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ADDENDUM NO. 3

DATE: July 28, 2026

PROJECT: Water Line Improvements
Sardis Water Association

BID DATE: August 12, 2026, 1:00 PM

This Addendum forms a part of the Contract Documents and modifies the original documents provided to Bidders, as noted below. Acknowledge receipt of this Addendum in the space provided in the BID FORM. Failure to do so may subject the Bidder to disqualification.

The Contract Documents for the above Project are hereby amended as follows:

ITEM #1: BID FORM,

Bid Form is hereby changed as follows:

See new attached Bid Form.

ITEM #2: Specifications – 012200 – Measurement & Payment

Measurement & Payment is hereby changed as follows:

See new attached Measurement & Payment

ITEM #3: Specifications – 221210 – Pressure Control Valves

See new Specification 221210 - Pressure Control Valves.

ITEM #4: Drawings

See attached new issued drawings.

Attachments:

1. Bid Form
2. Specification 012200 – Measurement & Payment
3. Specification 221210 – Pressure Control Valves
4. Reissued Drawings

END OF ITEMS

All other provisions of the Contract Documents remain unchanged. Acknowledge receipt of this Addendum on the BID FORM.

CRIST ENGINEERS, INC.

Trevor Voegele, P.E.
Project Engineer

DOCUMENT 004100

BID FORM

SARDIS WATER ASSOCIATION
MABELVALE, ARKANSAS

WATER LINE IMPROVEMENTS
ISSUED AS PART OF ADDENDUM 3

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Sardis Water Association
23820 N. Sardis Road
Mabelvale, AR 72103

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

Addendum No.	Addendum, Date

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data

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are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents and confirms that the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.

J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the e execution of the Contract.

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ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Bid Schedule – Sardis Water Line Improvements Sardis Water Association					
ITEM NO.	**ITEM DESCRIPTION**	**UNIT**	**EST QTY**	**UNIT PRICE**	**ITEM PRICE**
1	12" CL 250 Ductile Iron Water line	LF	550	$	$
2	12" SDR 21 PVC Water line	LF	10,850	$	$
3	12" SDR 21 PVC Water line by Bore without Casing	LF	220	$	$
4	24" Steel Encasement - bored	LF	150	$	$
5	12" MJ Gate Valve and Box	EA	12	$	$
6	6" MJ Gate Valve and Box	EA	4	$	$
7	Connection to Existing 12” Water line	LS	3	$	$
8	Connection to Existing 8” Water line	LS	2	$	$
9	2” Blow Off Assembly	LS	4	$	$
10	Fire Hydrant Assembly	EA	1	$	$
11	Air Release Valve and Box Per Detail Sheet C3.5	EA	7	$	$
12	Valve Vault Including piping, valves, and accessories	LS	1	$	$
13	3" SDR 26 Valve Vault Drain Line	LF	74	$	$
14	Gravel Drive Extension Including Subgrade	LF	655	$	$
15	Silt Fencing, Misc. Erosion Control Measures, and SWPPP (As- Required)	LS	1	$	$
16	Trench and Excavation Safety System.	LS	1	$	$
17	Utility Line Route Preparation Including Clearing and Staking, Complete.	LS	1	$	$

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18	Repair of Asphalt Pavement for Water line Construction Including Full Depth Class 7 Backfill, Complete.	SQFT	1200	$	$
19	Repair of Gravel Drive for Water line Construction including Full Depth Class 7 Backfill, Complete.	SQFT	3000	$	$
20	Miscellaneous & Incidental Work Required in Specifications Not Identified Herein	LS	1	$	$
				TOTAL BID PRICE _____**Dollars (in words)**	$

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete within **180 calendar days** after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **210 calendar days** after the date when the Contract Times commence to run.

Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security;

B. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids; and

C. Contractor's License No.: _____.

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

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ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

By:
[Signature] _____

[Printed name] _____
(If Bidder 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: _____

_____

Bidder's License No.: _____

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SECTION 012200

MEASUREMENT AND PAYMENT

ISSUED AS PART OF ADDENDUM 3

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. This Section stipulates the method of measurement and payment for items of Work for which Unit Prices and Lump Sum Prices are stated in the Bid Form.

1.2 SCOPE OF PAYMENT

A. Units of measurement of items of Work for which Unit and/or Lump Sum Prices are stated will be as herein subsequently defined.

B. The estimated quantities for items of Work for which Unit Prices are given in the Bid Form are subject to variation, and payment shall be based upon the final measurement of the items of work installed and approved by the Owner for payment.

1.3 MEASUREMENT AND PAYMENT PROCEDURES

A. **Item No. 1 – 12”CL250 Ductile Iron Water line** – 12-inch Ductile Iron Water Line shall be measured and paid for by the linear footage of pipe as called for in the Bid Form, as finally installed as approved by the Engineer. Measurement will be along the centerline of the route of the water line, with measurement continuous through fittings and in-line valves. The Unit Contract Price shall be inclusive of the cost of all labor, tools, equipment, materials, consumables, and all skills and workmanship required to install the water line, complete in place. This includes but isn’t limited to the cost of the pipe, shipping, delivery, storage, cement lining, restrained jointing, exterior coatings and wraps, trenching, pipe zone bedding material, pipe fittings and restraints, permits, pipe laying and joining, thrust blocking, anchor collars, locator tape, backfill material, compaction, cleanup, disposal of waste materials, installation of utility makers, fence removal and replacement, pressure testing, bacteriological testing, and all other work incidental thereto except for that work for which separate Unit Prices are stated in the Bid Form. All trench excavation shall be “unclassified”; and no separate or special payment will be made for rock excavation encountered in trenching for pipe installation.

B. **Item No. 2 - 12" SDR 21 PVC Water line** - 12-inch SDR 21 PVC Water line shall be measured and paid for by the linear footage of pipe as called for in the Bid Form, as finally installed as approved by the Engineer. Measurement will be along the centerline of the route of the water line, with measurement continuous through fittings and in-line valves. The Unit Contract Price shall be inclusive of the cost of all labor, tools, equipment, materials, consumables, and all skills and workmanship required to install the water line, complete in place. This includes but isn’t limited to the cost of the pipe, shipping, delivery, storage, cement lining, exterior coatings and wraps, trenching, pipe zone bedding material, pipe fittings and restraints, permits, pipe laying and joining, thrust blocking, anchor collars, locator tape, backfill material, compaction, cleanup, disposal of waste materials, installation of utility makers, fence removal and replacement, pressure testing, bacteriological testing, and all other work incidental thereto except for that work for which separate Unit Prices are stated in the Bid Form. All trench excavation shall be “unclassified”; and no separate or special payment will be made for rock excavation encountered in trenching for pipe installation.

C. **Item No. 3 – 12" SDR 21 PVC Water line by Bore without Casing** – 12-inch Slick Bores installed by directional boring shall be measured and paid for by the linear footage of pipe as finally installed as approved by the Engineer. Measurement of pipe shall be “end-to-end” straight line measurement of the pipe as finally installed. Unit Contract Price shall compensate the contractor for boring streets, driveways, paved areas, retaining walls, and creeks without an encasement pipe including the cost of labor, tools, materials, delivery, boring equipment, excavation and backfilling of the boring pit, boring the hole, installing the pipe, filling the annular space around the pipe after the pipe is installed, and all other work incidental thereto. Repairs to paved surfaces caused by settlement or the boring process shall be included in this unit price. No separate or special payment will be made for rock excavation encountered during installation.

D. **Item No. 4 – 24-inch Steel Encasement, Bored** – Installation of 24-inch Bore and steel encasement installed by directional boring or dry boring (auger) and jacking method shall be measured and paid for by the linear footage of encasement pipe as finally installed as approved by the Engineer. Measurement of pipe shall be “end-to-end” straight line measurement of the encasement as finally installed. Unit Contract Price shall be inclusive of the cost of the labor, tools, materials, delivery, boring equipment, boring and jacking procedure, jointing, welding, steel encasement pipe, casing spacers, end seals, excavation and backfilling of the boring pit, and all other work incidental thereto. Carrier pipe through the encasement pipe shall be measured and paid for separately. Repairs to paved surfaces caused by settlement or the boring process shall be included in this unit price. All bore pit excavation shall be “unclassified”; and no separate or special payment will be made for rock excavation encountered.

E. **Item No. 5 – 12" MJ Gate Valve and Box,** Installation of 12-inch MJ Gate Valve shall be measured and paid for by the quantity as called for in the Bid Form, as finally installed as approved by the Engineer. This item shall compensate the Contractor for installation of gate valves including the labor, tools, equipment, materials, consumables, gate valve, cast iron valve box and cover, concrete collar, crushed stone base, valve box alignment device, operating riser, tracer wire, water valve sign, and all other work incidental thereto except for that work for which separate Unit Prices are stated in the Bid Form.

F. **Item No. 6 –6" MJ Gate Valve and Box,** Installation of 6-inch MJ Gate Valve shall be measured and paid for by the quantity as called for in the Bid Form, as finally installed as approved by the Engineer. This item shall compensate the Contractor for installation of gate valves including the labor, tools, equipment, materials, consumables, gate valve, cast iron valve box and cover, concrete collar, crushed stone base, valve box alignment device, operating riser, tracer wire, water valve sign, and all other work incidental thereto except for that work for which separate Unit Prices are stated in the Bid Form.

G. **Item No. 7 - Connect to Existing 12” Water Line** – Connect to Existing 12” Water Line shall be measured and paid for by the quantity as called for in the Bid Form, as finally installed as approved by the Engineer. The Unit Contract Price shall include of the cost of all labor, tools, equipment, materials, pipe, fittings, tapping sleeves, tapping valves, valve boxes, valve nut extension, concrete collar, concrete support, poly wrap, excavation, trenching, dewatering, thrust blocking, anchor collars, tracer wire, locating tape, cutting and capping existing water lines, bedding, backfilling, compaction, cleanup, disposal of waste materials and all other work necessary to connect to existing 12” water line except for that work for which separate Unit Prices are stated in the Bid Form. All excavation and backfilling associated with locating existing water lines shall be included in this pay item. All excavation shall be “unclassified”; and no separate or special payment will be made for rock excavation encountered.

H. **Item No. 8 - Connect to Existing 8" Water Line** – Connect to Existing 8" Water Line shall be measured and paid for by the quantity as called for in the Bid Form, as finally installed as approved by the Engineer. The Unit Contract Price shall include of the cost of all labor, tools, equipment, materials, pipe, fittings, tapping sleeves, tapping valves, valve boxes, valve nut extension, concrete collar, concrete support, poly wrap, excavation, trenching, dewatering, thrust blocking, anchor collars, tracer wire, locating tape, cutting and capping existing water lines, bedding, backfilling, compaction, cleanup, disposal of waste materials and all other work necessary to connect to existing 8" water line except for that work for which separate Unit Prices are stated in the Bid Form. All excavation and backfilling associated with locating existing water lines shall be included in this pay item. All excavation shall be "unclassified"; and no separate or special payment will be made for rock excavation encountered.

I. **Item No. 9 – 2" Blow Off Assembly** – Blow Off Assembly shall be measured and paid for by the units installed as finally approved by the Engineer. Unit Contract Price shall be inclusive of the cost of labor, tools, equipment, blow off assembly, pipe, fittings, valves, poly wrap, valve box, crushed stone base, excavation, installation, concrete backing, gravel weep, connection to water supply, backfill, cleanup, disposal of waste material, and all other work incidental thereto except for that work for which separate Unit Prices are stated in the Bid Form.

J. **Item No. 10 - Fire Hydrant Assembly** – Fire hydrant assemblies shall be measured and paid for by the units installed as finally approved by the Engineer. Unit Contract Price shall be inclusive of the cost of labor, tools, equipment, materials, consumables, fire hydrant, 6" gate valve, swivel adapters, joint accessories, cast iron valve box, concrete collar, valve box alignment device, poly wrap, excavation, permits, cleanup, disposal of waste materials, installation, backfill, gravel weep, concrete bearing block, crushed stone, and all other work incidental thereto except for that work for which separate Unit Prices are stated in the Bid Form.

K. **Item No. 11 – Air Release Valve and Box**– Air Release Valve and Box shall be measured and paid for by the units installed as finally approved by the Engineer. Unit Contract Price shall be inclusive of the cost of the labor, tools, equipment, materials, consumables, air release valve, isolation valve, piping, direct tap or saddle, corporation stop, fittings, unions, couplings, sealant, welding, vault, vault cover, vent, gravel bedding, bollard(s), excavation, installation, backfill, cleanup, disposal of waste materials, and all other work incidental thereto except for that work for which separate Unit Prices are stated in the Bid Form.

L. **Item No. 12 – Valve Vault Including piping, valves, and accessories-** Valve Vault Including piping, valves, and accessories shall be measured and paid for by the units installed as finally approved by the Engineer. Unit Contract Price shall be inclusive of the cost of the labor, tools, equipment, materials, consumables, Check valve, control valve, isolation valves, piping, direct tap or saddle, corporation stop, fittings, unions, couplings, sealant, welding, vault, vault cover, vent, gravel bedding, bollard, excavation, installation, backfill, cleanup, disposal of waste materials, and all other work incidental thereto except for that work for which separate Unit Prices are stated in the Bid Form.

M. **Item No. 13- 3" SDR 26 Valve Vault Drain Line –** 3" SDR 26 Valve Vault Drain Line, shall be measured and paid for by the linear footage of pipe as called for in the Bid Form, as finally installed as approved by the Engineer. Measurement will be along the centerline of the route of the line, with measurement continuous through fittings. The Unit Contract Price shall be inclusive of the cost of all labor, tools, equipment, materials, consumables, and all skills and workmanship required to install the line, complete in place. This includes but isn't limited to the cost of the pipe, shipping, delivery, storage, trenching, pipe zone bedding material, pipe fittings and restraints, permits, pipe laying and joining, thrust blocking, anchor collars, locator tape, backfill material, compaction, cleanup, disposal of waste materials, installation of utility makers, fence removal and replacement, pressure testing, and all other work incidental thereto except for that work for which separate Unit Prices are stated in the Bid Form. All trench excavation shall be "unclassified"; and no separate or special payment will be made for rock excavation encountered in trenching for pipe installation.

N. **Item No. 14 – Gravel Drive Extension Including Subgrade** – Gravel Drive Extension Including Subgrade shall be paid for at the stated price per linear foot for the job requirements as states in the Bid Form as approved by the Engineer. Compensation includes but is not limited to the cost of labor, tools, equipment, materials, consumables, vehicles, permits, testing, compacted subgrade, ARDOT Class 7 aggregate, all earthwork, skills, and workmanship required to haul, deliver, place, spread, and compact the gravel drive extension in the area shown on the Drawings.

O. **Item No. 15 - Silt Fencing, Misc. Erosion Control Measures, and SWPPP (As-Required) -** Preparation of the Storm Water Permit, Pollution Prevention Plan, and Erosion Control shall be paid for at the stated lump sum amount for the job requirement as stated in the Bid Form. The lump sum amount shall include all labor, equipment, tools, cost of storm water permit fees, preparation of storm water permit and pollution prevention plan, erosion and siltation control, berms, barriers and filters, silt fencing, straw, stormwater inlet and outlet protection, corrugated metal stormwater piping, sediment traps, compliance with all aspects of the storm water permit and pollution prevention plan, water for vegetation, and all other costs related to the work called for in the drawings and specifications. This lump sum amount shall be paid based upon the percentage of construction that is completed excluding materials stored.

P. **Item No. 16 - Trench Excavation and Safety System** - Excavation and trench safety systems shall be paid for at the stated lump sum amount for the job requirement as stated in the Bid Form. The lump sum amount shall include all labor, equipment, tools, materials, sheeting, shoring, bracing, permits, and all appurtenances necessary to comply with all safety standards in accordance with the requirements of both OSHA and the Contract Documents. This lump sum amount shall be paid based upon the percentage of pipe that is installed and completed.

Q. **Item No. 17 - Utility Line Route Preparation Including Clearing and Staking, Complete**.- Utility Line Route Preparation including clearing and staking shall include Clearing and Grubbing of the pipeline and staking alignment and shall be paid for at the stated lump sum amount. The lump sum amount shall include all labor, equipment, tools, materials, consumables, and skills including but not limited to the removal of all trees and vegetation, including stumps, from the pipeline easements and staking of the pipeline for installation prior to the installation of the pipeline.

R. **Item No. 18 – Repair of Asphalt Pavement for Water line Construction Including Full Depth Class 7 Backfill, Complete.**– Asphalt/Concrete Pavement Repair for roads, driveways, and parking lots due to water main installation shall be measured and paid for by the square foot actually installed as approved by the Engineer. Quantity will be determined by measurement of the square foot of the surface replaced in accordance with the details on the drawings. Maximum width for pavement replacement for payment purposes shall be the width of trench at the top of the pipe plus one (1) foot unless otherwise approved by the Engineer/Owner. The Unit Contract Price shall include the cost of labor, tools, equipment, materials, consumables, concrete, asphalt, curb and gutter forming and placement, reinforcement, compacted aggregate base, delivery, placement, forming, finishing, saw-cutting existing pavement, expansion joints, disposal of debris, density tests, permits, and all other incidental work necessary to completely repair and/or replace asphalt/concrete roads, driveways, and parking lots in accordance with the contract documents and as shown on the drawings

S. **Item No. 19 – Repair of Gravel Drive for Water line Construction including Full Depth Class 7 Backfill, Complete.**– Gravel Surface Repair for gravel driveways and parking lots shall be measured and paid for by the square footage of replacement actually installed as approved by the Engineer. The Unit Contract Price shall include the cost of labor, tools, equipment, materials, consumables, ARDOT Class 7 crushed stone, delivery, placement, compaction, cleanup, and all other incidental work necessary to completely replace gravel surfaces as shown on the drawings, except for tasks with separate Unit Prices stated herein. The gravel access drive will be paid for separately.

T. **Item No. 20 – Miscellaneous & Incidental Work** - Miscellaneous and incidental work shall be paid for at the stated lump sum amount to cover the cost of incidental work that is not included in the other unit or lump sum prices as stated in the Bid Form, however, the lump sum amount for this item shall not exceed 10% of the total lump sum bid amount.

PART 2 - MATERIALS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 221210

PRESSURE CONTROL VALVES

ISSUED AS PART OF ADDENDUM 3

INTRODUCTION

This specification covers the design, manufacture, and testing of 4 in. (100 mm) through 36 in. (900 mm) Control Valves

PART 1 - GENERAL

1. Standard products - use the same manufacturer for multiple units of same type.

2. "Tying" of equipment into packages for the purpose of thwarting competition shall be considered to be in non-compliance with these specifications.

3. Manufacturers shall price items under different subsections or sections separately.

PART 2 - PRODUCTS

A. FUNCTION

The solenoid control valve shall be a self-contained hydraulically operated, diaphragm-actuated valve that includes a three-way solenoid pilot valve. In response to an electrical signal, the solenoid control valve shall either opens wide or closes drip tight. The three-way solenoid pilot alternately applies pressure to or exhausts pressure from the diaphragm cover chamber of the main valve which in turn causes the main valve to open or close.

B. MATERIALS

1. . Material Specification for the Pressure Reducing Control Valves Main Valve as follows:

Component	Material
Body & Cover	Ductile Iron-ASTM A536
Main Valve Trim	Stainless Steel
Seat	Stainless Steel
Stem, Nut and Spring	Stainless Steel
Seal Disc	Buna-N® Rubber
Diaphragm	Nylon Reinforced Buna-N® Rubber
Internal Trim Parts	Stainless Steel
End Detail	12-inch, ANSI B16.42 class 150 flange, flat faced
Pressure Rating	Class 150 lb. (250psi Max.)
Temperature Range	Water to 180°F
Any other wetted metallic parts	Stainless Steel; Bronze; Brass
Coating	Fusion Bonded Epoxy Coating (Interior and Exterior); ANSI / NSF

61 Approved /
AWWA coating specifications C116-03.

2. Main Valve:
   a. The main valve shall be hydraulically operated, single diaphragm actuated, globe or angle pattern. The valve shall consist of three major components; the body with seat installed, the cover with bearing installed and the diaphragm assembly. The diaphragm assembly shall be the only moving part and shall form a sealed chamber in the upper portion of the valve, separating the operating pressure from line pressure. Packing glands, stuffing boxes and/or rolling diaphragm technology will not be permitted and there shall be no pistons operating the main valve or pilot controls. No fabrication or welding shall be used in the manufacturing process. Y-pattern valves shall not be permitted. Main valve shall comply with NSF/ANSI 61 and certified lead free to NSF/ANSI 372 as a safe drinking water system component.

   b. The control valve shall be CLA-VAL Company Model No. 136-03, Solenoid Control Valve, as manufactured by Cla-Val Co., Costa Mesa, CA or approved equal.

3. Main Valve End Connections:

   a. End Connections for control valve shall be flanged per ASME/ANSI B16.42, Class 150.

4. Main Valve Body:

   a. No separate chamber(s) below the diaphragm shall be allowed between the main valve cover and body. No fabrication or welding shall be used in the manufacturing process.

   b. The valve shall contain a resilient, synthetic rubber disc with a rectangular cross-section contained on three and one-half sides by a disc retainer and forming a tight seal against a single removable seat insert. No O-ring type discs (circular, square, or quad type) shall be permitted as the seating surface. The disc guide shall be of the contoured type to permit smooth transition of flow and shall hold the discs firmly in place. The disc retainer shall be of a sturdy one-piece design capable of withstanding opening and closing shocks. It must have straight edge sides and a radius at the top edge to prevent excessive diaphragm wear as the diaphragm flexes across this surface. No hours-glass shaped disc retainers shall be permitted, and no V-type or slotted-type disc guides shall be used.

   c. The diaphragm assembly containing a non-magnetic 303 stainless steel stem; of sufficient diameter to withstand high hydraulic pressures and shall be fully guided at both ends by a bearing in the main valve cover and an integral bearing in the valve seat. The valve seat shall be a solid, one-piece design and shall have a minimum five-degree taper on the seating surface for a positive, drip-tight shut off. No center guides shall be permitted. The stem shall be drilled and tapped in the cover end to receive and affix such accessories as may be deemed necessary. The diaphragm assembly shall be the only moving part and shall form a sealed chamber in the upper portion of the valve, separating the operating pressure from the line

pressure. No bolts or cap screws shall be permitted for use in the construction of the diaphragm assembly.

d. The flexible, non-wicking, FDA approved diaphragm shall consist of nylon fabric bonded with synthetic rubber compatible with the operating fluid. The diaphragm's center hole for the main valve stem must be sealed by the vulcanized process or a rubber grommet sealing the center stem hole from the operating pressure. The diaphragm must withstand a Mullins Burst Test of a minimum of 600 X per layer of nylon fabric and shall be cycled tested 100,000 times to ensure longevity. The diaphragm shall not be used as the seating surface. The diaphragm shall be fully supported in the valve body and cover by machined surfaces which support no less than one-half of the total surface area of the diaphragm in either the fully opened or fully closed position. Bellofram type rolling diaphragms shall not be permitted.

e. The main valve seat and stem bearing in the valve cover shall be removable. The valve seat in the 8" and larger size valves shall be retained by flat head machine screws for ease of maintenance. The lower bearing of the valve stem shall be contained concentrically within the seat and shall be exposed to the flow on all sides to avoid deposits.

To ensure proper alignment of the valve stem, the valve body and cover shall be machined with a locating lip. No "pinned" covers to the valve body shall be permitted. Cover bearing, disc retainer and seat shall be made of the same material. All necessary repairs and/or modifications other than replacement of the main valve body shall be possible without removing the valve from the pipeline. The valve shall be designed such that both the cover assembly and internal diaphragm assembly can be disassembled and lifted vertically straight up from the top of a narrow opening/vault. Y-pattern valves shall not be permitted. The seat shall be of the solid one-piece design. Two-piece seats or seat inserts shall not be permitted. Packing glands and/or stuffing boxes shall not be permitted.

5. Pilot Control System:

a. The solenoid shutoff pilot control shall be a direct acting three-way poppet solenoid valve, operating a high capacity three-way auxiliary diaphragm pilot valve, controlled by an external electrical power source. Solenoid shall have a NEMA IV enclosure.

b. The pilot control system shall include a strainer, an adjustable closing speed and all required control accessories, equipment, control tubing and fittings. No variable orifices shall be permitted.

6. Material Specification for Pilot Control System:

Component	Material
Solenoid Pilot Control	
Body	Brass B283 (standard)
Pilot Trim	Brass & 303 Stainless Steel
Seals and Disc	NBR

Core and Plugnut	430F Stainless Steel
Core Springs	302 Stainless Steel
Shading Coil	Copper
Disc-Holder	CA
Core Guide	CA
Connections	FNPT
Pressure rating	400 psi Max.
Temperature Range	AC: Water to 125°F Max. DC: Water to 104°F Max.
Power Supply	120VAC / 60 Hz (standard)
Solenoid Enclosure (standard)	NEMA Type 1, General Purpose, Watertight
High Capacity Three-Way Valve Body	
Control Tubing	Copper
Control Fittings	Brass

7. Factory Assembly:

   a. Each control valve shall be factory assembled.

   b. The Quality Management System of the factory shall be certified in accordance with ISO 9001: 2008.

   c. For all control valves, the factory assembly shall include the complete main valve, pilot valve(s), and all associated accessories and control equipment.

   d. During factory assembly the control valve manufacture shall make all necessary adjustments and correct any defects.

8. Nameplates:

   a. Each Control Valve and associated pilot(s) shall be provided with an identifying nameplate.

   b. Nameplates, depending on type and size of control valve, shall be mounted in the most practical position possible, typically on the inlet side of the valve body.

   c. Nameplates shall be brass and a minimum of 3/32" thick, ¾" high and 2-

3/4” long.

d. Pertinent control valve data shall be etched or stamped into the nameplate. Data shall include control valve Catalog number, function, size, material, pressure rating, end- connection details, type of pilot controls used and control adjustment range.

9. Factory Testing:

a. Each control valve shall be factory tested.

b. The Quality Management System of the factory shall be certified in accordance with ISO 9001: 2008

c. Tests shall conform to approved test procedures.

d. The standard factory tests shall include a valve body and cover leakage test, seat leakage test and a stroke test. Control valves and pilot valves, in the partially open position, with both ends closed off with blind flanges (valves) and pipe plugs (pilots), shall be subject to an air test. The applied air pressure shall be 90 psi minimum. All air pressure tests shall be applied for a minimum of 15 minutes. No visible leakage is permitted through the valve seat, the pressure boundary walls of the valve body, valve cover, pilot body, pilot cover or the body-cover joint.

e. Control valve manufacturer shall, upon request, offer additional testing, such as high-pressure hydrostatic testing, positive material inspection testing, ferrite testing, liquid penetration inspection testing, magnetic particle examination testing and radiographic examination testing.

C. PRODUCT DATA

1. The following information shall be provided:

a. Control Valve manufacturer’s technical product data.

b. Control Valve manufacturer’s Installation, Operation and Maintenance manual (IOM).

2. Provide specific information on all optional features specified above and confirm that these items are provided.

PART 3 - EXECUTION

A. DELIVERY, STORAGE AND HANDLING

1. Packing and Shipping

a. Control valves specified herein shall be factory assembled. Any control valve appurtenances, accessories, parts and assemblies that are shipped unassembled shall be packaged and tagged in a manner that will protect the equipment from damage and facilitate the final assembly in the field.

b. Care shall be taken in loading, transporting and unloading to protect control valves, appurtenances, or coatings from damage. Equipment shall not be dropped. All control valves and appurtenances shall be examined before installation, and no piece shall be installed which is found to be defective. Any damage(s) shall be repaired.

c. Prior to shipping, the control valves and all associated accessories shall be acceptably packaged and covered to prevent entry of foreign material.

d. All packaged control valves shall be shipped, remain covered and stored on site until they are installed and put into use.

B. FIELD TESTING

1. A direct factory representative shall be made available by the equipment supplier for start-up service, inspection and necessary adjustments.

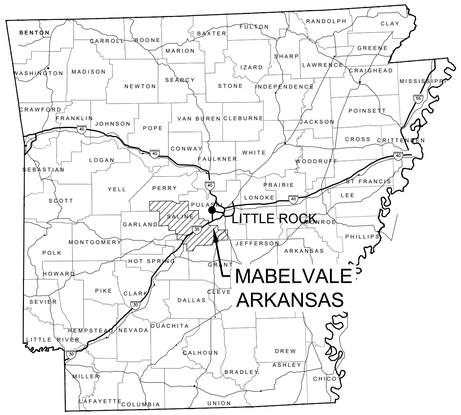
END OF SECTION

SARDIS WATER ASSOCIATION PWA

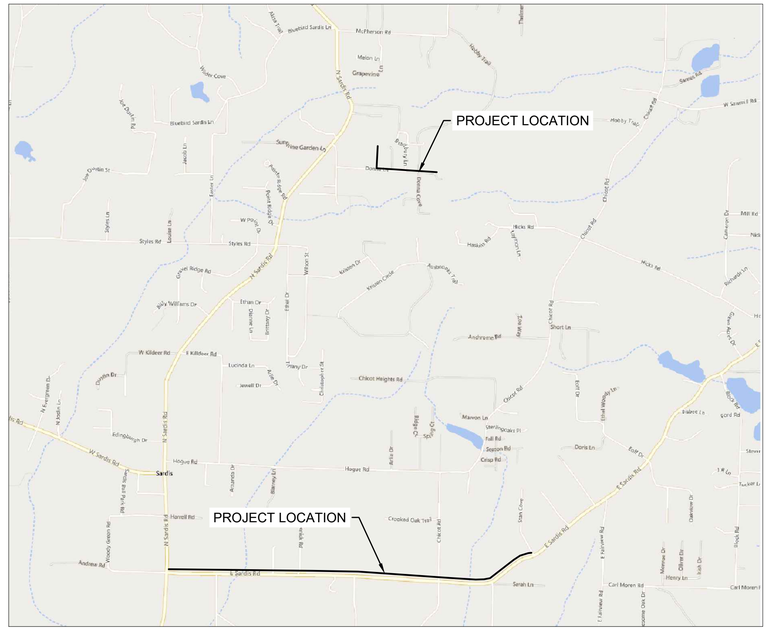
SARDIS WATERLINE IMPROVEMENTS

E. SARDIS ROAD & DONNA LANE

SARDIS, ARKANSAS



LOCATION MAP
N.T.S.



VICINITY MAP
N.T.S.

LEGEND	
Sheet Number	Sheet Title
C0.0	COVER SHEET
C0.1	GENERAL NOTES
C1.0	PROJECT OVERVIEW - E. SARDIS ROAD
C1.1	PROJECT OVERVIEW - DONNA LANE
C2.0	PLAN & PROFILE - E. SARDIS ROAD
C2.1	PLAN & PROFILE - E. SARDIS ROAD
C2.2	PLAN & PROFILE - E. SARDIS ROAD
C2.3	PLAN & PROFILE - E. SARDIS ROAD
C2.4	PLAN & PROFILE - E. SARDIS ROAD
C2.5	PLAN & PROFILE - E. SARDIS ROAD
C2.6	PLAN & PROFILE - E. SARDIS ROAD
C2.7	PLAN & PROFILE - E. SARDIS ROAD
C2.8	PLAN & PROFILE - DONNA LANE
C2.9	PLAN & PROFILE - DONNA LANE
C3.0	VALVE VAULT DETAILS
C3.1	CIVIL DETAILS
C3.2	CIVIL DETAILS
C3.3	EROSION CONTROL DETAILS
C3.4	EROSION CONTROL DETAILS
C3.5	SARDIS WATER ASSOCIATION DETAILS
C3.6	SARDIS WATER ASSOCIATION DETAILS
S0.1	STRUCTURAL SITE GENERAL NOTES
S1.1	VALVE VAULT STRUCTURAL DETAILS
S1.2	VALVE VAULT STRUCTURAL DETAILS

JULY 2026
BID SET
CRIST PROJECT NO. 26004
ISSUED AS PART OF ADDENDUM 3

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
LITTLE ROCK, ARKANSAS

CRIST ENGINEERS, INC. CORPORATE REGISTRATION CONSULTING ENGINEERS No. 91 ARKANSAS ENGINEER

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 11048 MATTHEW D. QUINN 7/27/26

p:\2026 projects\26004 - sardis water - wst & water line improvements\06 - cadd\01 - Civil\WATERLINE\26004 - COVER SHEET.dwg 7/28/2026 8:02 AM

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EXISTING LEGENDS

LEGEND - PLANIMETRICS	
MULTI-USE ABBREVIATIONS	
C	COMMUNICATIONS
E	ELECTRICAL
F	FUEL
FO	FIBER OPTIC
G	NATURAL GAS
HC	HANDICAPPED
D	STORM DRAIN
TR	TRAFFIC
U	UNIDENTIFED
W	WATER
MULTI-USE SYMBOLOGY	
	MANHOLE COVER
	METER
	SIGN
	UTILITY BOX
	UTILITY POLE
	UTILITY POLE (CONCRETE)
	VALVE
	VAULT

SINGLE-USE SYMBOLOGY	
	FIRE HYDRANT
HC	HANDICAPPED SIGN
ICV	IRRIGATION CONTROL VALVE
KP	KEYPAD
MB	MAILBOX
	TREE (AS NOTED)
WAR	W AIR RELEASE VALVE
WCO	WATER CLEANOUT
WPI	WATER POST INDICATOR VALVE
WSO	WATER SHUT OFF VALVE
	WATER SPIGOT

LEGEND - BOUNDARY	
ABBREVIATIONS	
P.O.B.	POINT OF BEGINNING
P.O.C.	POINT OF COMMENCING
FIR	FOUND IRON ROD
FIRC	FOUND IRON ROD W/CAP-AS NOTED
SIR	SET IRON ROD
SIRC	SET IRON ROD W/CAP-AS NOTED
VOL.	VOLUME
PG.	PAGE
DOC. NO.	DOCUMENT NUMBER
INST. NO.	INSTRUMENT NUMBER
CAB.	CABINET
C.M.	CONTROLLING MONUMENT
D.R.X.C.A.	DEED RECORDS OF X COUNTY, ARKANSAS
O.P.R.X.C.A.	OFFICIAL PUBLIC RECORDS OF X COUNTY, ARKANSAS
P.R.X.C.A.	PLAT RECORDS OF X COUNTY, ARKANSAS
SYMBOLOGY	
	FOUND MONUMENTS (AS NOTED)
	POINT FOR CORNER (UNLESS OTHERWISE NOTED)
LINE & HATCH SYMBOLOGY	
	PROPERTY LINE
	ROAD RIGHT-OF-WAY LINE
	APPROXIMATE SURVEY ABSTRACT/COUNTY LINE
	EXISTING EASEMENT LINE
	EASEMENT DEDICATION
	TEMPORARY WORKSPACE

PROPOSED LEGEND

- WATERLINE
- STEEL ENCASEMENT
- FITTINGS
- WATER VALVE
- AIR RELEASE VALVE
- BLOW-OFF
- BORE PIT
- BORE

FIELD ADJUSTMENT NOTES:

1. PROPOSED PIPE ALIGNMENTS ARE BASED ON AVAILABLE INFORMATION AND INDICATE THE GENERAL LOCATION AND ARRANGEMENT OF THE UNDERGROUND PIPING. INSTALL PIPING AS INDICATED, TO THE EXTENT PRACTICAL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD LOCATE ALL EXISTING UTILITIES, ETC.
2. EXISTING CONDITIONS MAY NECESSITATE SLIGHT ADJUSTMENTS IN THE ALIGNMENT AND GRADE. FIELD ADJUSTMENTS MAY NOT BE MADE THAT REDUCE THE CAPACITY OR SERVICEABILITY WITHOUT APPROVAL FROM THE ENGINEER. ALL FIELD ADJUSTMENTS SHALL BE APPROVED BY THE OWNER.
3. FIELD ADJUSTMENTS RESULTING IN A CHANGE IN SCHEDULE OR CONTRACT PRICE SHALL BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION. NO CHANGES IN CONTRACT SCHEDULE OR PRICE WILL BE MADE FOR FIELD ADJUSTMENTS MADE WITHOUT THE OWNER'S APPROVAL.

GENERAL NOTES:

1. THERE ARE NUMEROUS UTILITIES WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION, AND AN ATTEMPT HAS BEEN MADE TO INDICATE THEIR PRESENCE ON THE DRAWINGS. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE VARIOUS UTILITY COMPANIES AND MAKE ARRANGEMENTS FOR LOCATION AND MARKING OF THE UTILITY ON THE GROUND. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL EXCAVATION IS COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES DURING CONSTRUCTION OR RELOCATION OF UTILITIES REQUIRED TO COMPLETE THE PROJECT AS DESIGNED.
2. ALL PROCEDURES, MATERIAL, AND WORKMANSHIP SHALL CONFORM TO THESE DRAWINGS, THE PROJECT SPECIFICATIONS, AND THE REQUIREMENTS OF STATE AND LOCAL BUILDING CODES.
3. UNLESS OTHERWISE NOTED ON THE PLANS AND/OR SPECIFICATIONS, ALL BURIED PIPING SHALL BE SDR 21 C-905 PVC. ALL PIPING AND VALVES SHALL BE ADEQUATELY SUPPORTED AND MAINTAINED.
4. ALL MECHANICAL AND STRUCTURAL DIMENSIONS SHALL BE VERIFIED BY MANUFACTURER AND CONTRACTOR AND SUBMITTED FOR APPROVAL THROUGH SHOP DRAWINGS.
5. ALL HARDWARE INCLUDED IN THE PROJECT SHALL BE STAINLESS STEEL UNLESS SPECIFIED OTHERWISE BY MANUFACTURER.
6. EXCAVATION AND DEWATERING SHALL BE AS REQUIRED TO PLACE STRUCTURES AND PIPING ON A FIRM AND STABLE TRENCH GRADE.
7. ALL CONSTRUCTION OPERATIONS AND TRENCH EXCAVATION SHALL ABIDE BY AND BE IN ACCORDANCE WITH OSHA REGULATIONS.
8. AN APPROVED SET OF PLANS AND PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES.
9. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING ALL VEHICLES AND EQUIPMENT PRIOR TO ENTERING PUBLIC STREETS. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL STREETS ARE KEPT IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.
10. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH THE CORRECT AS-BUILT PLANS BEFORE SUBSTANTIAL COMPLETION IS GRANTED.
11. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES TO REMAIN.
12. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE FROM DAMAGE, ALL IMPROVEMENTS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO ORIGINAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY ON THIS SITE. CONTRACTOR SHALL INSTALL ANY BARRIERS, TEMPORARY FENCING, FLASHERS, LIGHTING, OR ANY OTHER MEANS NECESSARY TO PROTECT UNAUTHORIZED PERSONNEL FROM HAZARDOUS AREAS.
14. ALL BURIED DUCTILE IRON PIPE, VALVES & FITTINGS SHALL BE ENCASED WITH POLYETHYLENE WRAP 8 MILS THICK.
15. ALL MECHANICAL JOINT FITTINGS SHALL BE RESTRAINED WITH MEGA-LUG RESTRAINTS.
16. ALL DUCTILE IRON PIPE SHALL BE CEMENT MORTAR LINED.
17. ALL PIPING AND CONDUIT IN OR BELOW SLABS SHALL BE TESTED PRIOR TO POURING CONCRETE.
18. ALL ROADS, DRIVES, AND ETC. DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BACK TO EXISTING CONDITION OR BETTER AND APPROVED BY THE OWNER.
19. THE CONTRACTOR IS REQUIRED TO PROVIDE THRUST RESTRAINT BY MEANS OF RESTRAINING JOINTS AND CONCRETE BLOCKING. EACH METHOD SHALL BE CAPABLE OF THRUST RESTRAINT INDEPENDENT OF THE OTHER SYSTEM.
20. ALL BURIED FITTINGS (VALVES, BENDS, TEES, HYDRANTS, ETC) SHALL HAVE MECHANICAL JOINT (WITH MEGALUG RESTRAINING GLANDS) EXCEPT WHERE INDICATED OTHERWISE.
21. WHEN MAKING CONNECTIONS TO NEW OR EXISTING PIPING, CONTRACTOR SHALL PROVIDE ALL FITTINGS, ADAPTERS, CONNECTING PIECES, ETC. NECESSARY TO MAKE THE CONNECTIONS IN A MANNER SATISFACTORY TO THE ENGINEER. INCLUDE THIS INFORMATION WITH SUBMITTALS.
22. NO BURNING OF TREES, BRUSH, RUBBISH, VEGETATION, OR OTHER OBJECTIONABLE MATTER WILL BE ALLOWED ON THE PROJECT SITE. ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF IN A MANNER ACCEPTABLE TO OWNER. ALL EXCESS EXCAVATED MATERIALS SHALL BE HAULED OFF-SITE.
23. NO BLASTING WILL BE ALLOWED ON THE PROJECT.
24. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
25. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF EACH SEDIMENTATION/EROSION CONTROL MEASURE ON THIS PROJECT.
26. THE CONTRACTOR SHALL GIVE THE OWNER A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION. THE PHASES OF CONSTRUCTION ARE AS FOLLOWS:
    A. INSTALL EROSION AND SEDIMENTATION CONTROL
    B. SITE VISIT BY OWNER'S INSPECTOR
    C. AFTER INSPECTOR APPROVAL, BEGIN CONSTRUCTION
    D. UPON CONSTRUCTION COMPLETION, RESTORE ALL DISTURBED AREAS
    E. ARRANGE FOR FINAL INSPECTION
    F. REMOVE TEMPORARY EROSION CONTROL MEASURES
27. CONTRACTOR SHALL REPAIR FENCING DAMAGED DURING CONSTRUCTION. DAMAGED FENCING SHALL BE REPAIRED TO MATCH EXISTING CONATIONS PRIOR TO CONSTRUCTION. ANY REMOVED FENCING SHALL BE DISPOSED OF AS WASTE.
28. JOINTS MAY NOT BE DEFLECTED MORE THAN 75% OF PIPE MANUFACTURER'S ALLOWABLE JOINT DEFLECTION.
29. UNLESS OTHERWISE NOTED, ALL FLEXIBLE COUPLINGS, FLANGE COUPLING ADAPTERS, ETC. SHALL HAVE RESTRAINT PER AWWA M11 AND AWWA M41.
30. THE CONTRACTOR IS RESPONSIBILITIES FOR SWPPP AND RELATED ACTIVITIES AS REQUIRED.

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CORPORATE REGISTRATION — CRIST ENGINEERS, INC. CONSULTING ENGINEERS No. 91 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DUNN — 7/27/26

0 — 1" — 1" = 1"

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: -
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CHECKED: MDD
DATE: JULY 2026

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
1 EXECUTIVE CENTER COURT
LITTLE ROCK, ARKANSAS 72211
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

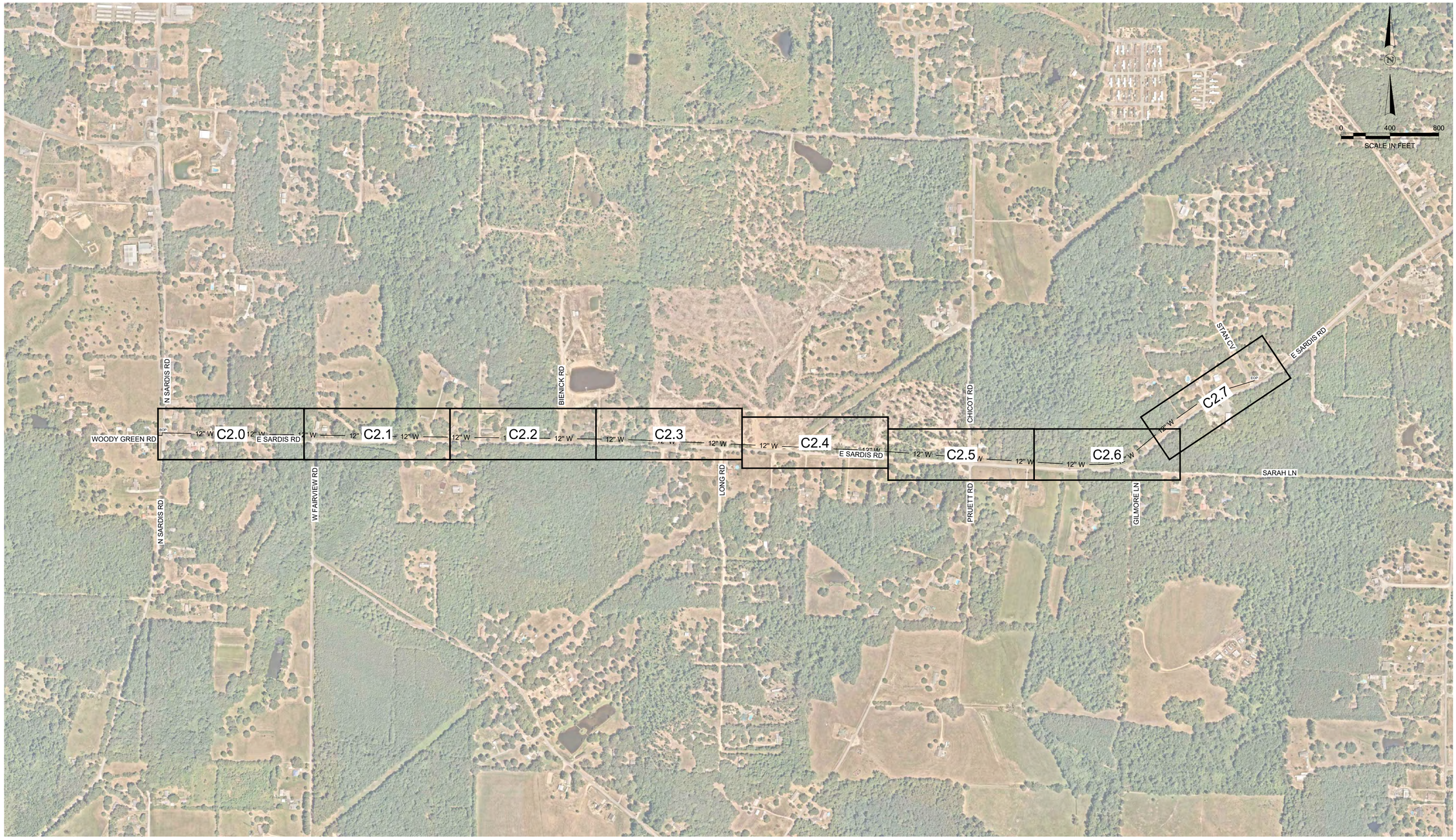
GENERAL NOTES

JOB NO. 26004

SHEET NO. C0.1

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CRIST ENGINEERS, INC. CONSULTING ENGINEERS No. 91 — CORPORATE REGISTRATION — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DONNA — 7/21/26

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SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

PROJECT OVERVIEW - E. SARDIS ROAD

JOB NO. 26004

SHEET NO. C1.0

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				ISSUED AS PART OF ADDENDUM 3

CORPORATE REGISTRATION NO. CRIST ENGINEERS, INC. CONSULTING ENGINEERS No. 91 ARKANSAS ENGINEER

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER MATTHEW D. DUNN No. 11048 7/27/26

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1" = 1"
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SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

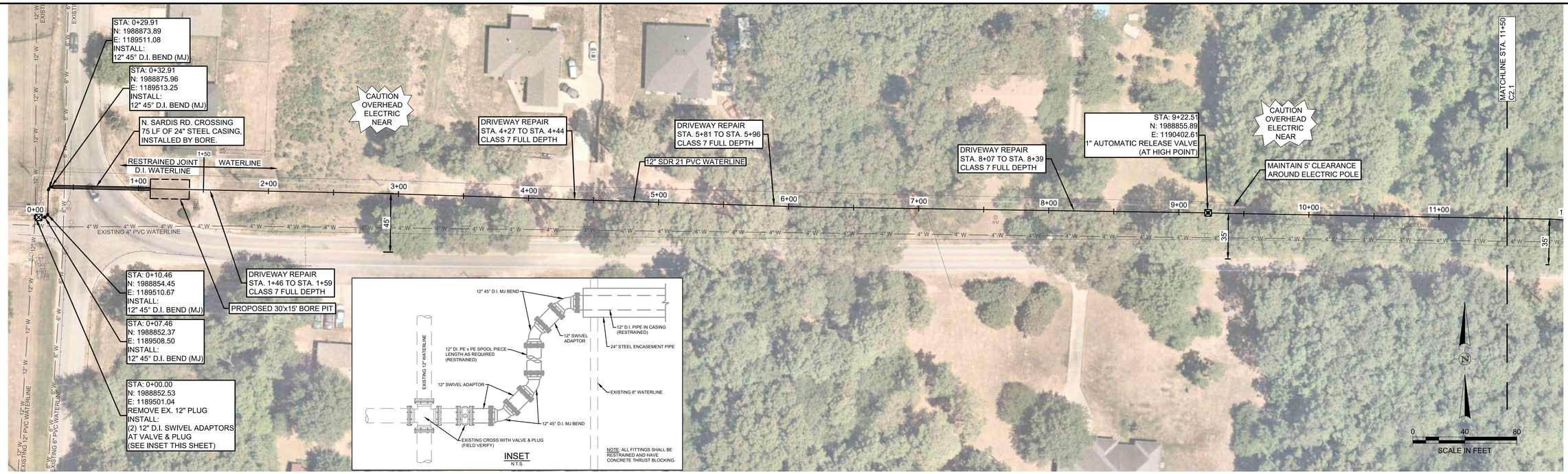
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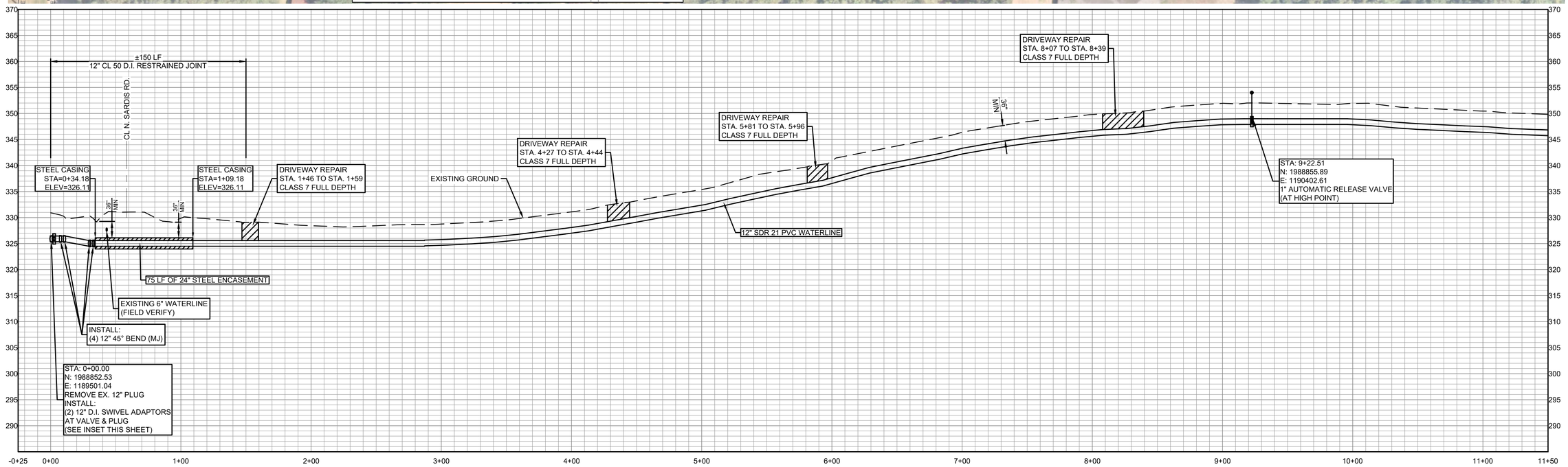
PROJECT OVERVIEW - DONNA LANE

JOB NO. 26004

SHEET NO. C1.1

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PROPOSED WATERLINE PROFILE
SCALE:
VERTICAL: 1"=10'
HORIZONTAL: 1"=40'

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CORPORATE REGISTRATION — CRIST ENGINEERS, INC. CONSULTING ENGINEERS No. 91 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DUNN — 7/27/26

0 1" — 1" = 1"
THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: -
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CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
1 EXECUTIVE CENTER COURT
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SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

PLAN & PROFILE - E. SARDIS ROAD

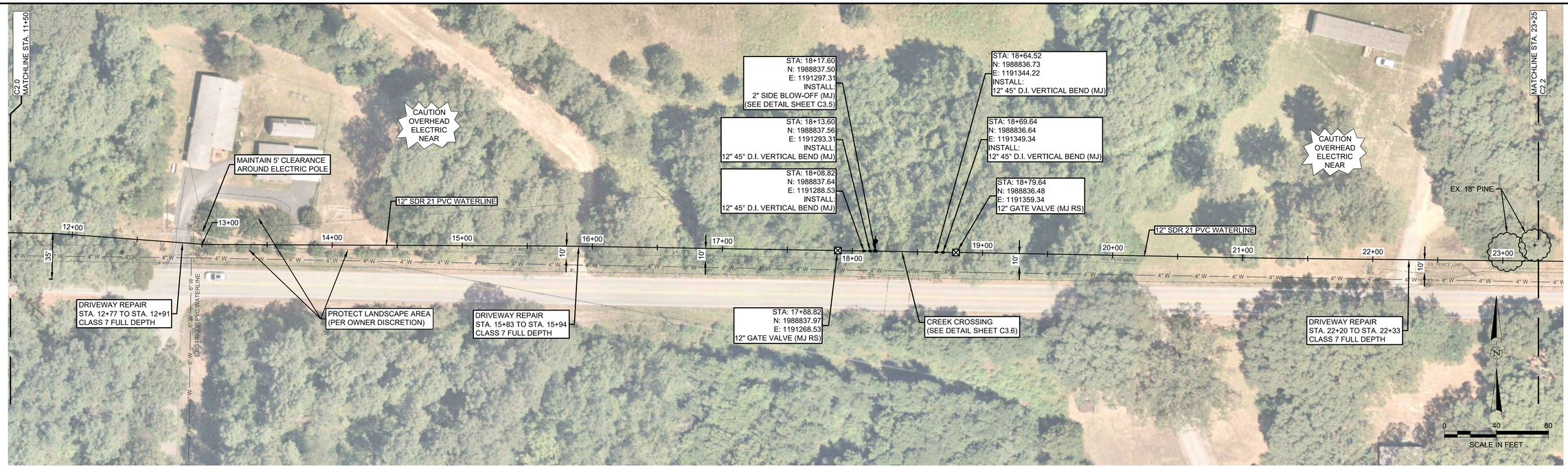
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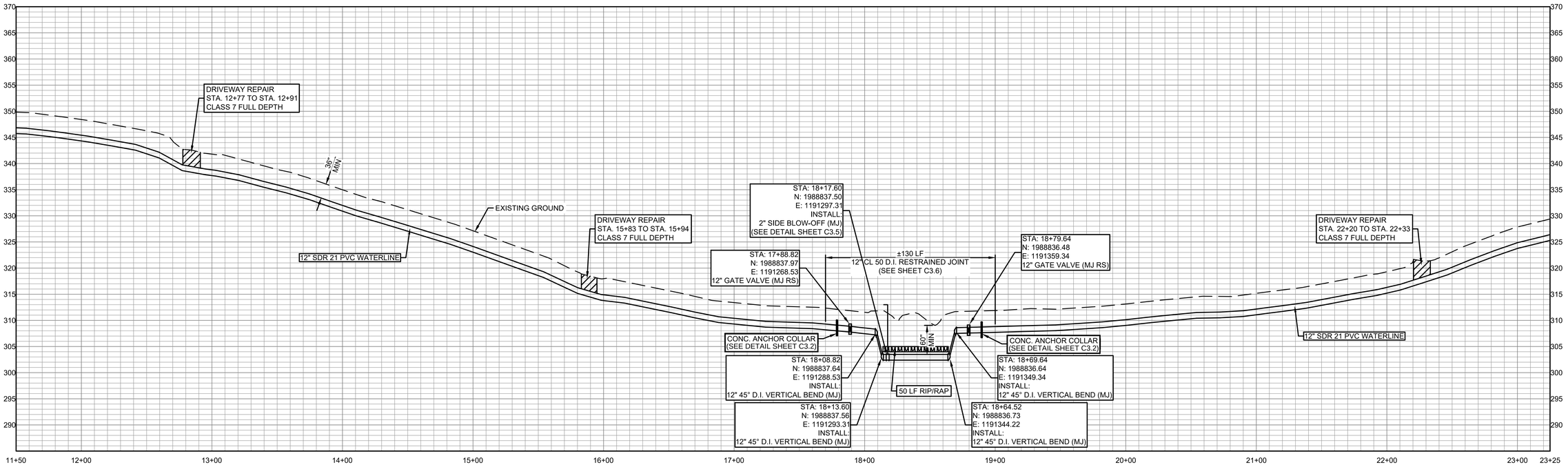
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PROPOSED WATERLINE PROFILE
SCALE:
VERTICAL: 1"=10'
HORIZONTAL: 1"=40'

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CRIST ENGINEERS, INC. CONSULTING ENGINEERS CORPORATE REGISTRATION No. 91 ARKANSAS ENGINEER

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 11048 MATTHEW D. DUNN 7/27/26

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SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

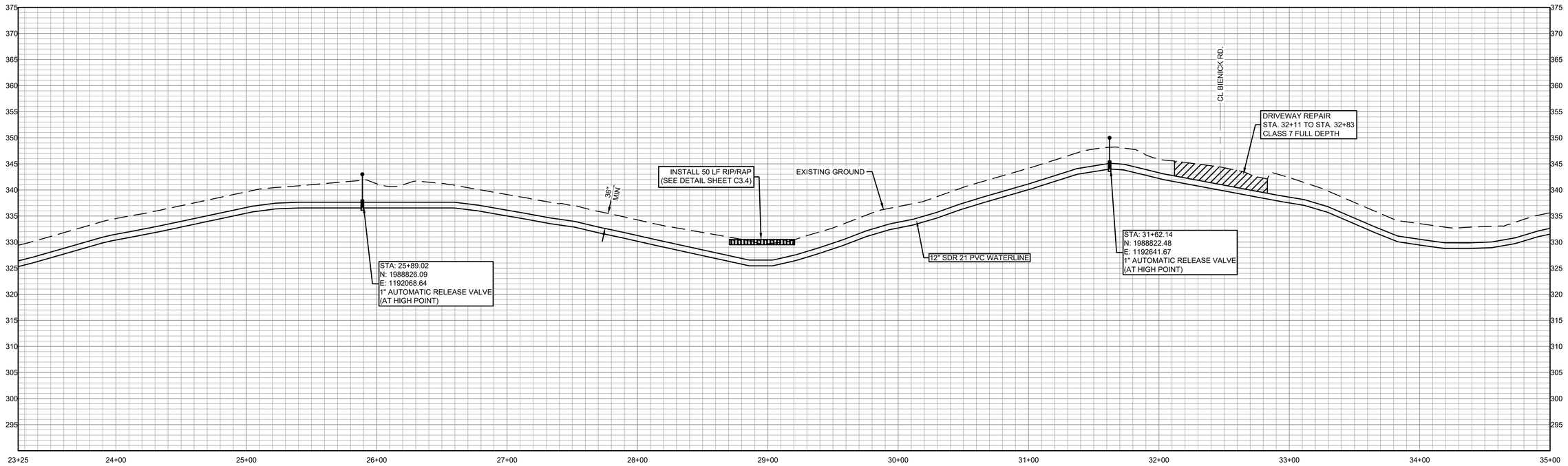
PLAN & PROFILE - E. SARDIS ROAD

JOB NO. 26004

SHEET NO. C2.1

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PROPOSED WATERLINE PROFILE
SCALE:
VERTICAL: 1"=10'
HORIZONTAL: 1"=40'

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CRIST ENGINEERS, INC. CONSULTING ENGINEERS No. 91 — CORPORATE REGISTRATION — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DUNN — 7/27/26

0 1"
1" = 1"
THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: -
DRAFTED: BAM
CHECKED: MDD
DATE: JULY 2026

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
1 EXECUTIVE CENTER COURT
LITTLE ROCK, ARKANSAS 72211
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

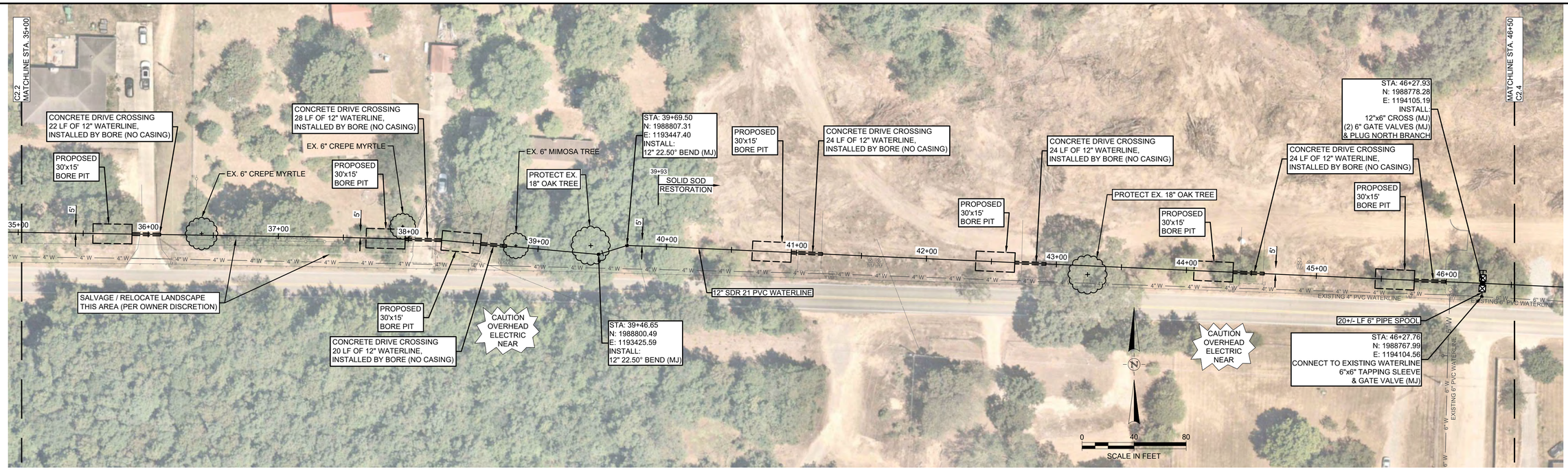
PLAN & PROFILE - E. SARDIS ROAD

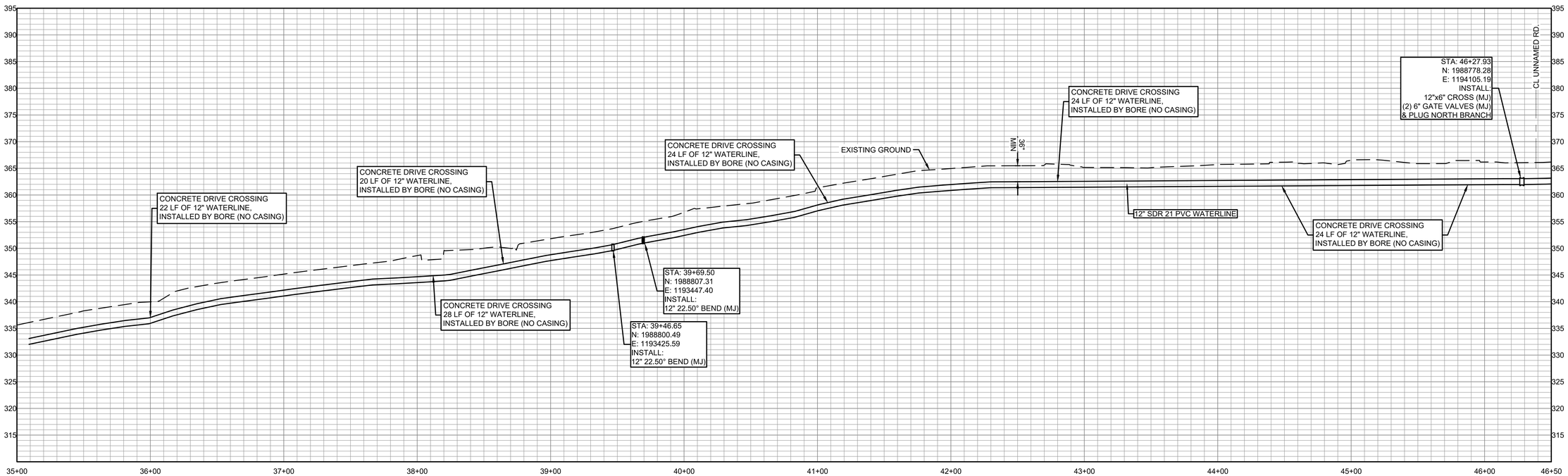
JOB NO. 26004

SHEET NO. C2.2

p:\2026 projects\26004 - sardis water - wst & water line improvements\06 - cadd\01 - Civil\WATERLINE\26004 - SARDIS ROAD PLAN & PROFILES.dwg 7/28/2026 8:07 AM

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PROPOSED WATERLINE PROFILE
SCALE:
VERTICAL: 1"=10'
HORIZONTAL: 1"=40'

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CORPORATE REGISTRATION — CRIST ENGINEERS, INC. CONSULTING ENGINEERS No. 91 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DONNA — 7/27/26

0 1" — 1" = 1"
THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: -
DRAFTED: BAM
CHECKED: MDD
DATE: JULY 2026

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
1 EXECUTIVE CENTER COURT
LITTLE ROCK, ARKANSAS 72211
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

PLAN & PROFILE - E. SARDIS ROAD

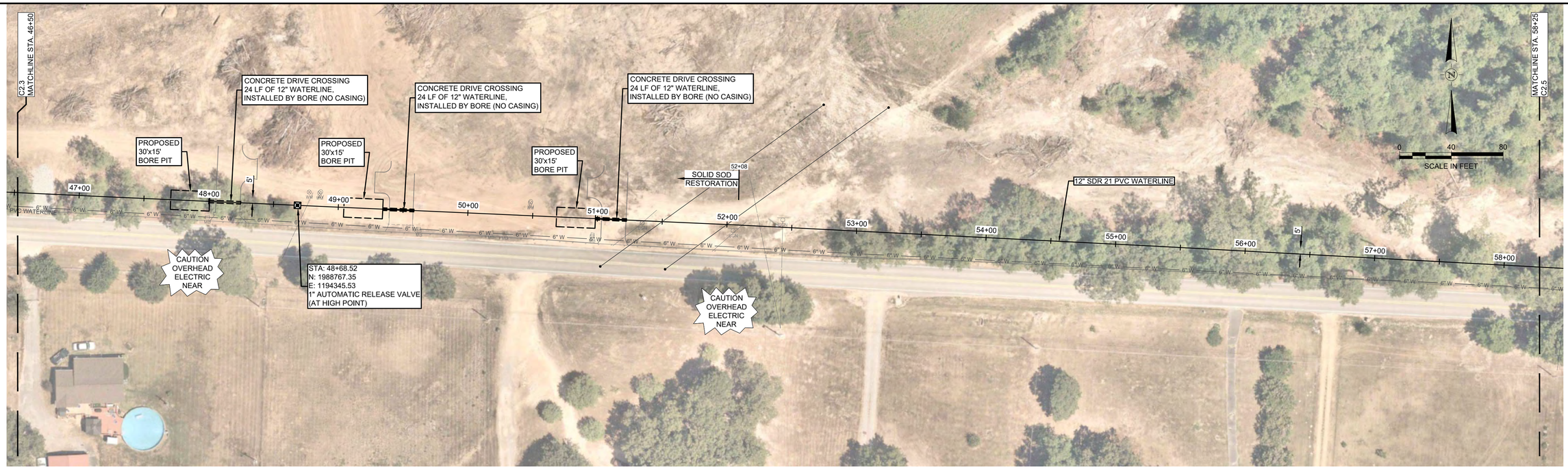
JOB NO. 26004

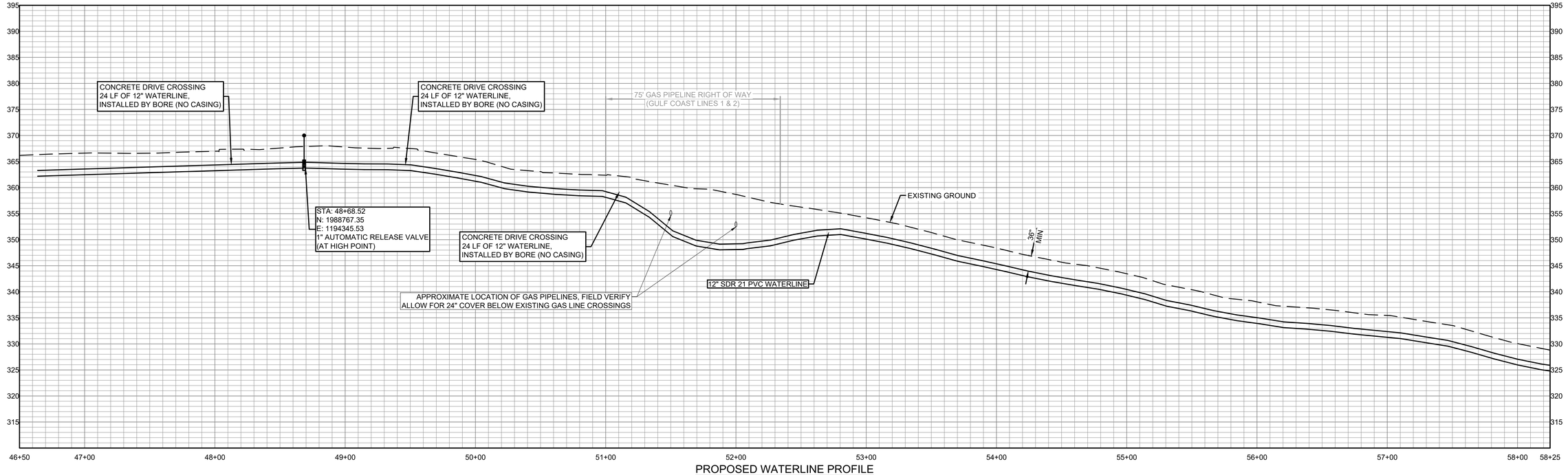
SHEET NO. C2.3

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PROPOSED WATERLINE PROFILE
SCALE:
VERTICAL: 1"=10'
HORIZONTAL: 1"=40'

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CORPORATE REGISTRATION — CRIST ENGINEERS, INC. CONSULTING ENGINEERS No. 91 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DUNN — 7/27/26

0 1" — 1" = 1"

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED:	-
DRAFTED:	BAM
CHECKED:	MDD
DATE:	JULY 2026

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
1 EXECUTIVE CENTER COURT
LITTLE ROCK, ARKANSAS 72211
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

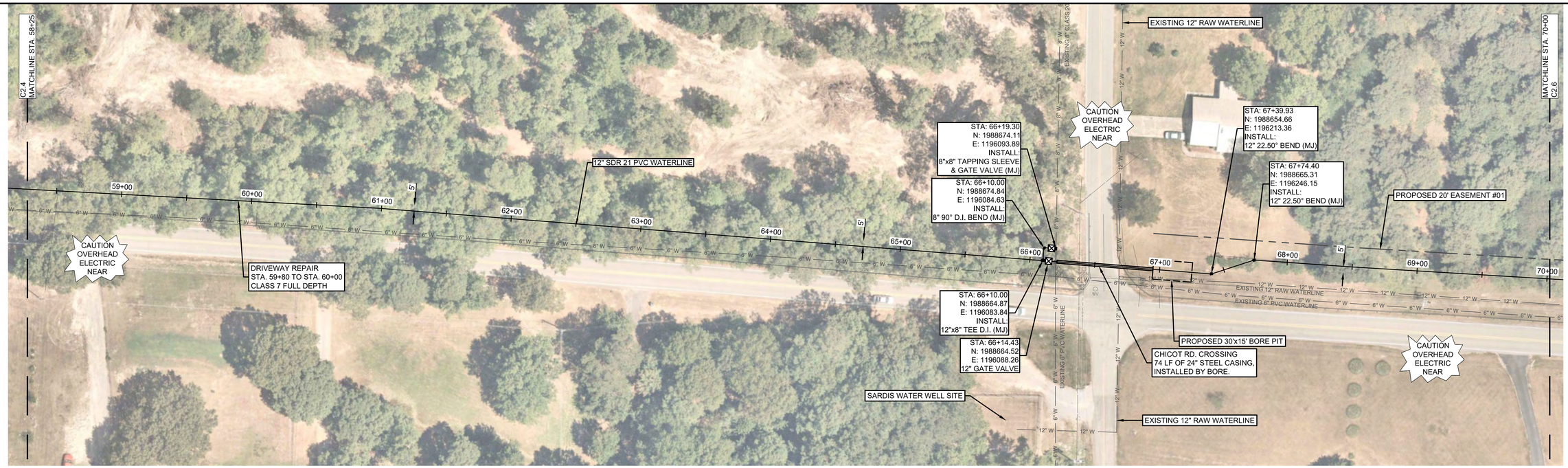
PLAN & PROFILE - E. SARDIS ROAD

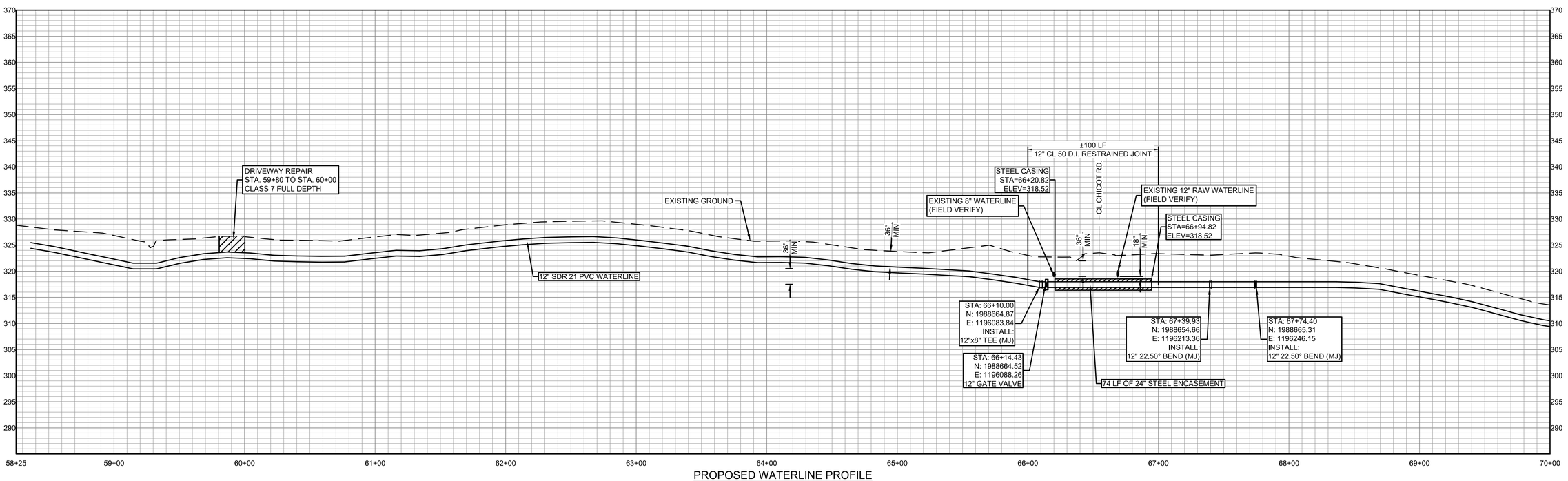
JOB NO. 26004

SHEET NO. C2.4

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p:\2026 projects\26004 - sardis water - wst & water line improvements\06 - cadd\01 - Civil\WATERLINE\26004 - SARDIS ROAD PLAN & PROFILES.dwg 7/28/2026 8:07 AM





PROPOSED WATERLINE PROFILE
SCALE:
VERTICAL: 1"=10'
HORIZONTAL: 1"=40'

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CRIST ENGINEERS, INC. CONSULTING ENGINEERS No. 91 — CORPORATE REGISTRATION NO. — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DUNN — 7/27/26

0 1"
1" = 1"
THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: -
DRAFTED: BAM
CHECKED: MDD
DATE: JULY 2026

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
1 EXECUTIVE CENTER COURT
LITTLE ROCK, ARKANSAS 72211
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

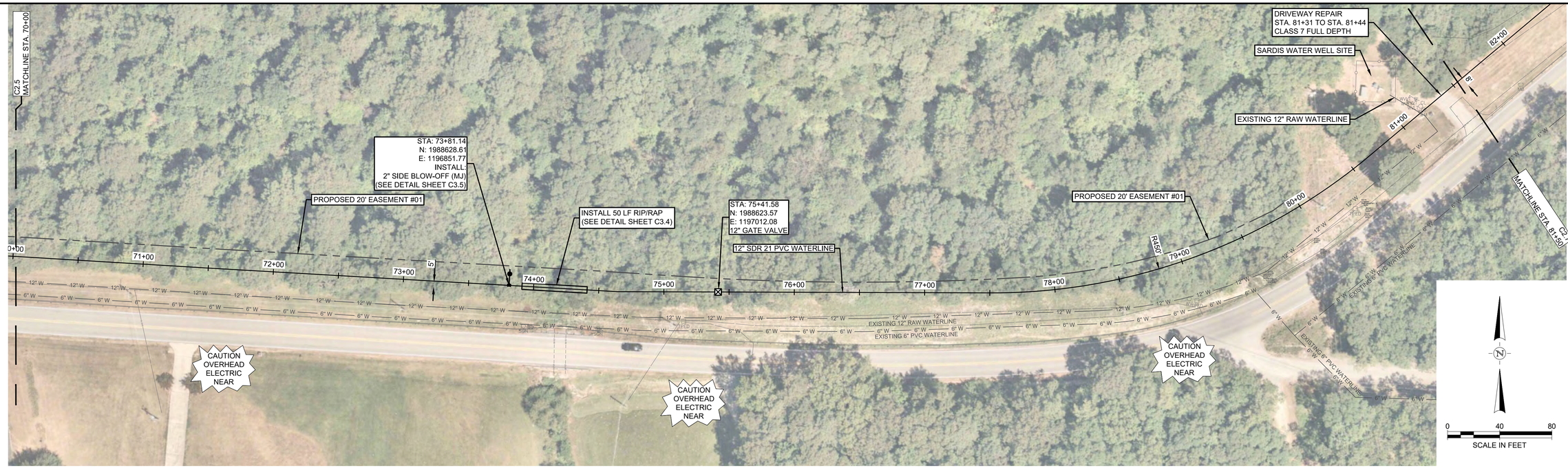
PLAN & PROFILE - E. SARDIS ROAD

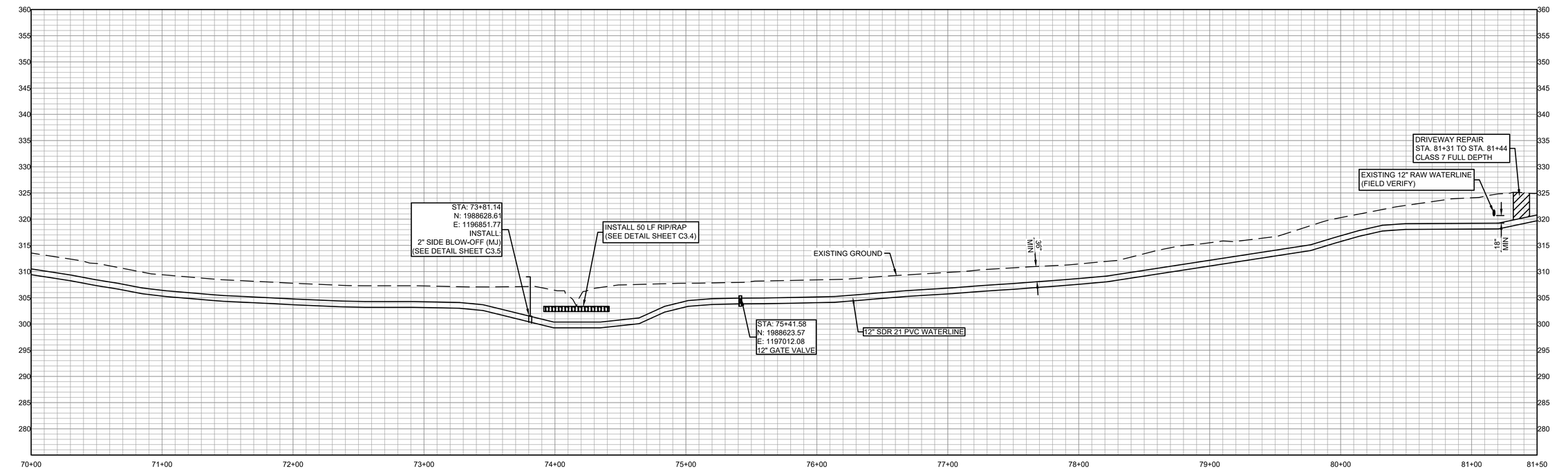
JOB NO. 26004

SHEET NO. C2.5

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PROPOSED WATERLINE PROFILE
SCALE:
VERTICAL: 1"=10'
HORIZONTAL: 1"=40'

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CRIST ENGINEERS, INC. CONSULTING ENGINEERS CORPORATE REGISTRATION No. 91 ARKANSAS ENGINEER

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 11048 MATTHEW D. DUNN 7/27/26

0 1" 1" = 1"

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: -
DRAFTED: BAM
CHECKED: MDD
DATE: JULY 2026

CRIST ENGINEERS, INC.
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1 EXECUTIVE CENTER COURT
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TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

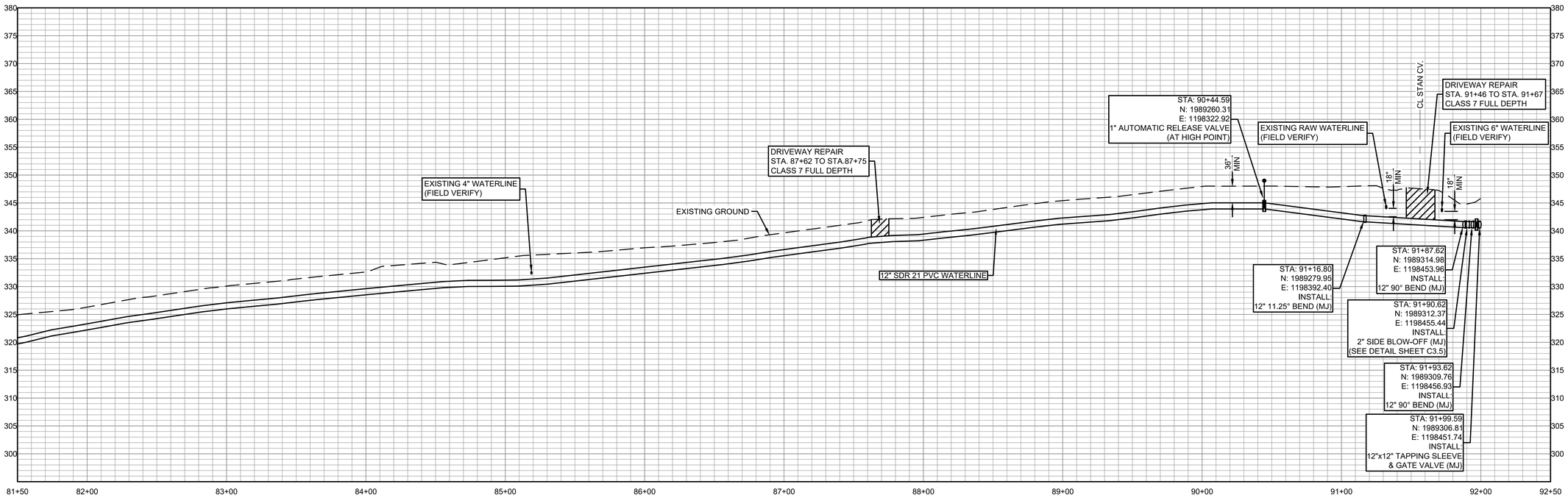
PLAN & PROFILE - E. SARDIS ROAD

JOB NO. 26004

SHEET NO. C2.6

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PROPOSED WATERLINE PROFILE
SCALE:
VERTICAL: 1"=10'
HORIZONTAL: 1"=40'

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CORPORATE REGISTRATION — CRIST ENGINEERS, INC. CONSULTING ENGINEERS — No. 91 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DUNN — 7/27/26

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CHECKED: MDD
DATE: JULY 2026

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WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

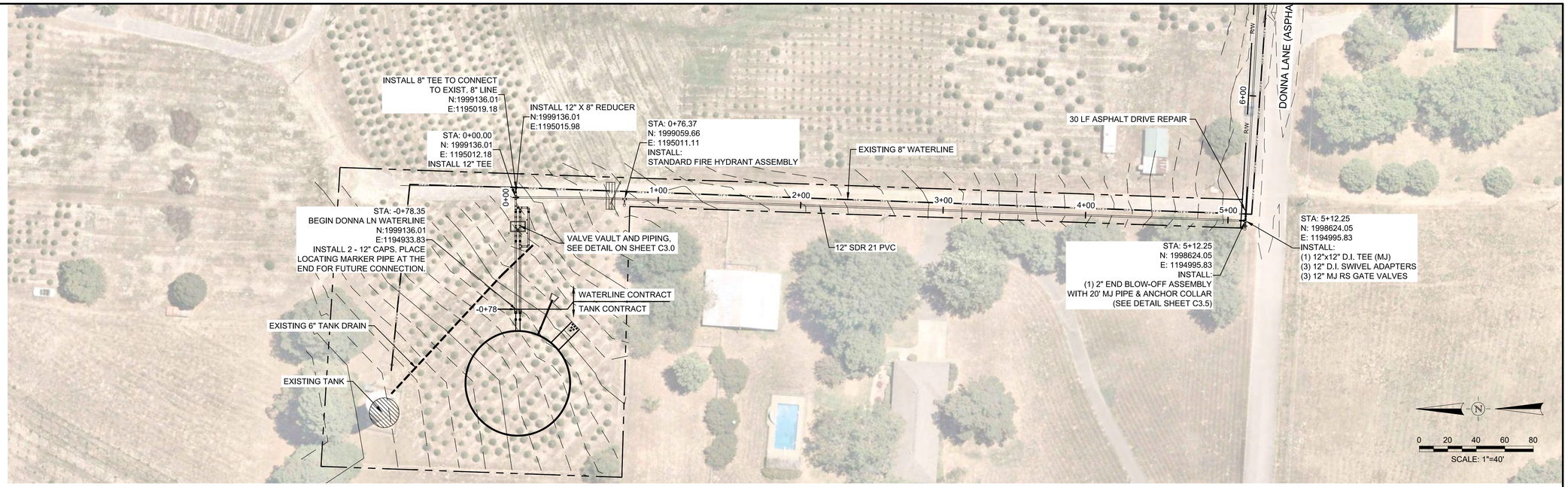
PLAN & PROFILE - E. SARDIS ROAD

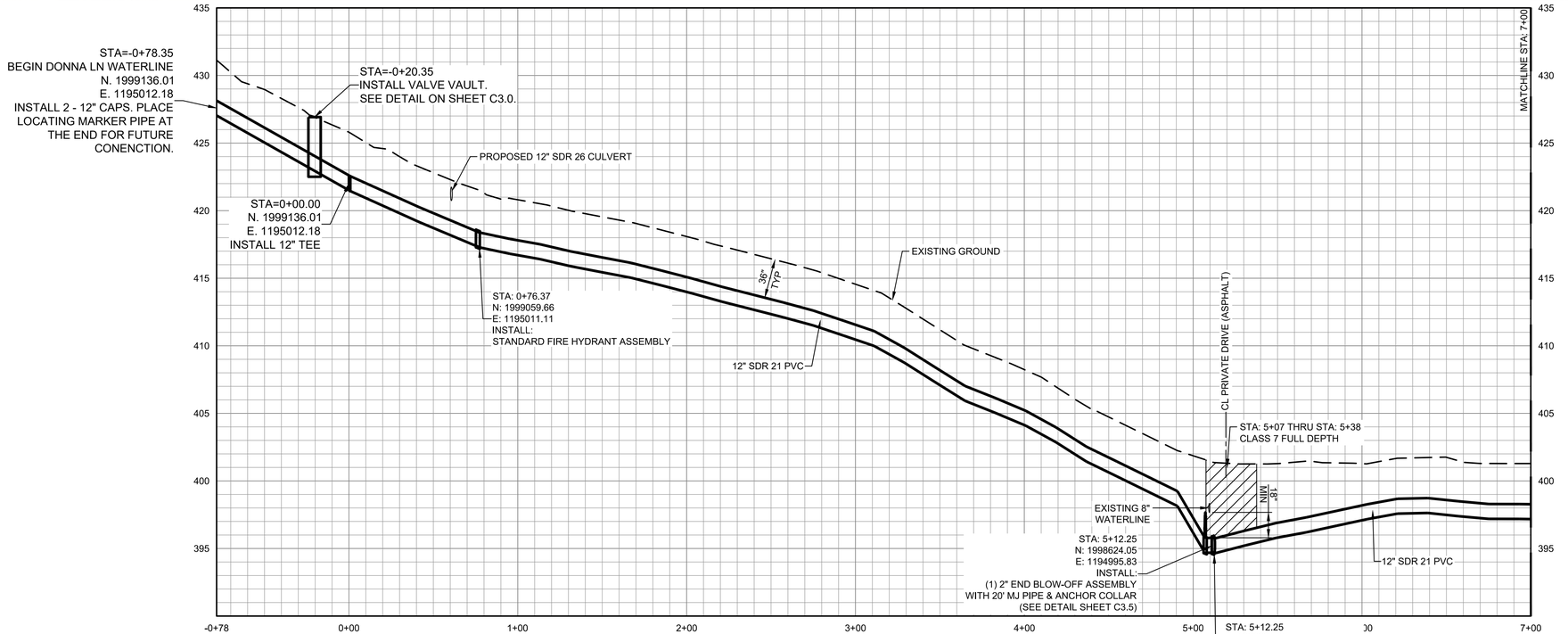
JOB NO. 26004

SHEET NO. C2.7

p:\2026 projects\26004 - sardis water - wst & water line improvements\06 - cadd\01 - Civil\WATERLINE\26004 - SARDIS ROAD PLAN & PROFILES.dwg 7/28/2026 8:07 AM

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12 INCH WATERLINE PROFILE
SCALE:
VERTICAL: 1"=5'
HORIZONTAL: 1"=40'

p:\2026 projects\26004 - sardis water - wst & water line improvements\06 - cadd\01 - Civil\WATERLINE\26004 - DONNA LANE PLAN & PROFILES.dwg 7/28/2026 8:08 AM

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CORPORATE REGISTRATION — CRIST ENGINEERS, INC. CONSULTING ENGINEERS No. 91 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DUNN — 7/27/26

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THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: -
DRAFTED: BAM
CHECKED: MDD
DATE: JULY 2026

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
1 EXECUTIVE CENTER COURT
LITTLE ROCK, ARKANSAS 72211
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

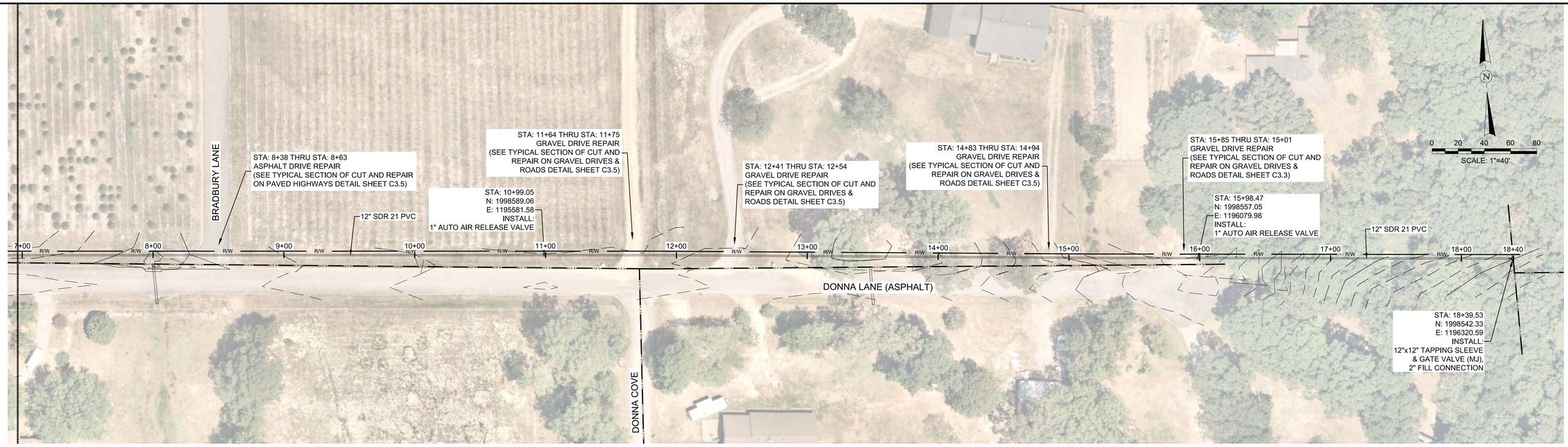
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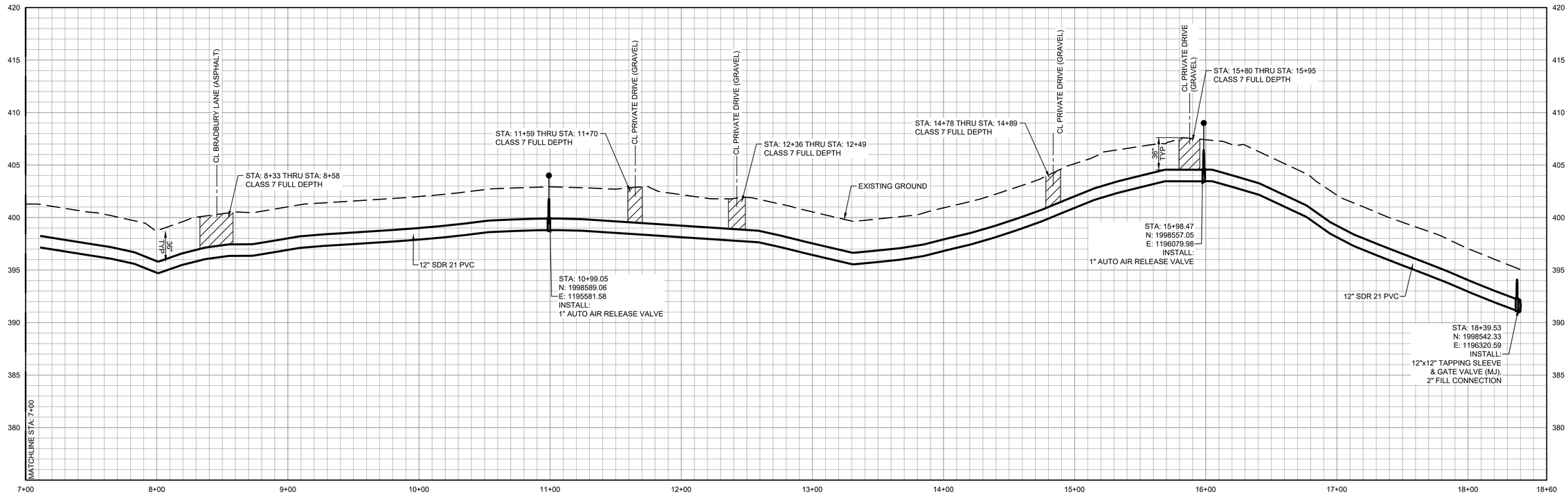
PLAN & PROFILE - DONNA LANE

JOB NO. 26004

SHEET NO. C2.8

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12 INCH WATERLINE PROFILE
SCALE:
VERTICAL: 1"=5'
HORIZONTAL: 1"=40'

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CORPORATE REGISTRATION — CRIST ENGINEERS, INC. CONSULTING ENGINEERS — No. 91 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DONN — 7/27/26

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DESIGNED: -
DRAFTED: BAM
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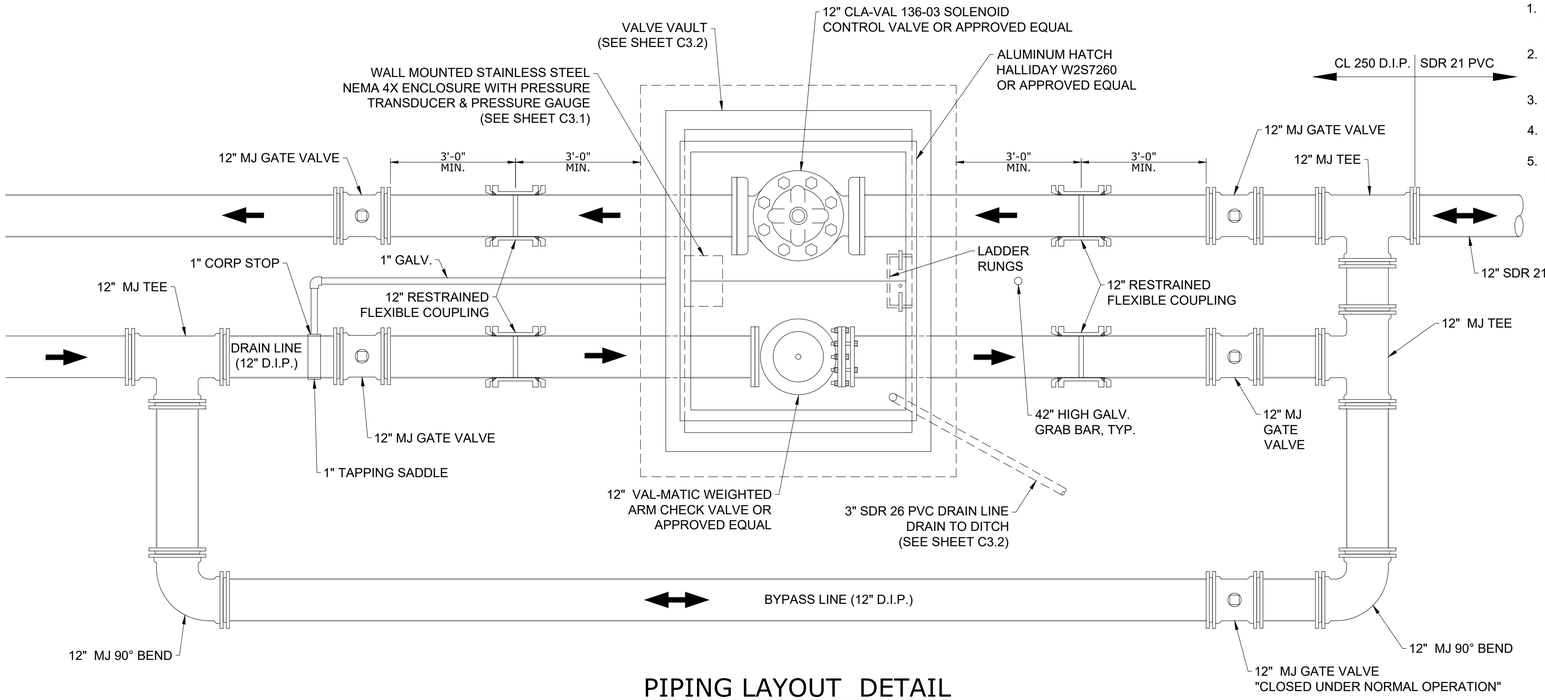
CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
1 EXECUTIVE CENTER COURT
LITTLE ROCK, ARKANSAS 72211
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS
SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE
BID SET
PLAN & PROFILE - DONNA LANE

JOB NO. 26004
SHEET NO. C2.9

p:\2026 projects\26004 - sardis water - wat & water line improvements\06 - cadd\01 - Civil\WATERLINE\26004 - DONNA LANE PLAN & PROFILES.dwg 7/28/2026 8:09 AM

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NOTES:

1. ALL YARD PIPING SHALL BE CEMENT LINED CL 250 DUCTILE IRON PIPE UNLESS OTHERWISE NOTE.
2. ALL MECHANICAL JOINT FITTINGS SHALL HAVE MEGA-LUG THRUST RESTRAINTS OR APPROVED EQUAL.
3. ALL HARDWARE SHALL BE 304 STAINLESS STEEL.
4. ALL BURIED FITTINGS SHALL HAVE THRUST BLOCKING.
5. ALL BURIED GATE VALVES TO HAVE VALVE BOX, 2" OPERATING NUT, CTC.

PIPING LAYOUT DETAIL

N.T.S.

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CRIST ENGINEERS, INC. CONSULTING ENGINEERS No. 91 CORPORATE REGISTRATION ARKANSAS ENGINEER

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER MATTHEW D. DUNN No. 11048 7/27/26

0 1" 1" = 1"

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: -
DRAFTED: BAM
CHECKED: MDD
DATE: JULY 2026

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
1 EXECUTIVE CENTER COURT
LITTLE ROCK, ARKANSAS 72211
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

VALVE VAULT DETAILS

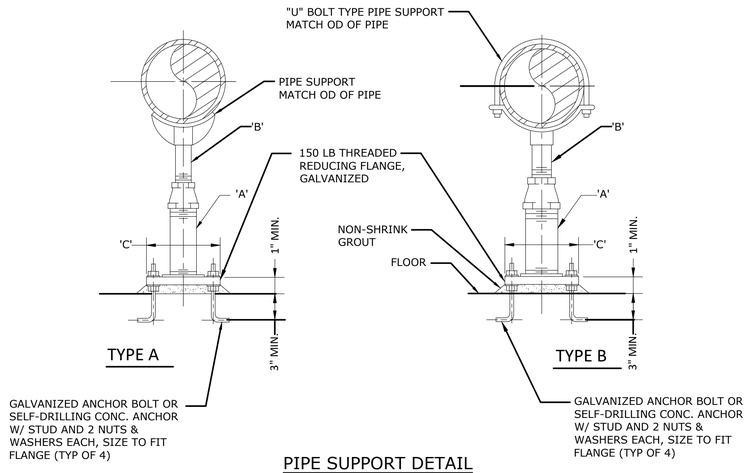
JOB NO. 26004

SHEET NO. C3.0

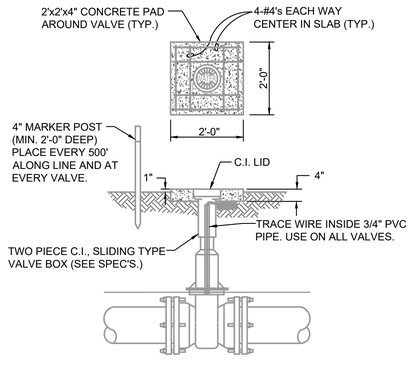
p:\2026 projects\26004 - sardis water - wst & water line improvements\06 - cadd\01 - Civil\WATERLINE\26004 - CIVIL DETAILS.dwg 7/28/2026 8:09 AM

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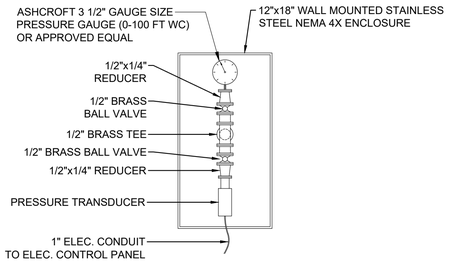
ADJUSTABLE PIPE SUPPORT APPROXIMATE DIMENSIONS IN INCHES					
PIPE SIZE	A	B	C	D MIN	D MAX
2-1/2	2-1/2	1-1/2	9	8	11-1/2
3	2-1/2	1-1/2	9	8-1/4	11-3/4
3-1/2	2-1/2	1-1/2	9	8-1/2	12
4	3	2-1/2	9	10-1/4	14
6	3	2-1/2	9	11-5/8	15-1/4
8	3	2-1/2	9	13-5/8	16-1/2
10	3	2-1/2	9	14-5/8	18-1/4
12	3	2-1/2	9	15-5/8	19-3/4



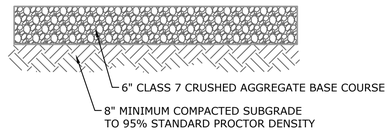
PIPE SUPPORT DETAIL
N.T.S.



DETAIL-VALVE BOX
N.T.S.



PRESSURE TRANSDUCER DETAIL
N.T.S.



TYPICAL GRAVEL SURFACE SECTION
N.T.S.

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CORPORATE REGISTRATION — CRIST ENGINEERS, INC. CONSULTING ENGINEERS No. 91 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DUNN — 7/27/26

0 1" — 1" = 1"

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: -
DRAFTED: BAM
CHECKED: MDD
DATE: JULY 2026

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
1 EXECUTIVE CENTER COURT
LITTLE ROCK, ARKANSAS 72211
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

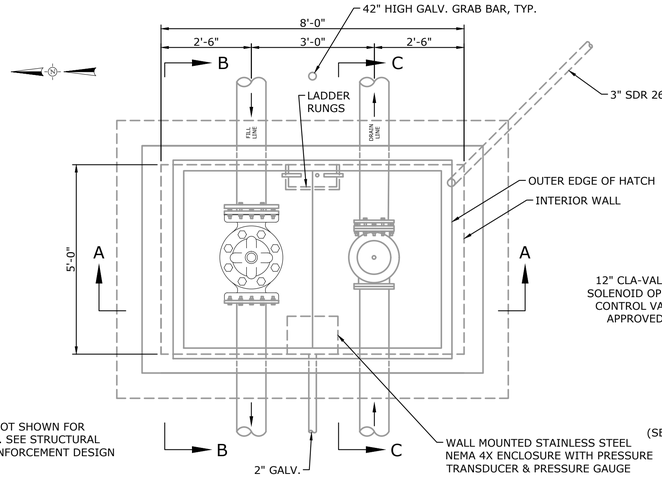
CIVIL DETAILS

JOB NO. 26004

SHEET NO. C3.1

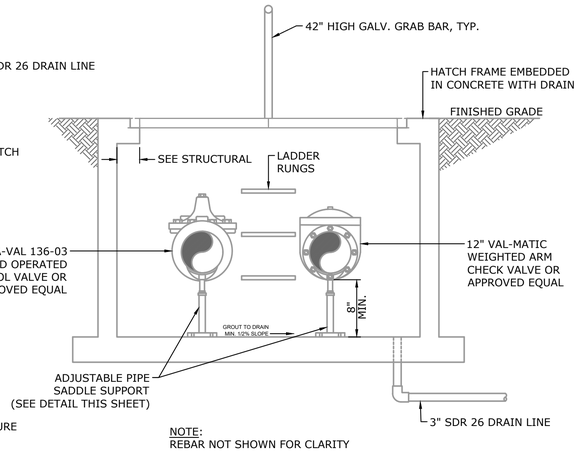
p:\2026 projects\26004 - sardis water - wst & water line improvements\06 - cadd\01 - Civil\WATERLINE\26004 - CIVIL DETAILS.dwg 7/28/2026 8:09 AM

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NOTE:
REBAR NOT SHOWN FOR CLARITY. SEE STRUCTURAL FOR REINFORCEMENT DESIGN

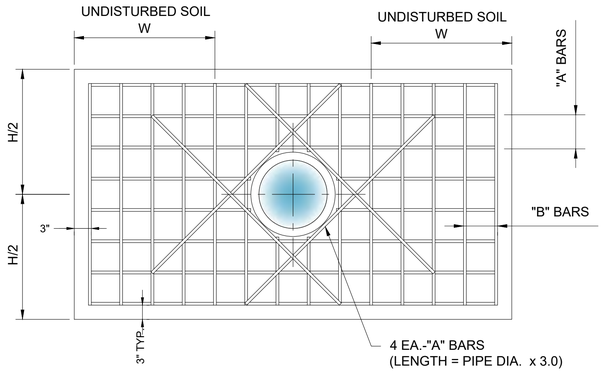
SOLENOID OPERATED CONTROL VALVE VAULT DETAIL
PLAN VIEW
N.T.S.



NOTE:
REBAR NOT SHOWN FOR CLARITY

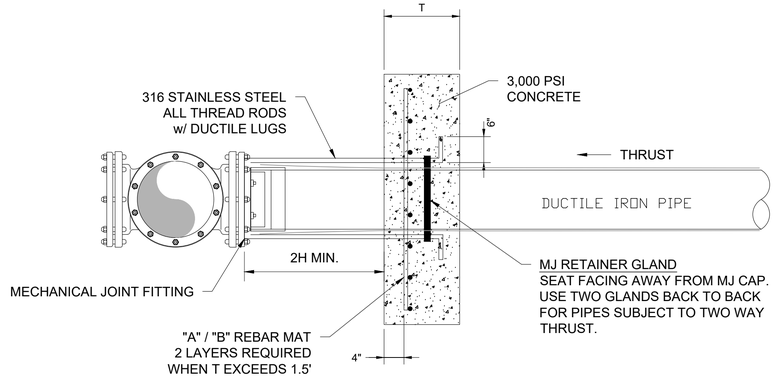
SECTION A-A
N.T.S.

ANCHOR COLLAR SCHEDULE					
PIPE SIZE	* MINIMUM DIMENSIONS *			REINFORCING BARS	
	W	H	T	"A" BARS	"B" BARS
6"	1.5'	2.0'	1.0'	#6 @ 6"	#6 @ 6"
8"	2.0'	2.5'	1.0'	#6 @ 6"	#6 @ 6"
12"	2.5'	4.0'	1.5'	#6 @ 6"	#6 @ 6"
16"	3.5'	5.0'	1.5'	#6 @ 6"	#6 @ 6"
20"	5.0'	5.5'	2.0'	#6 @ 6"	#6 @ 6"
24"	6.5'	6.0'	2.0'	#7 @ 6"	#7 @ 10"



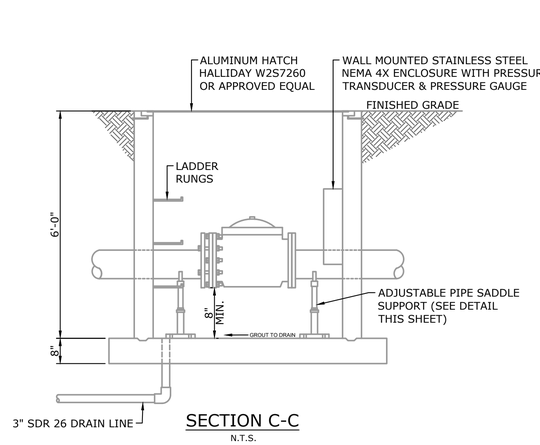
NOTES:

1. DESIGN PRESSURE IS 200 PSI PLUS 100 PSI SURGE AND 2,000 PSI SOIL BEARING.
2. ALL DIMENSIONS ARE MINIMUM REQUIREMENTS. ACTUAL FIELD CONDITIONS MAY REQUIRE LARGER DIMENSIONS.
3. ALL RETAINER GLANDS SHALL BE MEGA-LUG BY EBAA IRON.



CONCRETE THRUST COLLAR
DETAIL
SCALE: 3/4" = 1'-0"

I
22



SECTION B-B
N.T.S.

SECTION C-C
N.T.S.

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CRIST ENGINEERS, INC. CONSULTING ENGINEERS No. 91 — CORPORATE REGISTRATION NO. — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DUNN — 7/27/26

0 1" — 1" = 1"

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: -
DRAFTED: BAM
CHECKED: MDD
DATE: JULY 2026

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
1 EXECUTIVE CENTER COURT
LITTLE ROCK, ARKANSAS 72211
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

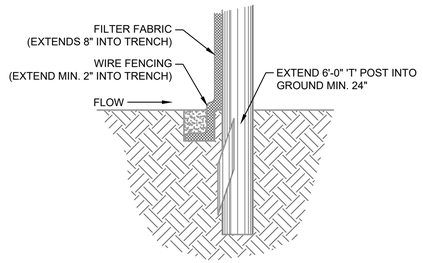
CIVIL DETAILS

JOB NO. 26004

SHEET NO. C3.2

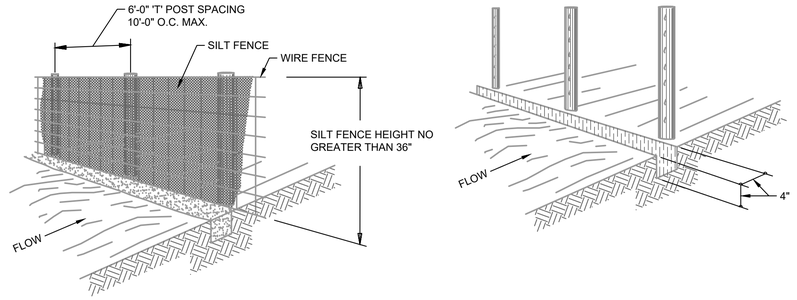
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SILT FENCE NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE EVERY TWO WEEKS AND AFTER EACH 1/2" RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. SILT FENCE MAY ONLY BE USED FOR OVERLAND FLOW OR SHEET FLOW.
9. SILT FENCE MAY NOT BE USED FOR DRAINAGE AREAS GREATER THAN ONE ACRE.



SILT FENCE DETAIL
N.T.S.

Ts1 TEMPORARY STABILIZATION

SPECIES	RATE / 1000 SF.	PLANTING DATES
STRAW MULCH	92 LB.	ANY TIME FOR TEMPORARY COVER.

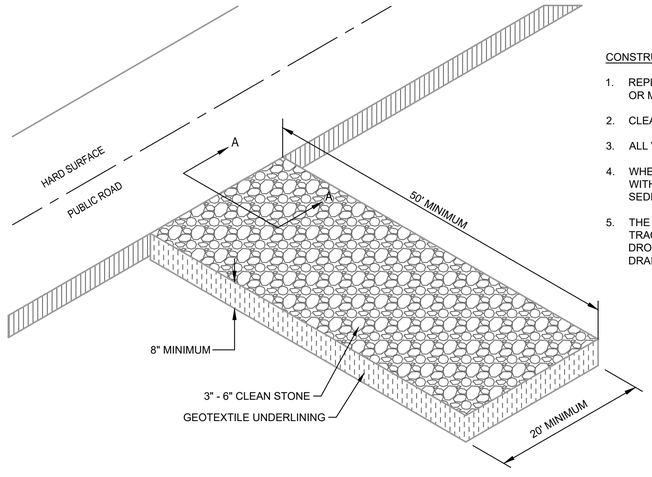
Ts2 TEMPORARY GRASSING

SPECIES	RATE / ACRE	PLANTING DATES	FERTILIZER	RATE / ACRE	MULCH RATE
MILLET	50 LB	JAN 21 TO AUG 14	10-20-10	500 LB	REFER TO TS-1
RYE	100 LB	AUG 15 TO JAN 20	10-20-10	500 LB	

Ts3 PERMANENT GRASSING

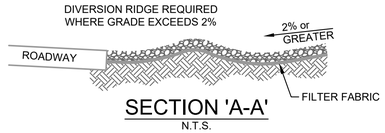
SPECIES	RATE / ACRE	PLANTING DATES	FERTILIZER	RATE / ACRE	MULCH RATE
BERMUDA GRASS (UNHULLED) BERMUDA GRASS (HULLLED) LESPEDEZA (KOBE)	5 LB. 10 LB. 10 LB.	MARCH 1 TO JUNE 15	10-20-10	800 LB.	REFER TO TS-1
BERMUDA GRASS (UNHULLED) BERMUDA GRASS (HULLLED)	5 LB. 10 LB.	JUNE 16 TO AUGUST 31	10-20-10	800 LB.	
BERMUDA GRASS (UNHULLED) WHEAT	20 LB. 15 LB.	SEPTEMBER 1 TO FEBRUARY 29	10-20-10	800 LB.	

STABILIZATION AND GRASSING
N.T.S.



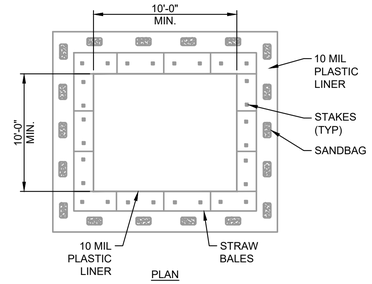
CONSTRUCTION ENTRANCE NOTES:

1. REPLACE CONTAMINATED STONE AS REQUIRED TO PREVENT TRACKING OF SEDIMENT OR MUD ON PUBLIC STREETS.
2. CLEAN STREETS DAILY WITH BROOM AND SHOVEL. THE USE OF WATER IS PROHIBITED.
3. ALL VEHICLES MUST USE CONSTRUCTION EXIT.
4. WHEN WHEEL WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO EXISTING ROADS. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

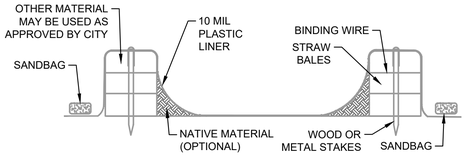


SECTION 'A-A'
N.T.S.

CONSTRUCTION ENTRANCE DETAIL
N.T.S.



PLAN



SECTION

NOTES:

1. NO WASHING OUT OF CONCRETE TRUCKS OR WASHING OF SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS IS ALLOWED.
2. EXCESS CONCRETE IS NOT ALLOWED TO BE DUMPED ON-SITE, EXCEPT IN DESIGNATED TEMPORARY CONCRETE WASHOUT PIT AREAS.
3. ON-SITE TEMPORARY CONCRETE WASHOUT AREAS WILL BE LOCATED AT LEAST 50 FEET FROM STORM DRAINS, OPEN DITCHES, OR WATER BODIES AS DETERMINED IN THE FIELD.
4. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
5. TEMPORARY CONCRETE WASHOUT FACILITIES WILL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
6. WASHOUT FACILITIES WILL BE CLEANED OUT ONCE THE WASHOUT IS 75% FULL.
7. PLASTIC LINING MATERIAL WILL BE MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND WILL BE FREE OF HOLES, TEARS, OR OTHER DEFECTS.
8. WHEN WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR WORK, THE HARDENED CONCRETE WILL BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES WILL BE REMOVED FROM THE SITE AND DISPOSED OF.

CONCRETE WASHOUT
N.T.S.

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SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

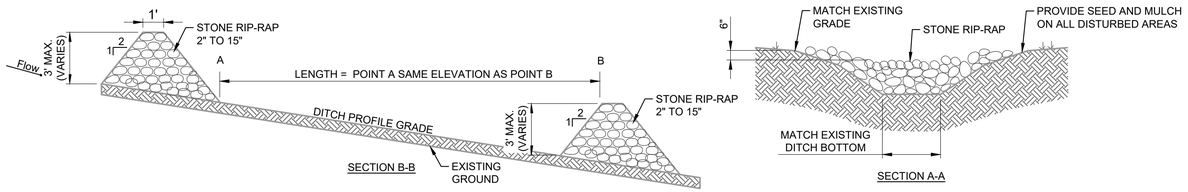
EROSION CONTROL DETAILS

JOB NO. 26004

SHEET NO. C3.3

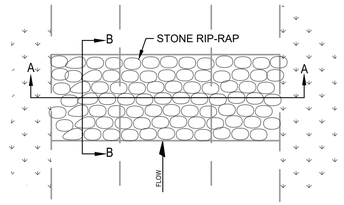
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SECTION B-B

SECTION A-A



PLAN VIEW

(EC-2) ROCK FILTER DAM

N.T.S.

INSTALLATION:

1. EXCAVATE KEY-WAY (IF REQUIRED)
2. A GEOTEXTILE FABRIC SHALL BE INSTALLED OVER THE SOIL SURFACE WHERE THE ROCK IS TO BE PLACED (IF REQUIRED)
3. ROCK DIAMETERS SHOULD BE 2" TO 15" IN DIAMETER
4. ROCK DITCH CHECKS SHOULD NOT EXCEED 3 FEET
5. STONES SHOULD BE PLACED UP THE CHANNEL BANKS TO PREVENT WATER FROM CUTTING AROUND THE DITCH CHECK
6. INSTALLATION SHALL BE PLACED EITHER BY HAND OR MECHANICALLY AND NOT JUST DUMPED TO ACHIEVE COMPLETE COVERAGE OF THE DITCH AND ENSURE THE CENTER OF THE DAMN IS LOWER THAN THE EDGES
7. MAXIMUM SPACING BETWEEN MULTIPLE DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM CHECK IS THE SAME AS THE TOP OF THE DOWNSTREAM CHECK

INSPECTION:

- INSPECT ROCK DITCH CHECKS EVERY (7) CALENDAR DAYS AND WITH-IN 24 HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2" PRECIPITATION.
- SEDIMENT SHOULD BE REMOVED WHEN IT REACHES 1/2 THE ORIGINAL CHECK HEIGHT
- IN THE CASE OF GRASS-LINED DITCHES OR SWALES, ROCK DITCH CHECKS SHOULD BE REMOVED WHEN THE GRASS HAS MATURED SUFFICIENTLY TO PROTECT THE DITCH OR SWALE, IF THE SLOPE IS 4% OR LESS.
- THE AREA BENEATH THE ROCK DITCH CHECKS SHOULD BE SEEDED AND MULCHED IMMEDIATELY AFTER THE CHECK DAM REMOVAL

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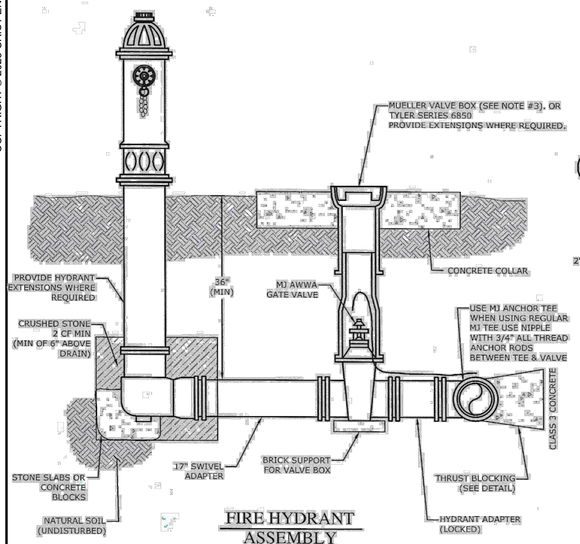
JOB NO. 26004

SHEET NO. C3.4

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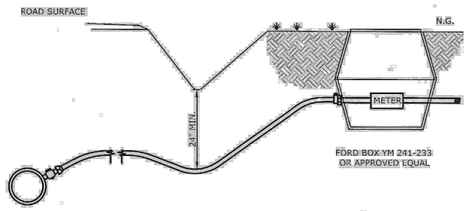
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NOTES:
1. FIRE HYDRANT TO BE MUELLER COMPANY, CENTURION FIRE HYDRANT (OR APPROVED EQUAL), AND INSTALLED AS SHOWN AND PER MANUFACTURER'S RECOMMENDATIONS.
2. GATE VALVE TO BE MUELLER COMPANY, SERIES 2360 (OR APPROVED EQUAL), AND INSTALLED AS SHOWN AND PER MANUFACTURER'S RECOMMENDATIONS.
3. ADJUSTABLE VALVE BOX TO BE MUELLER COMPANY (OR APPROVED EQUAL).
4. EXTENSIONS SHALL BE PROVIDED (AS NECESSARY) TO POSITION FIRE HYDRANT AND / OR GATE VALVE PER THE PLANS.

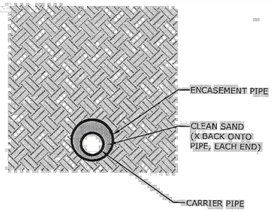


FIRE HYDRANT ASSEMBLY
NTS

NOTES:
1. FUSE FORD BRASS S70 (OR EQUAL) SERVICE SADDLE
2. USE MUELLER H-1500 FORD F1000, OR EQUAL CORP. STOP
3. USE MUELLER H-15075, OF EQUAL, CORP. STOP FITTING
4. 3/4" FOR SINGLE AND 1" FOR DOUBLE METER.

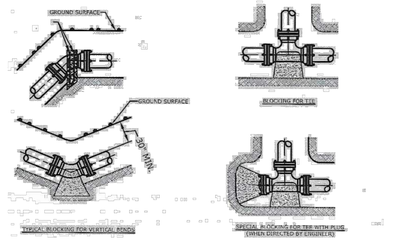


TYPICAL SERVICE CONNECTION
NTS



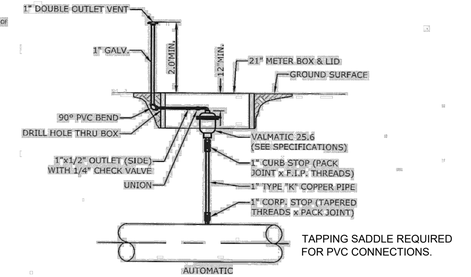
SECTION 'A-A'
TYPICAL STATE HIGHWAY CROSSING
NTS

NOTES ON THRUST BLOCKING:
1. ALL BLOCKING TO BE AGAINST UNDISTURBED HAND DUG SOIL.
2. WEIGHT CALCULATIONS TO BE BASED ON THRUST DUE TO STATIC PRESSURE + SURGE THRUST = 2 AP SIN½ Q WHERE A = AREA OF PIPE P = WATER PRESSURE.
3. WHEN BLOCKING AGAINST PLUG, PLUG SHALL BE COVERED TO PREVENT BONDING OF CONCRETE.
4. REINFORCING STEEL SHALL BE INSTALLED IN BLOCKING WHERE REQUIRED TO MEET SHEAR LOADINGS.
5. CLEARANCE SHALL BE A MINIMUM OF 6" BC; WEEN PIPE AND OBSTRUCTION.
6. CLEARANCE ON PIPES BELONGING TO CO-?? GAS COMPANIES SHALL BE 18" UNLESS SPECIAL PERMISSION IS GIVEN BY THESE COMPANIES.



SQUARE FEET OF THRUST BLOCKING (BASED ON 150 PSI PIPE PRESSURE & 2500 PSF SOIL)				
PIPE SIZE	DEAD END OR TEE	90 DEGREE ELBOW	45 DEGREE ELBOW	22.5 DEGREE ELBOW
2"	0.3	0.4	0.2	0.1
3"	0.6	0.8	0.3	0.2
4"	1.0	1.4	0.7	0.4
6"	2.1	3.0	1.6	0.8
8"	3.7	5.3	2.7	1.4
10"	5.7	7.9	4.2	2.1
12"	7.7	10.9	5.9	2.9

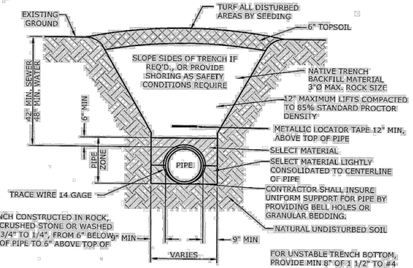
THRUST BLOCKING DETAILS
NTS



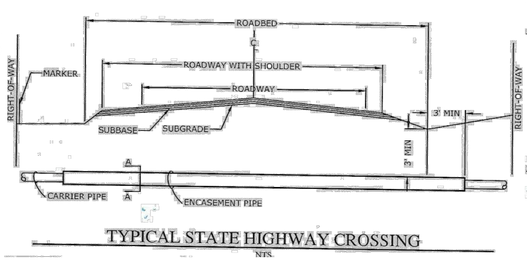
TAPPING SADDLE REQUIRED FOR PVC CONNECTIONS.

NOTE:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE, TEFLON PASTE OR RECTORSEAL ON THE THREAD.
2. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.
3. COPPER PIPE SHALL SLOPE CONTINUOUSLY UPWARDS FROM MAIN TO AIR RELEASE.

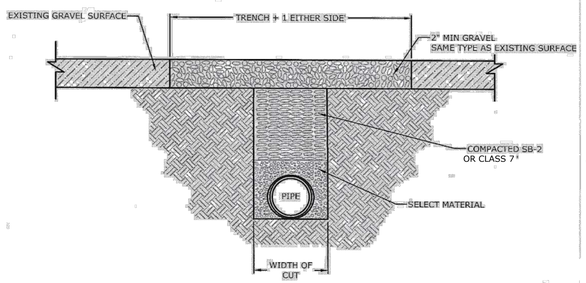
AIR RELEASE VALVE DETAIL
NTS



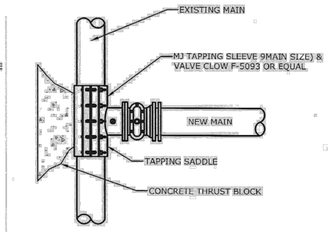
TYPICAL WATERLINE TRENCH IN WOODED AREAS
NTS



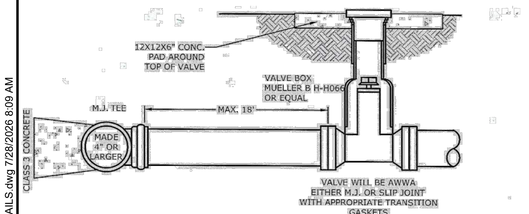
TYPICAL STATE HIGHWAY CROSSING
NTS



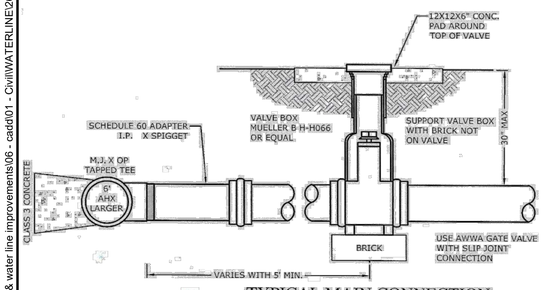
TYPICAL SECTION OF CUT AND REPAIR ON GRAVEL DRIVES & ROADS
NTS



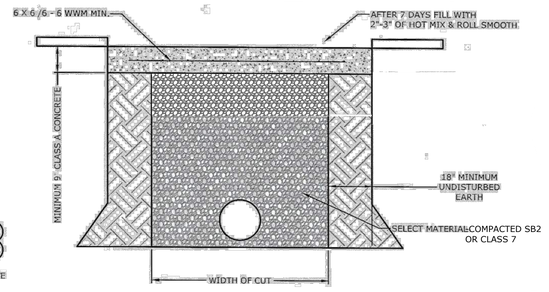
TAPPING SLEEVE & VALVE DETAIL
N.T.S.



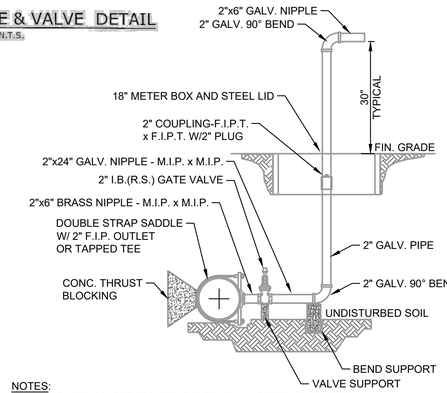
TYPICAL MAIN CONNECTION 4" AND LARGER
N.T.S.



TYPICAL MAIN CONNECTION 3" AND SMALLER
N.T.S.

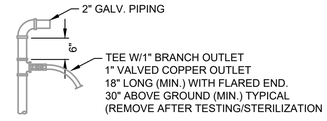


TYPICAL SECTION OF CUT AND REPAIR ON PAVED HIGHWAYS
NTS



NOTES:
1. ALL SADDLES, STRAPS AND BOLTS SHALL BE POLYWRAPPED.
2. WHEN TAPPING, MAIN US 1 7/8" BIT.
3. TAPPED TEES MAY BE USED ON CONNECTIONS TO NEW MAINS WHEN APPROVED BY OWNER.
4. ALL THREADED OUTLETS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE, TEFLON PASTE OR RECTORSEAL ON THREADS.
5. VALVE BOXES SHALL BE INSTALLED ON ALL BLOW OFF VALVES.
6. RISER PIPE SHALL BE PIPED INTO METER BOX AS SHOWN.

2" SIDE BLOW ASSEMBLY
N.T.S.



2" SAMPLE POINT ASSEMBLY
N.T.S.

NOTES:
1. 2" END BLOW OFF'S TO BE INSTALLED AT THE END OF MAINS 6" AND LARGER.
2. A 1" COPPER BLOW OFF SHALL BE INSTALLED AT ON NEAR THE END OF EVERY MAIN NOT REQUIRING A 2" BLOW OFF.
3. ALL THREADED OUTLETS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE, TEFLON PASTE OR RECTORSEAL ON THREADS.
4. VALVE BOXES SHALL BE INSTALLED ON ALL BLOW OFF VALVES.
5. RISER PIPE SHALL BE PIPED INTO METER BOX AS SHOWN.

2" END BLOW ASSEMBLY
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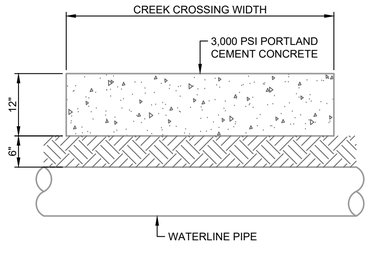
SARDIS WATER ASSOCIATION DETAILS

JOB NO. 26004

SHEET NO. C3.5

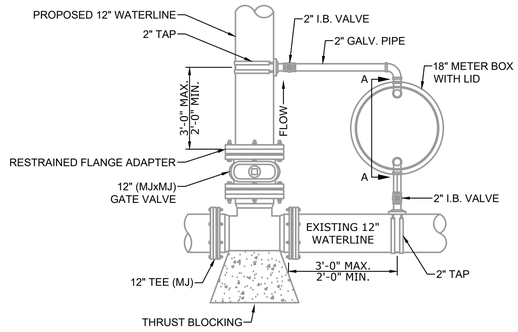
p:\2026 projects\26004 - sardis water - wst & water line improvements\06 - cadd\01 - Civil\WATERLINE\26004 - CIVIL DETAILS.dwg 7/28/2026 8:09 AM

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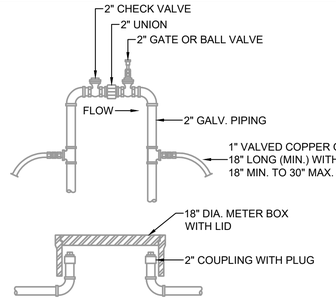


NOTE: PIPE TO BE WRAPPED IN POLYWRAP.

TYPICAL CONCRETE CAP
N.T.S.



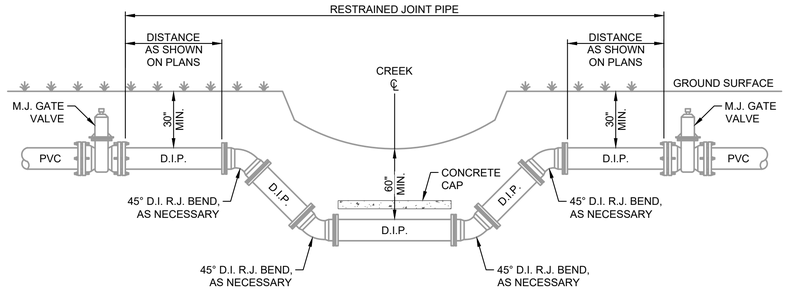
PLAN



SECTION 'A-A'
(FILL CONNECTION)

NOTES:
1. ALL FITTINGS SHALL HAVE RESTRAINED JOINTS AND THRUST BLOCKING.
2. UPON COMPLETION OF PIPE TESTING AND SAMPLING PROCEDURES, CLOSE VALVES, REMOVE FILL ASSEMBLY, AND PLUG COUPLINGS. UNLESS OTHERWISE DIRECTED BY ENGINEER. TURN OVER REMOVED FILL ASSEMBLY TO OWNER.
3. 2" VALVES ON MAIN LINE SHALL BE I.B.(R.S.) WITH THREADED ENDS, OPEN LEFT.
4. TAPPING SLEEVE AND VALVE SHALL BE WRAPPED WITH 8 MIL POLY WRAP.

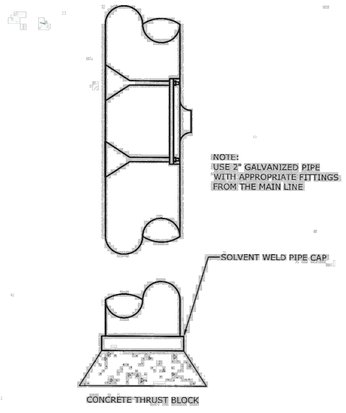
FILL CONNECTION DETAIL
N.T.S.



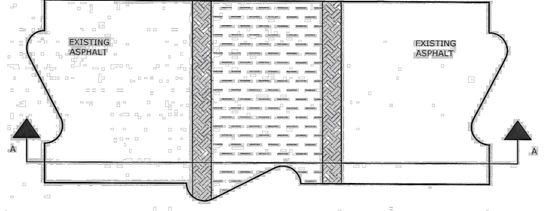
NOTES: A MINIMUM COVER OF FIVE FEET SHALL BE PROVIDED OVER THE PIPE UNLESS OTHERWISE APPROVED BY THE REVIEWING AUTHORITY. WHEN CROSSING WATER COURSES WHICH ARE GREATER THAN 15 FEET IN WIDTH, THE FOLLOWING SHALL BE PROVIDED.

1. THE PIPE SHALL BE OF SPECIAL CONSTRUCTION, HAVING FLEXIBLE, RESTRAINED OR WELDED WATERTIGHT JOINTS.
2. VALVES SHALL BE PROVIDED AT BOTH ENDS OF WATER CROSSINGS SO THAT THE SECTION CAN BE ISOLATED FOR TESTING OR REPAIR; THE VALVES SHALL BE EASILY ACCESSIBLE, AND NOT SUBJECT TO FLOODING.
3. PERMANENT TAPS OR OTHER PROVISIONS TO ALLOW INSERTION OF A SMALL METER TO DETERMINE LEAKAGE AND ON EACH SIDE OF THE VALVE CLOSET TO THE SUPPLY SOURCE.

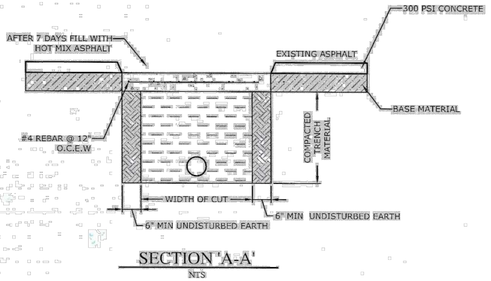
TYPICAL CREEK CROSSING
N.T.S.



SADDLE CONNECTION AT MAIN LINE 3" OR LARGER
NTS

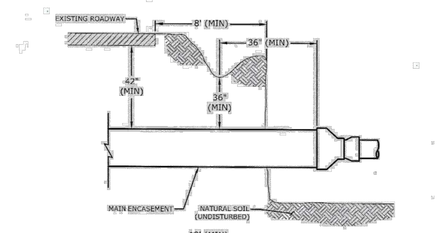


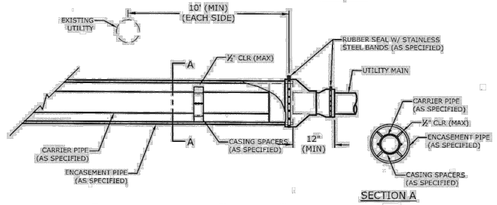
TYPICAL SECTION OF CUT AND REPAIR ON CITY AND COUNTY ROADS W/ ASPHALT SURFACE
NTS



SECTION 'A-A'
NTS

NOTES:
1. INSTALL STEEL CASING ON UTILITY MAIN WHERE 18" SEPARATION BETWEEN WATER & SEWER CANNOT BE MAINTAINED, OR WATER MAIN IS LOCATED BELOW SEWER MAIN.
2. SPACERS SHALL BE PREFABRICATED STEEL, SPACER SMITH-BLAIR MODEL #883 (OR APPROVED EQUAL)
3. QUANTITY OF RUNNERS SHALL BE IN ACCORDANCE W/ CARRIER PIPE SIZES:
   UP TO 14"Ø: 4 RUNNERS
   16"Ø – 36"Ø: 6 RUNNERS
4. DIMENSIONS BETWEEN SPACERS SHALL BE NO MORE THAN 6'-8".
5. A MINIMUM OF 3 SPACERS SHALL BE USED PER FULL JOINT OF PIPE.
6. SEWER LINE SHALL BE HELD TO SPECIFIED SLOPE (SEE PLANS).
7. CARRIER PIPE JOINTS IN CASINGS SHALL BE RESTRAINED JOINT FOR THRUST.
8. ALL ENCASEMENT PIPE SHALL BE NEW, SMOOTH WALL WELDED SHEET & HAVE A MINIMUM WALL THICKNESS PER THE ASSOCIATED ENCASEMENT CHART.

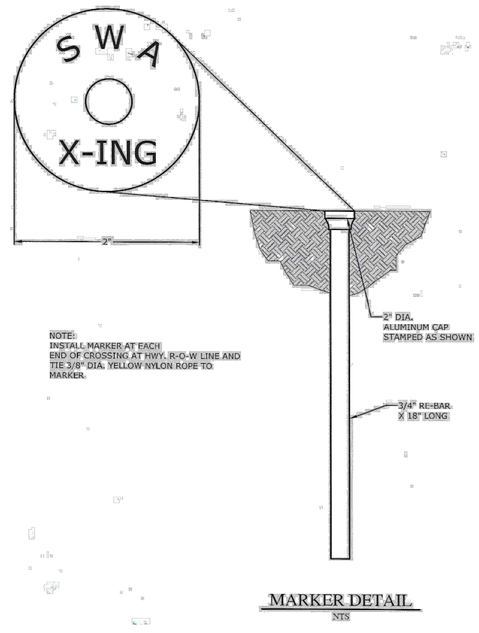




SECTION A

CARRIER & CASING SIZES							
CARRIER (ID)	2"	3"	4"	6"	8"	10"	12"
CASING (ID)	0'-5"	0'-6"	0'-8"	1'-0"	1'6"	2'0"	2'6"
CASING WALL THICKNESS	0.25	0.25	0.25	0.25	0.25	0.25	0.375
CARRIER (ID)	14"-16"	18"-20"	24"	30"	36"	42"	48"
CASING (ID)	30"	36"	42"	48"	54"	60"	72"
CASING WALL THICKNESS	0.375	.5	.625	.625	.625	.625	.75

ROAD BORING W/ T ENCASEMENT
NTS



NOTE:
INSTALL MARKER AT EACH END OF CROSSING AT HWY, R-O-W LINE AND TIE 3/8" DIA. YELLOW NYLON ROPE TO MARKER.

MARKER DETAIL
NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CORPORATE REGISTRATION — CRIST ENGINEERS, INC. CONSULTING ENGINEERS — No. 91 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DUNN — 7/27/26

0 1" — 1" = 1"

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: -
DRAFTED: BAM
CHECKED: MDD
DATE: JULY 2026

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
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WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

SARDIS WATER ASSOCIATION DETAILS

JOB NO. 26004

SHEET NO. C3.6

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GENERAL

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THESE DRAWINGS, AND THE 2014 ARDOT STANDARD SPECIFICATIONS.
2. CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL STORM WATER CONTROL, EROSION CONTROL, PUMPING AND DEWATERING NECESSARY FOR THE CONSTRUCTION OF THIS PROJECT. THIS WORK SHALL BE CONSIDERED INCIDENTAL, AND NOT A SEPARATE PAY ITEM.
3. CONTRACTOR SHALL LOCATE EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER OF ANY POTENTIAL CONFLICTS. EXCAVATED AREAS SHALL BE BACKFILLED AS DESCRIBED IN THE GEOTECHNICAL REPORT.
4. ANY STRUCTURAL EXCAVATION AND BACKFILL SHALL BE CONSIDERED SUBSIDIARY TO THE STRUCTURE AND NOT A SEPARATE PAY ITEM.
5. MEASUREMENT FOR PAYMENT FOR THE JUNCTION BOXES WILL BE LUMP SUM. THIS PRICE SHALL BE FULL COMPENSATION FOR ALL STRUCTURAL EXCAVATION, TEMPORARY SHORING, FORMWORK, CONCRETE, REINFORCING STEEL, COMPACTED BACKFILL, WATERSTOPS, OTHER ACCESSORIES, AND ALL LABOR, TOOLS, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY FOR COMPLETE CONCRETE STRUCTURES.
6. COMPLETE SHOP DRAWINGS FOR THE STRUCTURAL WORK SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO COMMENCEMENT OF CONSTRUCTION. A PERIOD OF AT LEAST 10 WORKING DAYS SHALL BE PROVIDED FOR THIS REVIEW. REVIEW OF SHOP DRAWINGS BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF FULL RESPONSIBILITY FOR CORRECT FABRICATION AND CONSTRUCTION OF THE WORK.
7. ANY DEVIATION FROM, ADDITION TO, SUBSTITUTION FOR, OR MODIFICATION TO THE STRUCTURE OR ANY PART OF THE STRUCTURE SHOWN ON THESE DRAWINGS SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS THAT ARE SUBMITTED FOR REVIEW DO NOT CONSTITUTE "IN-WRITING" UNLESS IT IS CLEARLY NOTED THAT SPECIFIC CHANGES ARE BEING SUGGESTED.
8. THE CONTRACTOR SHALL REFER TO THE CIVIL DRAWINGS FOR ELEVATIONS NOT SHOWN AND FOR EXACT LOCATIONS AND DIMENSIONS. THE CONTRACTOR SHALL COMPARE THE STRUCTURAL PLANS AND SECTIONS WITH THE CIVIL PLANS AND SECTIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMPLETION OF THE SHOP DRAWINGS.
9. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS AT THE SITE AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE ACTUAL CONDITIONS AND INFORMATION SHOWN ON THE DRAWINGS BEFORE PROCEEDING WITH THE WORK.
10. THE STRUCTURAL DRAWINGS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
11. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHODS OF CONSTRUCTION UNLESS SO STATED OR NOTED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORKERS AND OTHER PERSONS DURING CONSTRUCTION.
12. THE CONTRACTOR SHALL PROVIDE TEMPORARY ERECTION BRACING AND SHORING OF ALL STRUCTURAL WORK AS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONDITION WHICH, IN HIS OPINION, MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE DISTRESS IN THE STRUCTURE.
13. IF THERE ARE ANY INCONSISTENCIES OR DISCREPANCIES WITHIN OR BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE GREATER QUANTITY OF ITEMS SHOWN, AND THE MOST COSTLY PRODUCT OR INSTALLATION METHOD SHALL BE PROVIDED, UNLESS INSTRUCTED OTHERWISE BY THE ARCHITECT/ENGINEER. IT SHALL BE DEEMED THAT THE CONTRACTOR BID AND INTENDS TO EXECUTE THE MORE STRINGENT OR HIGHER QUALITY REQUIREMENT WITHOUT ANY INCREASE TO THE CONTRACT SUM OR CONTRACT TIME.

CAST-IN-PLACE REINFORCED CONCRETE

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE ACI 318 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
2. MILD STEEL REINFORCING BARS SHALL CONFORM TO ASTM A-615, GRADE 60.
3. MILD STEEL REINFORCEMENT AND ACCESSORIES SHALL BE DETAILED AND FABRICATED IN ACCORDANCE WITH ACI SP-66.
4. PORTLAND CEMENT SHALL BE A SINGLE BRAND CONFORMING TO ASTM C-150, TYPE I, UNLESS OTHERWISE APPROVED.
5. NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C-33. ALL CONCRETE SHALL USE NORMAL WEIGHT AGGREGATES, UNLESS NOTED OTHERWISE.
6. ALL ADDITIVES FOR AIR ENTRAINMENT, WATER REDUCTION, AND SET CONTROL SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS. THE USE OF CALCIUM CHLORIDE IS PROHIBITED.
7. THE MAXIMUM NOMINAL SIZE OF COARSE AGGREGATE SHALL BE 1".
8. CONCRETE SLUMPS SHALL BE AS FOLLOWS:

   SLOPING SURFACES..... 3" MAX

   CONCRETE CONTAINING SUPER PLASTICIZER ..... 8" MAX

   ALL OTHER CONCRETE..... 4" MAX
9. MILD STEEL REINFORCEMENT SHALL BE PLACED AND SECURED IN ACCORDANCE WITH CRSI "RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS".
10. THE TESTING LABORATORY SHALL BE NOTIFIED AFTER THE MILD STEEL REINFORCEMENT AND EMBEDS ARE POSITIONED PRIOR TO EACH CONCRETE PLACEMENT. NO CONCRETE SHALL BE PLACED UNTIL THESE ITEMS ARE CHECKED AND APPROVED BY THE TESTING LABORATORY.
11. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE AS FOLLOWS (UNLESS NOTED OTHERWISE ON THE DRAWINGS).

    a. TOP SLAB ..... 1½" FOR #5 AND SMALLER BARS; 2" FOR #6 AND LARGER BARS

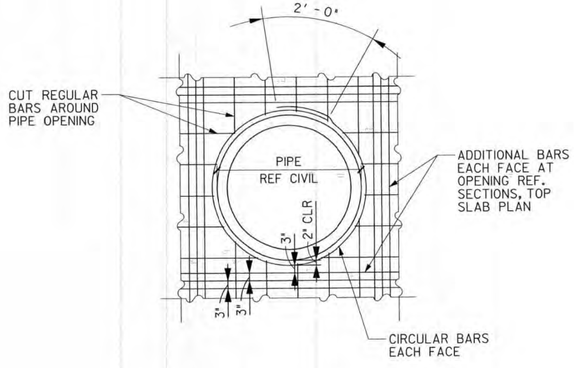
    b. BASE SLAB ..... 2" TOP; 3" BOTTOM

    c. WALLS ..... 2" SIDES AND BOTTOM
12. WATERSTOPS SHALL BE PROVIDED AT ALL CONSTRUCTION JOINTS AND PIPE WALL PENETRATIONS. ALL WATERSTOPS AT WALL AND SLAB JOINTS SHALL BE PVC TYPE 741 AS MANUFACTURED BY GREENSTREAK OR APPROVED EQUAL. ALL WATERSTOPS AT PIPE PENETRATIONS SHALL BE TYPE SF302 BY SYNKO-FLEX OR APPROVED EQUAL. INSTALL IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
13. CONCRETE SHALL CONFORM TO ARDOT CLASS S AND SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI, MINIMUM.
14. IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL, BLOCKOUTS, OR PIPES, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR.

EARTHWORK AND FOUNDATIONS

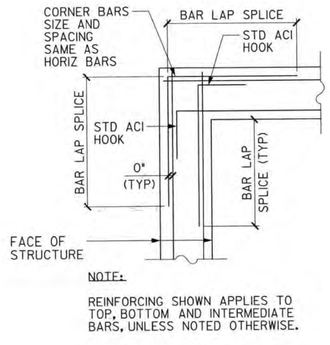
1. THE FOUNDATION DESIGN IS IN ACCORDANCE WITH A SUBGRADE INVESTIGATION AND JOB No. 22-131 BY GRUBBS , HOSKYN, BARTON, AND WYATT, INC. CONSULTING ENGINEERS DATED 01-26-2023.
2. A QUALIFIED GEOTECHNICAL ENGINEER SHALL BE RETAINED BY THE OWNER TO OBSERVE ALL GRADING OPERATIONS AND THE REQUIRED TESTING. THESE TESTS AND OBSERVATIONS SHALL INCLUDE BUT NOT NECESSARILY BE LIMITED TO THE FOLLOWING:
   - IDENTIFICATION OF BEARING MATERIAL.
   - VERIFICATION OF ADEQUATE PENETRATION OF THE FOUNDATION EXCAVATION INTO THE BEARING LAYER.
   - VERIFICATION THAT THE BASE AND SIDES OF THE EXCAVATION ARE CLEAN OF LOOSE CUTTINGS.
   - DETERMINATION OF WHETHER THE AMOUNT OF SEEPAGE ENCOUNTERED IS SUFFICIENT TO REQUIRE THE USE OF EXCAVATION DEWATERING METHODS.
3. THE PREPARATION OF AREAS TO RECEIVE THE BOTTOM SLAB SHALL INCLUDE:
   - STRIPPING OF VEGETATION, ROOTS, OLD CONSTRUCTION DEBRIS, AND OTHER ORGANIC MATERIAL.
   - PROOFROLLING ANY EXPOSED SUBGRADE IN THE PRESENCE OF THE GEOTECH'S REPRESENTATIVE.
   - OVEREXCAVATION OF ANY SOFT AREAS AND REPLACEMENT WITH SELECT FILL PLACED ACCORDING TO THE GEOTECH REPORT.
4. IF POSSIBLE, ALL CONCRETE FOR FOUNDATIONS SHALL BE PLACED ON THE SAME DAY THE EXCAVATION IS MADE. EACH FOUNDATION EXCAVATION SHOULD BE CLEAN, DRY, AND FREE OF ANY LOOSE SOIL OR UNCOMPACTED FILL. ALL SATISFACTORY FOUNDATION EXCAVATIONS SHALL BE ADEQUATELY PROTECTED AGAINST DETRIMENTAL CHANGES IN CONDITIONS SUCH AS FREEZING, DISTURBANCE, DRYING OR SATURATION. THE EXPOSED FOUNDATION SOILS SHALL NOT BE ALLOWED TO BECOME EXCESSIVELY DRY OR WET BEFORE PLACEMENT OF CONCRETE. THE MOISTURE CONTENT AND CONDITION OF THE SOILS SHOULD BE MAINTAINED IN A DAMP, BUT NOT WET, CONDITION BOTH DURING AND AFTER CONSTRUCTION. IF CONCRETE CANNOT BE PLACED WITHIN 24hrs OF OPEN EXCAVATION, THE EXCAVATION SHALL BE OVER EXCAVATED 4" AND A 4" MUD SLAB INSTALLED. PONDING OF WATER IN THE EXCAVATION IS PROHIBITED.
5. CARE SHALL BE TAKEN DURING GRADING OPERATIONS TO AVOID DAMAGE TO FOOTINGS AND OTHER SUBSTRUCTURES.
6. COMPACTION WITHIN FIVE FEET OF THE WALLS SHALL BE ACHIEVED WITH HAND COMPACTION EQUIPMENT. THE CONTRACTOR SHALL RELEVEL ALL AREAS OF BACKFILL WHERE SETTLEMENT OCCURS. CARE SHALL BE TAKEN THAT THE BACKFILL IS NOT OVERCOMPACTED. THIS WORK SHALL BE CONSIDERED INCIDENTAL, AND NOT A SEPARATE PAY ITEM.
7. BACKFILLING ALONG ALL SIDES OF THE STRUCTURES SHALL PROCEED SIMULTANEOUSLY TO PREVENT UNBALANCED LATERAL PRESSURES DURING CONSTRUCTION.
8. SUBGRADE SHALL BE OVER EXCAVATED FIVE FEET BELOW THE TOP OF PROPOSED GRADE AND EXTENDING OUT FIVE FEET BEYOND BOTTOM STRUCTURE LIMITS. EXCAVATED SOIL SHALL BE REPLACED WITH PROPERLY COMPACTED ARDOT CLASS 7 GRANULAR FILL BASE OR APPROVED ALTERNATE ON A LAYER OF MIRAFI HP270 GEOTEXTILE OR APPROVED EQUAL.

BAR TABLE		
SIZE	LAP (IN)	HOOK (IN)
#3	15	6
#4	19	8
#5	24	10
#6	29	12
#7	42	14
#8	48	16
#9	54	20
#10	60	22
#11	66	24



01 S0.1 — TYPICAL WALL/SLAB CIRCULAR PENETRATION DETAIL

N.T.S.

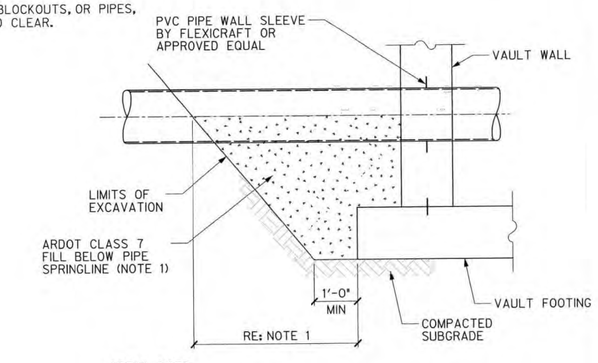


NOTE:

REINFORCING SHOWN APPLIES TO TOP, BOTTOM AND INTERMEDIATE BARS, UNLESS NOTED OTHERWISE.

02 S0.1 — CORNER & INTERSECTION REINFORCEMENT

SCALE = ¾" = 1'-0"



DETAIL NOTE:

1. CLASS 7 FILL SHALL EXTEND TO THE LIMITS OF THE EXCAVATION, BUT NOT LESS THAN THE PIPE DIAMETER OR 1'-0", WHICHEVER IS GREATER. THE WIDTH OF FILL BELOW PIPE SHALL NOT BE LESS THAN 2'-0" PLUS THE WIDTH OF PIPE OUTSIDE DIAMETER.

03 S0.1 — PIPE PENETRATION FILL DETAIL

SCALE = ¾" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

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STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DUNN — 7/27/26

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THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED:	-
DRAFTED:	BAM
CHECKED:	MDD
DATE:	JULY 2026

CRIST ENGINEERS, INC.
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1 EXECUTIVE CENTER COURT
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WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

LOCATION DESCRIPTION
STRUCTURAL SITE GENERAL NOTES

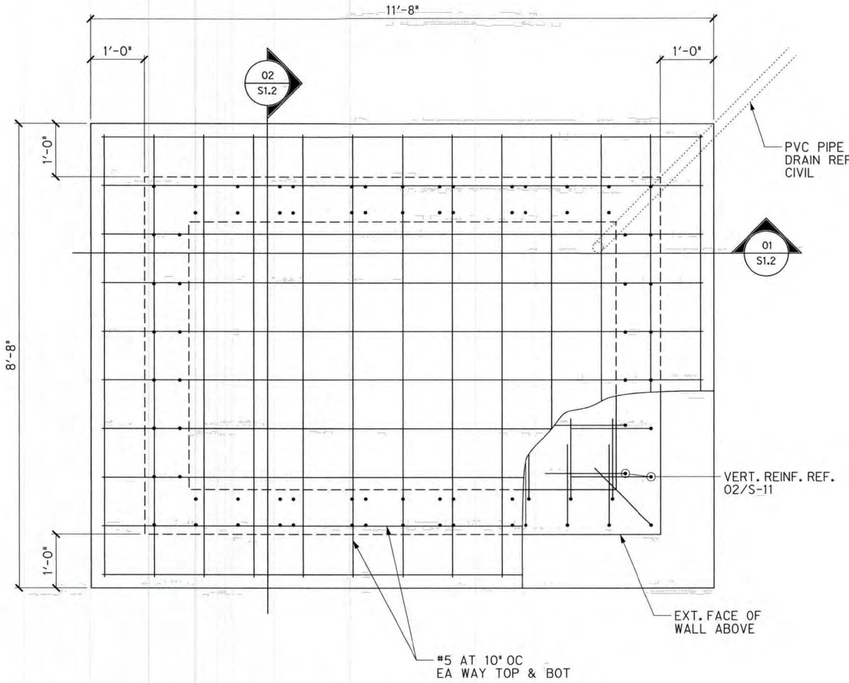
JOB NO. 26004

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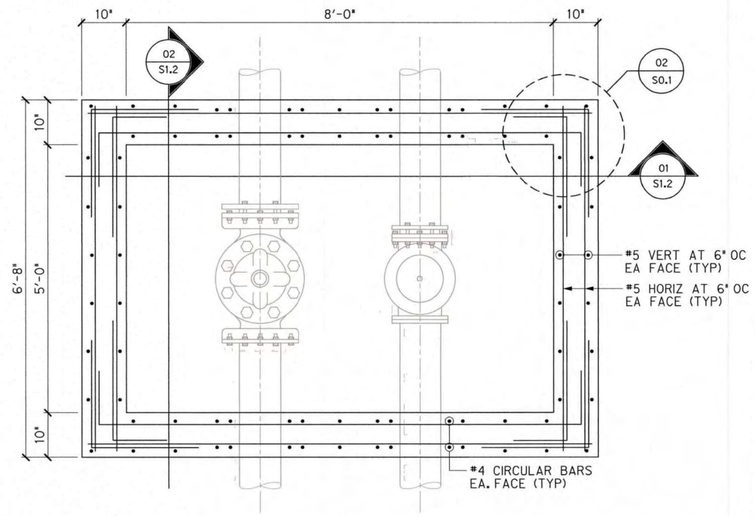
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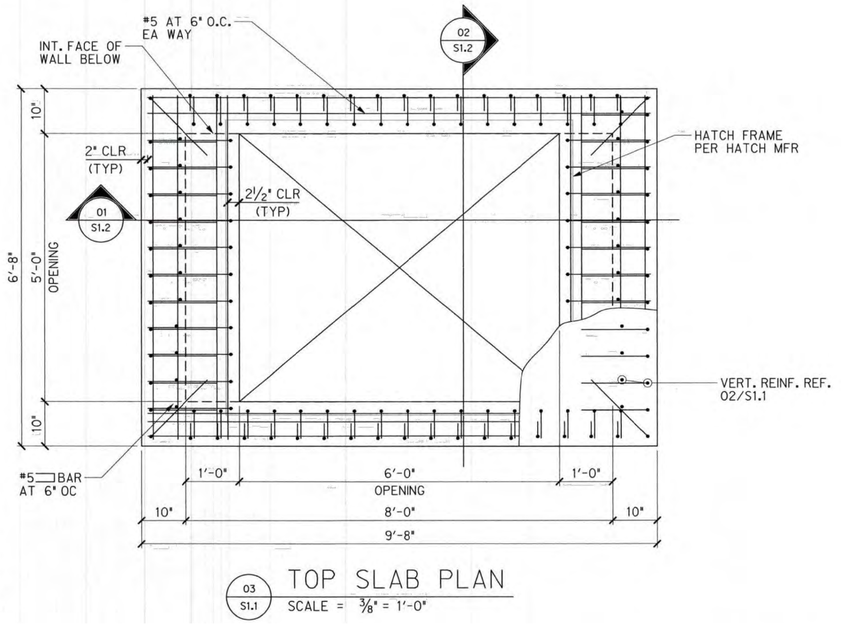
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01 S1.1 BOTTOM SLAB PLAN
SCALE = 3/4" = 1'-0"



02 S1.1 WALL PLAN VIEW
SCALE = 3/4" = 1'-0"



03 S1.1 TOP SLAB PLAN
SCALE = 3/8" = 1'-0"

NOTE:

1. REFER CIVIL FOR VAULT HARDWARE AND ACCESSORY INFORMATION AND LOCATION.
2. REFER CIVIL FOR HATCH AND HARDWARE.
3. REFER 02/S0.1 FOR CORNER REINFORCEMENT DETAIL.
4. REFER 03/S0.1 FOR PIPE PENETRATION FILL DETAIL.
5. REFER EARTHWORK GENERAL NOTES FOR SUBGRADE PREPARATION

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

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SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

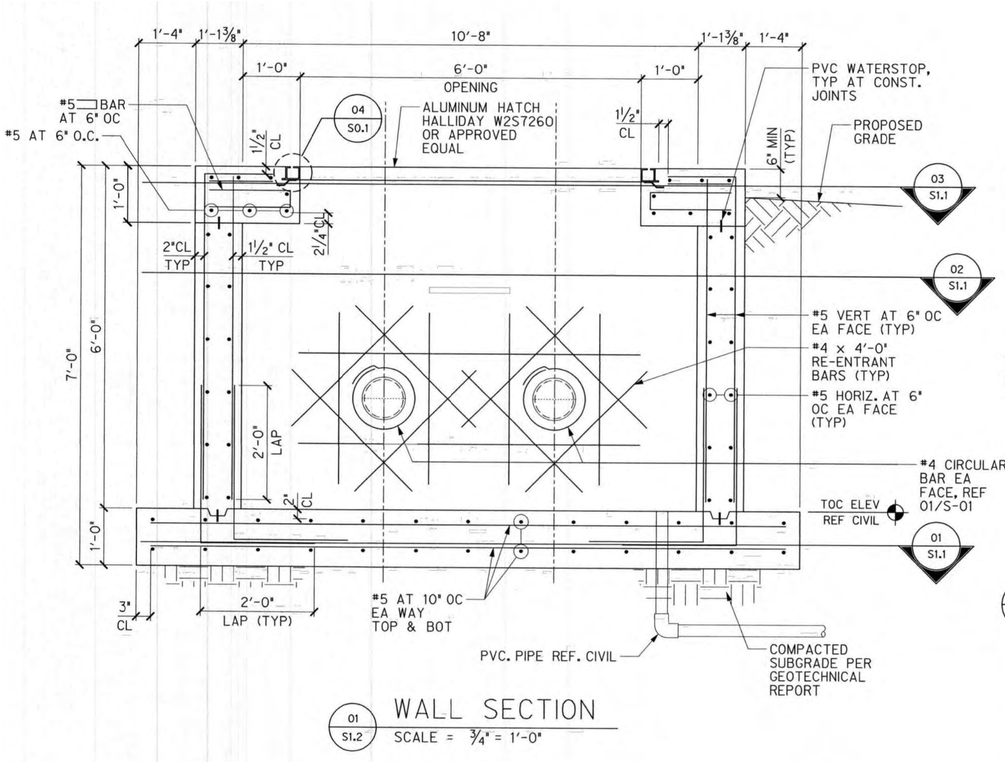
BID SET

LOCATION DESCRIPTION
VALVE VAULT STRUCTURAL DETAILS

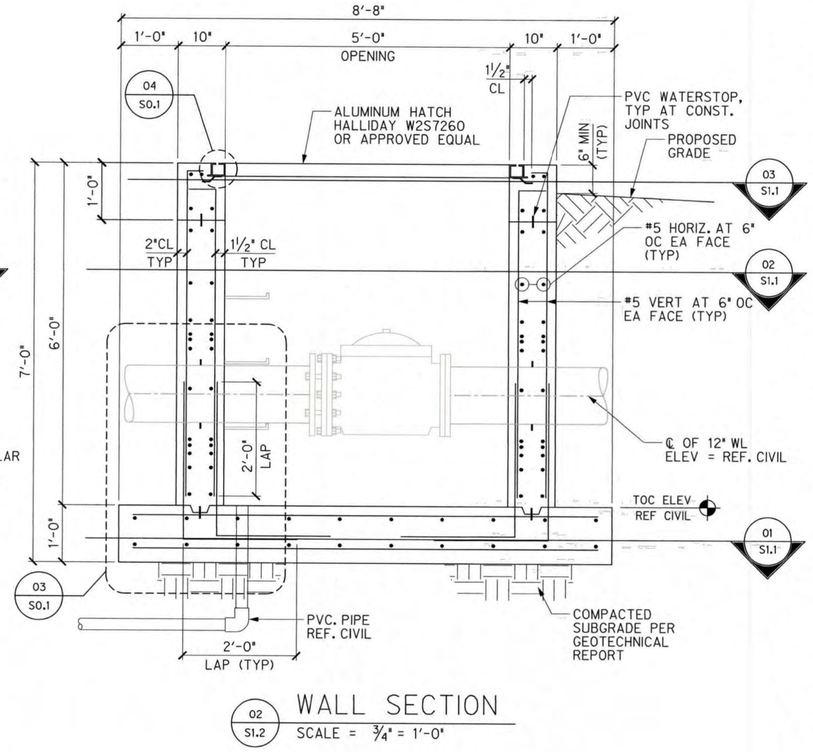
JOB NO. 26004

SHEET NO. S1.1

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01 S1.2 WALL SECTION
SCALE = 3/4" = 1'-0"



02 S1.2 WALL SECTION
SCALE = 3/4" = 1'-0"

NOTE:

1. REFER CIVIL FOR VAULT HARDWARE AND ACCESSORY INFORMATION AND LOCATION.
2. REFER CIVIL FOR HATCH AND HARDWARE.
3. REFER 02/S0.1 FOR CORNER REINFORCEMENT DETAIL.
4. REFER 03/S0.1 FOR PIPE PENETRATION FILL DETAIL.
5. REFER EARTHWORK GENERAL NOTES FOR SUBGRADE PREPARATION

REV. NO.	DATE	DRWN	CHKD	REMARKS
				ISSUED AS PART OF ADDENDUM 3

CRIST ENGINEERS, INC. CONSULTING ENGINEERS No. 91 — CORPORATE REGISTRATION — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 11048 — MATTHEW D. DUNN — 7/27/26

0 1" — 1" = 1"

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: -
DRAFTED: BAM
CHECKED: MDD
DATE: JULY 2026

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
1 EXECUTIVE CENTER COURT
LITTLE ROCK, ARKANSAS 72211
TELEPHONE: (501) 664-1552
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WWW.CRISTENGINEERS.COM

SARDIS, ARKANSAS

SARDIS WATERLINE IMPROVEMENTS
E. SARDIS ROAD & DONNA LANE

BID SET

LOCATION DESCRIPTION
VALVE VAULT STRUCTURAL DETAILS

JOB NO. 26004

SHEET NO. S1.2

p:\2026 projects\26004 - sardis water - wst & water line improvements\06 - cadd\01 - Civil\WATERLINE\26004 - VAULT STRUCTURAL PLANS.dwg 7/28/2026 8:10 AM