

west virginia department of environmental protection

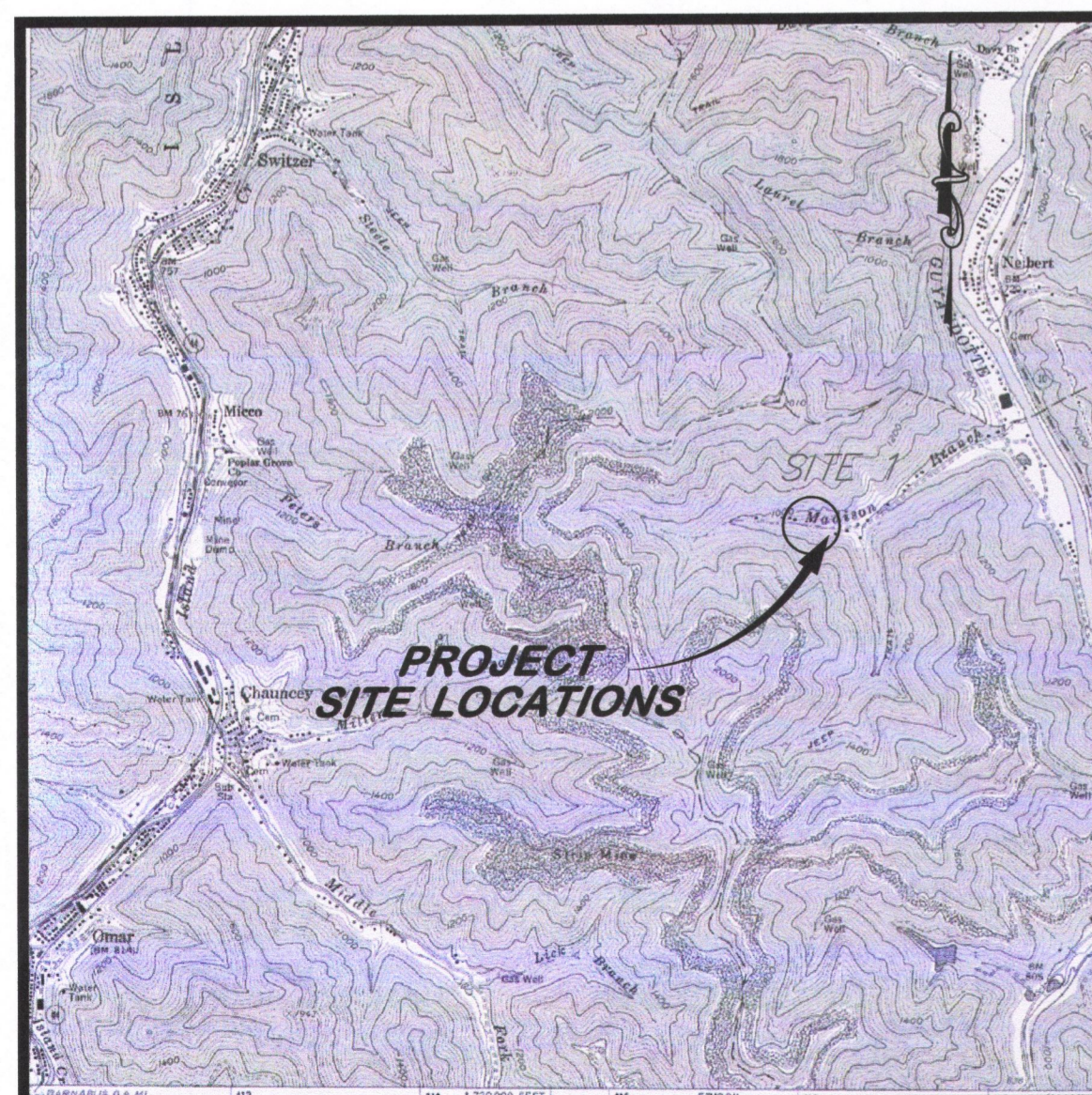
**EARL RAY TOMBLIN, GOVERNOR**      **RANDY C. HUFFMAN, CABINET SECRETARY**

**OFFICE OF ABANDONED MINE LANDS AND RECLAMATION**

# **LYBURN (MAYNARD) DRAINAGE**

NEAR LYBURN  
LOGAN COUNTY, WEST VIRGINIA

VICINITY MAP



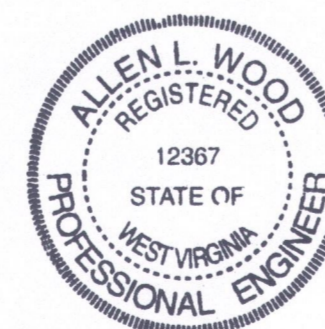
USGS 7.5' QUAD (LOGAN)

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
2	EXISTING CONDITIONS
3	RECLAMATION PLAN
4	EROSION AND SEDIMENT CONTROL PLAN
5	CONSTRUCTION DETAILS (1)
6	CONSTRUCTION DETAILS (2)
7	ROAD AND PIPE PROFILES
8	BASELINE PROFILE AND CROSS SECTIONS

BID SCHEDULE

ITEM NO.	Qty	Unit	DESCRIPTION
1.0	1	LS	Mobilization and Demobilization (Limited to 10% of Total Bid)
2.0	1	LS	Construction Layout (Limited to 5% of Total Bid)
3.0	1	LS	Quality Control (Limited to 3% of Total Bid)
4.1	1	LS	Site Preparation (Limited to 10% of Total Bid)
4.2	50	TN	Gravel Drive Rehabilitation
4.3	1	LS	Temporary Stream Crossing
5.1	167	LF	Silt Fence
5.2	25	TN	Stabilized Construction Entrance
5.3	430	SY	Rolled Erosion Control Product
6.0	1	LS	Revegetation
7.1	170	LF	12" HDPE Pipe
7.2	2	EA	Type "A" Manhole
7.3	1	EA	Type G Drop Inlet
7.4	2	EA	Slash Pads
7.5	2	EA	Cleanouts
8.0	1	LS	Unclassified Excavation
9.1	1,300	SF	Modular Retaining Wall
9.2	200	EA	Straw Bales
9.3	120	LF	12-inch Diameter HDPE Perforated Pipe
9.4	400	SY	Filter Fabric
9.5	30	TN	No. 57 Stone Backfill
9.6	133	SY	60 mil HDPE Geomembrane Channel Lining

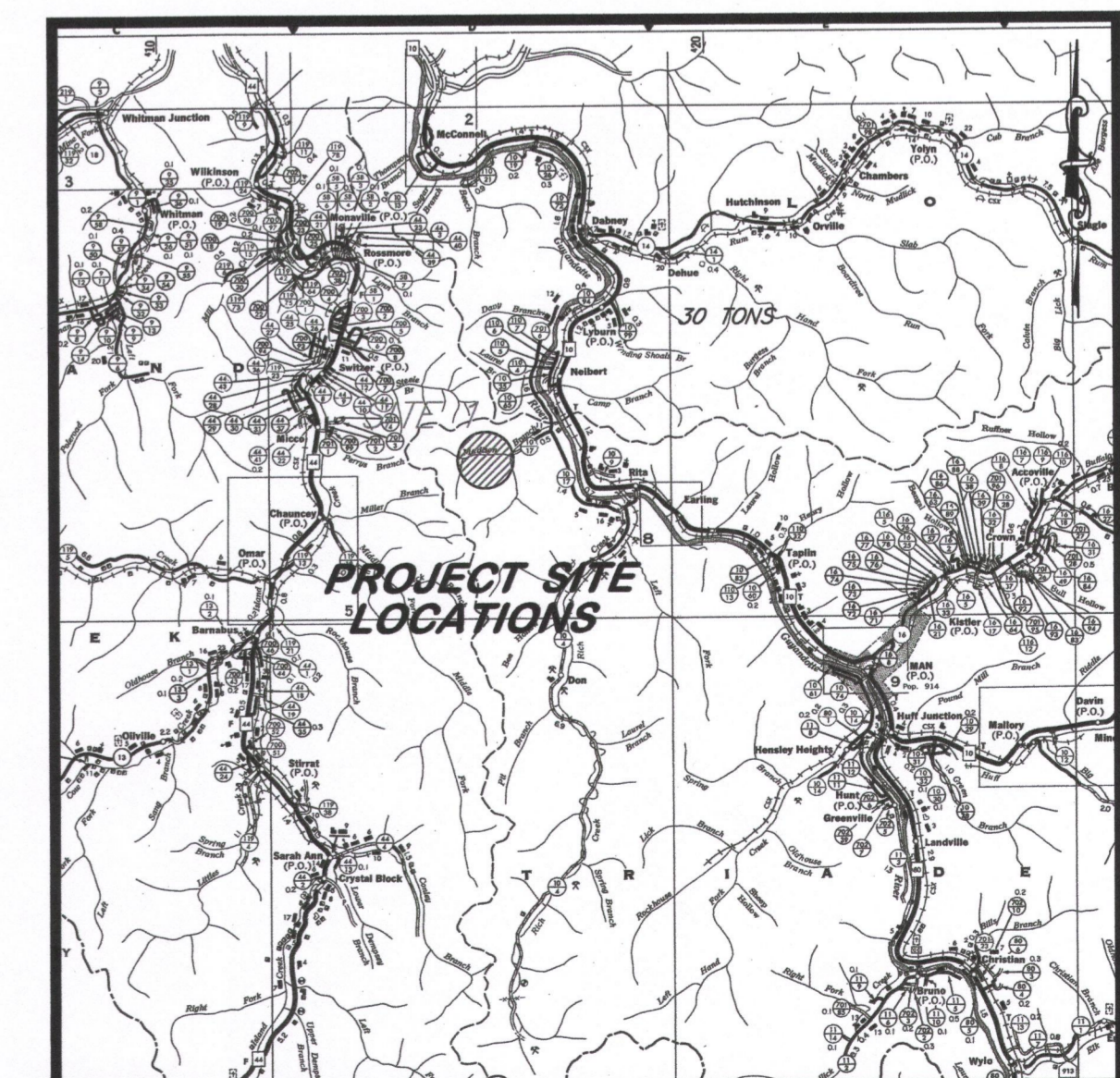


*Allen L. Wood*  
APPROVED

9/12/15  
DATE

*Note: design of the modular wall sealed by others.*

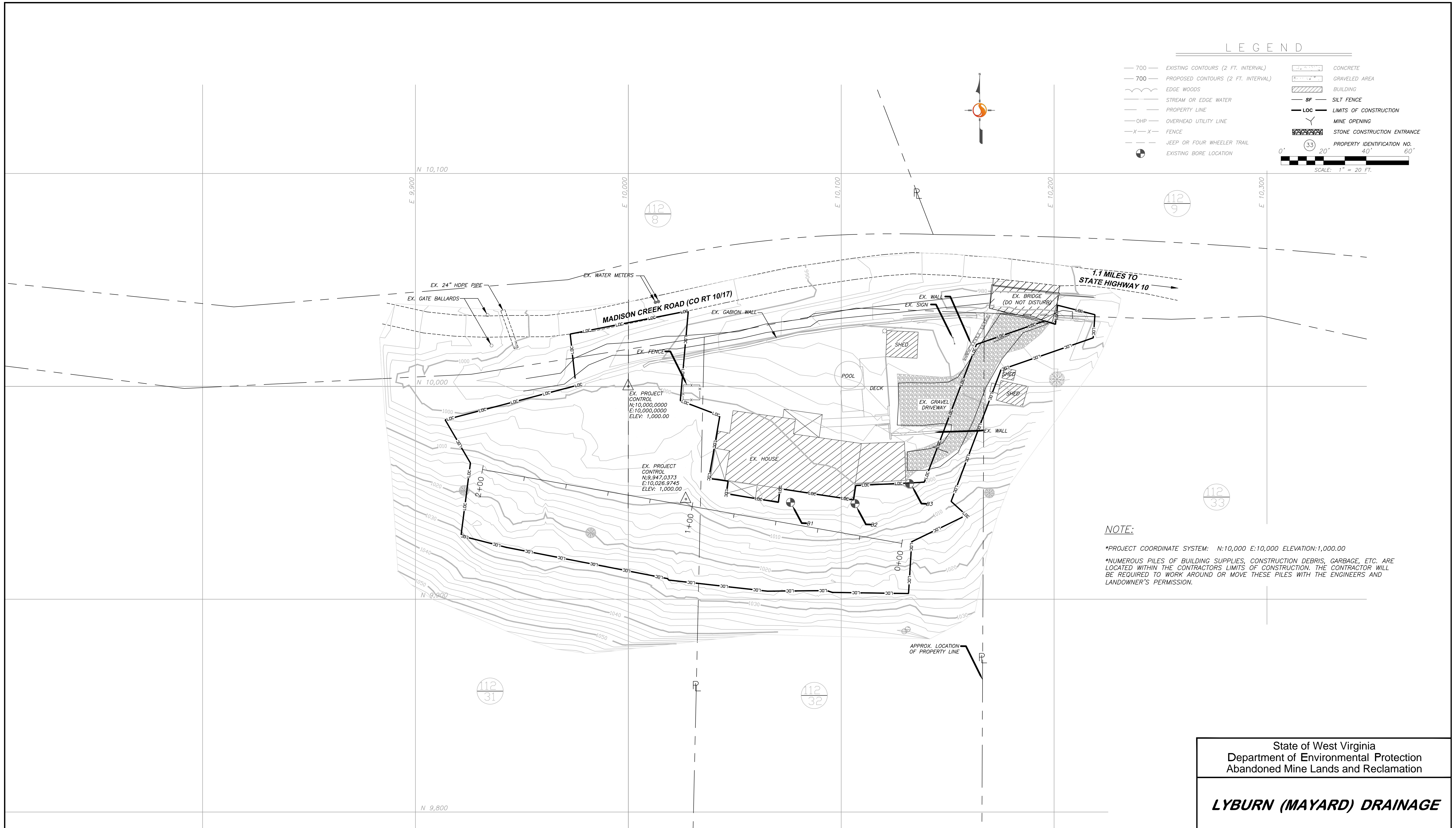
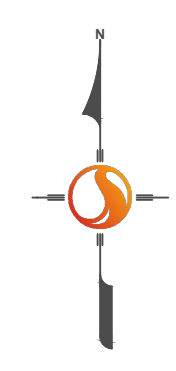
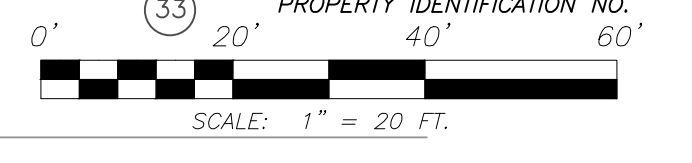
LOCATION MAP



COUNTY HIGHWAY MAP, 1" = 1 MI.

LEGEND

- 700 — EXISTING CONTOURS (2 FT. INTERVAL)
- 700 — PROPOSED CONTOURS (2 FT. INTERVAL)
- — EDGE WOODS
- — STREAM OR EDGE WATER
- — PROPERTY LINE
- OHP — OVERHEAD UTILITY LINE
- X — X — FENCE
- — JEEP OR FOUR WHEELER TRAIL
- — EXISTING BORE LOCATION
- CONCRETE
- GRAVELED AREA
- BUILDING
- SF — SILT FENCE
- LOC — LIMITS OF CONSTRUCTION
- MINE OPENING
- STONE CONSTRUCTION ENTRANCE
- PROPERTY IDENTIFICATION NO. 33



NOTE:

\*PROJECT COORDINATE SYSTEM: N:10,000 E:10,000 ELEVATION:1,000.00  
 \*NUMEROUS PILES OF BUILDING SUPPLIES, CONSTRUCTION DEBRIS, GARBAGE, ETC. ARE LOCATED WITHIN THE CONTRACTORS LIMITS OF CONSTRUCTION. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND OR MOVE THESE PILES WITH THE ENGINEERS AND LANDOWNER'S PERMISSION.

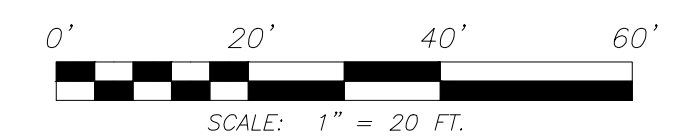
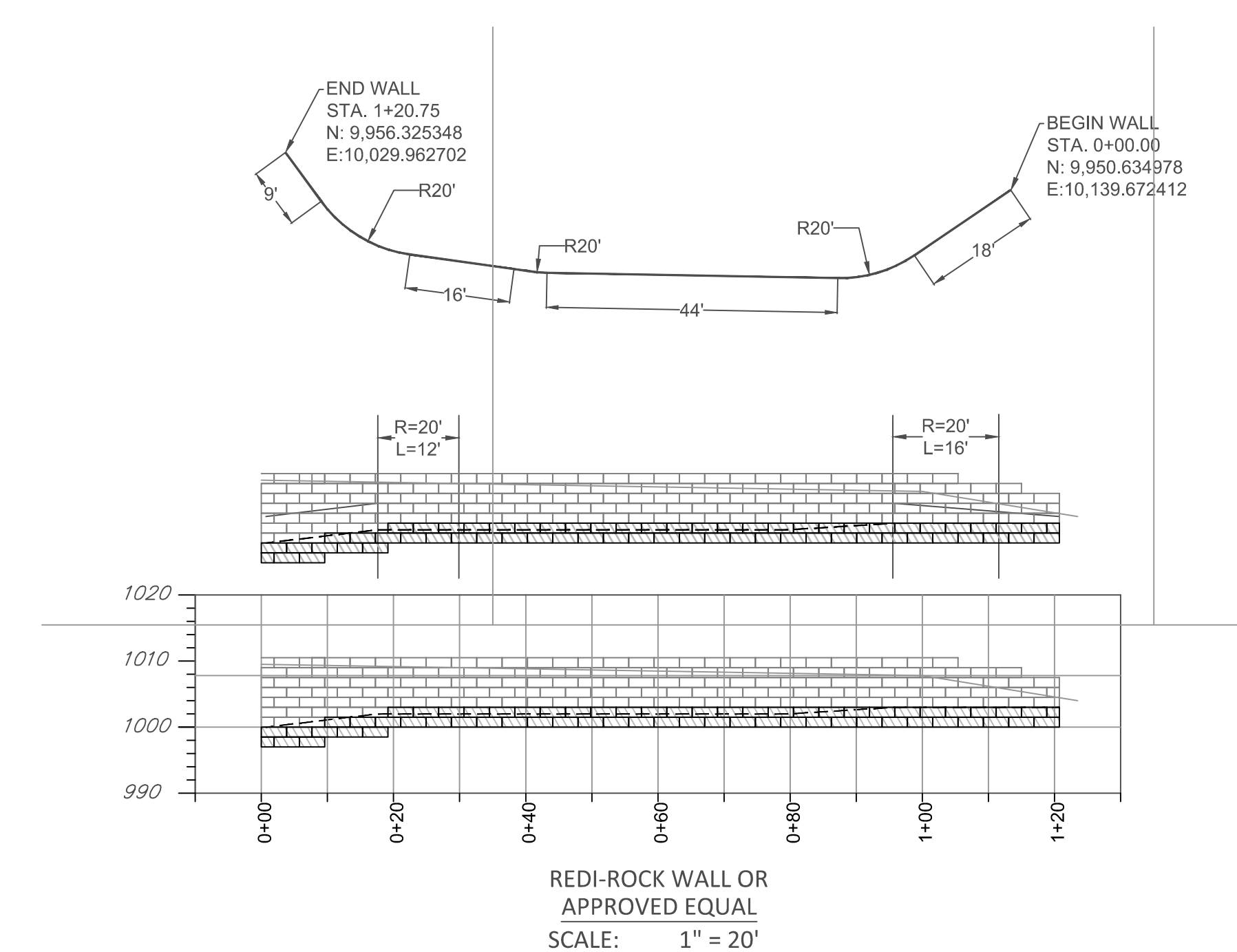
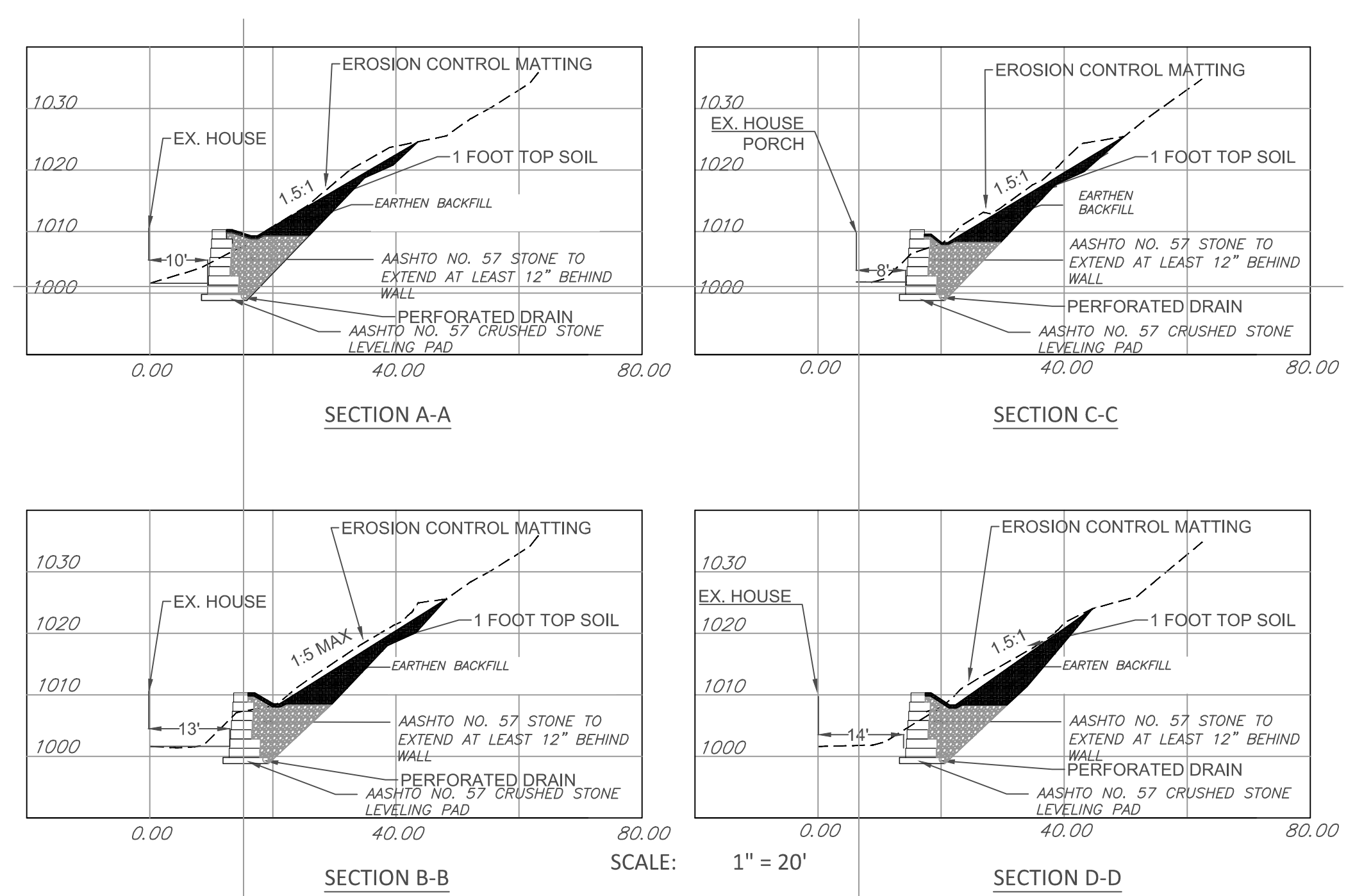
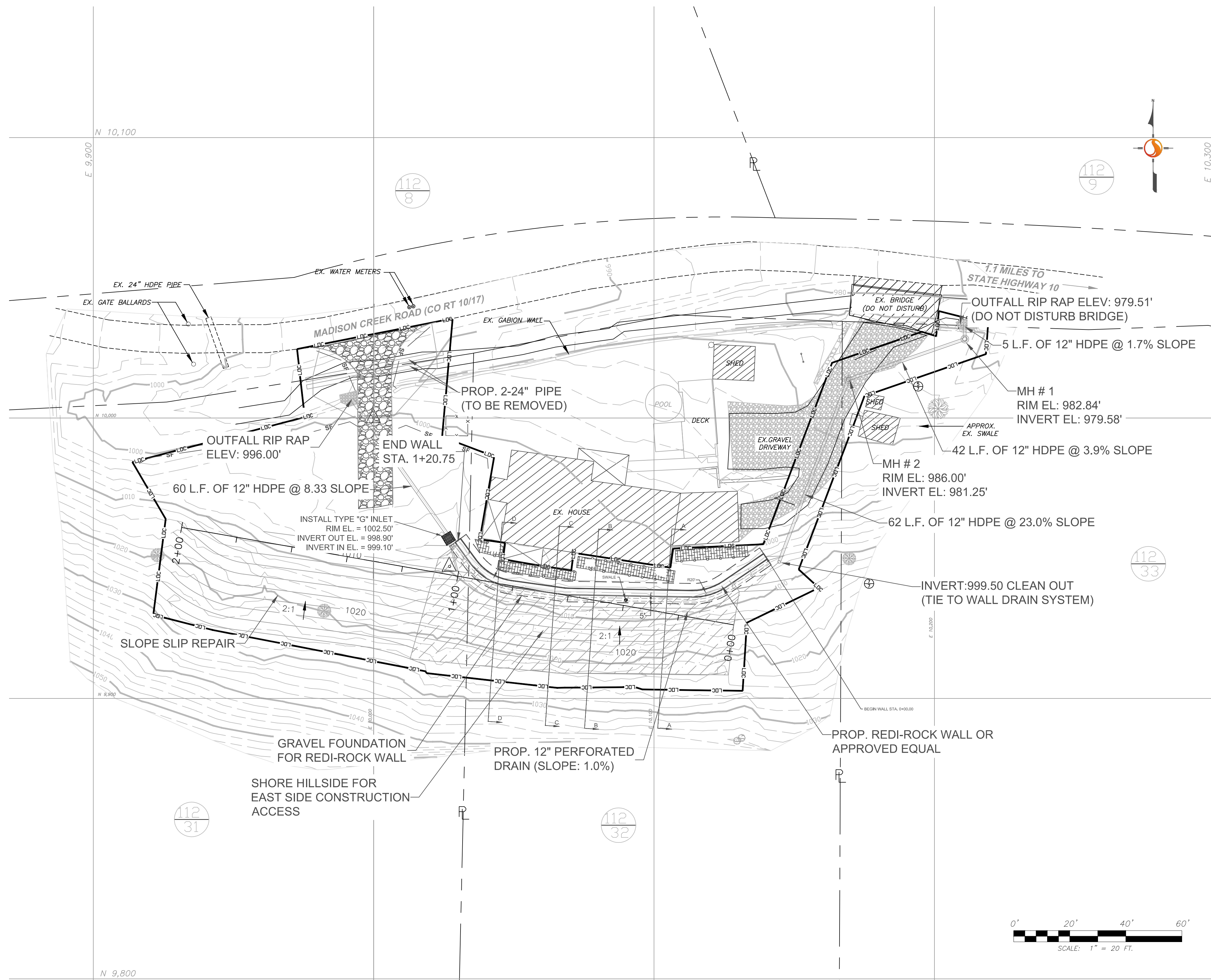
State of West Virginia  
 Department of Environmental Protection  
 Abandoned Mine Lands and Reclamation

**LYBURN (MAYARD) DRAINAGE**

EXISTING CONDITIONS

DRAWN BY:  
 APPROVED BY:  
 DATE:

SCALE: AS NOTED  
 SHEET NO. 2  
 OF



**LEGEND**

— 700 —	EXISTING CONTOURS (2 FT. INTERVAL)		CONCRETE
- - - 700 - - -	PROPOSED CONTOURS (2 FT. INTERVAL)		GRAVELED AREA
	EDGE WOODS		BUILDING
	STREAM OR EDGE WATER		SILT FENCE
- - - - -	PROPERTY LINE		LIMITS OF CONSTRUCTION
- - - - -	OVERHEAD UTILITY LINE		MINE OPENING
- X - X -	FENCE		STONE CONSTRUCTION ENTRANCE
- - - - -	JEEP OR FOUR WHEELER TRAIL		PROPERTY IDENTIFICATION NO.
●	EXISTING BORE LOCATION		

**NOTE:**  
 \*PROJECT COORDINATE SYSTEM: N:10,000 E:10,000 ELEVATION:1,000.00  
 \*NUMEROUS PILES OF BUILDING SUPPLIES, CONSTRUCTION DEBRIS, GARBAGE, ETC. ARE LOCATED WITHIN THE CONTRACTORS LIMITS OF CONSTRUCTION. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND OR MOVE THESE PILES WITH THE ENGINEERS AND LANDOWNER'S PERMISSION.

State of West Virginia  
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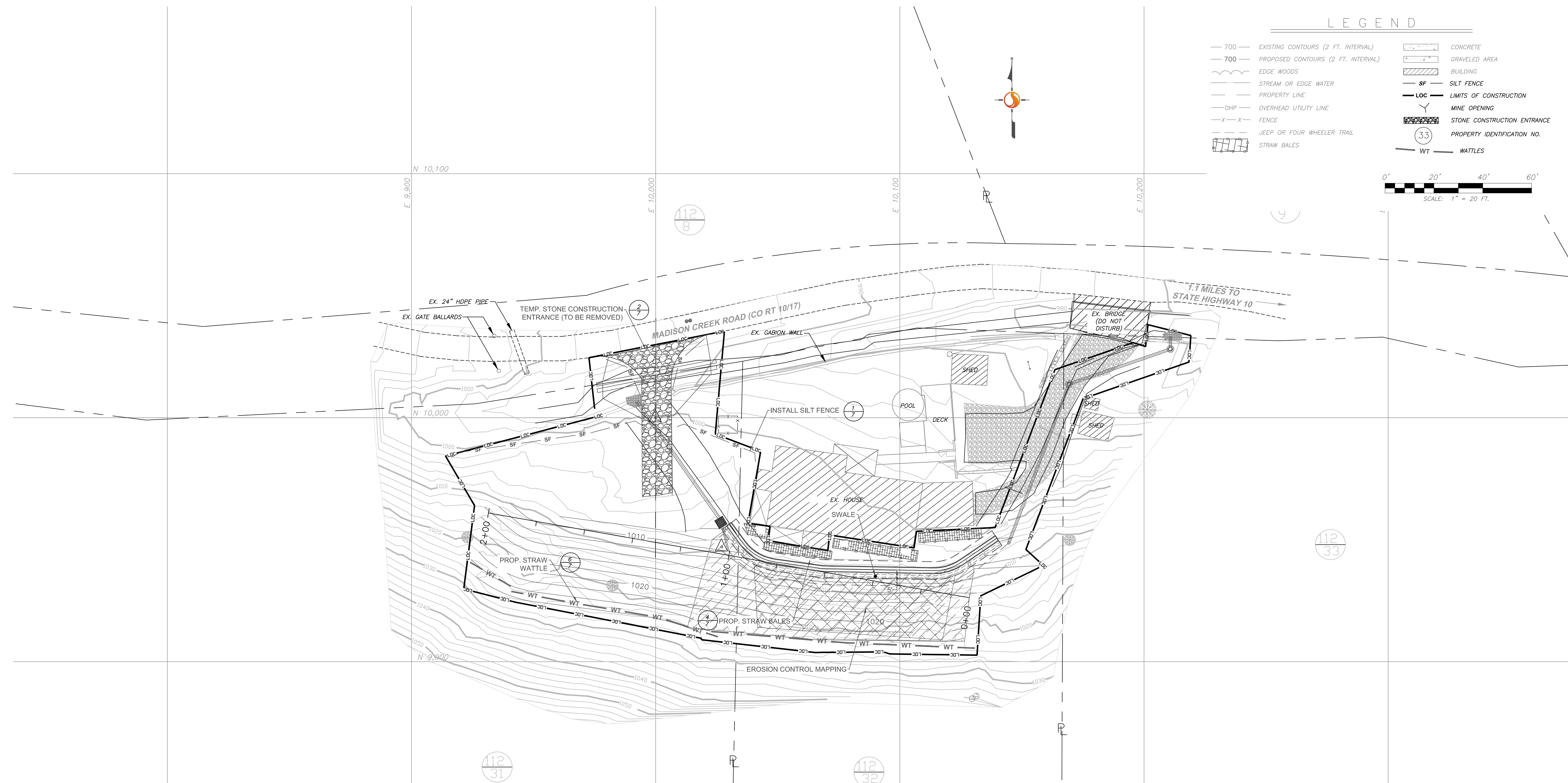
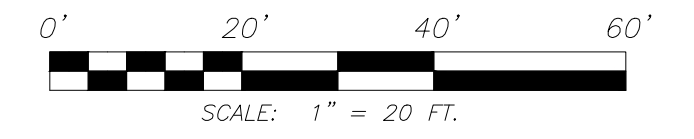
**LYBURN (MAYARD) DRAINAGE**

**RECLAMATION PLAN**

DRAWN BY:	SCALE: AS NOTED
APPROVED BY:	SHEET NO. <b>3</b>
DATE:	OF

LEGEND

- 700 — EXISTING CONTOURS (2 FT. INTERVAL)
- 700 — PROPOSED CONTOURS (2 FT. INTERVAL)
- W — EDGE WOODS
- S — STREAM OR EDGE WATER
- P — PROPERTY LINE
- OHP — OVERHEAD UTILITY LINE
- X—X — FENCE
- J — JEEP OR FOUR WHEELER TRAIL
- SB — STRAW BALES
- C — CONCRETE
- GA — GRAVELED AREA
- B — BUILDING
- SF — SILT FENCE
- LOC — LIMITS OF CONSTRUCTION
- MO — MINE OPENING
- SCE — STONE CONSTRUCTION ENTRANCE
- 33 — PROPERTY IDENTIFICATION NO.
- WT — WATTLES



NOTE:

\*PROJECT COORDINATE SYSTEM: N:10,000 E:10,000 ELEVATION:1,000.00  
 \*NUMEROUS PILES OF BUILDING SUPPLIES, CONSTRUCTION DEBRIS, GARBAGE, ETC. ARE LOCATED WITHIN THE CONTRACTORS LIMITS OF CONSTRUCTION. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND OR MOVE THESE PILES WITH THE ENGINEERS AND LANDOWNER'S PERMISSION.

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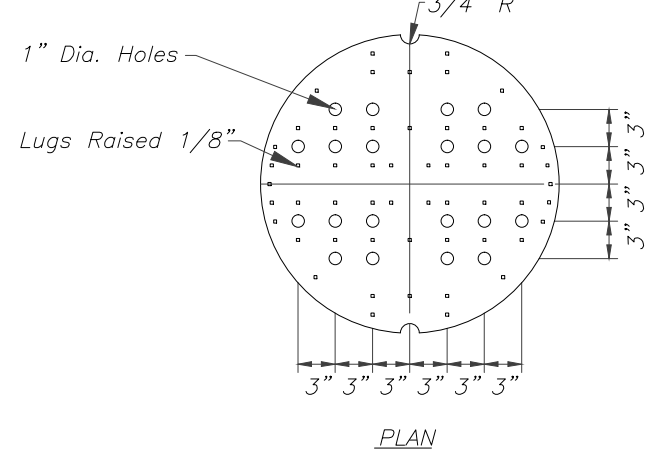
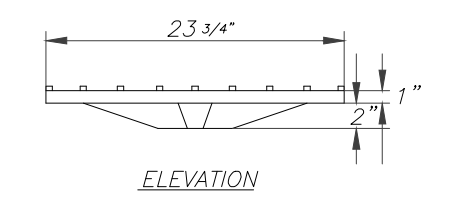
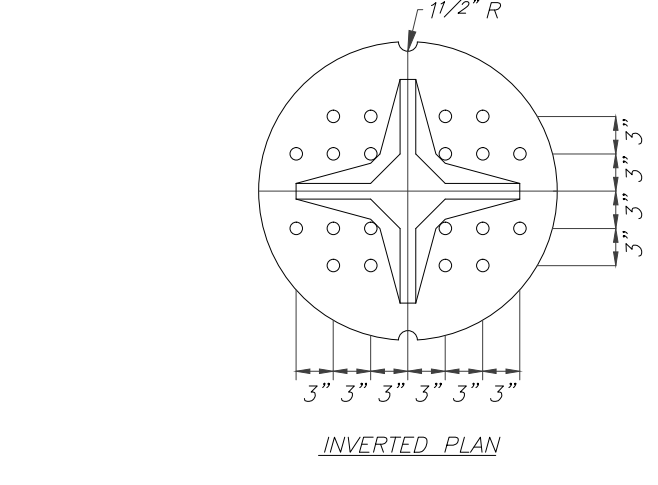
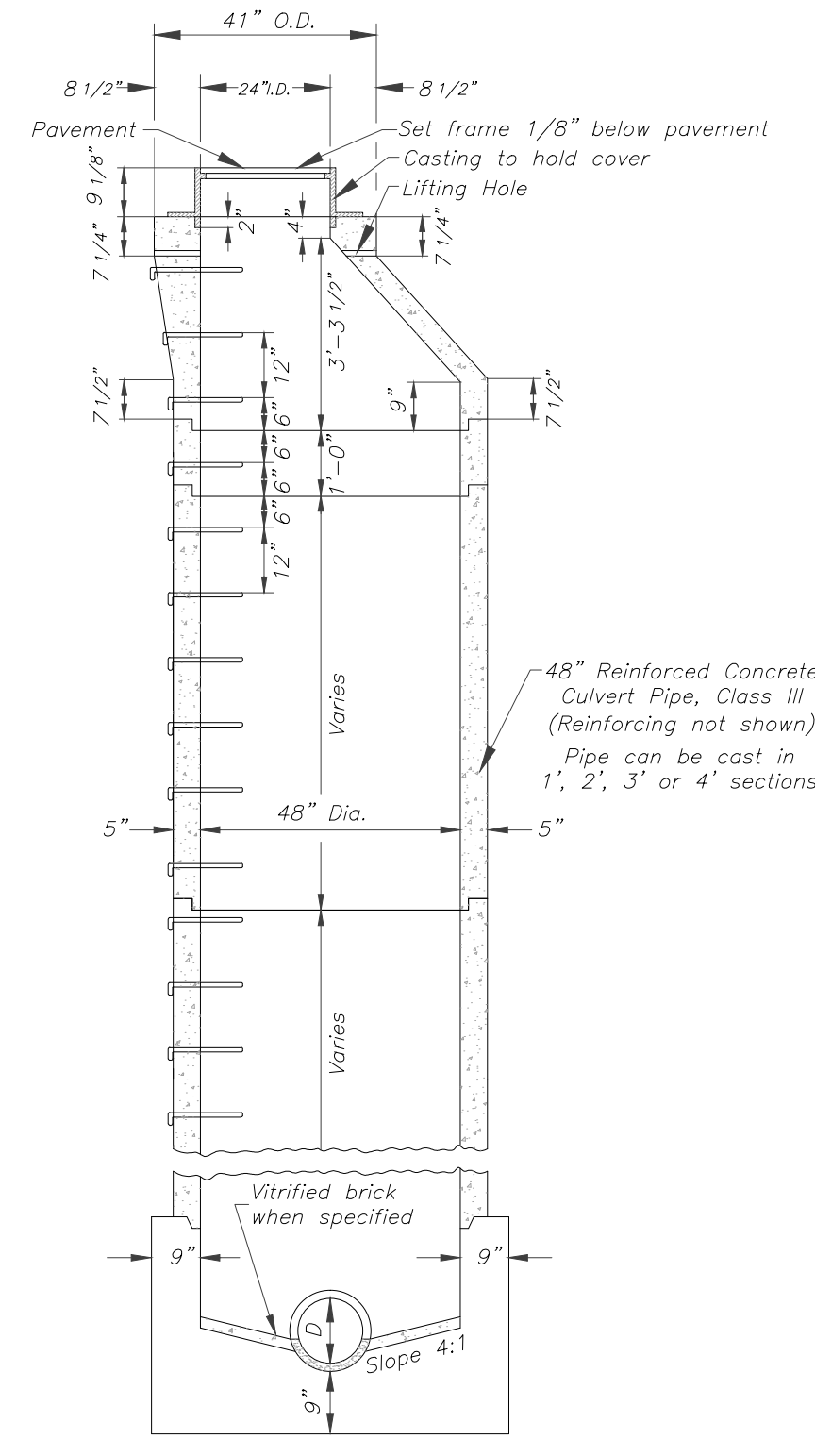
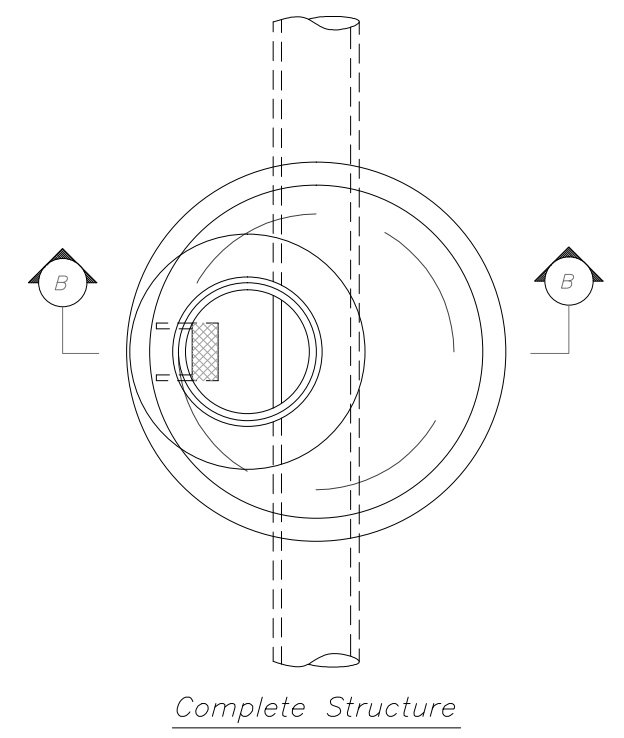
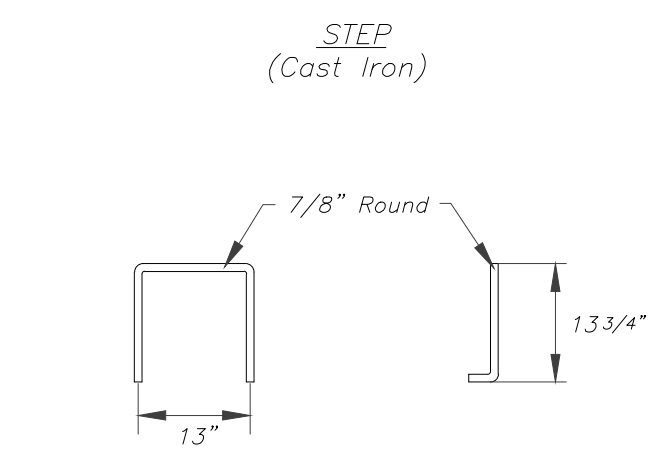
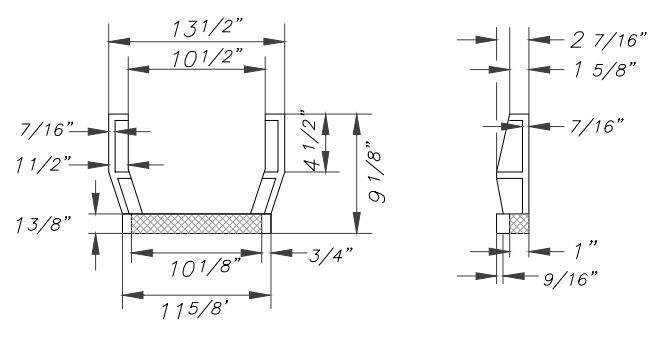
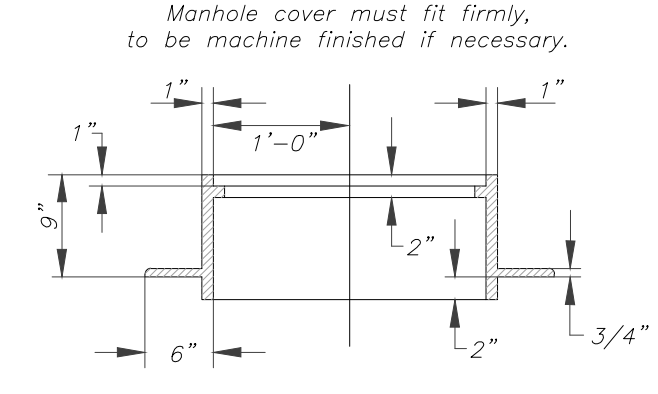
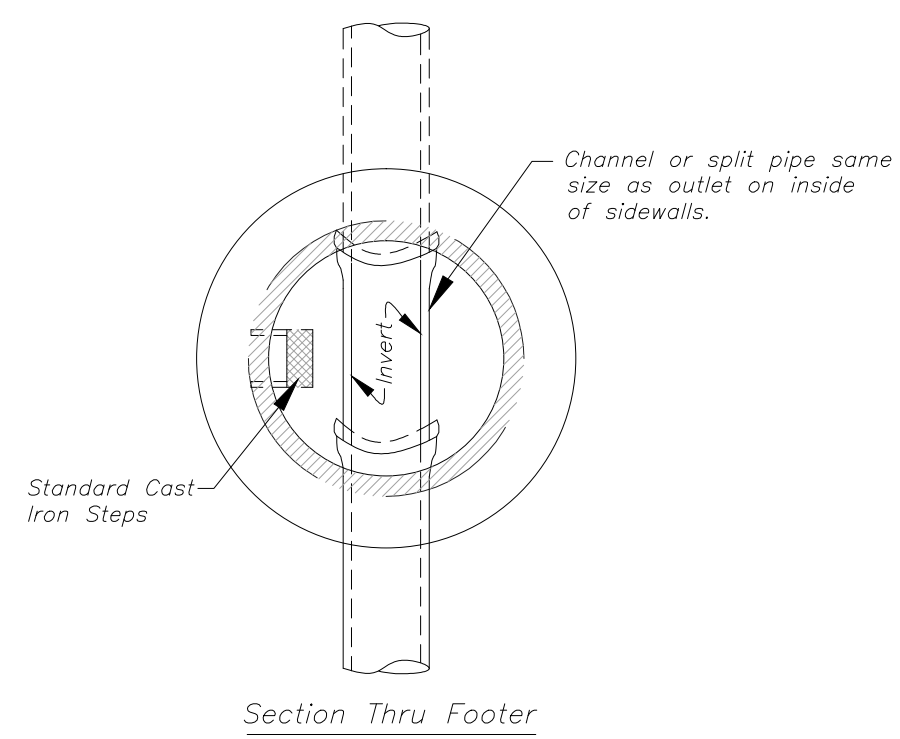
**LYBURN (MAYARD) DRAINAGE**

**EROSION AND SEDIMENT CONTROL PLAN**

DRAWN BY:  
 APPROVED BY:  
 DATE:

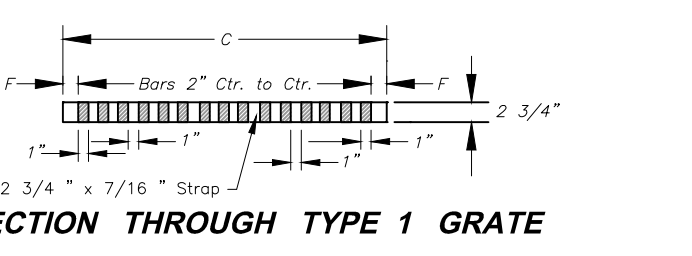
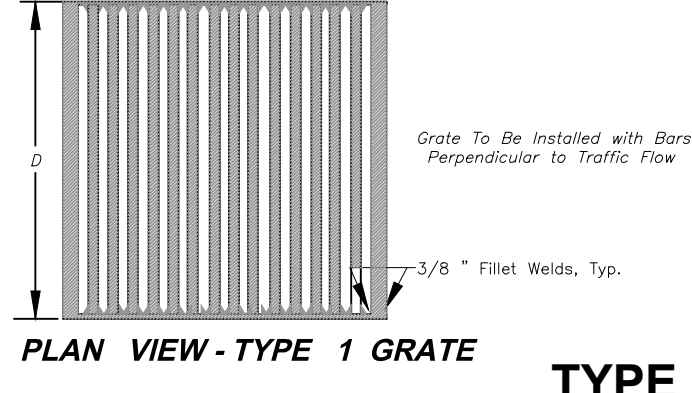
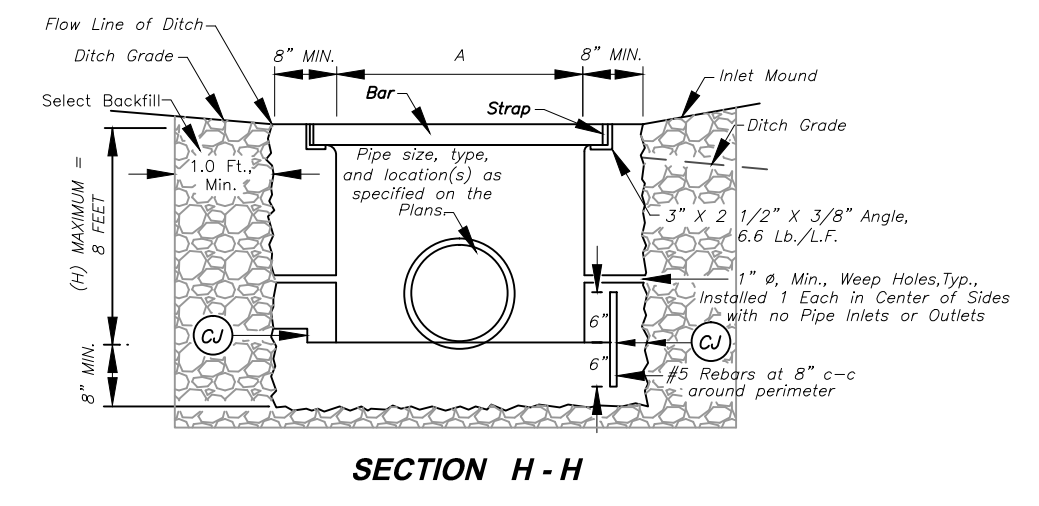
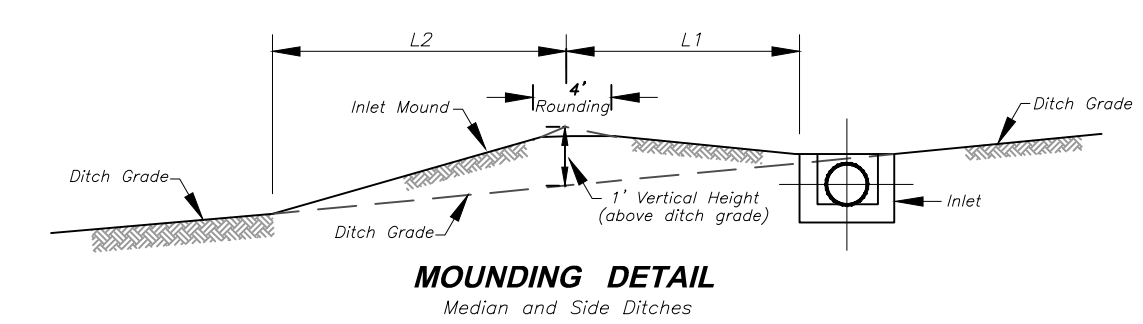
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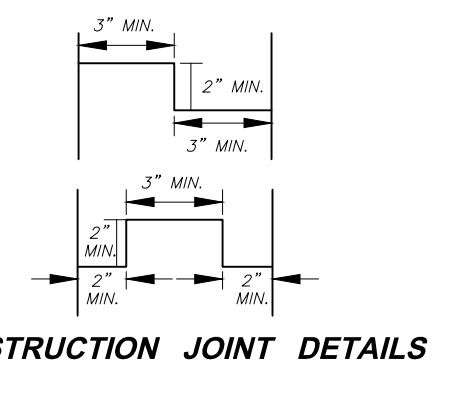


DETAIL 5  
TYPE "A" MANHOLE  
(PRECAST)  
(NOT TO SCALE)

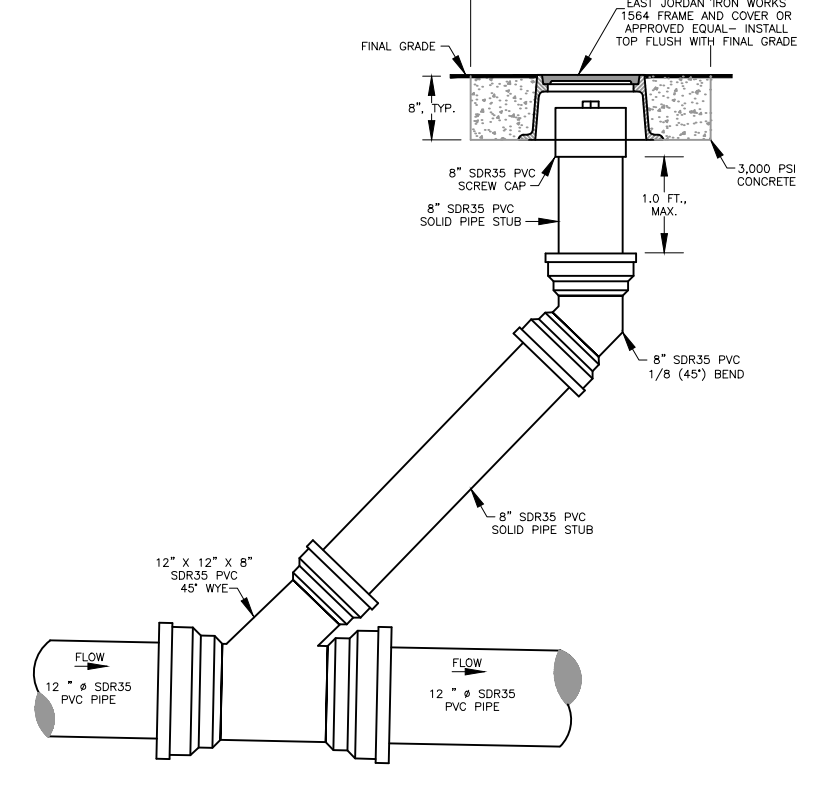
**NOTES**  
All concrete pipe to be used as sidewall for the manhole shall meet the requirements for Class III pipe of Subsection 714.2 of the Standard Specifications. Concrete pipe sections may be used in any combination to produce a manhole of desired depth, except the tapered top section shall be retained as shown.  
The tapered top sections shall be manufactured and meet the same requirements as the concrete pipe.  
Lifting hole in the tapered top section and the circumferential notches in the manhole cover are for handling purposes only.  
Drawing shows pipe entering and leaving manhole in a straight line. However, the pipes may enter or leave at any angle or place as called for or shown on the plans.  
The footer up to the joint shown shall be Class B concrete.  
Castings are to be of the design shown and are to be of Gray-Iron meeting the requirements of Subsection 709.10 of the Standard Specifications. Steps may be either the Cast Iron Step or the Wrought Iron Step as shown and shall conform to the requirements of Subsections 709.10 and 709.11, respectively, of the Standard Specifications.  
The precast sections of pipe shall be set in joint mortar.  
The forming of the seat in the footing may be by the use of a section of the precast pipe or by means of a jig.  
Pipe at elevations of than shown may be joined to the manhole by cutting a hole the size of the connecting pipe in the manhole, inserting the pipe the thickness of the manhole shell and closing all openings around the connecting pipe with joint mortar.  
Either this manhole or the cast in place manhole on Standard M.S. 3-A may be furnished when Type A manhole is called for in the contract. Minimum height of bench wall above flow line of pipe is 25% of the diameter of the pipes.  
The bearing area of the frame and cover shall be so fitted and finished as to provide a firm and even seat for the entire cover in the frame. No projections shall exist on bearing areas of either casting, and the cover shall seat in its frame without rocking.  
Install top flush with final grade.



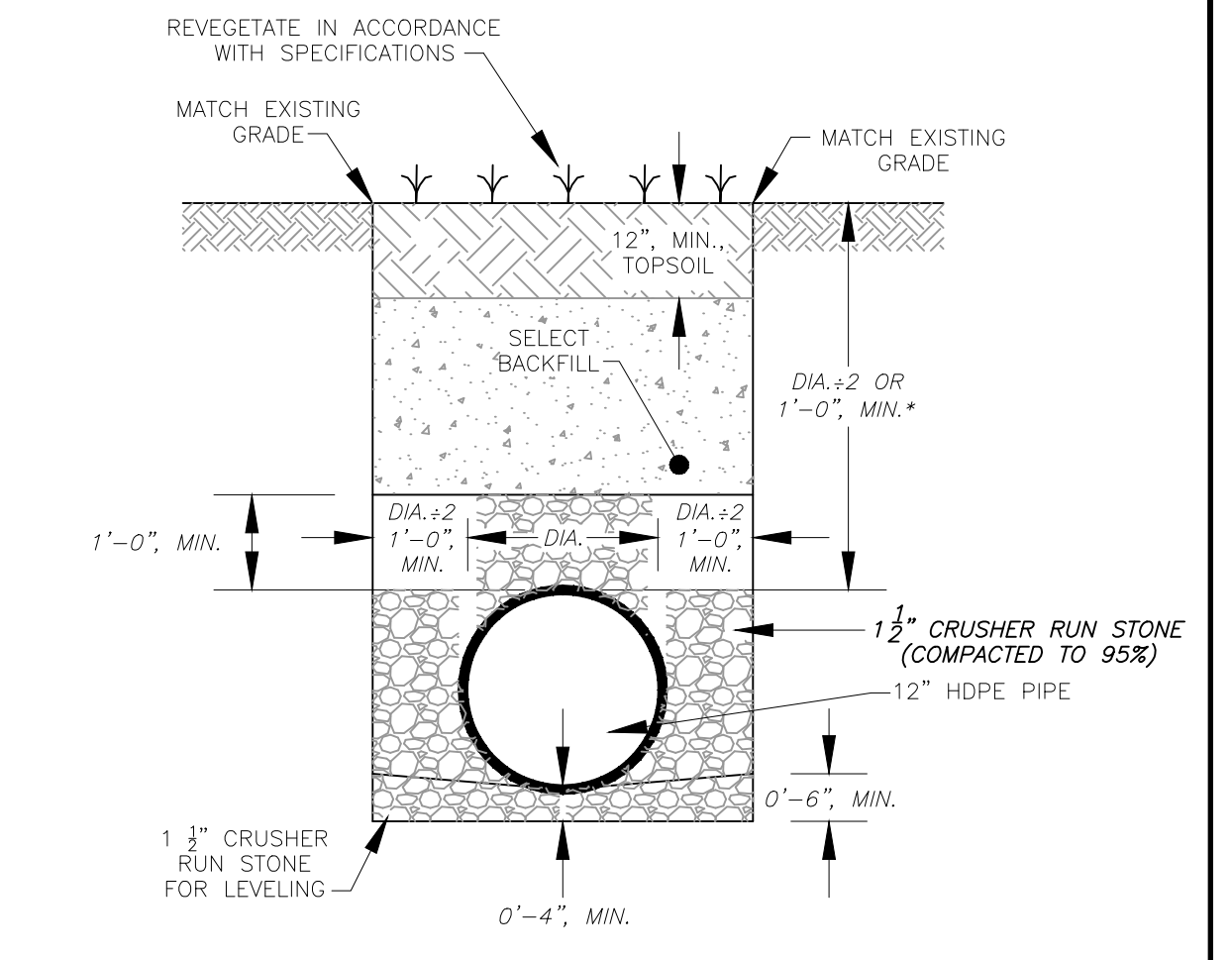
- NOTES:**
- The final installed top surface of inlet and grate shall be flush with adjacent finished surfaces such as pavement, gutters, curbs, and sidewalks. Top of grate elevation, if shown on the plans, is for information only.
  - Construction may be cast-in-place, precast in one or multiple sections, or any combination of cast-in-place and precast.
  - Type 1 Grate shall be used at all locations unless otherwise specified on the Plans. Type 1 Urban Grates shall be used only at specially designated locations as shown on the plans.
  - The Contractor, at his option, may omit use of the frame by forming a ledge in the concrete.
  - Special care shall be exercised in forming the 2" wide concrete ledge to provide a smooth, even surface for supporting the grates. If the shallow frame is not used, no projections shall exist on the bearing surfaces of the ledge or the grates, and the grates shall seat on the ledge without rocking.
  - The Mounding Detail as shown is not required when an inlet is placed in a sag.
  - Optional construction joints labeled "CJ" may be roughened concrete, keyed or dovetailed as per the typical details shown herein or as approved by the Engineer. Non shrink grout meeting the requirements of subsection 715.5 of the specifications may be used to a depth of 1/2" for leveling between precast sections. Thicker depths will be allowed as per the manufacturer's recommendations.
  - This inlet is to be installed in roadside or median ditches only. It is not to be placed adjacent to pavement or in the gutter pan of combination curb and gutter.
  - The minimum distance from the top of any pipe opening to any construction joint above the opening shall be four (4) inches.
  - The number and location of pipe openings shall be as shown in the plans. The contractor at no additional cost, shall be responsible for any temporary bracing required to transport precast inlet sections due to multiple openings.



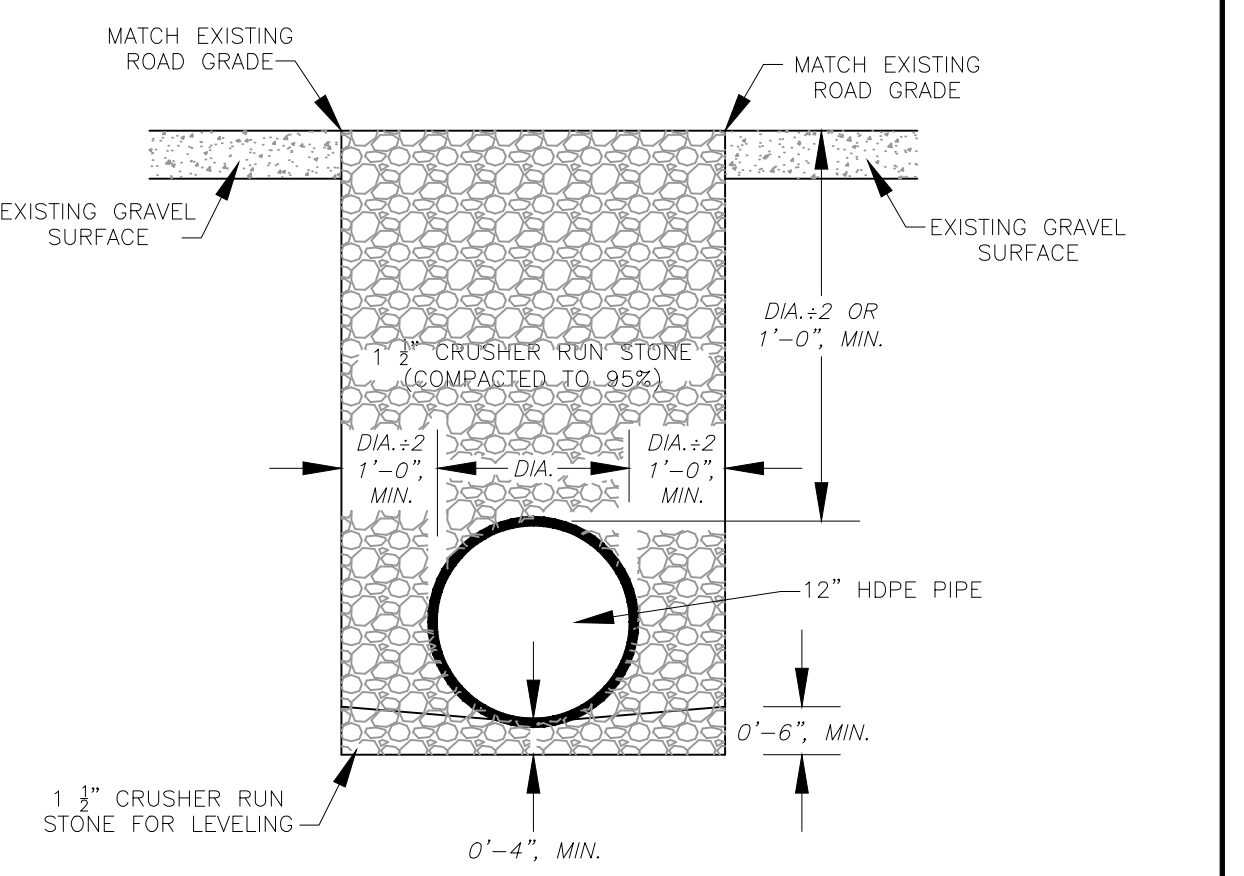
TYPE "G" INLET



PIPE CLEAN OUT DETAIL  
NOT TO SCALE



PIPE TRENCH - VEGETATED SURFACE  
NOT TO SCALE

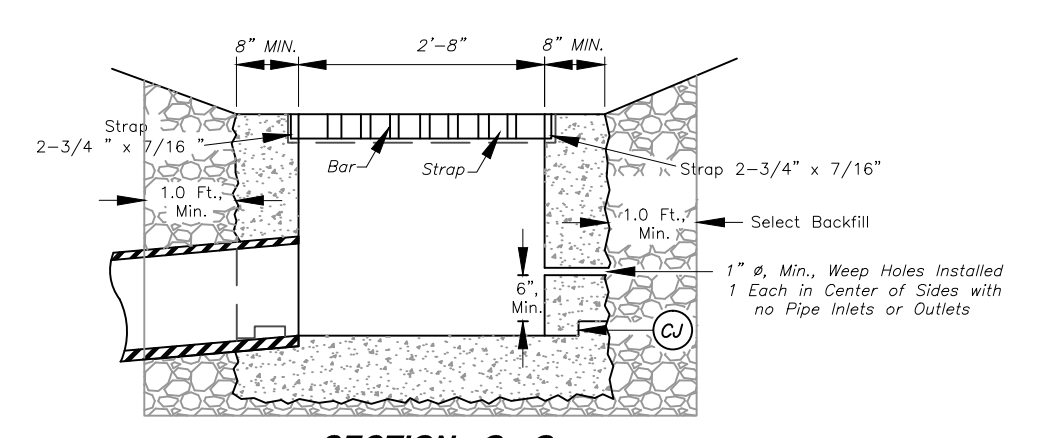


PIPE TRENCH - AGGREGATE SURFACE  
NOT TO SCALE

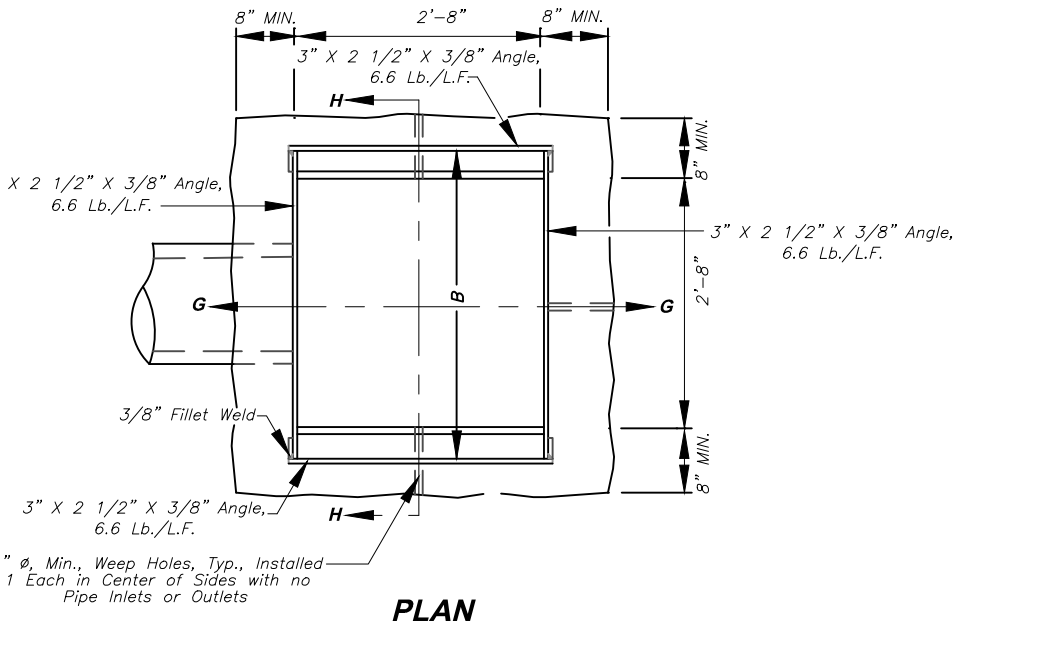
Pipe Size	DIMENSIONS				TYPE 2 GRATE		FRAME		TYPE 1 GRATE			
	A	B	C	D	H(Min)	F	WT.	F	WT.			
12"	2'-8"	3'-2"	2'-3/4"	1'-1 3/4"	2'-0"	3 3/8"	7	22 1/2	52	1 3/8"	15	45 1/2

Table Note: Grate and frame weights are for information only and will increase if larger straps and bars are used. The following substitutions in dimensions shall be acceptable for fabricating the grate and frame:  
Strap Thickness: 1/2"  
Strap Depth: 3"  
Bar Depth: 3"

DITCH GRADE FROM TO	HORIZONTAL LENGTH (FT.)		VERTICAL LENGTH (FT.)	
	1:1	2:1	1:1	2:1
0	3	10	15	20
3	5	9	10	15
5	7.5	8	10	15
7.5	UP	SPECIAL DESIGN	UP	SPECIAL DESIGN



SECTION G-G  
(Type 2 Grate Shown)



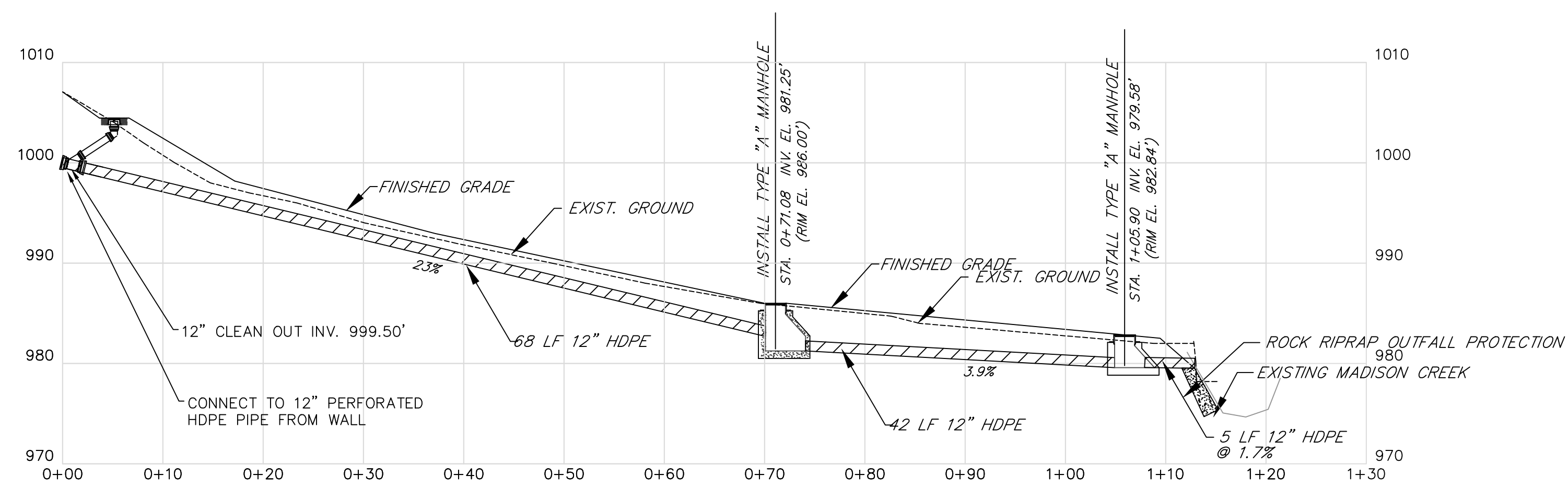
TYPE "G" INLET

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Department of Environmental Protection  
Abandoned Mine Lands and Reclamation

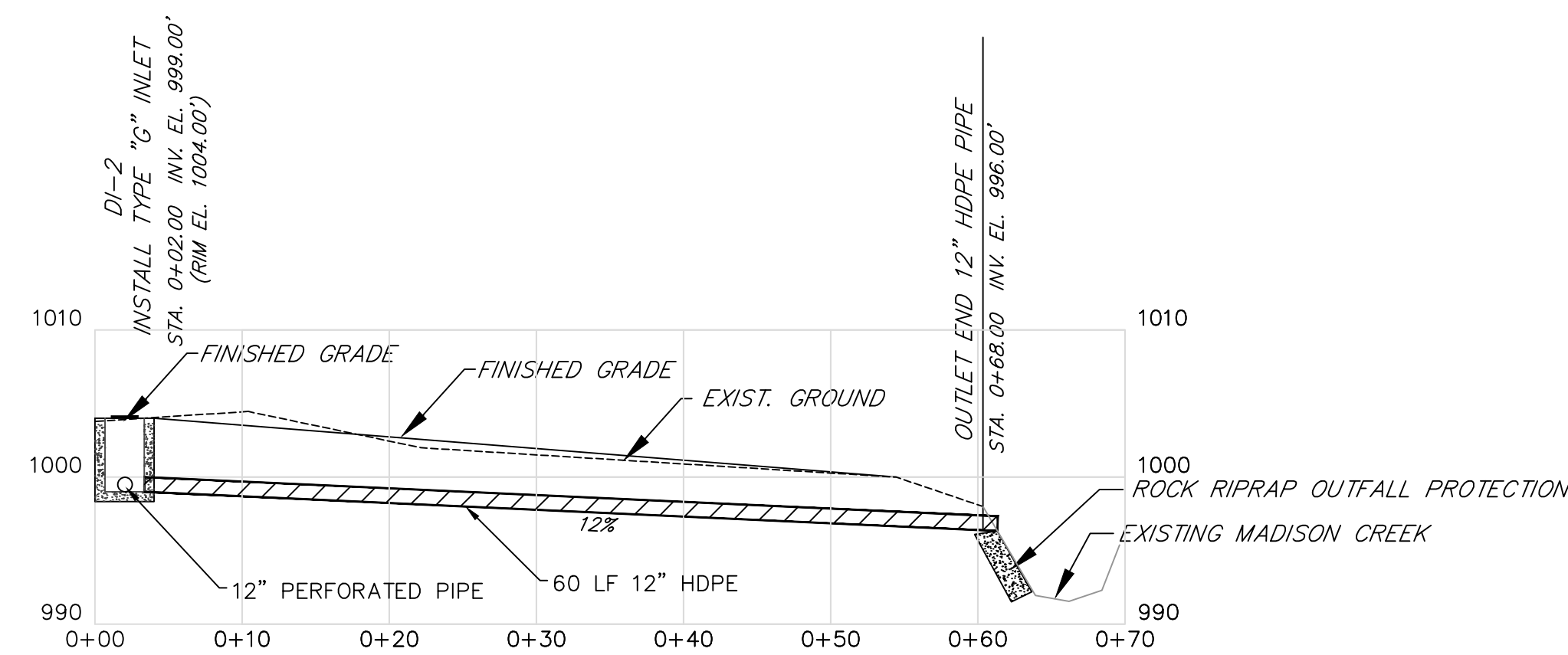
**LYBURN (MAYARD) DRAINAGE**

CONSTRUCTION DETAILS

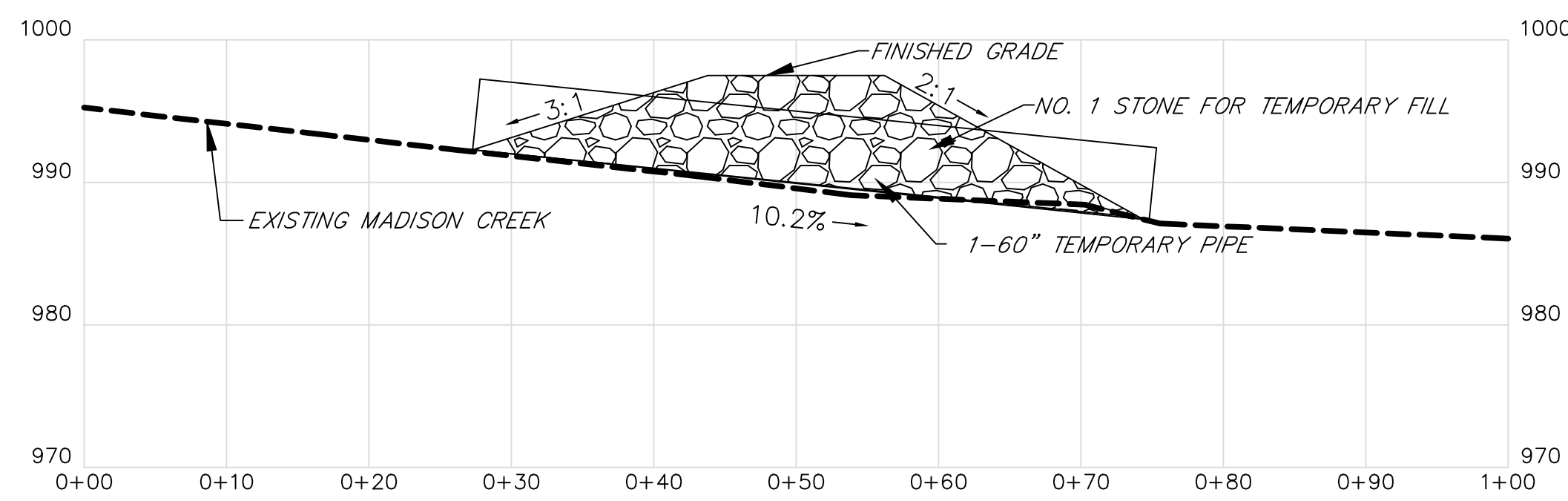
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APPROVED BY:	SHEET NO. 6
DATE:	08



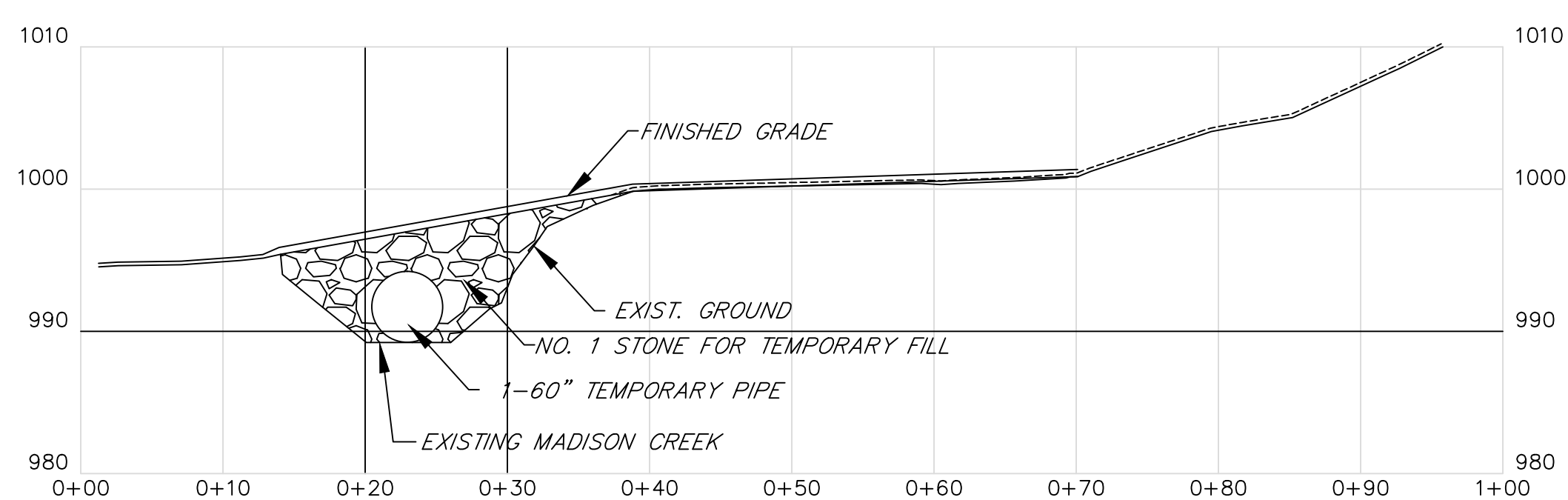
EAST PIPE



WEST PIPE



TEMPORARY STREAM CROSSING PROFILE



TEMPORARY STREAM CROSSING CROSS SECTION

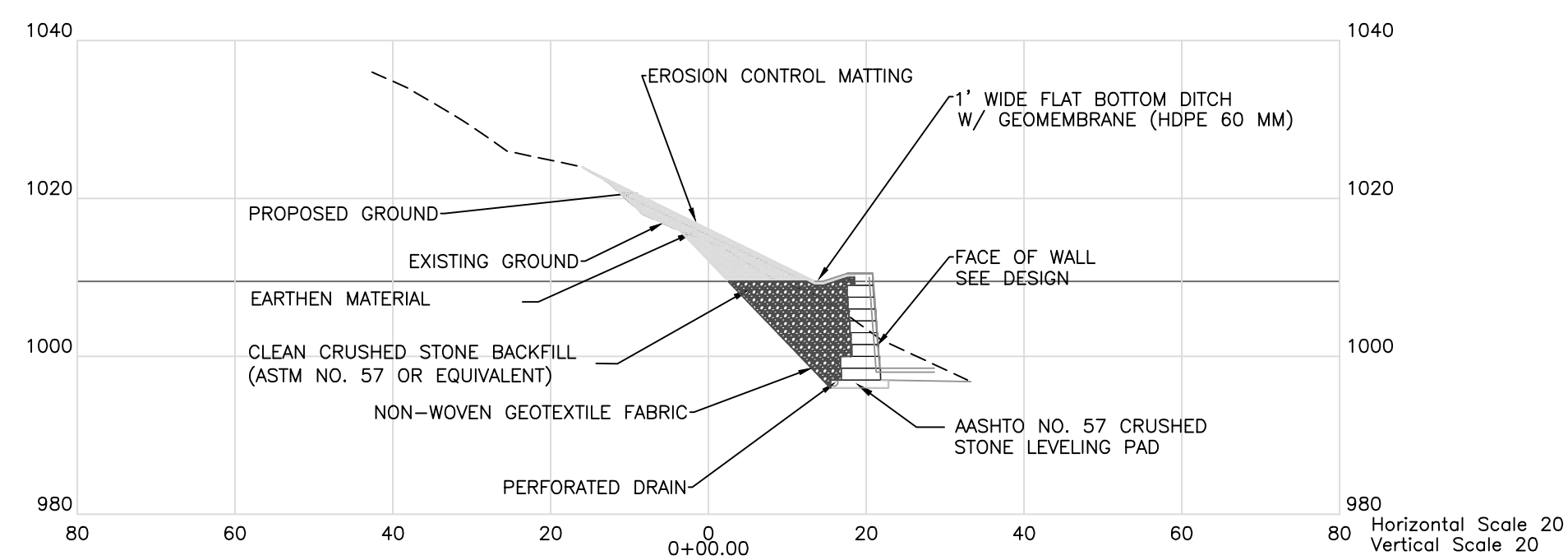
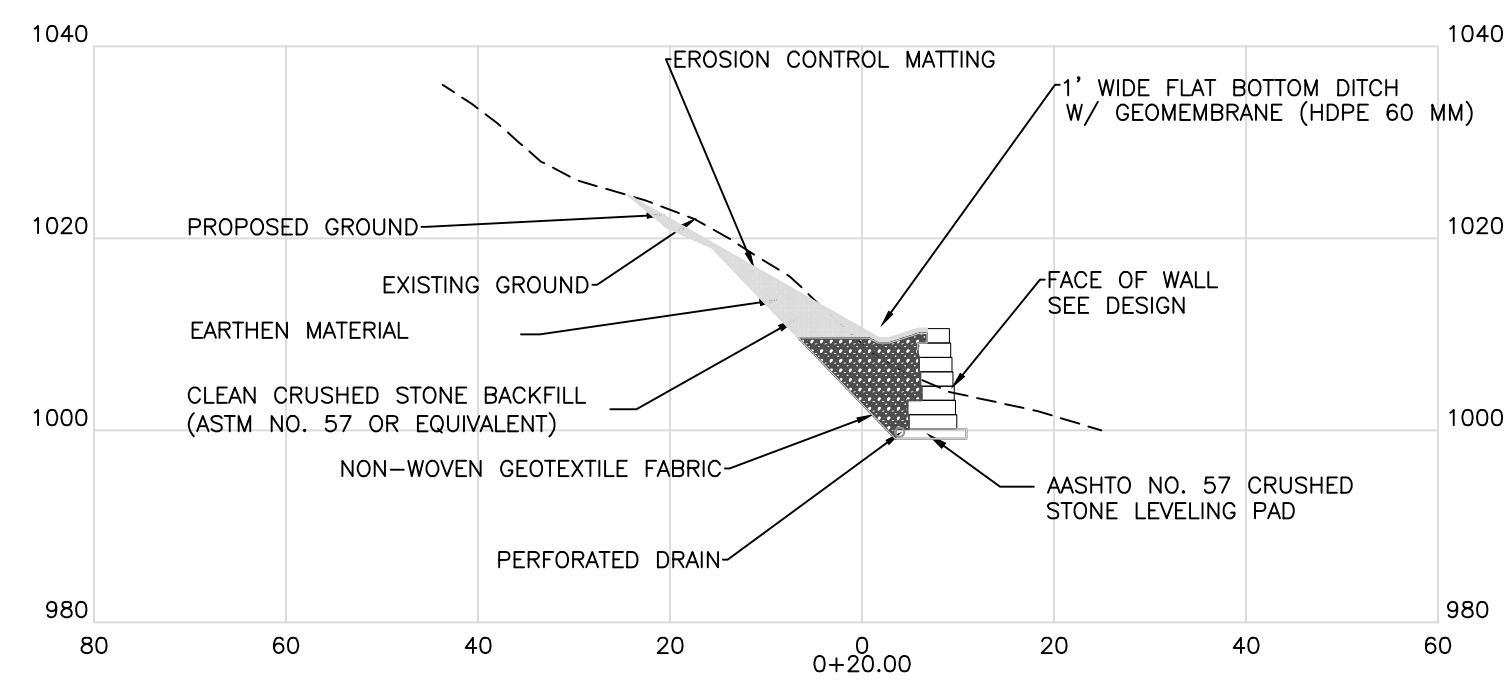
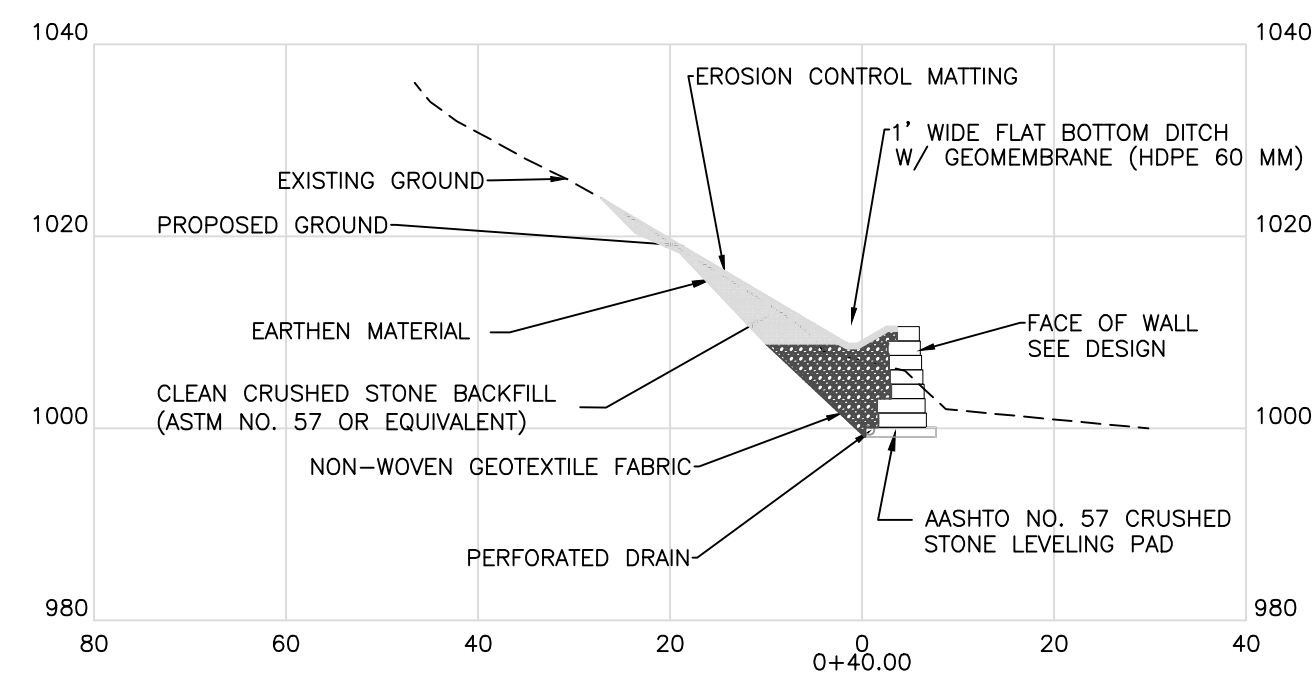
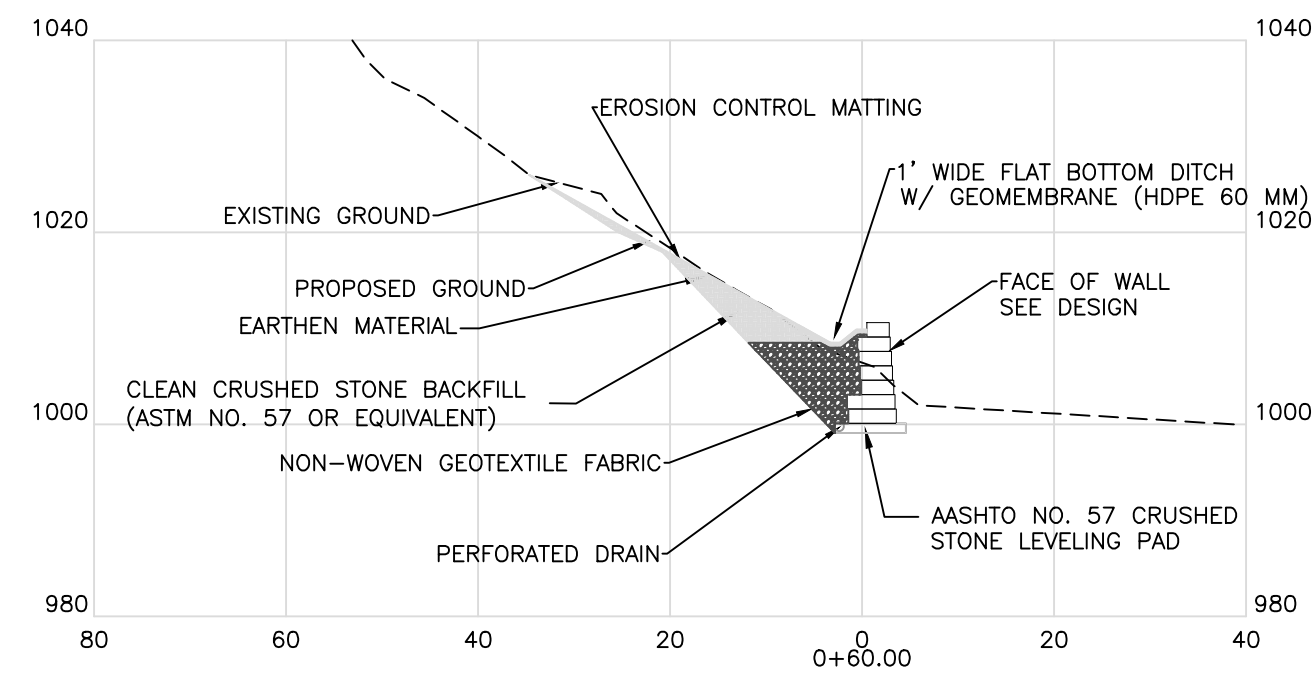
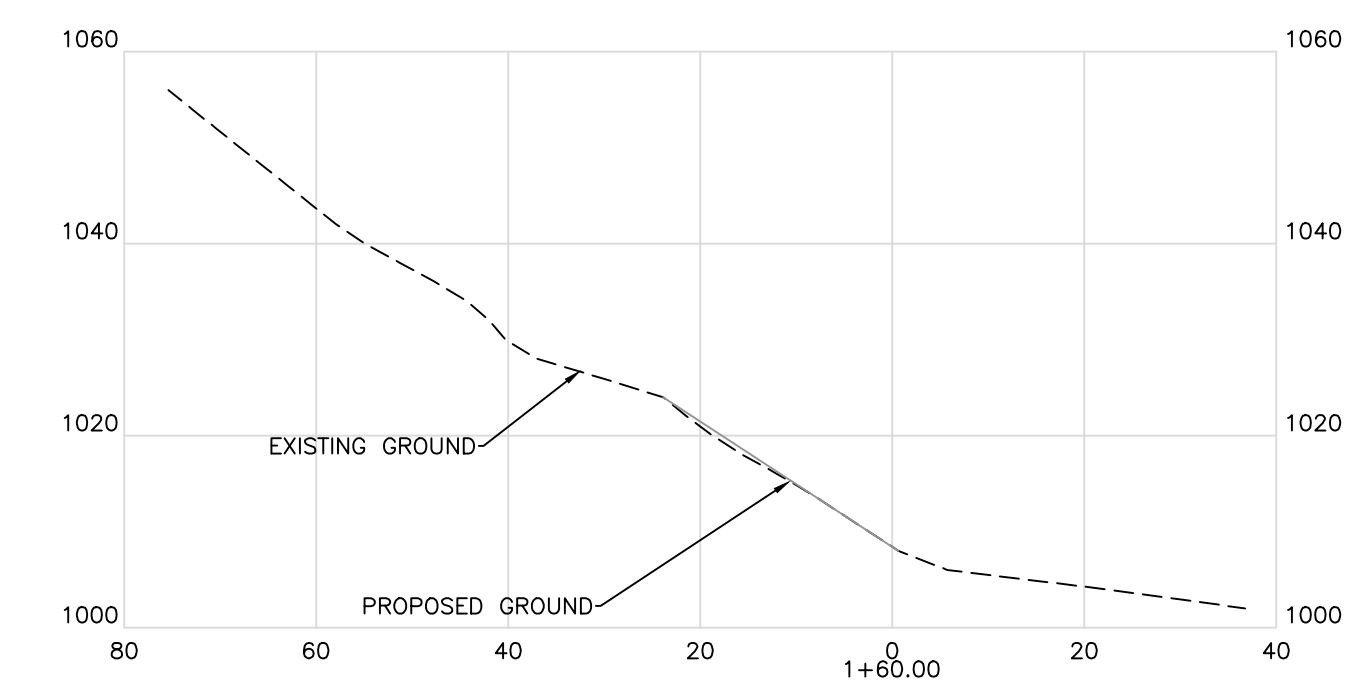
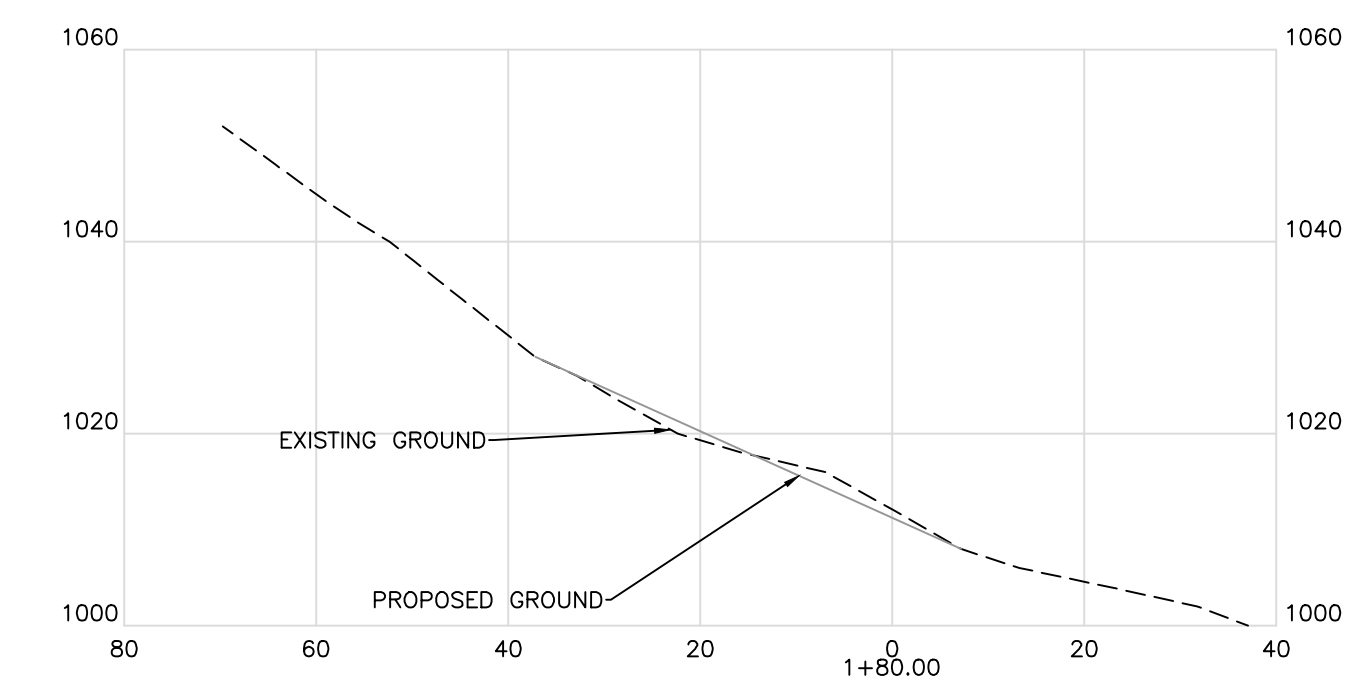
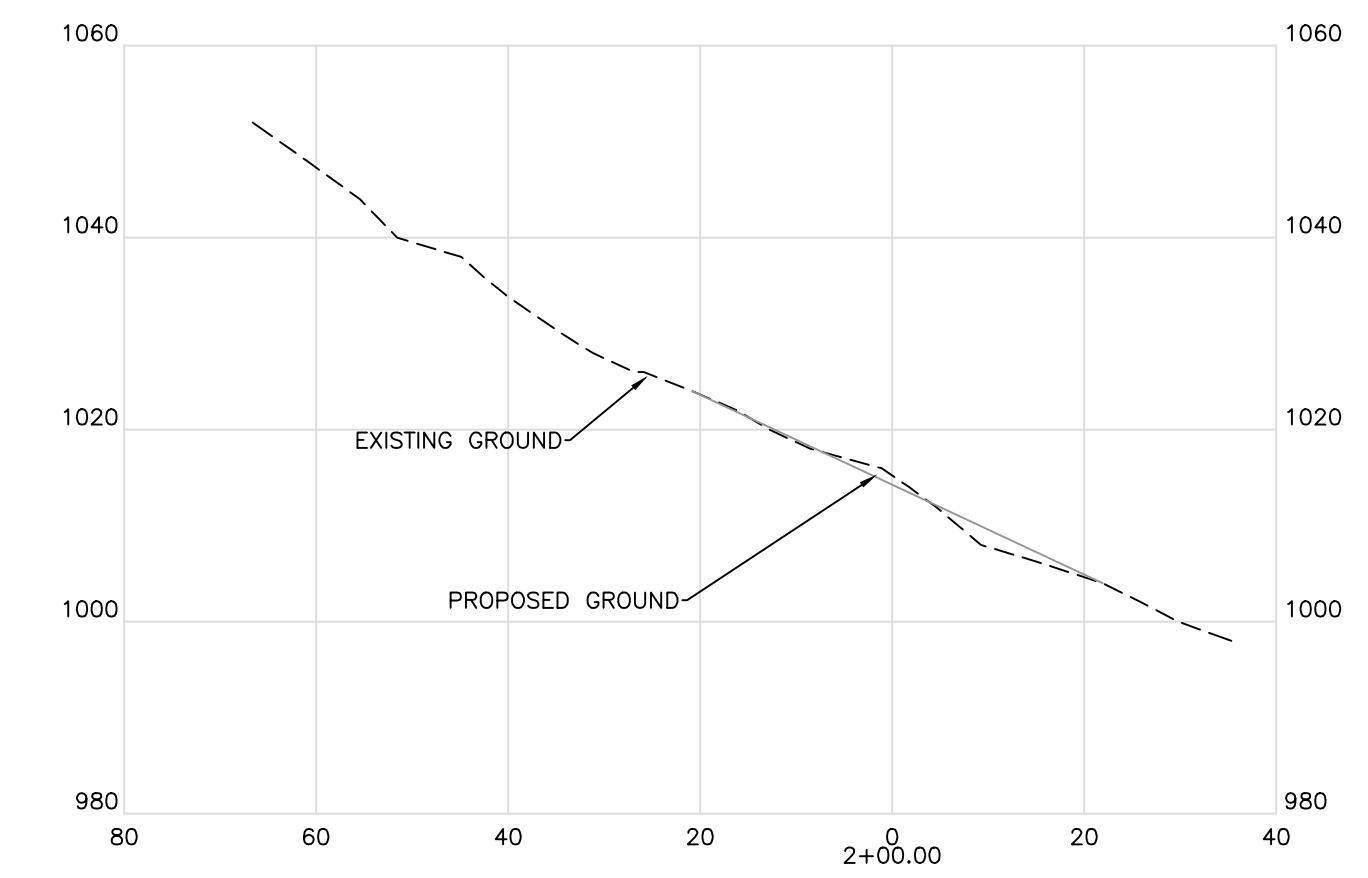
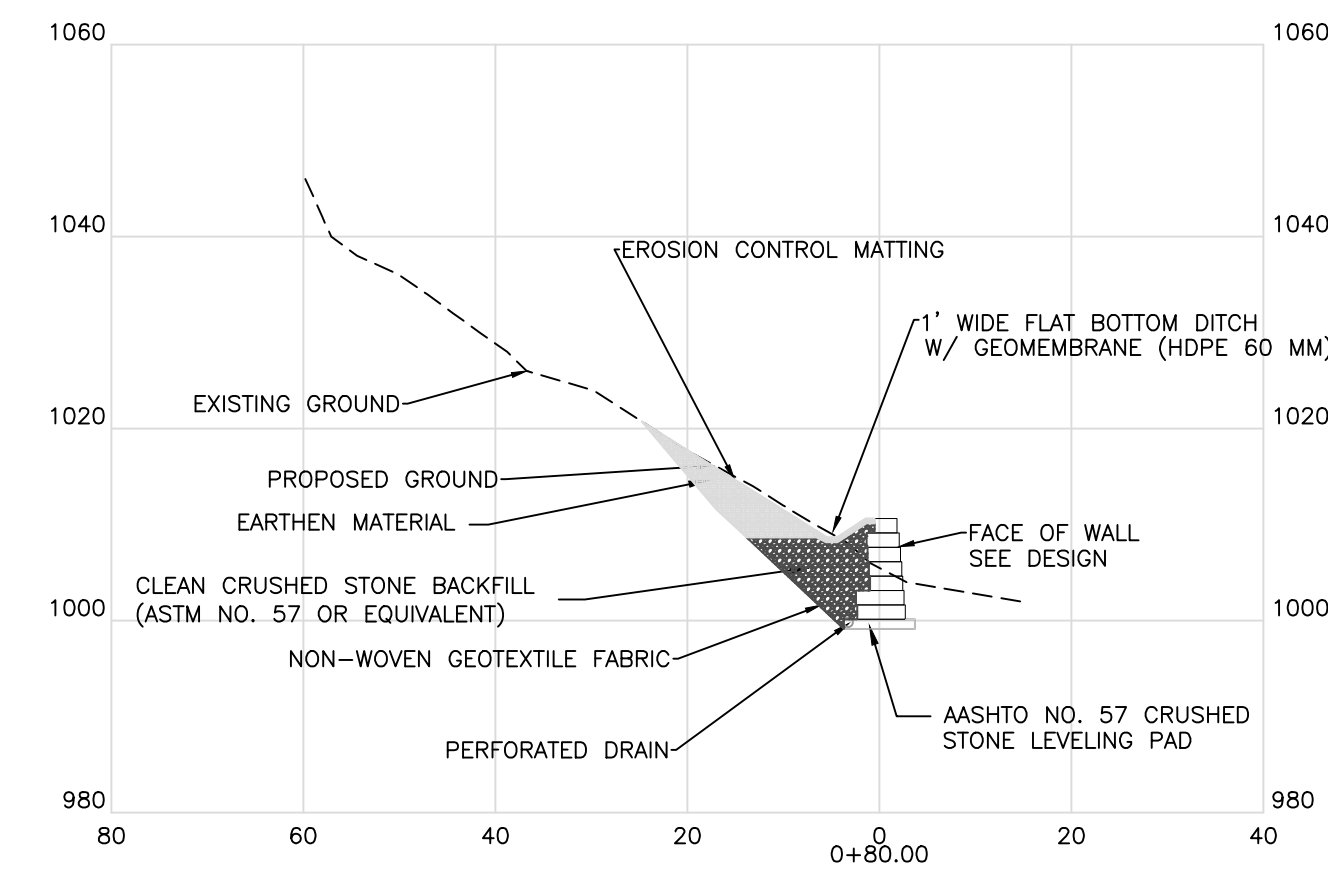
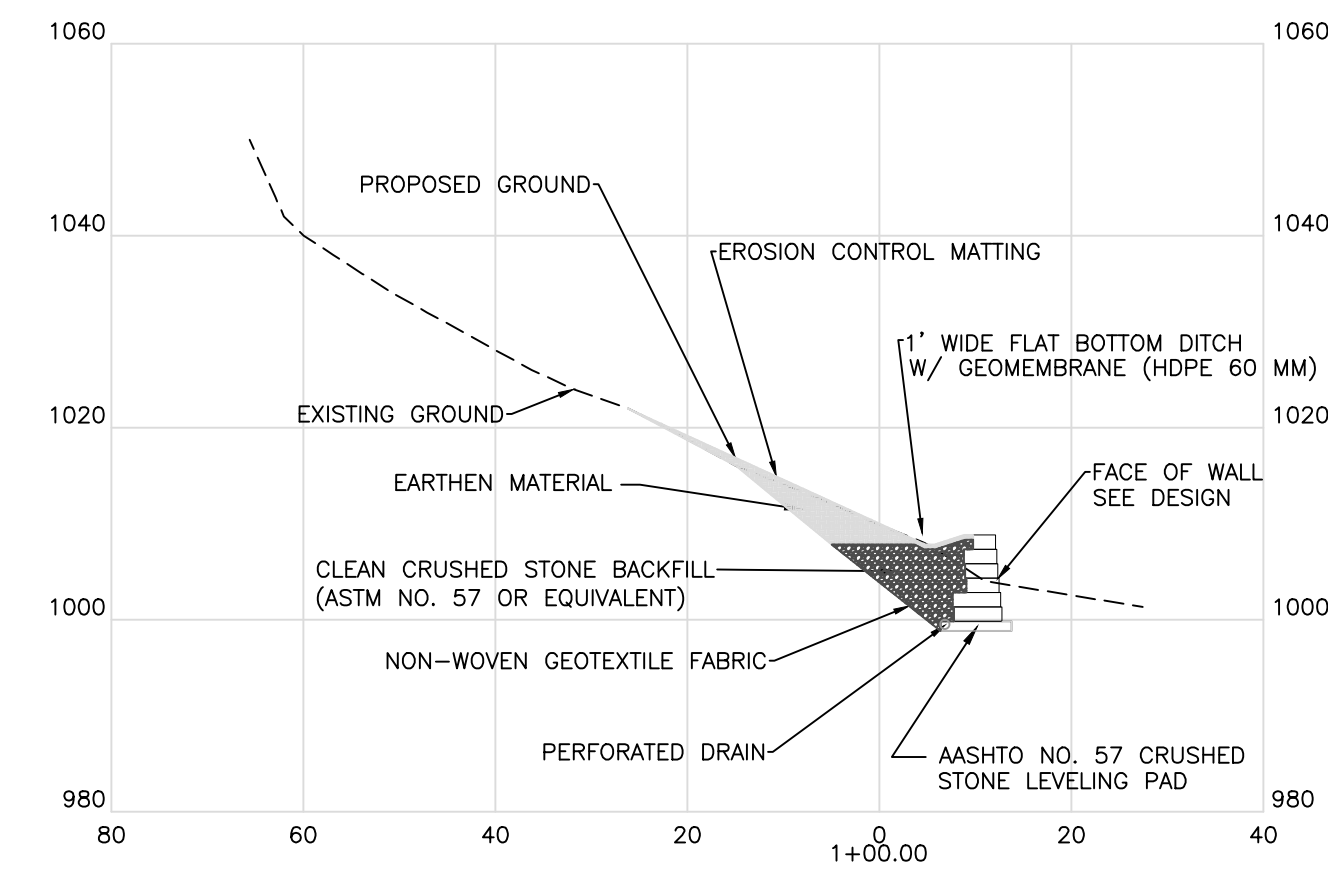
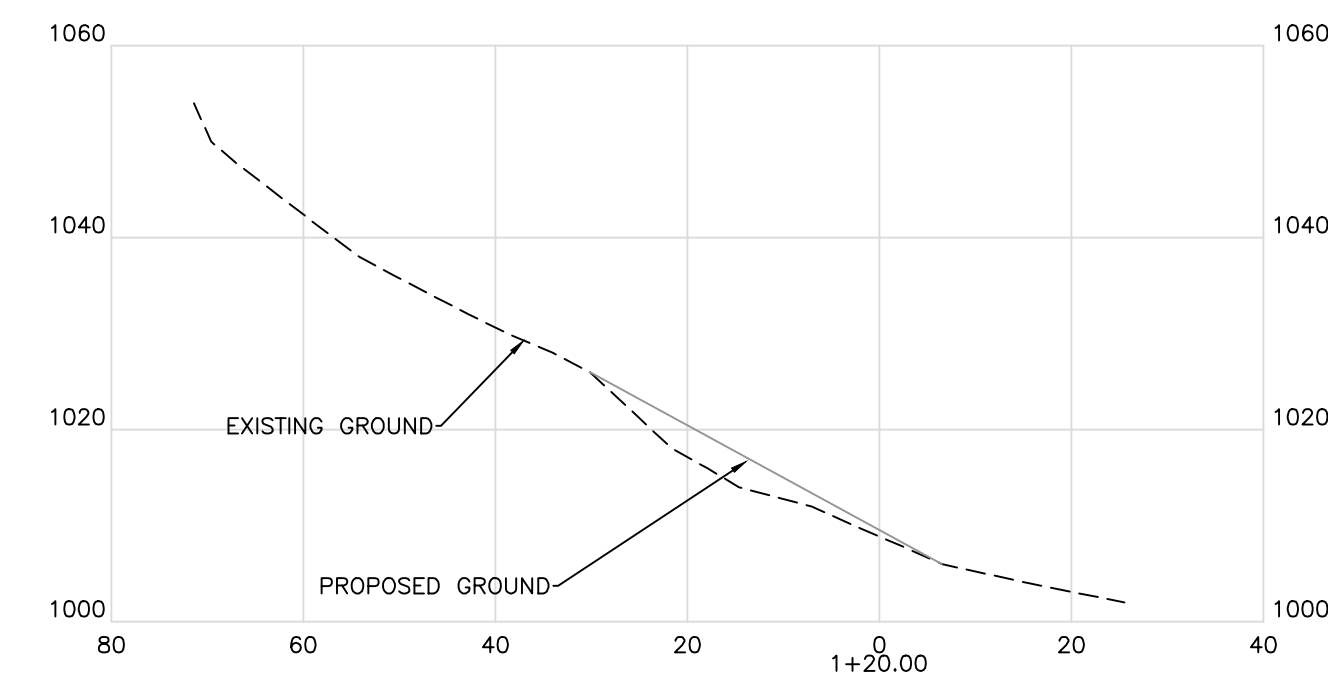
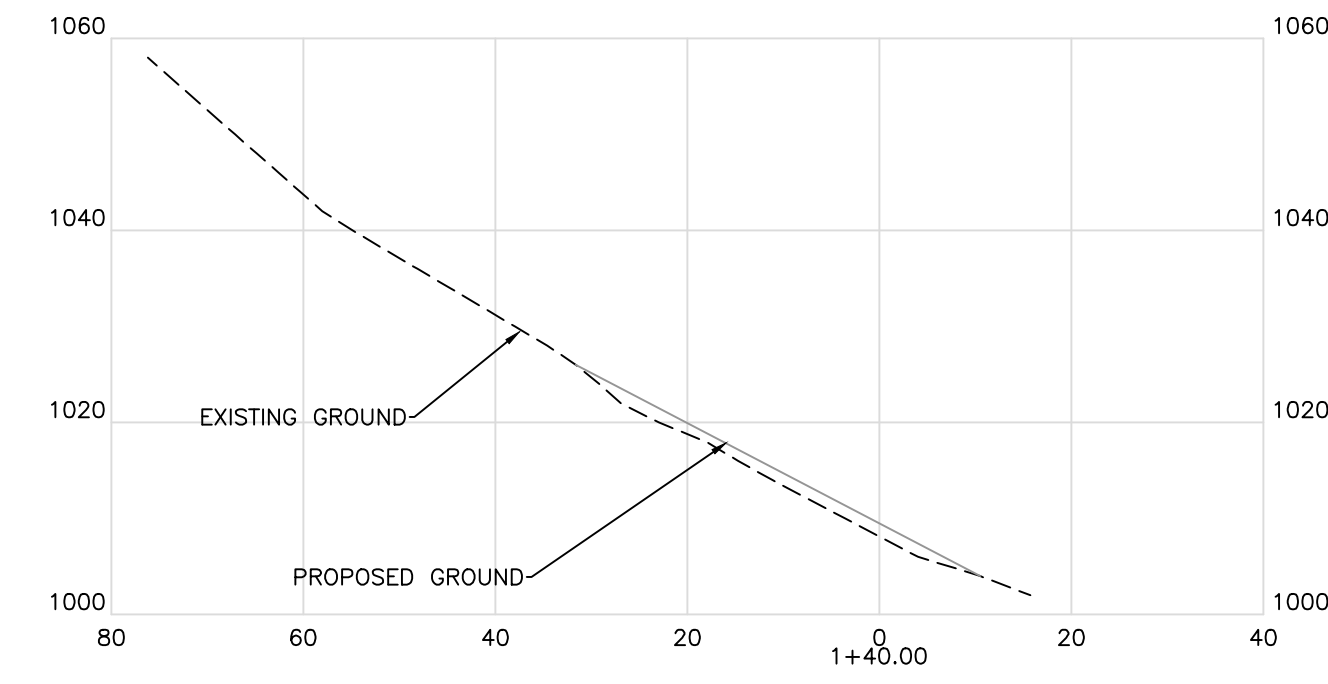
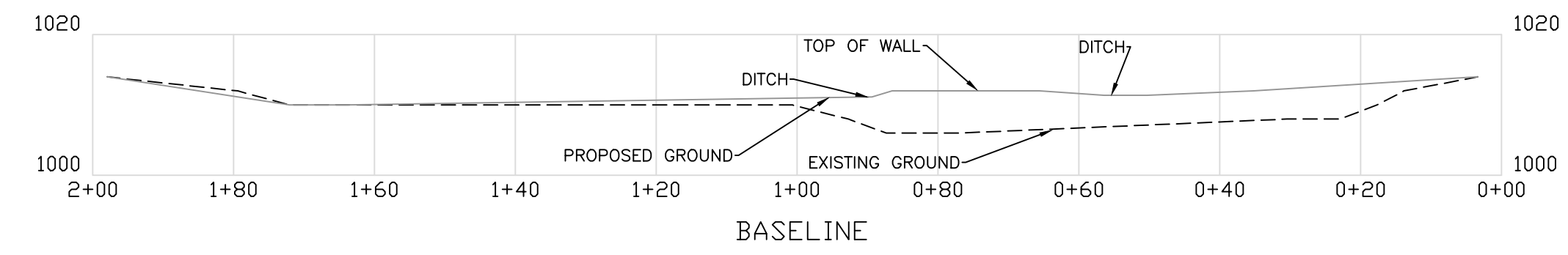
State of West Virginia  
Department of Environmental Protection  
Abandoned Mine Lands and Reclamation

**LYBURN (MAYNARD) DRAINAGE**

**ROAD AND PIPE PROFILES**

DRAWN BY: RCD  
APPROVED BY: AW  
DATE: 8/31/2015

SCALE: 1" = 10'  
SHEET NO. 7  
OF 7



Horizontal Scale 20  
Vertical Scale 20

State of West Virginia  
Department of Environmental Protection  
Abandoned Mine Lands and Reclamation

**LYBURN (MAYNARD) DRAINAGE**

**BASELINE PROFILE AND  
CROSS SECTIONS**

DRAWN BY: RCD	SCALE: 1" = 20'
APPROVED BY: AW	SHEET NO. <b>8</b>
DATE: 4/23/2015	OF 8