

April 18, 2024

United States Department of Agriculture
Rural Development – Rural Utilities Service
Water Environmental Programs
14000 Independence Avenue, SW
Washington, DC 20250

RE: American Iron & Steel – “Project Cost Waiver”
Steel Piles and Cribbing System

To Whom it May Concern,

Ozark Mountain Regional PWA requests an American Iron & Steel - Project Cost Waiver be considered for the steel piles and steel cribbing system used on the Emergency Water Main Replacement on Arkansas Highway 74 project in Jasper, Arkansas.

The project entailed the emergency replacement of an 8” water main affected by landslide events in the area. The project also consisted of a land correction and stabilization system. The stabilization system was to consist of steel piles and steel guardrail cribbing. Materials for the stabilization system were derived from rails once used on the U.S. railroad systems, and guard railing once used along the U.S. highway systems. The abandoned railroad rails and cribbing (guard rails) were to be recycled and re-purposed for components in the stabilization system for the landslide correction.

The cost differential between “New” rails / cribbing and “Recycled” rails / cribbing is significant. In addition, the railroad steel components were stamped with poundage and/or date of manufacturer and/or location of production. Some of the rails state “USA 2009”, “Illinois”, “1950”, and/or “Beth Steel Ton”. The cost of the overall project with the new AIS-compliant materials would have increased the cost of the overall project by more than 25 percent. Attached is a cost analysis showing the total project costs using the “New” material versus the “Recycled” material. The material cost analysis shows the total project costs to be 69 percent higher utilizing the ASI-compliant materials.

A good faith effort to solicit bids for the iron and steel products was put forth by the project contractor, Hinkle Environmental Services, LLC. Attached in the enclosures is a quote from an AIS compliant supplier with cost and measurement for the required new materials for the project.

Information pertaining to the use and installation of the recycled steel material are enclosed as plan sheets, specifications, cost-analysis sheets, and other related documentation.

Please do not hesitate to contact me on my cell phone at 870-365-6680 if you have any questions or require additional information.

Thank you for your consideration on this matter.

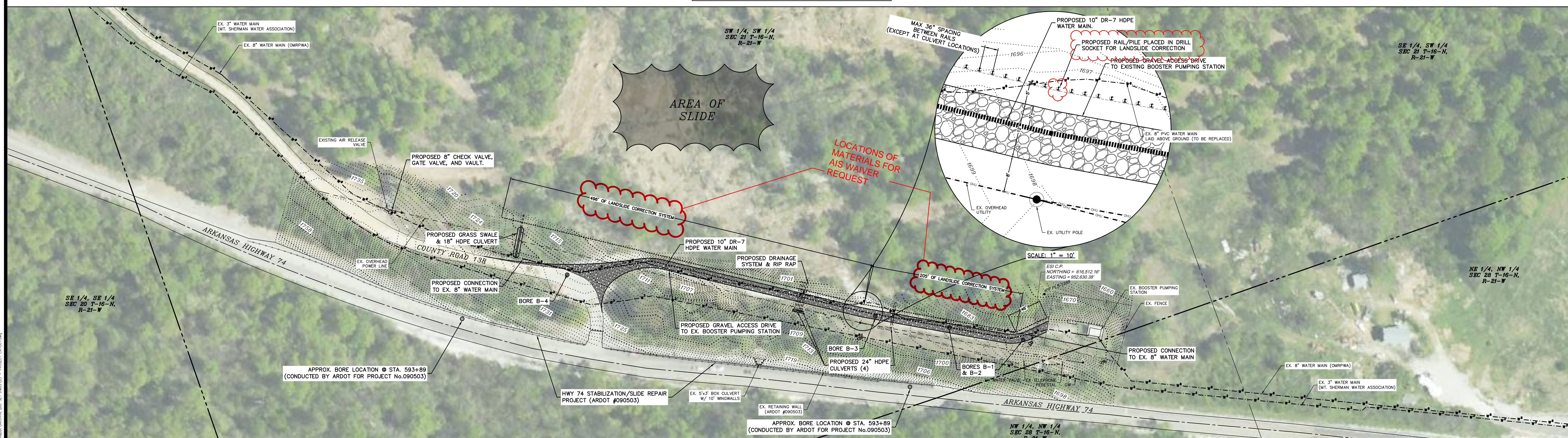
Sincerely,

Andy Anderson,
Chairman

Enclosures



EXISTING CONDITIONS



PROPOSED IMPROVEMENTS

- GENERAL NOTES:**
- All water mains to have a minimum cover of 36 inches over the top of the pipe.
 - The owner will provide easements where transmission mains cross private property.
 - The contractor shall locate all existing utilities before proceeding with construction. Existing utilities typically are not shown on these plans.

LEGEND

	PROPOSED 2" WATER MAIN		PROPOSED AIR RELEASE VALVE
	PROPOSED 3" WATER MAIN		PROPOSED PRESSURE REDUCING VALVE
	PROPOSED 4" WATER MAIN		PROPOSED GATE VALVE
	PROPOSED 6" WATER MAIN		PROPOSED BLOW-OFF
	PROPOSED 8" WATER MAIN		PROPOSED 3-WAY FIRE HYDRANT
	PROPOSED 12" WATER MAIN		PROPOSED 2-WAY FIRE HYDRANT
	EXISTING WATER MAIN & SIZE		PROPOSED LEAK DETECTION METER
	SINGLE METER SETTING		
	DOUBLE METER SETTING		
	1" METER SETTING		

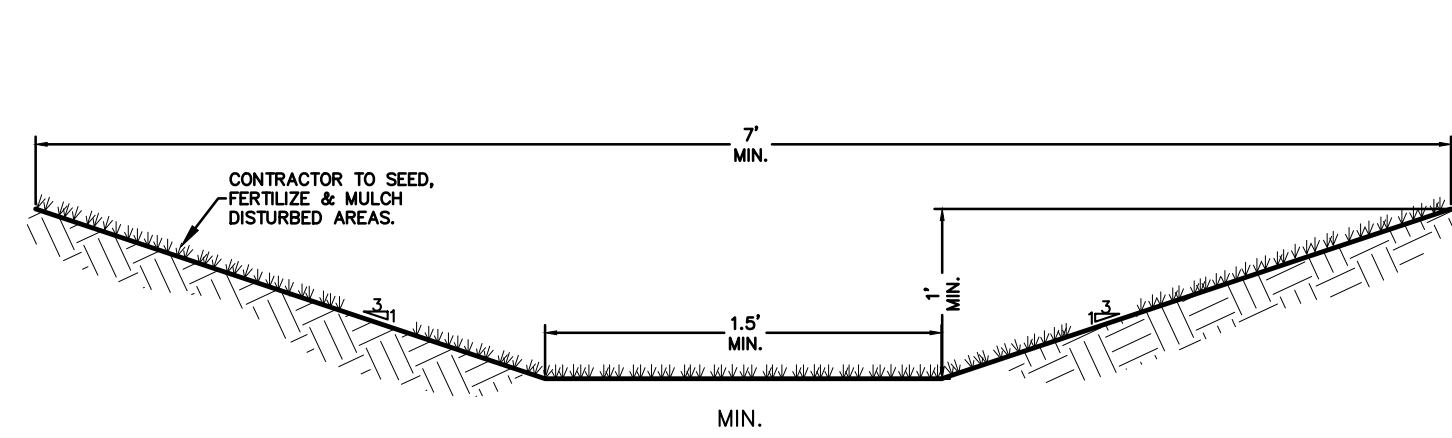
REVISION	DATE	DESCRIPTION

SCALE: 1" = 60'
 DATE: Apr 26, 2023
 ENGINEER: TAM
 DRAWN BY: SAMB
 © COPYRIGHT 2023, ENGINEERING SERVICES INC.

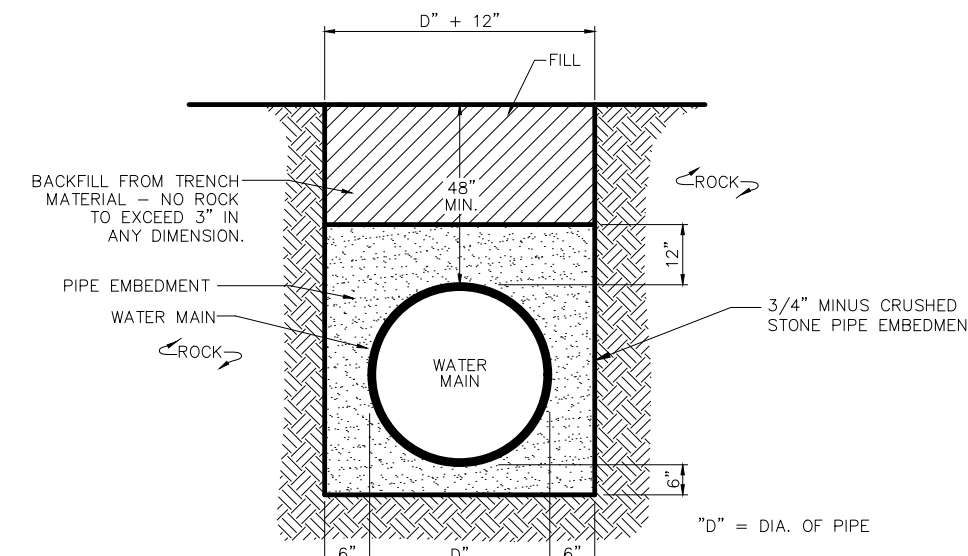
PROJECT LAYOUT
WATER MAIN REPLACEMENT - AR HWY 74 SLIDE
 OZARK MOUNTAIN REGIONAL PUBLIC WATER AUTHORITY
 NEWTON COUNTY, ARKANSAS

ESI
 ENGINEERING SERVICES INC.
 1207 SOUTH OLD MISSOURI RD.
 SPRINGDALE, ARKANSAS 72764
 PHONE: 479-751-8733

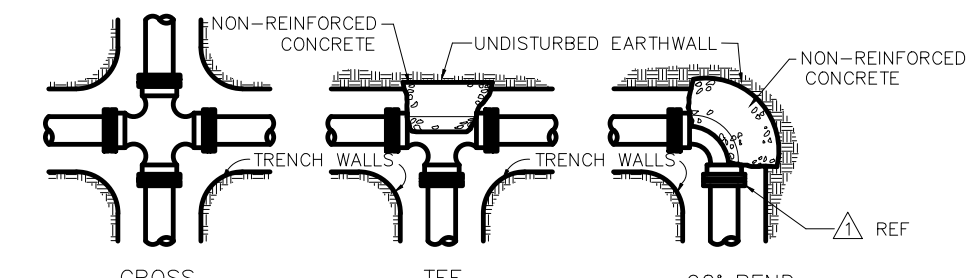
W.O. No. 19812
 SHEET No. 03



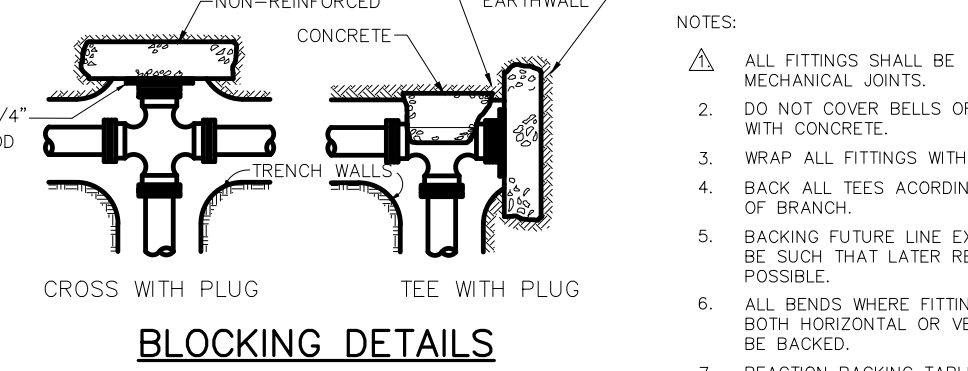
FLAT BOTTOM GRASS SWALE DETAIL



TYPICAL ROCK EXCAVATION AND BEDDING FOR WATER MAIN



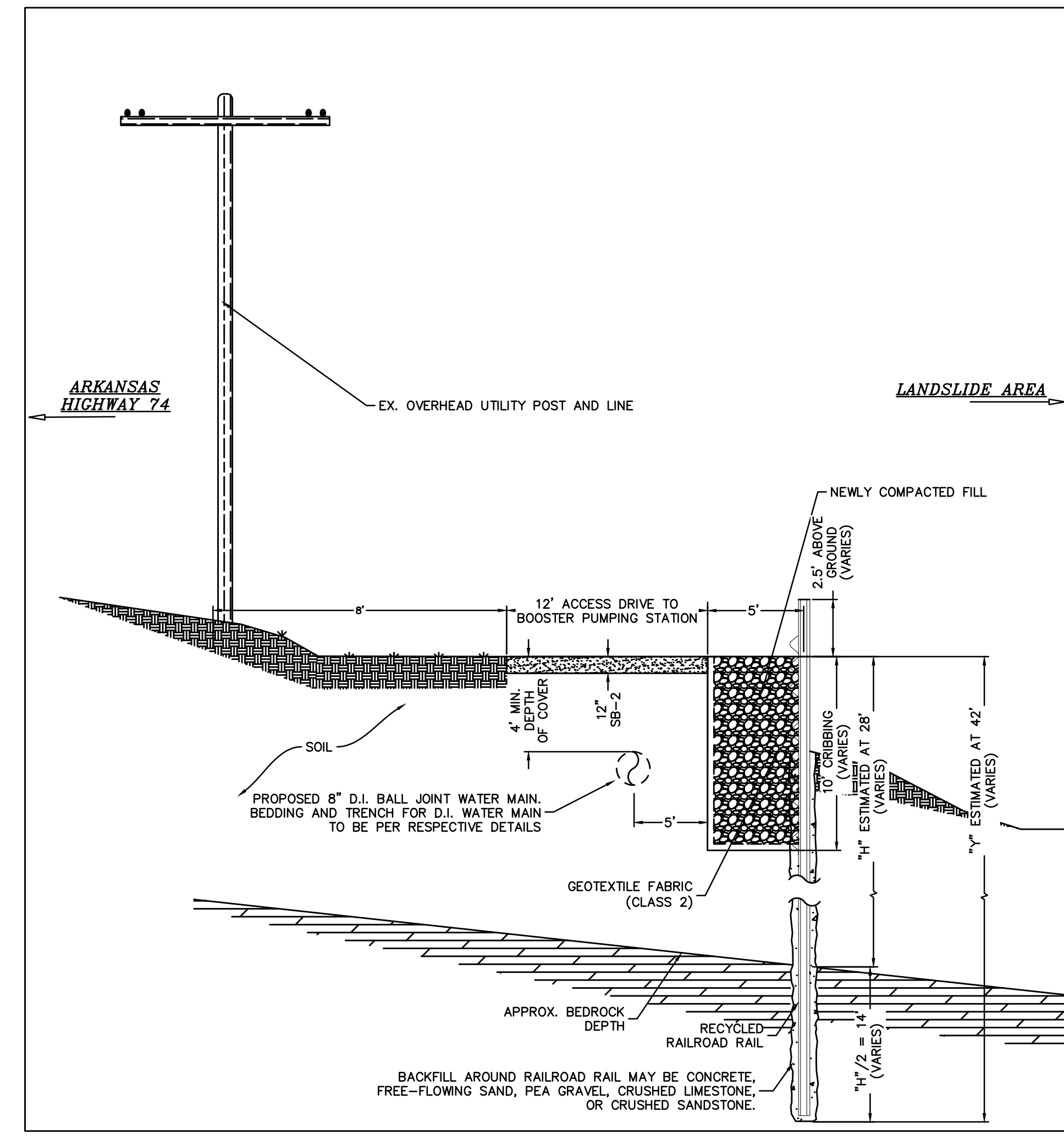
BLOCKING DETAILS



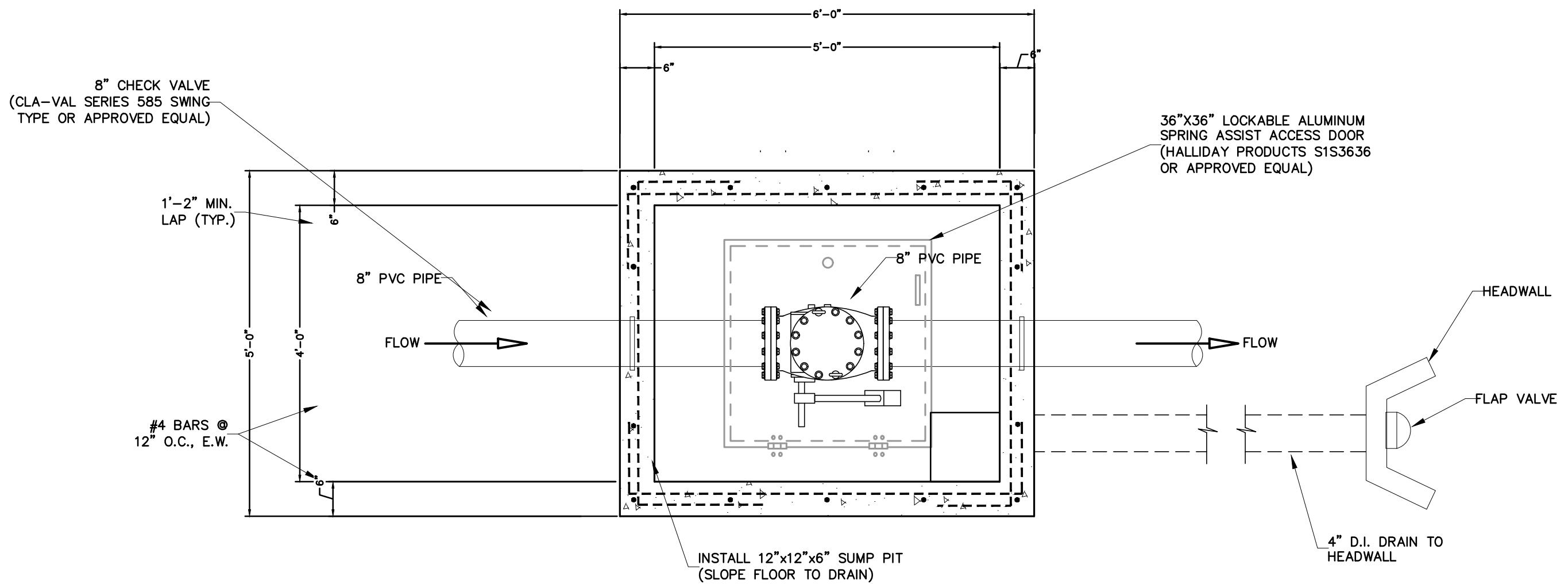
REACTION BACKING TABLE

SIZE	TYPE OF FITTINGS			
	TEE	90°	45°	22 1/2°
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
6	6	6	6	6
8	8	8	8	8
10	10	10	10	10
12	12	12	12	12
14	14	14	14	14
16	16	16	16	16
18	18	18	18	18
20	20	20	20	20
24	24	24	24	24
30	30	30	30	30
36	36	36	36	36

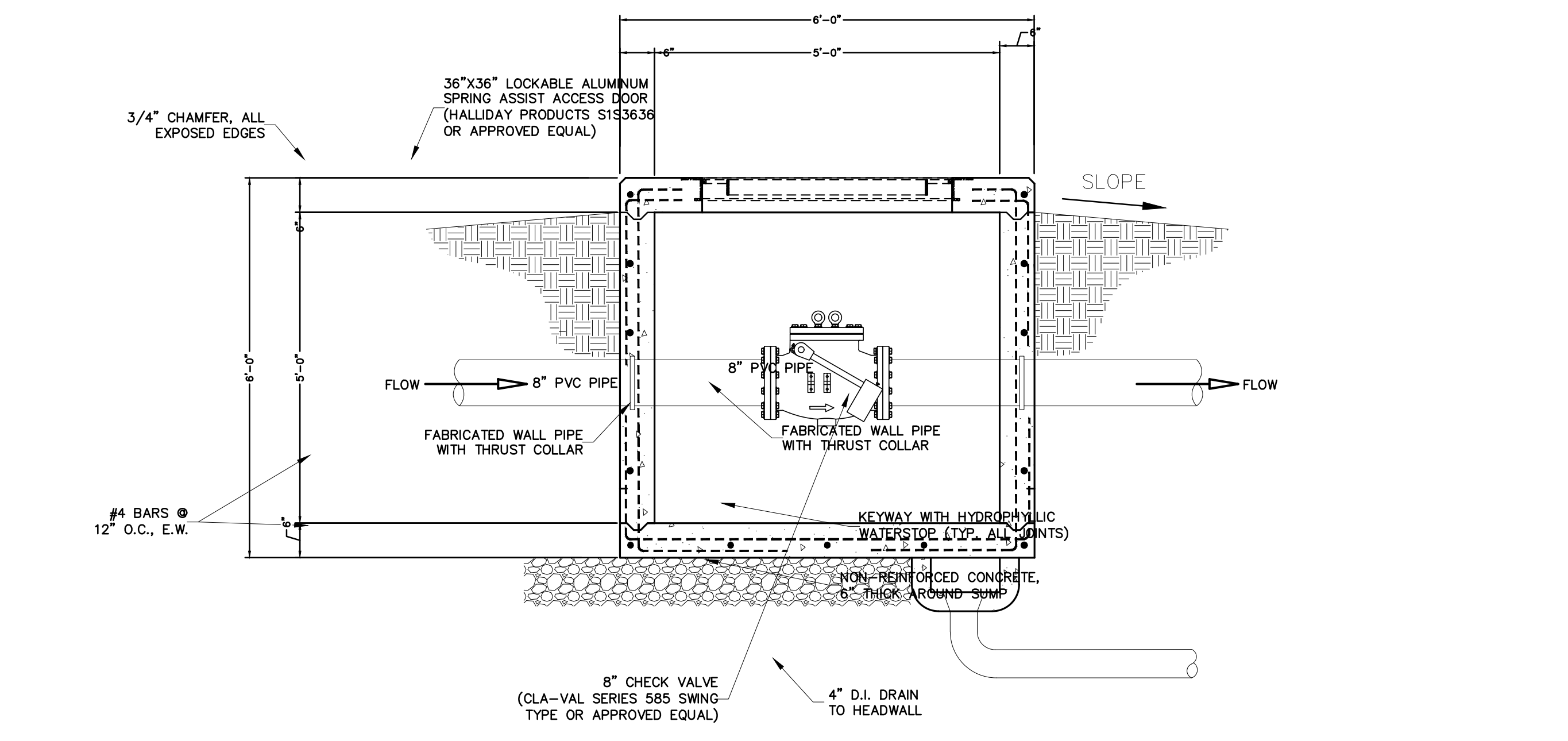
- NOTES:
- ALL FITTINGS SHALL BE MECHANICAL JOINTS.
 - DO NOT COVER BELLS OR FLANGES WITH CONCRETE.
 - WRAP ALL FITTINGS WITH VISQUEEN.
 - BACK ALL TEES ACCORDING TO SIZE OF BRANCH.
 - BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE.
 - ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL, SHALL BE BACKED.
 - REACTION BACKING TABLE IS BASED ON 150 P/SF AND SOIL BEARING PRESSURE OF 2,500 LB./SQ. FT. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS DIRECTED BY THE ENGINEER.
 - ALL FITTINGS SHALL BE INSTALLED USING MEGA-LUGS OR A RESTRAINED FITTING.



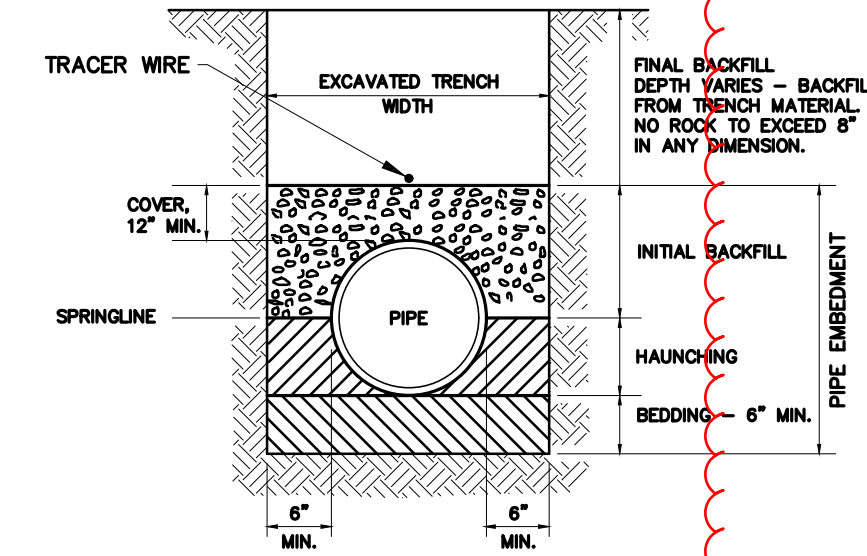
TYPICAL SECTION FOR INSTALLATION OF RECYCLED RAILROAD RAIL PLACED IN DRILLED SOCKET FOR LANDSLIDE CORRECTION



8" CHECK VALVE VAULT DETAIL

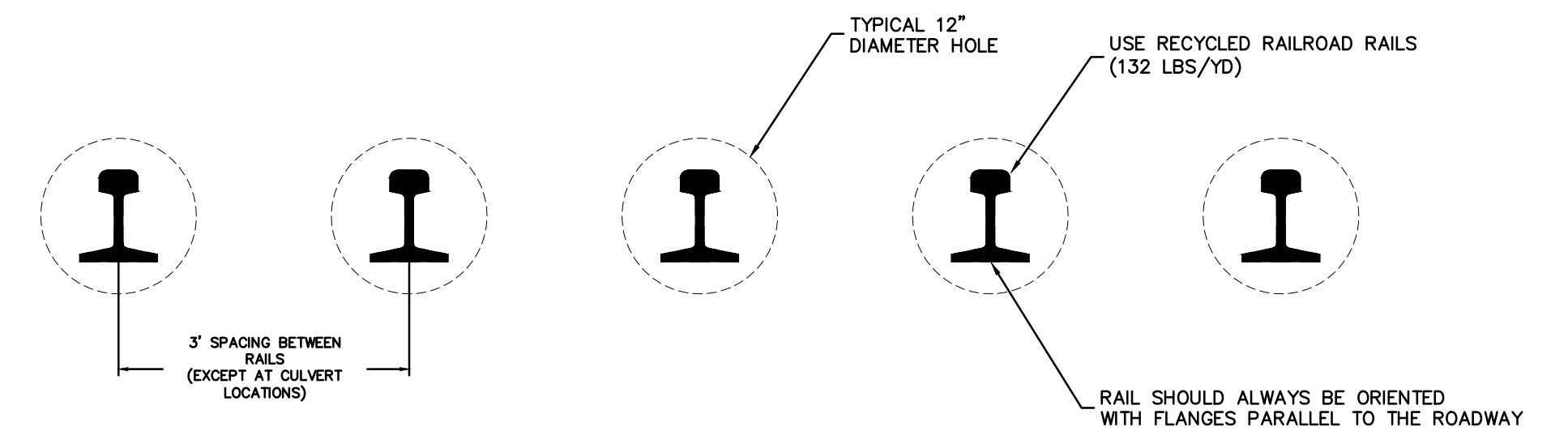


8" CHECK VALVE VAULT DETAIL

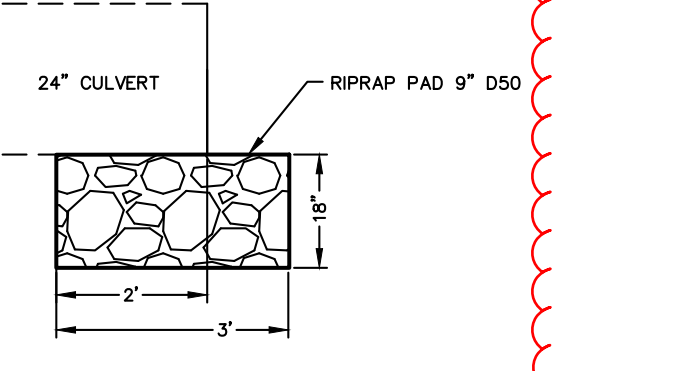


TYPICAL HDPE BEDDING DETAIL

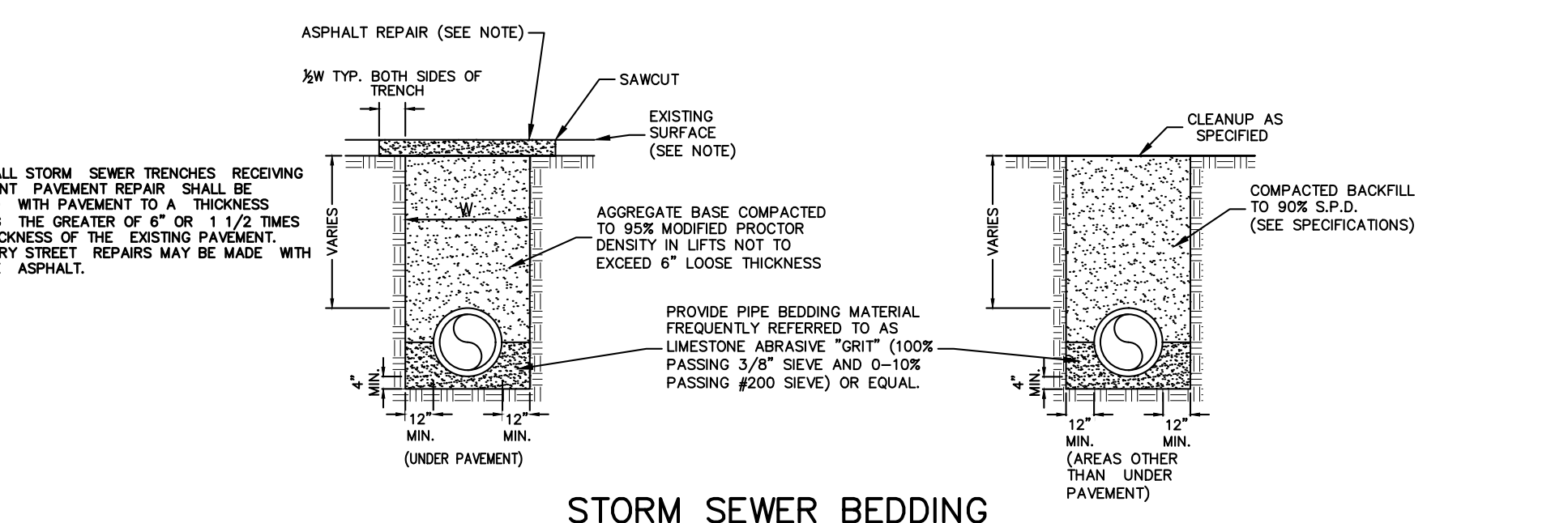
- NOTES:
- PIPE EMBEDMENT SHALL BE IN ACCORDANCE WITH AWWA M55.
 - PIPE EMBEDMENT SHALL HAVE NO PARTICLE SIZE IN EXCESS OF 1/2" ANGULAR ROCK.
 - FINAL BACKFILL SHALL HAVE NO PARTICLE SIZE IN EXCESS OF 6" IN ANY DIMENSION.
 - BEDDING WILL BE REQUIRED WHERE NATIVE MATERIAL DOES NOT MEET THE REQUIREMENT FOR EMBEDMENT AS DESCRIBED ABOVE. THE CONTRACTOR SHALL FURNISH AND INSTALL SUITABLE MATERIAL.
 - MINIMUM TRENCH WIDTH SHALL BE PIPE DIAMETER PLUS 12" MEASURED AT THE SPRINGLINE TO ENABLE BACKFILL MATERIAL TO BE INSTALLED IN THE HAUNCHING AREA. IN NO CASE SHALL THE TRENCH WIDTH BE LESS THAN 18" WIDE.
 - PIPING SHALL HAVE A MINIMUM COVER OF 36" OVER THE TOP OF THE PIPE.



RAILROAD RAIL LAYOUT DETAIL



24" CULVERT



STORM SEWER BEDDING AND BACKFILL

REVISION	DATE	DESCRIPTION

SCALE: N.T.S.
DATE: Oct 24, 2023
ENGINEER: T.M.
DRAWN BY: SAMO
W.O. #: 19812

BID ITEMS 4 - 7

MATERIALS FOR
AIS WAIVER
REQUEST

RAILROAD STEEL AND CRIBBING REPAIR

For this bid item, the Contractor shall furnish all materials, labor, equipment, and supplies necessary to install the railroad steel piles and guardrail cribbing embankment repair system at the locations as shown on the plans.

General

A platform for drilling the used railroad rails, placing the cribbing and granular backfill, and excavating as necessary shall be constructed prior to the work.

Materials

- (a) **Railroad Steel Pile:** Recycled (used) railroad steel classified with a nominal weight of 132 pounds per yard (lb/yd) size or greater shall be used. Recycled railroad steel shall be visibly straight and have no splices.
- (b) **Reclaimed Guardrail Cribbing:** Recycled (used) steel “W” beam guardrail elements in 12.5-foot lengths, or approved equal shall be used. Only structurally-sound and rust-free straight elements shall be used.
- (c) **Geotextile Fabric:** Fabric used for subsurface drainage and separation shall conform to AASHTO M 288 Class 1 or Class 2 strength requirements and conform to AASHTO M 288 section on subsurface drainage requirements, with the exception of the minimum permittivity value being 1.0 sec^{-1} .
- (d) **Backfill for Crib Wall:** Stone used shall be B-Stone, or approved equal, from an approved source. Maximum size of each piece shall be no greater than 2 ½” in any dimension. Stone shall be well graded to produce a minimum of voids.

Construction Requirements

- (a) **Railroad Steel Pile:** One row of railroad steel piles shall be installed on three (3) foot centers, except where otherwise specified on the plans. Rail steel piles shall be installed in the one-foot drilled sockets down to solid rock as shown on the plans. Railroad steel shall be embedded into solid rock no less than one-half the free end length of the pile, as shown on the plans.

Rail steel piles shall be installed with the flanges positioned perpendicular to the direction of the landslide. They shall be installed into the drilled holes and seated to provide firm bearing in the bottom of the drilled holes. Approximately two and a half feet (2.5’) of steel pile shall be left above the ground, as shown on the plans. The drilled hole shall be

immediately backfilled with approved materials after steel pile is installed. Backfill material shall be concrete, free-flowing sand, pea gravel, crushed limestone, or crushed sandstone. Only backfill material with one hundred percent (100%) passing a one-half inch (1/2") sieve shall be used. Backfill material shall be shoveled into the drilled hole in small amounts. Bridging between the rail and sides of the hole shall be avoided.

Backfill material for drilled sockets shall be included in the price bid per foot of recycled railroad steel pile.

- (b) **Reclaimed Guardrail Cribbing:** Any exposed portion of railroad rail shall be cribbed before placing backfill. Reclaimed guardrail pieces shall be assembled into a vertical wall in panels and set against the vertical railroad piles. Wall cribbing shall be extended ten feet below the proposed ground line, unless otherwise directed by the Engineer. Wall cribbing shall be lapped, bolted, or welded and attached solid to the drilled railroad steel piles.
- (c) **Geotextile Fabric:** shall be installed as shown on the plans and according to the manufacturer's specifications. Geotextile fabric shall be placed after the used railroad steel piles are drilled and the cribbing panels installed.
- (d) **Backfill for Crib Wall:** Stone used shall be B-Stone, or as directed by the Engineer, from an approved source. Maximum size of each piece shall be no greater than 2 1/2" in any dimension. Stone shall be well graded to produce a minimum of voids.

Backfill shall be placed in lifts of two (2) feet or less in such a way as to limit settlement to the area and shall be tamped with excavator bucket. The final lift shall be rolled with excavation equipment to ensure the backfill is fully compacted.

Measurement

- (a) Recycled Railroad Steel Piles will be measured by the vertical foot of drilled railroad pile in place and accepted.
- (b) Reclaimed Guardrail Cribbing will be measured by the square foot of finished in-place area.
- (c) Geotextile Fabric will be measured by the square yard of fabric in place and accepted.
- (d) Backfill for Crib Wall will be measured by the cubic yard of material placed and accepted according to the specifications.

Payment

Quantities of Railroad Steel and Cribbing Repair completed, accepted, and measured as provided above will be paid for at the Contract Price bid as follows:

- (a) Recycled Railroad Steel Piles will be paid for at the contract price per vertical foot of railroad pile installed and accepted. Price shall be full compensation for furnishing, hauling, and installing; for backfill material for drilled sockets, for drilling, and for all the labor, tools and equipment necessary to complete the work.
- (b) Reclaimed Guardrail Cribbing will be paid for at the contract price per cubic yard of finished area installed. Price shall be full compensation for all materials, labor, equipment, and incidentals for furnishing, installing, and attaching the cribbing on the drilled railroad piles.
- (c) Geotextile Fabric will be paid for by the square yard of geotextile fabric in place and accepted at the unit price bid in the Schedule of Bids for these items and shall be full compensation for all equipment, materials, and labor necessary to complete this item of work.
- (d) Backfill for Crib Wall will be paid for at the contract price bid per cubic yard in the Schedule of Bids. Said price shall be full compensation for furnishing, hauling, placing, and compacting approved off-site material according to the plans and specifications.

Cost Comparison for AIS Waiver

Owner:	Ozark Mountain Regional PWA	Owner's Project No.:	
Engineer:	Engineering Services, Inc.	Engineer's Project No.:	19812
Contractor:	Hinkle Environmental Services, LLC.	Contractor's Project No.:	
Project:	Emergency Water Main Replacement - AR HWY 74 Slide (ECWAG)		

Bid Item No.	Description	Units	Quantity Installed	New Material Unit Price	Recycled Material Unit Price	New Material Total	Recycled Material Total	Net Difference
1	10" DR7 HDPE Pipe	LF	785.00	\$ 39.75	\$ 39.75	\$ 31,203.75	\$ 31,203.75	\$ -
1	Silt Fence	LF	900.00	\$ 0.46	\$ 0.46	\$ 414.00	\$ 414.00	\$ -
4	Recycled Railroad Steel Piles	LF	9000.00	\$ 60.32	\$ 11.65	\$ 542,880.00	\$ 104,850.00	\$ 438,030.00
5	Reclaimed Gaurdrail Cribbing	SF	6880.00	\$ 6.38	\$ 3.35	\$ 43,894.40	\$ 23,048.00	\$ 20,846.40
6	Backfill for Crib Wall - Stone Backfill (1.3 Ton/CY)	CY	843.97	\$ 12.00	\$ 12.00	\$ 13,165.93	\$ 13,165.93	\$ -
7	Geotextile Fabric	SY	1834.33	\$ 1.16	\$ 1.16	\$ 2,127.82	\$ 2,127.82	\$ -
8	18" HDPE Pipe (20' stick)	1 Stick	20.00	\$ 375.00	\$ 375.00	\$ 375.00	\$ 375.00	\$ -
8	24" HDPE Pipe (20' stick)	1 Stick	130.00	\$ 575.00	\$ 575.00	\$ 3,737.50	\$ 3,737.50	\$ -
13	Bedding Material - Class 7 Base (1.23 Ton/CY)	CY	800.00	\$ 12.00	\$ 12.00	\$ 11,808.00	\$ 11,808.00	\$ -
14	Rip Rap Pad	SY	0.14	\$ 23.30	\$ 23.30	\$ 3.26	\$ 3.26	\$ -
16	8" Check Valve	EA	1.00	\$ 4,125.00	\$ 4,125.00	\$ 4,125.00	\$ 4,125.00	\$ -
16	8" Gate Valve	EA	1.00	\$ 1,950.00	\$ 1,950.00	\$ 1,950.00	\$ 1,950.00	\$ -
16	Valve Vault Hatch	EA	1.00	\$ 825.00	\$ 825.00	\$ 825.00	\$ 825.00	\$ -
16	Class A Cement	CY	1.00	\$ 160.00	\$ 160.00	\$ 160.00	\$ 160.00	\$ -
Totals						\$ 656,669.67	\$ 197,793.27	\$ 458,876.40
						Percentage Saved on Contract:		69.88%