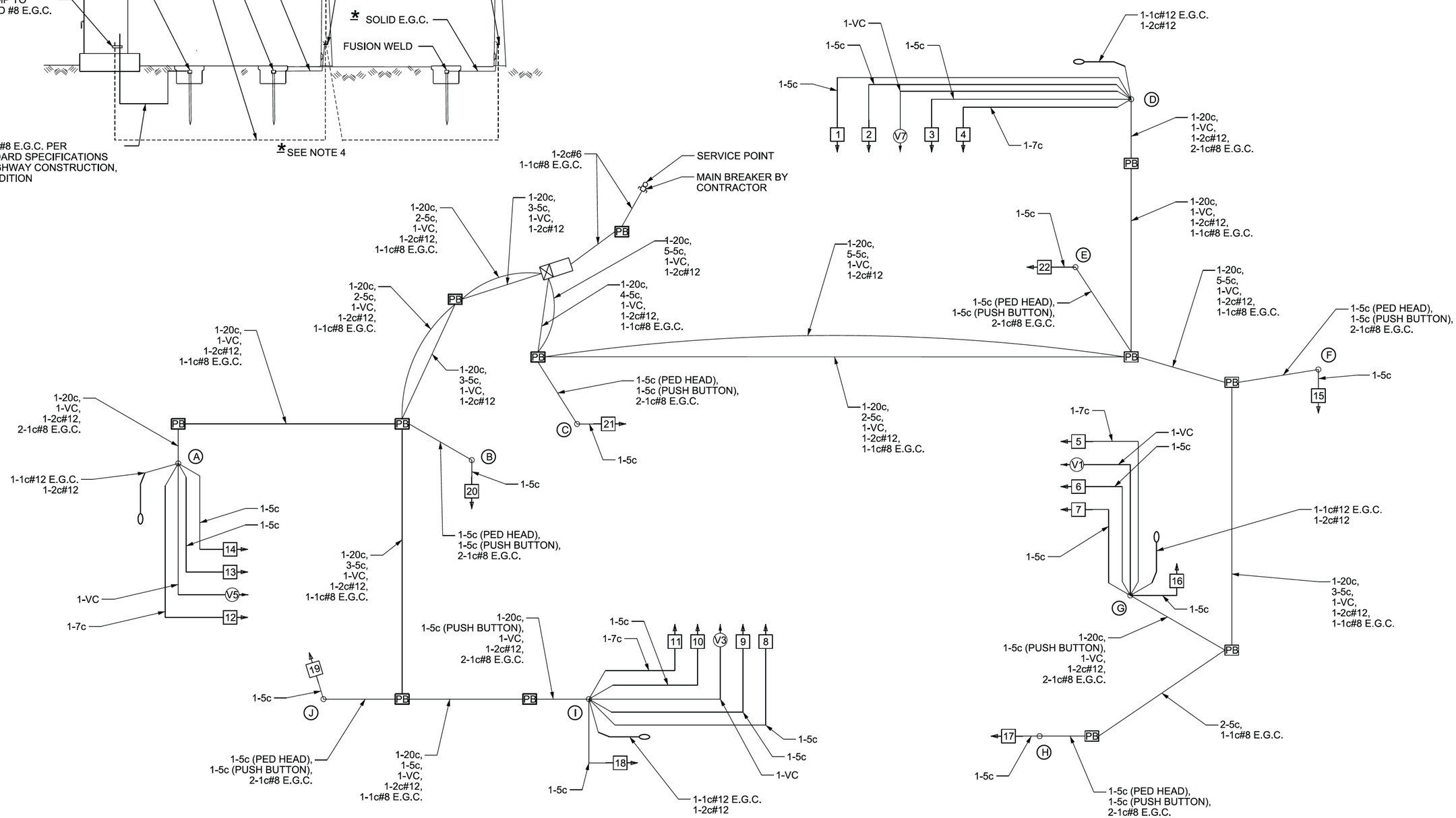


NOTES TO CONTRACTOR:

1. SEPARATE 5c/#14 A.W.G. TO EACH POLE WITH PEDESTRIAN PUSH BUTTONS.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

WIRING DIAGRAM

(NOT TO SCALE)



GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 16675 — CLAIRE E. MCKINNEY

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS

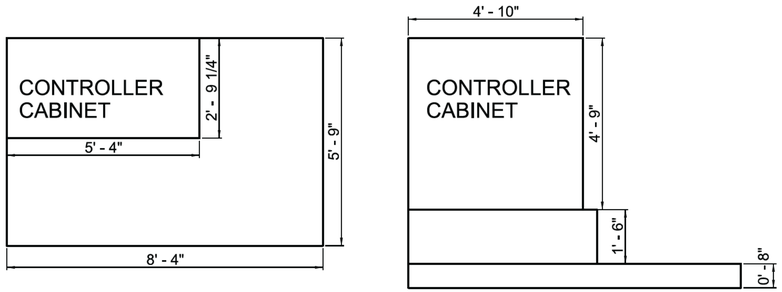
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: HRM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER

C-614

LTFreedle 3/1/2023 4:11:55 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C614_SG.dgn
REVISED DATE:



SUPER P FOUNDATION DETAIL

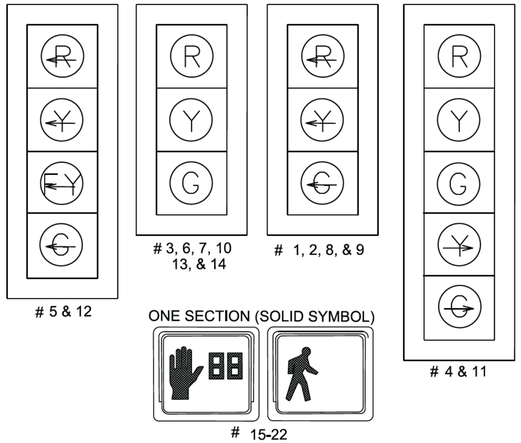
INTERVAL CHART

SIGNAL FACES	WALTON BLVD. AND MEDICAL CENTER PKWY. 1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	4+7	CLR.	4+8	CLR.	3+8	CLR.	3+7	CLR.	FLASH SEQUENCE
1 & 2	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~G~~	*	~~R~~
3	R	R	R	R	R	R	R	R	R	R	G	**	G	**	R	R	R
4	R ~~G~~	R *	R	R	R ~~G~~	R *	R	R	R	R	G	**	G	**	R	R	R
5	~~G~~	*	~~G~~	*	~~FY~~	***	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
6 & 7	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R
8 & 9	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	*	~~R~~
10	R	R	R	R	R	R	R	R	G	**	G	**	R	R	R	R	R
11	R ~~G~~	R *	R ~~G~~	R *	R	R	R	R	G	**	G	**	R	R	R	R	R
12	~~G~~	*	~~FY~~	***	~~G~~	*	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
13 & 14	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
15 & 16	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	BLK
17 & 18	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK
19 & 20	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	BLK
21 & 22	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	BLK

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES YELLOW OR FLASHING YELLOW ARROW DEPENDING ON NEXT PHASE

SIGNAL FACES

12" LENSES



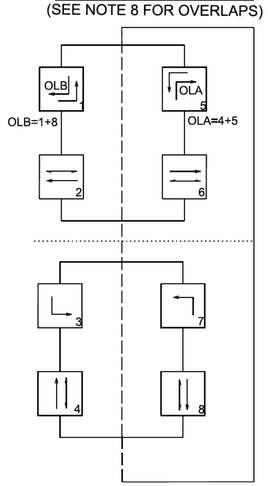
ONE SECTION (SOLID SYMBOL)

15-22

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION FOR RETRO -REFLECTIVE BACKPLATES FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. REFER TO SPECIAL PROVISONS FOR DETAILS ON NEW REQUIRMENTS FOR PEDESTRIAN SIGNAL HEADS.
4. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A.S. STANDARDS.
5. CROSSWALKS NOT SHOWN FOR CLARITY. SEE DRAWING NUMBER C-613 FOR AERIAL FIBER COMMUNICATION DETAILS.
6. PULL BOXES FOR FIBER SHALL BE LABELED "CITY FIBER".
7. THE GREEN AND YELLOW ARROW SIGNAL FACES ON SIGNAL HEADS 4 AND 11 SHALL BE HARDWIRED TO RUN WITH PHASES 5 AND 1, RESPECTIVELY IN ORDER TO SIMULATE AN OVERLAP. THE SOLID SIGNAL FACES ON SIGNAL HEADS 4 AND 11 SHALL BE HARDWIRED TO RUN WITH PHASES 4 AND 8, RESPECTIVELY.

PHASING DIAGRAM

(SEE NOTE 8 FOR OVERLAPS)



DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION												
WALTON BLVD. AND MEDICAL CENTER PKWY. DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL		MASTER SYSTEM DETECTOR NUMBERS	VIDEO DET. TUBE LENGTHS	COMMENTS
DET. ID #	LOCATION DIRECTION	TPYE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #			
Vz11	EB TURN LEFT FAR	COMB.			1	V9	1	1		37"	V1
Vz12	EB LEFT TURN	LOCAL			2	V1	1			37"	V1
Vz21 A&B	WB ADVANCE	LOCAL			5	V2	2			37"	V5
Vz22 A&B	WB NEAR	COMB.			6	V10	2	2		37"	V5
Vz31 A&B	SB LEFT FAR	COMB.			9	V11	3	3		37"	V3
Vz32 A&B	SB LEFT	LOCAL			10	V3	3			37"	V3
Vz41	NB ADVANCE	COMB.			13	V12	4	4		37"	V7
Vz42	NB NEAR	LOCAL			14	V4	4			37"	V7
Vz51	WB LEFT TURN FAR	COMB.			7	V13	5	5		37"	V5
Vz52	WB LEFT TURN	LOCAL			8	V5	5			37"	V5
Vz61 A&B	EB ADVANCE	LOCAL			3	V6	6			37"	V1
Vz62 A&B	EB NEAR	COMB.			4	V14	6	6		37"	V1
Vz71 A&B	NB LEFT FAR	COMB.			15	V15	7	7		37"	V7
Vz72 A&B	NB LEFT	LOCAL			16	V7	7			37"	V7
Vz81	SB ADVANCE	COMB.			11	V16	8	8		37"	V3
Vz82	SB NEAR	LOCAL			12	V8	8			37"	V3
PB2	MEDICAL N. LEG	PED.				P2	2				
PB4	WALTON E. LEG	PED.				P4	4				
PB6	MEDICAL S. LEG	PED.				P6	6				
PB8	WALTON W. LEG	PED.				P8	8				
				SPARE: AMP CHN. # = NONE							

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

GARVER
© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16675
CLAIRE E. MCKINNEY

Digitally Signed 03/01/2023

BY	DESCRIPTION	DATE	REV.

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

SIGNALIZATION PLANS

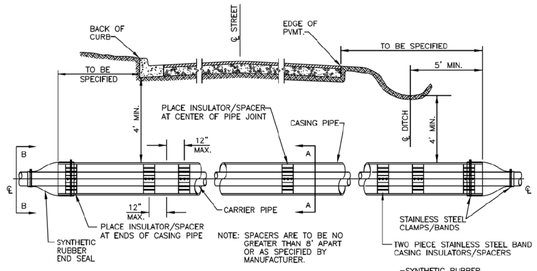
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: CEM
DRAWN BY: HRM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-615

LTFreedle 3/1/2023 4:11:56 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C615_SG.dgn
REVISED DATE:

ENCASEMENT DETAIL



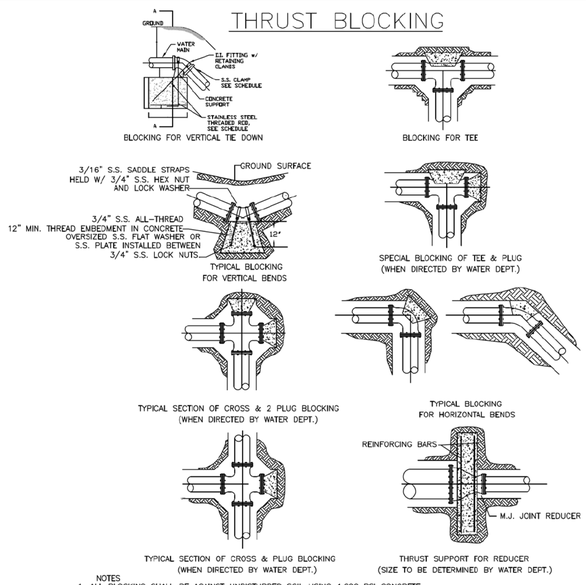
CARRIER & CASING SIZES									
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"
CASING	16"	16"	16"	18"	20"	24"	30"	30"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

*ALL BELLS SHALL BE RESTRAINED INSIDE ENCASEMENT BY APPROVED METHOD.

GENERAL WATER/SEWER DETAIL: GWS01

THRUST BLOCKING



NOTES
1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED SOIL USING 4,000 PSI CONCRETE.
2. WHERE SOIL CONDITIONS MAKE IT NECESSARY TO POUR CONCRETE OVER JOINTS, THE ENDS OF THE ADJACENT PIPES MUST HAVE A THRUST BLOCK TO RESIST MOVEMENT OF THESE JOINTS.
3. WEIGHT CALCULATIONS TO BE BASED ON REACTION BACKING TABLE (SEE GWS03).
4. WHEN BLOCKING AGAINST FITTINGS, FITTINGS SHALL BE COVERED WITH POLYETHYLENE WRAP TO PREVENT BONDING OF CONCRETE
5. WHERE SHEAR BECOMES A PROBLEM PROPER REINFORCING MUST BE INSTALLED INTO THE BLOCKING.
6. CLEARANCE SHALL BE A MINIMUM OF 6" BETWEEN PIPE AND OBSTRUCTIONS.
7. CLEARANCE ON PIPES BELONGING TO OIL/GAS COMPANIES SHALL BE 18" UNLESS SPECIAL PERMISSION IS GIVEN BY THESE COMPANIES AND THE DEPARTMENT.
8. 12" OF ALL THREAD EMBEDED IN CONCRETE
9. MIN. 5/8" ALL THREAD FOR SECTIONS 10FT OR UNDER

GENERAL WATER/SEWER DETAIL: GWS02

REACTION BACKING TABLE

BLOCKING SCHEDULE					
PIPE SIZE		BENDS 45°	22 1/2°	11 1/4°	ROD DIA.
8"	VOLUME REQ'D (CU. FT.)	98.5	50.2	25.2	
	A (FT.)	5.00'	4.00'	3.00'	
	B (FT.)	4.00'	3.20'	2.80'	3/4 IN.
	C (FT.)	5.00'	4.00'	3.00'	
	MIN. CLAMP (2 EA.)	3/8 IN. x 2 IN.			
12"	VOLUME REQ'D (CU. FT.)	209.5	106.8	53.7	
	A (FT.)	6.00'	5.00'	4.00'	
	B (FT.)	6.00'	4.25'	3.50'	3/4 IN.
	C (FT.)	6.00'	5.00'	4.00'	
	MIN. CLAMP (2 EA.)	1/2 IN. x 2 IN.			
18"	VOLUME REQ'D (CU. FT.)	457.2	233.1	117.1	
	A (FT.)	8.00'	6.50'	5.00'	
	B (FT.)	7.25'	5.50'	4.75'	1 IN.
	C (FT.)	8.00'	5.50'	5.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			
24"	VOLUME REQ'D (CU. FT.)	800.3	408.0	205.0	
	A (FT.)	9.50'	7.50'	6.00'	
	B (FT.)	9.00'	7.25'	5.75'	1 1/4 IN.
	C (FT.)	9.50'	7.50'	6.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			

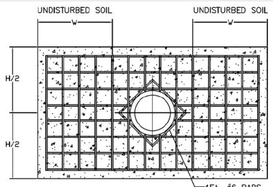
VOLUME CALCULATED ON THE BASIS OF CONCRETE REACTING THRUST ON THE RESPECTIVE BENDS UNDER AN INTERNAL PRESSURE OF 250 PSI, 50 PSI SURGE AND THE WEIGHT OF CONCRETE IS 150 POUNDS PER CU. FT.

NOTES:
1. ALL FITTINGS SHALL BE MECHANICAL JOINTS.
2. DO NOT COVER BELLS OR FLANGES WITH CONCRETE.
3. WRAP ALL FITTINGS WITH POLY WRAP.
4. BACK ALL TEES ACCORDING TO SIZE OF BRANCH.
5. BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE.
6. ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL, SHALL BE BACKED WITH CONCRETE.
7. REACTION BACKING TABLE IS BASED ON 150 PSI AND SOIL BEARING PRESSURE OF 2,000 LB/SQ. FT. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS REQUIRED BY CITY WATER DEPARTMENT.

GENERAL WATER/SEWER DETAIL: GWS03

ANCHOR COLLAR SPECIFICATIONS

ANCHOR COLLAR SCHEDULE						
PIPE SIZE	DIMENSIONS W	H	T	M	REINFORCING BARS "A" BARS	"B" BARS
6"	1.5'	2.0'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
8"	1.5'	2.5'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
12"	2.0'	4.0'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
16"	3.0'	4.5'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
20"	3.0'	5.0'	2.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
24"	3.5'	5.5'	2.0'	M.J. RETAINER GLAND	#7@6"	#6@10"
30"	6.5'	6.0'	2.5'	4"	#8@6"	#7@10"
36"	7.0'	7.0'	2.5'	4"	#8@6"	#7@10"



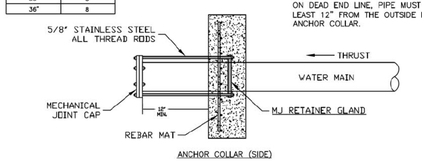
ANCHOR COLLAR (ELEVATION)

ROD REQUIREMENTS	
MAIN SIZE	NO. OF RODS
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

NOTE:
USE M.J. RETAINER GLANDS FOR PIPE 24" AND SMALLER.

NOTE:
PIPE SURFACES SHALL BE CLEANED OF ALL FOREIGN MATERIAL BEFORE 4000 PSI CONCRETE COLLAR IS POURED.

NOTE:
ON DEAD END LINE, PIPE MUST EXTEND AT LEAST 12" FROM THE OUTSIDE EDGE OF ANCHOR COLLAR.

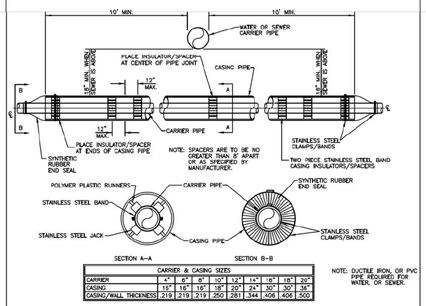


ANCHOR COLLAR (SIDE)

NOTE:
ALL-THREAD STEEL RODS SHALL BE 5/8" STAINLESS STEEL WITH STAINLESS STEEL HARDWARE.

GENERAL WATER/SEWER DETAIL: GWS04

ENCASEMENT CROSSING DETAIL



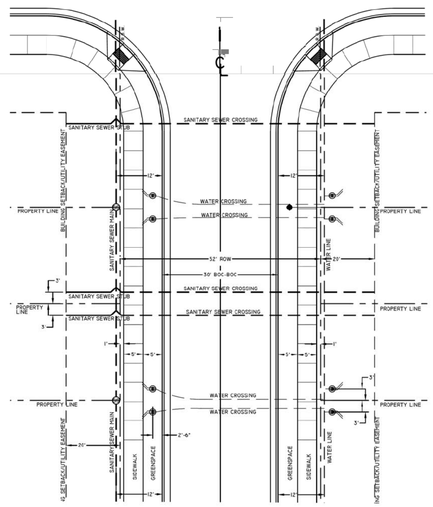
CARRIER & CASING SIZES									
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"
CASING	12"	16"	16"	18"	20"	24"	30"	30"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

*ALL BELLS SHALL BE RESTRAINED BY APPROVED METHOD.

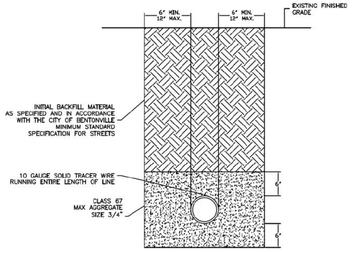
GENERAL WATER/SEWER DETAIL: GWS05

SUBDIVISION UTILITY PLACEMENT



GENERAL WATER/SEWER DETAIL: GWS06

TYPICAL BEDDING DETAIL



* REFER TO STREET SPECIFICATIONS FOR STREET REPAIR INFORMATION

GENERAL WATER/SEWER DETAIL: GWS07

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER/SEWER DETAILS

811 Know what's **below.** **Call** before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

DRAWN BY:	JI	DATE: 03/16/2021
APPROVED BY:	PN	DATE: 03/16/2021
SHEET NUMBER:	1	OF 1

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

WATER AND SEWER DETAILS

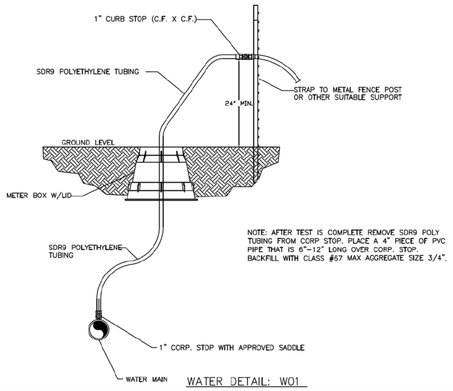
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-951

LTFreedle 3/1/2023 4:12:22 PM
\\WORKSPACE\Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C951_WD.dgn
REVISED DATE:

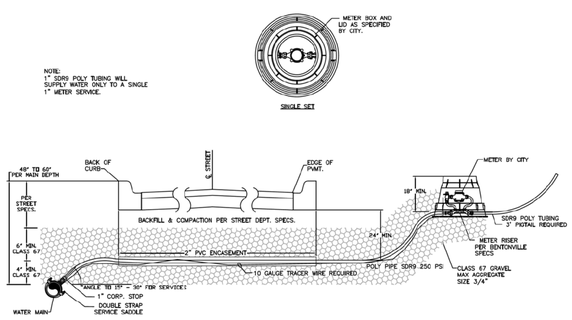
TEMPORARY 1" BLOW OFF ASSEMBLY SAMPLE POINTS



NOTE: AFTER TEST IS COMPLETE REMOVE SDR9 POLY TUBING FROM CORP STOP. PLACE A 4" PIECE OF PVC PIPE THAT IS 6"-12" LONG OVER CORP. STOP. BACKFILL WITH CLASS #67 MAX AGGREGATE SIZE 3/4".

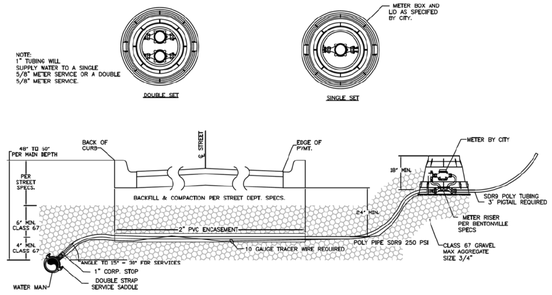
WATER DETAIL: W01

WATER SERVICE DETAIL 1"



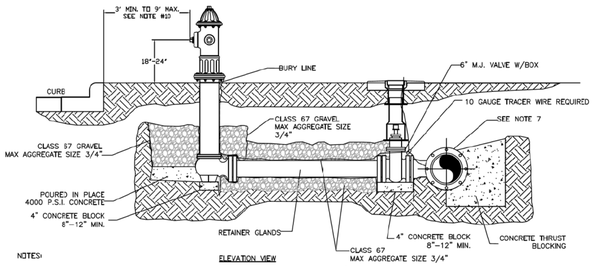
WATER DETAIL: W02

WATER SERVICE DETAIL 5/8"



WATER DETAIL: W03

FIRE HYDRANT DETAIL W/ RETAINER GLANDS

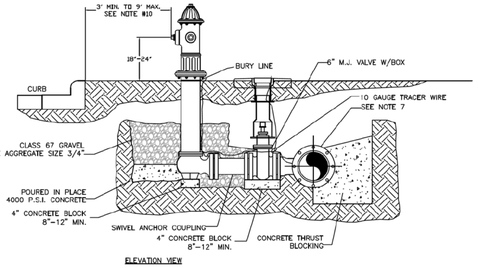


ELEVATION VIEW

NOTES:
1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
2. USE 6" NIPPLE WITH M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTER.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS)
8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB OR EDGE OF DRAINING SURFACE, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

WATER DETAIL: W04

FIRE HYDRANT DETAIL W/SWIVEL ANCHOR COUPLING



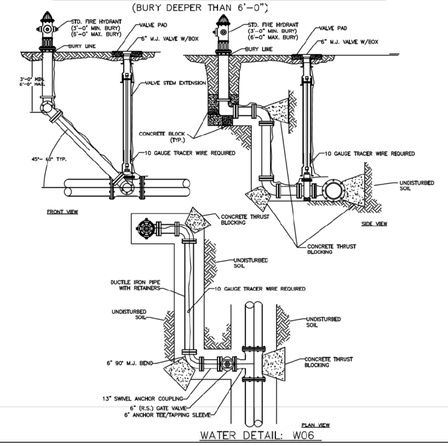
ELEVATION VIEW

NOTES:
1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
2. M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTER.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS)
8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

WATER DETAIL: W05

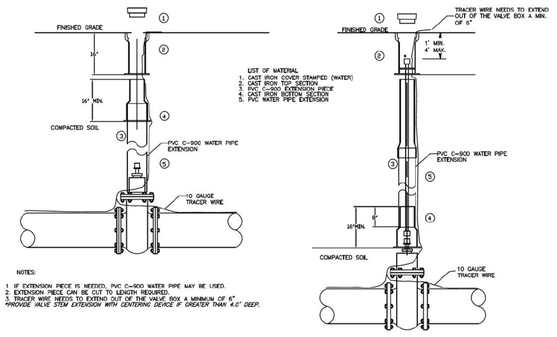
DEEP BURY FIRE HYDRANTS

(BURY DEEPER THAN 6'-0")



WATER DETAIL: W06

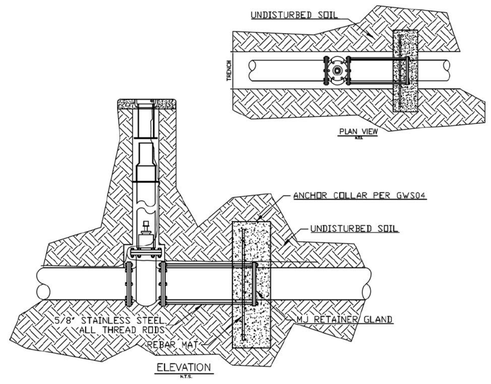
VALVE BOX VALVE STEM & TRACER WIRE INSTALLATION



NOTES:
1. IF EXTENSION PIECE IS NEEDED, PVC C-900 WATER PIPE MAY BE USED.
2. EXTENSION PIECE CAN BE CUT TO LENGTH REQUIRED.
3. TRACER WIRE NEEDS TO EXTEND OUT OF THE VALVE BOX A MINIMUM OF 6".
*PROVIDE VALVE STEM EXTENSION WITH CENTERING DEVICE IF GREATER THAN 4.0' DEEP.

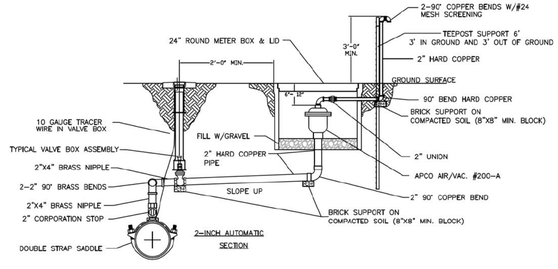
WATER DETAIL: W07

RESTRAINED GATE VALVE



WATER DETAIL: W08

2" COMBINATION AIR/VACUUM VALVE DETAIL



NOTES:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W09

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER DETAILS

Know what's **below.**
Call before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY:	JI	DATE:	03/16/2021
APPROVED BY:	PN	DATE:	03/16/2021
SHEET NUMBER:	1	OF	2

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

WATER AND SEWER DETAILS

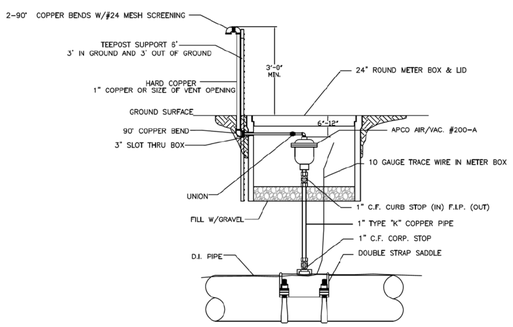
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-952

LTFreedle 3/1/2023 4:12:46 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C951_WD.dgn
REVISED DATE:

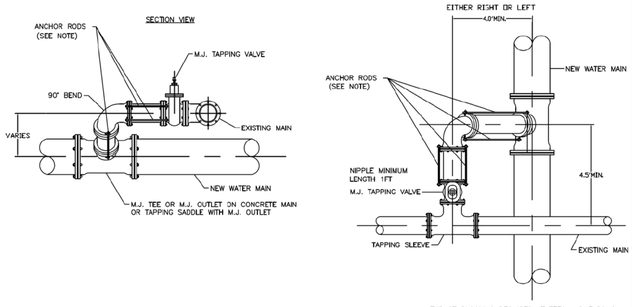
1" COMBINATION AIR/VACUUM VALVE DETAIL



NOTES:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W10

SWING CONNECTION – NEW MAIN TO EXISTING MAIN



THRUST BLOCKING REQUIRED AT TEES AND ELBOWS.

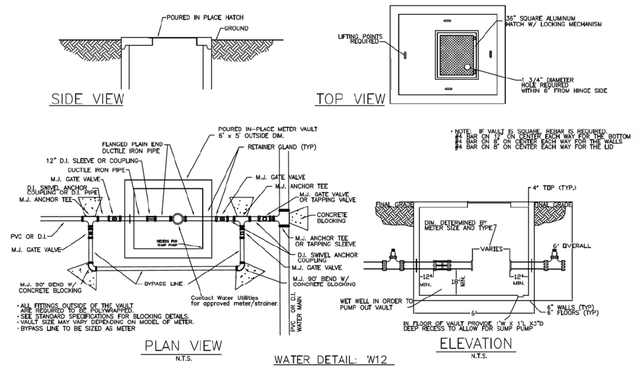
PIPE SIZE	6"	8"	12"
RODS PER NIPPLE	2	2	4

NOTES:
1. CONTRACTOR SHALL LOCATE EXISTING MAIN IN ADVANCE OF LAYING NEW LINE IN ORDER TO ASSURE ADEQUATE LENGTH TO ADJUST DEPTH OF NEW MAIN.
2. DIMENSIONS SHOWN ARE RECOMENDED MINIMUMS TO PROVIDE ADEQUATE ROOM FOR TIGHTENING BOLTS ON JOINTS. (OTHER DIMENSIONS MAY BE USED)
3. PROVIDE STAINLESS STEEL "ALL THREAD(MIN 5/8")" TIE RODS WITH EYE BOLTS FOR ANCHORING ALL JOINTS.
4. RODS SHALL BE FIELD CUT TO FIT & SHALL BE PROTECTED WITH POLYWRAP.
5. ROTATE TEE UP & ELBOW DOWN AS REQUIRED TO MATCH.
6. USE TYPICAL CONCRETE BLOCKING REQUIRED.

WATER DETAIL: W11

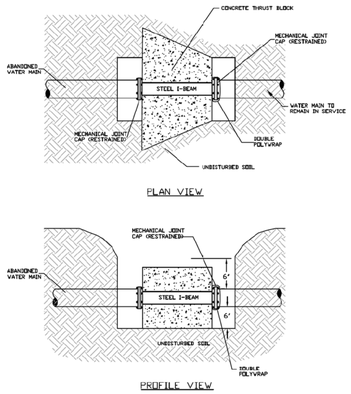
METER VAULT DETAIL FOR 4" – 8" METERS (TYPICAL)

(DIMENSIONS MAY VARY FOR METER SIZES)



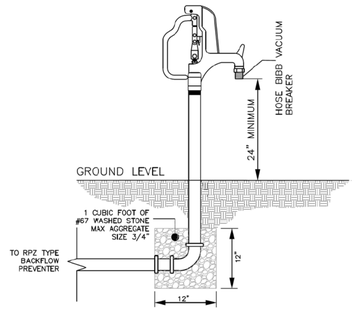
WATER DETAIL: W12

CUT/CAP DETAIL



WATER DETAIL: W13

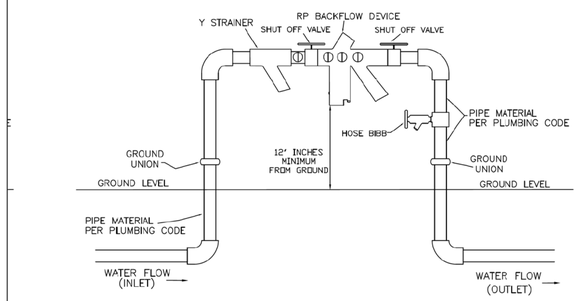
FROST FREE HOSE BIBB WITH VACUUM BREAKER



ELEVATION
N.T.S.

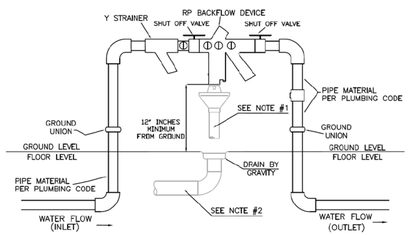
WATER DETAIL: W14

REDUCED PRESSURE (RP) IRRIGATION ONLY



WATER DETAIL: W15

REDUCED PRESSURE (RP) IRRIGATION ONLY



INDOOR APPLICATION ONLY NOTES:

1. AN AIR GAP DRAIN IS REQUIRED TO REDUCE SPLASHING OF MINOR DISCHARGES FROM THE RELIEF VALVE DRAIN PORT.
2. INDOOR INSTALLATION OF RP'S SHOULD PROVIDE FOR DRAINAGE CAPABLE OF HANDLING IN EXCESS OF THE MAXIMUM DISCHARGE RATE EXPECTED BY THE BACKFLOW ASSEMBLY MANUFACTURER.

WATER DETAIL: W16

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER DETAILS

Know what's **below.**
Call before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY:	JI	DATE:	03/16/2021
APPROVED BY:	PN	DATE:	03/16/2021

SHEET NUMBER: 2 OF 2

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

WATER AND SEWER DETAILS

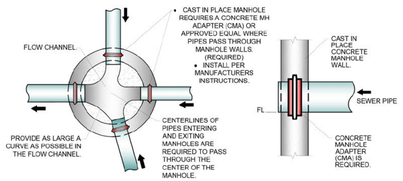
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-953

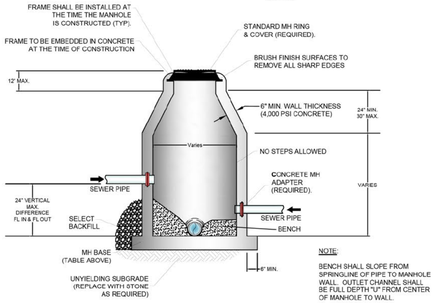
LTFreedle 3/1/2023 4:13:16 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C951_WD.dgn
REVISED DATE:

SANITARY SEWER CAST IN PLACE MANHOLE



- CAST IN PLACE MANHOLE REQUIRES A CONCRETE MH ADAPTER (CMA) OR APPROVED EQUAL WHERE PIPES PASS THROUGH MANHOLE WALLS. (REQUIRED)
- INSTALL PER MANUFACTURERS INSTRUCTIONS.

CONCRETE MANHOLE ADAPTER (CMA) DETAIL



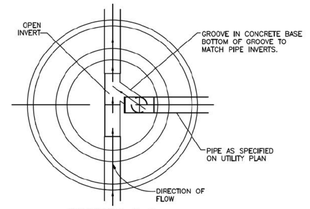
NOTE:
BENCH SHALL SLOPE FROM SPRINGLINE OF PIPE TO MANHOLE WALL. OUTLET CHANNEL SHALL BE FULL DEPTH "U" FROM CENTER OF MANHOLE TO WALL.

Inside Diameter of Manhole	Minimum Wall Thickness	Base Thickness	Minimum Ring & Cover Size
4' DIA.	6"	8"	24" (< or Equal to 24" Pipes)
5' DIA.	8"	10"	
6' DIA.	8"	12"	36" (> 24" Pipes)

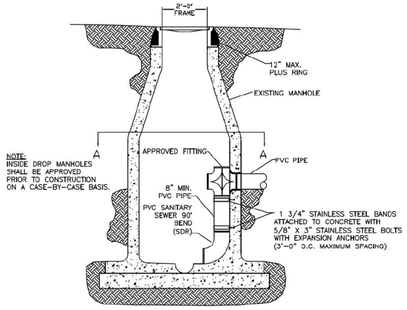
MANHOLE INFORMATION TABLE

SANITARY SEWER DETAIL: SS01

SANITARY SEWER INTERIOR DROP MANHOLE



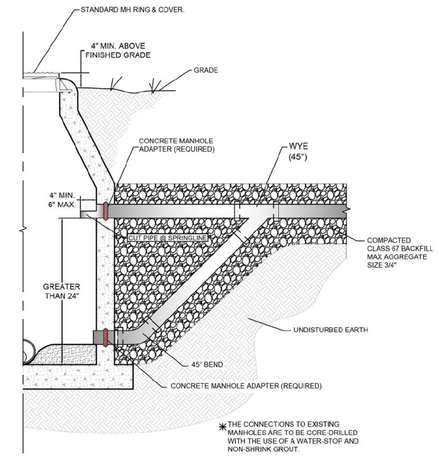
SECTION A-A



NOTE:
INSIDE DROP MANHOLES SHALL BE APPROVED PRIOR TO CONSTRUCTION ON A CASE-BY-CASE BASIS.

SANITARY SEWER DETAIL: SS02

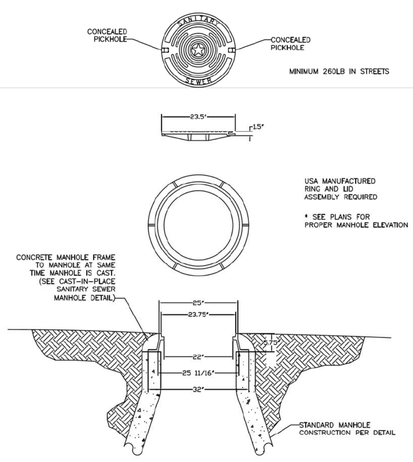
SANITARY SEWER EXTERIOR DROP MANHOLE



*THE CONNECTIONS TO EXISTING MANHOLES ARE TO BE CORE-DRILLED WITH THE USE OF A WATER-STOP AND NON-SHRINK GROUT.

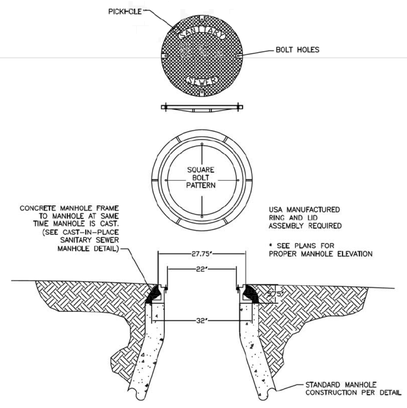
SANITARY SEWER DETAIL: SS03

HEAVY DUTY MANHOLE LID & FRAME



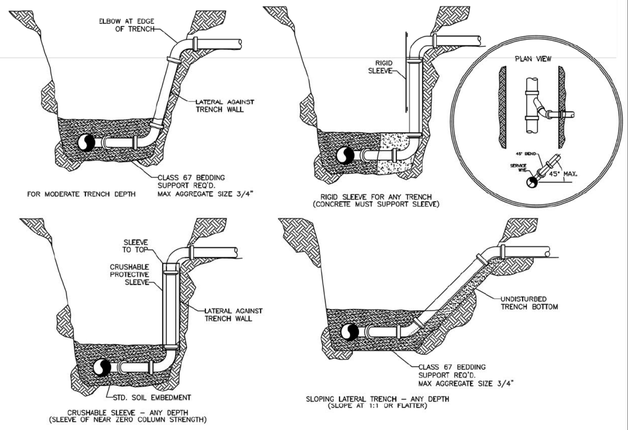
SANITARY SEWER DETAIL: SS04

WATER TIGHT BOLTED MANHOLE LID & FRAME



SANITARY SEWER DETAIL: SS05

SANITARY SEWER SERVICE WYE



SANITARY SEWER DETAIL: SS06

THE CITY OF WASTEWATER WATER BENTONVILLE

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

SAN.SEWER DETAILS

811 Know what's **below.** **Call** before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY:	JI	DATE:	03/16/2021
APPROVED BY:	PN	DATE:	03/16/2021
SHEET NUMBER:	1	OF	2

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

WATER AND SEWER DETAILS

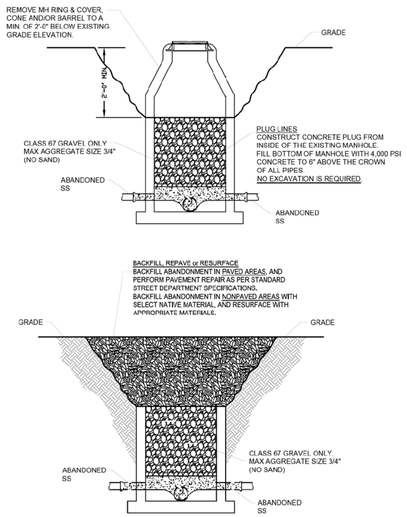
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-954

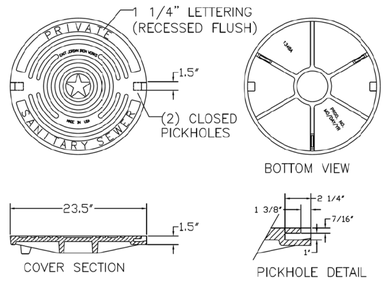
LTFreedle 3/1/2023 4:13:33 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_C951_WD.dgn
REVISED DATE:

SANITARY SEWER MANHOLE ABANDONMENT



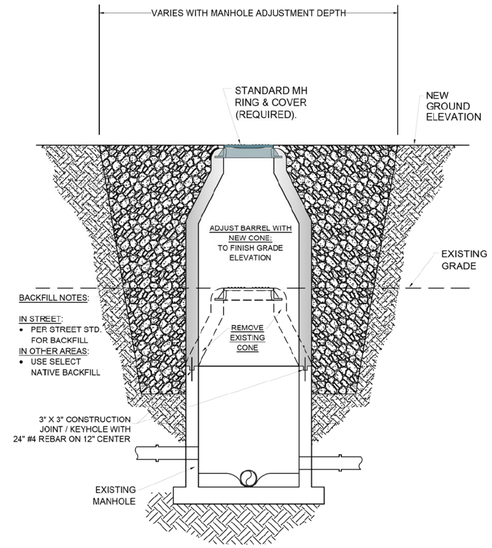
SANITARY SEWER DETAILS: SS07

PRIVATE MANHOLE RING AND LID



SANITARY SEWER DETAILS: SS08

TYPICAL MANHOLE ADJUST TO GRADE



SANITARY SEWER DETAILS: SS09

THE CITY OF WASTEWATER BENTONVILLE

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

SAN.SEWER DETAILS

Know what's **below.**
Call before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY: JI	DATE: 03/16/2021
APPROVED BY: PN	DATE: 03/16/2021
SHEET NUMBER: 2	OF 2

GARVER

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

REV.	DATE	DESCRIPTION	BY

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

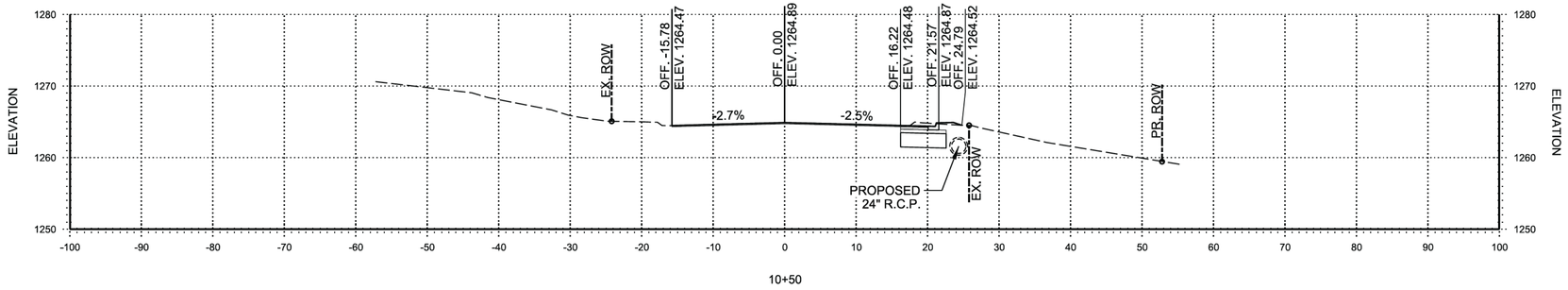
WATER AND SEWER DETAILS

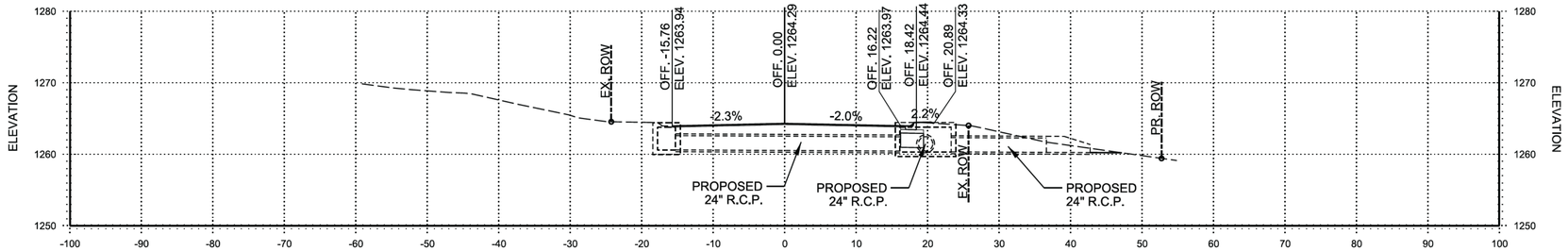
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: JAA
DRAWN BY: TSA

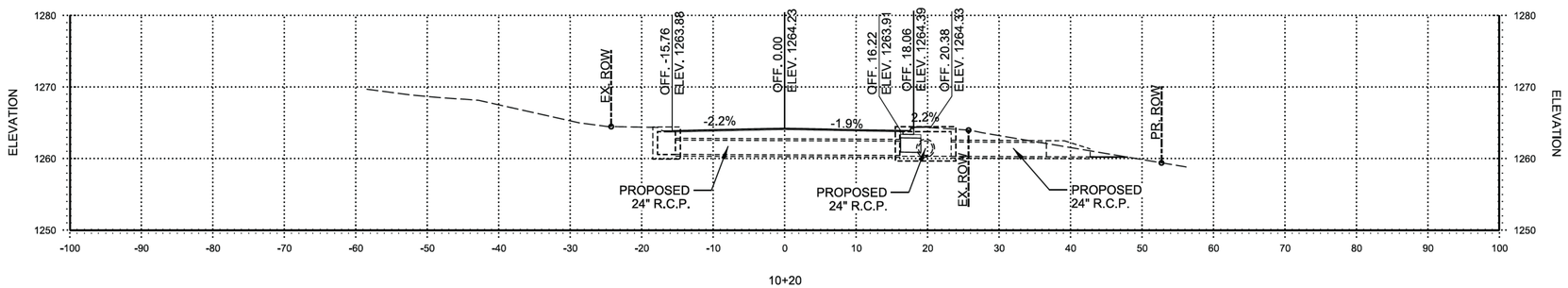
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
C-955

LTFreedle 3/1/2023 4:14:00 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Impst\Drawings\WMC_C851_WD.dgn
REVISED DATE:







STA. 10+20 TO STA. 10+50

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
AND MEDICAL CENTER
PARKWAY IMPROVEMENTS

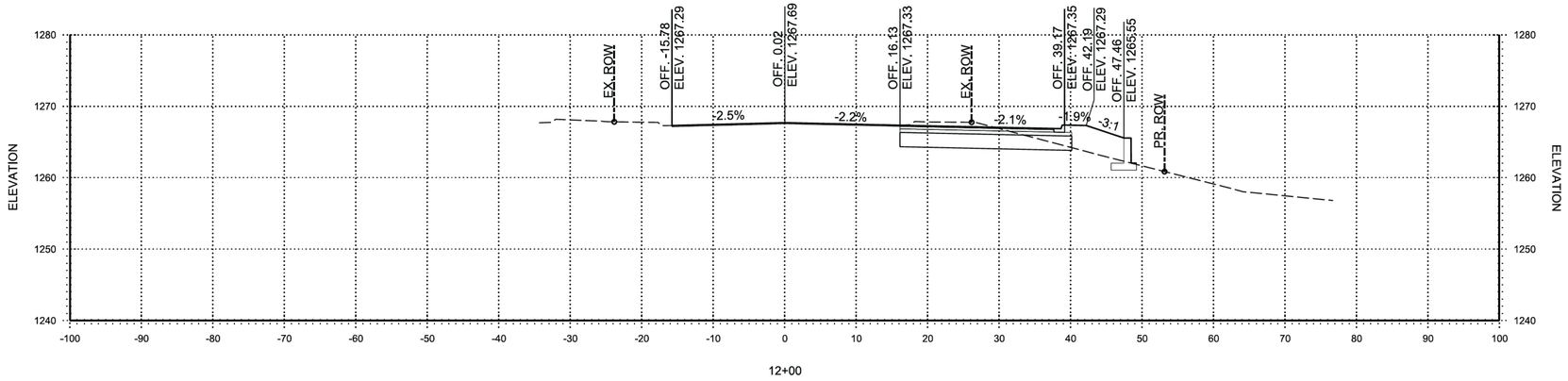
(S) MEDICAL CENTER PARKWAY CROSS SECTIONS

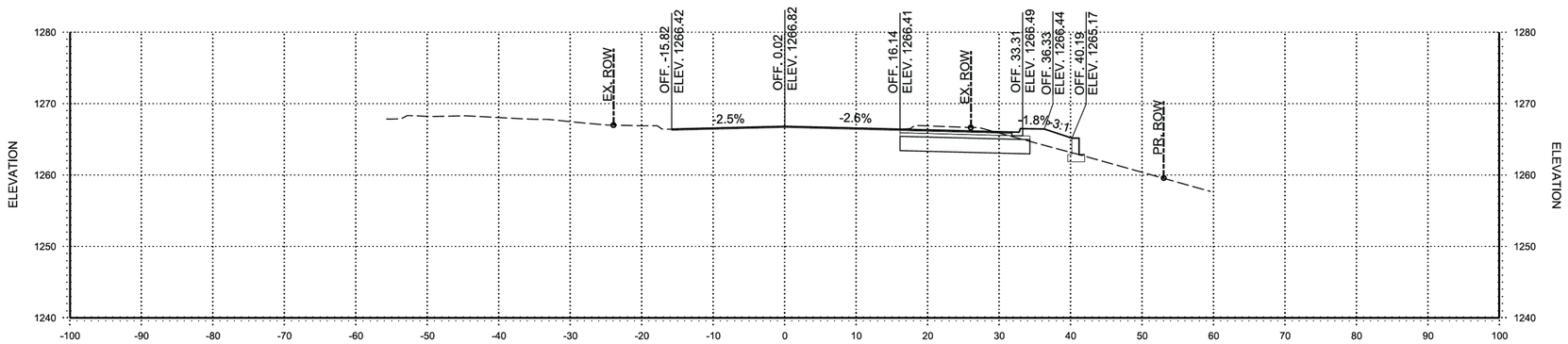
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

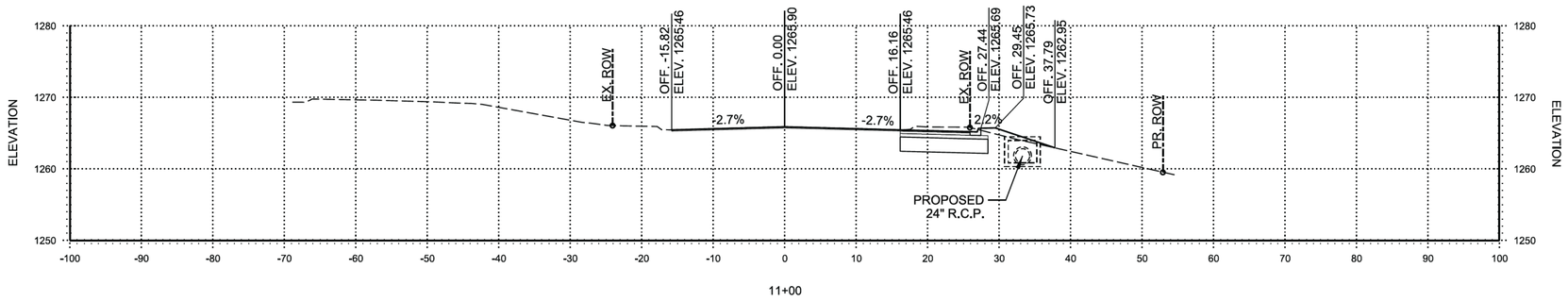
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-101

LTFreedle 3/1/2023 4:14:27 PM
WORKSPACE:Garver_2012
\\garverinc-local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_X101_CX.dgn
REVISED DATE:







STA. 11+00 TO STA. 12+00

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

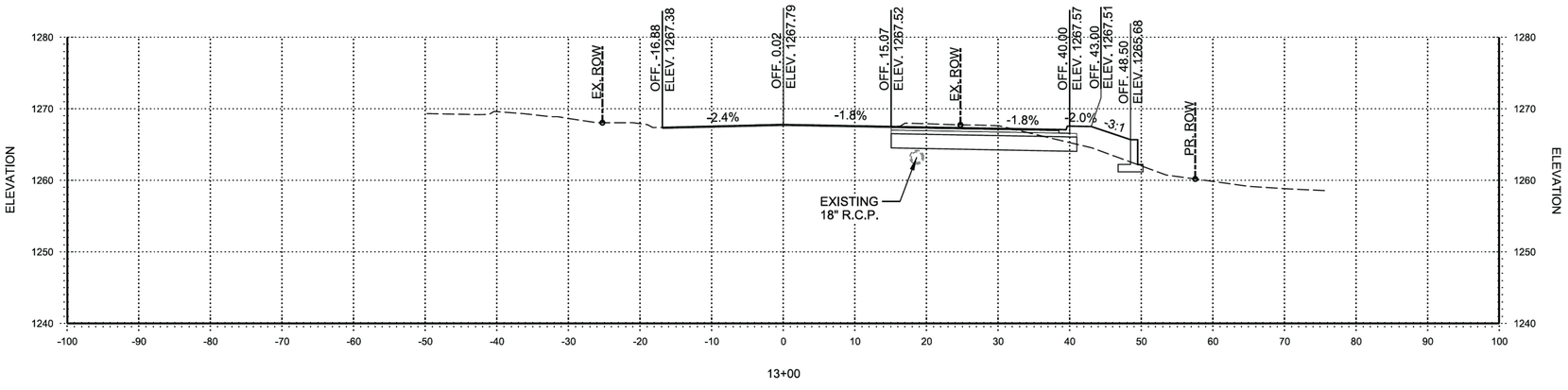
(S) MEDICAL CENTER PARKWAY CROSS SECTIONS

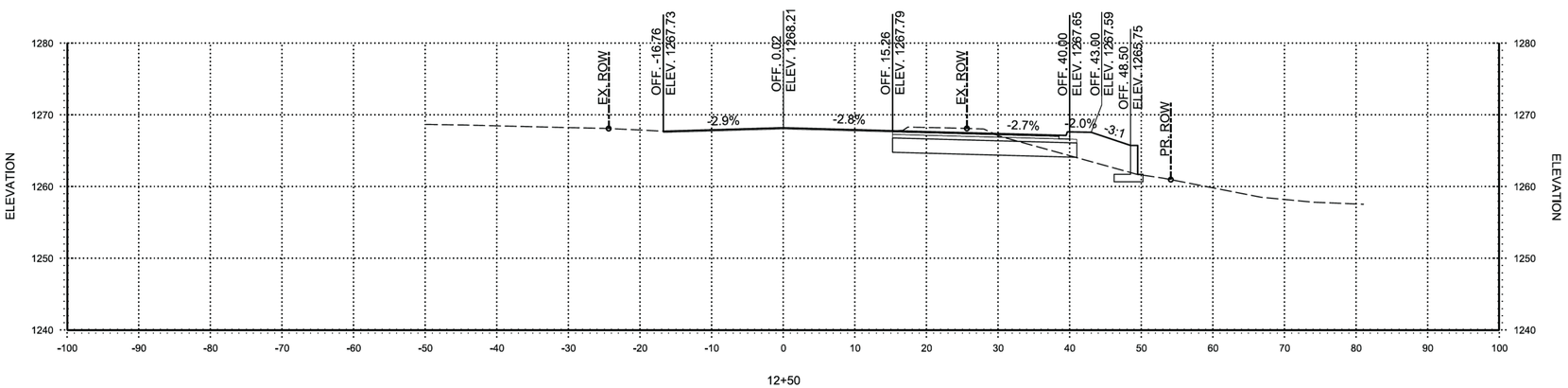
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-102

LTFreedle 3/1/2023 4:14:27 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_X101_CX.dgn
REVISED DATE:





STA. 12+50 TO STA. 13+00

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER
LLC
No. 766
CERTIFICATE OF AUTHORIZATION
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

(S) MEDICAL CENTER PARKWAY CROSS SECTIONS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-103

LTFreedle 3/1/2023 4:14:28 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_X101_CX.dgn
REVISED DATE:

13+50

13+18

STA. 13+18 TO STA. 13+50

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

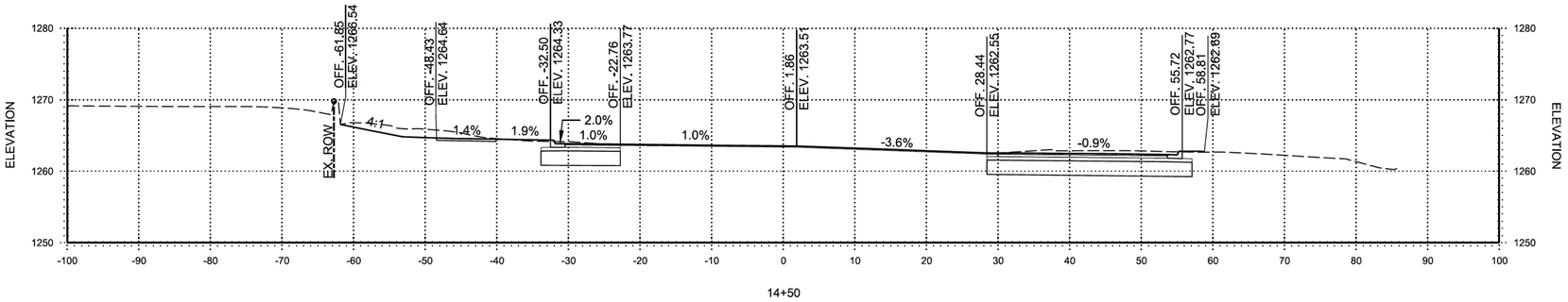
(S) MEDICAL CENTER PARKWAY CROSS SECTIONS

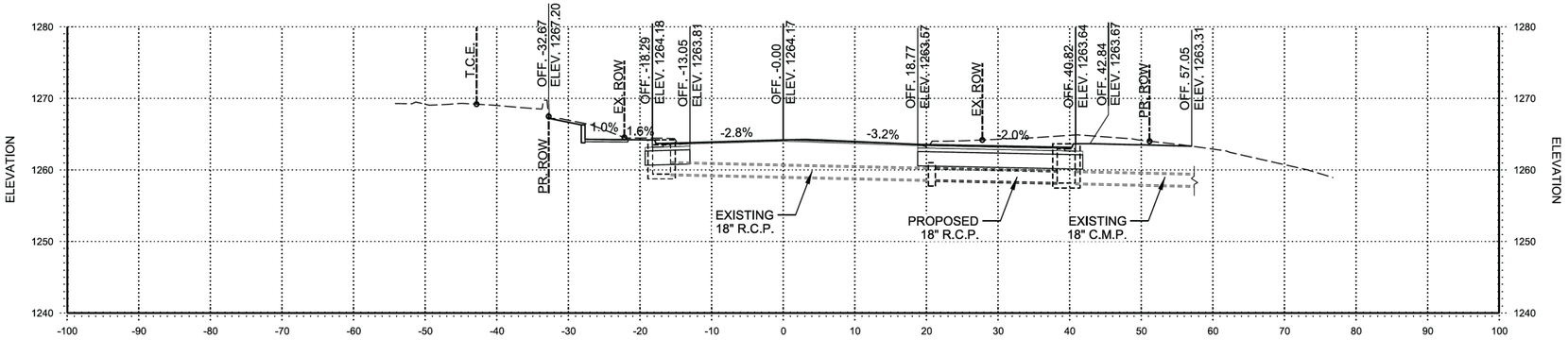
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

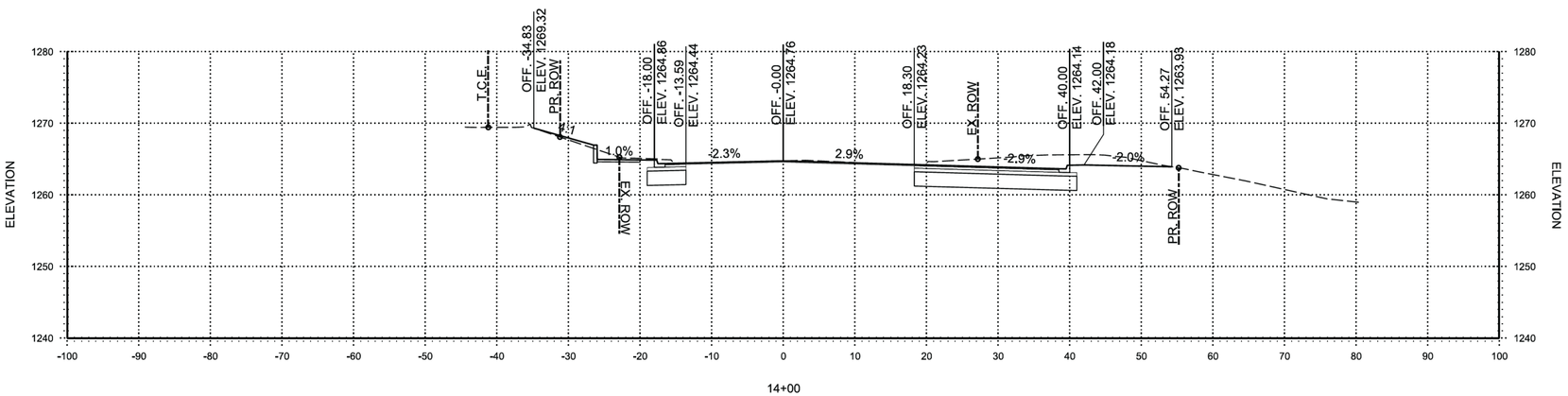
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-104

LTFreedle 3/1/2023 4:14:28 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_X101_CX.dgn
REVISED DATE:







STA. 14+00 TO STA. 14+50

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER
CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

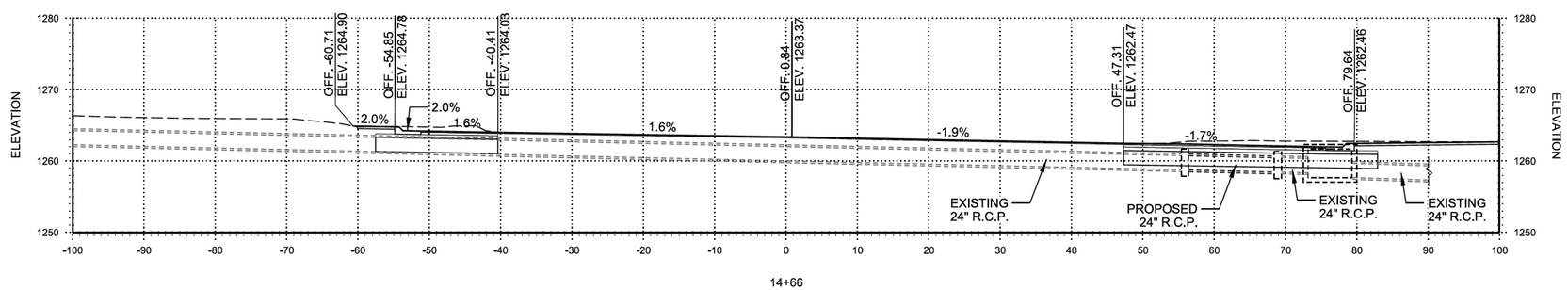
(S) MEDICAL CENTER PARKWAY CROSS SECTIONS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-105

LTFreedle 3/1/2023 4:14:29 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_X101_CX.dgn
REVISED DATE:



STA. 14+66 TO STA. 14+66

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER
LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD
AND MEDICAL CENTER
PARKWAY IMPROVEMENTS

(S) MEDICAL CENTER PARKWAY CROSS SECTIONS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

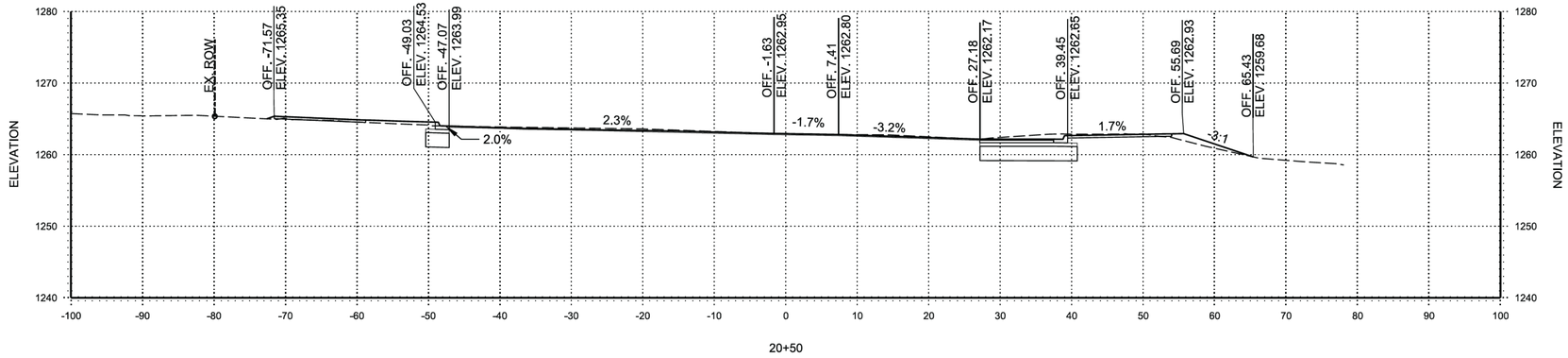
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

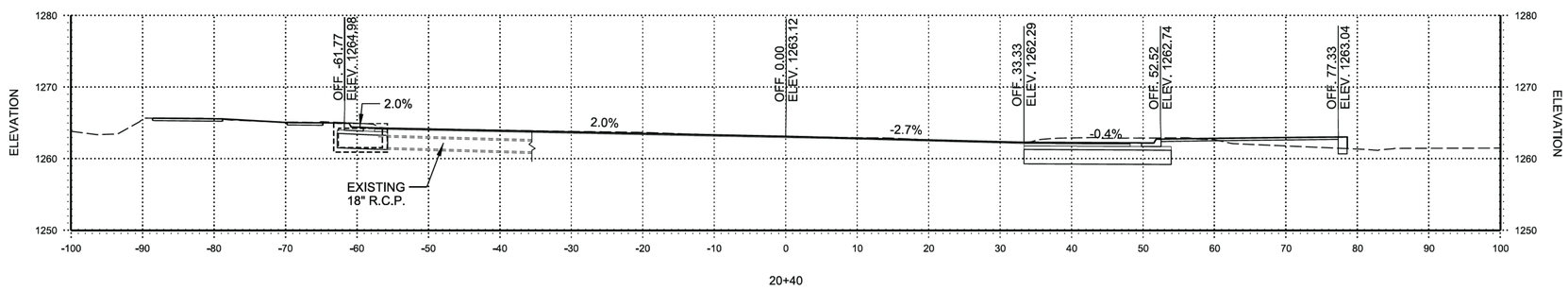
DRAWING NUMBER

X-106

LTFreedle 3/1/2023 4:14:29 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_X101_CX.dgn
REVISED DATE:

FOR REFERENCE ONLY





STA. 20+40 TO STA. 20+99

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS–ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

(N) MEDICAL CENTER PARKWAY CROSS SECTIONS

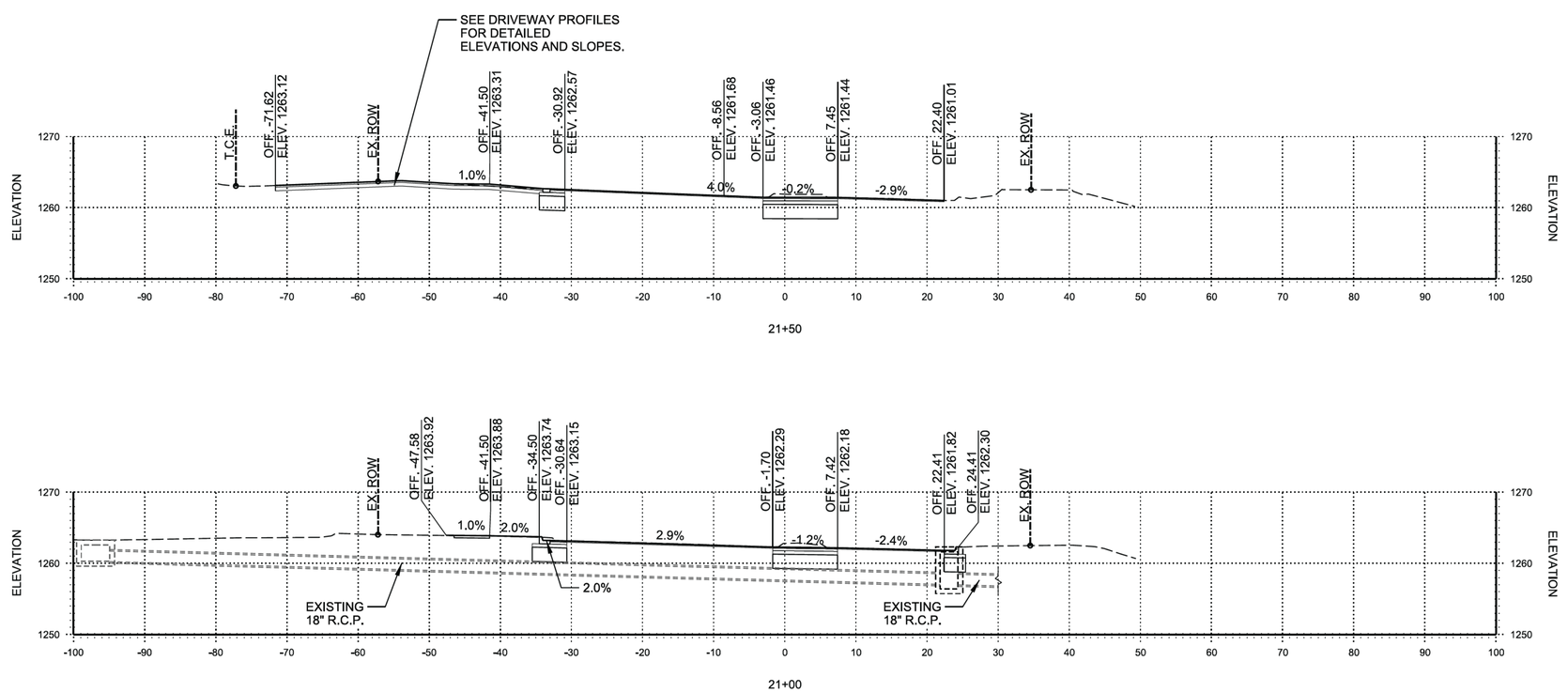
JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-201

LTFreedle 2/29/2024 3:41:53 PM
\\GARVERINC.LOCAL\GLOBAL\PROJECTS\2021\21T21080 - BENTONVILLE WALTON BLVD-SE MED CTR IMPS\DRAWINGS\WMC_X101_CX.DGN
REVISED DATE:

FOR REFERENCE ONLY



STA. 21+00 TO STA. 22+00

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

(N) MEDICAL CENTER PARKWAY CROSS SECTIONS

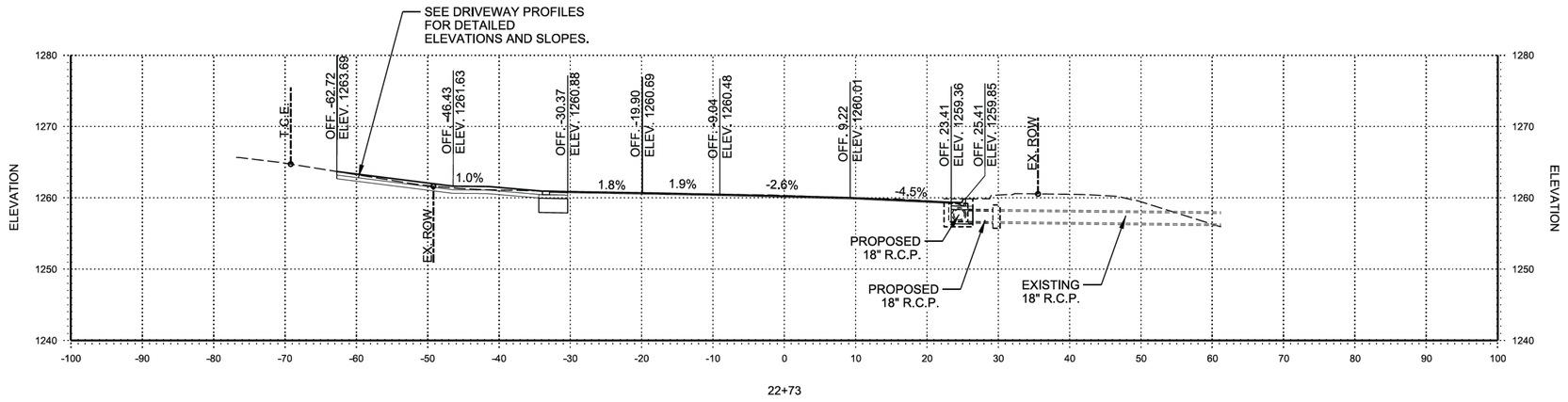
JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TSA

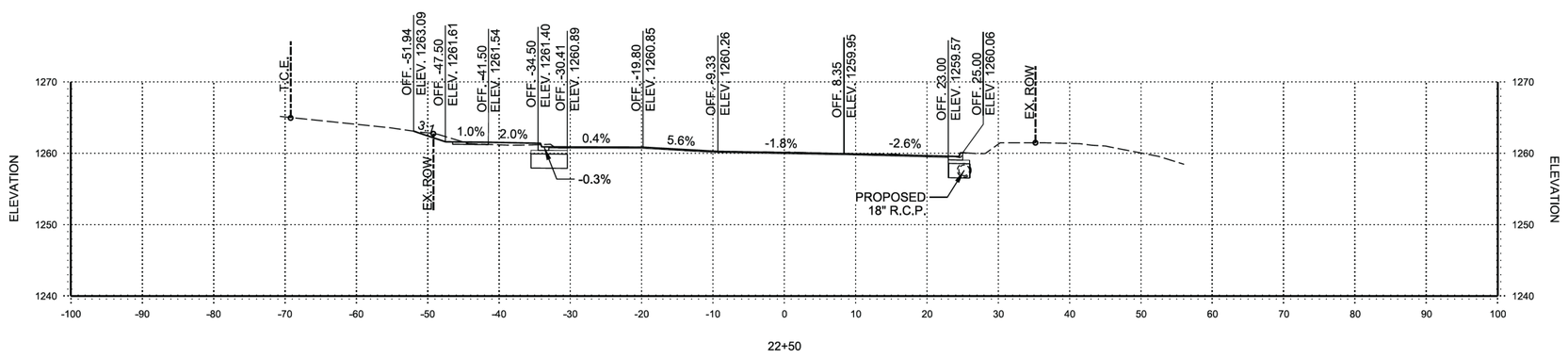
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

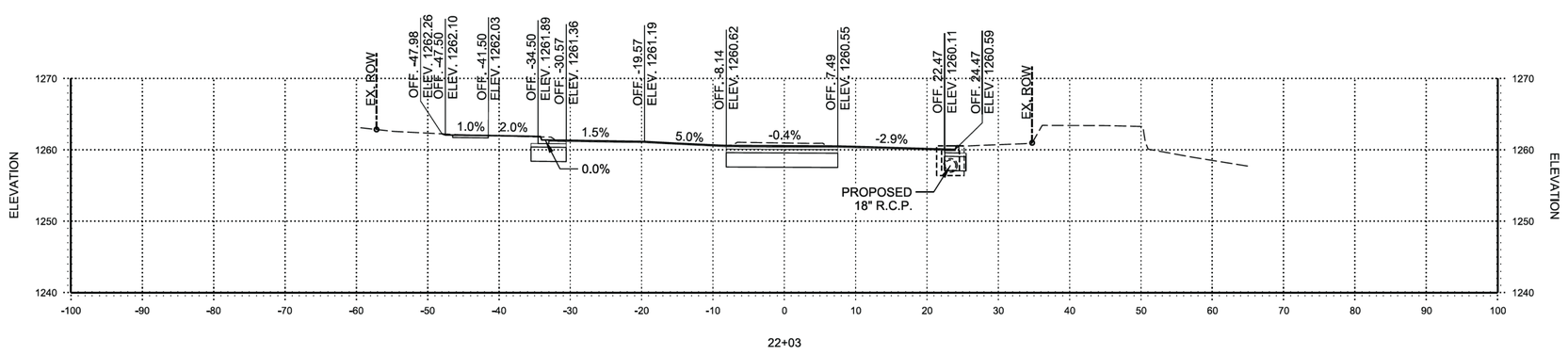
DRAWING NUMBER
X-202

LTFreedle 2/29/2024 3:41:54 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_X101_CX.dgn
REVISED DATE:

FOR REFERENCE ONLY







STA. 22+03 TO STA. 22+73

GARVER

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No.20393 — LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

(N) MEDICAL CENTER PARKWAY CROSS SECTIONS

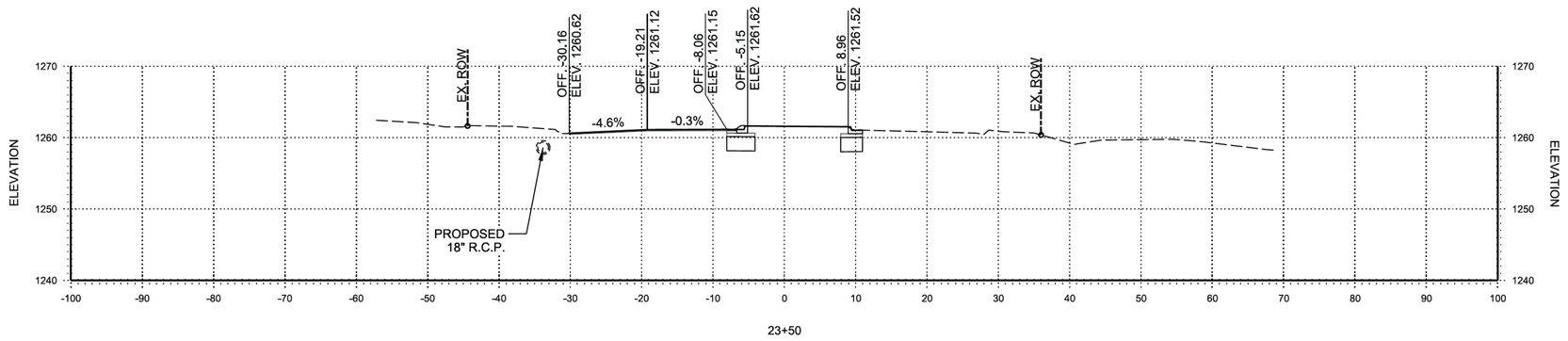
JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TSA

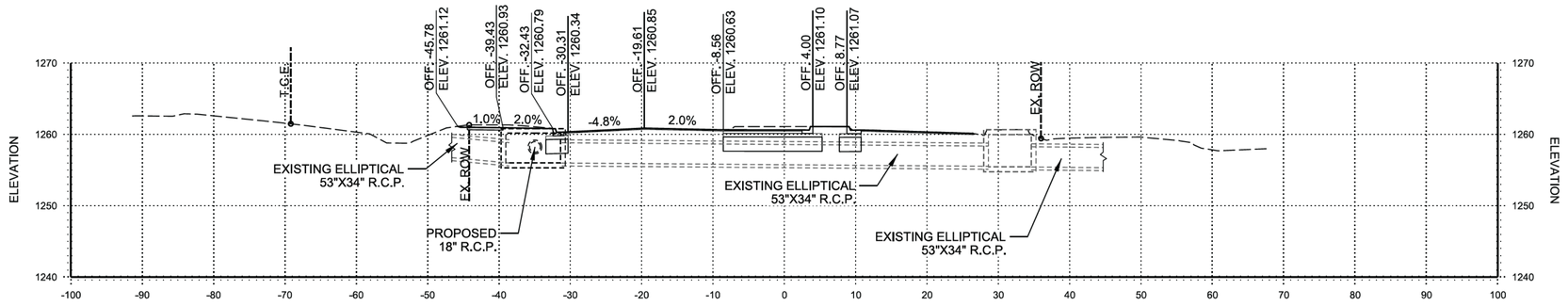
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

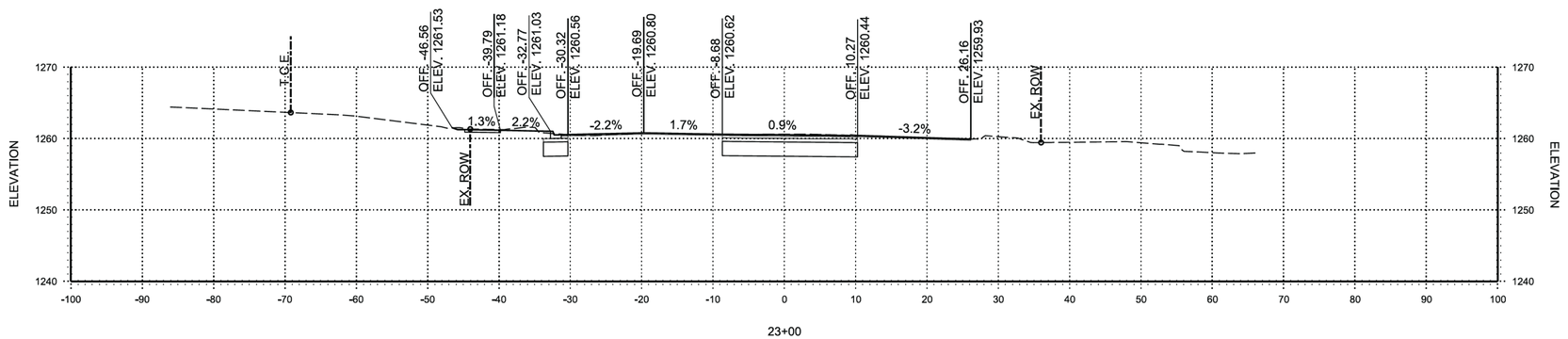
DRAWING NUMBER
X-203

LTFreedle 2/29/2024 3:41:54 PM
\WORKSPACE\Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_X101_CX.dgn
REVISED DATE:

FOR REFERENCE ONLY







STA. 23+00 TO STA. 23+50

© 2024 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2024

REV.	DATE	DESCRIPTION	BY
1	03/01/2024	REVISION 1	LTF

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

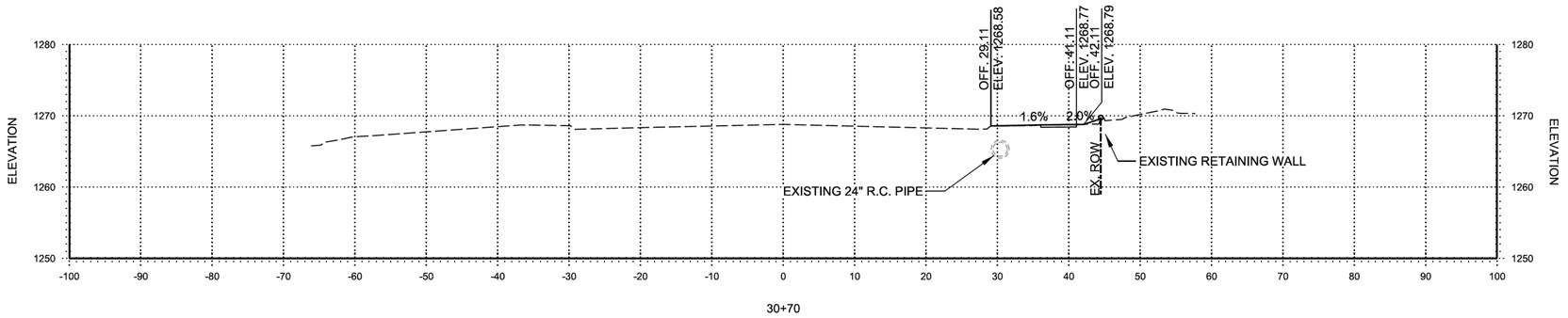
(N) MEDICAL CENTER PARKWAY CROSS SECTIONS

JOB NO.: 21T21080
DATE: MARCH 2024
DESIGNED BY: ZTM
DRAWN BY: TSA

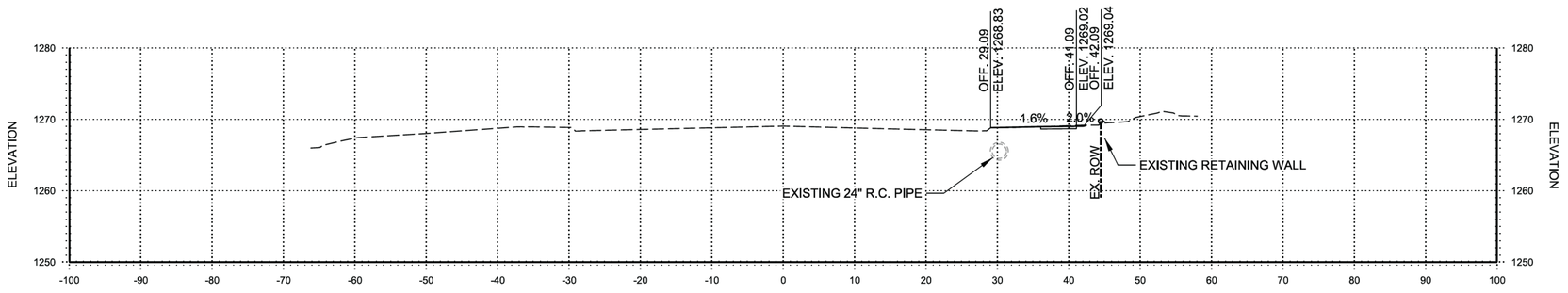
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-204

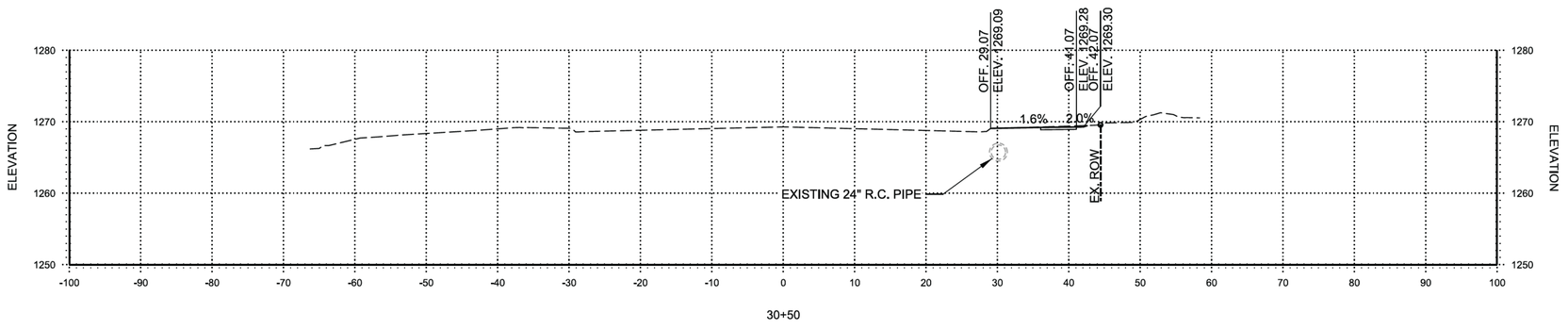
LTFreedle 2/29/2024 3:41:55 PM
WORKSPACE:Garver_2012
\\garverinc.local\gdata\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_X101_CX.dgn
REVISED DATE:



30+70



30+60



30+50

STA. 30+50 TO STA. 30+70

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 — CERTIFICATE OF AUTHORIZATION — ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

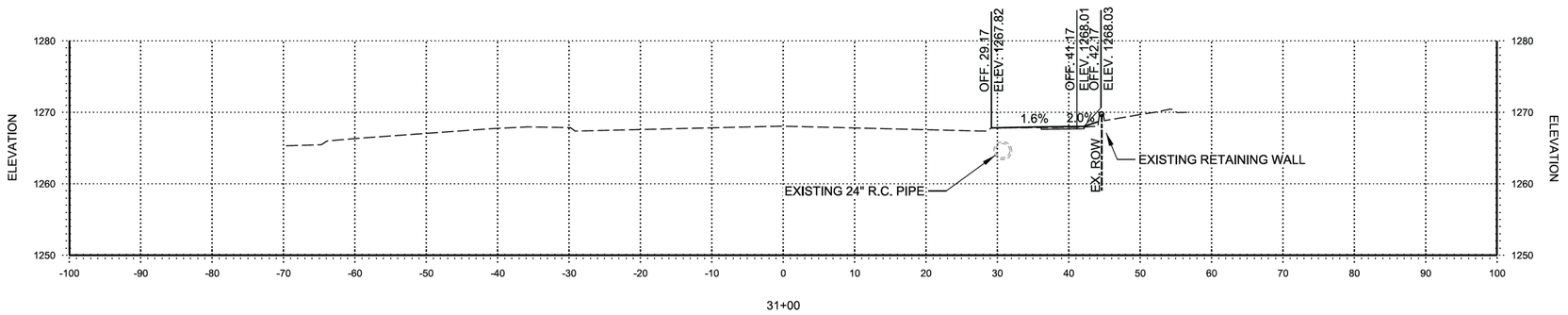
SE WALTON BOULEVARD CROSS SECTIONS

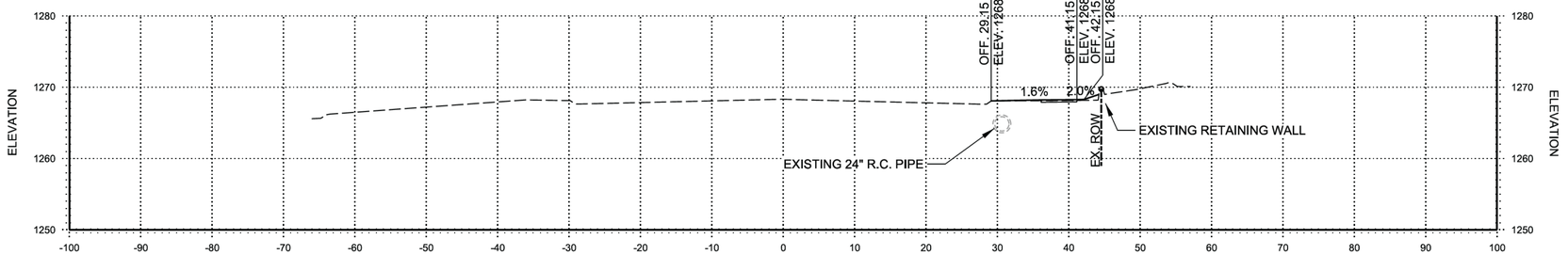
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

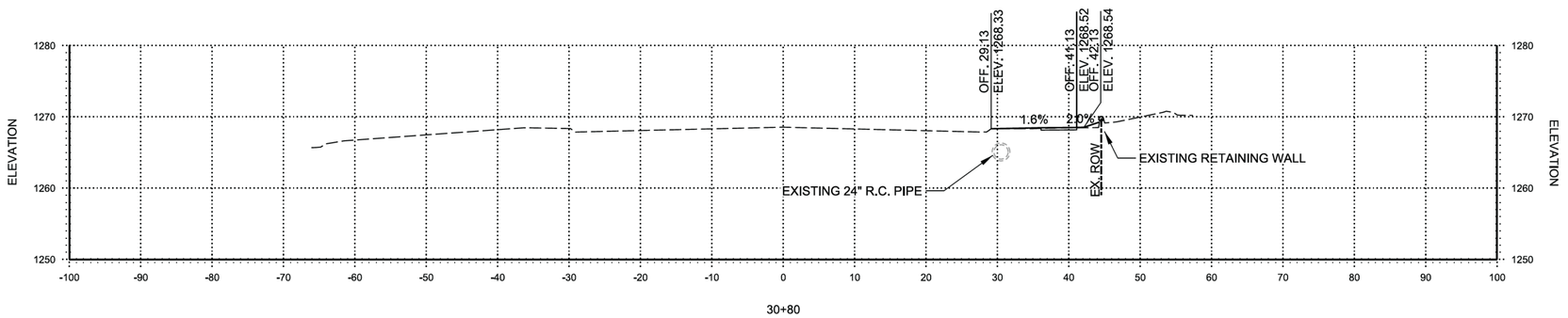
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-301

LTFreedle 3/1/2023 4:14:32 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_X101_CX.dgn
REVISED DATE:







STA. 30+80 TO STA. 31+00

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

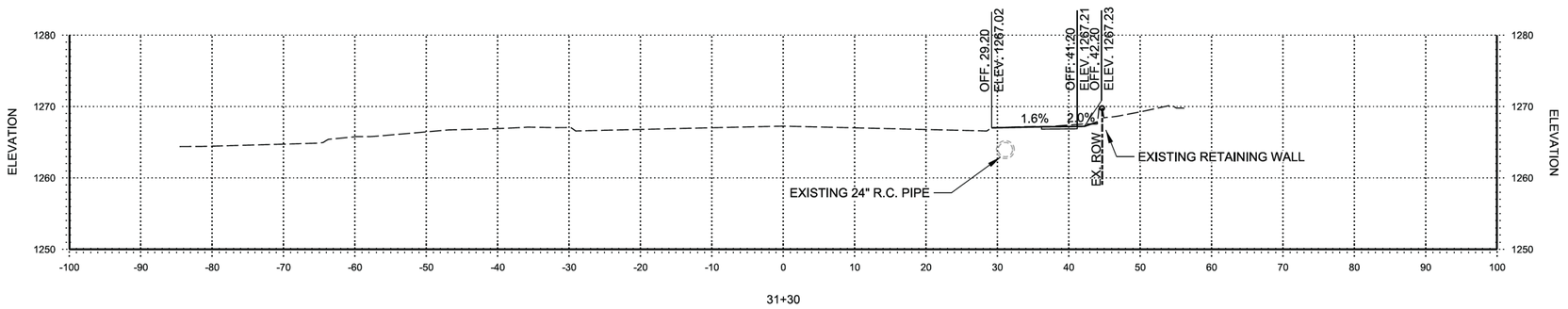
SE WALTON BOULEVARD CROSS SECTIONS

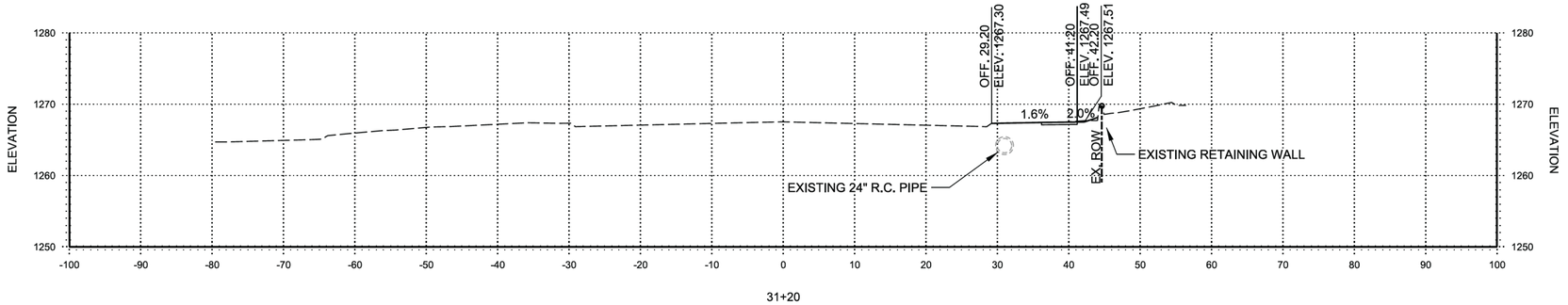
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

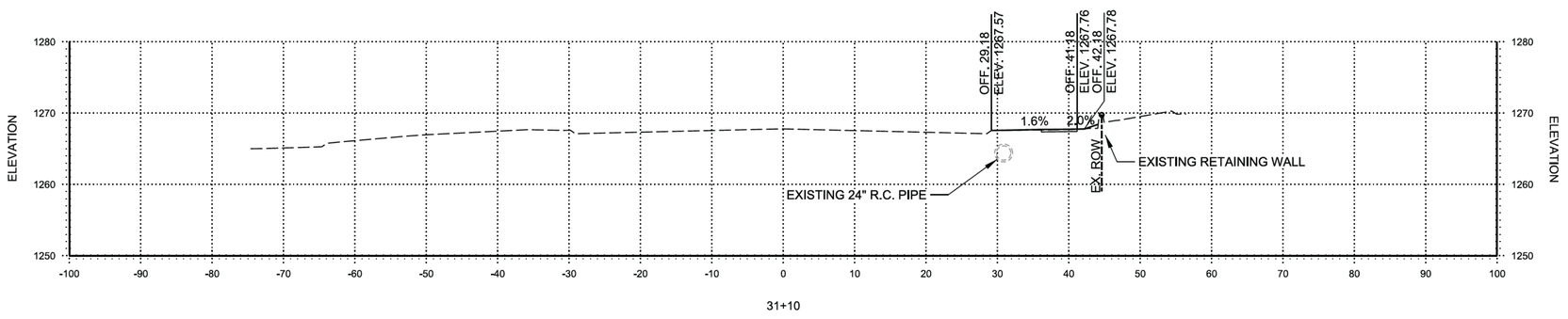
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-302

LTFreedle 3/1/2023 4:14:32 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_X101_CX.dgn
REVISED DATE:







STA. 31+10 TO STA. 31+30

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20393
LUKE T. FREEDLE
Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

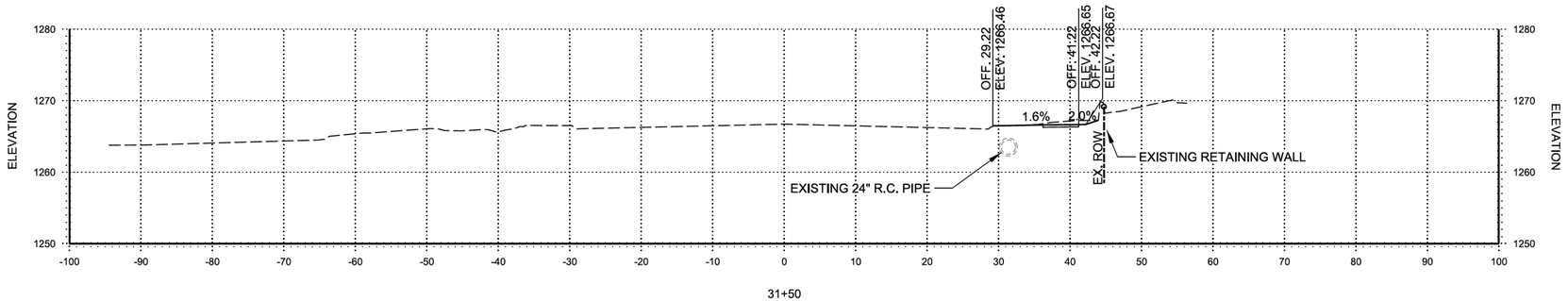
SE WALTON BOULEVARD CROSS SECTIONS

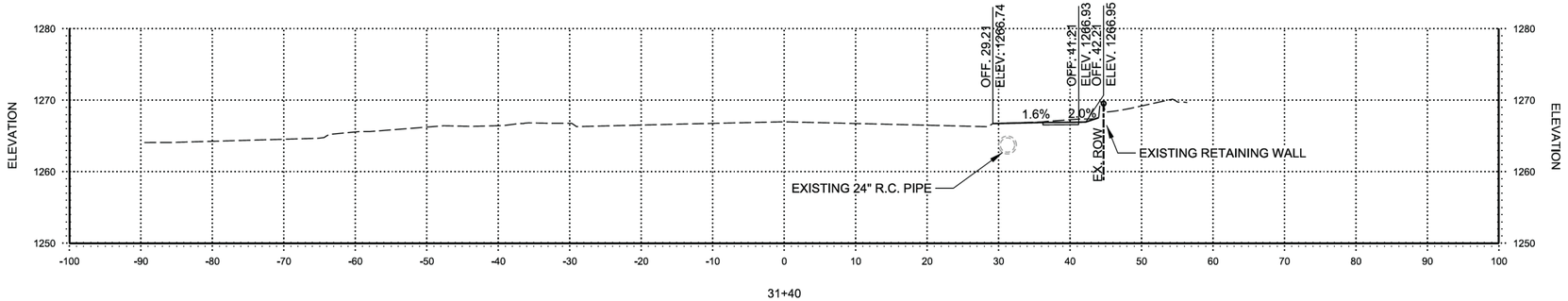
JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-303

LTFreedle 3/1/2023 4:14:33 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_X101_CX.dgn
REVISED DATE:





STA. 31+40 TO STA. 31+50

© 2023 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER

STATE OF ARKANSAS ★★★ LICENSED PROFESSIONAL ENGINEER ★★★ No.20393 LUKE T. FREEDLE

Digitally Signed 03/01/2023

REV.	DATE	DESCRIPTION	BY

THE CITY OF BENTONVILLE

CITY OF BENTONVILLE
BENTONVILLE, ARKANSAS

WALTON BOULEVARD AND MEDICAL CENTER PARKWAY IMPROVEMENTS

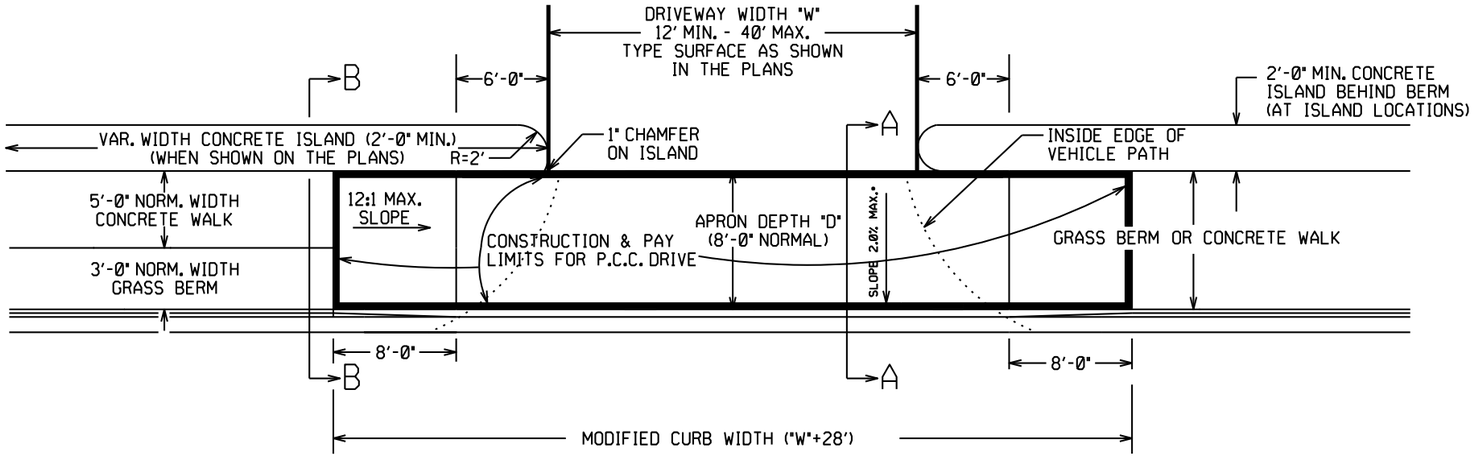
SE WALTON BOULEVARD CROSS SECTIONS

JOB NO.: 21T21080
DATE: MARCH 2023
DESIGNED BY: ZTM
DRAWN BY: TSA

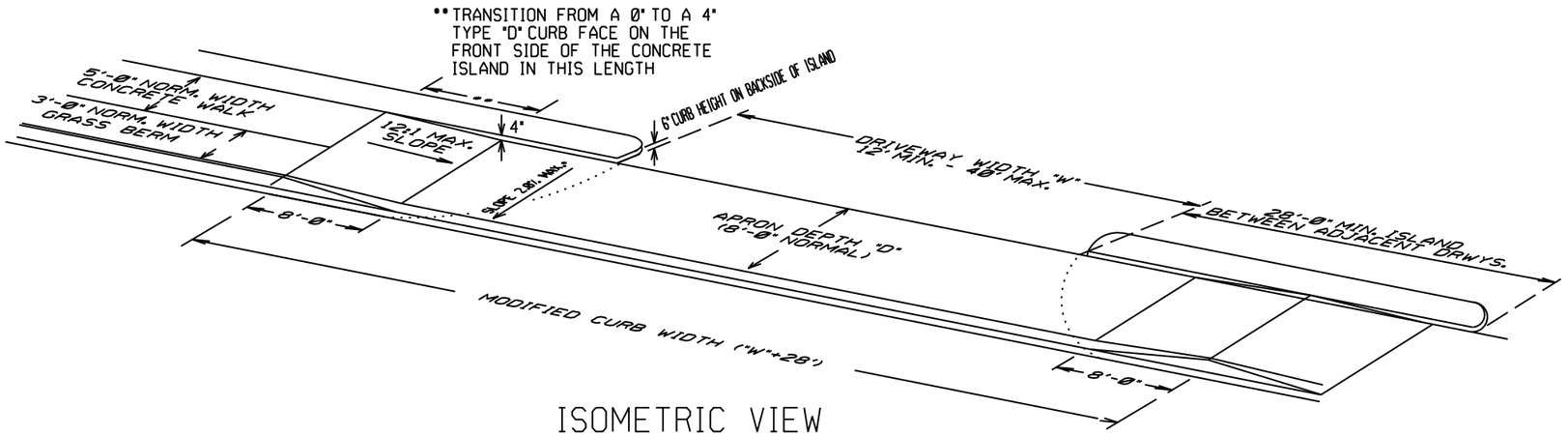
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
X-304

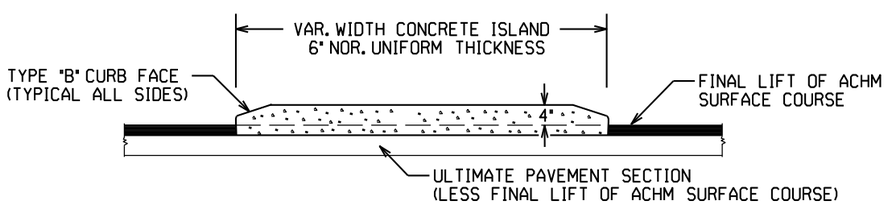
LTFreedle 3/1/2023 4:14:34 PM
WORKSPACE:Garver_2012
\\garverinc.local\data\Projects\2021\21T21080 - Bentonville Walton Blvd-SE Med Ctr Imps\Drawings\WMC_X101_CX.dgn
REVISED DATE:



PLAN VIEW



ISOMETRIC VIEW

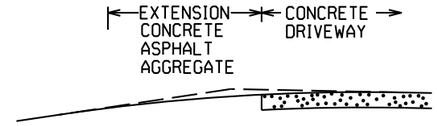


CURBED ISLANDS FOR CHANNELIZATION

CONCRETE ISLAND NOTES:

1. REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".

2. TRANSVERSE EXPANSION JOINTS, NOT LESS THAN 1/2" WIDE, SHALL BE PLACED AT MINIMUM INTERVAL OF 45'. TRANSVERSE JOINT SHALL BE CONSTRUCTED USING A JOINT FILLER COMPLYING WITH AASHTO M213.



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

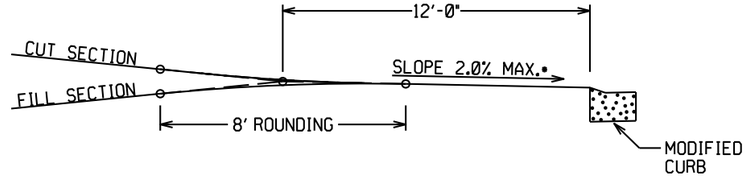
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE (1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

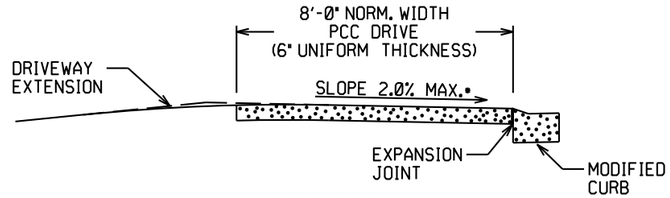
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

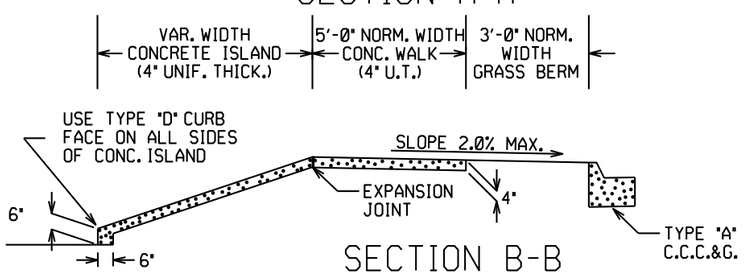


DRIVEWAY VERTICAL ALIGNMENT DETAILS

• NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



SECTION A-A



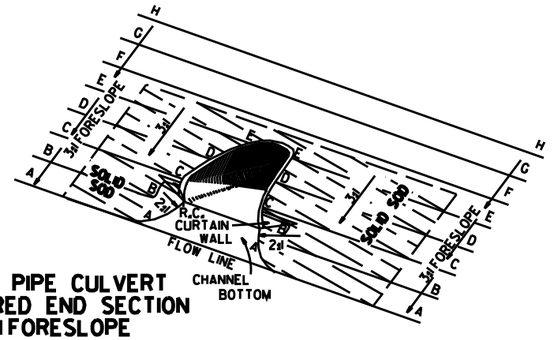
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
5-19-22		REVISED ISLAND NOTES
11-07-19		REVISED WALK DETAILS
2-27-14		REVISED PLAN & ISOMETRIC VIEW
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98		REDRAWN AND REISSUED

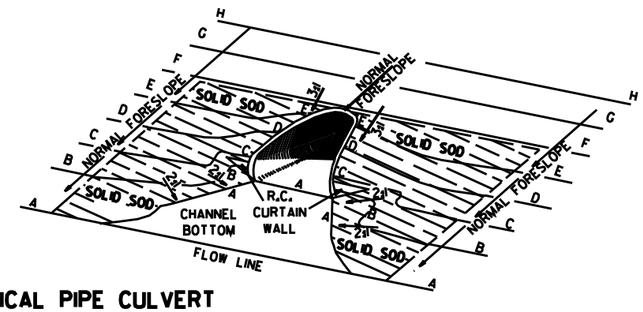
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DRIVEWAYS & ISLANDS

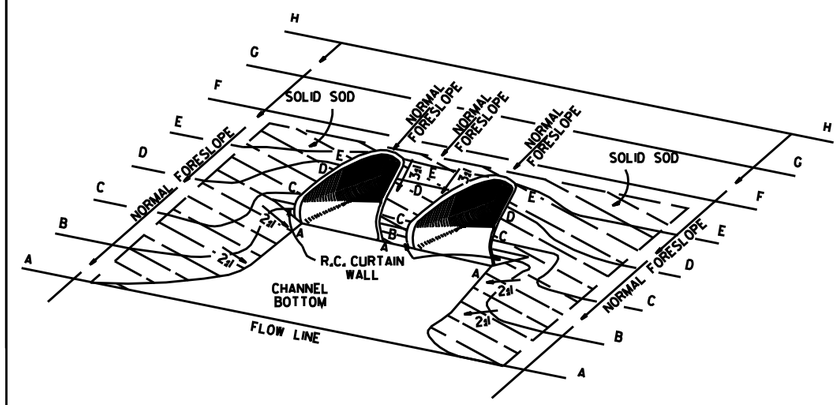
STANDARD DRAWING DR-1



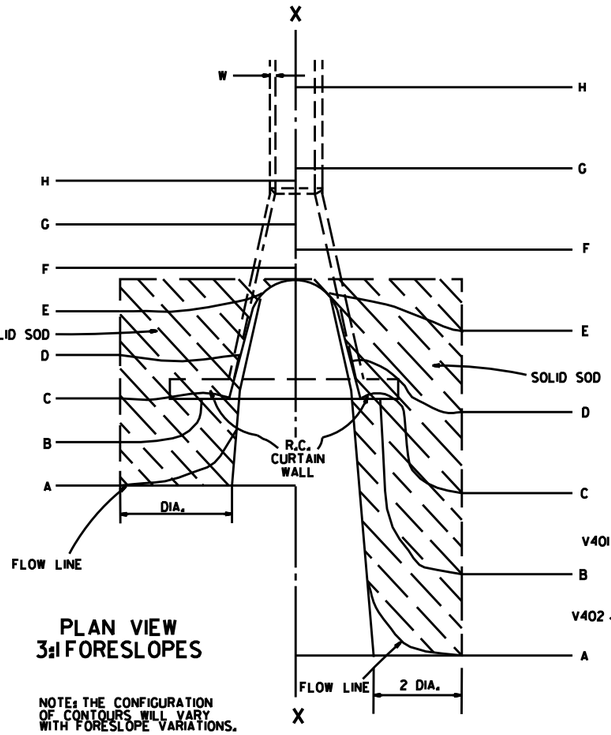
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



TYPICAL MULTIPLE PIPE CULVERT
WITH FLARED END SECTIONS
& FLATTENED ADJACENT SLOPES



PLAN VIEW
3:1 FORESLOPES

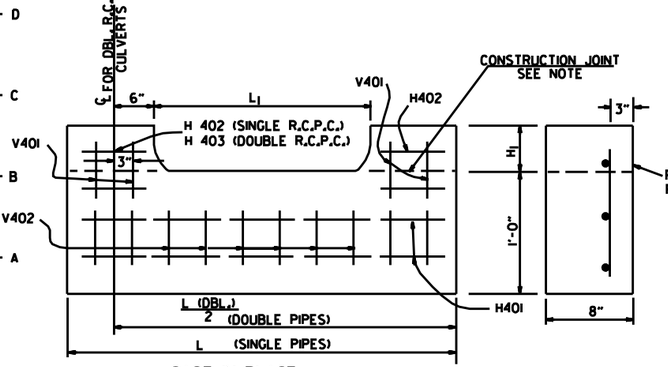
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

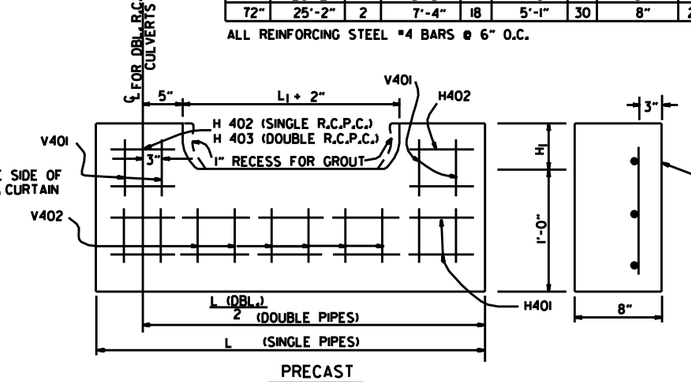
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9½"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.



CAST-IN-PLACE

NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.



PRECAST

NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

R.C. CURTAIN WALL DETAILS

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT									
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

ALL REINFORCING STEEL #4 BARS @ 6" O.C.

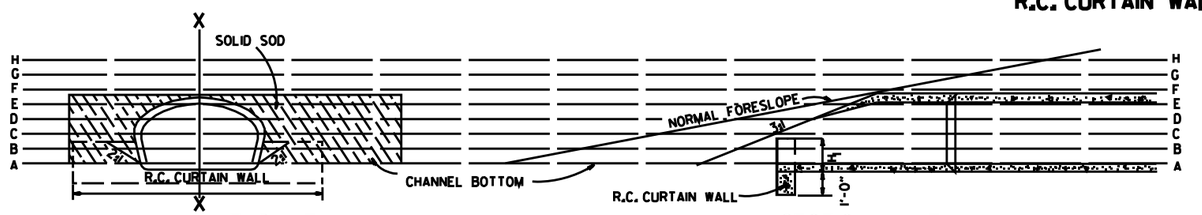
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C.			DOUBLE R.C.P.C.		
	3:1	4:1	6:1	3:1	4:1	6:1
	SQ. YDS.			SQ. YDS.		
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

SECTIONAL VIEW "X-X"

DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	
10-12-95	CORRECTED SPELLING	
11- 3-94	ADDED GENERAL NOTE NO. 4	
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.	
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES	
5-15-80	ADDED PRECAST WALL & GENERAL NOTES	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

STANDARD DRAWING FES-1

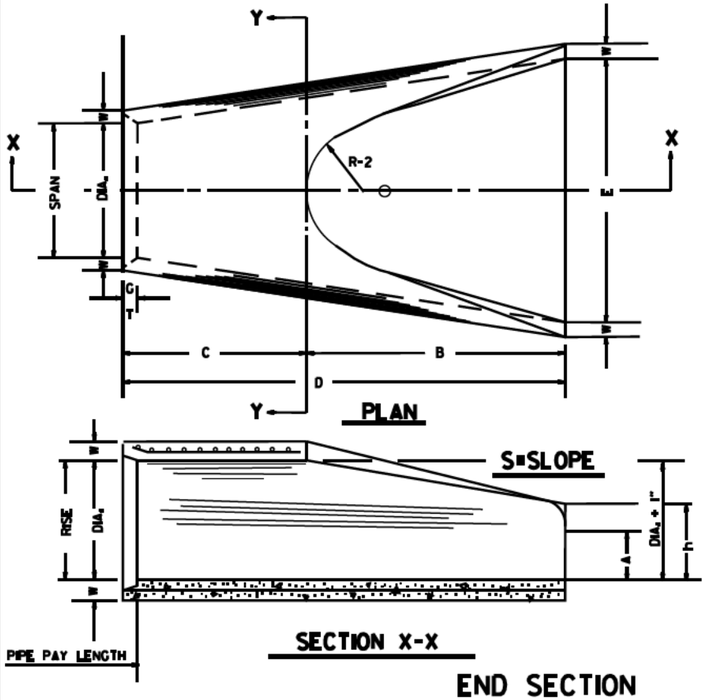


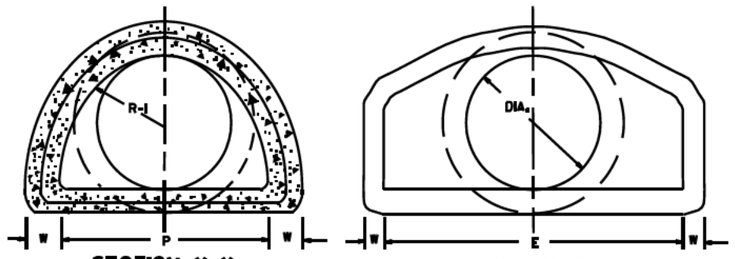
TABLE OF DIMENSIONS

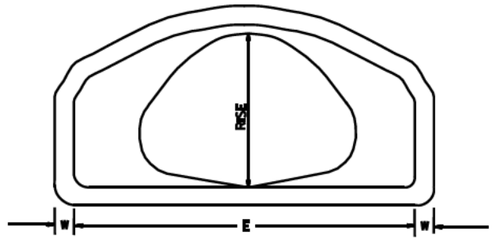
DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	C-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3rd	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-1½"	2'-6"	6'-8½"	4'-0"	3rd	25"	33⅜"	16⅝"	14"	2½"	1600	1'-8½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-11½"	5'-0"	3rd	31"	37"	18½"	15"	3½"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¼"	8'-4½"	6'-0"	3rd	37"	47⅛"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-8"	8'-2"	6'-6"	3rd	43"	53⅞"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3rd	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3rd	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3rd	61"	72½"	36⅝"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3rd	73"	77⅞"	38⅝"	24"	5"	13250	4'-6"

ARCH PIPE

EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2'/nd
18	22	22	13½	14	2½"	5"	2'-0"	4'-4"	6'-1"	3'-6"	32⅛"	13"	2½"	2'/nd
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2'/nd
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36⅝"	15"	2½"	2'/nd
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47⅛"	20"	3"	2'/nd
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54⅞"	22"	3½"	2'/nd
42	51⅛	51	30⅝	31	4½"	11½"	4'-7"	1'-10½"	6'-5½"	7'-2"	59½"	23"	3¾"	2'/nd
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¼"	8'-1½"	7'-10"	70⅝"	24"	4½"	2'/nd
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72⅝"	24"	4¾"	2'/nd
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77⅞"	24"	5"	2'/nd

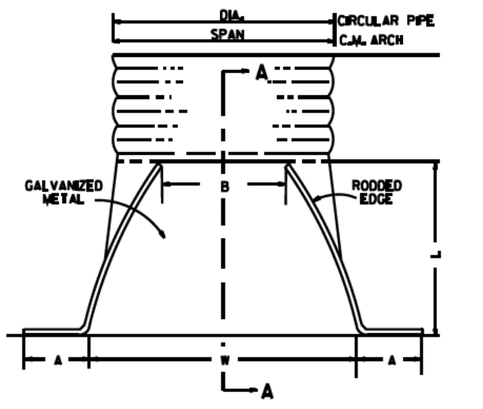
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



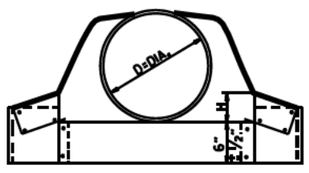


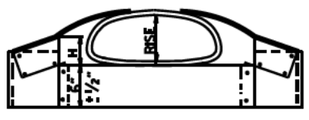
END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION



NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.



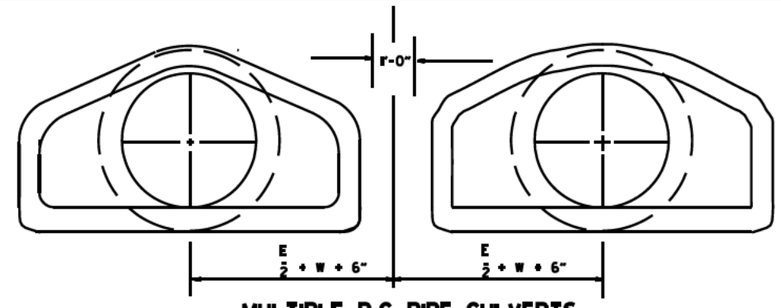


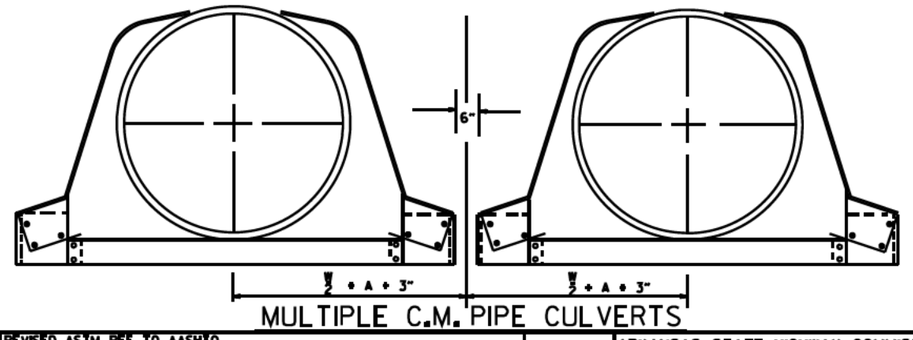
CIRCULAR PIPE

D. DIA.	GAUGE	A 1" ±	B MAX.	H 1" ±	L ½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2'/nd
15	16	7	8	6	26	30	2'/nd
18	16	8	10	6	31	36	2'/nd
21	16	9	12	6	36	42	2'/nd
24	16	10	13	6	41	48	2'/nd
30	14	12	16	8	51	60	2'/nd
36	14	14	19	9	60	72	2'/nd
42	12	16	22	11	69	84	2'/nd
48	12	18	27	12	78	90	2'/nd
54	12	18	30	12	84	102	2'/nd
60	12	18	33	12	87	114	1'/nd
66	12	18	36	12	87	120	1'/nd
72	12	18	39	12	87	126	1 1/3'/nd

C.M. ARCH PIPE

EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L ½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2'/nd	16
18"	21	15	7	10	6	23	36	2'/nd	16
21"	24	18	8	12	6	28	42	2'/nd	16
24"	28	20	9	14	6	32	48	2'/nd	16
30"	35	24	10	16	6	39	60	2'/nd	14
36"	42	29	12	18	8	46	75	2'/nd	14
42"	49	33	13	21	9	53	85	2'/nd	12
48"	57	38	18	26	12	63	90	2'/nd	12
54"	64	43	18	30	12	70	102	2'/nd	12
60"	71	47	18	33	12	77	114	2'/nd	12





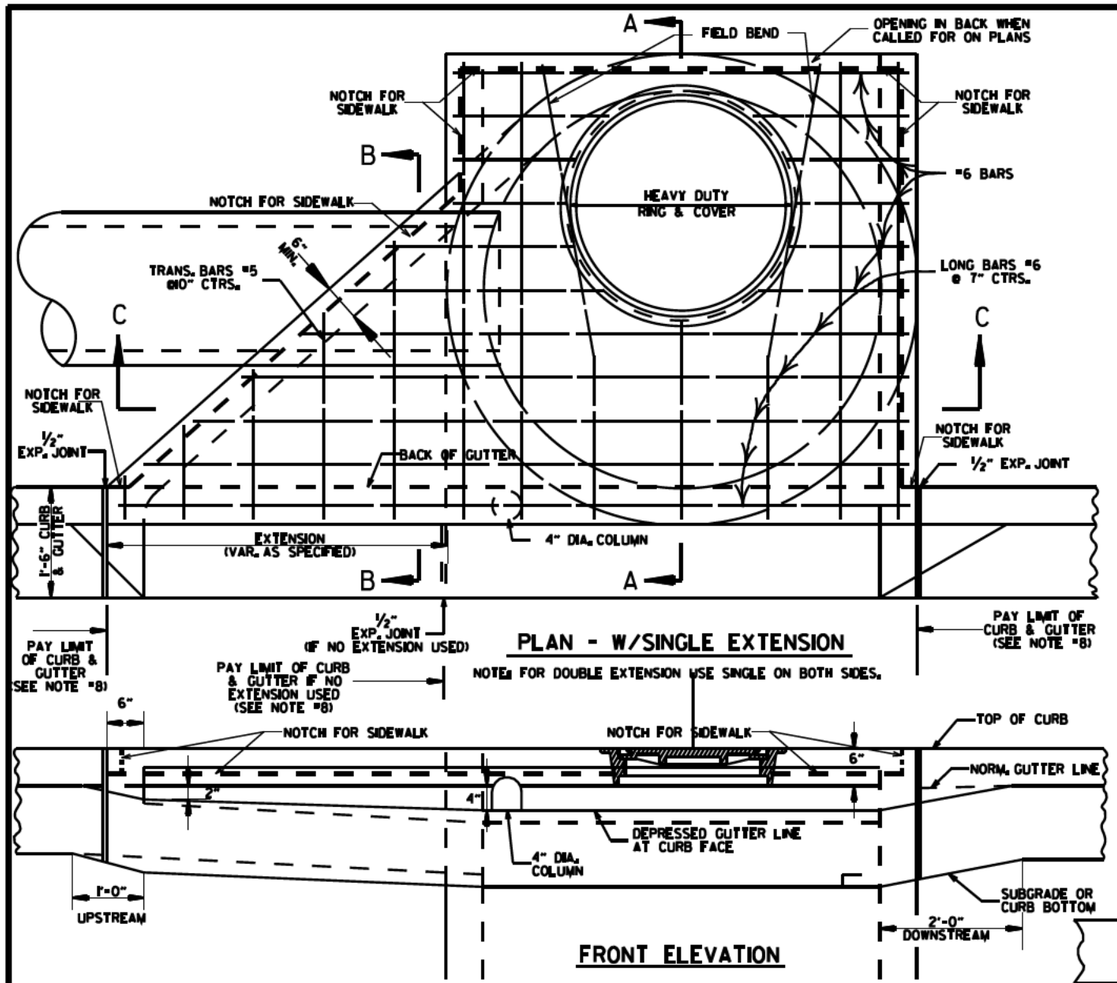
END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

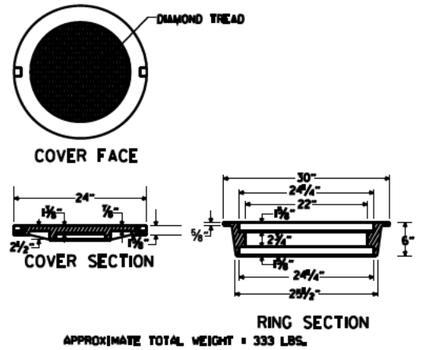
DATE	REVISION	REMO
10-18-96	REVISED ASTM REF. TO AASHTO	
5-5-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73
10-2-72	REVISED AND REDRAWN	760-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

STANDARD DRAWING FES-2

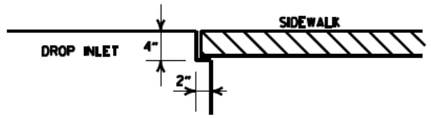




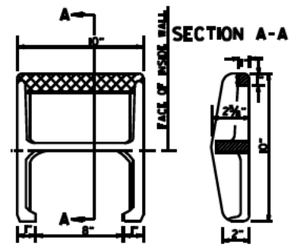
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.



DETAIL OF NOTCH FOR SIDEWALKS

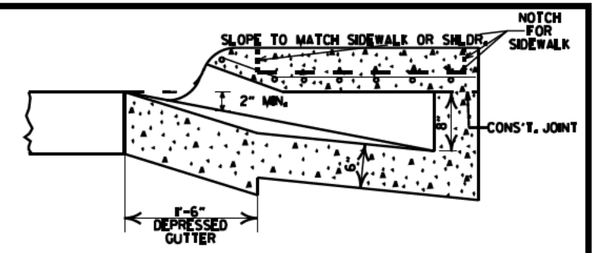


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

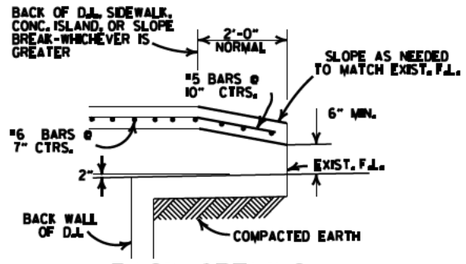
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET



SECTION B-B

SECTION A-A



BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE MO).

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 2" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

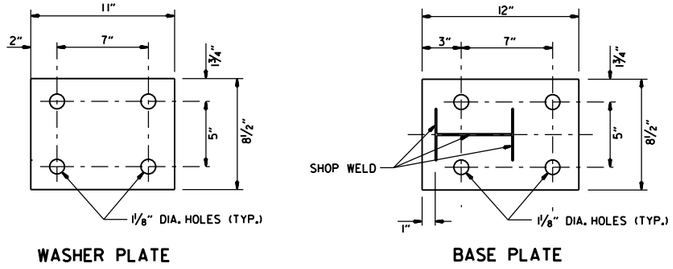
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS	
		CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE REVISED
8-22-02	ADDED PAY ITEM CURB NOTES TO SECTIONS A-A & B-B	
4-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
8-13-98	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REVISED & ADDED DETAILS, DELETED PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
12-21-95	ADDED NOTE 12 FOR CLEANING DIMENSION	
4-25-95	ADDED NOTE TO END SECTION	
12-21-94	CHANGED NO. DIAMETER OF DIA IN BOX	
7-22-94	TYPE C TO MO OPEN BACK DETAIL)	
5-5-93	REVISED GENERAL NOTES	10-1-94
6-5-92	REVISED VARIOUS DIMENSIONS & NOTE	6-5-92
10-1-91	REVISED NOTES 12 & ADDED BACKOPEN DETAIL	8-1-91
5-1-91	ADDED NOTE NO. 12	5-1-91
12-1-90	ADDED NOTE & CHANGING WALL THICKNESS	12-1-90
6-5-90	ADDED NOTE & REVISED CURB TO SECTION A-A	6-5-90
1-1-87	REVISED WALL THICKNESS	7-1-87
8-1-86	ESTD.	8-1-86

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

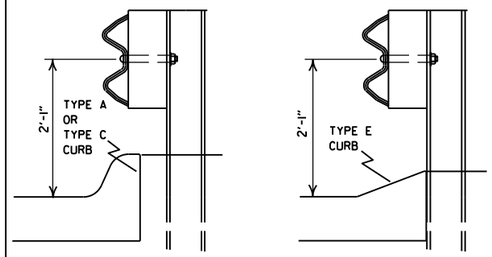
STANDARD DRAWING FPC-9M



WASHER PLATE

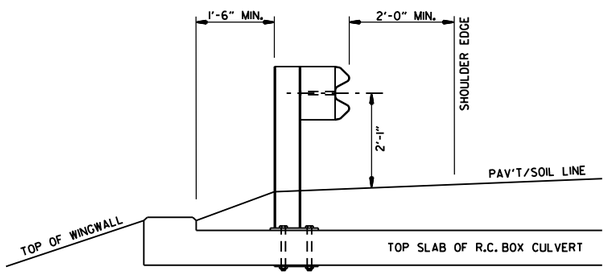
BASE PLATE

Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.

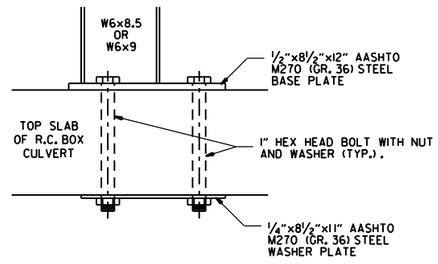


DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB (W-BEAM)

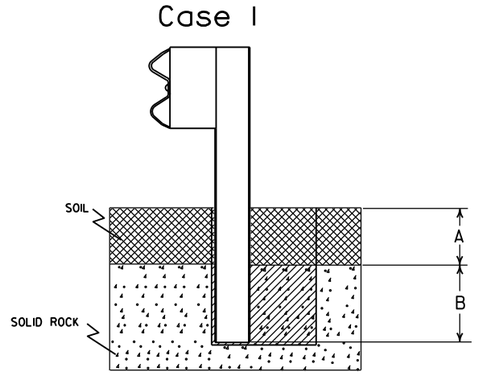
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.

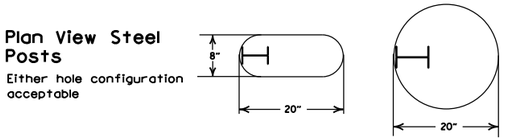


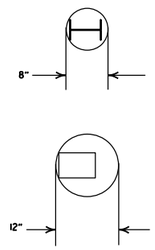
SECTION A-A



DETAIL OF CONNECTION







Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

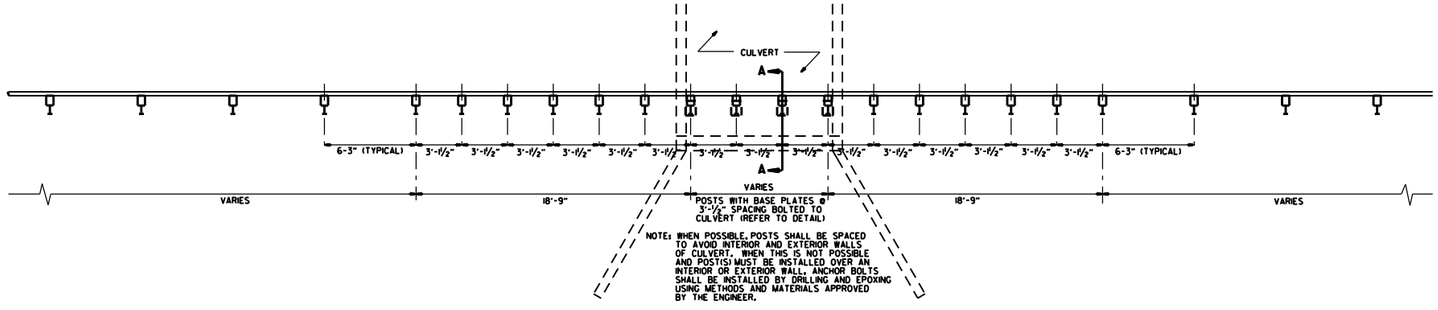
Zone A:
Backfill according to Section 617.03(a).

Zone B:
Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.

Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B:
Backfill according to Section 617.03(a).

DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)



PLAN LAYOUT OF TYPE A GUARDRAIL AT LOW-FILL CULVERTS

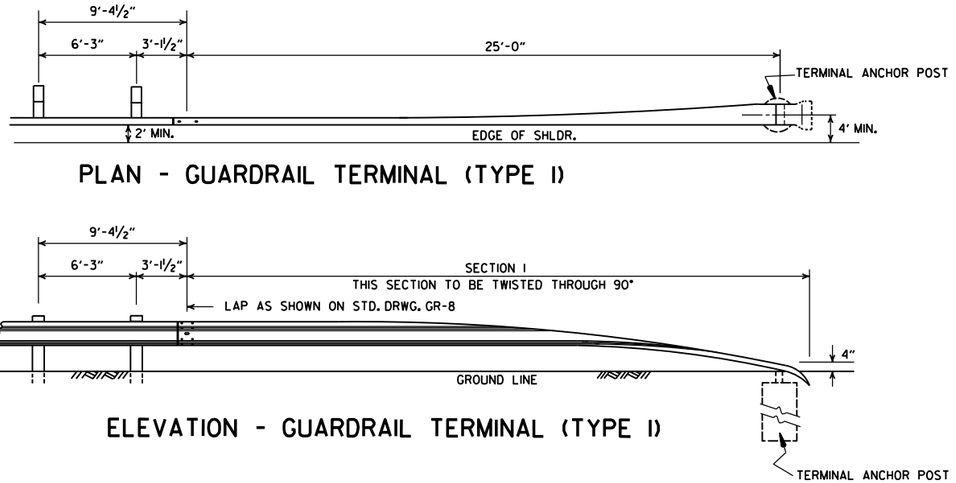
NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARDRAIL POSTS AS SHOWN ON STD. DWG. GR-6.

DATE	REVISION	FILMED
11-07-19	RENUMBERED, RENAMED, REVISED REFERENCE	
11-16-17	REVISED GUARDRAIL HEIGHT	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
04-12-07	REVISED DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARDRAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARDRAIL PLACEMENT AT LOW-FILL CULVERTS	
03-30-00	REMOVED CONCRETE INSERT ANCHOR	
08-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT, ADDED DET. OF GUARDRAIL CONNECTION TO R.C. BOX CULV'T., DELETED DET. OF STEEL LINE POST CONN. & ADDED DET. OF GUARDRAIL PLACE. BEHIND CURB & DET. OF POSTPLACE. IN SOLID ROCK	
04-03-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
06-02-94	REVISED ALTERNATE POST SIZE	
08-05-93	REVISED STEEL POST SIZE	
10-01-92	REDRAWN & REVISED	10-1-92
08-02-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
07-15-88	CONFORMED TO 1988 SPECS	
03-04-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-09-87	REDRAWN & REVISED	803-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

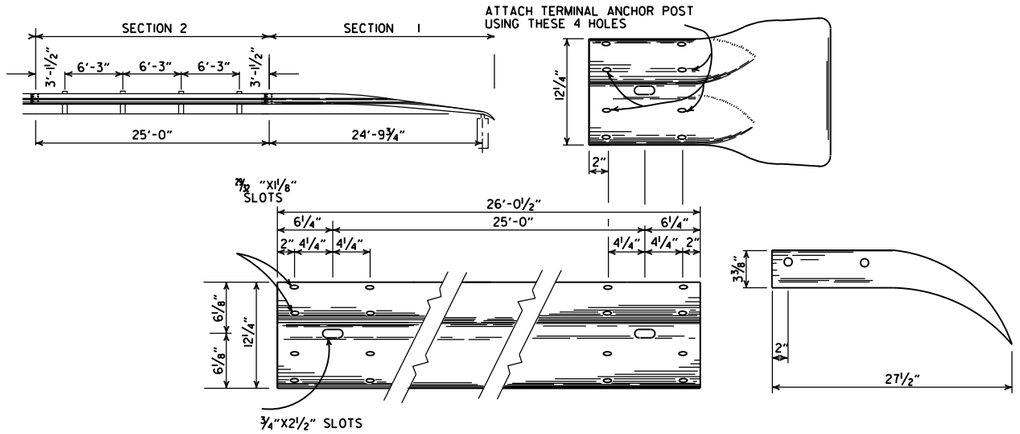
STANDARD DRAWING GR-7



PLAN - GUARDRAIL TERMINAL (TYPE 1)

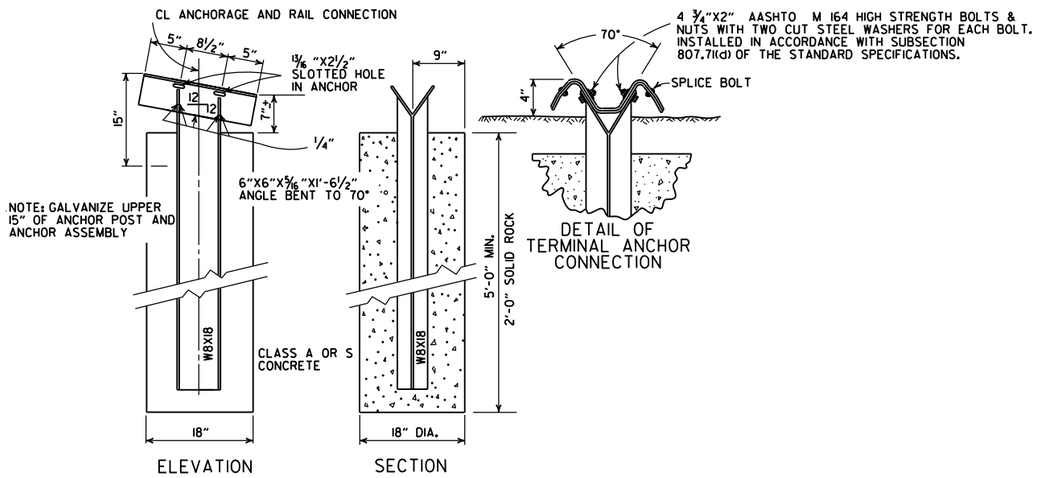
ELEVATION - GUARDRAIL TERMINAL (TYPE 1)

NOTE:
SECTIONS 1 AND 2 OF GUARDRAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARDRAIL SPECIFIED.



SECTION 1

TERMINAL SECTION



NOTE: RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND 8 WF 17 POST IF CONTRACTOR SO DESIRES.

DETAIL OF TERMINAL ANCHOR POST (TYPE 1)

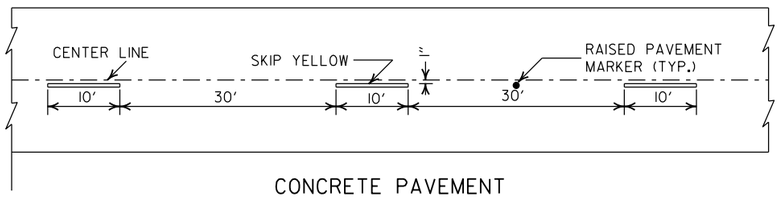
DATE	REVISION	FILMED
11-07-19	RENAMED & REVISED REFERENCE.	
11-16-17	REVISED GUARDRAIL HEIGHT AND LOCATION OF POSTS	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
06-26-97	REVISED LAP NOTE	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-03-94	DIMENSION TERMINAL DETAIL	
11-11-92	ADDED NOTE FOR PAYMENT	11-11-92
10-01-92	DRAWN & ISSUED	10-1-92

ARKANSAS STATE HIGHWAY COMMISSION

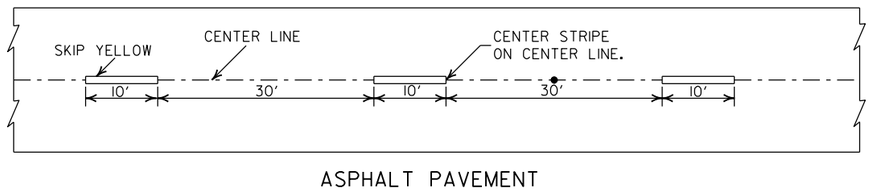
GUARDRAIL DETAILS

STANDARD DRAWING GRT-1

NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

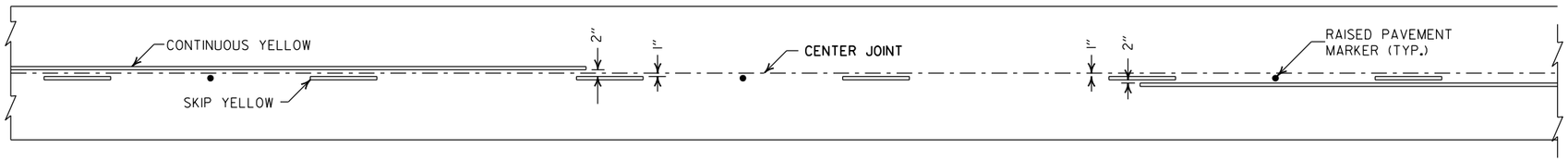


CONCRETE PAVEMENT

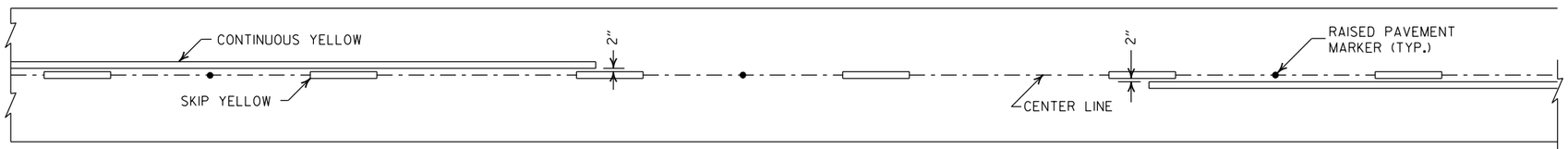


ASPHALT PAVEMENT

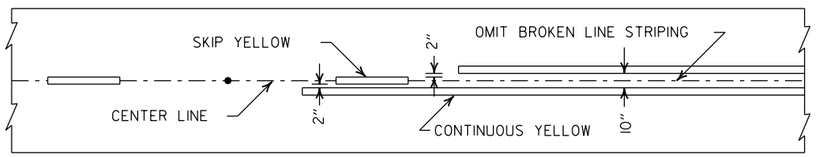
BROKEN LINE STRIPING



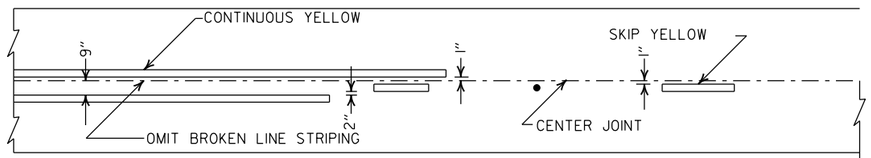
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

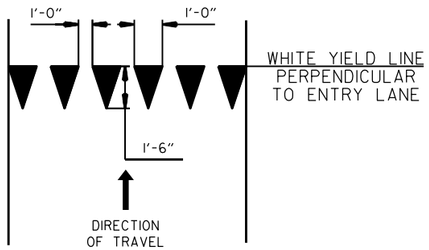


ASPHALT PAVEMENT

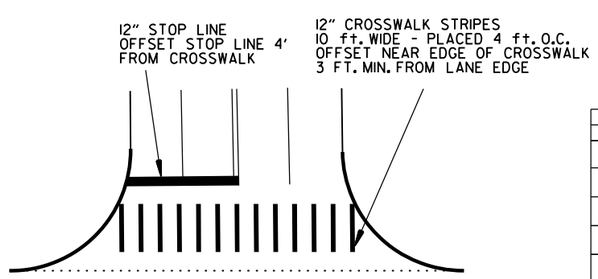


CONCRETE PAVEMENT

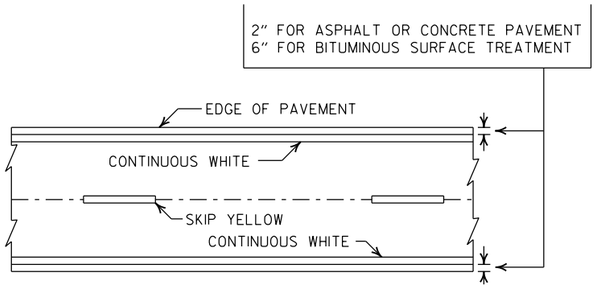
STRIPING AT ADJACENT NO PASSING LANES



YIELD LINE DETAIL



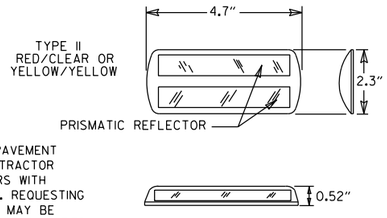
CROSSWALK AND STOP LINE DETAILS



PAVEMENT EDGE LINE MARKING

NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

DATE	REVISION	FILMED
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

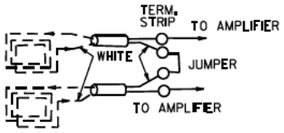
STANDARD DRAWING PM-1

LOOP DETECTOR INSTALLATION AND TESTING

NOTES:

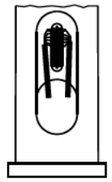
1. LOOPS WITH A PERIMETER GREATER THAN 40' SHALL HAVE TWO TURNS. LOOPS WITH A PERIMETER LESS THAN OR EQUAL TO 40' SHALL HAVE THREE TURNS, UNLESS OTHERWISE NOTED ON THE PLANS. QUADRUPOLE LOOPS SHALL BE TWO TURNS IN A (2-4-2 CONFIGURATION), UNLESS OTHERWISE NOTED ON THE PLANS.
2. LOOP AND FEEDER WIRE SHALL BE CONTINUOUS WITHOUT SPLICES EXCEPT AT THE LOOP/FEEDER WIRE SPLICE AS SHOWN. SPLICES SHALL BE ROSIN SOLDERED AND WATERPROOFED WITH AN ACCEPTED SPLICE KIT. A DRIAN WIRE SHALL BE GROUNDED IN THE CABINET AND INSULATED AT THE LOOP TO FEEDER WIRE SPLICE.
3. THE LOOP TO FEEDER WIRE SPLICE, THE FEEDER WIRE JACKET AND LOOP WIRE JACKET IN DUCT SHALL BE COMPLETELY SEALED AND WATERPROOFED.
4. THE CONTRACTOR MAY MAKE CONNECTIONS TO THE SIGNAL CABLE AND LOOP TO FEEDER WIRE CONNECTION AT THE TERMINAL STRIPS MOUNTED TO POLE INSIDE THE HAND HOLD COVER AS SHOWN IN DETAIL. HANDHOLE TERMINALS MUST BE EASILY ACCESSIBLE, BUT PROTECTED AGAINST ACCIDENTAL CONTACT. THE CONNECTION OF POWER CARRYING CIRCUITS MUST BE SEPERATED FROM LOOP OR LOGIC CIRCUITS. ALL CONNECTIONS TO TERMINAL STRIPS SHALL UTILIZE SPADE LUGS OR AS APPROVED BY THE ENGINEER.
5. EACH LOOP SHALL HAVE A SEPERATE "FEEDER WIRE" UNLESS OTHERWISE NOTED ON THE PLANS. ALL FEEDER WIRES SHALL BE LABELED AS TO LOOP NUMBER AS DESIGNATED ON THE PLANS.
6. ALL LOOP WIRE ENTERING CONCRETE PULL BOXES SHALL BE ENCLOSED IN CONDUIT. EACH LOOP WIRE SHALL ENTER CONCRETE PULL BOX OR POLE BASE THROUGH A SEPARATE PIECE OF ONE (1.25") INCH CONDUIT.
7. LOOP WIRE FROM LOOP TO CONDUIT IS NOT TWISTED. LOOP WIRE IN THE CONDUIT MUST BE TWISTED TWO TO FIVE TURNS PER FOOT.
8. "30-DAY PERFORMANCE TEST SHALL NOT COMMENCE UNTIL ALL LOOPS ARE TESTED BY THE CONTRACTOR, THEN APPROVED AND ACCEPTED BY THE ENGINEER, AND THE TESTING RECORDS HAVE BEEN SUBMITTED TO THE ENGINEER. THE WARRENTY PERIOD FOR LOOPS SHALL NOT COMMENCE UNTIL TESTED BY THE CONTRACTOR AND ACCEPTED BY THE ENGINEER. THE CONTRACTOR SHALL PERFORM TEST AND PROVIDE A RECORD TO THE ENGINEER AS LISTED IN THE LOOP DETECTOR TESTING PROCEDURE.
9. UNLESS OTHERWISE APPROVED BY THE ENGINEER, BACKER ROD SHALL BE INSTALLED IN SHORT SECTIONS SPACED NO MORE THAN 18" APART AND WEDGED INTO THE SLOT TO THE CABLE IN PLACE. CABLE SHALL BE TOTALLY ENCAPSULATED IN SEALER.
10. "HOT POUR" SEALER SHALL NOT ALLOW WITH 705-LOOP WIRING IN DUCT.
11. WHERE UNDERGROUND SPLICES OF SIGNAL CABLE ARE REQUIRED. CONNECTIONS SHALL BE SOLDERED AND COMPLETELY WATERPROOFED TO THE SATISIFACTION OF THE ENGINEER. WATERPROOFING SHALL EXTEND A MININUM OF TWO (2") INCHES PAST THE SIGNAL CABLE JACKET AND SHALL COMPLETELY COVER ALL INDIVIDUAL CONDUCTORS OF THE SIGNAL CABLE. WATERPROOFING DOES NOT APPLY TO CONNECTIONS MADE IN POLE BASES.
12. THE CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE. ONLY ONE NEUTRAL IS REQUIRED FOR PEDESTRIAN SIGNALS. A SEPERATE 5C (TYPICAL) IS PROVIDED FOR PEDESTRIAN PUSH BUTTONS.
13. TRAFFIC CONTROLLER CABINET LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER TO REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER. THE CONTROLLER CABINET SHALL BE WIRED SUCH THAT THE POWER TO LOAD SWITCHES CANNOT BACKFEED TO THE LOAD SWITCH POWER BUSS DURING FLASH OPERATION.

SERIES CONNECTED LOOPS

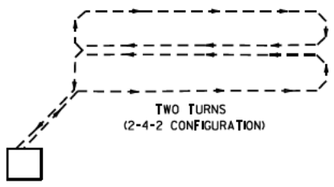


WIND LOOPS COUNTERCLOCKWISE; TAG WIRE EXITING SLOT AND TIE TO WHITE LEAD OF FEEDER WIRE; WHEN LOOPS ARE TIED TO SAME VEHICLE DETECTOR, SERIES CONNECT IN CABINET AS SHOWN.

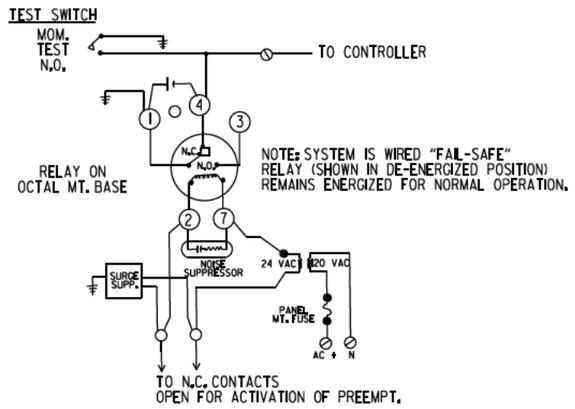
HANDHOLE TERMINAL



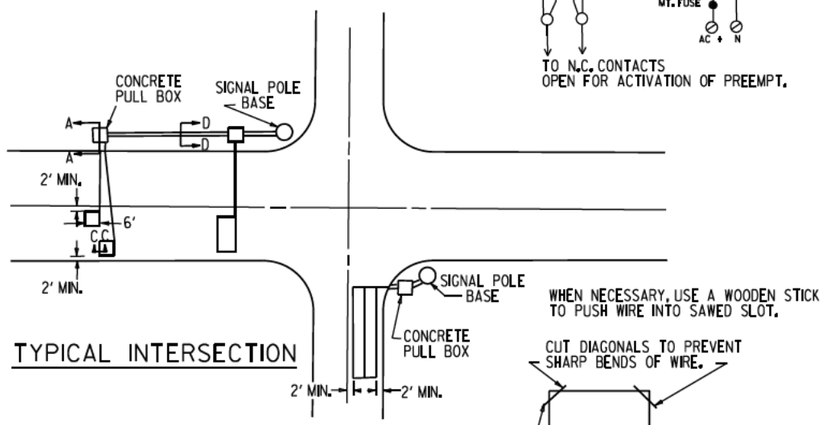
QUADRUPOLE LOOP



TRAFFIC SIGNAL PRE-EMPTION INTERFACE WIRING DIAGRAM



TYPICAL INTERSECTION



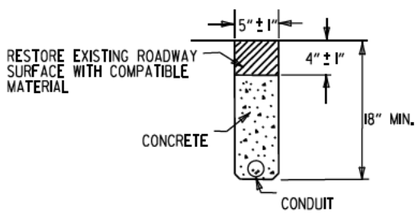
TYPICAL PROCEDURE FOR DETECTOR LOOP TESTING

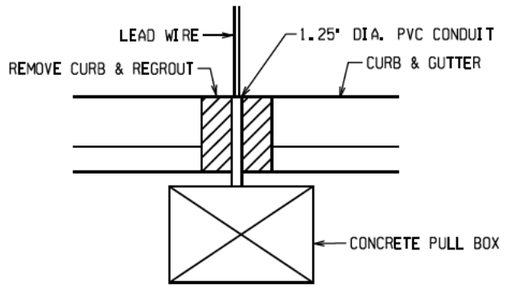
1. DISCONNECT AND TEST CONTINUITY (< 10 OHMS) IF CONTINUITY IS BAD, GO TO TEST 3.
2. TEST INSULATION (@ 500 VOLT TEST > 10 MEG-OHM)

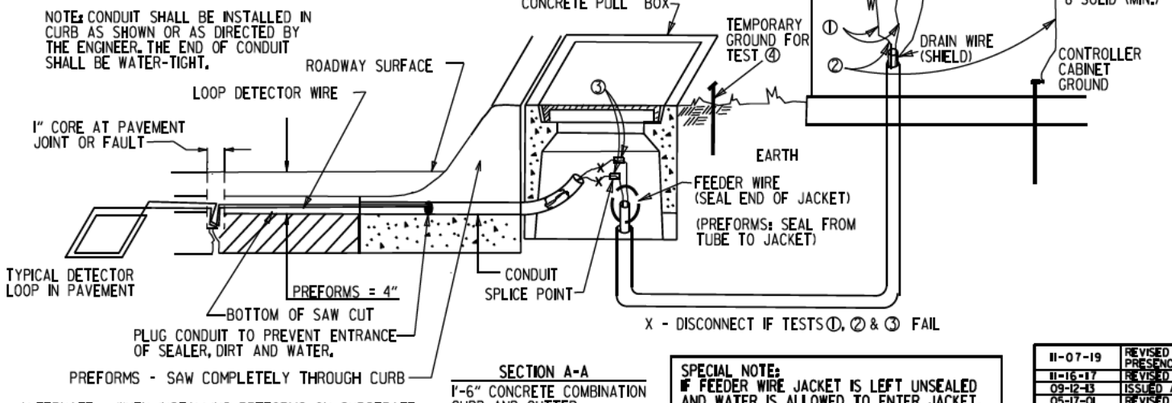
   IF TESTS 1& 2 ARE GOOD, NO FURTHER TESTING IS NECESSARY. RECORDED RESULTS CONSIST OF TESTS 1& 2 FROM CONTROL CABINET WITH FEEDER WIRE CONNECTED TO LOOP.
3. OPEN SPACE (DO NOT BREAK CONNECTION) REPEAT TEST 1& 2 IF TEST 3 IS BAD, GO TO TEST 4.
4. BREAK SPLICE, INSTALL JUMPER IN CABINET, REPEAT TESTS 1& 2 SEPARATELY FOR FEEDER AND FOR LOOP.

FAILURES TYPICALLY RESULT FROM BROKEN WIRE IN PAVEMENT, FAULTY INSULATION OF LOOP OR FEEDER WIRE, OR POORLY INSULATED SPLICE CONNECTION.

TRENCHING DETAIL
(FOR SAW CUT TRENCH IN ROADWAY)



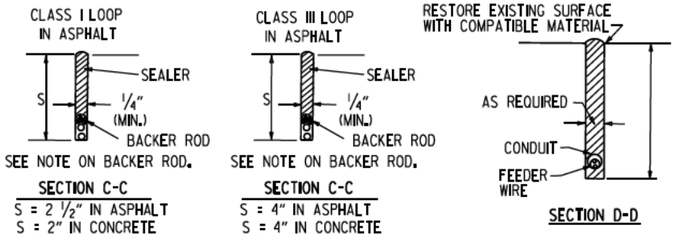




SECTION A-A
1'-6" CONCRETE COMBINATION CURB AND GUTTER

SPECIAL NOTE:
IF FEEDER WIRE JACKET IS LEFT UNSEALED AND WATER IS ALLOWED TO ENTER JACKET, CONTRACTOR WILL BE REQUIRED TO REPLACE FEEDER WIRE AT NO COST TO DEPARTMENT.

TYPICAL SECTIONS FOR PULSE AND PRESENCE LOOP DETECTORS



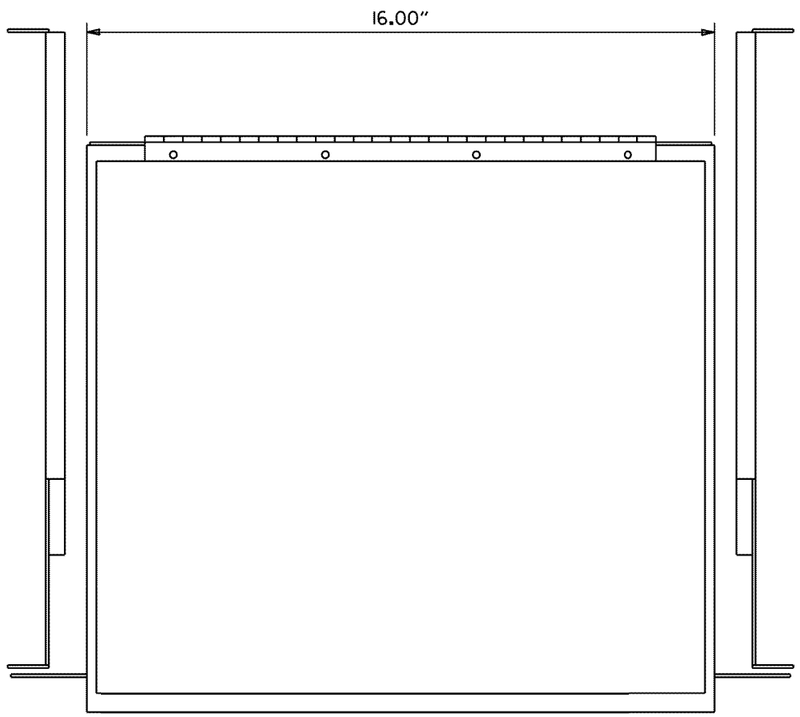
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 6 & TYPICAL FOR PRESENCE LOOP DETECTORS	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
05-17-01	REVISED	
04-11-01	REVISED	
02-04-00	REVISED PRE-EMPTION TEST SWITCH	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

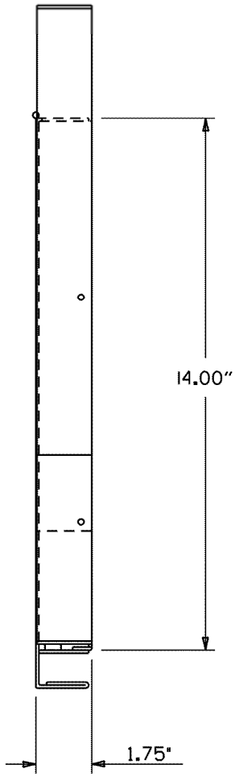
ARKANSAS STATE HIGHWAY COMMISSION

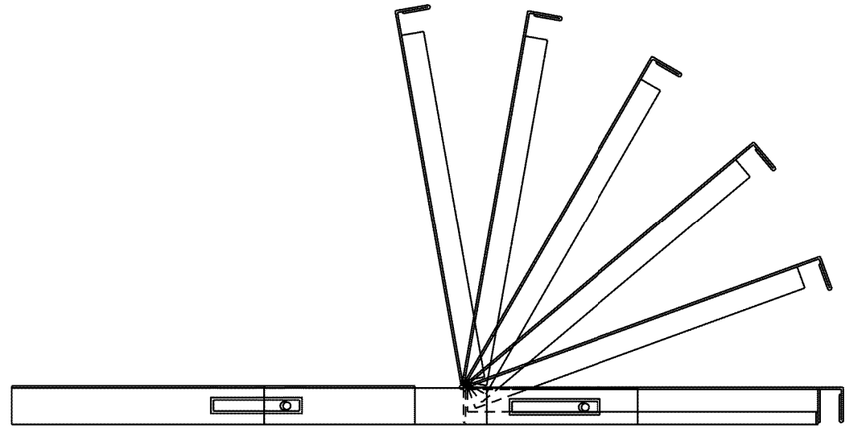
LOOP DETECTOR INSTALLATION

STANDARD DRAWING SD-4

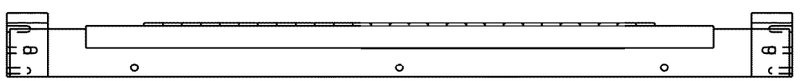
DRAWER PLAN VIEW



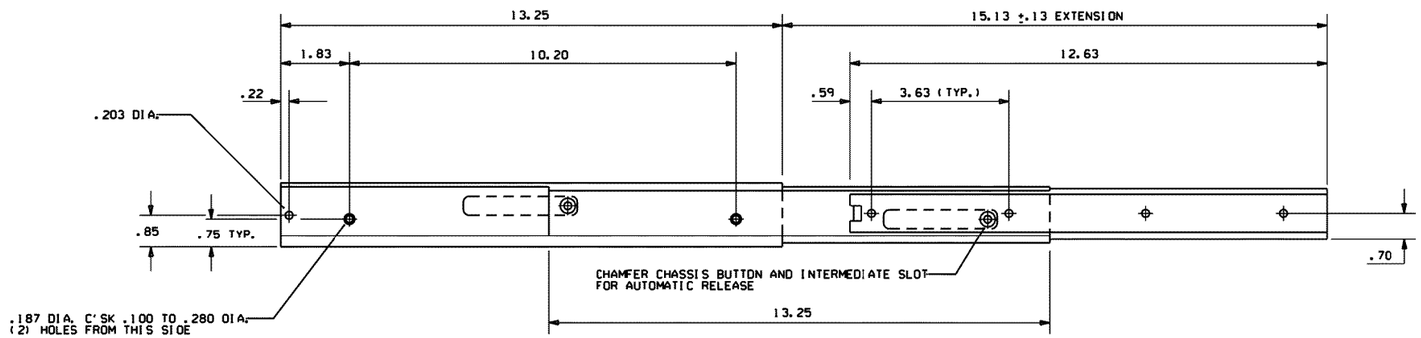




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3DD2-99-DID2) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

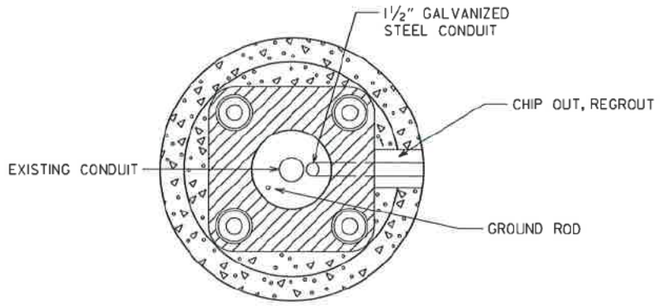
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
6-15-05	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

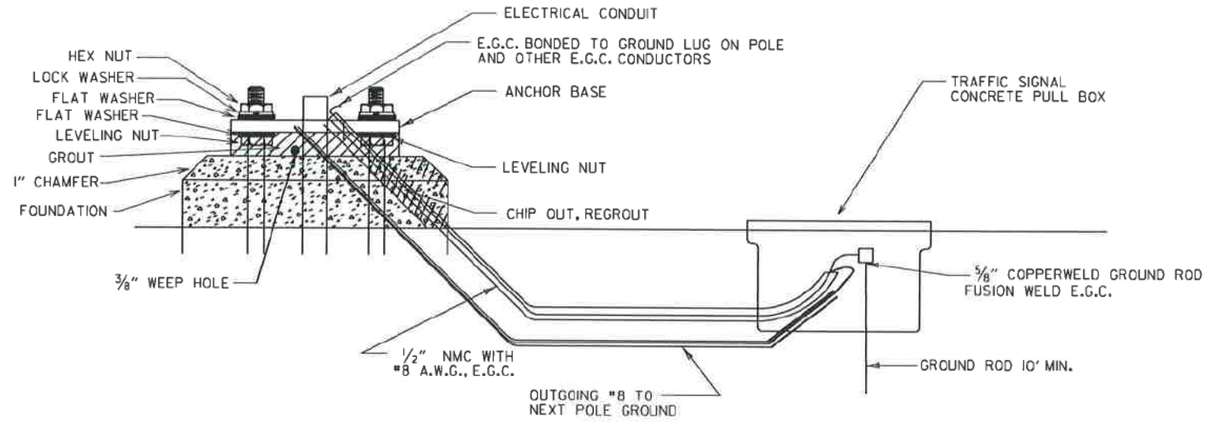
CONTROLLER CABINET UTILITY DRAWER

STANDARD DRAWING SD-5

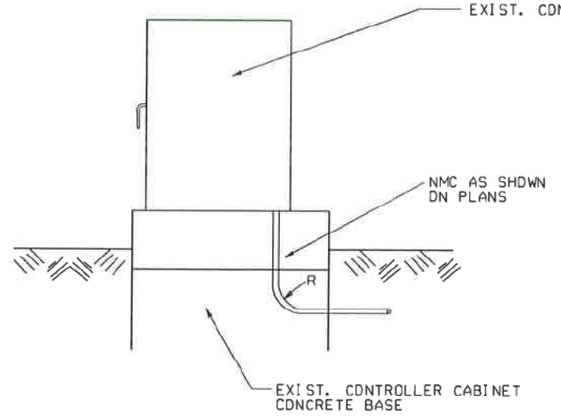
CONDUIT ENTRY TO EXISTING POLE BASE



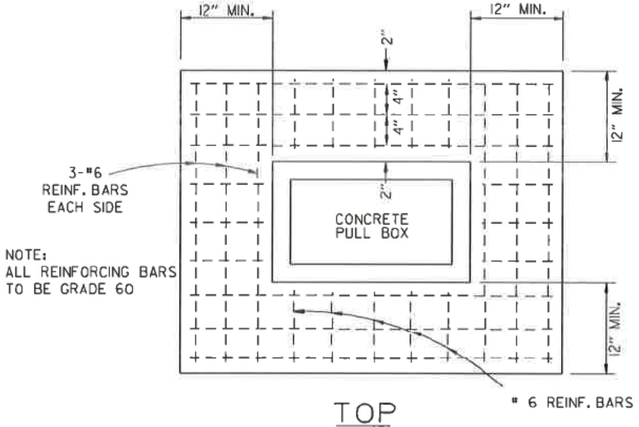
ANCHOR BASE



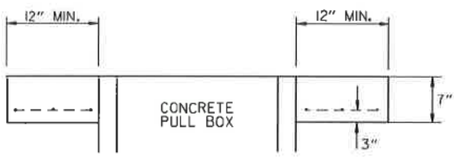
CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

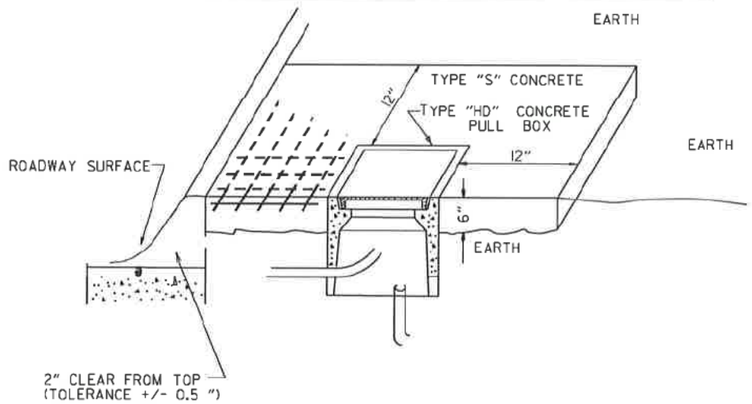


TOP



ELEVATION

TYPE "HD" CONCRETE PULL BOX DETAIL



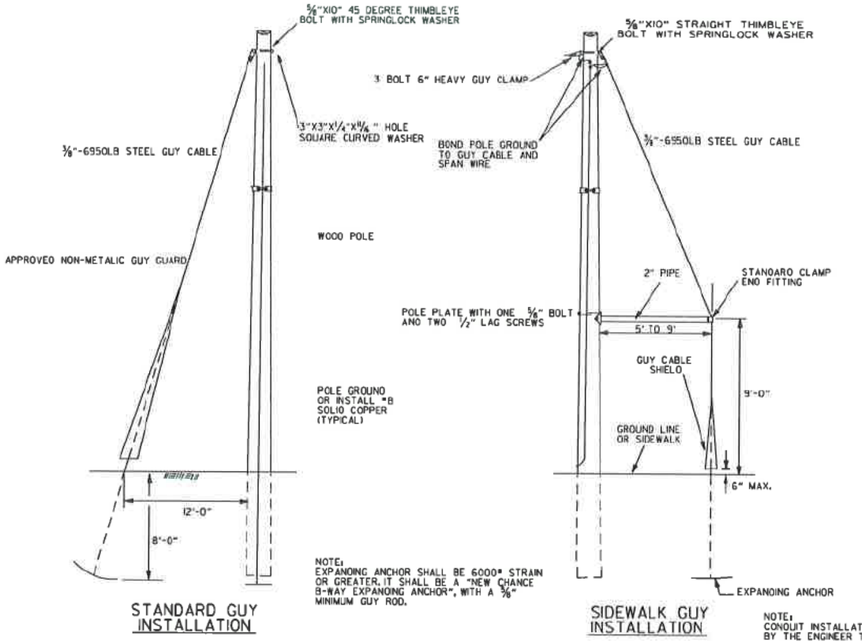
NOTE:
ALL TYPE I AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 7" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S". THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE CONCRETE PULL BOX IS REQUIRED IN CONCRETE.

DATE	REVISION	FILMED
11-16-17	REVISED NOTES	
09-02-15	REVISED PULL BOX DEPTH	
09-12-13	ISSUED AS STANDARD DRAWING	
05-21-09	REVISED GROUNDING	
07-31-08	ADDED & REVISED CONDUIT ENTRY	
06-23-04	REVISED CLEARANCE AT CURB ENTRY	
01-04-02	ADDED REINFORCING TO BOX APRON	
07-02-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

HEAVY DUTY PULL BOX

STANDARD DRAWING SD-6

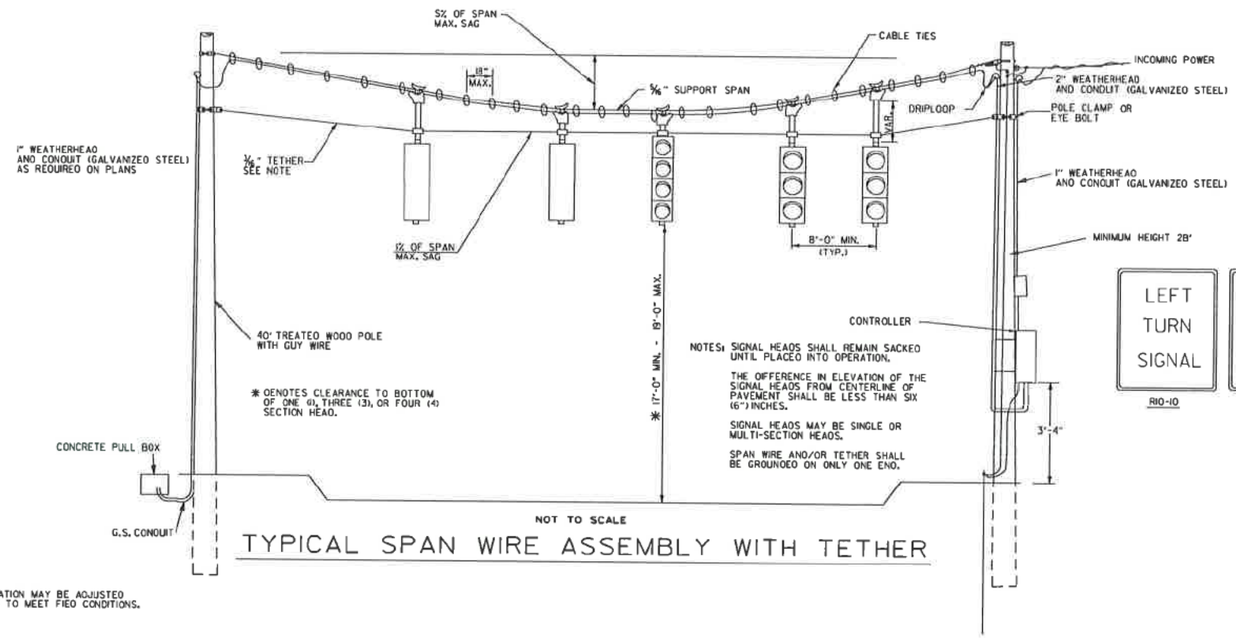


STANDARD GUY INSTALLATION

NOTE:
EXPANDING ANCHOR SHALL BE 6000# STRAIN OR GREATER. IT SHALL BE A "NEW CHANCE B-WAY EXPANDING ANCHOR", WITH A 5/8" MINIMUM GUY ROD.

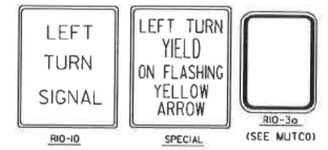
SIDEWALK GUY INSTALLATION

NOTE:
CONDUIT INSTALLATION MAY BE ADJUSTED BY THE ENGINEER TO MEET FIELD CONDITIONS.



NOT TO SCALE

TYPICAL SPAN WIRE ASSEMBLY WITH TETHER

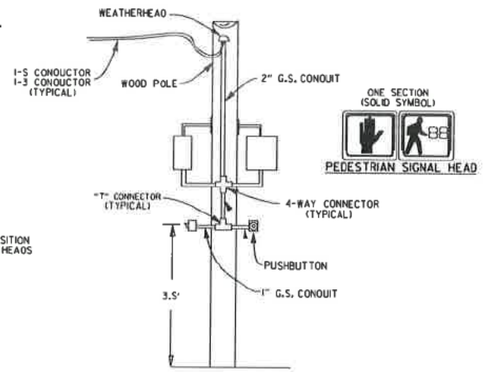


NOTES:
SPAN WIRE POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

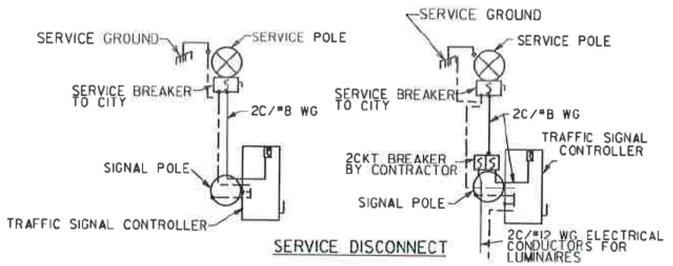
SPAN WIRE ASSEMBLIES WILL REQUIRE TETHER UNLESS OTHERWISE NOTED ON PLAN SHEETS.

CABLE TIES SHALL BE SUITABLE FOR OUTSIDE USE (BLACK).

THE CONTROLLER POWER SUPPLY GROUND BUSS SHALL BE BONDED TO THE FOUNDATION GROUND ROD WITH A #8 A.W.G. SOLID COPPER WIRE, ON EXISTING FOUNDATIONS WITH NO GROUND ROD, CONTRACTOR SHALL INSTALL A 10' X 5/8" COPPERWELD GROUND ROD.



WOODEN POLE INSTALLATION OF PED HEADS



NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

NOTES:

EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)", TO BE USED AS A LEFT TURN INDICATION ONLY, SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

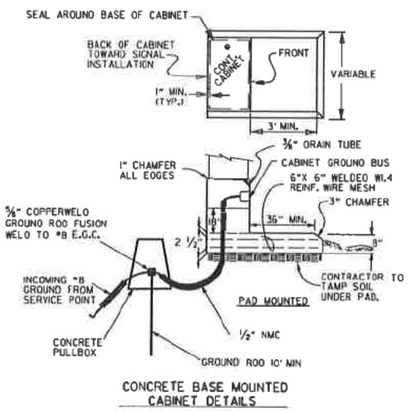
ALL SIGN BLANK SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209, ALLOY 5052-H38) WITH A THICKNESS OF 0.100 INCH.

ALL SIGN FACE SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

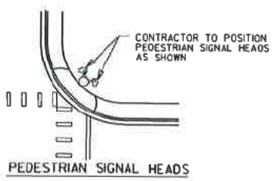
SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

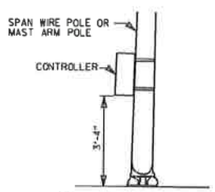
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS IN FLASH SEQUENCE.



CONCRETE BASE MOUNTED CABINET DETAILS



PEDESTRIAN SIGNAL HEADS



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED

CABINET NOTE:

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

MINIMUM STRUCTURAL REQUIREMENTS:

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

CONSTRUCTION SPECIFICATIONS: STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

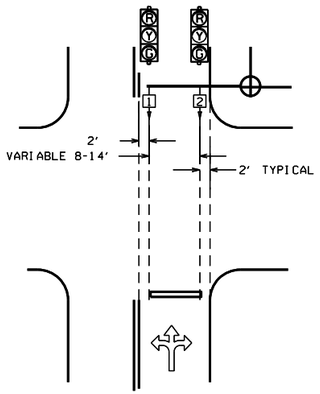
DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED SPAN WIRE SUPPORT POLE DETAIL, ADDED PEDESTRIAN SIGNAL HEAD DETAIL	
02-27-14	REVISED NOTES.	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED PEDESTRIAN SIGN & GROUNDING	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REV. CABINET ORIENTATION & SIGNAL OPERATION	
05-22-02	REV. TYP. SPAN WIRE ASSEMBLY	
12-27-99	REVISED	
11-18-98	REVISION TO NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

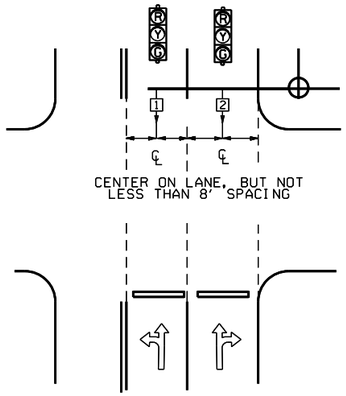
SPAN WIRE ASSEMBLY WOOD POLE

STANDARD DRAWING SD-7

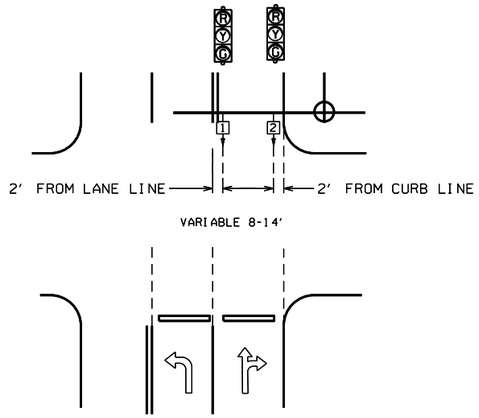
(A)



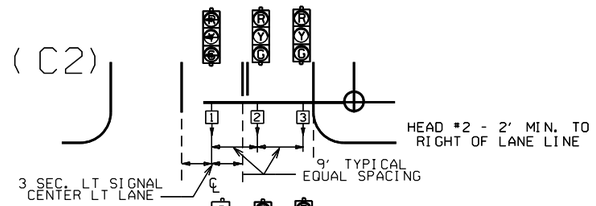
(B)



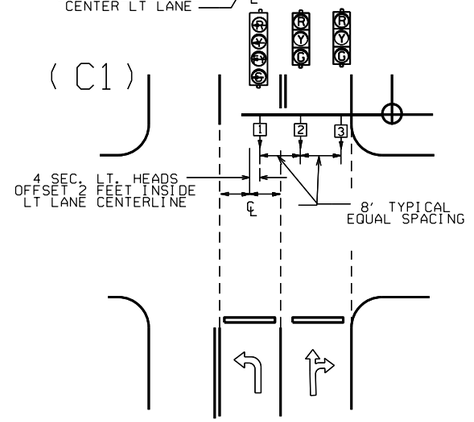
(C)



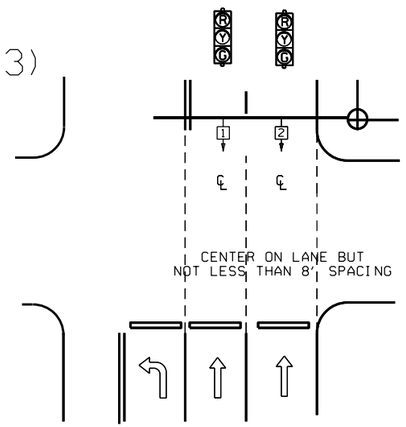
(C2)



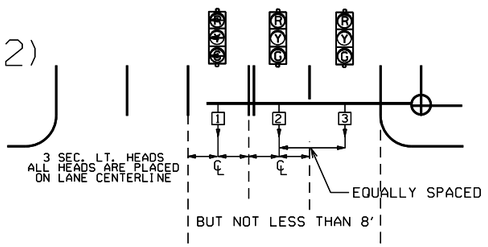
(C1)



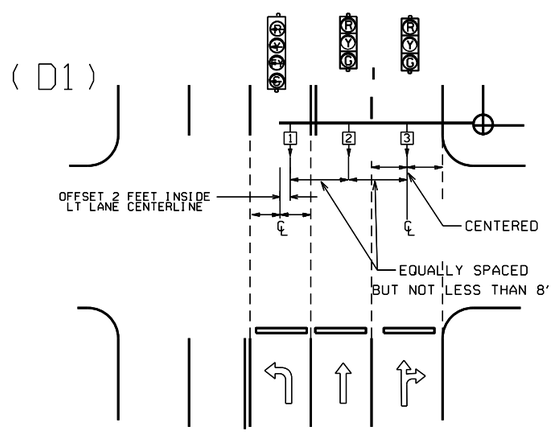
(C3)



(D2)

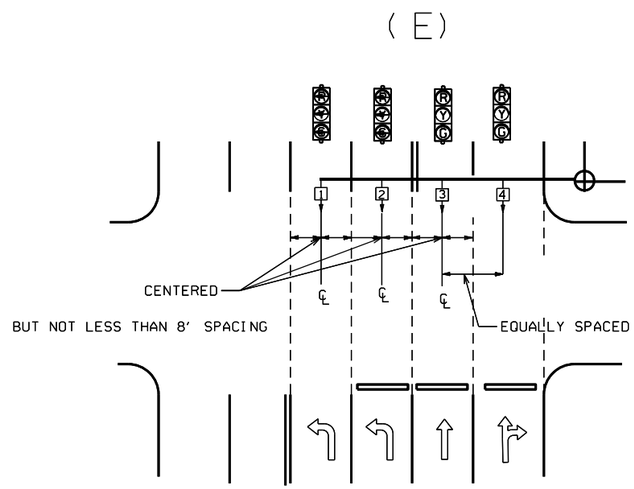


(D1)



NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS.

(E)



℄ = CENTER OF LANE FROM APPROACH SIDE

GENERAL NOTES:

1. FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.

4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.

6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-5 OF 2009 MUTCD.

12-8-16	REVISED NOTE 6	
9-12-13	ISSUED AS STANDARD DRAWING	
3-11-10	2009 MUTCD	
12-9-99	ISSUED	
DATE	REVISION	DATE FILM

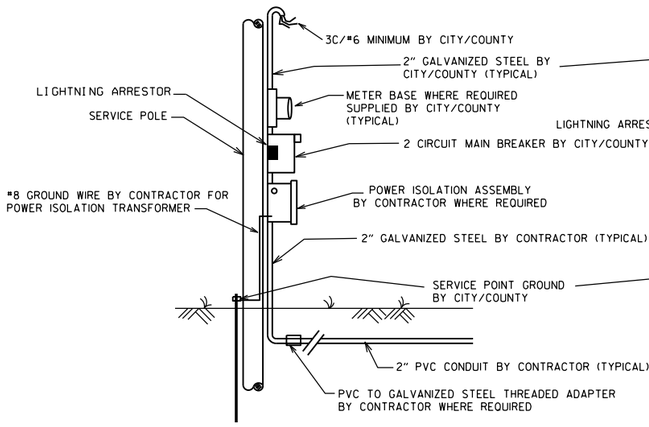
ARKANSAS STATE HIGHWAY COMMISSION

SIGNAL HEAD PLACEMENT

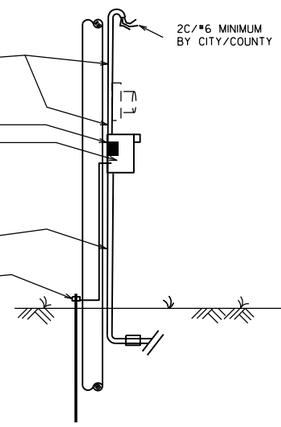
STANDARD DRAWING SD-8

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY



WITHOUT POWER ISOLATION ASSEMBLY



NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY):

ELECTRICAL SERVICE TYPICALLY FALLS INTO TWO CATEGORIES:
MAIN BREAKER NEAR CONTROLLER CABINET; AND MAIN BREAKER NOT NEAR CONTROLLER CABINET. THE CONTRACTOR'S AND THE CITY'S/COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

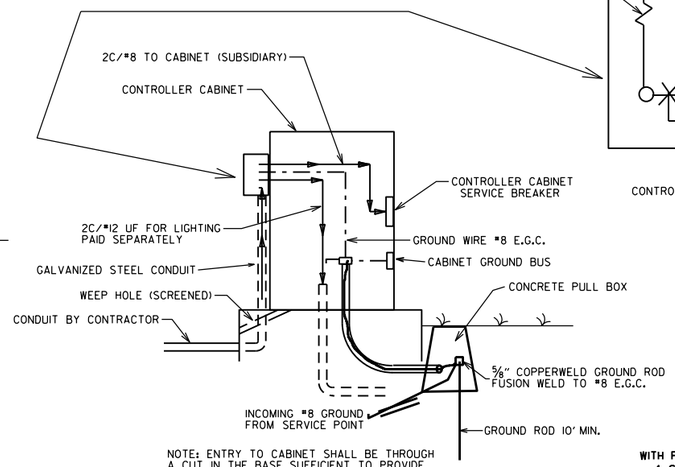
ALL SITUATIONS:
ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTOR, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY COMPANY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION STREET LIGHTING CIRCUIT (2C/#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT SEPARATE FROM THE CIRCUIT SERVING TRAFFIC SIGNAL. SERVICE WIRE AND WIRING FROM THE CONTROLLER TO MAIN BREAKER IS PROVIDED BY THE CONTRACTOR AS A PART OF THIS CONTRACT. WIRE AND WIRING FROM MAIN BREAKER, AND CONNECTION TO THE UTILITY IS THE RESPONSIBILITY OF THE CITY/COUNTY.

MAIN BREAKER NOT NEAR CONTROLLER CABINET:
THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT. WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY CITY/COUNTY. CONTRACTOR SHALL PROVIDE AS PART OF CONTRACT SECONDARY BREAKER, CONDUIT, WIRE AND WIRING TO THE MAIN BREAKER.

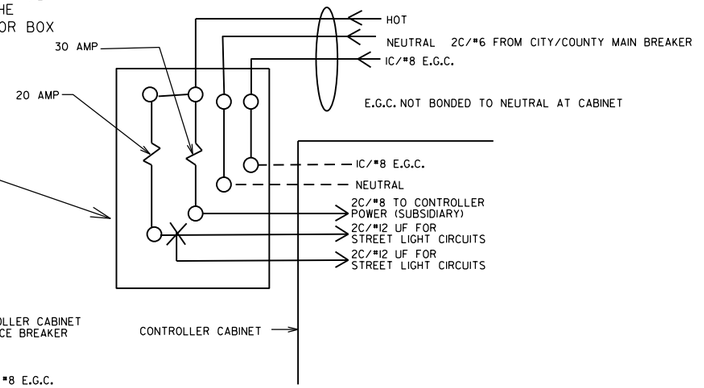
MAIN BREAKER NEAR CONTROLLER CABINET:
ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE AND HARDWARE IS PROVIDED BY THE CITY/COUNTY AND INSTALLED BY THE CONTRACTOR.

GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 701. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)



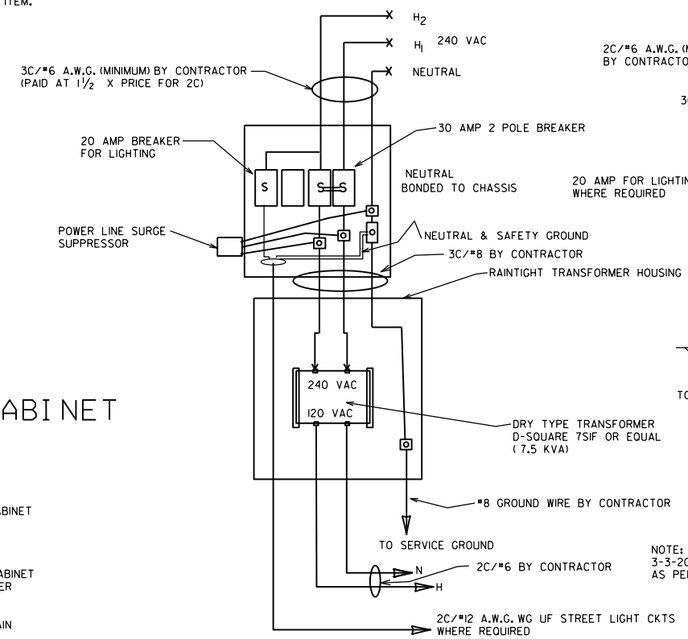
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



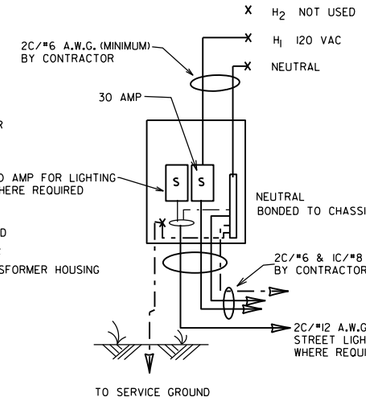
MAIN BREAKER WIRING (TYPICAL)

SERVICE GROUND IS TYPICALLY TIED TO NEUTRAL AT THE MAIN BREAKER. AS SUCH, CONTROLLER GROUND IS NOT TIED TO NEUTRAL AT SECONDARY BREAKER OR IN CONTROLLER CABINET.

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

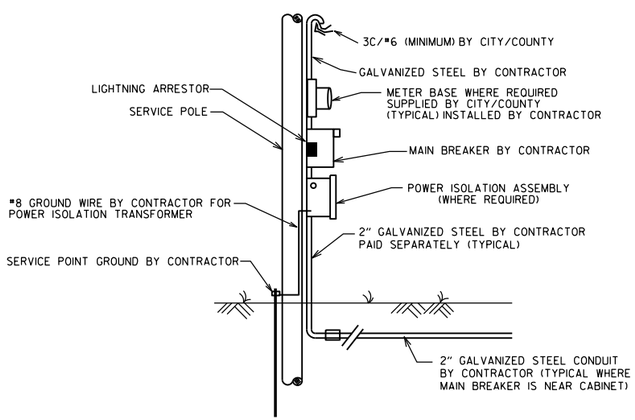


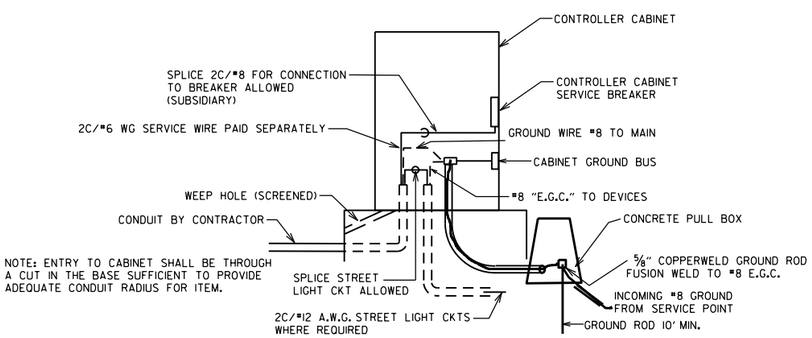
WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (E.C.G.) ADDED 3-3-2003, CONSISTING OF A IC/#8 A.W.G. CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED





NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

DATE	REVISION	FILMED
11-07-19	REVISED	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
04-18-13	ADDED LIGHTNING ARRESTOR	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
03-03-03	ADDED EGC NOTE	
09-26-01	REVISED	
12-27-99	REVISED	
07-28-99	REVISED	
02-05-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SERVICE POINT

STANDARD DRAWING SD-9

NOTES:
PEDESTRIAN AND TRAFFIC SIGNAL HEAD SIGNS:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE R10-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGNS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 723 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209, ALLOY 5052-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:
1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REQUIREMENTS:
DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS 65 MPH AND GREATER AT THE STRUCTURE LOCATION AND ON ROUTES WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY II FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH MAST ARMS LESS THAN 60' AND ON ROUTES WHERE THE SPEED LIMITS OF 45 MPH AND LESS WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE THE SPEED LIMIT IS 45 MPH AND LESS AND MAST ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS:
STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DEAD LOAD: AS A MINIMUM, DESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEADS TO BE ONE WAY, TWELVE (12") INCH AND HAVE FIVE (5") INCH BACK PLATES:

SIGNAL HEADS AT THE END OF MAST ARM - ONE 4 SEC., 85 LB., 14.5 SQ. FT., ONE SIGN MOUNTED 3 FEET FROM SIGNAL HEAD (2'-0" X 2'-6"; 20 LB.) REMAINING SIGNAL HEADS SPACED AT 8 FT. (3 SEC., 56 LB., 8.3 SQ. FT.); DESIGN TO ACCOMMODATE:
2 SIGNAL HEADS FOR MAST ARMS 10 FT. TO 16 FT.
3 SIGNAL HEADS FOR MAST ARMS 18 FT. TO 24 FT.
4 SIGNAL HEADS FOR MAST ARMS OVER 26 FT.

STREET NAME SIGN - 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAT 12 FT. FROM POLE. DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT.
ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) - VARIABLE ARM LENGTH (MAX. WT. 75 LB., 3.3 SQ. FT.)
PEDESTRIAN SIGNALS - TWO 1 SEC., 12 INCH MOUNTED 8 FT. FROM BASE OF POLE, POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

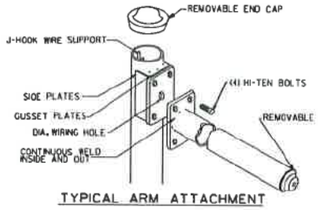
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE - HAND HOLES SHALL BE 4 IN. X 6 IN. FOR STANDARD, AND 3 IN. X 5 IN. FOR PED POLES. MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACCUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDED A HAND HOLE WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

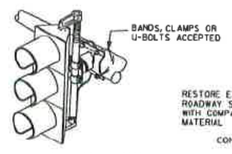
6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.12 S TO 0.15 INCHES PER FOOT.

MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE MAST ARM SHALL MAINTAIN A POSITIVE SLOPE AFTER IT IS PLACED UNDER LOAD.

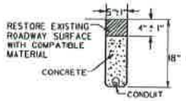
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



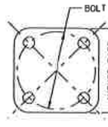
TYPICAL ARM ATTACHMENT



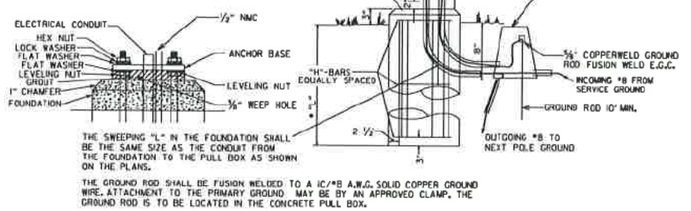
NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.



TRENCHING DETAIL
(FOR SAW CUT TRENCH IN ROADWAY)



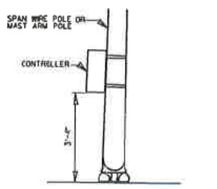
ANCHOR BASE



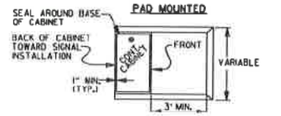
TYPICAL FOUNDATION DETAILS

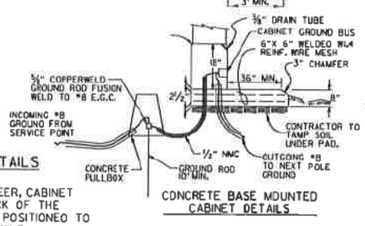
POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

ARM LENGTH	FOUNDATION DIAMETER	DEPTH "L"*	STEEL VERTICAL	STEEL HORIZONTAL	STEEL O.C.
PED	30"	7'-0"	12-#7 (6'-6")	10-#4	8.44"
2' TO 12'	30"	10'-6"	12-#7 (10'-0")	15-#4	8.42"
OVER 12' TO 20'	30"	11'-6"	12-#7 (11'-0")	16-#4	8.66"
OVER 20' TO 35'	36"	12'-6"	13-#8 (12'-0")	17-#4	8.88"
OVER 35' TO 50'	36"	13'-6"	13-#8 (13'-0")	19-#4	8.56"
OVER 50' TO 72'	42"	14'-6"	18-#8 (14'-0")	20-#4	8.74"
TWINS TO 20'	30"	16'-0"	12-#6 (15'-6")	22-#4	8.76"
TWINS OVER 20' TO 44'	36"	16'-0"	13-#8 (15'-6")	22-#4	8.76"
TWINS OVER 44' TO 50'	42"	16'-0"	18-#8 (15'-6")	22-#4	8.76"
TWINS OVER 50' TO 72'	42"	16'-6"	18-#8 (16'-0")	23-#4	8.64"



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED





CONCRETE BASE MOUNTED CABINET DETAILS

CONTROLLER CABINET MOUNTING DETAILS

NOTE:
UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X ⅝" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND ½" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID SEPERATELY.

9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTED WITH A ¼" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.

11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PEDESTRIAN PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM 707 PEDESTRIAN SIGNAL HEAD.

* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS.

** IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60" X 16" X 0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE QUARTER OF THE LENGTH OF THE MAST ARM FROM THE END OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM. THE PANEL SHOULD BE MOUNTED AT SUCH THE HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OF SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

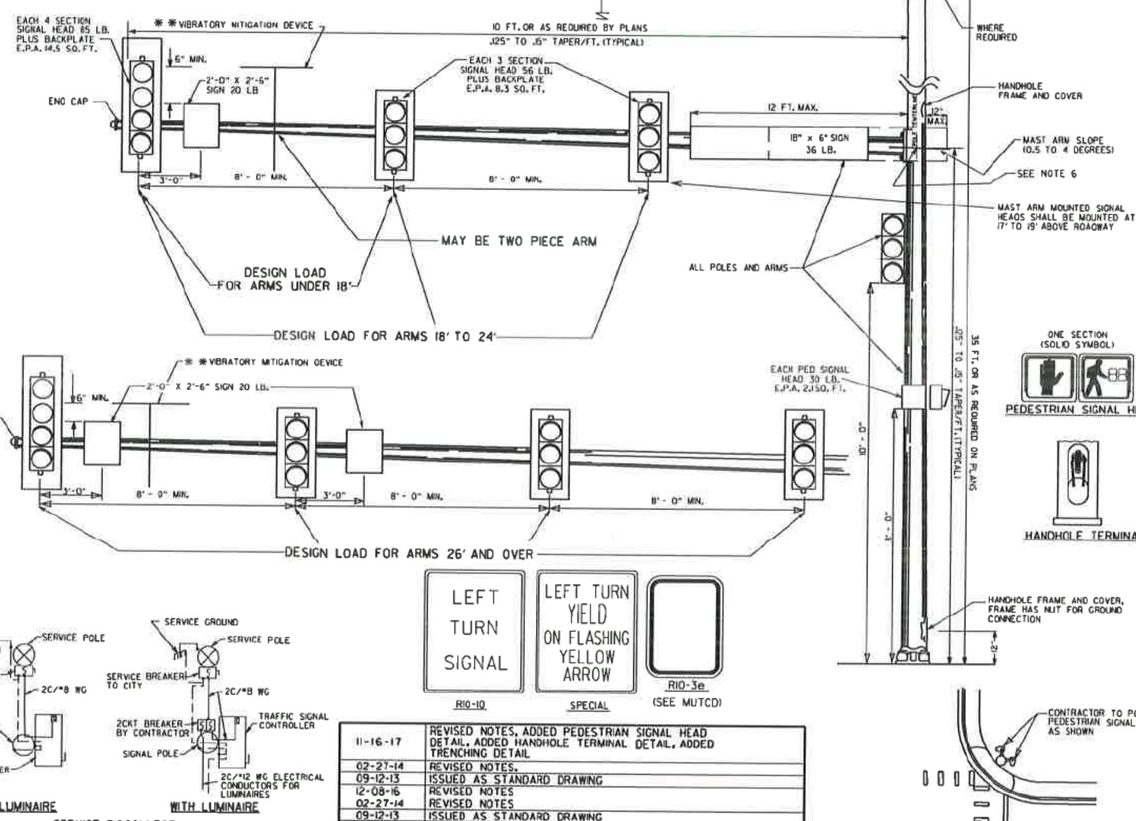
TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATION IN FLASH SEQUENCE.

SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.



SERVICE DISCONNECT
NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

PEDESTRIAN SIGNAL HEADS

DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED PEDESTRIAN SIGNAL HEAD DETAIL, ADDED HANDHOLE TERMINAL DETAIL, ADDED TRENCHING DETAIL	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
12-08-16	REVISED NOTES	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED VMD, SIGNAL HEADS	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
04-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
04-18-08	REVISED AASHTO NOTES	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
06-23-04	REVISED	
05-11-04	REV. NOTE 3/AASHTO REQUIREMENTS	
06-11-01	REV. NOTES & POLE MAST ARM SLOPE	
04-11-01	REVISED POLE TAPERS	
04-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

STEEL POLE WITH MAST ARM

STANDARD DRAWING SD-11



R1-1
30"X30"



W1-3
30"X30"
(LT. OR RT.)



W1-8
18"X24"



W2-5
30"X30"



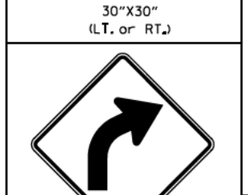
W3-1
36"X36"



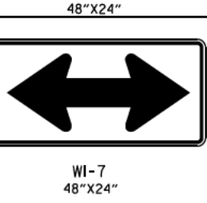
W5-1
36"X36"



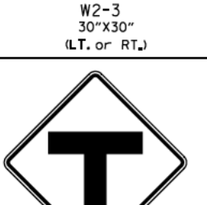
M6-3
21"X15"



R1-2
36"X36"X36"



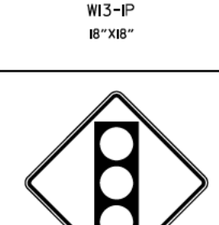
W1-4
30"X30"
(LT. or RT.)



W2-1
30"X30"



S1-1
36"X36"



W3-2
36"X36"

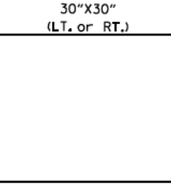


County
Route Marker
M1-6
24"X24"

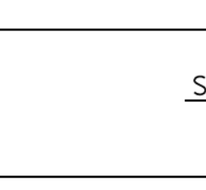
NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND.



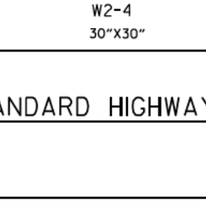
M6-4
21"X15"



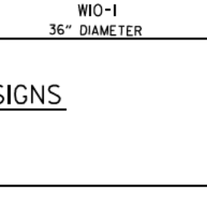
R2-1
24"X30"



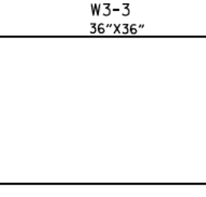
W1-5
30"X30"
(LT. or RT.)



W2-2
30"X30"

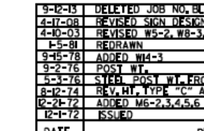


W5-2
36"X36"



W8-3
36"X36"

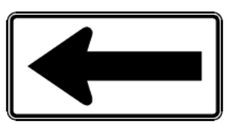
R1-3P
18"X6"



M6-5
21"X15"



W1-1
30"X30"
(LT. or RT.)



W1-6
48"X24"

W1-7
48"X24"



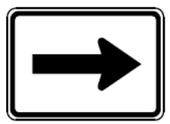
W2-3
30"X30"
(LT. or RT.)



W5-3
36"X36"

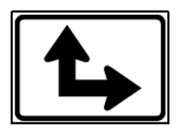


W13-1P
18"X18"



M6-1
21"X15"

NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW & BORDER WITH BLUE BACKGROUND.



M6-6
21"X15"

W1-2
30"X30"
(LT. or RT.)

W2-4
30"X30"

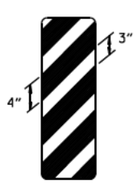
W10-1
36" DIAMETER

W3-3
36"X36"

M6-2
21"X15"

S4-3P
24"X8"

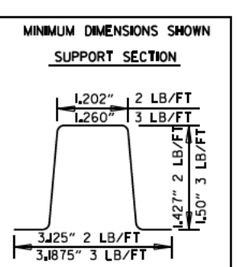
S4-2P
24"X10"



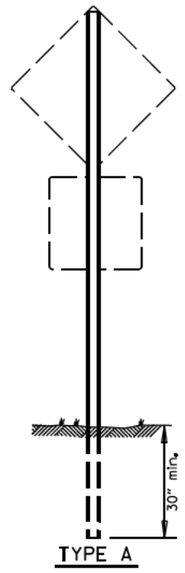
OM-3
12"X36"
(LT. or RT.)

MINIMUM DIMENSIONS SHOWN

SUPPORT SECTION

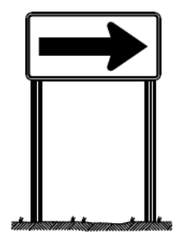


(U-CHANNEL)
STANDARD SUPPORT
ASSEMBLIES



TYPE A

NOTE: LENGTH OF SIGN POSTS SHALL BE DETERMINED SO AS TO PROVIDE FOR MINIMUM VERTICAL CLEARANCES AS CALLED FOR IN THE SPECIFICATIONS PLUS A MINIMUM VERTICAL PENETRATION OF 30" IN THE SOIL.



TYPE B

TYPE C

MINIMUM WEIGHT

TYPE A & B = 3 LBS./FT.
TYPE C = 2 LBS./FT.

STANDARD HIGHWAY SIGNS

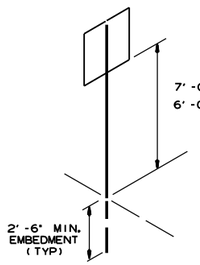
DATE	REVISION	DATE FILMED
9-12-13	DELETED JOB NO. BLOCK; REVISED RF-3 TO RF-3P	
4-17-08	REVISED SIGN DESIGNATION - W3-1& W3-2	
4-12-03	REVISED W5-2, W8-3, OM-3; ADDED W1-8	
1-5-81	REDRAWN.	960-1-15-81
9-15-78	ADDED W14-3	877-9-15-78
9-2-76	POST WT.	623-9-3-76
5-3-76	STEEL POST WT. FROM 28-30, ADDED S4-2 & S4-3	504-5-3-76
8-12-74	REV. WT. TYPE "C" ASSEMBLY	500-8-21-74
12-21-72	ADDED M6-2,3,4,5,6	500-12-21-72
12-1-72	ISSUED	562-12-1-72

SUPPORT ASSEMBLIES

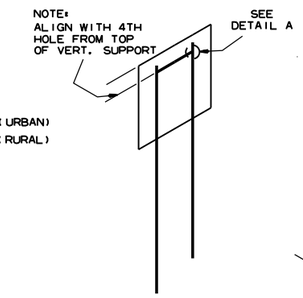
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES

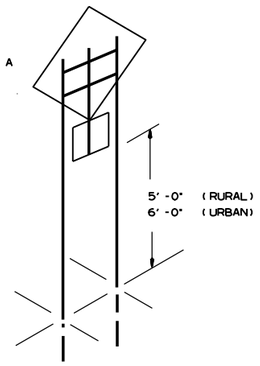
STANDARD DRAWING SHS-1



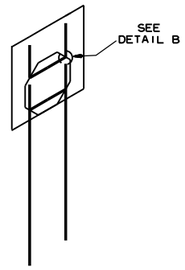
U-1



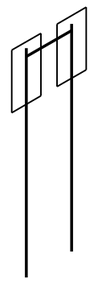
U-2



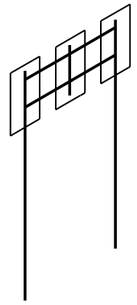
U-2 (A)



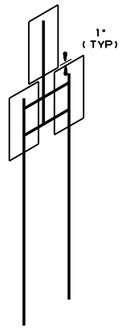
U-2 (B)



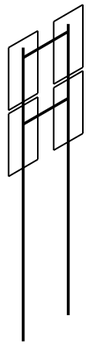
U-2 (1)



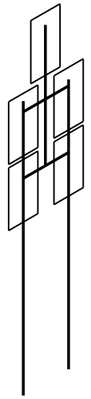
U-2 (2)



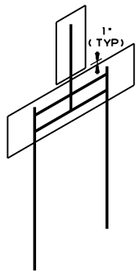
U-2 (3)



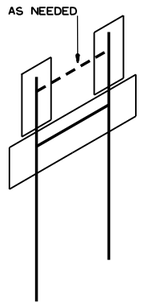
U-2 (4)



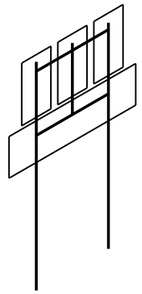
U-2 (5)



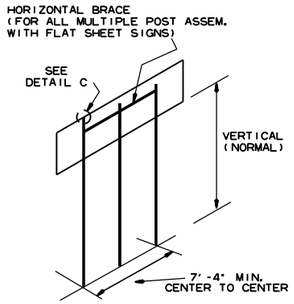
U-2 (6)



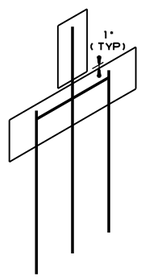
U-2 (7)



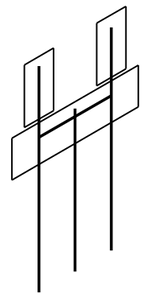
U-2 (8)



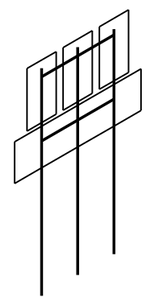
U-3



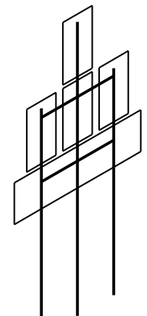
U-3 (1)



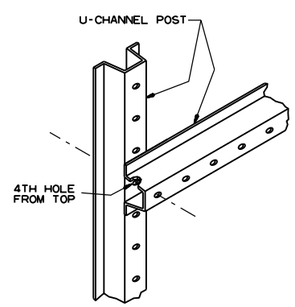
U-3 (2)



U-3 (3)

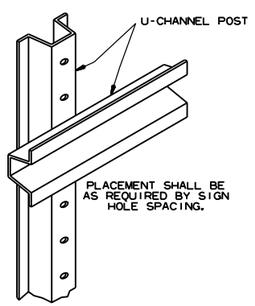


U-3 (4)



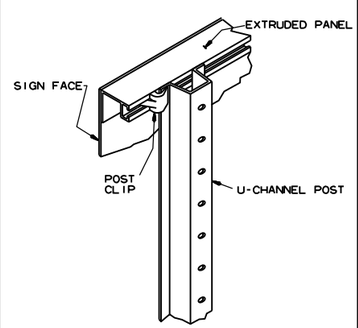
DETAIL A

SHOWING HORIZONTAL BRACE



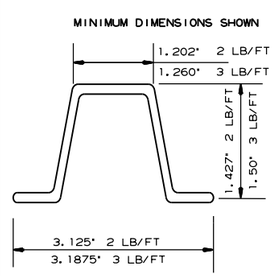
DETAIL B

SHOWING BACK-TO-BACK INSTALLATION



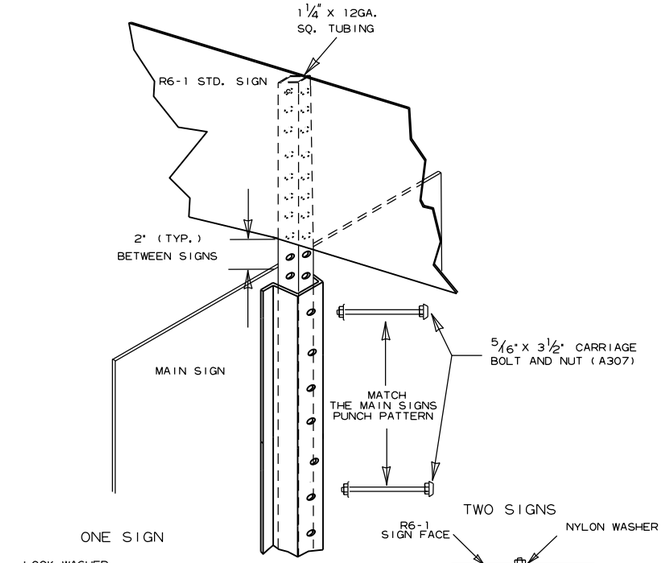
DETAIL C

SHOWING GUIDE SIGN MOUNTING WITH EXTRUDED PANELS



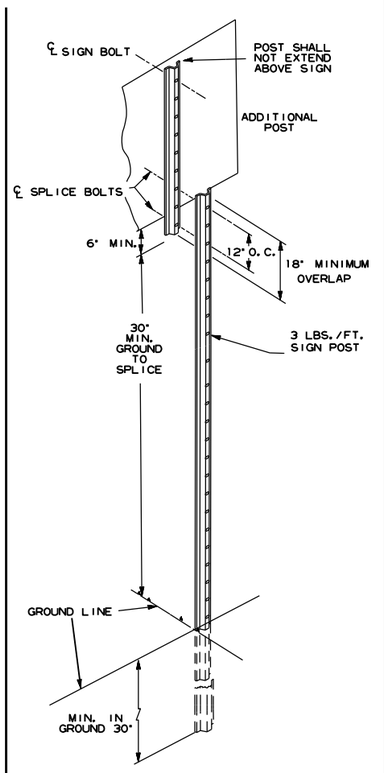
DETAIL C

U-CHANNEL POST



DETAIL E

R6-1 EXTENSION FOR U-CHANNEL POST



DETAIL F

DETAIL OF SPLICES

NOTES:

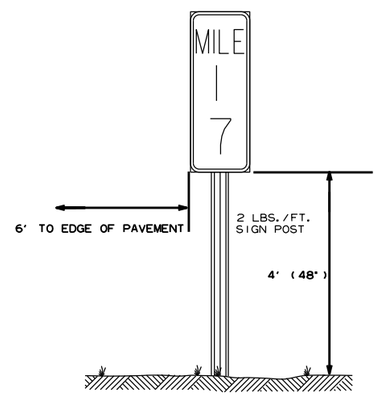
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (F).

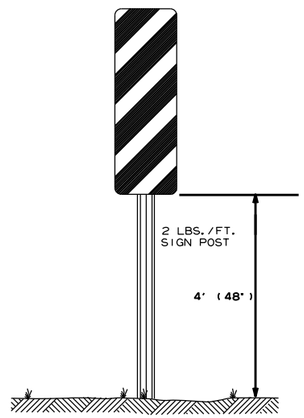
NORMAL INSTALLATIONS WILL REQUIRE 5/16" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

THE POST FOR "TYPE U" SUPPORTS SHALL BE HOT DIP GALVANIZED.



TYPICAL MILE MARKER INSTALLATION



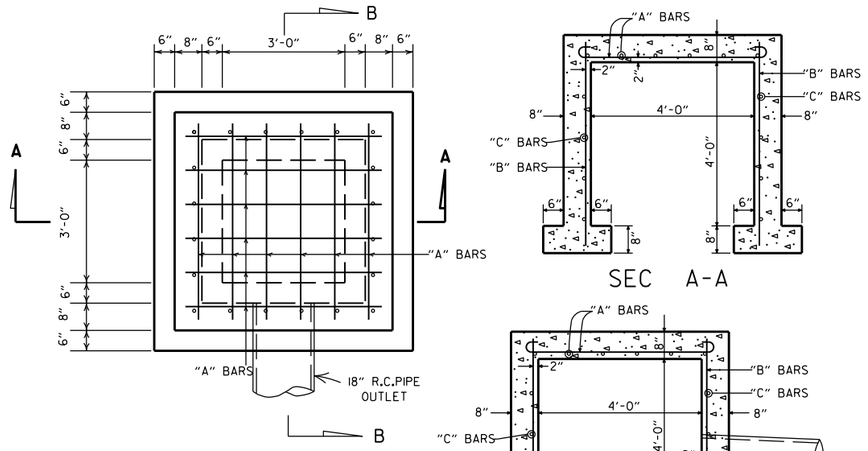
TYPICAL OM-3 INSTALLATION AT EDGE OF OBSTRUCTION

DATE	REVISION	FILMED
7-25-19	REVISED CARRIAGE BOLT WITH MATERIAL REQUIREMENT	
2-27-14	REVISED NOTES.	
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D; ADDED DETAILS E & F; ADDED TYPICAL MARKERS	
10-9-03	REMOVED ROUND POST & REVISED SPACING	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL	6-8-95
2-2-95	REDRAWN	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

U-CHANNEL POST ASSEMBLIES

STANDARD DRAWING SHS-2



SEC A-A

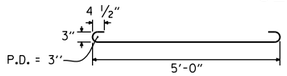
SEC B-B

NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

STEEL SCHEDULE

BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 ½"
"C"	16	5'-0"	12"

ALL STEEL TO BE #4 BARS



"A" BARS

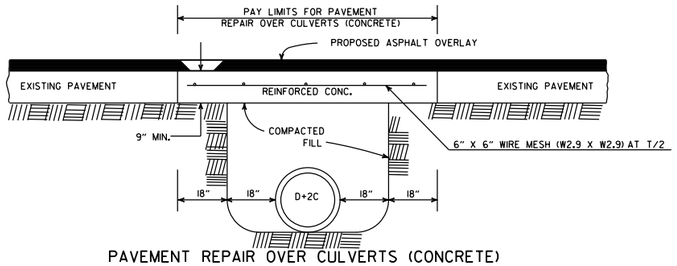
QUANTITIES

CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

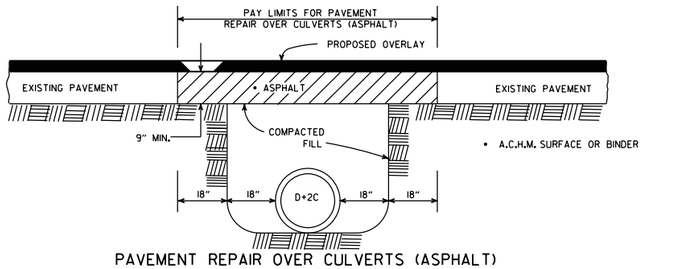
GENERAL NOTE:

THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.

REINFORCED CONCRETE SPRING BOX



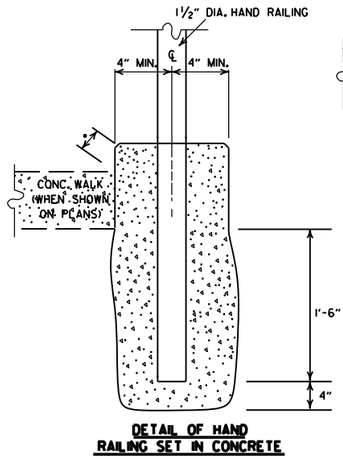
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



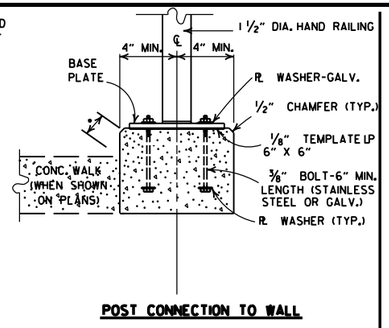
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

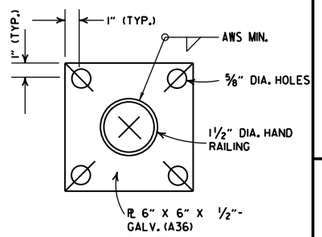
• A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

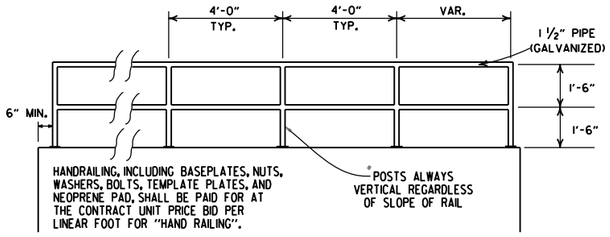


POST CONNECTION TO WALL

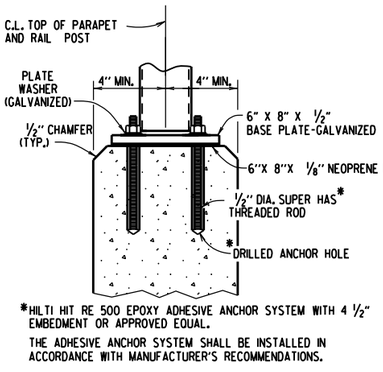


BASE PLATE

POST CONNECTION DETAILS



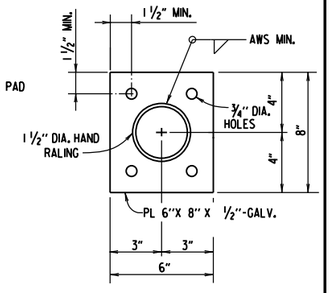
HAND RAILING SHALL CONFORM TO SECTION 633.



*HILTI HIT RE 500 EPOXY ADHESIVE ANCHOR SYSTEM WITH 4 ½" EMBEDMENT OR APPROVED EQUAL.

THE ADHESIVE ANCHOR SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

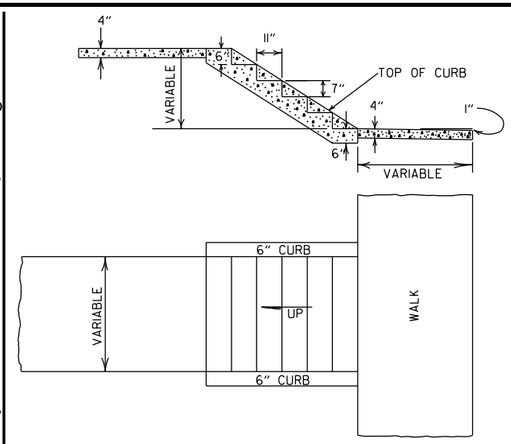
POST CONNECTION TO WALL



BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



GENERAL NOTES

1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

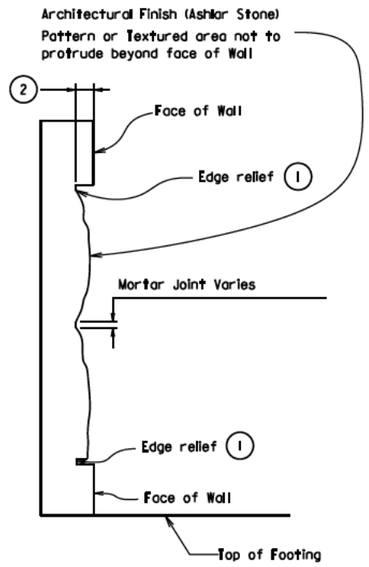
DETAILS OF CONCRETE STEPS & WALKS

10-25-18	REVISED DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS	
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-94	ADD WEEP HOLE;REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HDWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V. BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	649-7-15-88
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET& PAVEMENT REPAIR	674-4-20-79
2-2-76	12"MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

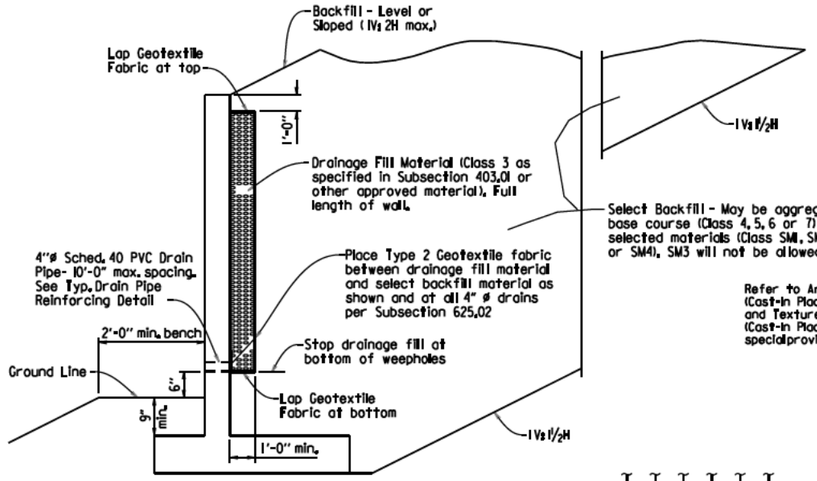
STANDARD DRAWING SI - 1



ARCHITECTURAL FINISH DETAILS

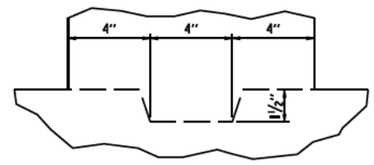
N.T.S.

1. Provide edge relief around perimeter of Texture. Edge relief dimensions shall match manufacturers edge distance.
2. Depth of Ashlar Stone pattern approx. 1⅜". See SP "Architectural Finish".



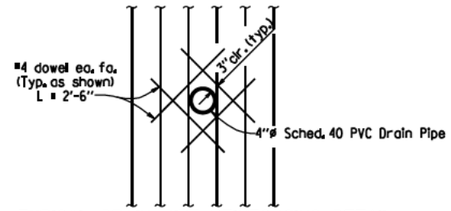
TYPICAL DRAINAGE & BACKFILL DETAILS

N.T.S



KEYED CONSTRUCTION JOINT DETAIL

N.T.S



TYPICAL DRAIN PIPE REINFORCING DETAIL

N.T.S

TYPICAL SECTION

N.T.S

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas Department of Transportation Standard Specifications for Highway Construction (Current Edition) with applicable supplemental specifications and special provisions. Unless otherwise noted in the plans, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012).

LIVE LOAD: Live Load Surcharge is not included in the design of these walls. Vehicular Live Load shall not be allowed within a distance equal to one-half the height of the wall.

CONCRETE: Concrete shall be poured in the dry and all exposed corners to be chamfered ½". All concrete shall be Class S with a minimum 28 day compressive strength f'c = 3,500 psi. A Class 2 Surface finish shall be used on all surfaces of the concrete unless otherwise noted. Refer to Architectural Finish (Cast-in Place Retaining Walls) and Textured Coating Finish (Cast-in Place Retaining Walls) special provisions.

REINFORCING STEEL: All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60.

Foundations for footings shall be prepared in accordance with subsection 801.04. Backfill for retaining walls shall be in accordance with subsection 801.08.

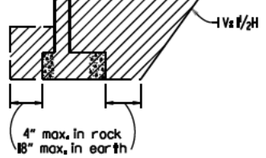
Waterproof Membrane (Type C), waterstops, preformed joints, weep holes & geotextile fabric shall not be paid for directly, but shall be considered subsidiary to Class S Concrete.

Drainage fill material (Class 3) and select backfill shall be measured and paid for as Compacted Embankment.

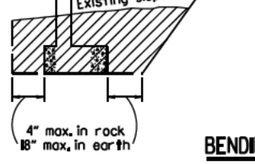
These details are not intended for use along streams or ditches without consideration for scour.

TABLE OF RETAINING WALL VARIABLES (SLOPED BACKFILL) (1V:2H MAX.)

"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-6"	12"	#4 @ 12"
6'-0"	9"	5'-6"	12"	#4 @ 6"
7'-0"	9"	6'-6"	12"	#5 @ 6½"
8'-0"	1'-6"	8'-0"	7½"	#6 @ 6"
9'-0"	1'-11"	9'-6"	5"	#8 @ 6"



In Excavation



In Embankment

NOTE: Hatched area denotes maximum limits of pay excavation.

DETAILS OF EXCAVATION

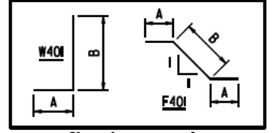
N.T.S

TABLE OF RETAINING WALL VARIABLES (LEVEL BACKFILL)

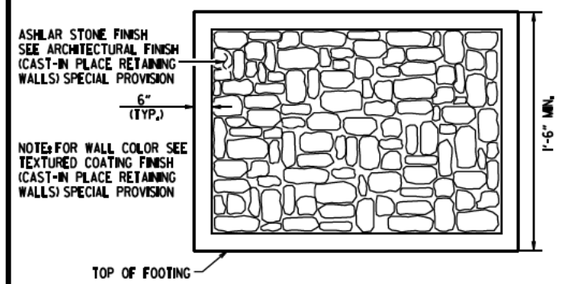
"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-0"	12"	#4 @ 12"
6'-0"	9"	4'-6"	12"	#4 @ 12"
7'-0"	9"	5'-6"	12"	#4 @ 10"
8'-0"	9"	6'-0"	12"	#5 @ 10"
9'-0"	1'-0"	7'-0"	12"	#5 @ 6½"

BENDING DIAGRAMS

MARK	A	B	P.D.
W401	8"	"H" - 6"	3"
F401	1'-6"	1'-10"	2½"



Dimensions are out to out of bars.



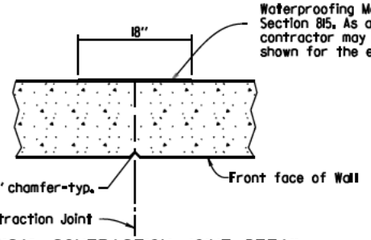
ASHLAR STONE FINISH DETAIL

NOTES:

Wall pattern shall be applied to the exposed surfaces of wall in accordance with SP "Architectural Finish (Cast-in Place Retaining Walls)" and as shown in the plans. Care shall be taken with form liner handling and installation to ensure aesthetic quality of the wall texturing is maintained. Where form liner panels require modification to conform to the location, dimensions and lines shown in the plans, the Contractor shall provide edge relief matching that of the unaltered form liner. Payment for wall texturing shall be in accordance with SP "Architectural Finish (Cast-in Place Retaining Walls)".

No adjustments will be made in concrete volume due to the use of "Architectural Finish". Class "S" Concrete shall be measured in accordance with Subsection 802.24(a). Care shall be taken in placing concrete to avoid segregation and to eliminate flow lines.

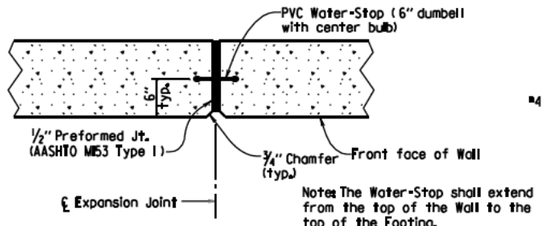
Class 3 Textured Coating Finish shall be applied to wall surfaces as specified in SP "Textured Coating Finish (Cast-in Place Retaining Walls)" and in accordance with Subsection 802.19(b)(3).



TYPICAL CONTRACTION JOINT DETAIL

N.T.S.

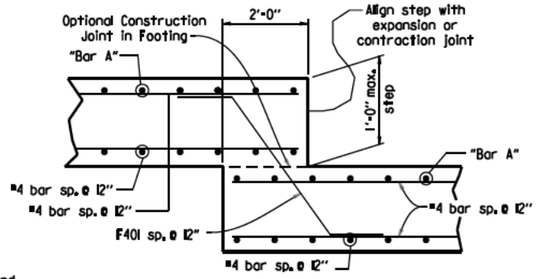
Note: 20'-0" Max. Spacing between Contraction Joints. Horizontal reinforcement shall be continuous through Contraction joints.



TYPICAL EXPANSION JOINT DETAIL

N.T.S.

Note: 60'-0" Max. Spacing between Expansion Joints. Horizontal reinforcing shall stop 2" from ℄ Expansion Joint.



FOOTING STEP DETAIL

N.T.S.

SEISMIC ZONE: These walls have been designed for the following site adjusted peak ground accelerations (A_S):
Level Backfill - $A_S \leq .40g$
Sloped Backfill (1V:2H max.) - $A_S \leq .30g$

DATE	REVISION	DATE FILMED
5-14-20	ADDED ASHLAR STONE FINISH DETIAL AND NOTES. REVISED TYP. SECTION AND GEN. NOTES.	
5-12-16	REVISED SLOPES FOR SELECT BACKFILL	
2-27-14	REVISED GENERAL NOTES	
7-26-12	DRAWING ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE RETAINING WALL (WITHOUT LIVE LOAD SURCHARGE)

STANDARD DRAWING SI - 2

R1-1



STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5



STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a



STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2



48"X30"

R11-3A



60"X30"

R11-4



60"X30"

W21-5a



STD. 36"X36"
FWY. 48"X48"

W1-1



STD. 36"X36"
FWY. 48"X48"

W1-2



STD. 36"X36"
FWY. 48"X48"

W1-3



STD. 48"X48"

W1-4



STD. 48"X48"

W1-6



STD. 48"X24"
SPECIAL 60"X30"

W1-8



STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1



STD. 36"X36"
SPECIAL 48"X48"

W6-3



EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7



EXPWY. 36"X36"
FWY. 48"X48"

W9-2



STD. 36"X36"
FWY. 48"X48"

W13-1



STD. 24"X24"

W20-1



STD. 48"X48"

W20-2



STD. 48"X48"

W20-3



STD. 48"X48"

W20-4



STD. 48"X48"

W20-5



STD. 48"X48"

W20-7a



STD. 36"X36"
FWY. 48"X48"

W21-2



STD. 30"X30"
SPECIAL 36"X36"

W21-5



STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

W1-4b



STD. 48"X48"

R56-1



STD. 18"X18"

W8-11



STD. 36"X36"
FWY. 48"X48"

W8-9



STD. 36"X36"
FWY. 48"X48"

G20-1



60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1

36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE
	AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.

2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.

3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.

• 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.

• 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.

6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.

7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.

8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.

9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.

10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

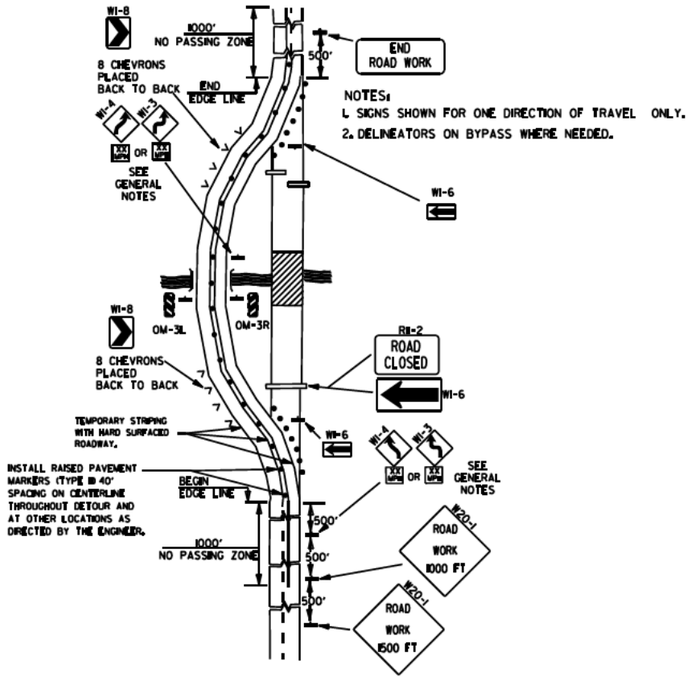
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

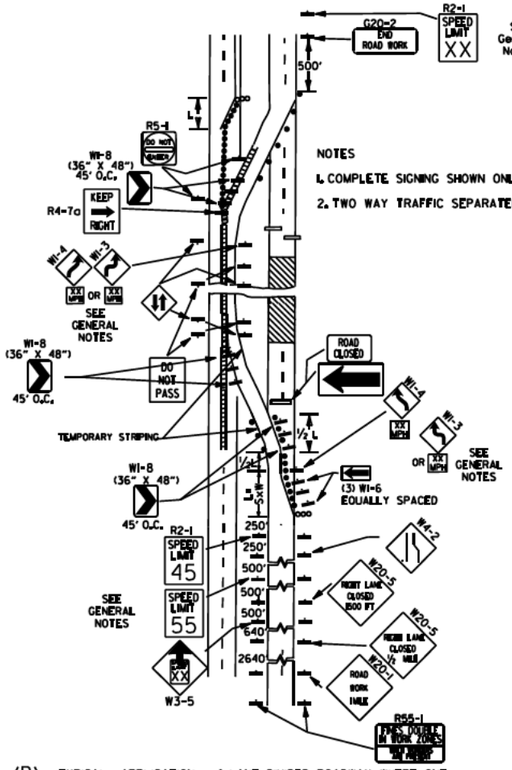
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



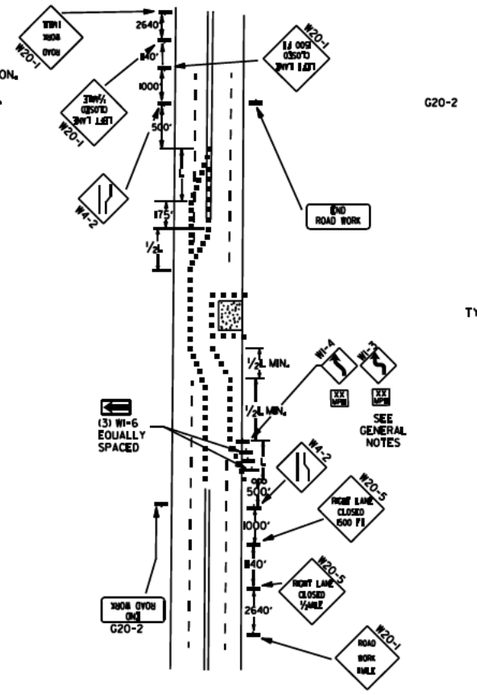
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.



NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

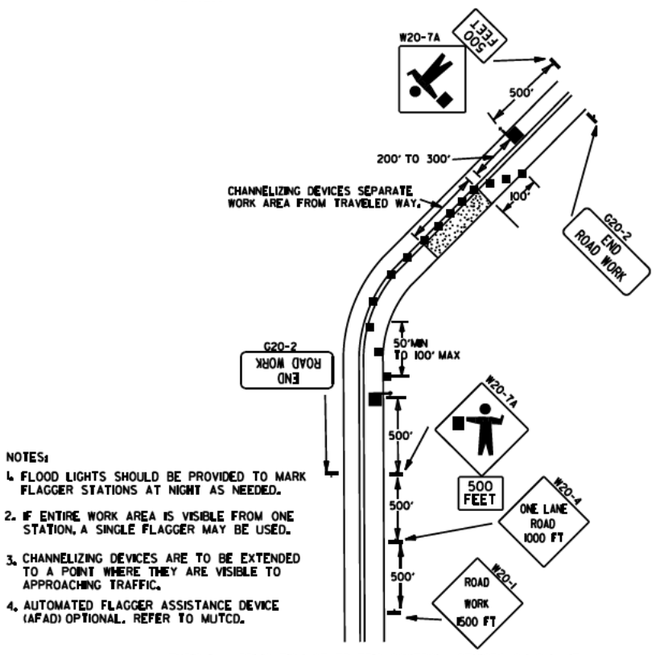
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

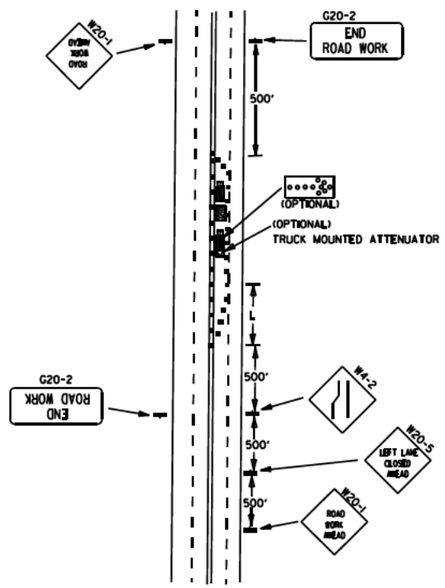
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



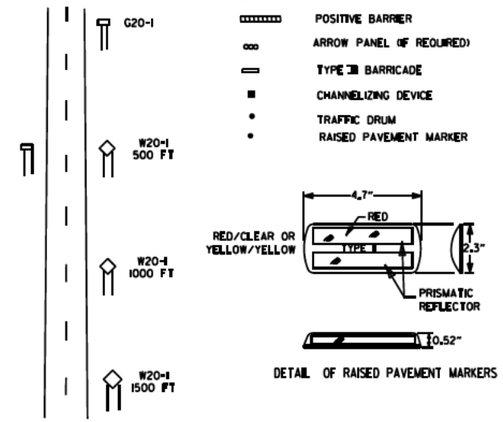
NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

KEY:
- FLAGGER
- POSITIVE BARRIER
- ARROW PANEL (IF REQUIRED)
- TYPE III BARRICADE
- CHANNELIZING DEVICE
- TRAFFIC DRUM
- RAISED PAVEMENT MARKER



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

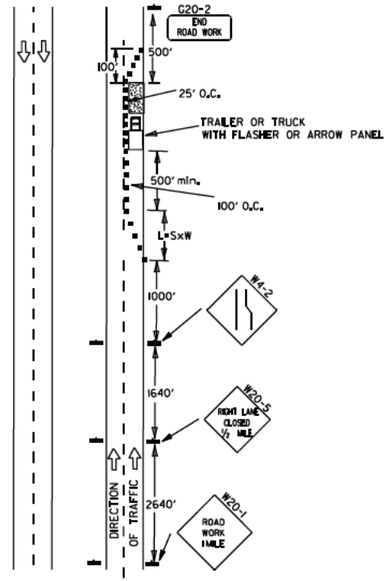
GENERAL NOTES:
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

DATE	REVISION	FILMED
05-20-21	REVISED NOTE 7	
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W8-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

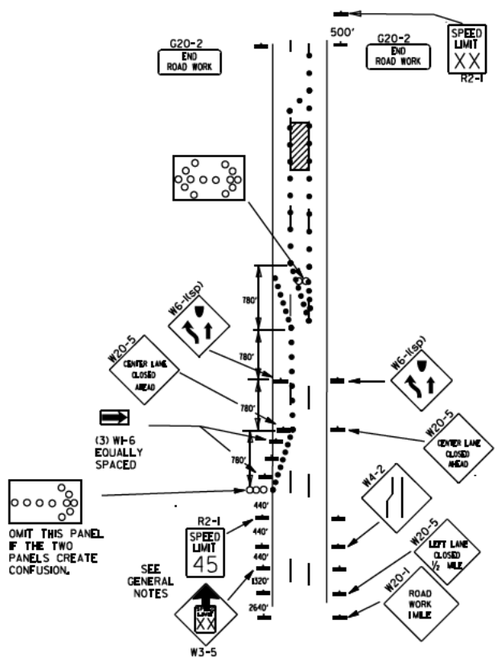
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

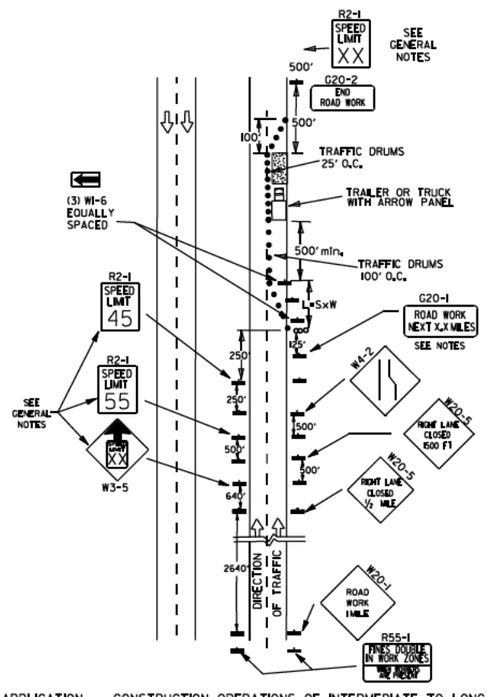
STANDARD DRAWING TC-2



(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

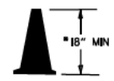


(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.



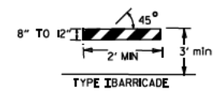
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

CHANNELIZING DEVICES

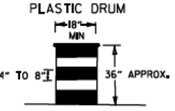


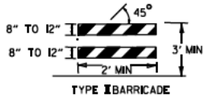
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

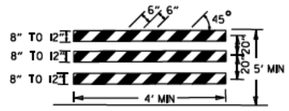
CONES



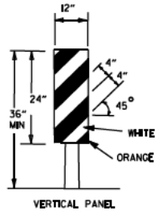
PLASTIC DRUM



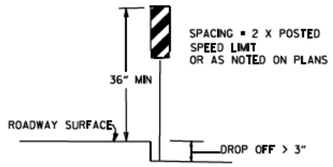




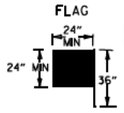
NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.



VERTICAL PANEL PLACEMENT



FLAG



FLAG SHALL BE OF GOOD GRADE RED MATERIAL

KEY:

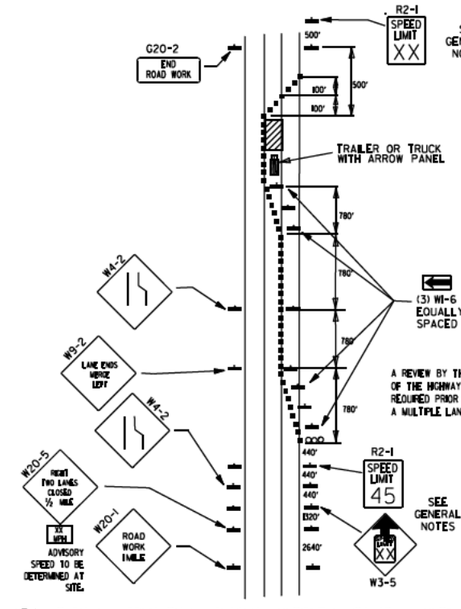
OOO ARROW PANEL (IF REQUIRED)

■ CHANNELIZING DEVICE

● TRAFFIC DRUM

GENERAL NOTES:

1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS, AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. THE G20-1 SIGN WILL BE REQUIRED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1 (1 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
8. FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
10. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER, WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



A REVIEW BY THE ROADWAY DESIGN DIVISION OF THE HIGHWAY DEPARTMENT WILL BE REQUIRED PRIOR TO IMPLEMENTING A MULTIPLE LANE CLOSURE.

(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

TRAFFIC CONTROL DEVICES

NON-INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL ≤ 45 MPH	TRAFFIC CONTROL > 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1" ≤ 3"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
> 3"	CENTERLINE	STANDARD LANE CLOSURE[6]	STANDARD LANE CLOSURE[6]
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9 AND TRAFFIC DRUMS[1]	W8-9 AND TRAFFIC DRUMS[1]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]
> 6" ≤ 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 18" ≤ 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING AND TRAFFIC DRUMS[1]
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER[4] & EDGE LINES	PRECAST CONCRETE BARRIER[4] & EDGE LINES

INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 3"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

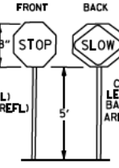
INTERSTATE AND NON-INTERSTATE

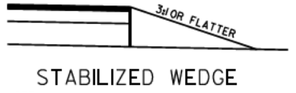
FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

GENERAL NOTES:

1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
4. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
5. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.
6. TIME LIMITATIONS MUST CONFORM TO SECTION 603 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).

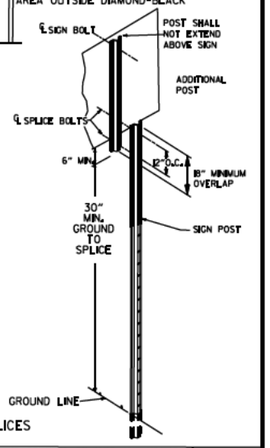
STOP SLOW PADDLE





STABILIZED WEDGE

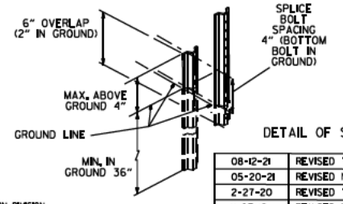
NOTES:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SMS-21)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



DETAIL OF SPLICES

DATE	REVISION	FILMED
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES	
05-20-21	REVISED NOTE 10	
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
8-18-04	ADDED NOTE	
10-4-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

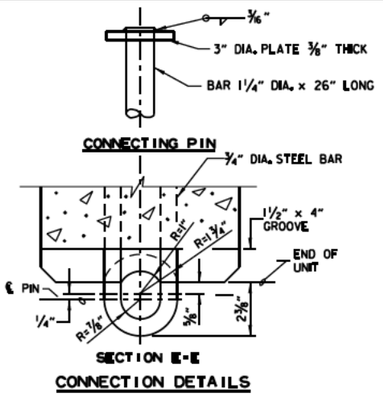
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

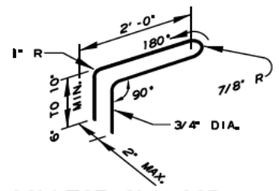
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

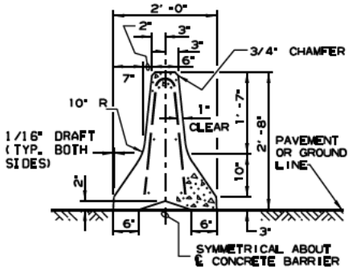
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-3", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 4 3/8", 2'-1 3/8", 9 1/2"



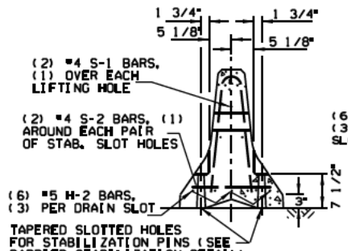
CONNECTION DETAILS



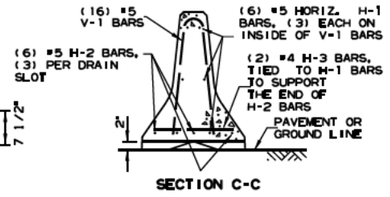
CONNECTION LOOP



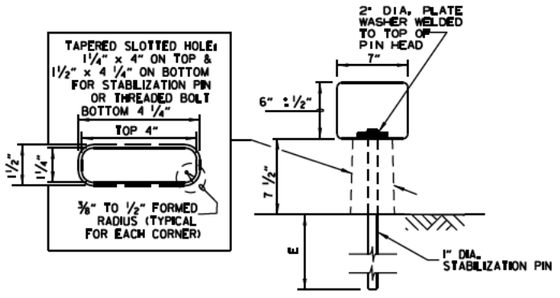
SECTION A-A



SECTION B-B



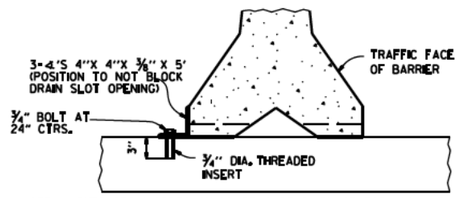
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

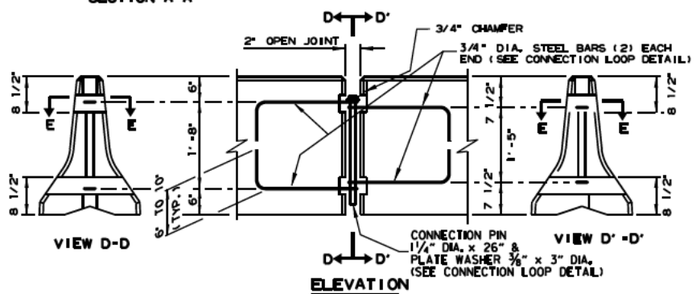
(E) 4" - CONCRETE PAVEMENT
8" - ASPHALT PAVEMENT
12" - SHOULDER AREAS



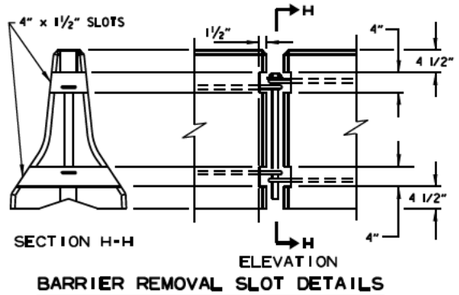
NOTE: " THREADED INSERTS SHALL BE CAST IN PLACE FOR ALL NEW BRIDGE DECKS AND DRILLED AND GROUTED FOR EXISTING BRIDGE DECKS. INSERTS SHALL HAVE A MINIMUM ULTIMATE LOAD CAPACITY OF 8000 LBS. IN TENSION, AFTER REMOVAL OF BARRIER, BOLTS, AND ANGLES. THE INSERTS SHALL BE FILLED WITH APPROVED NON-SHRINK EPOXY.

BARRIER STABILIZATION DETAIL

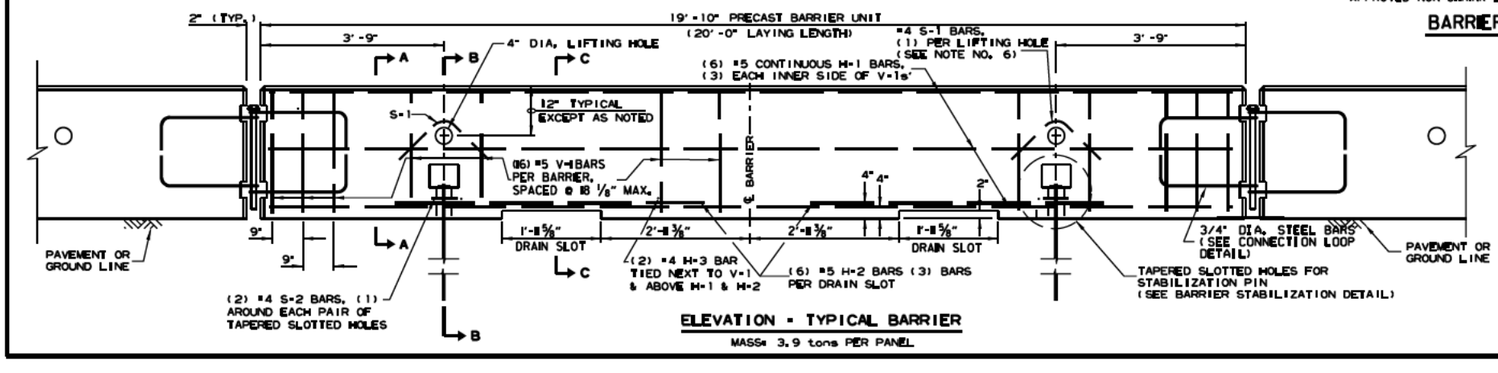
BRIDGE DECKS



ELEVATION



BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

GENERAL NOTES

1. THE CONTRACTOR SHALL FURNISH THE PRECAST CONCRETE BARRIER UNITS AND SHALL BE RESPONSIBLE FOR THE MANUFACTURE, SHIPMENT, STORAGE, PLACEMENT AND REMOVAL. AT THE COMPLETION OF THE PROJECT, THE PRECAST UNITS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.

2. MATERIALS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
   CONCRETE: 2500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
   REINFORCING STEEL: AASHTO M 31 OR M 53, GRADE 60
   STRUCTURAL STEEL: AASHTO-M270 GRADE 36 SHALL BE USED FOR THE CONNECTION PIN, CONNECTION LOOPS, AND STABILIZATION PINS. A ONE PIECE PIN WITH A 3" ROUNDED TOP MAY BE USED IN PLACE OF THE DETAILED CONNECTION PIN.
   DELINEATORS: DELINEATORS SHALL BE MOUNTED AT 10' SPACING ON TOP OF PRECAST BARRIER.

   IN APPLICATIONS WHERE BARRIER WALL IS WITHIN 6 FEET OF A TRAFFIC LANE, ADDITIONAL DELINEATORS SHALL BE PLACED ON THE BARRIER AT 10' SPACING APPROXIMATELY ONE (1) FOOT FROM THE TOP OF THE BARRIER. DELINEATORS SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CONSTRUCTION CONCRETE BARRIER MARKERS.
   DELINEATOR COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
   PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR "FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER". THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THE MATERIAL AND THE DESIGN USED IN THE PRECAST BARRIER UNITS MEETS THE REQUIREMENTS AS SHOWN ON THIS STANDARD DRAWING.

3. OTHER PRECAST CONCRETE BARRIERS THAT HAVE BEEN CRASH TESTED AND APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION TO MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED IN LIEU OF THE BARRIER SHOWN. DRAIN SLOTS SHALL BE PROVIDED AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH A CERTIFICATION OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) COMPLIANCE FOR ANY OTHER TYPES OF PRECAST BARRIER TO BE USED. THE CERTIFICATION SHALL STATE THAT THE PRECAST CONCRETE BARRIER MEETS THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). MIXING OF SHAPES WILL NOT BE ALLOWED IN A CONTINUOUS LINE OF UNITS.

4. DOWEL HOLES IN PAVEMENT OR BRIDGE SLABS THAT ARE TO REMAIN IN PLACE SHALL BE FILLED. HOLES IN CONCRETE PAVEMENT AND BRIDGE SLABS SHALL BE FILLED WITH AN APPROVED NON-SHRINK EPOXY GROUT. HOLES IN ASPHALT PAVEMENT SHALL BE FILLED WITH AN APPROVED ASPHALT JOINT FILLER. PAYMENT FOR DRILLING AND FILLING HOLES TO BE INCLUDED IN THE PRICE FOR VARIOUS BARRIER ITEMS.

5. ATTACH UNITS TO ROADWAY SURFACE WITH STABILIZATION PINS AND TO DECK SLABS USING BOLTS WHEN REQUIRED.

6. A 4" WHITE PVC SLEEVE MAY BE USED TO FORM THE LIFTING HOLE AND IF USED THE SLEEVE IS TO BE LEFT IN PLACE.

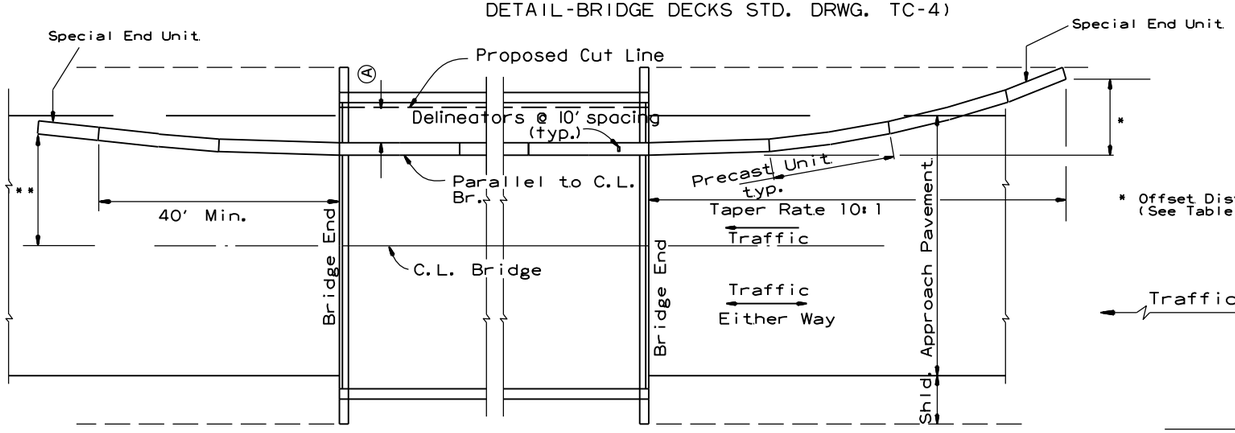
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

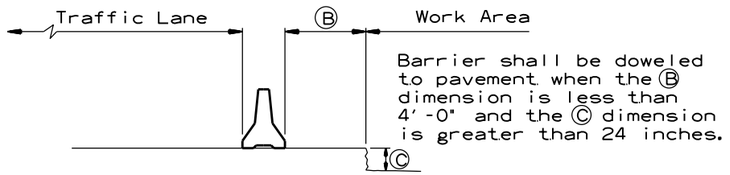
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

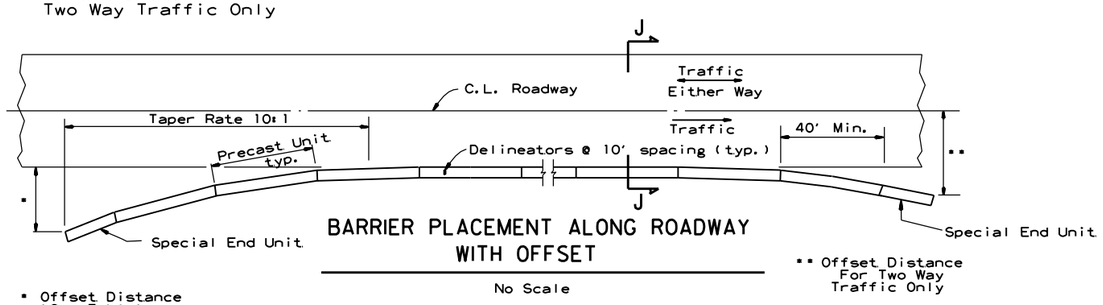
** Offset Distance for Two Way Traffic Only



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

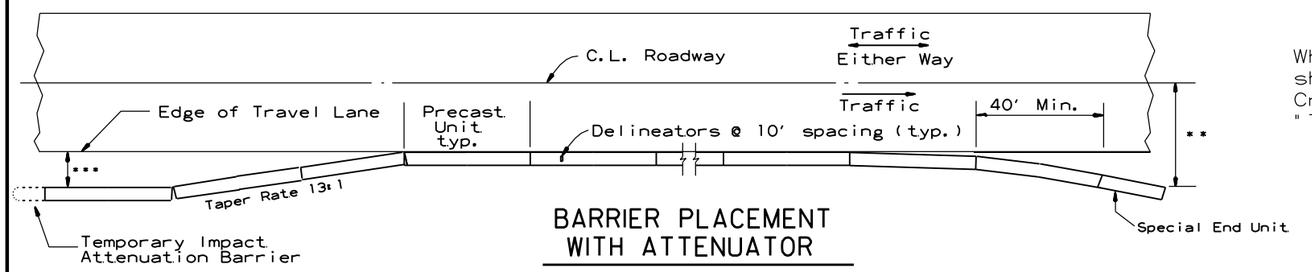
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see "Barrier Placement With Attenuator" Detail shown below.

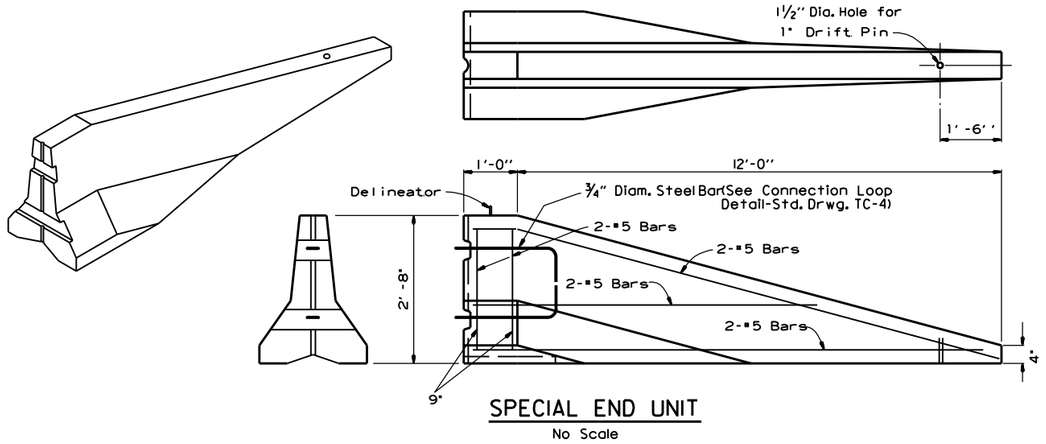


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

** Offset Distance For Two Way Traffic Only



SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with a Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
11-07-19	REVISED NOTE	
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

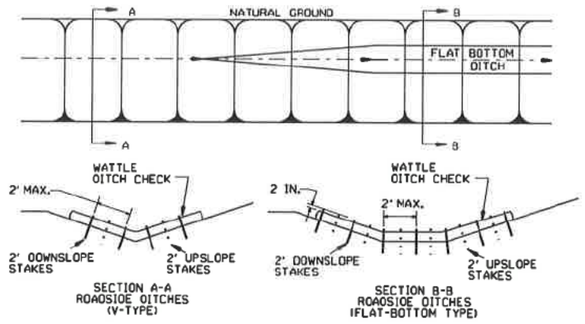
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

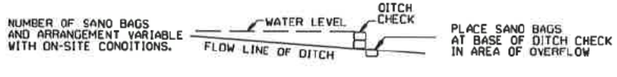
STANDARD DRAWING TC-5

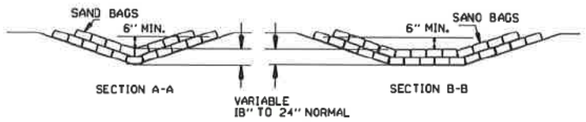
GENERAL NOTES

INSTALL A MINIMUM OF 2 UPSLOPE STAKES ANO 4 OOWNSLOPE STAKES AT AN ANGLE TO WEOGE WATTLE TO BOTTOM OF OITCH.

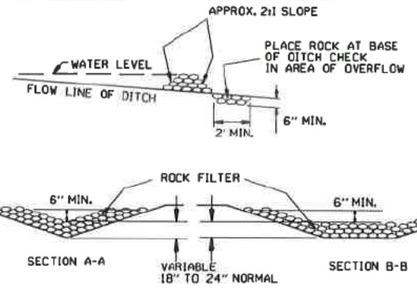


WATTLE DITCH CHECK (E-1)





SAND BAG DITCH CHECK (E-5)

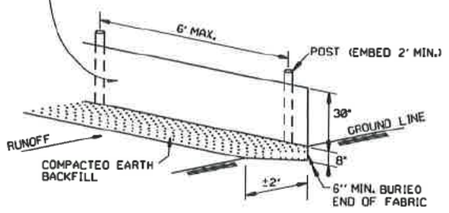


ROCK DITCH CHECK (E-6)

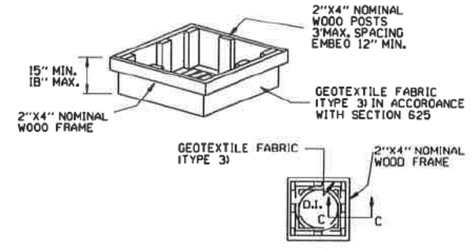
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

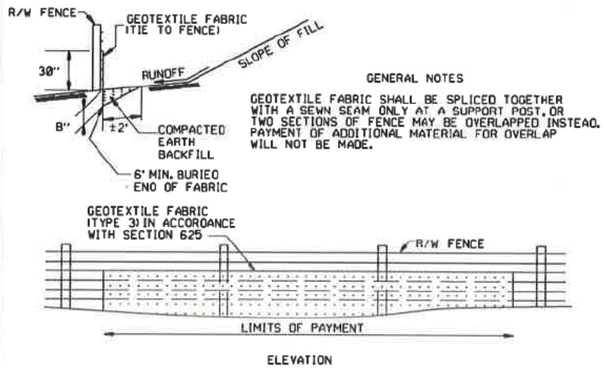
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)



DROP INLET SILT FENCE (E-7)



GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

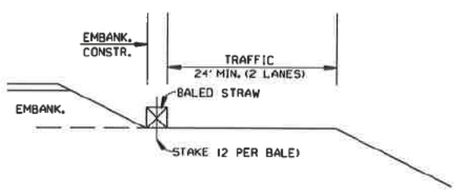
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

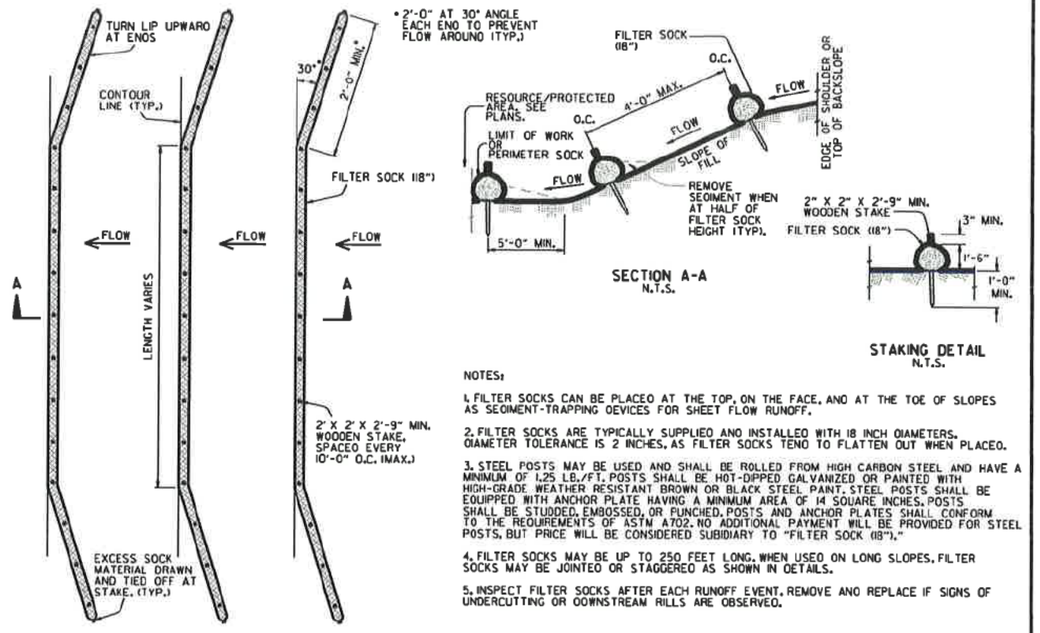
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)



NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

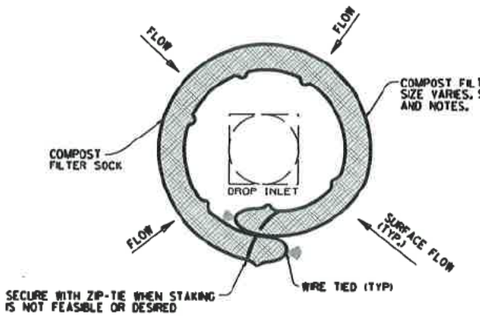
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBSIDIARY TO "FILTER SOCK (18")."

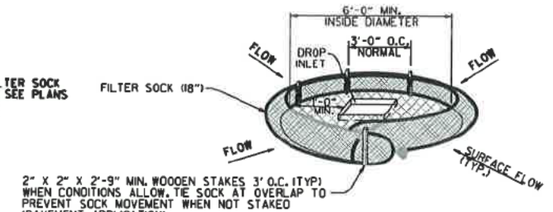
4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

FILTER SOCK ALONG SLOPE (E-3)



DROP INLET PLAN VIEW
N.T.S.



DROP INLET PERSPECTIVE VIEW
N.T.S.

NOTES:

1. OVERLAP ENDS OF SOCK 11' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

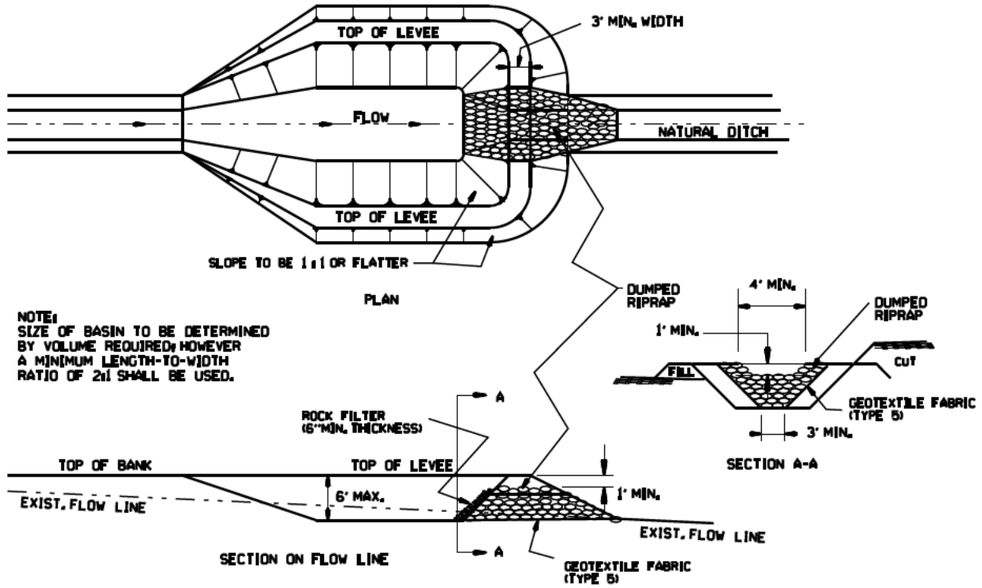
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

DATE	REVISION	FILMED
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-8 MIN. 13" BURIED END OF FABRIC	
06-02-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76

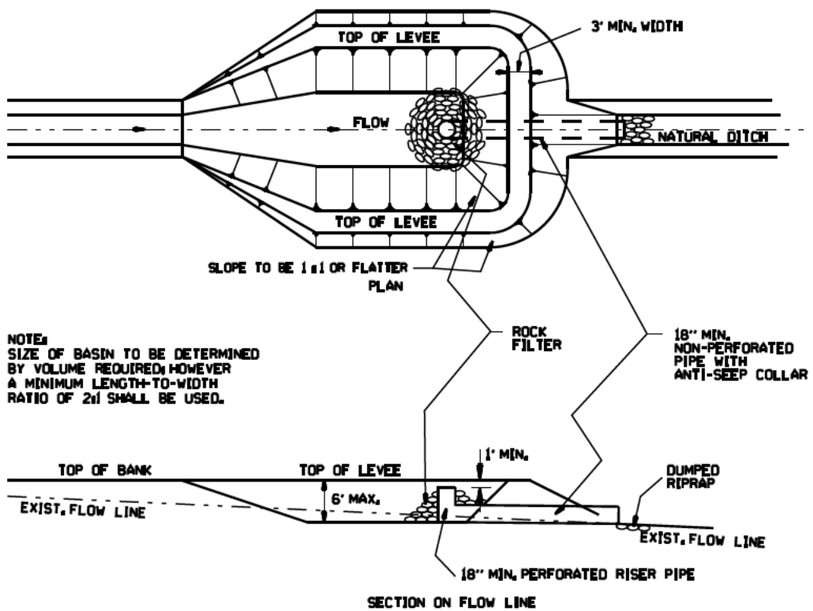
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

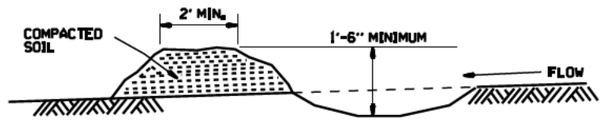
STANDARD DRAWING TEC-1



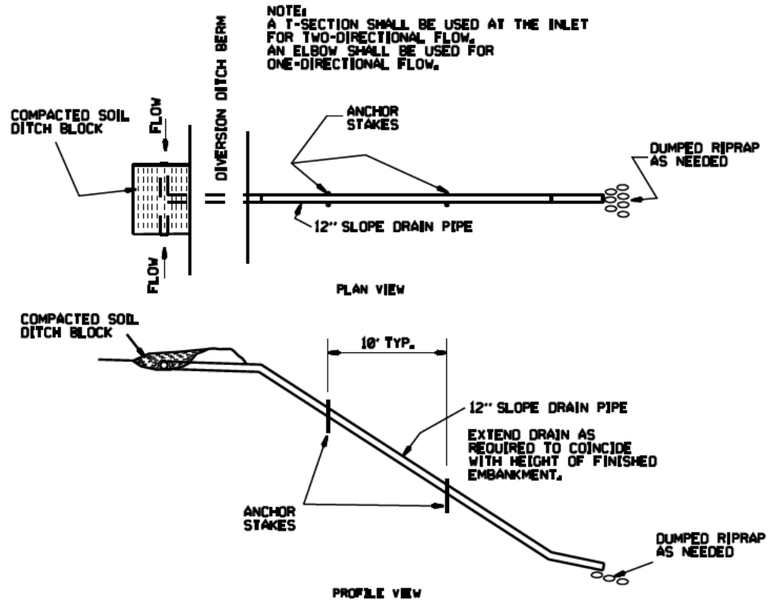
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



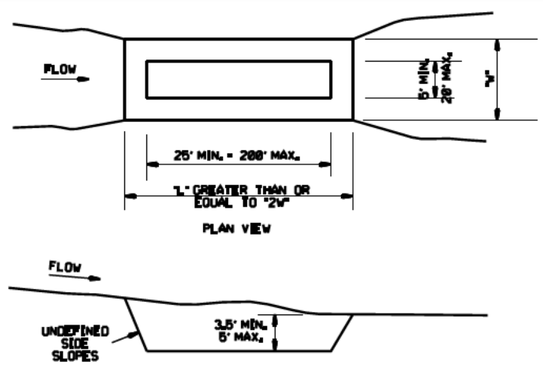
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

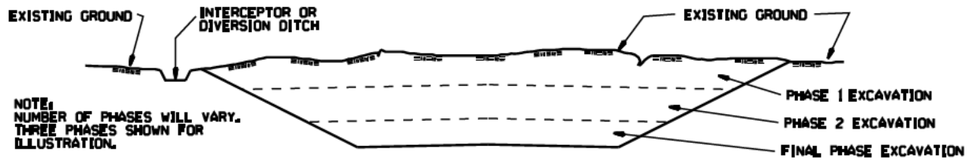
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



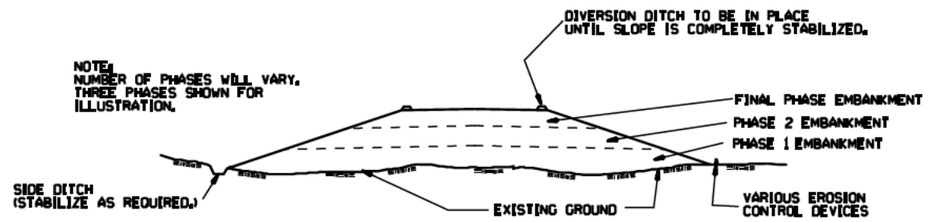
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS. DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

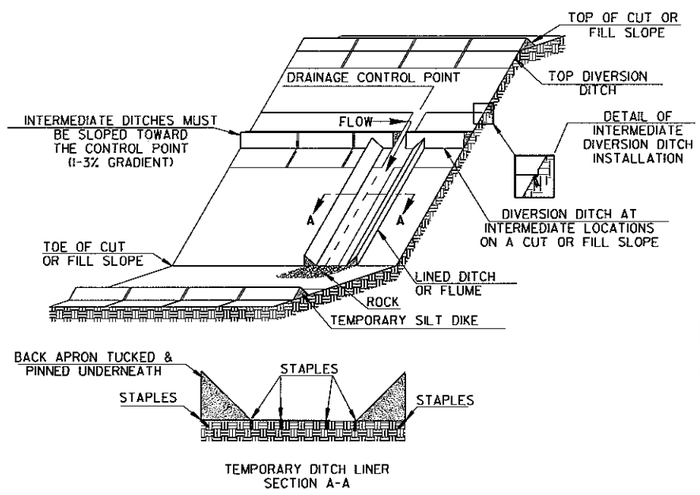
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

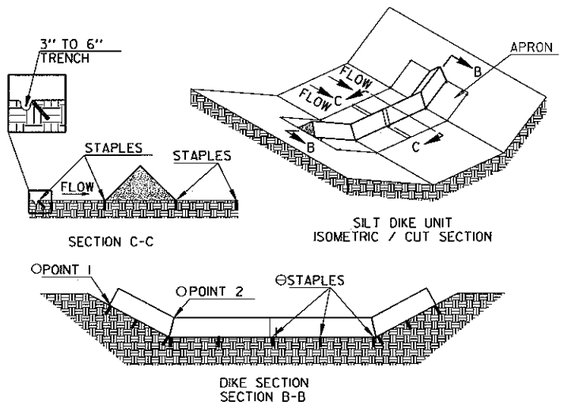
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3



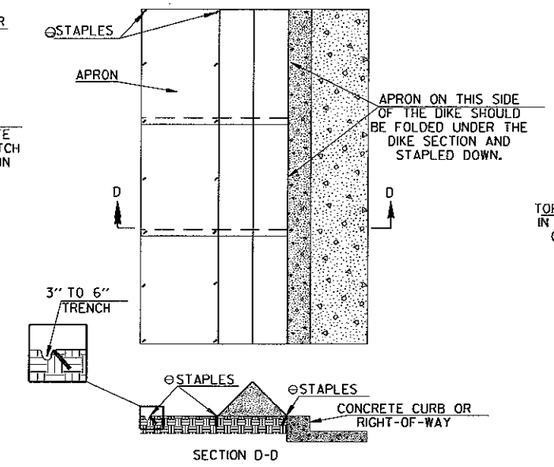
TRIANGULAR SILT DIKE INSTALLATION
FOR
DIVERSION DITCH AND/OR DITCH LINER



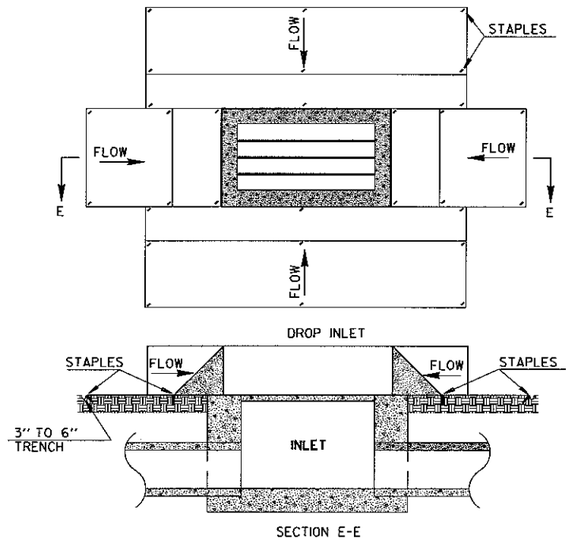
TRIANGULAR SILT DIKE INSTALLATION
FOR
ROADWAY DITCH OR DRAINAGE DITCH

O POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

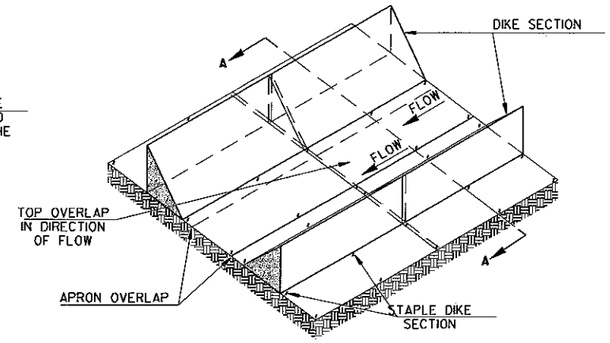
Θ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION
FOR
CONTINUOUS BARRIER



TRIANGULAR SILT DIKE INSTALLATION
FOR
DROP INLETS



TRIANGULAR SILT DIKE INSTALLATION
FOR
TEMPORARY DITCH LINER

SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.

2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

   THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

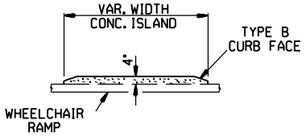
3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

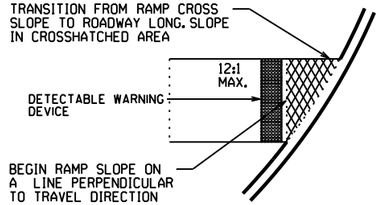
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

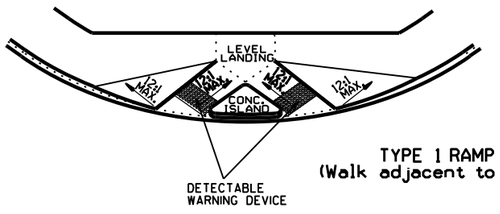
STANDARD DRAWING TEC-4



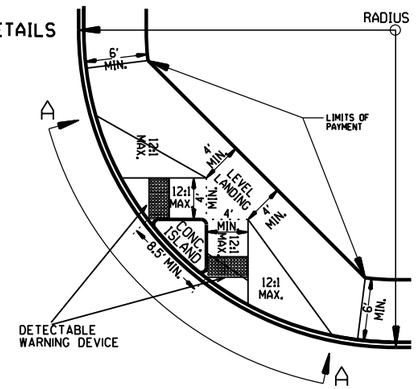
CONCRETE ISLAND DETAIL



SLOPE TRANSITION DETAILS



TYPE 1 RAMP
(Walk adjacent to curb)

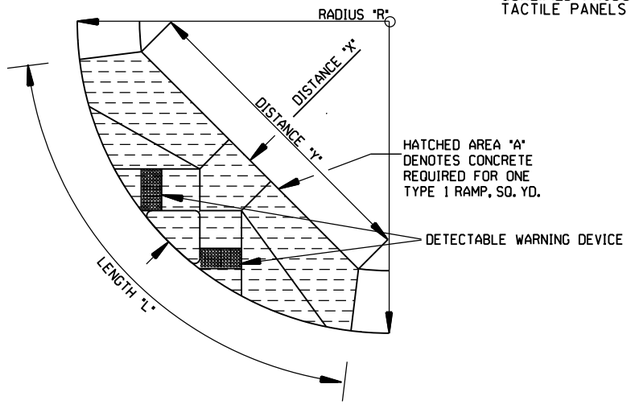




SECTION A-A

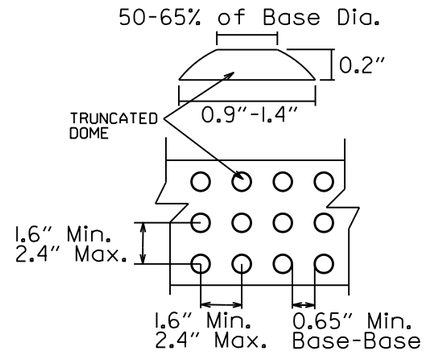
TYPE 1 RAMP DIMENSIONS AND QUANTITIES

RADIUS "R" FEET	DISTANCE "X" FEET	DISTANCE "Y" FEET	LENGTH "L" FEET	RAMP AREA "A" SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80



GENERAL NOTES FOR DETECTABLE WARNING DEVICES

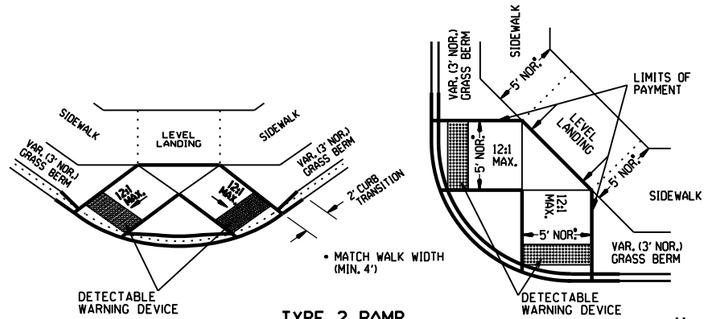
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
DETECTABLE WARNING DEVICE SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).



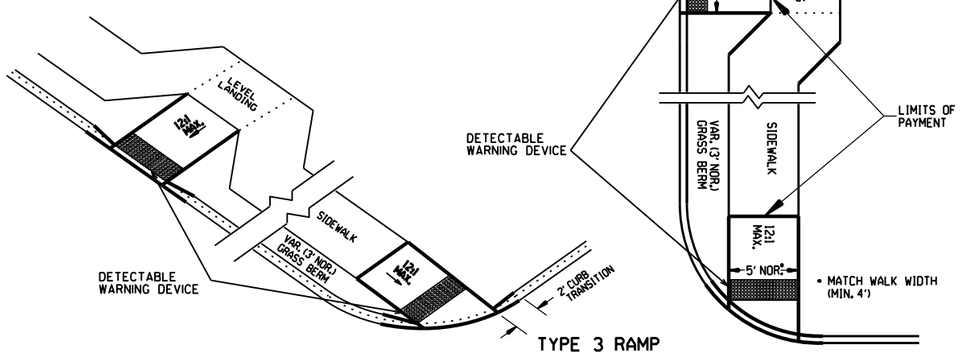
DETECTABLE WARNING DEVICE DETAIL

GENERAL NOTES:

IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.
THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.
THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.
RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.
THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

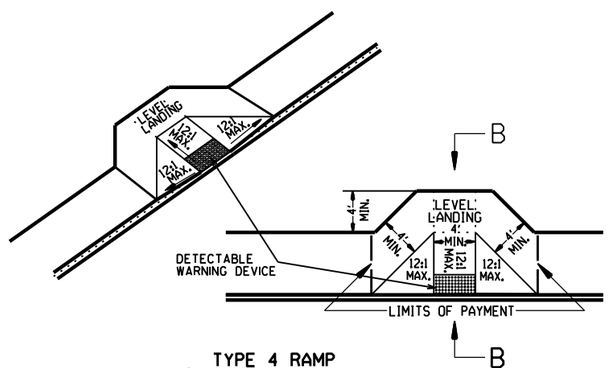


TYPE 2 RAMP

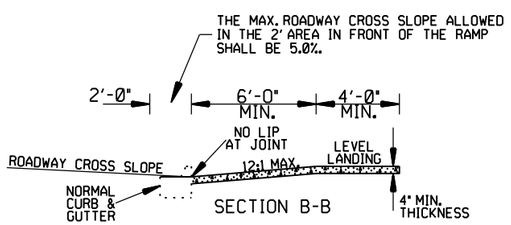


TYPE 3 RAMP

NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.



TYPE 4 RAMP
(Walk adjacent to curb)



SECTION B-B

RAMP SELECTION CRITERIA

FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.

AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

DATE	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD.SLOPE TRANS. & REV. ISL. DIMS.	
11-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM8#TO12#MAX.SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCLUD."CONC. ISLD."IN PAY ITEM	------
6-02-76	ISSUED-P.H.D.	299-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS
NEW CONSTRUCTION
AND ALTERATIONS

STANDARD DRAWING WR-1

Administrative Services
Purchasing Department
1000 SW 14th Street
Bentonville, AR 72712

CITY OF BENTONVILLE, ARKANSAS

City Hall
305 SW A Street
Bentonville, AR 72712

EXHIBIT C

GARVER, LLC CONTRACT

RFP-23-47

010600 - CONTRACT

THIS AGREEMENT made this _____ day of _____, _____, by and between _____ a Corporation organized and existing under the laws of the State of _____ hereinafter called the "Contractor", and City of Bentonville, hereinafter called the "Owner".

W I T N E S S E T H:

That the Contractor and the Owner for the consideration stated herein mutually agree as follows:

ARTICLE 1. Statement of Work. The Contractor shall furnish all supervision, technical personnel, labor, materials, machinery, tools, equipment, incidentals and services, including utility and transportation services and perform and complete all work required for the construction of **Walton Boulevard Intersection Improvements** in strict accordance with the Contract Documents.

ARTICLE 2. The Contract Price. The Owner will pay the Contractor, based on the Contractor performance of the Contract, for the total quantities of work performed at the lump sum and unit prices as documented in the Proposal subject to additions, and deductions as provided in the Section entitled "CHANGES IN THE WORK" under GENERAL CONDITIONS

ARTICLE 3. Contract Time. The Contractor agrees to begin work within ten (10) calendar days after issuance by the Owner of a "Work Order" or "Notice to Proceed" and to complete the work within **four hundred and eighty (480) consecutive calendar days** thereafter (except as modified in accordance with the GENERAL CONDITIONS of these Contract Documents).

ARTICLE 4. Contract. The executed Contract Documents shall consist of the following:

a. Executed Contract
b. Addenda (if any)
c. Request for Proposal (RFP 23-47)
d. Proposal
e. Statement of Bidder's Qualifications
f. List of Proposed Subcontractors
g. Performance and Payment Bonds
h. General Conditions
i. Special Conditions
j. Technical Specifications
k. Drawings
l. Certificates of Insurance and Insurance Policies

This Contract together with other Documents enumerated in this Article 4, which said other Documents are as fully a part of the Contract Documents as if hereto attached or herein repeated, form the Contract between the parties hereto. In the event that any provisions in any component part of this Contract conflicts with any provision of any other component part, the conflict shall be resolved by the Engineer whose decision shall be final.

ARTICLE 5. Surety. The Surety on the Performance and Payment Bonds shall be a surety company of financial resources satisfactory to the Owner, authorized to do business in the State of the Project, and shall comply with applicable state laws.

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING THE MAYOR AND CITY CLERK TO ENTER INTO AN AGREEMENT WITH CROSSLAND HEAVY CONTRACTORS, INC., IN AN AMOUNT NOT TO EXCEED EIGHT MILLION TWO HUNDRED SIXTY-ONE THOUSAND SIX HUNDRED NINETY-FOUR DOLLARS AND SEVENTY-FIVE CENTS ($8,261,694.75); AND FOR OTHER PURPOSES.

WHEREAS, Crossland Heavy Contractors, Inc. was selected to be General Contractors at Risk for the Walton Blvd. Intersection Improvement Bond Projects;

WHEREAS, the bond projects are located at SE Walton & SE J Street Intersection (PIIP22-0036) and SE Walton & SE Medical Center Parkway Intersection (PIIP22-0037);

WHEREAS, the City of Bentonville selected this firm following the City's standard RFP solicitation and selection process for the procurement of professional services in accordance with state law; and

WHEREAS, this will be funded by the 2021 Street Bond.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS THAT:

Section 1: The Mayor and City Clerk are authorized to enter into an agreement with Crossland Heavy Contractors, Inc., in an amount not to exceed eight million two hundred sixty-one thousand six hundred ninety-four dollars and seventy-five cents ($8,261,694.75), for professional services associated with the Walton Blvd. Intersection Improvement Bond Projects;

Section 2 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED this _____ day of _____, 2024.

APPROVED:

_____
STEPHANIE ORMAN, Mayor

ATTEST:

_____
MALORIE MARRS, City Clerk

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	5/28/2024	**Submitted By:**	Travis Matlock
Phone:	479-271-5941	**For Department(s):**	Inventory Warehouse
Email:	tmatlock@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☐ Bid Award ☐ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☑ Waiver of Bid ☑ Emergency Clause
☑ Ordinance ☐ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Ordinance Approving a Bid Waiver to Purchase 750 Underground Wire
Action Recommendation & Justification:	Approval of an Ordinance to waive competitive bidding to purchase 750 UG Wire from AECI, Unit Prices and estimated quantities attached, plus applicable taxes. Approved by Utility Board 5-0. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	Due to market volatility and lead times related to these products, it would be neither practical or feasible to solicit competitive bids. Award is based on the low responsive quote per line item, for estimated totals: AECI in the estimated amount of $137,136.90
Amount for Approval:	**$** 137,136.90 plus applicable taxes

Budget Impact

Is this Item Budgeted? ☑ **YES** ☐ **NO** ☐ **ITEM HAS NO COST** ☐ **OTHER:**_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue

Fund(s) Impacted (check all that apply) ☐ **General Fund** ☐ **Utility Fund** ☐ **Street Fund** ☐ **Other(s):**_____

Budget Impact Notes for Consideration (Optional):

City of Bentonville Electric Utilities Department
15KV Underground Primary Cable
Quote Form

BEUD Inventory Part Number	Wire Size	Feet Required	Price Per Foot - AECI	Extended Price	Lead Time	Price Per Foot - Irby	Extended Price	Lead Time
2192	750 1/3 Neutral AL	9210	$14.89	$137,136.90	50-52 weeks	$15.22	$140,148.57	50 weeks
		3 Reels @ _450_ '						
		3 Reels @ _550_ '						
		3 Reels @ _570_ '						
		6 Reels @ _750_ '						

Quote Submitted By: _____

ORDINANCE NO. _____

AN ORDINANCE AUTHORIZING THE MAYOR AND THE CITY CLERK TO ENTER INTO AN AGREEMENT WITH AECI, FOR 750 UNDERGROUND WIRE, IN THE ESTIMATED AMOUNT OF ONE HUNDRED THIRTY-SEVEN THOUSAND ONE HUNDRED THIRTY-SIX DOLLARS AND NINETY CENTS ($137,136.90) PLUS APPLICABLE TAXES; WAIVING THE REQUIREMENT OF COMPETITIVE BIDDING; PROVIDING FOR THE EMERGENCY CLAUSE; AND FOR OTHER PURPOSES.

WHEREAS, the City of Bentonville Inventory Department requires 750 underground wire to provide for Electric Utility installations and projects;

WHEREAS, AECI award is based on the low responsive quote per item;

WHEREAS, due to current supply chain issues and price volatility, soliciting bids is not feasible; and

WHEREAS, this purchase will be made using budgeted funds.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS.

Section 1: That the Mayor and City Clerk are hereby authorized to enter into an agreement with AECI, for the purchase of 750 underground wire at a per unit price in a total estimated amount of one hundred thirty-seven thousand one hundred thirty-six dollars and ninety cents ($137,136.90), plus applicable taxes;

Section 2: Due to current market volatility and supply chain issues with this product, it would be neither practical nor feasible to advertise for competitive bidding so that requirement is herein waived;

Section 3 - Emergency Clause: The need to make this purchase is immediate and an emergency is hereby declared to exist, and this Ordinance shall be in full force and effect from and after the date of its passage and approval;

Section 4 - Severability Provision: If any part of this Ordinance is held invalid, the remainder of this Ordinance shall continue in effect as if such invalid portion never existed; and

Section 5 - Repeal of Conflicting Provisions: All Ordinances of the City Council, or parts of Ordinances of the City Council, in conflict herewith are hereby repealed to the extent of such conflict.

PASSED and APPROVED this _____ day of _____, 2024.

APPROVED:

_____
STEPHANIE ORMAN, Mayor

ATTEST:

_____
MALORIE MARRS, City Clerk

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	5/28/2024	**Submitted By:**	Travis Matlock
Phone:	479-271-5941	**For Department(s):**	Electric
Email:	tmatlock@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☐ Bid Award ☐ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause
☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution to Declare Certain L+G Meters as Surplus
Action Recommendation & Justification:	With the electric AMI upgrade, there is no longer a need for the City to use L+G Meters. The meters will be declared surplus and submitted for auction. Approved by Utility Board 5-0. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	See attached break down.
Amount for Approval:	$

Budget Impact

Is this Item Budgeted? ☐ YES ☐ NO ☑ ITEM HAS NO COST ☐ OTHER:_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ General Fund ☑ Utility Fund ☐ Street Fund ☐ Other(s):_____

Budget Impact Notes for Consideration (Optional):

RESOLUTION NO. _____

A RESOLUTION DECLARING CERTAIN L&G METERS, BELONGING TO THE ELECTRIC DEPARTMENT OF THE CITY OF BENTONVILLE, AS SURPLUS PROPERTY; AUTHORIZING ITS DISPOSAL; AND FOR OTHER PURPOSES.

WHEREAS, the City Council of the City of Bentonville has determined that the list of items from the Electric Department in the attached Exhibit "A", have become obsolete and are no longer used by the City; therefore, they should be declared surplus property;

WHEREAS, upon being approved and declared as surplus, these items will be sold via online auction or properly disposed of; and

WHEREAS, this Resolution is in accordance with Ark. Code Ann. § 14-54-302.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: The City of Bentonville may dispose of the items contained in attached Exhibit "A";

Section 2: A record of all items that are disposed of shall be maintained;

Section 3 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 4 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED AND APPROVED THIS _____ DAY OF _____, 2024.

APPROVED:

_____
STEPHANIE ORMAN, MAYOR

ATTEST:

_____
MALORIE MARRS, CITY CLERK

Exhibit “A”

Description	Part #	Qty
12S	1806	148
2S	1796	0
9S (reactive)	1804	4
16SE (reactive)	1802	4
2SE	1797	0
16SE	1800	4
12SE	1805	26
4S	1799	2
1S	1807	7
3S	1798	8
4S/5S (reactive)	1803	4
16S (reactive)	1801	4
9S	1810	76
4S/5S	1809	7
16S	1808	20
2SE 240V.	1002	0

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	5/29/2024	**Submitted By:**	Travis Matlock
Phone:	479-271-5941	**For Department(s):**	Inventory Warehouse
Email:	tmatlock@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☑ Bid Award ☐ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause
☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution to Award Bid IFB-24-36 to Stuart Irby Company for Transmission Insulators
Action Recommendation & Justification:	Award Bid for transmission insulators to the low bidder. Approved by Utility Board 5-0. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	Lowest bidders: Stuart Irby Company in the amount of $54,851.10
Amount for Approval:	**$** 54,851.10 plus applicable taxes

Budget Impact

Is this Item Budgeted? ☑ YES ☐ NO ☐ ITEM HAS NO COST ☐ OTHER:_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s):_____

Budget Impact Notes for Consideration (Optional):

CITY OF BENTONVILLE, ARKANSAS PURCHASING DEPARTMENT

FORMAL SEALED BID TABULATION

Date of Bid Opening:	5/7/2024	Time of Bid Opening:	2:00 PM	Solicitation ID:	IFB-24-36

Solicitation Title: Transmission Insulators

					Bidders:	Arkansas Electric Cooperatives, Inc.		Irby Utilities		Graybar Electric Inc.		Techline, Inc.	
Line Item	Estimated Quantity	Unit of Measure	BEUD Part No.	Description		Unit Price	Extended Price	Unit Price	Extended Price	Unit Price	Extended Price	Unit Price	Extended Price
1	114	EA	1609	HORIZONTAL POST INSULATOR MACLEAN PART #H29020066AXSS025 (NO SUB)		$489.58	$55,812.12	$481.15	$54,851.10	$903.56	$103,005.84	$554.98	$63,267.72
					Total Bid Price	**$55,812.12**		**$54,851.10**		**$103,005.84**		**$63,267.72**	

purchasing@bentonvillear.com - (479) 271-3115

RESOLUTION NO. _____

A RESOLUTION AWARDING BID IFB-24-36 TO STUART IRBY COMPANY FOR THE PURCHASE OF TRANSMISSION INSULATORS, IN THE AMOUNT OF FIFTY-FOUR THOUSAND EIGHT HUNDRED FIFTY-ONE DOLLARS AND TEN CENTS ($54,851.10) PLUS APPLICABLE TAXES; AND FOR OTHER PURPOSES.

WHEREAS, Stuart Irby Company is the lowest qualified bidder for bid IFB-24-236;

WHEREAS, this contract covers the purchase of transmission insulators that will be ordered on an 'as needed' basis; and

WHEREAS, this is a budgeted item.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS THAT:

Section 1: The Mayor and City Clerk are authorized to enter into a contract with Stuart Irby Company for the purchase of transmission insulators, in the amount of fifty-four thousand eight hundred fifty-one dollars and ten cents ($54,851.10), plus applicable taxes;

Section 2 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Resolutions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED and APPROVED this _____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, MAYOR

ATTEST:

_____
Malorie Marrs, CITY CLERK

Consent Agenda Item LS24-0002

For the Planning Commission meeting on May 28, 2024

Details

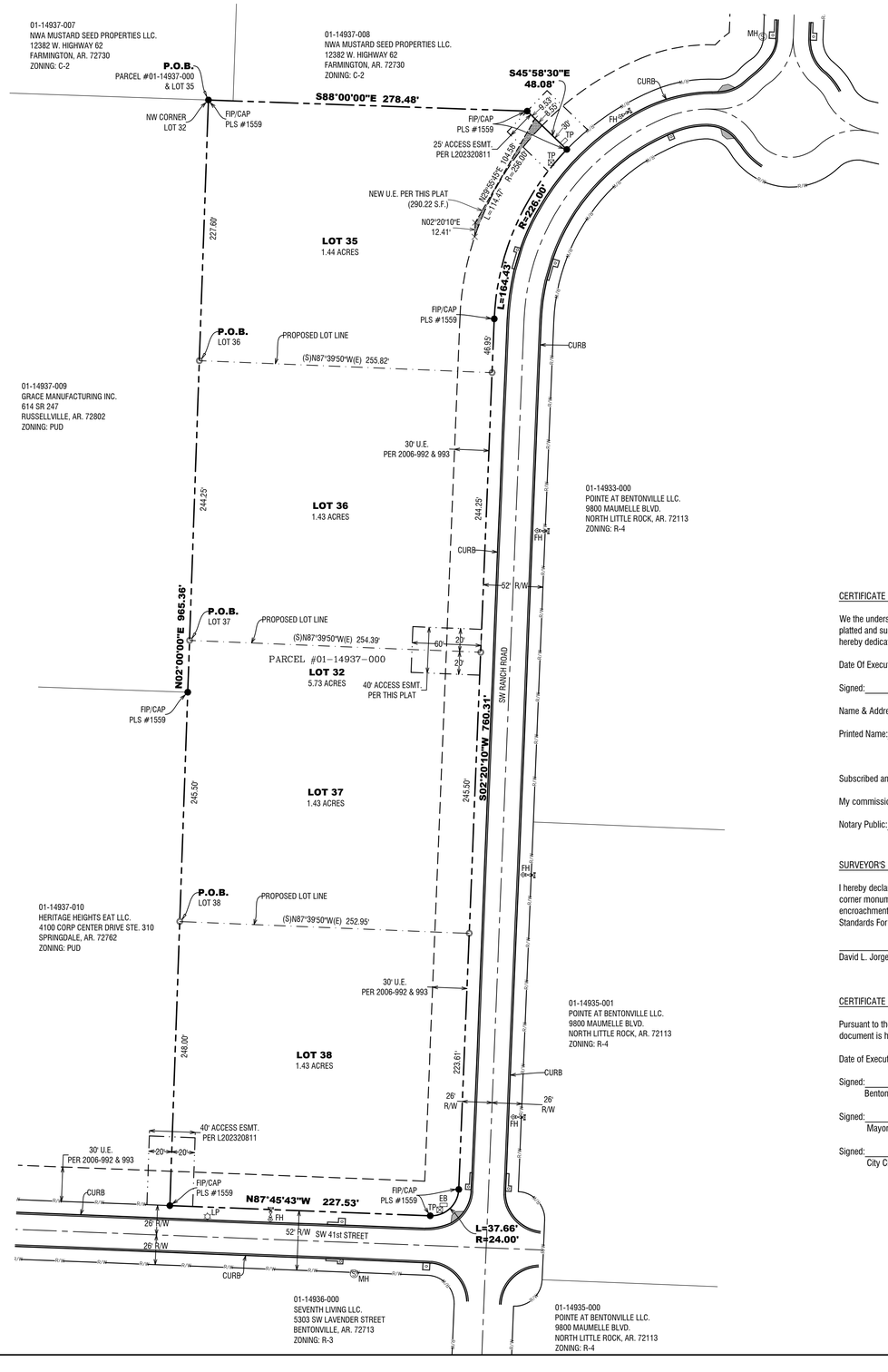
Lot Split: Lot 32 of Limestone Ranch Subdivision, Heritage Heights Eat LLC, Southwest Ranch Road, PUD, Planned Unit Development, *LS24-0002*

A lot split of existing Lot 32 of Limestone Ranch Subdivision, creating new Lots 35-38 of Limestone Ranch Subdivision. Per the requirements of the current Master Street Plan, the existing right-of-way is adequate along both Southwest Ranch Road and Southwest 41st Street. The plat will dedicate a utility easement to serve Lot 35.

Staff recommends a condition of approval for this plat in that a blanket avigation easement be granted over the entire plat.


12
8
19
31
22
23
24
30
SW F ST
SW STONE BLVD
29
21
SW POINTE RD
24
33
SW 40TH ST
SW H ST
26
32
SW RANCH RD
25
34
SW POINTE RD
SW RICHSMITH RD
25
SW 41ST ST
6
13
12
SW CHASE CIR
Legend
Planning Commission Items
N
W
E
S
LS24-0002
Lot Split
Lot 32 Limestone Ranch Lot Split
THE CITY OF
BENTONVILLE

LOT SPLIT OF LOT 32 OF LIMESTONE RANCH SUBDIVISION
CREATING LOTS 35, 36, 37 & 38



GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

N
W E
S

NOTES:

1. CURRENT ZONING: PUD.
2. PARCEL NUMBER: 01-14937-000.
3. OWNER: HERITAGE HEIGHTS EAT LLC. - 4100 CORP CENTER DRIVE STE. 310 - SPRINGDALE, AR. 72762
4. ROTATION BASED ON ARKANSAS STATE PLANE GRID NORTH ZONE (NAD83).
5. BOUNDARY BASED ON SURVEY FILE #L202018589 & L202320811.
6. THIS PROPERTY IS NOT AFFECTED BY THE 100 YEAR FLOOD PLAIN AS PER FIRM #05007C0255K DATED JUNE 5, 2012.
7. BEFORE ANY WORK IN THE RIGHT-OF-WAY COMMENCES, CONTRACTOR AND OR OWNER IS TO OBTAIN A RIGHT-OF-WAY PERMIT FROM THE CITY OF BENTONVILLE TRANSPORTATION DEPARTMENT.
8. OWNER / DEVELOPER SHALL COORDINATE WITH ALL LOCAL UTILITIES TO ENSURE THAT EACH LOT HAS WATER, SEWER AND ELECTRIC SERVICE.
9. SIDEWALKS SHALL BE THE RESPONSIBILITY OF THE BUILDER / OWNER AT TIME OF BUILDING PERMIT ISSUANCE.
10. THERE MAY NOT BE FENCES OR ANY OTHER STRUCTURES BUILT IN ANY DRAINAGE EASEMENTS.
11. SETBACKS SHALL BE PER THE CURRENT ZONING DISTRICT AS STATED IN THE MOST RECENT CITY OF BENTONVILLE ZONING CODE. FOR MORE INFO VISIT www.bentonvilleplanning.com OR CALL THE PLANNING DEPARTMENT @479-271-3122.
12. THERE ARE NO WAIVERS, VARIANCES AND/OR CONDITIONAL USES AT THE TIME OF PREPARING THIS PLAT OR PLAN.

CERTIFICATE OF OWNERSHIP:

We the undersigned, owners of the real estate shown and described herein, do hereby certify that we have laid off, platted and subdivided and do hereby layoff, plat, subdivide said real estate in accordance with this plat and do hereby dedicate to the use of the public streets, alleys, drives, easements, etc. as shown on said plat.

Date Of Execution:_____.

Signed:_____.

Name & Address:_____.

Printed Name:_____.

Subscribed and sworn before me this _____, day of _____, 2023.

My commission expires:_____.

Notary Public:_____.

SURVEYOR'S DECLARATION:

I hereby declare that I have this day completed a survey of the above described property, the property lines and corner monuments are to the best of my knowledge and ability, correctly established, and there are no encroachments except as shown on this plat. I further declare that this survey meets the current "Minimum Standards For Property Boundary Surveys" per the State of Arkansas.

_____: _____.
David L. Jorgensen PLS #1118 Date

CERTIFICATE OF APPROVAL:

Pursuant to the Bentonville Subdivision Regulations and all other conditions and approval having been completed, this document is hereby accepted. This certificate is hereby executed in the authority of the said rules and regulations.

Date of Execution:_____.

Signed:_____.
Bentonville Planning Commission Chairman

Signed:_____.
Mayor, City of Bentonville

Signed:_____.
City Clerk, City of Bentonville

LEGAL DESCRIPTION: (PARENT LOT 32 PARCEL #01-14937-000)

A part of Lot 7 of Limestone Ranch Subdivision in Bentonville, Arkansas, as per plat record 2006 at pages 992 and 993. Also being Lot 32 as per Lot Split file #L202320811 recorded in the office of the Circuit Clerk and Ex-Officio Recorder of Benton County, Arkansas, and being described as follows: Beginning at the NW Corner of said Lot 32, said point being the POINT OF BEGINNING, thence S88°00'00"E 278.48 feet, thence S45°58'30"E 48.08 feet, thence along a non tangent curve to the left 164.43 feet, said curve having a radius of 226.00 feet and a chord bearing and distance of S23°10'47"W 160.83 feet, thence S02°20'10"W 760.31 feet, thence along a non tangent curve to the right 37.66 feet, said curve having a radius of 24.00 feet and a chord bearing and distance of S47°17'22"W 33.91 feet, thence N87°45'43"W 227.53 feet, thence N02°00'00"E 965.36 feet to the POINT OF BEGINNING: Containing 5.73 acres more or less subject to easements and right of way of record.

LEGAL DESCRIPTION: (LOT 35)

A part of Lot 7 of Limestone Ranch Subdivision in Bentonville, Arkansas, as per plat record 2006 at pages 992 and 993. Also being a part of Lot 32 as per Lot Split file #L202320811 recorded in the office of the Circuit Clerk and Ex-Officio Recorder of Benton County, Arkansas, and being described as follows: Beginning at the NW Corner of said Lot 32, said point being the POINT OF BEGINNING, thence S88°00'00"E 278.48 feet, thence S45°58'30"E 48.08 feet, thence along a non tangent curve to the left 164.43 feet, said curve having a radius of 226.00 feet and a chord bearing and distance of S23°10'47"W 160.83 feet, thence S02°20'10"W 46.95 feet, thence N87°39'50"W 255.82 feet, thence N02°00'00"E 227.60 feet to the POINT OF BEGINNING: Containing 1.44 acres more or less subject to easements and right of way of record.

LEGAL DESCRIPTION: (LOT 36)

A part of Lot 7 of Limestone Ranch Subdivision in Bentonville, Arkansas, as per plat record 2006 at pages 992 and 993. Also being a part of Lot 32 as per Lot Split file #L202320811 recorded in the office of the Circuit Clerk and Ex-Officio Recorder of Benton County, Arkansas, and being described as follows: Commencing at the NW Corner of said Lot 32, thence S02°00'00"W 227.60 feet to the POINT OF BEGINNING, thence S87°39'50"E 255.82 feet, thence S02°20'10"W 244.25 feet, thence N87°39'50"W 254.39 feet, thence N02°00'00"E 244.25 feet to the POINT OF BEGINNING: Containing 1.43 acres more or less subject to easements and right of way of record.

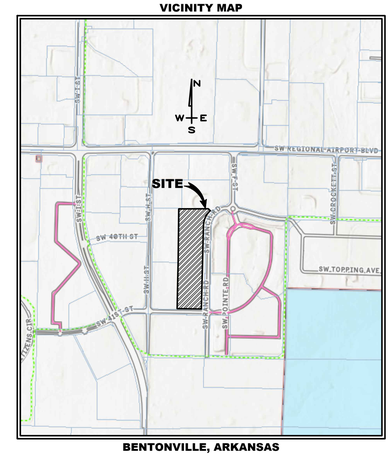
LEGAL DESCRIPTION: (LOT 37)

A part of Lot 7 of Limestone Ranch Subdivision in Bentonville, Arkansas, as per plat record 2006 at pages 992 and 993. Also being a part of Lot 32 as per Lot Split file #L202320811 recorded in the office of the Circuit Clerk and Ex-Officio Recorder of Benton County, Arkansas, and being described as follows: Commencing at the NW Corner of said Lot 32, said point being the POINT OF BEGINNING, thence S02°00'00"W 471.85 feet to the POINT OF BEGINNING, thence S87°39'50"E 254.39 feet, thence S02°20'10"W 245.50 feet, thence N87°39'50"W 252.95 feet, thence N02°00'00"E 245.50 feet to the POINT OF BEGINNING: Containing 1.43 acres more or less subject to easements and right of way of record.

LEGAL DESCRIPTION: (LOT 38)

A part of Lot 7 of Limestone Ranch Subdivision in Bentonville, Arkansas, as per plat record 2006 at pages 992 and 993. Also being a part of Lot 32 as per Lot Split file #L202320811 recorded in the office of the Circuit Clerk and Ex-Officio Recorder of Benton County, Arkansas, and being described as follows: Commencing at the NW Corner of said Lot 32, thence S02°00'00"W 717.36 feet to the POINT OF BEGINNING, thence S87°39'50"E 252.95 feet, thence S02°20'10"W 223.61 feet, thence along a non tangent curve to the right 37.66 feet, said curve having a radius of 24.00 feet and a chord bearing and distance of S47°17'22"W 33.91 feet, thence N87°45'43"W 227.53 feet, thence N02°00'00"E 248.00 feet to the POINT OF BEGINNING: Containing 1.43 acres more or less subject to easements and right of way of record.

VICINITY MAP



BENTONVILLE, ARKANSAS

RECORDING BLOCK

JORGENSEN +ASSOCIATES
Civil Engineering + Surveying
124 W Sunbridge Drive, Suite 1
Fayetteville, AR 72703
Office: 479.442.9127
Fax: 479.582.4807
www.jorgensenassoc.com

LEGEND

- CALCULATED POINT
- FOUND IRON PIN & CAP
- SET IRON PIN & CAP
- POWER POLE
- FH FIRE HYDRANT
- LP LIGHT POLE
- MH EXISTING SEWER MANHOLE
- TP TELEPHONE PEDESTAL
- WATER VALVE
- EXISTING LOT LINE
- PROPOSED LOT LINE
- CENTERLINE STREET
- UTILITY EASEMENT
- NEW UTILITY EASEMENT
- ACCESS EASEMENT
- STREET RIGHT OF WAY

PROJECT DETAILS

PROJECT TITLE: LOT SPLIT FOR GARY STEARMAN

PROJECT LOCATION: BENTONVILLE, AR.

REVISIONS

DATE: 3-4-24

DATE: 11-8-23
DRAWN BY: BJR
PROJECT # 2023065
FILE PATH: Z:\LOTS\2023065\LOT 32 SPLIT
SHEET SIZE: 22" x 34"
SCALE: 1" = 60'

SHEET TITLE

LOT SPLIT

SHEET NUMBER

C1.01

LS24-0002

ORDINANCE NO._____

AN ORDINANCE ACCEPTING A LOT SPLIT OF LOT 32 OF LIMESTONE RANCH SUBDIVISION CREATING NEW LOTS 35-38 OF LIMESTONE RANCH SUBDIVISION TO THE CITY OF BENTONVILLE, ARKANSAS; AND FOR OTHER PURPOSES. (PROJECT NUMBER: LS24-0002)

WHEREAS, pursuant to the provisions of the Land Development Code of the Bentonville Municipal Code, the lot split of LOT 32 OF LIMESTONE RANCH SUBDIVISION creating new LOTS 35-38 OF LIMESTONE RANCH SUBDIVISION, Benton County, Arkansas, was submitted to the Bentonville Planning Commission on May 21, 2024;

WHEREAS, said lot split is attached hereto as Exhibit "A";

WHEREAS, the Bentonville Planning Commission considered said lot split on the date stated, and at other times, and voted to recommend the approval of said lot split to the City Council; and

WHEREAS, the lot split of real property as described herein has been submitted to the City Council of the City of Bentonville and, after consideration and deliberation, said Council is of the opinion that said lot split should be approved.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the lot split of LOT 32 OF LIMESTONE RANCH SUBDIVISION creating new LOTS 35-38 OF LIMESTONE RANCH SUBDIVISION to the City of Bentonville, Arkansas, should be and the same is hereby accepted and approved for all purposes;

Section 2: That the Mayor and City Clerk be and are hereby authorized and directed to evidence the acceptance of said lot split by certifying said acceptance on the approved lot split;

Section 3 - Severability Provision: If any part of this Ordinance is held invalid, the remainder of this Ordinance shall continue in effect as if such invalid portion never existed; and

Section 4 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Ordinance are repealed to the extent of such conflict.

PASSED AND APPROVED this_____ day of _____, 2024.

APPROVED:

_____

Stephanie Orman, Mayor

ATTEST:

_____

Malorie Marrs, City Clerk

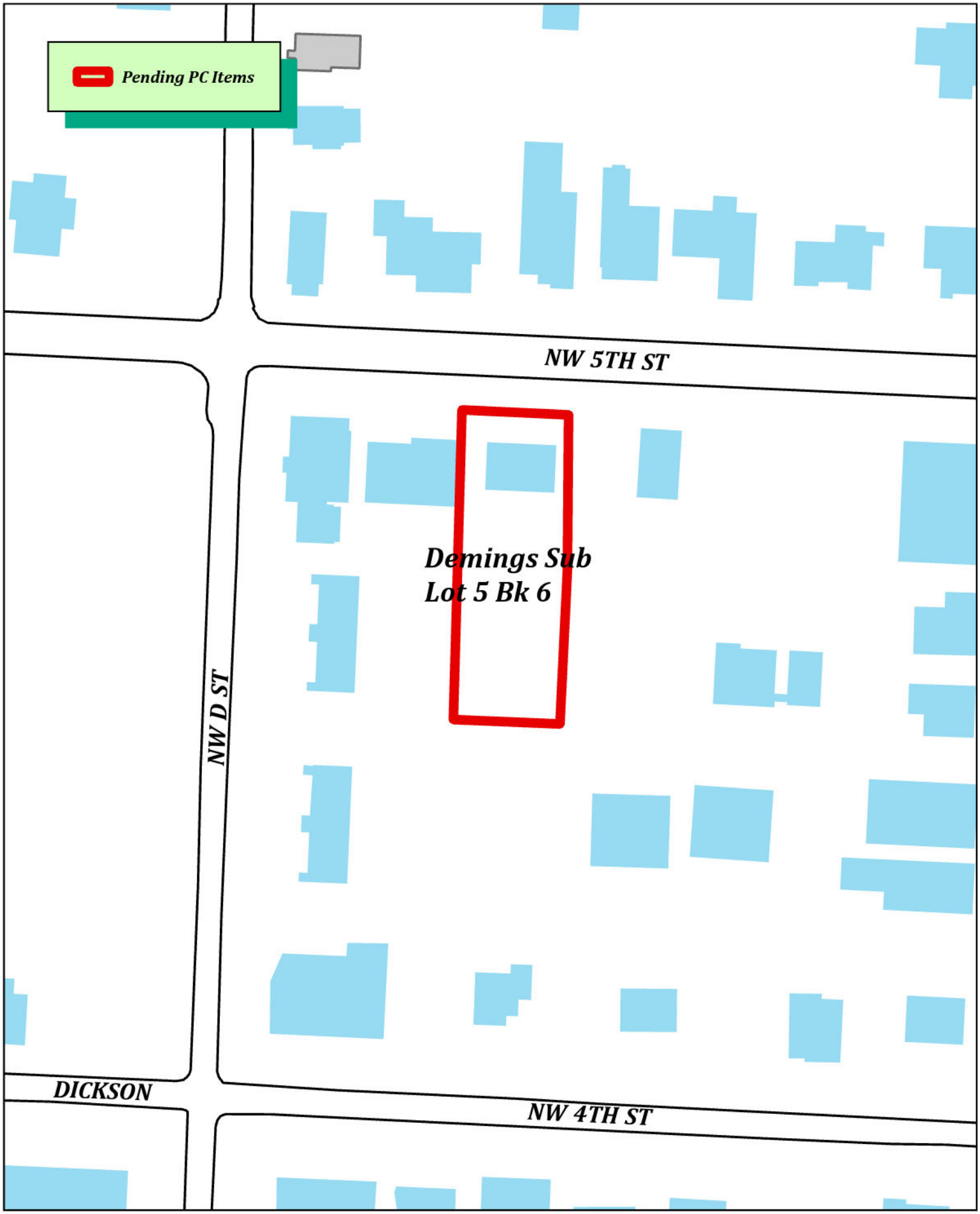
Consent Agenda Item LS24-0018

For the Planning Commission meeting on May 28, 2024

Details

Lot Split: Lot 5, Block 6 of Deming's Addition, Hamhane LLC, Northwest 5th Street and Northwest Bismark Alley, DN-3, Downtown High Density Residential, *LS24-0018*

A lot split of existing Lot 5, Block 6 of Deming's Addition, creating new Lots 31-33, Block 6 of Deming's Addition. Per the requirements of the current Master Street Plan, the existing right-of-way is adequate along Northwest 5th Street. The plat will dedicate utility easements and an additional 1.5' alley to serve the new lots.



N
W E
S

LS24-0018
Lot 5 Block 6 Deming's Subdivision
Creating Lots 31, 32, 33

LOT SPLIT OF LOT 5, BLOCK 6 OF DEMING'S ADDITION
CREATING NEW LOTS 31, 32 & 33

ADJACENT LAND OWNERS

1) BURNETT, DEREK
406 NW D ST A-D
BENTONVILLE, AR
LOT 6, BLOCK 6
PARCEL #01-02137-000
ZONED: R-3

2) MCNEILL, MASON BUTLER & MCMENAMIN, KATHRYN GRACE
413 NW 5TH ST
BENTONVILLE, AR
LOT 6, BLOCK 6
PARCEL #01-02136-000
ZONED: R-1

3) CLAPPER, LYLE & MARIE
412 NW 5TH ST
BENTONVILLE, AR
LOT 12, BLOCK 17 DEMING'S 2ND ADDITION
PARCEL #01-02229-000
ZONED: R-1

4) JTK TRUST- KEENAN, JAMES T
410 NW 5TH ST
BENTONVILLE, AR 72712
LOT 13, BLOCK 17 DEMING'S 2ND ADDITION
PARCEL #01-02230-000
ZONED: R-1

5) HAMHANE LLC
409 NW 5TH ST
BENTONVILLE, AR
LOT 4, BLOCK 6
PARCEL #01-02133-000
ZONED: DN3

6) 406 NW 4TH ST LLC
406 NW 4TH ST APT A1-A2
BENTONVILLE, AR
LOT 11, BLOCK 6 DEMING'S ADDTION
PARCEL #01-02143-001
ZONED: R-1

7) SCHLESSMAN REVOCABLE TRUST, THOMAS W & BONNIE L
410 NW 4TH ST
BENTONVILLE, AR 72712-5211
LOT 10, BLOCK 6
PARCEL #01-02142-000
ZONED: R-1

8) BURNETT, DEREK
404 NW D ST A-D
BENTONVILLE, AR
LOT 9, BLOCK 6 DEMING'S ADDITION
PARCEL #01-02140-000
ZONED: R-3

FIELD WORK:
APRIL 3 & 4, 2023
AUGUST 3, 2023

BASIS OF BEARING:
GPS OBSERVATION - AR NORTH ZONE
NAD 83 (2011) HORIZONTAL DATUM

PROPERTY ZONED:
DN-3

BUILDING SETBACK NOTE:
SETBACKS SHALL BE PER THE CURRENT ZONING DISTRICT AS STATED IN THE MOST RECENT CITY OF BENTONVILLE ZONING CODE. FOR MORE INFO VISIT www.bentonvilleplanning.com OR CALL THE PLANNING DEPARTMENT @ 479-271-3122

REFERENCE DOCUMENTS:
1) FINAL PLAT OF DEMING'S ADDITION FILED IN BOOK G AT PAGES 163 AND 263
2) PLAT OF SURVEY PREPARED BY BATES AND ASSOCIATES FOR MARK HANEY, JOB #22-397; DATED 02/15/23
3) QUITCLAIM DEED FILED IN BOOK 2010 AT PAGE 55221
4) WARRANTY DEED FILED IN BOOK 92 AT PAGE 29412
5) PLAT OF SURVEY PREPARED BY BATES AND ASSOCIATES FOR MANGOLD BURRIS HAMMONDS, JOB #13-318; DATED 11/19/13
6) PLAT OF SURVEY FILED IN BOOK 8 AT PAGE 151
7) PLAT OF SURVEY FILED IN BOOK 11 AT PAGE 114
8) PLAT OF SURVEY FILED IN BOOK 2012 AT PAGE 419
9) WARRANTY DEED FILED IN BOOK 636 AT PAGE 580
10) RIGHT-OF-WAY GRANT FILED IN BOOK L2024 AT PAGE 5168
11) RIGHT-OF-WAY GRANT FILED IN BOOK L2024 AT PAGE 5169

PLAT NOTES:
1. SOME FEATURES AND/OR SYMBOLS ON THIS PLAT MAY BE SHOWN OUT OF SCALE FOR VISUAL CLARITY.
2. THE LOCATION OF UTILITIES SHOWN HEREON ARE FROM OBSERVED EVIDENCE OF ABOVE GROUND APPURTENANCES, GIS, AND/OR UTILITY MAPS PROVIDED BY LOCAL UTILITY COMPANIES. NOT ALL UTILITY COMPANIES MAY HAVE RESPONDED TO OUR REQUEST FOR MAPS AND/OR INFORMATION. ALL UTILITY LINES APPEARING ON THIS PLAT, AS WELL AS THOSE THAT MAY EXIST UNDERGROUND NEED TO BE VERIFIED PRIOR TO DOING ANY TYPE OF EXCAVATION OR DESIGN. SOME UTILITY LINES MAY ALSO EXIST THAT WERE NOT SHOWN ON THIS PLAT.
3. SIDEWALKS SHALL BE THE RESPONSIBILITY OF THE BUILDER/OWNER AT TIME OF BUILDING PERMIT ISSUANCE.
4. OWNER/DEVELOPER SHALL COORDINATE WITH ALL LOCAL UTILITIES TO INSURE THAT EACH LOT HAS WATER, SEWER AND ELECTRIC SERVICE.
5. BEFORE ANY WORK IN THE RIGHT-OF-WAY COMMENCES, CONTRACTOR AND OR OWNER IS TO OBTAIN RIGHT-OF-WAY PERMIT FROM THE CITY OF BENTONVILLE TRANSPORTATION DEPARTMENT.
6. THERE MAY NOT BE ANY FENCES OR ANY OTHER STRUCTURES BUILT IN ANY DRAINAGE EASEMENTS.
7. WAIVER 23-0015 WAS APPROVED ALLOWING THE NEW LOTS TO FACE THE 18' ALLEY.

BEUD NOTES:
1. OWNER TO CONTACT NEW SERVICE COORDINATOR (271-3139) TO DISCUSS ELECTRIC SERVICE PRIOR TO BEGINNING ANY CONSTRUCTION. FAILURE TO CONTACT BEUD PRIOR TO CONSTRUCTION WILL RESULT IN DELAYS TO GET ELECTRIC SERVICE.
2. BEUD'S STANDARD PRACTICE IS TO PLACE UNDERGROUND EQUIPMENT (TRANSFORMERS, SECONDARY PEDESTALS, JUNCTION BOXES, ETC) ON THE LOT LINE OF A DEVELOPMENT. ANY ADJUSTMENTS TO THE PROPERTY LINE THAT RESULT IN OUR EQUIPMENT NOT BEING ON THE LOT LINE WILL REQUIRE THE DEVELOPER TO PAY FOR THE COST OF BEUD TO RELOCATE THE EQUIPMENT TO THE LOT LINE.
3. ALL STRUCTURES MUST MAINTAIN MINIMUM OF 20' CLEARANCES FROM ALL ELECTRIC LINES.
4. IT IS THE RESPONSIBILITY OF THE DEVELOPER TO COORDINATE WITH THE NEW SERVICE COORDINATOR @ 479 271-3139 TO DETERMINE IF EQUIPMENT IS IN CONFLICT.
IT IS THE RESPONSIBILITY OF THE DEVELOPER TO PAY FOR ANY COSTS ASSOCIATED WITH MOVING OF EQUIPMENT. THIS INCLUDES BUT IS NOT LIMITED TO ANY COSTS ASSOCIATED WITH LOSS OF EQUIPMENT (WIRE AND ELBOWS) AND LABOR AND MATERIAL TO MOVE THE EQUIPMENT TO THE NEW LOT LINE

EXISTING WARRANTY DEED DESCRIPTION PARENT TRACT PARCEL #01-02134-000 (B. 92, P. 29412):
LOT 5, BLOCK 6, DEMING'S ADDITION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN IN PLAT RECORD "B" AT PAGE 6. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

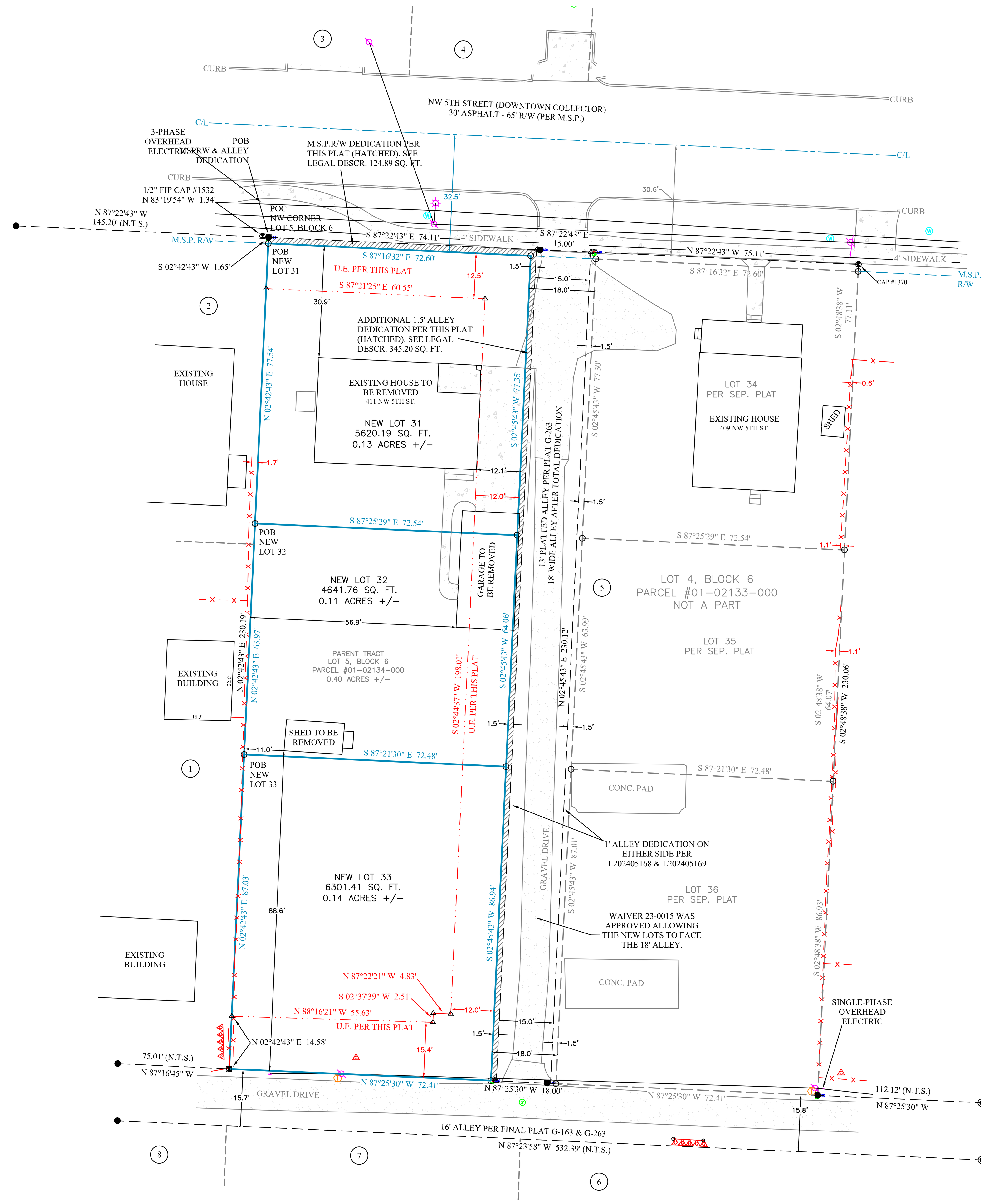
NEW LOT 31 DESCRIPTION:
A PART OF LOT 5, BLOCK 6, DEMING'S ADDITION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN IN PLAT RECORD "B" AT PAGE 6, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS, TO WIT: BEGINNING AT A POINT IN THE SOUTH RIGHT-OF-WAY IN NORTHWEST 5TH STREET WHICH IS S02°42'43"W 1.65' FROM AN EXISTING REBAR MARKING THE NORTHWEST CORNER OF SAID LOT 5 AND RUNNING THENCE ALONG SAID RIGHT-OF-WAY S87°16'32"E 72.60' TO THE WEST LINE OF A PLATTED ALLEY, THENCE ALONG SAID WEST LINE S02°45'43"W 77.35', THENCE LEAVING SAID WEST LINE N87°25'29"W 72.54' TO THE WEST LINE OF SAID LOT 5, THENCE ALONG SAID WEST LINE N02°42'43"E 77.54' TO THE POINT OF BEGINNING, CONTAINING 0.13 ACRES MORE OR LESS. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

NEW LOT 32 DESCRIPTION:
A PART OF LOT 5, BLOCK 6, DEMING'S ADDITION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN IN PLAT RECORD "B" AT PAGE 6, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS, TO WIT: BEGINNING AT A POINT ON THE WEST LINE OF SAID LOT 5 WHICH IS S02°42'43"W 79.19' FROM AN EXISTING REBAR MARKING THE NORTHWEST CORNER THEREOF AND RUNNING THENCE S87°25'29"E 72.54' TO THE WEST LINE OF A PLATTED ALLEY, THENCE ALONG SAID WEST LINE S02°45'43"W 64.06', THENCE LEAVING SAID WEST LINE N87°21'30"W 72.48' TO THE WEST LINE OF SAID LOT 5 THENCE ALONG SAID WEST LINE N02°42'43"E 63.97' TO THE POINT OF BEGINNING, CONTAINING 0.11 ACRES, MORE OR LESS. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

NEW LOT 33 DESCRIPTION:
A PART OF LOT 5, BLOCK 6, DEMING'S ADDITION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN IN PLAT RECORD "B" AT PAGE 6, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS, TO WIT: BEGINNING AT A POINT ON THE WEST LINE OF SAID LOT 5 WHICH IS THENCE S02°42'43"W 143.17' FROM AN EXISTING REBAR MARKING THE NORTHWEST CORNER THEREOF AND RUNNING THENCE S87°21'30"E 72.48' TO THE WEST LINE OF A PLATTED ALLEY, THENCE ALONG SAID WEST LINE S02°45'43"W 86.94', THENCE LEAVING SAID WEST LINE N87°25'30"W 72.41' TO THE WEST LINE OF SAID LOT 5, THENCE ALONG SAID WEST LINE N02°42'43"E 87.03', TO THE POINT OF BEGINNING, CONTAINING 0.14 ACRES MORE OR LESS. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

MASTER STREET PLAN R/W & ADDITIONAL ALLEY DEDICATION DESCRIPTION:
A PART OF LOT 5, BLOCK 6, DEMING'S ADDITION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN IN PLAT RECORD "B" AT PAGE 6, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS, TO WIT: BEGINNING AT AN EXISTING REBAR MARKING THE NORTHWEST CORNER OF SAID LOT 5 AND RUNNING THENCE S87°22'43"E 74.11', THENCE S02°45'43"W 230.13', THENCE N87°25'30"W 1.50', THENCE N02°45'43"E 228.35', THENCE N87°16'32"W 72.60', THENCE N02°42'43"E 1.65' TO THE POINT OF BEGINNING, CONTAINING 0.01 ACRES, MORE OR LESS.

FLOOD CERTIFICATION:
NO PORTION OF THIS PROPERTY IS LOCATED WITHIN FLOOD ZONE "A" OR "AE" AS DETERMINED BY THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP FOR BENTON COUNTY, ARKANSAS.
(FIRM PANEL #05007C0090J. DATED 9/28/2007)



CERTIFICATE OF APPROVAL:
PURSUANT TO THE BENTONVILLE LAND DEVELOPMENT CODE AND ALL OTHER CONDITIONS AND APPROVAL HAVING BEEN COMPLETED, THIS DOCUMENT IS HEREBY ACCEPTED. THIS CERTIFICATE IS HEREBY EXECUTED UNDER THE AUTHORITY OF THE SAID RULES AND REGULATIONS.

DATE OF EXECUTION: ________________________

SIGNED ________________________
BENTONVILLE PLANNING COMMISSION CHAIRMAN

SIGNED________________________
MAYOR, CITY OF BENTONVILLE

SIGNED ________________________
CITY CLERK, CITY OF BENTONVILLE

OWNER'S CERTIFICATION:
WE THE UNDERSIGNED, OWNERS OF THE REAL ESTATE SHOWN AND DESCRIBED HEREIN, DO HEREBY CERTIFY THAT WE HAVE LAID OFF, PLATTED, AND SUBDIVIDED AND DO HEREBY LAY OFF, PLAT, SUBDIVIDE SAID REAL ESTATE IN ACCORDANCE WITH THIS PLAT AND DO HEREBY DEDICATE TO THE USE OF THE PUBLIC THE STREETS, ALLEYS, DRIVES, EASEMENTS, ETC. AS SHOWN ON SAID PLAT.

HAMHANE LLC
170 E. PROSPECT ST.
FAYETTEVILLE, AR 72701

SOURCE OF TITLE: W.D. DEED L202337510

DATE OF EXECUTION:__________

PRINTED:______________________________ SIGNED:______________________________

SUBSCRIBED AND SWORN BEFORE ME, THIS ____ DAY OF ______, 2024.

____
NOTARY PUBLIC

PROPERTY OWNER/DEVELOPER:
HAMHANE LLC
170 E. PROSPECT ST.
FAYETTEVILLE, AR 72701

CONTACT INFO:
markhaneynwa@gmail.com

ATLAS PAGE:
361

CERTIFICATE OF SURVEYING ACCURACY:
I DERRICK THOMAS, HEREBY CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS A BOUNDARY SURVEY MADE BY ME AND BOUNDARY MARKERS AND LOT CORNERS SHOWN HEREON ACTUALLY EXIST AND THEIR LOCATION, TYPE AND MATERIAL ARE CORRECTLY SHOWN AND ALL MINIMUM REQUIREMENTS OF THE ARKANSAS MINIMUM STANDARDS FOR LAND SURVEYORS HAVE BEEN MET.

DATE OF EXECUTION: ______________________

SIGNED: ______________________________
REGISTERED LAND SURVEYOR NO. 1642 - STATE OF ARKANSAS

CERTIFICATE OF AUTHORIZATION
BATES & ASSOCIATES, INC. #1335
ARKANSAS ENGINEER

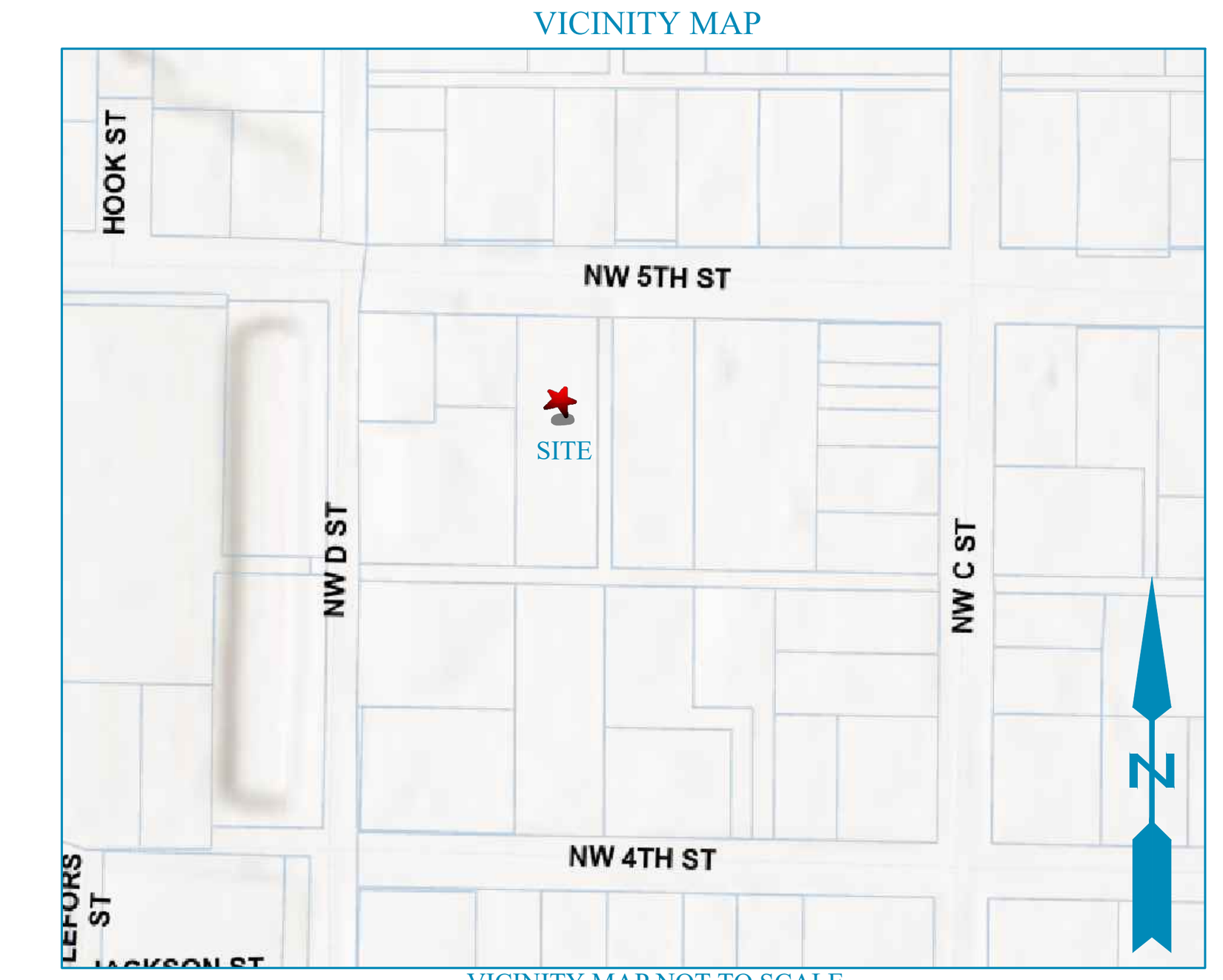
0' 20' 40' 60'
GRAPHIC SCALE (IN FEET)
1 Inch = 20ft.

I HEREBY CERTIFY THIS TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF ON THIS THE 3RD DAY OF AUGUST, 2023.

REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF ARKANSAS NO. 1642
DERRICK L. THOMAS
SIGNATURE
DRAFT

DATE:
IF THE SIGNATURE ON THIS SEAL IS NOT AN ORIGINAL AND NOT BLUE IN COLOR THEN IT SHOULD BE ASSUMED THAT THIS PLAT MAY HAVE BEEN ALTERED. THE ABOVE CERTIFICATION SHALL NOT APPLY TO ANY COPY THAT DOES NOT BEAR AN ORIGINAL SEAL AND SIGNATURE.

VICINITY MAP



VICINITY MAP NOT TO SCALE

CITY OF BENTONVILLE PROJECT #LS24-0018

RECORDING NUMBER/DATE

DATE	REVISION #

LEGEND:
THESE STANDARD SYMBOLS WILL BE FOUND IN THE DRAWING.

FOUND 5/8" REBAR
FOUND 1/2" REBAR
FOUND AXLE
SET 5/8" REBAR/CAP
COMPUTED POINT

SANITARY SEWER MH
TELEPHONE PEDESTAL
AC CONDENSER UNIT
WATER METER
GAS METER
POWER POLE
GUY ANCHOR
LIGHT
BOLLARD

BOUNDARY LINE (MEASURED)
TIE LINE
CENTERLINE OF ROAD
RIGHT-OF-WAY
FENCE

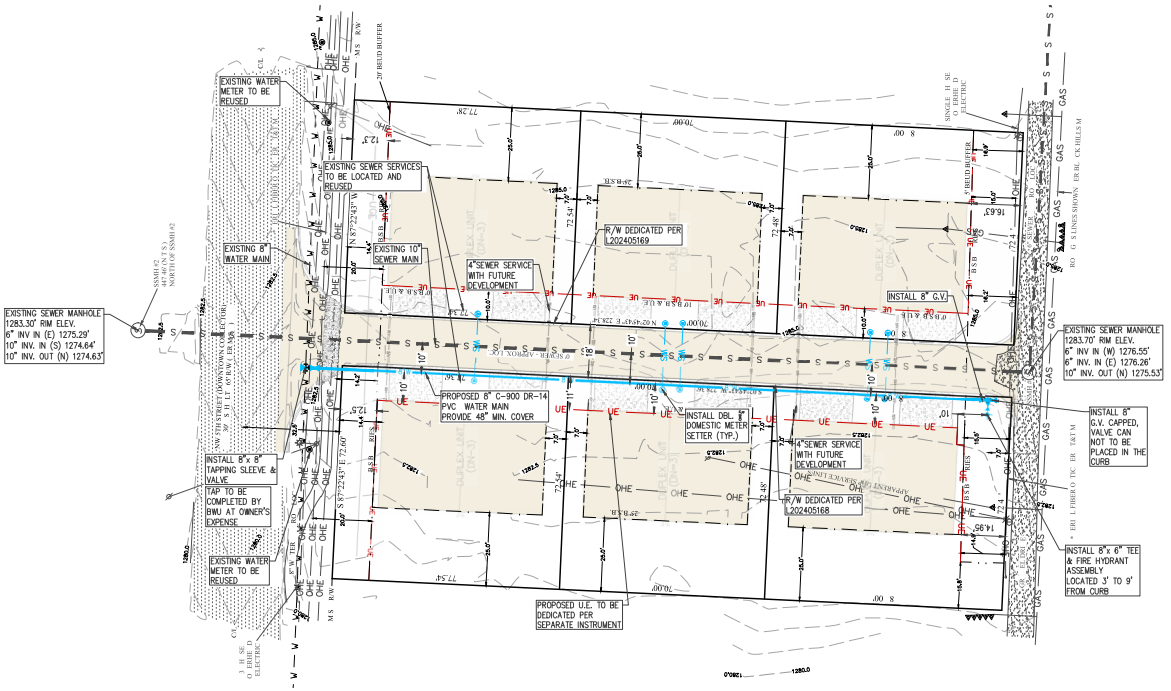
BATES Engineers · Surveyors
7230 S. Pleasant Ridge Dr. · Fayetteville, Arkansas 72704 · 479.442.9350

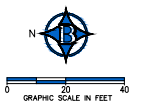
BATES & ASSOCIATES, INC. Copyright 2024
This survey was conducted for the person or persons whose name(s) appear on this plat. This plat is protected by copyright. No one including the person(s) named may reproduce this plat without the express written consent of Bates & Associates, Inc. Surveyor has made no independent investigation for easements of record, encumbrances, restrictive covenants, ownership title evidence, or any other fact which a complete and accurate title search may disclose. Any flood statement provided on this plat is for information only and Bates & Associates, Inc. assumes no liability for the correctness of the hereon cited maps, furthermore the above statement does not represent the opinion of Bates & Associates, Inc. of the probability of flooding.

FOR USE AND BENEFIT OF:
MARK HANEY

ADDRESS: 411 NORTHWEST 5TH STREET BENTONVILLE, ARKANSAS
DATE: 04/23/24
SCALE: 1"=20'
SURVEYED: JRICH
DRAFTED: BA
REVIEWED: DT
COA #1335
LOCATION: LOT 5 BLOCK 6 DEMINGS ADDITION

DRAWING #23-061 WEST





NOTE: THE BUILDINGS, DRIVEWAYS, SEWER SERVICE, ELECTRIC, AND ALLEY IMPROVEMENTS TO BE CONSTRUCTED WITH A DIFFERENT PROJECT (FUTURE). THE PURPOSE OF THE FUTURE LAYOUT IS INTENDED TO SERVE AS AN EXAMPLE OF WHAT WILL BE PLACED.

ESTIMATED SEWER FLOW:

6 DUPLEX BUILDINGS (12 UNITS)
12 x 300 GPD = 3,600 GPD

AVERAGE DAILY FLOW = 2.50 GPM
PEAK FLOW (4x) = 10.0 GPM

SITE AND UTILITY NOTES:

1. ALL CONDUITS PLACED BY CONTRACTOR MUST HAVE 48" OF COVER AT FINAL GRADE AND MARKED WITH POST TO IDENTIFY THE END OF CONDUITS. THERE MUST BE A MINIMUM SEPARATION OF 12" BETWEEN CONDUITS FOR ELECTRIC AND CONDUITS FOR OTHER UTILITIES.

2. DAMAGE TO OR RELOCATION OF EXISTING UTILITIES SHALL BE AT THE DEVELOPERS EXPENSE.

3. TREES MUST BE LOCATED 5' FROM PUBLIC UTILITIES.

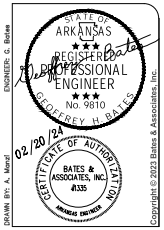
4. ALL IRRIGATION METERS WILL REQUIRE RP-TYPE BACKFLOW PREVENTERS.

5. ALL TRENCHING AND BEDDINGS SHALL BE IN ACCORDANCE WITH BENTONVILLE'S TYPICAL BEDDING DETAIL AND BACKFILL DETAIL', UNLESS OTHERWISE NOTED ON DRAWING.

6. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.

7. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF BENTONVILLE STANDARD WATER AND SEWER SPECIFICATIONS DATED 6-22-2021, APPROVED BY ARKANSAS DEPARTMENT OF HEALTH 4-1-2021, COUNCIL APPROVED 6-22-2021, ORDINANCE 2021-135

8. BWU WILL ONLY BE COMPLETEING THE TAP FOR THE WATER MAIN EXTENSION. CONTRACTOR TO PROVIDE AND INSTALL THE SADDLE.



ENGINEER: G. Bates
DRAWN BY: A. Mendl

Copyright © 2023 Bates & Associates, Inc.

REVISIONS	DATE
1ST SUBMITTAL	09/16/23
2ND SUBMITTAL	10/12/23
3RD SUBMITTAL	12/12/23
REVISION PER BWU	02/09/24
REVISION PER R/W DEDICATION	02/20/24

411 NW 5th ST
WATER MAIN EXTENSION PLANS
WATER MAIN EXTENSION
PLAN WITH FUTURE DEVELOPMENT
BENTONVILLE, ARKANSAS

Bates & Associates, Inc.
www.mebatesinc.com Civil Engineering & Surveying
7230 S. Pleasant Ridge Dr.-Fayetteville, Arkansas 72704 • 479.442.9350 • Fax 479.521.9350

PROJECT NO 23-061

DRAWING NO 03

ORDINANCE NO._____

AN ORDINANCE ACCEPTING A LOT SPLIT OF LOT 5, BLOCK 6 OF DEMING'S ADDITION CREATING NEW LOTS 31, 32, AND 33 OF DEMING'S ADDITION TO THE CITY OF BENTONVILLE, ARKANSAS; AND FOR OTHER PURPOSES. (PROJECT NUMBER: LS24-0018)

WHEREAS, pursuant to the provisions of the Land Development Code of the Bentonville Municipal Code, the lot split of LOT 5, BLOCK 6 OF DEMING'S ADDITION creating new LOTS 31, 32, AND 33 OF DEMING'S ADDITION, Benton County, Arkansas, was submitted to the Bentonville Planning Commission on May 21, 2024;

WHEREAS, said lot split is attached hereto as Exhibit "A";

WHEREAS, the Bentonville Planning Commission considered said lot split on the date stated, and at other times, and voted to recommend the approval of said lot split to the City Council; and

WHEREAS, the lot split of real property as described herein has been submitted to the City Council of the City of Bentonville and, after consideration and deliberation, said Council is of the opinion that said lot split should be approved.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the lot split of LOT 5, BLOCK 6 OF DEMING'S ADDITION creating new LOTS 31, 32, AND 33 OF DEMING'S ADDITION to the City of Bentonville, Arkansas, should be and the same is hereby accepted and approved for all purposes;

Section 2: That the Mayor and City Clerk be and are hereby authorized and directed to evidence the acceptance of said lot split by certifying said acceptance on the approved lot split;

Section 3 - Severability Provision: If any part of this Ordinance is held invalid, the remainder of this Ordinance shall continue in effect as if such invalid portion never existed; and

Section 4 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Ordinance are repealed to the extent of such conflict.

PASSED AND APPROVED this_____ day of _____, 2024.

APPROVED:

_____

Stephanie Orman, Mayor

ATTEST:

_____

Malorie Marrs, City Clerk

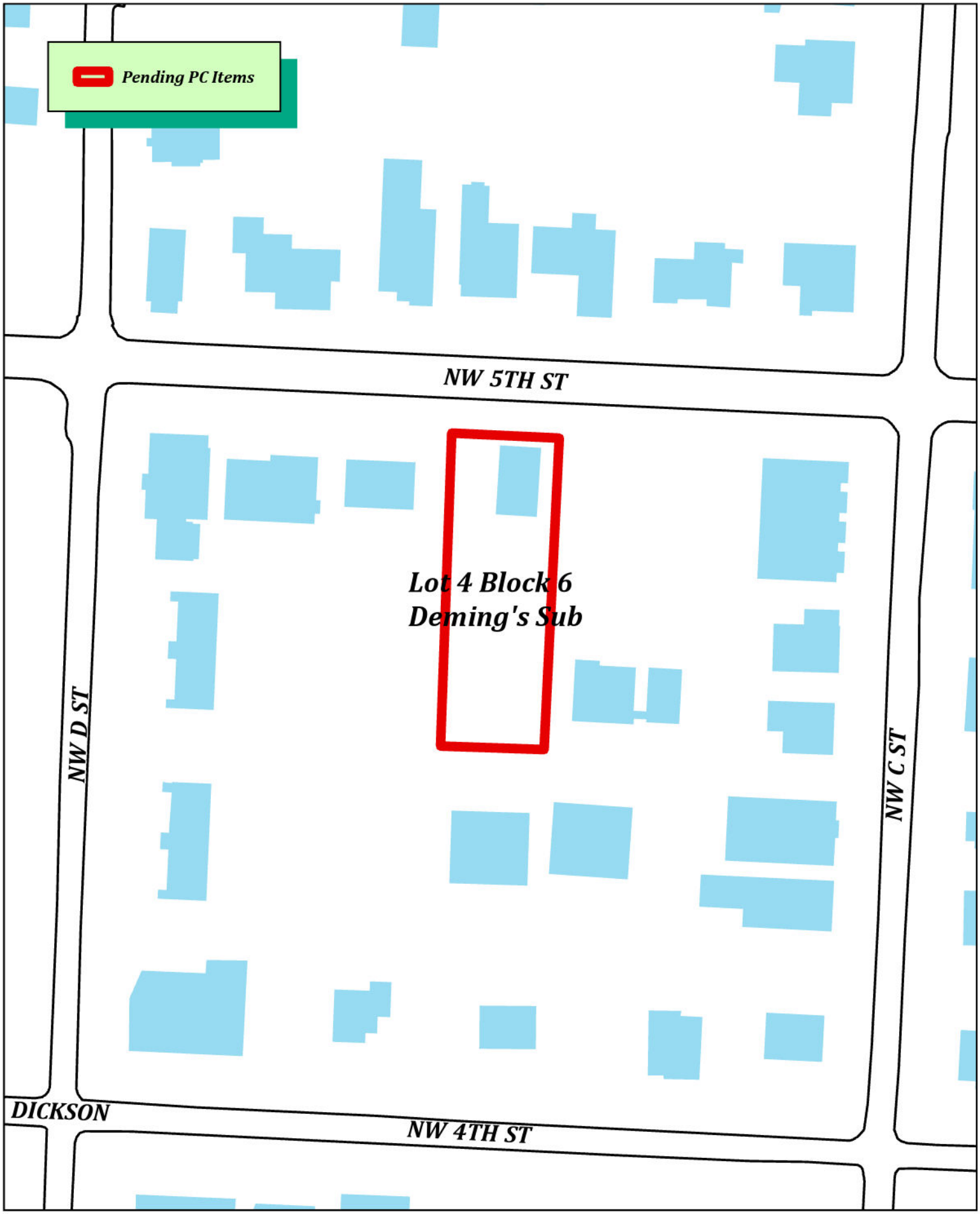
Consent Agenda Item LS24-0019

For the Planning Commission meeting on May 28, 2024

Details

Lot Split: Lot 4, Block 6 of Deming's Addition, Hamhane LLC, Northwest 5th Street, DN-3, Downtown High Density Residential, *LS24-0019*

A lot split of existing Lot 4, Block 6 of Deming's Addition, creating new Lots 34-36, Block 6 of Deming's Addition. Per the requirements of the current Master Street Plan, the existing right-of-way is adequate along both Northwest 5th Street and Northwest Bismark Alley. The plat will dedicate utility easements and an additional 1.5' alley to serve the new lots.



N
W E
S

LS24-0019
Lot 4 Block 6 Deming's Subdivision
Creating Lots 34, 35, 36

LOT SPLIT OF LOT 4, BLOCK 6 OF DEMING'S ADDITION
CREATING NEW LOTS 34, 35 & 36

ADJACENT LAND OWNERS

1) JUERGENS LIVING TRUST, DAVID L & TERESA A
405 NW 5TH ST
BENTONVILLE, AR
LOT 3, BLOCK 6 DEMING'S ADDTION
PARCEL #01-02131-000
ZONED: R-1

2) BILLINGSLEY, JUDY W & BILLINGSLEY, KRISTEN E
406 1 & 2 NW 4TH ST
BENTONVILLE, AR
LOT 12, BLOCK 6 DEMING'S ADDTION
PARCEL #01-02143-002
ZONED: R-1

3) 406 NW 4TH ST LLC
406 NW 4TH ST APT A1-A2
BENTONVILLE, AR
LOT 11, BLOCK 6 DEMING'S ADDTION
PARCEL #01-02143-001
ZONED: R-1

4) SCHLESSMAN REVOCABLE TRUST, THOMAS W & BONNIE L
410 NW 4TH ST
BENTONVILLE, AR
LOT 10, BLOCK 6 DEMING'S ADDITION
PARCEL #01-02142-000
ZONED: R-1

5) HAMHANE LLC
411 NW 5TH ST
BENTONVILLE, AR
LOT 5, BLOCK 6 DEMING'S ADDTION
PARCEL #01-02134-000
ZONED: DN-3

6) JTK TRUST-KEENAN, JAMES T
410 NW 5TH ST
LOT 21, BLOCK 17 DEMING'S 2ND ADDITION
BENTONVILLE, AR 72712
PARCEL #01-02230-000
ZONED: R-1

7) COOK, THERESA
408 NW 5TH ST
BENTONVILLE, AR
LOT 22, BLOCK 17 DEMING'S 2ND ADDITION
PARCEL #01-02231-000
ZONED: R-1

8) FREISLEBEN, BRENNA ELIZABETH FAYE
406 NW 5TH ST
BENTONVILLE, AR
LOT 16, BLOCK 17 DEMING'S 2ND ADDITION
PARCEL #01-02231-001
ZONED: R-1

FIELD WORK:
APRIL 3 & 4, 2023
AUGUST 3, 2023

BASIS OF BEARING:
GPS OBSERVATION - AR NORTH ZONE
NAD 83 (2011) HORIZONTAL DATUM

PROPERTY ZONED:
DN-3

BUILDING SETBACK NOTE:
SETBACKS SHALL BE PER THE CURRENT ZONING DISTRICT AS STATED IN THE MOST RECENT CITY OF BENTONVILLE ZONING CODE. FOR MORE INFO VISIT www.bentonvilleplanning.com OR CALL THE PLANNING DEPARTMENT @ 479-271-3122

REFERENCE DOCUMENTS:
1) FINAL PLAT OF DEMING'S ADDITION FILED IN BOOK G AT PAGES 163 AND 263
2) PLAT OF SURVEY PREPARED BY BATES AND ASSOCIATES FOR MARK HANEY, JOB #22-397; DATED 02/15/23
3) QUITCLAIM DEED FILED IN BOOK 2010 AT PAGE 55221
4) WARRANTY DEED FILED IN BOOK 92 AT PAGE 29412
5) PLAT OF SURVEY PREPARED BY BATES AND ASSOCIATES FOR MANGOLD BURRIS HAMMONDS, JOB #13-318; DATED 11/19/13
6) PLAT OF SURVEY FILED IN BOOK 8 AT PAGE 151
7) PLAT OF SURVEY FILED IN BOOK 11 AT PAGE 114
8) PLAT OF SURVEY FILED IN BOOK 2012 AT PAGE 419
9) WARRANTY DEED FILED IN BOOK 636 AT PAGE 580
10) RIGHT-OF-WAY GRANT FILED IN BOOK L2024 AT PAGE 5168
11) RIGHT-OF-WAY GRANT FILED IN BOOK L2024 AT PAGE 5169

PLAT NOTES:
1. SOME FEATURES AND/OR SYMBOLS ON THIS PLAT MAY BE SHOWN OUT OF SCALE FOR VISUAL CLARITY.
2. THE LOCATION OF UTILITIES SHOWN HEREON ARE FROM OBSERVED EVIDENCE OF ABOVE GROUND APPURTENANCES, GIS, AND/OR UTILITY MAPS PROVIDED BY LOCAL UTILITY COMPANIES. NOT ALL UTILITY COMPANIES MAY HAVE RESPONDED TO OUR REQUEST FOR MAPS AND/OR INFORMATION. ALL UTILITY LINES APPEARING ON THIS PLAT, AS WELL AS THOSE THAT MAY EXIST UNDERGROUND NEED TO BE VERIFIED PRIOR TO DOING ANY TYPE OF EXCAVATION OR DESIGN. SOME UTILITY LINES MAY ALSO EXIST THAT WERE NOT SHOWN ON THIS PLAT.
3. SIDEWALKS SHALL BE THE RESPONSIBILITY OF THE BUILDER/OWNER AT TIME OF BUILDING PERMIT ISSUANCE.
4. OWNER/DEVELOPER SHALL COORDINATE WITH ALL LOCAL UTILITIES TO INSURE THAT EACH LOT HAS WATER, SEWER AND ELECTRIC SERVICE.
5. BEFORE ANY WORK IN THE RIGHT-OF-WAY COMMENCES, CONTRACTOR AND OR OWNER IS TO OBTAIN RIGHT-OF-WAY PERMIT FROM THE CITY OF BENTONVILLE TRANSPORTATION DEPARTMENT.
6. THERE MAY NOT BE ANY FENCES OR ANY OTHER STRUCTURES BUILT IN ANY DRAINAGE EASEMENTS.
7. WAIVER 23-0015 WAS APPROVED ALLOWING THE NEW LOTS TO FACE THE 18' ALLEY.

BEUD NOTES:
1. OWNER TO CONTACT NEW SERVICE COORDINATOR (271-3139) TO DISCUSS ELECTRIC SERVICE PRIOR TO BEGINNING ANY CONSTRUCTION. FAILURE TO CONTACT BEUD PRIOR TO CONSTRUCTION WILL RESULT IN DELAYS TO GET ELECTRIC SERVICE.
2. BEUD'S STANDARD PRACTICE IS TO PLACE UNDERGROUND EQUIPMENT (TRANSFORMERS, SECONDARY PEDESTALS, JUNCTION BOXES, ETC) ON THE LOT LINE OF A DEVELOPMENT. ANY ADJUSTMENTS TO THE PROPERTY LINE THAT RESULT IN OUR EQUIPMENT NOT BEING ON THE LOT LINE WILL REQUIRE THE DEVELOPER TO PAY FOR THE COST OF BEUD TO RELOCATE THE EQUIPMENT TO THE LOT LINE.
3. ALL STRUCTURES MUST MAINTAIN MINIMUM OF 20' CLEARANCES FROM ALL ELECTRIC LINES.
4. IT IS THE RESPONSIBILITY OF THE DEVELOPER TO COORDINATE WITH THE NEW SERVICE COORDINATOR @ 479 271-3139 TO DETERMINE IF EQUIPMENT IS IN CONFLICT.
IT IS THE RESPONSIBILITY OF THE DEVELOPER TO PAY FOR ANY COSTS ASSOCIATED WITH MOVING OF EQUIPMENT. THIS INCLUDES BUT IS NOT LIMITED TO ANY COSTS ASSOCIATED WITH LOSS OF EQUIPMENT (WIRE AND ELBOWS) AND LABOR AND MATERIAL TO MOVE THE EQUIPMENT TO THE NEW LOT LINE

EXISTING WARRANTY DEED DESCRIPTION PARENT TRACT PARCEL #01-02133-000 (B. 2010, P. 55221):
LOT 4, BLOCK 6, DEMING'S ADDITION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN IN PLAT RECORD "B" AT PAGE 6. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

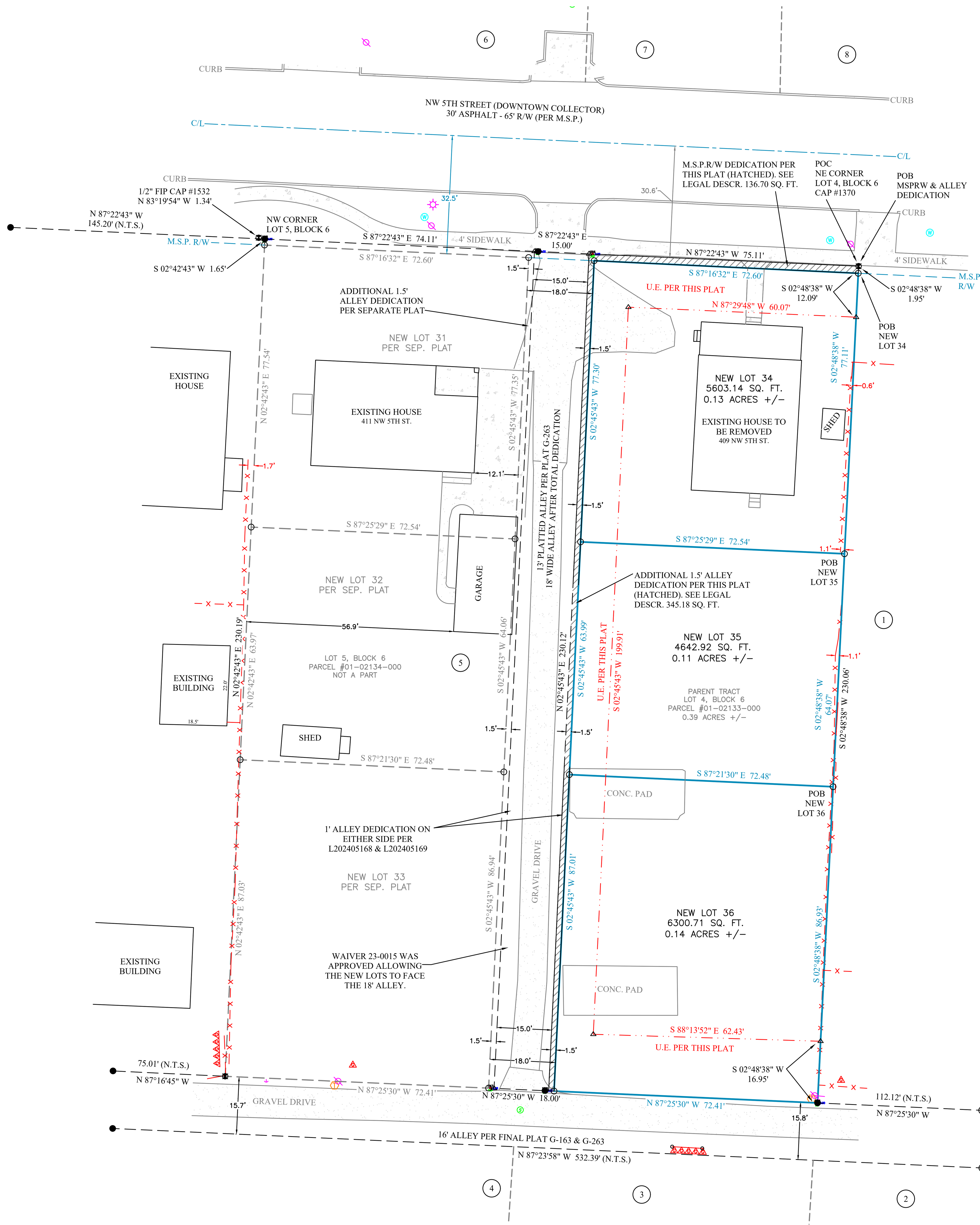
NEW LOT 34 DESCRIPTION:
A PART OF LOT 4, BLOCK 6, DEMING'S ADDITION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN IN PLAT RECORD "B" AT PAGE 6. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS, TO WIT: BEGINNING AT A POINT IN THE SOUTH RIGHT-OF-WAY IN NORTHWEST 5TH STREET WHICH IS S02°48'38"W 1.95' FROM AN EXISTING REBAR MARKING THE NORTHEAST CORNER OF SAID LOT 4 AND RUNNING THENCE ALONG THE WEST LINE THEREOF S02°48'38"W 77.11' THENCE LEAVING SAID WEST LINE N87°25'29"W 72.54' TO THE EAST LINE OF A PLATTED ALLEY, THENCE ALONG SAID EAST LINE N02°45'43"E 77.30' TO THE SOUTH RIGHT-OF-WAY IN NORTHWEST 5TH STREET, THENCE ALONG SAID RIGHT-OF-WAY S87°16'32"E 72.60' TO THE POINT OF BEGINNING, CONTAINING 0.13 ACRES, MORE OR LESS. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

NEW LOT 35 DESCRIPTION:
A PART OF LOT 4, BLOCK 6, DEMING'S ADDITION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN IN PLAT RECORD "B" AT PAGE 6. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS, TO WIT: BEGINNING AT A POINT WHICH IS S02°48'38"W 79.06' FROM AN EXISTING REBAR MARKING THE NORTHEAST CORNER OF SAID LOT 4 AND RUNNING THENCE ALONG THE WEST LINE THEREOF S02°48'38"W 64.07', THENCE N87°21'30"W 72.48' TO THE EAST LINE OF A PLATTED ALLEY, THENCE ALONG SAID EAST LINE N02°45'43"E 63.99', THENCE LEAVING SAID EAST LINE S87°25'29"E 72.54' TO THE POINT OF BEGINNING, CONTAINING 0.11 ACRES, MORE OR LESS. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

NEW LOT 36 DESCRIPTION:
A PART OF LOT 4, BLOCK 6, DEMING'S ADDITION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN IN PLAT RECORD "B" AT PAGE 6. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS, TO WIT: BEGINNING AT A POINT WHICH IS S02°48'38"W 143.13' FROM AN EXISTING REBAR MARKING THE NORTHEAST CORNER OF SAID LOT 4 AND RUNNING THENCE ALONG THE EAST LINE THEREOF S02°48'38"W 86.93', THENCE LEAVING SAID EAST LINE N87°25'30"W 72.41' TO THE EAST LINE OF A PLATTED ALLEY, THENCE ALONG SAID EAST LINE N02°45'43"E 87.01', THENCE LEAVING SAID EAST LINE S87°21'30"E 72.48' TO THE POINT OF BEGINNING, CONTAINING 0.14 ACRES, MORE OR LESS. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

MASTER STREET PLAN R/W & ADDITIONAL ALLEY DEDICATION DESCRIPTION:
A PART OF LOT 4, BLOCK 6, DEMING'S ADDITION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN IN PLAT RECORD "B" AT PAGE 6. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS, TO WIT: BEGINNING AT AN EXISTING REBAR MARKING THE NORTHEAST CORNER OF SAID LOT 4 AND RUNNING THENCE S02°48'38"W 1.95', THENCE N87°16'32"W 72.60', THENCE S02°45'43"W 228.30', THENCE N87°25'30"W 1.50', THENCE N02°45'43"E 230.12', THENCE S87°22'43"E 74.11', TO THE POINT OF BEGINNING, CONTAINING 0.01 ACRES, MORE OR LESS. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

FLOOD CERTIFICATION:
NO PORTION OF THIS PROPERTY IS LOCATED WITHIN FLOOD ZONE "A" OR "AE" AS DETERMINED BY THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP FOR BENTON COUNTY, ARKANSAS.
(FIRM PANEL #05007C0090J. DATED 9/28/2007)



CERTIFICATE OF APPROVAL:
PURSUANT TO THE BENTONVILLE LAND DEVELOPMENT CODE AND ALL OTHER CONDITIONS AND APPROVAL HAVING BEEN COMPLETED, THIS DOCUMENT IS HEREBY ACCEPTED. THIS CERTIFICATE IS HEREBY EXECUTED UNDER THE AUTHORITY OF THE SAID RULES AND REGULATIONS.

DATE OF EXECUTION: ______________________

SIGNED ______________________
BENTONVILLE PLANNING COMMISSION CHAIRMAN

SIGNED ______________________
MAYOR, CITY OF BENTONVILLE

SIGNED ______________________
CITY CLERK, CITY OF BENTONVILLE

OWNER'S CERTIFICATION:
WE THE UNDERSIGNED, OWNERS OF THE REAL ESTATE SHOWN AND DESCRIBED HEREIN, DO HEREBY CERTIFY THAT WE HAVE LAID OFF, PLATTED, AND SUBDIVIDED AND DO HEREBY LAY OFF, PLAT, SUBDIVIDE SAID REAL ESTATE IN ACCORDANCE WITH THIS PLAT AND DO HEREBY DEDICATE TO THE USE OF THE PUBLIC THE STREETS, ALLEYS, DRIVES, EASEMENTS, ETC. AS SHOWN ON SAID PLAT.

HAMHANE LLC
170 E. PROSPECT ST.
FAYETTEVILLE, AR 72701

SOURCE OF TITLE: W.D. DEED L202337509

DATE OF EXECUTION: __________

PRINTED: ______________________ SIGNED: ______________________

PROPERTY OWNER/DEVELOPER:
HAMHANE LLC
170 E. PROSPECT ST.
FAYETTEVILLE, AR 72701

CONTACT INFO:
markhaneynwa@gmail.com

ATLAS PAGE:
361

SUBSCRIBED AND SWORN BEFORE ME, THIS ____ DAY OF ______, 2024.

____
NOTARY PUBLIC

CERTIFICATE OF SURVEYING ACCURACY:
I DERRICK THOMAS, HEREBY CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS A BOUNDARY SURVEY MADE BY ME AND BOUNDARY MARKERS AND LOT CORNERS SHOWN HEREON ACTUALLY EXIST AND THEIR LOCATION, TYPE AND MATERIAL ARE CORRECTLY SHOWN AND ALL MINIMUM REQUIREMENTS OF THE ARKANSAS MINIMUM STANDARDS FOR LAND SURVEYORS HAVE BEEN MET.

DATE OF EXECUTION: ______________________

SIGNED: ______________________
REGISTERED LAND SURVEYOR NO. 1642 -
STATE OF ARKANSAS

CERTIFICATE OF AUTHORIZATION
BATES & ASSOCIATES, INC.
#1335
ARKANSAS ENGINEER

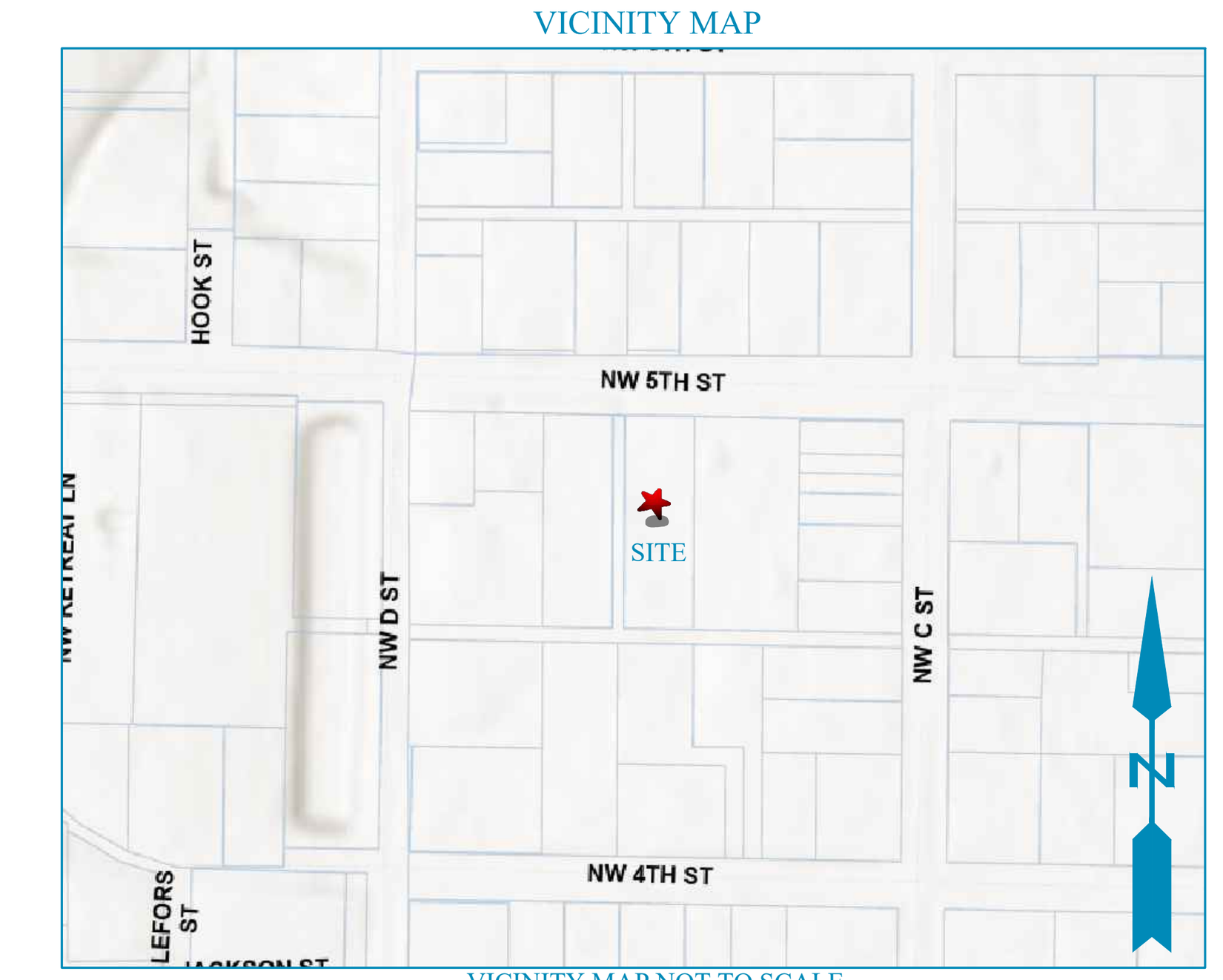
0' 20' 40' 60'
GRAPHIC SCALE (IN FEET)
1 Inch = 100ft.

I HEREBY CERTIFY THIS TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF ON THIS THE 3RD DAY OF AUGUST, 2023.

REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF ARKANSAS
NO. 1642
DERRICK L. THOMAS
SIGNATURE
DRAFT

DATE:
IF THE SIGNATURE ON THIS SEAL IS NOT AN ORIGINAL AND NOT BLUE IN COLOR THEN IT SHOULD BE ASSUMED THAT THIS PLAT MAY HAVE BEEN ALTERED. THE ABOVE CERTIFICATION SHALL NOT APPLY TO ANY COPY THAT DOES NOT BEAR AN ORIGINAL SEAL AND SIGNATURE.

VICINITY MAP



VICINITY MAP NOT TO SCALE

CITY OF BENTONVILLE PROJECT #LS24-0019

RECORDING NUMBER/DATE

DATE						
REVISION #						

LEGEND:
THESE STANDARD SYMBOLS WILL BE FOUND IN THE DRAWING.

BOUNDARY LINE (MEASURED)
TIE LINE
CENTERLINE OF ROAD
RIGHT-OF-WAY
FENCE

SANITARY SEWER MH
TELEPHONE PEDESTAL
AC CONDENSER UNIT
WATER METER
GAS METER
POWER POLE
GUY ANCHOR
LIGHT
BOLLARD

FOUND 5/8" REBAR
FOUND 1/2" REBAR
FOUND AXLE
SET 5/8" REBAR/CAP
COMPUTED POINT

BATES
Engineers · Surveyors
7230 S. Pleasant Ridge Dr. · Fayetteville, Arkansas 72704 · 479.442.9350

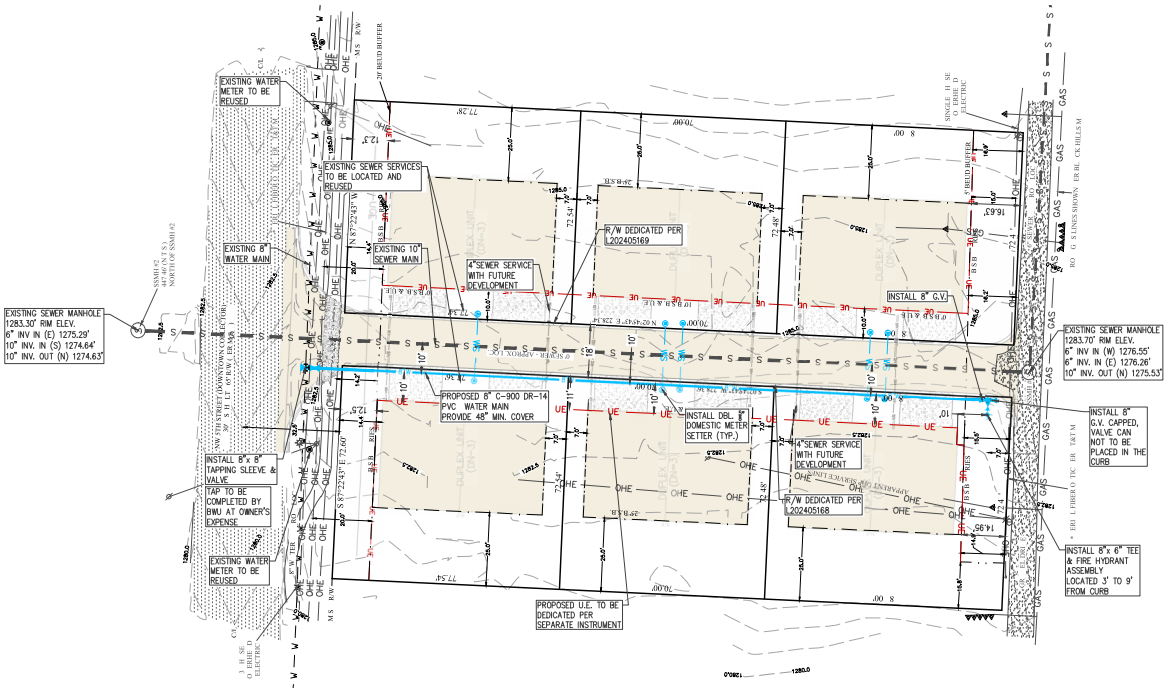
BATES & ASSOCIATES, INC. Copyright 2024
This survey was conducted for the person or persons whose name(s) appear on this plat. This plat is protected by copyright. No one including the person(s) named may reproduce this plat without the express written consent of Bates & Associates, Inc. Surveyor has made no independent investigation for easements of record, encumbrances, restrictive covenants, ownership title evidence, or any other fact which a complete and accurate title search may disclose. Any flood statement provided on this plat is for information only and Bates & Associates, Inc. assumes no liability for the correctness of the hereon cited maps, furthermore the above statement does not represent the opinion of Bates & Associates, Inc. of the probability of flooding.

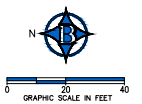
FOR USE AND BENEFIT OF:
MARK HANEY

ADDRESS:
409 NORTHWEST 5TH STREET
BENTONVILLE, ARKANSAS

DATE: 04/24/24	SCALE: 1"=20'			
LOCATION: LOT 4 BLOCK 6	SURVEYED: JRICH	DRAFTED: BA	REVIEWED: DT	COA #1335
DEMMINGS ADDITION				

DRAWING #23-061 EAST





NOTE: THE BUILDINGS, DRIVEWAYS, SEWER SERVICE, ELECTRIC, AND ALLEY IMPROVEMENTS TO BE CONSTRUCTED WITH A DIFFERENT PROJECT (FUTURE). THE PURPOSE OF THE FUTURE LAYOUT IS INTENDED TO SERVE AS AN EXAMPLE OF WHAT WILL BE PLACED.

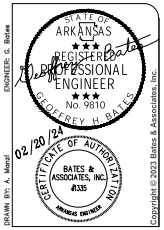
ESTIMATED SEWER FLOW:

6 DUPLEX BUILDINGS (12 UNITS)
12 x 300 GPD = 3,600 GPD

AVERAGE DAILY FLOW = 2.50 GPM
PEAK FLOW (4x) = 10.0 GPM

SITE AND UTILITY NOTES:

1. ALL CONDUITS PLACED BY CONTRACTOR MUST HAVE 48" OF COVER AT FINAL GRADE AND MARKED WITH POST TO IDENTIFY THE END OF CONDUITS. THERE MUST BE A MINIMUM SEPARATION OF 12" BETWEEN CONDUITS FOR ELECTRIC AND CONDUITS FOR OTHER UTILITIES.
2. DAMAGE TO OR RELOCATION OF EXISTING UTILITIES SHALL BE AT THE DEVELOPERS EXPENSE.
3. TREES MUST BE LOCATED 5' FROM PUBLIC UTILITIES.
4. ALL IRRIGATION METERS WILL REQUIRE RP-TYPE BACKFLOW PREVENTERS.
5. ALL TRENCHING AND BEDDINGS SHALL BE IN ACCORDANCE WITH BENTONVILLE'S TYPICAL BEDDING DETAIL AND BACKFILL DETAIL', UNLESS OTHERWISE NOTED ON DRAWING.
6. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.
7. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF BENTONVILLE STANDARD WATER AND SEWER SPECIFICATIONS DATED 6-22-2021, APPROVED BY ARKANSAS DEPARTMENT OF HEALTH 4-1-2021, COUNCIL APPROVED 6-22-2021, ORDINANCE 2021-135
8. BWU WILL ONLY BE COMPLETEING THE TAP FOR THE WATER MAIN EXTENSION. CONTRACTOR TO PROVIDE AND INSTALL THE SADDLE.



ENGINEER: G. Bates
DRAWN BY: A. Mendl

Copyright © 2023 Bates & Associates, Inc.

REVISIONS	DATE
1ST SUBMITTAL	09/16/23
2ND SUBMITTAL	10/12/23
3RD SUBMITTAL	12/12/23
REVISION PER BWU	02/09/24
REVISION PER R/W DEDICATION	02/20/24

411 NW 5th ST
WATER MAIN EXTENSION PLANS
WATER MAIN EXTENSION
PLAN WITH FUTURE DEVELOPMENT
BENTONVILLE, ARKANSAS

Bates & Associates, Inc.
www.mebatesinc.com Civil Engineering & Surveying
7230 S. Pleasant Ridge Dr-Fayetteville, Arkansas 72704 • 479.442.9350 • Fax 479.521.9350

PROJECT NO 23-061

DRAWING NO 03

ORDINANCE NO._____

AN ORDINANCE ACCEPTING A LOT SPLIT OF LOT 4, BLOCK 6 OF DEMING'S ADDITION CREATING NEW LOTS 34, 35, AND 36 OF DEMING'S ADDITION TO THE CITY OF BENTONVILLE, ARKANSAS; AND FOR OTHER PURPOSES. (PROJECT NUMBER: LS24-0019)

WHEREAS, pursuant to the provisions of the Land Development Code of the Bentonville Municipal Code, the lot split of LOT 4, BLOCK 6 OF DEMING'S ADDITION creating new LOTS 34, 35, AND 36 OF DEMING'S ADDITION, Benton County, Arkansas, was submitted to the Bentonville Planning Commission on May 21, 2024;

WHEREAS, said lot split is attached hereto as Exhibit "A";

WHEREAS, the Bentonville Planning Commission considered said lot split on the date stated, and at other times, and voted to recommend the approval of said lot split to the City Council; and

WHEREAS, the lot split of real property as described herein has been submitted to the City Council of the City of Bentonville and, after consideration and deliberation, said Council is of the opinion that said lot split should be approved.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the lot split of LOT 4, BLOCK 6 OF DEMING'S ADDITION creating new LOTS 34, 35, AND 36 OF DEMING'S ADDITION to the City of Bentonville, Arkansas, should be and the same is hereby accepted and approved for all purposes;

Section 2: That the Mayor and City Clerk be and are hereby authorized and directed to evidence the acceptance of said lot split by certifying said acceptance on the approved lot split;

Section 3 - Severability Provision: If any part of this Ordinance is held invalid, the remainder of this Ordinance shall continue in effect as if such invalid portion never existed; and

Section 4 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Ordinance are repealed to the extent of such conflict.

PASSED AND APPROVED this_____ day of _____, 2024.

APPROVED:

_____

Stephanie Orman, Mayor

ATTEST:

_____

Malorie Marrs, City Clerk

Benco 12, LLC for Parc Flex, The Parc at Bentonville (Amendment)

Southwest Regional Airport Boulevard & Southwest Prime Avenue

PC Date: 5/21/2024

Staff Report Details

Project Number	PUD24-0001
Applicant / Current Owner	Phil Swope for Benco 12, LLC
Site Area	+/- 12.47 Acres
Current Zoning	Planned Unit Development (PUD)
Requested Zoning	Amendment to the original PUD
Current Future Land Use Map Designation	High Density Residential (HDR)
Requested Future Land Use Map Designation	N/A
Development Type / Use	Flex Space
Related projects	N/A

Property Description

The property is currently zoned Planned Unit Development (PUD) and is undeveloped.

Project Details

The applicant has proposed an amendment to The Parc at Bentonville Planned Unit Development that was originally approved by the Planning Commission on December 16, 2014. The original PUD consisted of 4 separate phases. Phase 1 consisted of 216 apartments in 9 buildings and has already been constructed. Phase 2 included the construction of the public street along the rear of the commercial/office lots and the installation of utilities to those lots which has also been completed. Phases 3 and 4 would consist of the development of the commercial and office out lots that front onto Southwest Regional Airport Boulevard.

The applicant has proposed to amend the phasing of the PUD by combining phase 3 and 4 into one phase (Phase 2) and developing the public street and utilities along with the development of two commercial buildings on the commercial/office out lots. The remainder of the commercial out lots fronting Southwest Regional Airport Boulevard will be developed in a later phase or phases.

The proposed out lot development is divided into two different use types. The interior or rear lots (lots 1-

Project Details

4) are planned to be flex-type building use. This could be a combination of equipment/vehicle and material storage, plus small offices. According to the applicant, the ideal tenant would have employees who park here, and work elsewhere (on their jobsite). Parking assumes a mix of warehouse and office occupancy. The out lots (lots 5-12) are planned to be a variety of uses: retail, office, medical or any other typical C-2 uses as listed in the City of Bentonville zoning code. Parking assumes General Business-type occupancy for lots 5-12. The subsequent LSD project will have two proposed phases: phase one is lot 1 (north-most flex building lot), and phase 2 would be all the remaining lots. Timing for phase 1 is immediate. Phase 2 timing is not yet known.

All other elements of the originally approved PUD (open space, materials, utilities, drainage, density and proposed uses and maintenance) will remain the same as they were originally approved.

The dedicated open space/common area of Lot 1 is +/-41.3 %. Furthermore, the total green space for Lots 1-12 would be +/-35.6 at complete build out, both of which exceed the PUD requirement. A more in depth analysis of the dedicated green space throughout the entire project can be found on the included site plan.

The approved building materials for the original approved PUD were brick, glass, 4-coat stucco, and architectural metal panels. The proposed amendment plans to adhere to these approved materials.

Relationship to the General Plan / Projected Traffic Impact

The site is located along an Arterial Street. As the land use develops from a presently vacant site to a mixed-use development, traffic will likely increase. However, due to the mix of uses proposed, trips per day should be reduced with the development of the commercial/office lots.

Public Comment

Has Staff received Public Comment at the time of this report? : **No**

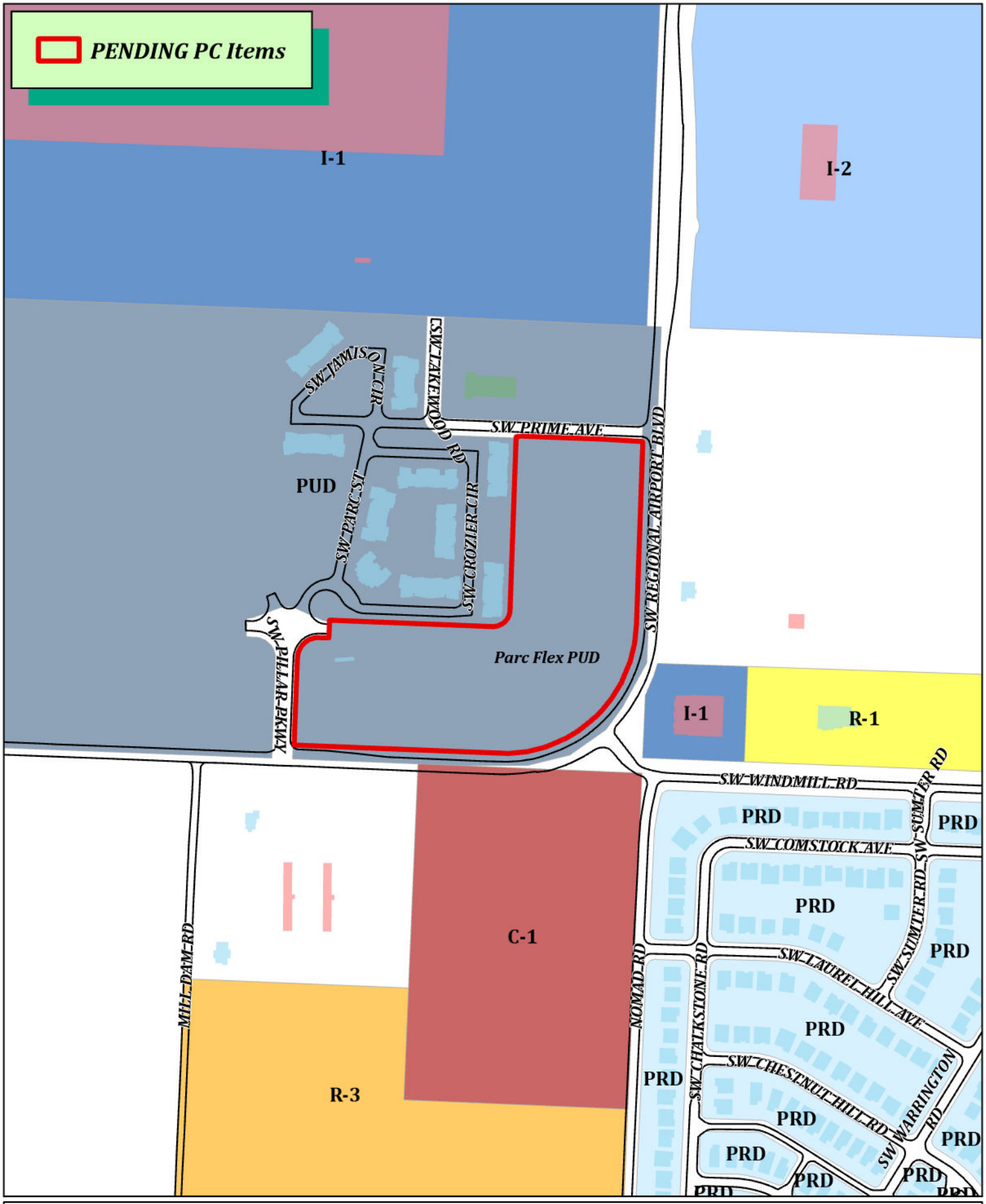
Analysis / Waivers

The proposed zoning promotes a mix of uses. Per the Bentonville Community Plan, the city should encourage a mix of uses that will help decrease traffic congestion by providing goods and services within the same development. Water and Sewer infrastructure is adequate for the proposed use, However some public utility infrastructure upgrades may be necessary.

Conclusion

Staff recommends approval of this PUD with the following conditions, as it follows the intent of the Bentonville Community Plan and aligns with the land use designation and proposed uses that were set fourth in the originally approved PUD.

Conditions of approval:
1. Allowable uses for lots 1-4 be those uses permitted in the C-2 zoning district.
2. Wood and metal panel materials will have a minimum 30-year warranty.



N
W E
S

PUD24-0001
Parc Flex PUD
REZONE PUD to PUD

SWOPE
ENGINEERING
Civil Engineering and Land Surveying
www.swopeengineering.com

April 5th, 2024

City of Bentonville
305 SW A Street
Bentonville, AR

RE: Rezone, Parc Flex PUD

Planning Department,

The future development of The Parc Lot 5 is divided into two different use types. The inner, new 4 lots (lots 1-4) are planned to be flex-type building use. This could be a combination of equipment/vehicle and material storage, plus small offices. The ideal tenant would have employees who park here, and work elsewhere (on their jobsite). Parking assumes a mix of warehouse and office occupancies.
The outlots (lots 5-12) are planned to be a variety of uses: retail, office, medical or any other typical C-2 uses. Parking assumes General Business-type occupancy.
The project has two proposed phases: phase one is lot 1 (north-most flex building lot), and phase 2 would be all the remaining lots. Timing for phase 1 is immediately. Phase 2 timing is not yet known- and will be economy-dependent.

Sincerely,

[redacted]

Phil Swope, PE
Project Engineer

LEGEND

FEATURE LINES AND SURVEY SYMBOLS	UTILITY SYMBOLS	HATCHES
PROPERTY LINE	FLARED END SECTION	ASPHALT
OFFSITE PROPERTY LINE	CURB INLET	CONCRETE
CENTERLINE OF ROAD	AREA INLET	FLOOD ZONE
RIGHT-OF-WAY	JUNCTION BOX	GRAVEL
FENCE	GRATE INLET	OPEN SPACE
ACCESS EASEMENT	SANITARY SEWER	
BUILDING SET BACK	SEWER SERVICE	
UTILITY EASEMENT	FIRE HYDRANT ASSEMBLY	
CURB AND GUTTER	WATER VALVE	
ASPHALT PAVEMENT	WATER SERVICE	
SET/FOUND REBAR	WATER METER	
SET/FOUND NAIL	POWER POLE	
FENCE CORNER POST	LIGHT	
FOUND STONE	ELECTRICAL BOX	
STATE MONUMENT	TELEPHONE PEDESTAL	
SET/FOUND ALUM. MONUMENT	GAS METER	
SET/FOUND COTTON SPINDLE		
SET / FOUND P/K NAIL		
RAILROAD SPIKE		
BENCH MARK (ELEV.)		

THIS LEGEND MAY CONTAIN SOME SYMBOLS NOT SHOWN WITHIN THE PLAN OR PLAT VIEW

GRAPHIC SCALE

0 50' 100'

1 inch = 50 feet

LOT INFORMATION								20%		
LOT NUMBER	LOT SF	LOT AC	BLDG. SIZE	USE	PARKING REQUIREMENTS	REQD. PARKING	PROV. PARKING	REQD. GREEN SPACE	PROV. GREEN SPACE	PROV. G.S. %
1	73,676.8 SQ. FT.	1.69 AC	16,944 SQ. FT.	FLEX	BUSINESS:1/300 WAREHOUSE: 5+1/2000	27	57	14,735.36 SQ. FT.	30,460.01 SQ. FT.	41.3%
2	69,591.6 SQ. FT.	1.60 AC	16,944 SQ. FT.	FLEX	BUSINESS:1/300 WAREHOUSE: 5+1/2000	27	56	13,918.32 SQ. FT.	24,413.38 SQ. FT.	35.1%
3	79,900.0 SQ. FT.	1.83 AC	16,944 SQ. FT.	FLEX	BUSINESS:1/300 WAREHOUSE: 5+1/2000	27	79	15,980.0 SQ. FT.	27,234.37 SQ. FT.	34.1%
4	77,145.5 SQ. FT.	1.77 AC	16,944 SQ. FT.	FLEX	BUSINESS:1/300 WAREHOUSE: 5+1/2000	27	43	15,429.1 SQ. FT.	33,979.36 SQ. FT.	44.0%
5	32,053.3 SQ. FT.	0.74 AC	6,653 SQ. FT.	GB/RS	parking counted at 1/250sf	27	17	6,410.66 SQ. FT.	12,318.25 SQ. FT.	38.4%
6	17,299.8 SQ. FT.	0.40 AC	5,969.9 SQ. FT.	GB/RS	parking counted at 1/250sf	24	13	3,459.98 SQ. FT.	4,692.02 SQ. FT.	27.1%
7	27,517.8 SQ. FT.	0.63 AC	11,178 SQ. FT.	GB/RS	parking counted at 1/250sf	45	18	5,503.57 SQ. FT.	5,256.84 SQ. FT.	19.1%
8	49,554.6 SQ. FT.	1.14 AC	6,778 SQ. FT.	GB/RS	parking counted at 1/250sf	28	34	9,910.92 SQ. FT.	22,045.67 SQ. FT.	44.5%
9	42,773.5 SQ. FT.	0.98 AC	9,004 SQ. FT.	GB/RS	parking counted at 1/250sf	37	29	8,554.70 SQ. FT.	16,467.86 SQ. FT.	38.5%
10	27,237.3 SQ. FT.	0.63 AC	11,480 SQ. FT.	GB/RS	parking counted at 1/250sf	46	17	5,447.47 SQ. FT.	5,112.78 SQ. FT.	18.8%
11	21,221.5 SQ. FT.	0.49 AC	8,050 SQ. FT.	GB/RS	parking counted at 1/250sf	33	14	4,244.3 SQ. FT.	4,075.61 SQ. FT.	19.2%
12	20,232.8 SQ. FT.	0.46 AC	7,000 SQ. FT.	GB/RS	parking counted at 1/250sf	28	9	4,046.57 SQ. FT.	5,645.87 SQ. FT.	27.9%
TOTALS	538,204.9 SQ. FT.	12.36 AC	133,888.9 SQ. FT.			376	382	107,640.95 SQ. FT.	191,702.02 SQ. FT.	35.6%

GB/RS General Business/Retail Services (parking counted at 1/250sf)

B/PO Business/Professional Office (parking counted at 1/300sf)

FLEX 25% counted as Office (1/300) and 75% counted as warehouse (5+1/2000sf)

LOTS 9, 10, 11 & 12 require adjacent excess parking from lots 1, 2 & 3.

LOTS 5, 6 & 7 require adjacent excess parking from lots 3 & 4.

For FLEX BUILDINGS constructed first, front parking will exceed 40% until the frontage lots are developed. This places all parking in rear/sides of the development at ultimate buildout.

PUD Minimum Setback Requirements LOTS 1-4						
District	Front		Side		Rear	
	Parking in front	No parking in front	Adjacent to non-residential district	Adjacent to residential district	Adjacent to non-residential district	Adjacent to residential district
PUD	20'	20'	7.5'	7.5'	70'	70'

PUD Minimum Setback Requirements LOTS 5-12						
District	Front		Side		Rear	
	Parking in front	No parking in front	Adjacent to non-residential district	Adjacent to residential district	Adjacent to non-residential district	Adjacent to residential district
PUD	20'	20'	7.5'	7.5'	30'	30'

*Where setbacks meet easements, Easement lines become setbacks. (See Lot 4)

PUD NOTES

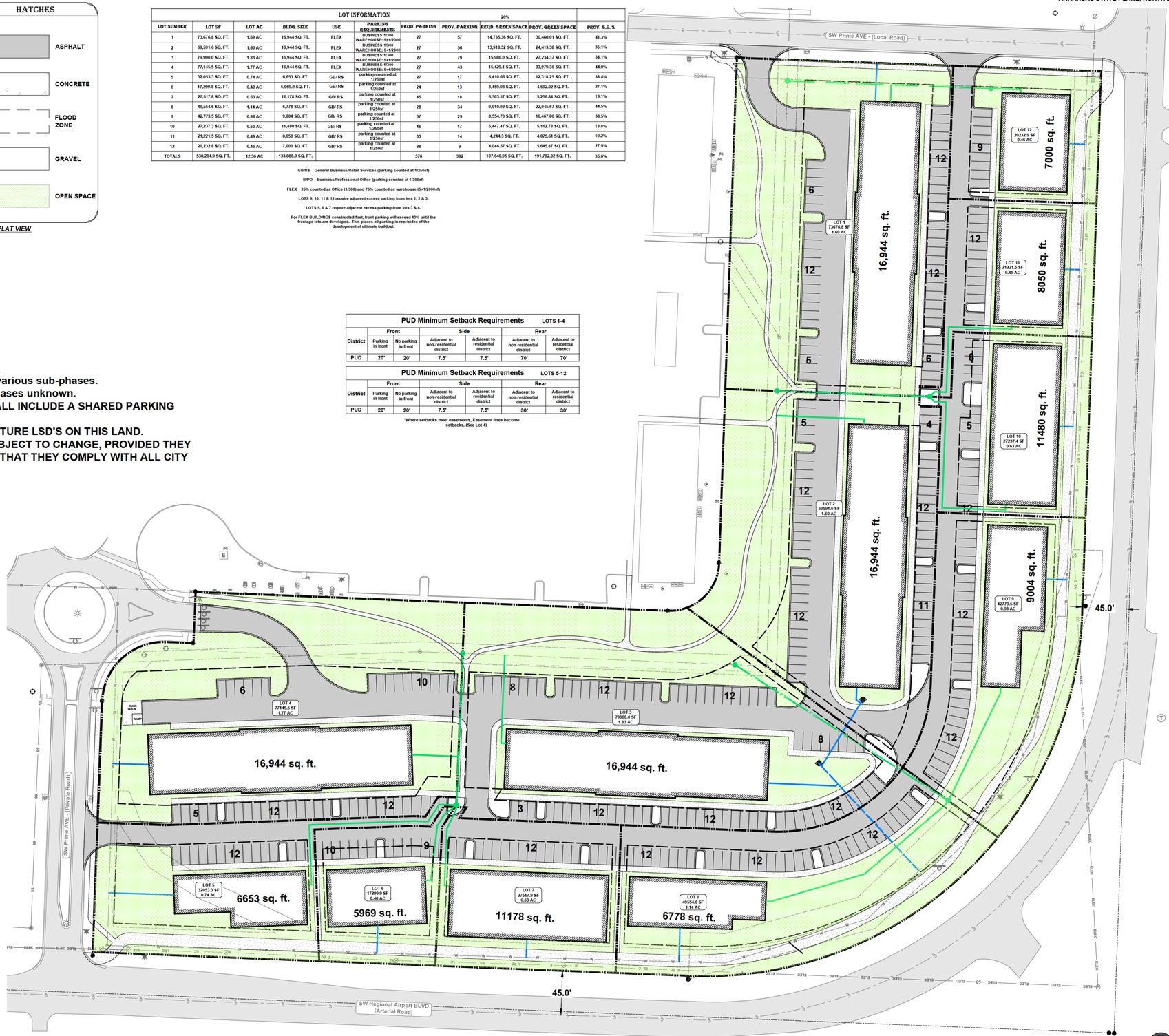
1. Phase 1 consists of Lot 1, Phase 2 may be broken into various sub-phases.
2. Timing of phase 1 is immediate. Timing of remaining phases unknown.
3. ALL FUTURE PLATTING OF THE INDICATED LOTS SHALL INCLUDE A SHARED PARKING AGREEMENT BETWEEN LOTS.
4. ALL BUILDING DESIGN REQUIREMENTS APPLY TO FUTURE LSD'S ON THIS LAND.
5. ALL USES, LAYOUTS AND PARKING COUNTS ARE SUBJECT TO CHANGE, PROVIDED THEY MEET C-2 USES BY RIGHT, PUD REQUIREMENTS AND THAT THEY COMPLY WITH ALL CITY CODES.

BUILDING MATERIALS

Including but not limited too; Brick, Glass, Stucco, Architectural Metal Panels, Metal Accents.
ALL MATERIALS AS PERMITTED BY CITY REQUIRED BUILDING MATERIALS

BUILDING USE

All C-2 uses for all lots.



PROJECT ENGINEER

PHIL SWOPE, P.E.
SWOPE CONSULTING
7 HALSTED CIRCLE, SUITE 210
ROGERS, ARKANSAS 72756
479.685.8399 OFFICE

FLOOD INFORMATION

THIS PROPERTY DOES NOT LIE IN ZONE 'A/AE' (SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD) AS DETERMINED FROM THE F.I.R.M. MAPS OF BENTON COUNTY, ARKANSAS, AND INCORPORATED AREAS, MAP NUMBER 05007C0235K, EFFECTIVE DATE JUNE 05, 2012.

BASIS OF BEARING:
ARKANSAS STATE PLANE, NORTH ZONE (NAD 83)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No.11426
PHILLIP R. SWOPE

PUD

PARC FLEX

BENCO 12 LLC
SW REGIONAL AIRPORT BLVD
BENTONVILLE, AR 72712

NO.	DATE	REVISION
1	03/14/2024	FIRST SUBMITTAL
2	04/25/2024	SECOND SUBMITTAL
–	———	———

SWOPE ENGINEERING
Civil Engineering and Land Surveying
www.swopeengineering.com

DRAWN BY: PHIL
JOB NUMBER: 23-114
SUBMITTAL DATE: 05/20/2024
CITY NUMBER: ####
DRAWING NAME: 23-114PUD.DWG
SHEET NUMBER: C2.0

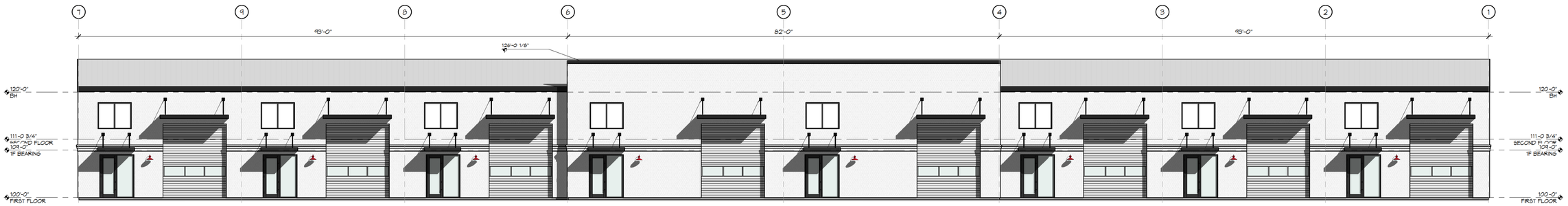
811 Know what's below. Call before you dig.

R:_SWOPE\23-114 PARC FLEX SPACE\CIVIL DRAWINGS\23-114PUD.DWG - PLOTTED ON 5/20/2024 11:52:44 AM @ A SCALE OF 1:1 TO DWG TO PDF.PC3 BY PHIL SWOPE





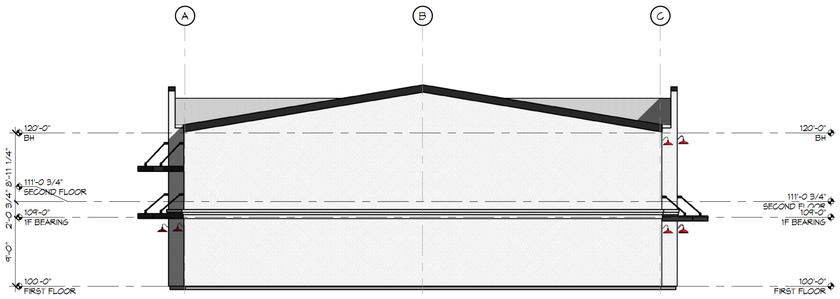




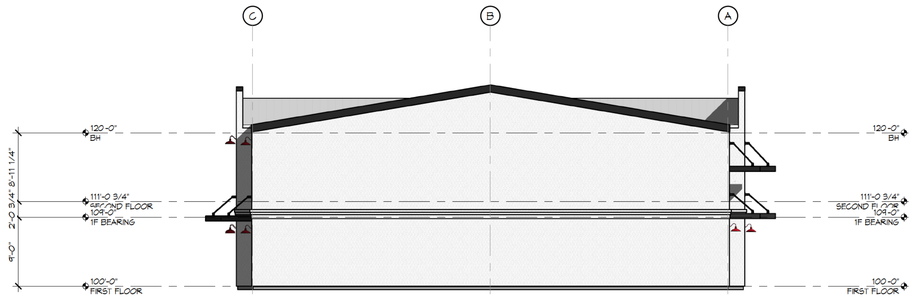
4 NORTH ELEVATION COLOR
1/8" = 1'-0"



3 SOUTH ELEVATION COLOR
1/8" = 1'-0"



2 WEST ELEVATION COLOR
1/8" = 1'-0"



1 EAST ELEVATION COLOR
1/8" = 1'-0"

EXTERIOR MATERIALS LEGEND

- CONCRETE STUCCO - WHITE
- METAL ACCENT TRIM, DOWNSPOUTS, GUTTERS, COLOR - BLACK
- PREFINISHED METAL ROOF ASH GRAY
- DOUBLE PANE - LOW E - TINTED GLAZING

PRELIMINARY
NOT FOR CONSTRUCTION

PB-FLEX
ADDRESS
BENTONVILLE, AR

Burris Architecture
820 Tiger Blvd, Bentonville, Ar 72712
479-636-3551

DATE 3-28-24
JOB NO. 23062
REVISIONS

A7.0
COLOR ELEVATIONS

THIS DRAWING AND THE DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF SERVICE, IS AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT. ANY REPRODUCTION, USE, OR DISCLOSURE OF THE PROPRIETARY INFORMATION CONTAINED HEREIN WITHOUT THE PRIOR CONSENT OF THE ARCHITECT IS STRICTLY PROHIBITED. ALL DRAWING, SPECIFICATION, IDEAS, DESIGNS AND ARRANGEMENTS APPEARING HEREON CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF THE ARCHITECT AND SHALL BE RETURNED TO HIM UPON COMPLETION OF THE CONSTRUCTION WORK. THIS DRAWING REMAINS THE PROPERTY OF THE ARCHITECT AND SHALL NOT BE USED ON THIS PROJECT, EXCEPT BY AGREEMENT IN WRITING AND APPROPRIATE COMPENSATION TO THE ARCHITECT.

PC Meeting of: December 16, 2014

The City of Bentonville, Arkansas

305 S.W. "A" Street
Bentonville, AR 72212
Telephone: (479) 271-3126
Fax: (479) 271-5906

Planning Commission Staff Report
REZONING: The Parc at Bentonville, A-1, Agricultural to PUD, Planned Unit Development

TO:	City of Bentonville, Arkansas Planning Commission
FROM:	Jon Stanley, Planner
THRU:	Troy Galloway, AICP, Community Development Director
DATE:	December 16, 2014

ORIGINAL

GENERAL INFORMATION

H.T.E. Project Number: 14-13000001

Applicant/Current Owner: TCI Bentonville Inc.

Representative: Phil Swope (Swope Consulting)

Requested Action: Rezoning

Location: Southwest Regional Airport Boulevard

Existing Zoning: A-1, Agricultural

Proposed Zoning: PUD, Planned Unit Development

Future Land Use Map Designation: Industrial

BACKGROUND / HISTORY

The applicant has proposed a Planned Unit Development at this location to be known as The Parc at Bentonville. The PUD would cover 79.66 acres and would consist of commercial and multifamily residential developments. The applicant has proposed four phases to the project. Phase 1 would consist of 216 apartments in 9 buildings. Easement will be dedicated along the rear of the commercial property and utilities will be extended along said line to connect to the property to the north. Phase 2 includes the construction of the public street along the rear of the commercial lots and the installation of utilities to those lots. Phases 3 and 4 would consist of apartments and commercial with the final phase completed 5-7 years from the beginning of Phase 1.

The maximum multifamily residential density would be 20 units/acre. The applicant is also proposing a 4,900 square foot leasing center near the entrance to the project. Proposed project accessories include a trash compactor, four 6-car garages, a maintenance structure near the entrance, and a total of 44 carports spread evenly throughout the site. The apartment building will consist of fiber cement siding with manufactured stone accents. The commercial uses are consistent with the uses allowed in the C-2, General Commercial zoning district at time of zoning.

A 5' side landscape buffer between commercial properties is proposed while a 20' landscape buffer will be installed along the rear property lines. The 20' buffer shall be common open property and will consist of a meandering trail with benches every 300'. All landscaping requirement shall meet the provision of section 1400 Landscaping.

Property Description/Site Inspection: A site inspection was completed; this property is currently vacant in a developing area.

Previous Rezoning Requests for this Property: There are no known rezonings for his property.

SURROUNDING LAND USES & ZONINGS:

Direction	Current Land Use	Existing Zoning	Future Land Use Map Designation
North	Agriculture	A-1, Agricultural	Industrial
South	Benton County	N/A (Benton County)	Agriculture and Office
East	Benton County	N/A (Benton County)	Commercial
West	Benton County	N/A (Benton County)	Agriculture

SURROUNDING STREETS AND CLASSIFICATIONS:

Direction	Name	Master Street Plan Classification	Current Condition
North			
South	Southwest Regional Airport Boulevard	Arterial	2 lane asphalt with shoulders
East	Southwest Regional Airport Boulevard	Arterial	2 lane asphalt with shoulders
West			

LEGAL NOTIFICATIONS

Public Notice: On **November 14, 2014**, the property owner and/or representative mailed certified public notices to property owners within a 200 foot radius of the subject site and staff published legal notice in the Arkansas Democrat-Gazette, Northwest Arkansas Addition on **November 14, 2014**. In addition, staff posted a notice of public hearing sign on the property on **December 1, 2014**. This **DOES** meet legal noticing requirements and are adequate for the scope of this rezoning application.

RELATIONSHIP TO THE GENERAL PLAN AND FUTURE LAND USE MAP

1. A determination of the degree to which the proposed zoning is consistent with land use planning objectives, principles, and policies and with land use and zoning plans.

Finding(s) of Staff: The proposed zoning promotes a mix of uses. Per the general plan the city should encourage a mixed of uses that will help decrease traffic congestion by providing goods and services within the same development.

2. A determination as to whether the proposed zoning would create or increase traffic danger and congestion.

Finding(s) of Staff: The proposed Southwest Regional Airport Boulevard improvements will help facilitate a decrease in traffic congestion in this area. Due to the mix of uses within the development trips per day should be reduced with the development of the commercial lots.

3. A determination as to whether the proposed zoning would significantly alter the population density and thereby undesirably increase the load on public services including schools, emergency services, and water and sewer facilities.

Finding(s) of Staff: Water and Sewer infrastructure is adequate for the proposed use. A sewer main will be upgraded to handle the additional demand.

ORIGINAL

STAFF RECOMMENDATION

Staff has reviewed this application and based on the findings presented in this staff report, staff recommends **APPROVAL** of the rezoning from **A-1, Agricultural** to **PUD, Planned Unit Development** as submitted by the applicant.

THE PARC AT BENTONVILLE
PLANNED UNIT DEVELOPMENT
DEVELOPMENT STANDARDS

A. General Description

The proposed request would rezone approximately 74 acres fr A-1 to PUD for a multi-purpose development of both comm cial and mu fami residential zones.

Owner/Developer: TCI BENTONVILLE INC
1603 LBJ Freeway, Suite 00
Dallas, TX 75

B. District Purposes

1. **Reason**
   The request change s proposed to a w for construction of a 216-unit gated apartm nt comm ni along with commercial lots that will be available fo development n support of the new adjacent residents.
2. **Intent**
   The l ndsc s are d igned in a very visually-appealing way. Their c figurati n on the te is clustered to allow for large open g herin
3. **Utili**
   re is already water service to this site, and the main lines will be ext ded through each phase, as they develop.
   Sew will be also extended through the site, however, a few offsite ext sions are first required.
   e sewer line located south of the site's southwest corner is the best place to extend from. This will be the deepest location of sewer, which will allow for full gravity service to the whole site.

ORIGINAL

4. **Drainage**
   All runoff of this site drains from east to west. For phase 1, a detention basin is proposed on the phase's west side, which will collect all runoff from the apartments and phase 1 commercial lots. Future phases will have to provide their own detention.

C. Bulk and Area Requirements

1. **Density**
   The multi-family density is proposed to be 20 units per ac[illegible] maximum. The commercial density
2. **Lot and Area Requirements**
   Other than the restrictions listed below, all of the [illegible] buffers, setbacks and lot coverages shall a[illegible]ly.

C-2 max lot coverage:	65%
Perimeter buffer:	5 feet
Front setback:	20 f[illegible]et
Side/rear setbacks:	10 fe[illegible]

D. Development Crite[illegible]a

1. **Architectural Desig[illegible] Criteria**
   The Parc at B[illegible]onvi[illegible]s desig[illegible]d in the Colonial Revival architectural sty[illegible] This is reflected in the combination of gable and hip r[illegible]s, t[illegible] use o[illegible]ormers, open balconies with stand-alone c[illegible]mns, a[illegible] arched o[illegible]enings at selected locations. This is a co[illegible]mon[illegible]ame[illegible]tyle, drawing upon elements from various colon[illegible]styles popular in the 17th-18th centuries. Horizontal siding is c[illegible]mon[illegible]used as the primary exterior material, often in com[illegible]nation with brick or stone masonry as an accent material. The mix o[illegible]materials on the Parc at Bentonville is true to the style, using prim[illegible]rily horizontal fiber cement siding along with cultured stone [illegible]cents near the base of the buildings. Because of the long term, widespread use of Colonial Revival architecture, we feel our project will fit in nicely with the architectural variety found in Bentonville.

ORIGINAL

The project consists of nine three story apartment buildings which contain a total of 216 one and two bedroom apartments with an average square footage of 939 square feet. A 4,900 square foot leasing center is also oriented at the entry to the project featuring the same architectural style as the apartment buildings. In accessory to the project the site contains a trash compactor which is enclosed in split face cmu, four 6-car garages, a mail structure near the site entry, and a total of 44 carports spread evenly throughout the site.

2. **Commercial Open Area**
   To achieve the open area requirements, a band of 20% total lot area is designated in the back of all commercial lots.
   This green "belt" is intended to be constructed with curvilinear sidewalk and one sitting bench every 300'. These will be built with the road during phase 2.
3. **Maintenance of Private/Common Areas and Facilities**
   All streets, drives, storm drainage, detention facilities and green space that does not lie within a public right-of-way or easement will be privately maintained. That maintenance will be the responsibility of the apartments' management agency.

ORIGINAL


ORIGINAL
PUD THE PARC
SW REGIONAL AIRPORT BLVD
SWYMADMILL
RD
MILL DAM RD
NOMAD RD
N
W
E
S
1 inch = 350 feet
PLANNED UNIT DEVELOPMENT
THE PARC @ BENTONVILLE
14-13000001
BENTONVILLE

ORDINANCE NO. _____

AN ORDINANCE AMENDING ORD 2015-004; AND FOR OTHER PURPOSES.
(PROJECT NUMBER: PUD24-0001)

WHEREAS, on January 12, 2015 City Council approved Ordinance 2015-004 creating PUD14-13000001;

WHEREAS, Benco 12 LLC has filed a petition to further amend PUD14-13000001 with a PUD24-0001;

WHEREAS, public notice of said hearing having been published in the Northwest Arkansas Democrat-Gazette for the time and in the manner required by law;

WHEREAS, the Planning Commission duly met and considered the application and duly set the petition for public hearing to be held May 21, 2024 in the Council Chambers of the City of Bentonville;

WHEREAS, the amendments include phasing changes; and

WHEREAS, the Planning Commission voted to recommend to the City Council that the petition be approved and that said PUD be amended as shown on the attached "Benco 12, LLC for Parc Flex, The Parc at Bentonville (Amendment)."

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the above described PUD is hereby amended in accordance with the city zoning laws and state laws;

Section 2 - Severability Provision: If any part of this Ordinance is held invalid, the remainder of this Ordinance shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Ordinance are repealed to the extent of such conflict.

PASSED AND APPROVED this_____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, Mayor

ATTEST:

_____
Malorie Marrs, City Clerk