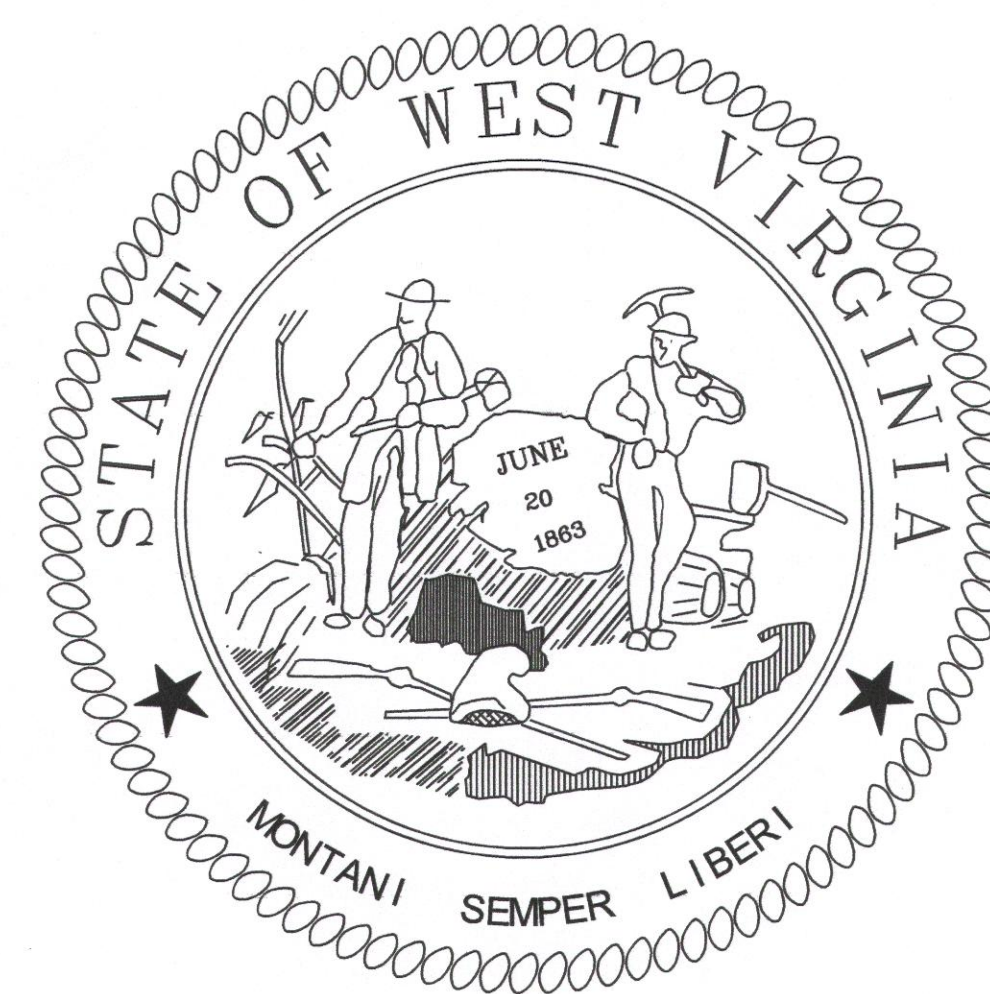
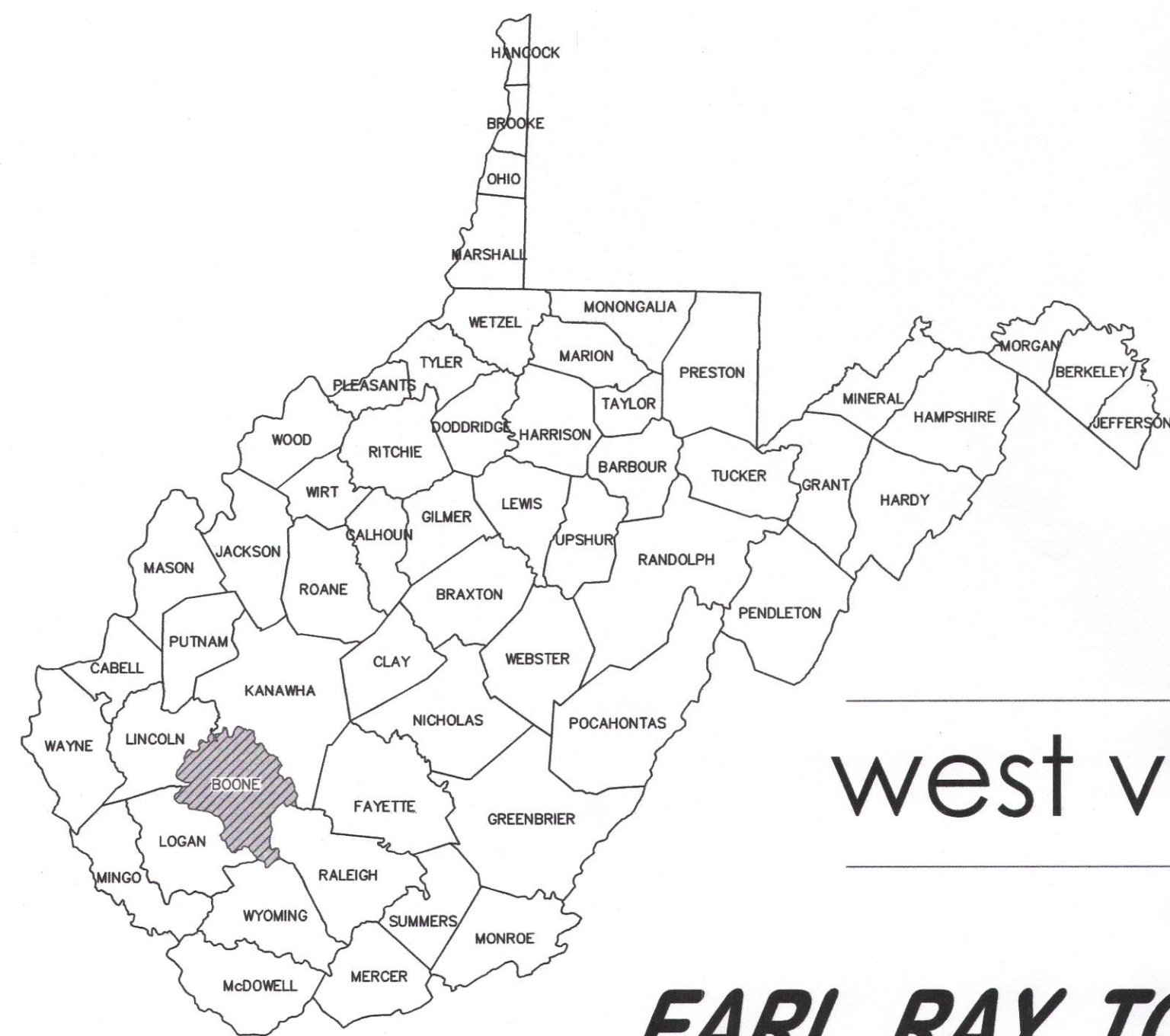




west virginia department of environmental protection

EARL RAY TOMBLIN, GOVERNOR RANDY C. HUFFMAN, CABINET SECRETARY
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

MORRISVALE (HOLESTIN) DRAINAGE

AT MORRISVALE
BOONE COUNTY, WEST VIRGINIA

VICINITY MAP



USGS 7.5' QUAD (GRIFFITHSVILLE)

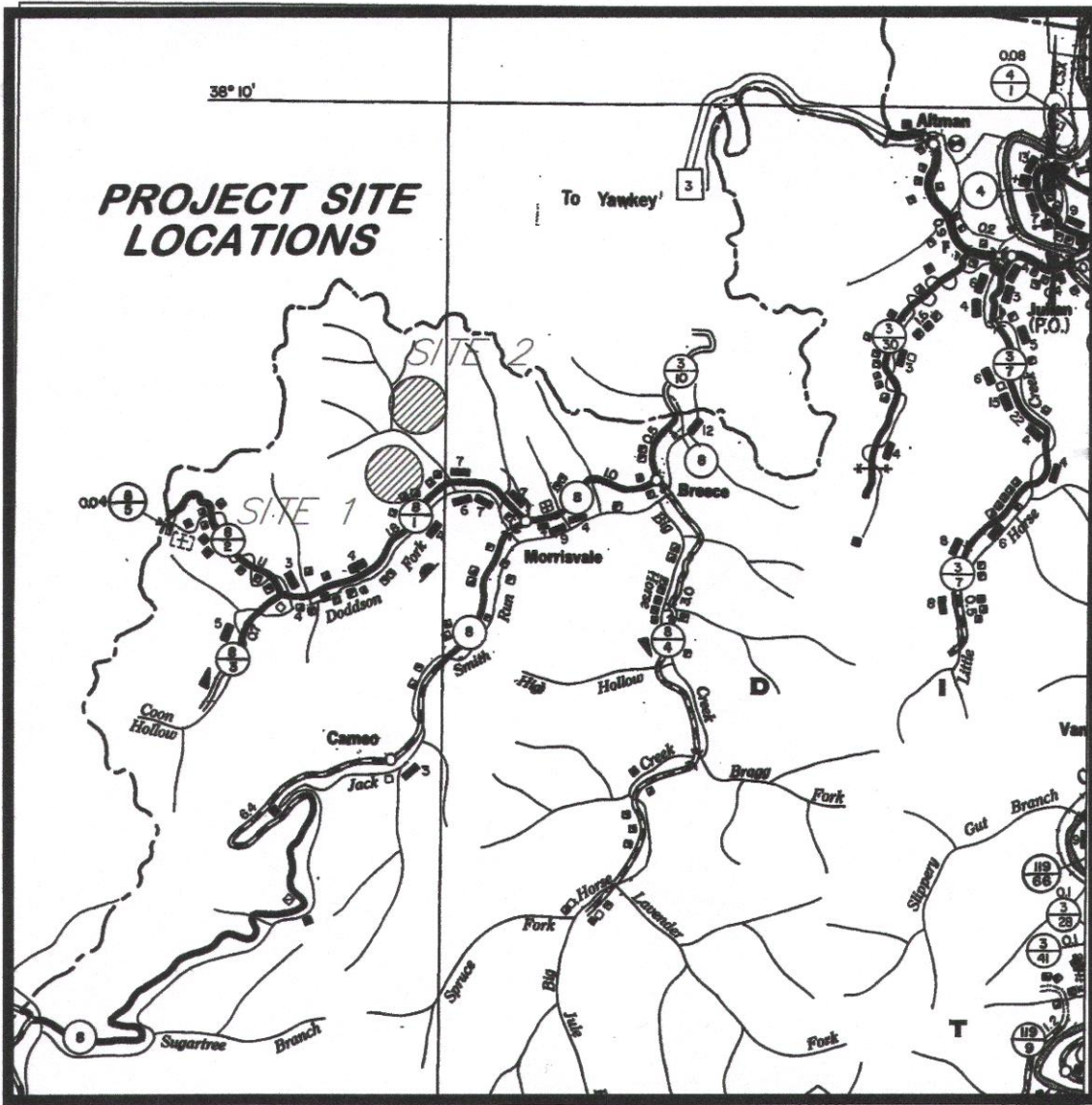
INDEX TO SHEETS

SHEET NO.	DESCRIPTION
2	EXISTING CONDITIONS AND TAX MAP OVERLAY
3	ACCESS PLAN
4	SITE 1 AND 2 - SEDIMENT CONTROL AND RECLAMATION PLAN
5	PROFILE AND CROSS SECTION CHANNEL "A" AND CHANNEL "B"
6	PORTAL CROSS SECTIONS P-1, P-2, P-3, P-4, P-6 AND P-7
7	PROFILE HORIZONTAL BORING NOS. 1, 2 AND 3
8	TYPICAL DETAILS
9	HORIZONTAL BORING DETAILS

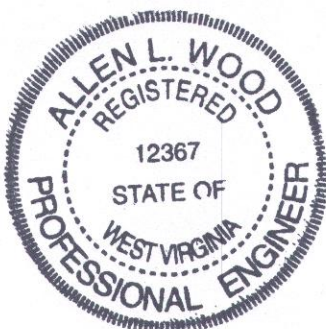
BID SCHEDULE

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	Access Road Rehabilitation
4.3	375	TN	Gravel Drive Rehabilitation
4.4	2	EA	Temporary Stream Crossing
5.1	300	LF	Silt Fence
5.2	25	TN	Stabilized Construction Entrance
6.0	1	LS	Revegetation
7.1	70	LF	2' Grouted Riprap Channel
7.2	120	LF	2' Rock Riprap Channel
7.3	70	LF	2-1/2' Rock Riprap Channel
7.4	30	LF	18-inch Diameter HDPE Culvert
7.5	520	LF	Pilot Holes
7.6	520	LF	16-inch Diameter Casing
7.7	520	LF	12-inch Diameter Conveyance Pipe
7.8	100	EA	Soda Ash Briquettes (50 lb bag)

LOCATION MAP



COUNTY HIGHWAY MAP , 1" = 1 MI.



Allen L. Wood
APPROVED

6/29/15
DATE

LEGEND

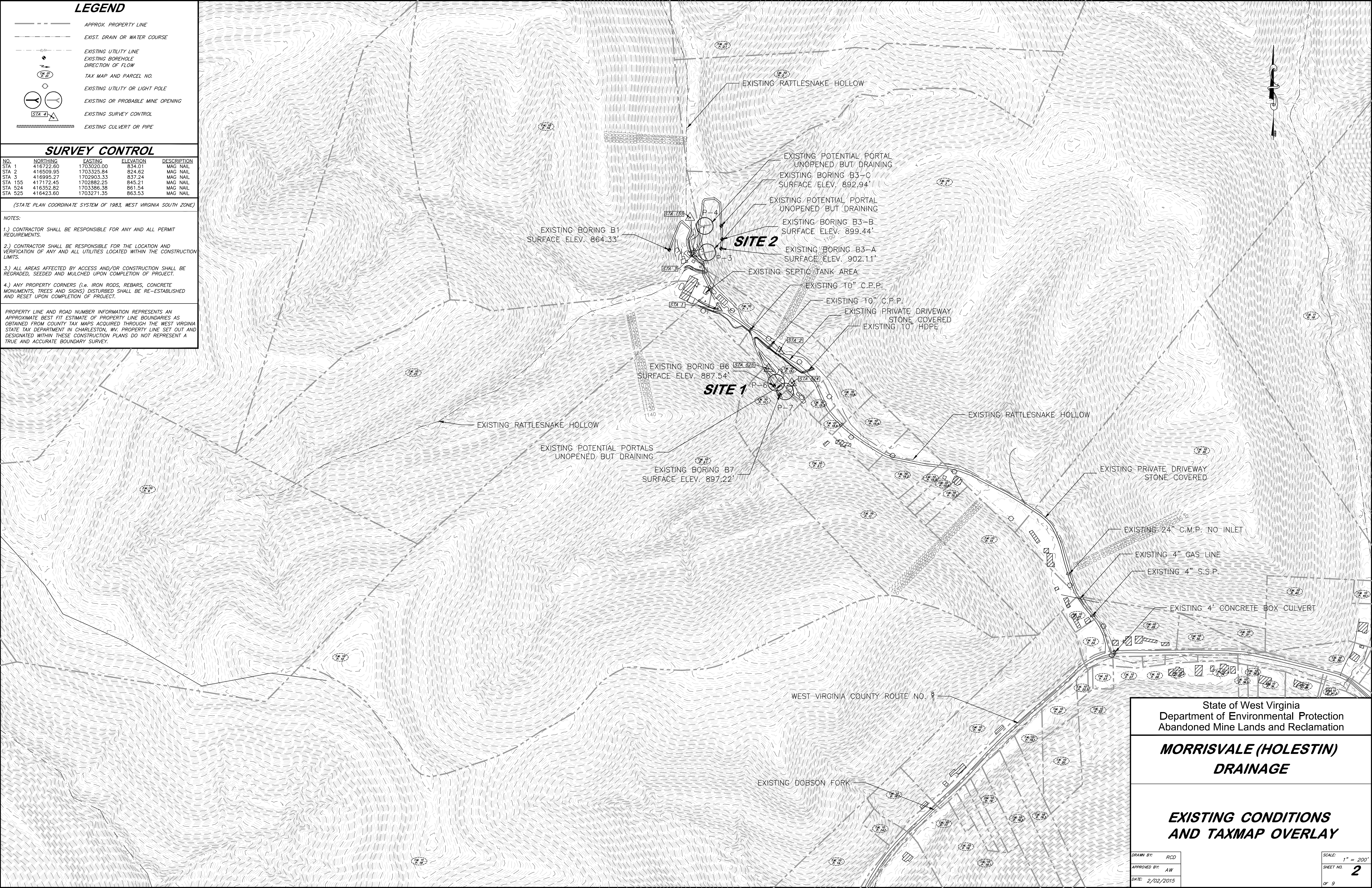
	APPROX. PROPERTY LINE
	EXIST. DRAIN OR WATER COURSE
	EXISTING UTILITY LINE
	EXISTING BOREHOLE DIRECTION OF FLOW
	TAX MAP AND PARCEL NO.
	
	EXISTING UTILITY OR LIGHT POLE
	EXISTING OR PROBABLE MINE OPENING
	EXISTING SURVEY CONTROL
	EXISTING CULVERT OR PIPE
	

(STATE PLAN COORDINATE SYSTEM OF 1983, WEST VIRGINIA SOUTH ZONE)

1.) CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL PERMIT REQUIREMENTS.

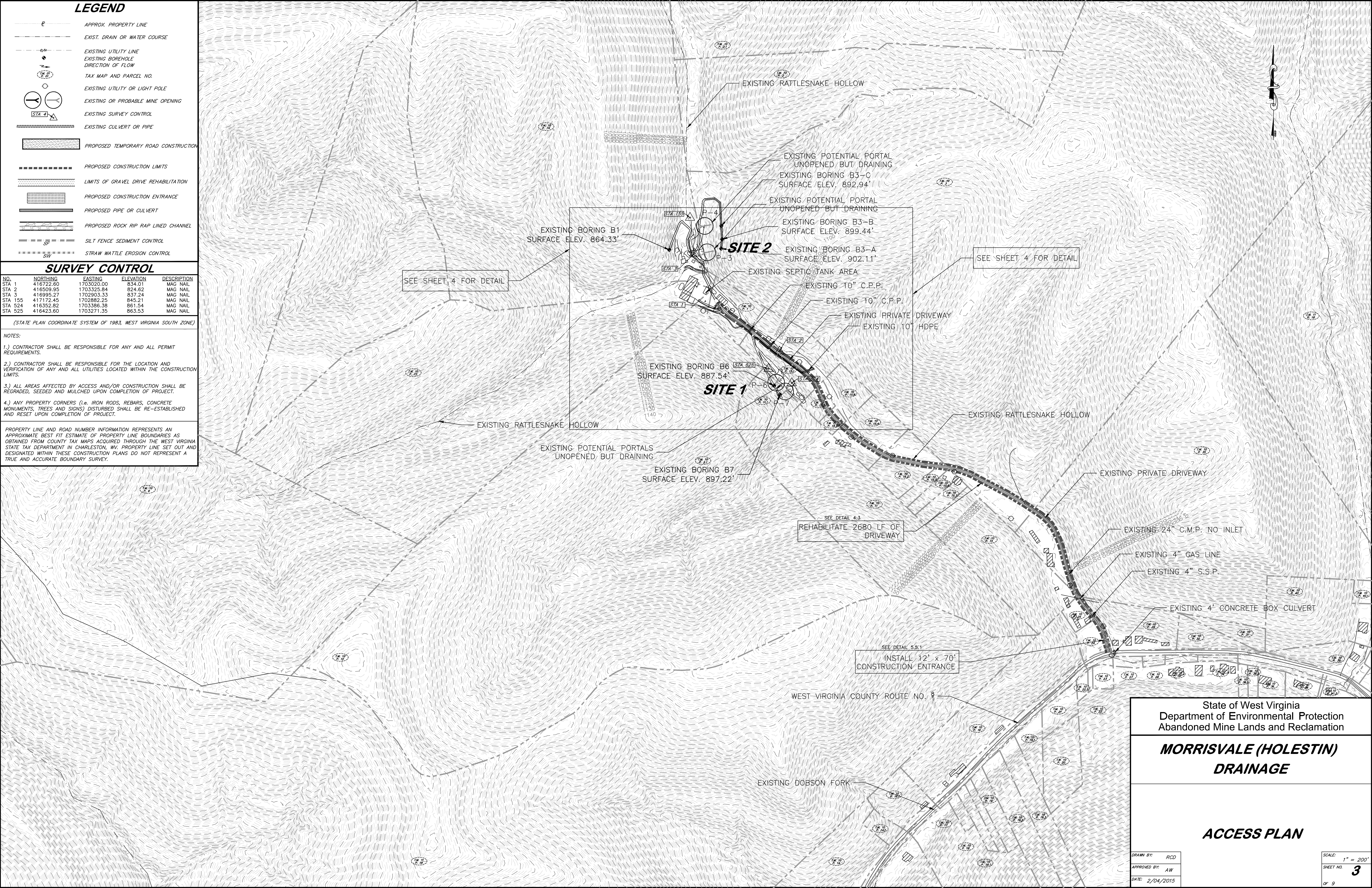
3.) ALL AREAS AFFECTED BY ACCESS AND/OR CONSTRUCTION SHALL BE REGRADED, SEEDED AND MULCHED UPON COMPLETION OF PROJECT.

PROPERTY LINE AND ROAD NUMBER INFORMATION REPRESENTS AN APPROXIMATE BEST FIT ESTIMATE OF PROPERTY LINE BOUNDARIES AS OBTAINED FROM COUNTY TAX MAPS ACQUIRED THROUGH THE WEST VIRGINIA STATE TAX DEPARTMENT IN CHARLESTON, WV. PROPERTY LINE SET OUT AND DESIGNATED WITHIN THESE CONSTRUCTION PLANS DO NOT REPRESENT A TRUE AND ACCURATE BOUNDARY SURVEY.



SCALE: 1" = 200'

SHEET NO. 2



LEGEND

- APPROX. PROPERTY LINE
- EXIST. DRAIN OR WATER COURSE
- EXISTING UTILITY LINE
- EXISTING BOREHOLE
- DIRECTION OF FLOW
- TAX MAP AND PARCEL NO.
- EXISTING UTILITY OR LIGHT POLE
- EXISTING OR PROBABLE MINE OPENING
- EXISTING SURVEY CONTROL
- EXISTING CULVERT OR PIPE
- PROPOSED TEMPORARY ROAD CONSTRUCTION
- PROPOSED CONSTRUCTION LIMITS
- LIMITS OF GRAVEL DRIVE REHABILITATION
- PROPOSED CONSTRUCTION ENTRANCE
- PROPOSED PIPE OR CULVERT
- PROPOSED ROCK RIP RAP LINED CHANNEL
- SILT FENCE SEDIMENT CONTROL
- STRAW WATTLE EROSION CONTROL

SURVEY CONTROL

NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
STA 1	416722.60	1703020.00	834.01	MAG NAIL
STA 2	416509.95	1703325.84	824.62	MAG NAIL
STA 3	416995.27	1702903.33	837.24	MAG NAIL
STA 155	417172.45	1702882.25	845.21	MAG NAIL
STA 524	416352.82	1703386.38	861.54	MAG NAIL
STA 525	416423.60	1703271.35	863.53	MAG NAIL

(STATE PLAN COORDINATE SYSTEM OF 1983, WEST VIRGINIA SOUTH ZONE)

NOTES:

- 1.) CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL PERMIT REQUIREMENTS.
- 2.) CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND VERIFICATION OF ANY AND ALL UTILITIES LOCATED WITHIN THE CONSTRUCTION LIMITS.
- 3.) ALL AREAS AFFECTED BY ACCESS AND/OR CONSTRUCTION SHALL BE REGRADED, SEEDED AND MULCHED UPON COMPLETION OF PROJECT.
- 4.) ANY PROPERTY CORNERS (i.e. IRON RODS, REBARS, CONCRETE MONUMENTS, TREES AND SIGNS) DISTURBED SHALL BE RE-ESTABLISHED AND RESET UPON COMPLETION OF PROJECT.

PROPERTY LINE AND ROAD NUMBER INFORMATION REPRESENTS AN APPROXIMATE BEST FIT ESTIMATE OF PROPERTY LINE BOUNDARIES AS OBTAINED FROM COUNTY TAX MAPS ACQUIRED THROUGH THE WEST VIRGINIA STATE TAX DEPARTMENT IN CHARLESTON, WV. PROPERTY LINE SET OUT AND DESIGNATED WITHIN THESE CONSTRUCTION PLANS DO NOT REPRESENT A TRUE AND ACCURATE BOUNDARY SURVEY.

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

**MORRISVALE (HOLESTIN)
DRAINAGE**

ACCESS PLAN

DRAWN BY: RCD
APPROVED BY: AW
DATE: 2/04/2015

SCALE: 1" = 200'
SHEET NO. **3**
OF 9

 APPROX. PROPERTY LINE

 EXIST. DRAIN OR WATER COURSE

 EXISTING UTILITY LINE

 EXISTING BOREHOLE
 DIRECTION OF FLOW

 TAX MAP AND PARCEL NO.

 EXISTING UTILITY OR LIGHT POLE

 EXISTING OR PROBABLE MINE OPENING

 EXISTING SURVEY CONTROL

 EXISTING CULVERT OR PIPE

 PROPOSED TEMPORARY ROAD CONSTRUCTION

 PROPOSED CONSTRUCTION LIMITS

 LIMITS OF GRAVEL DRIVE REHABILITATION

 PROPOSED CONSTRUCTION ENTRANCE

 PROPOSED PIPE OR CULVERT

 PROPOSED ROCK RIP RAP LINED CHANNEL

 SILT FENCE SEDIMENT CONTROL

(STATE PLAN COORDINATE SYSTEM OF 1983, WEST VIRGINIA SOUTH ZONE)

- 1.) CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL PERMIT REQUIREMENTS.
- 2.) CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND VERIFICATION OF ANY AND ALL UTILITIES LOCATED WITHIN THE CONSTRUCTION LIMITS.
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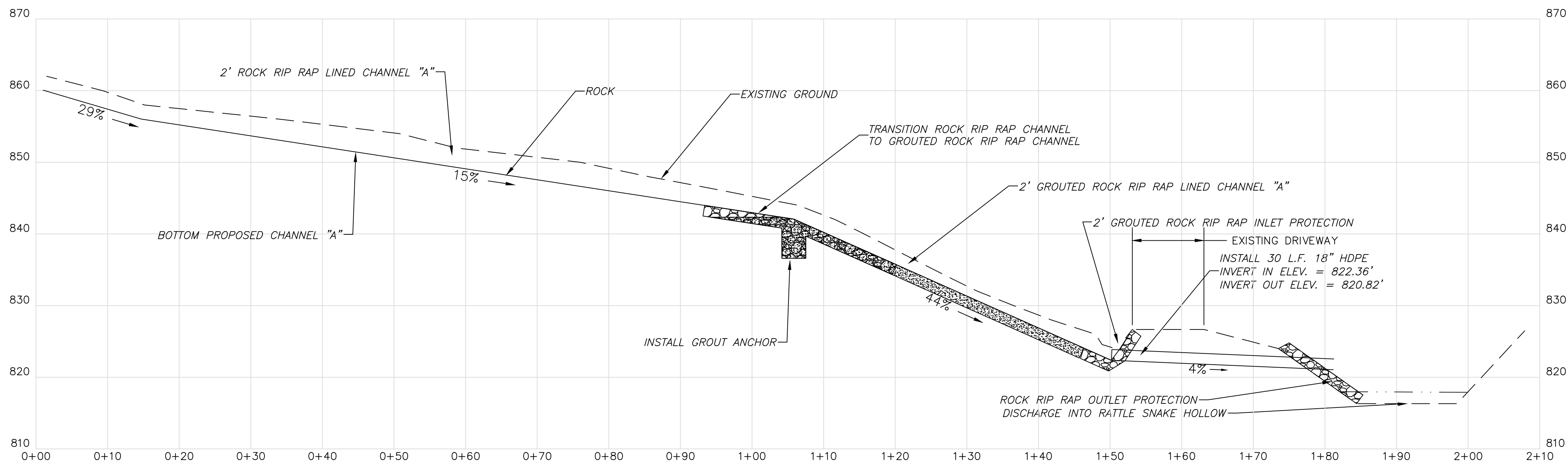
PROPERTY LINE AND ROAD NUMBER INFORMATION REPRESENTS AN APPROXIMATE BEST FIT ESTIMATE OF PROPERTY LINE BOUNDARIES AS OBTAINED FROM COUNTY TAX MAPS ACQUIRED THROUGH THE WEST VIRGINIA STATE TAX DEPARTMENT IN CHARLESTON, WV. PROPERTY LINE SET OUT AND DESIGNATED WITHIN THESE CONSTRUCTION PLANS DO NOT REPRESENT A TRUE AND ACCURATE BOUNDARY SURVEY.



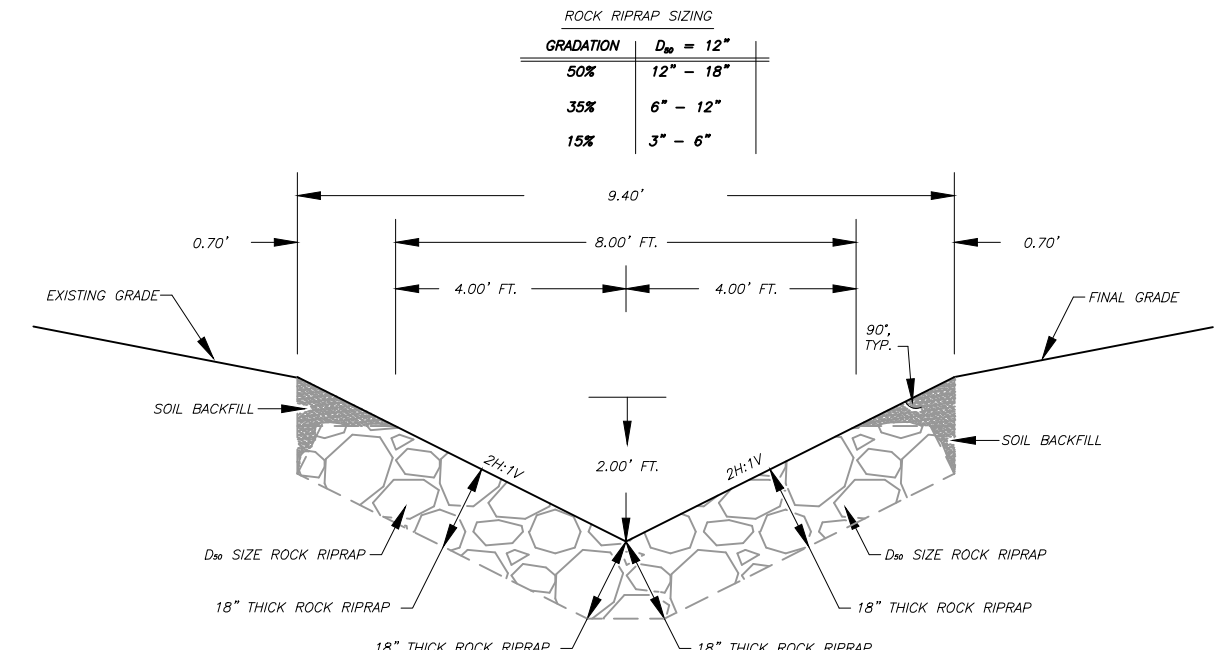
SITES 1 AND 2 SEDIMENT CONTROL AND RECLAMATION PLAN

SCALE: 1" = 50'

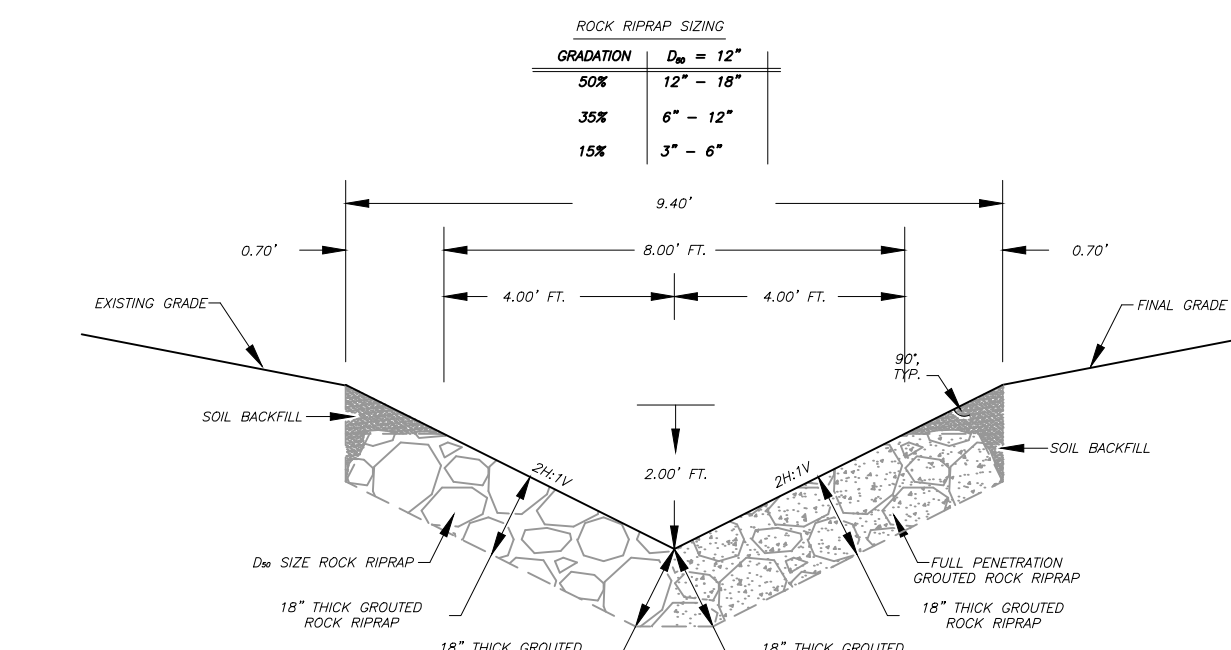
SHEET NO. 4



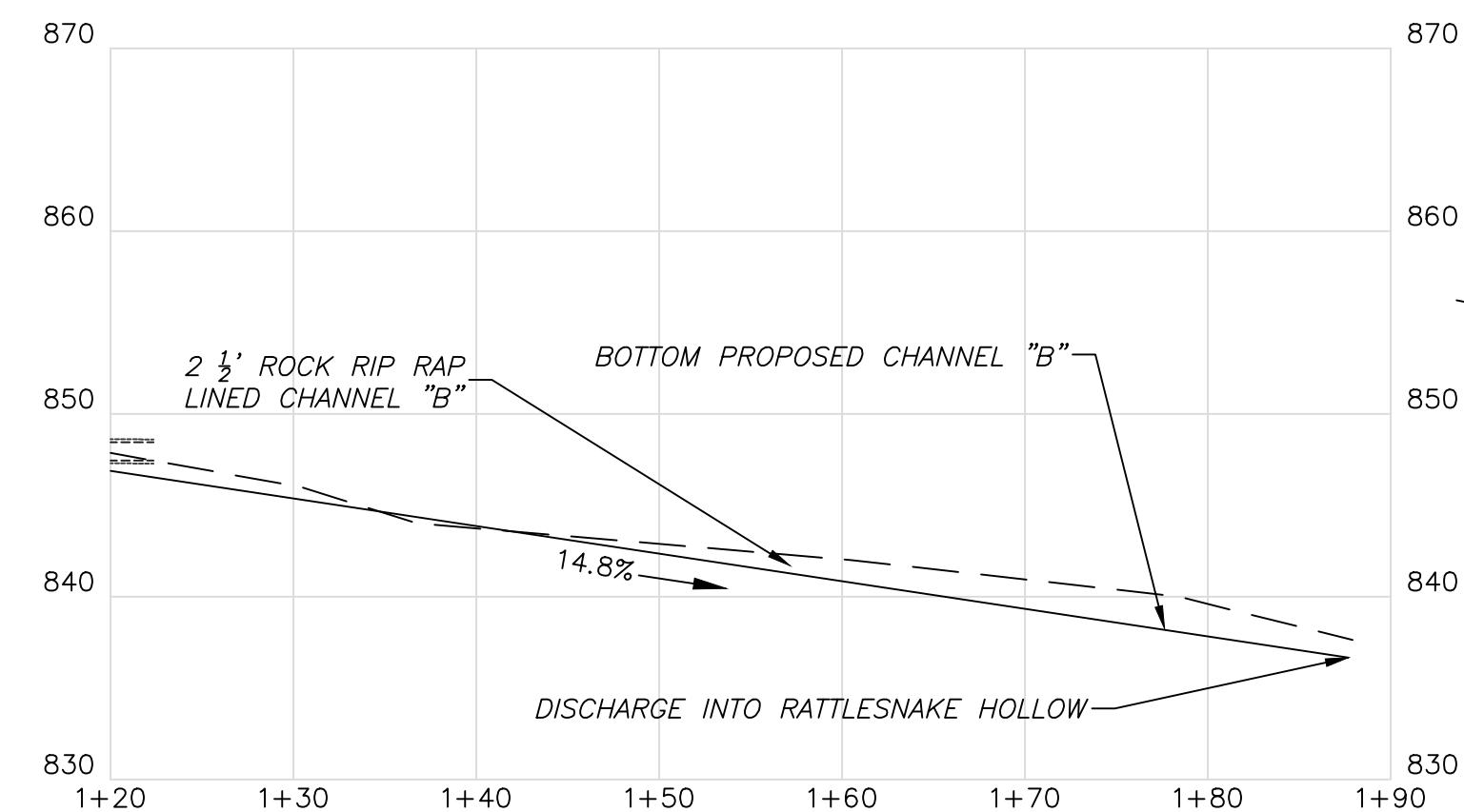
PROFILE CHANNEL "A" SITE 1
SCALE: 1" = 10'



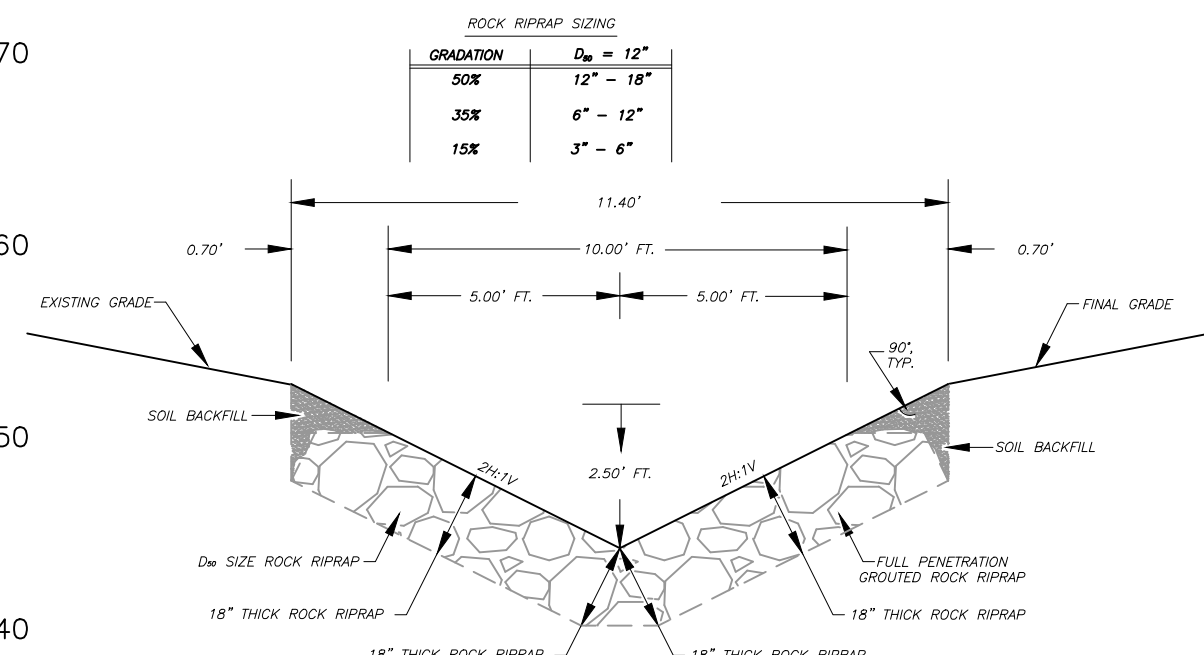
**RIPRAP LINED
2H:1V "VEE" CHANNEL
CROSS SECTION CHANNEL "A" SITE 1**
NOT TO SCALE



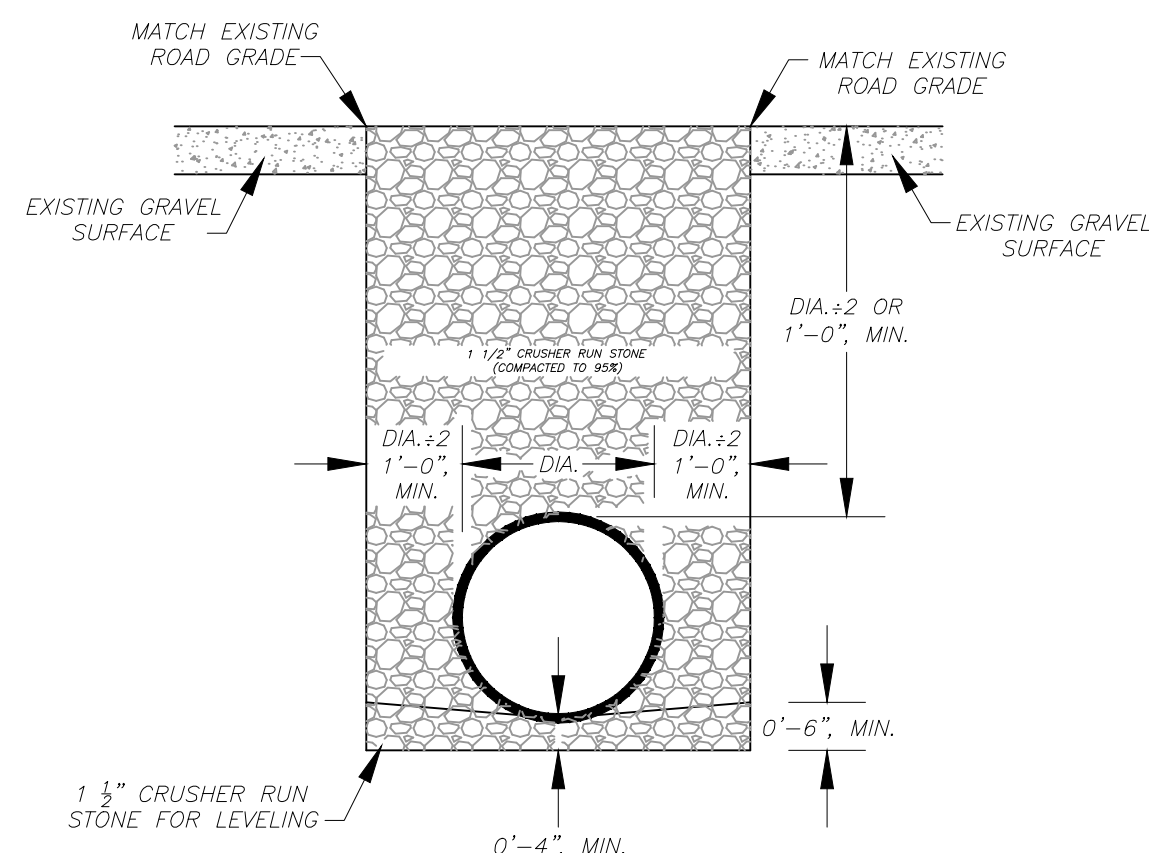
**GROUTED RIPRAP LINED
2H:1V "VEE" CHANNEL
CROSS SECTION CHANNEL "A" SITE 1**



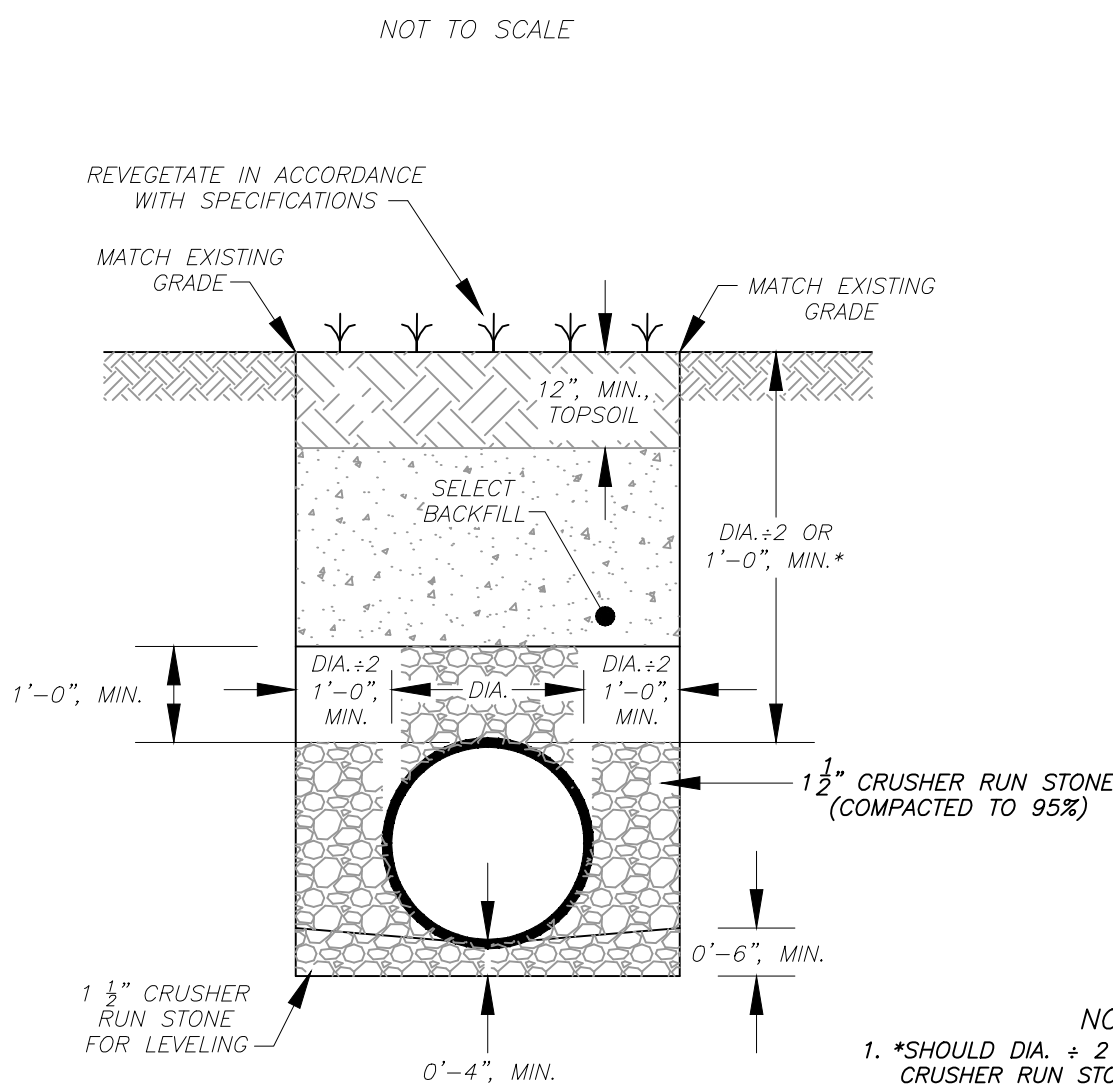
PROFILE CHANNEL "B" SITE 2
SCALE: 1" = 10'



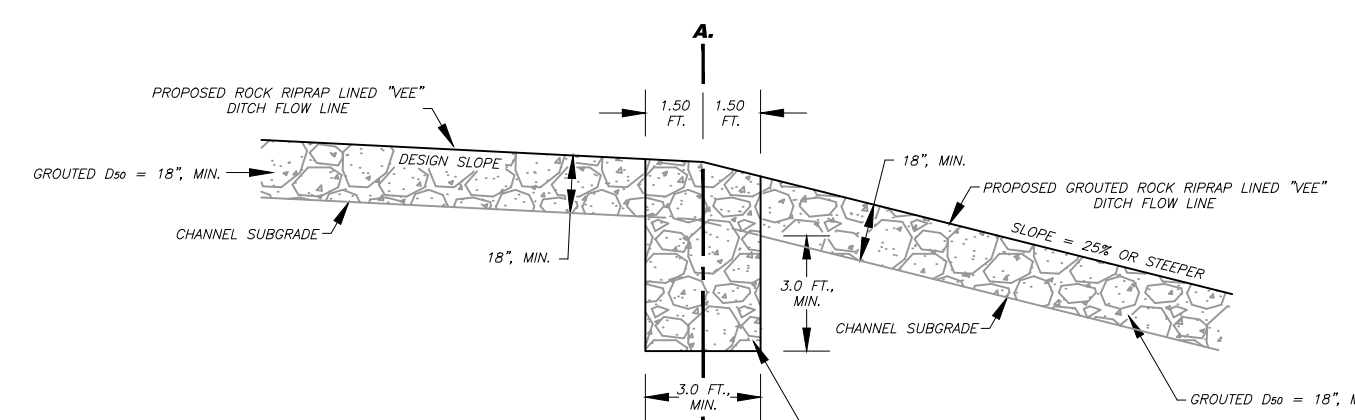
**RIPRAP LINED
2H:1V "VEE" CHANNEL
CROSS SECTION CHANNEL "B" SITE 2**
NOT TO SCALE



PIPE TRENCH - AGGREGATE SURFACE

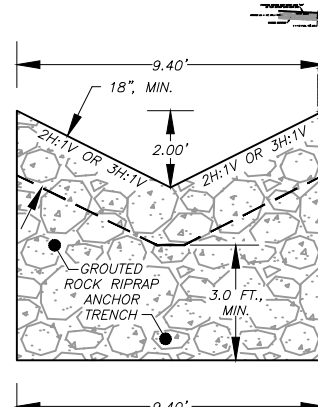


PIPE TRENCH - VEGETATED SURFACE



PROFILE

NOT TO SCALE



GROUT ANCHOR/KEY

NOT TO SCALE

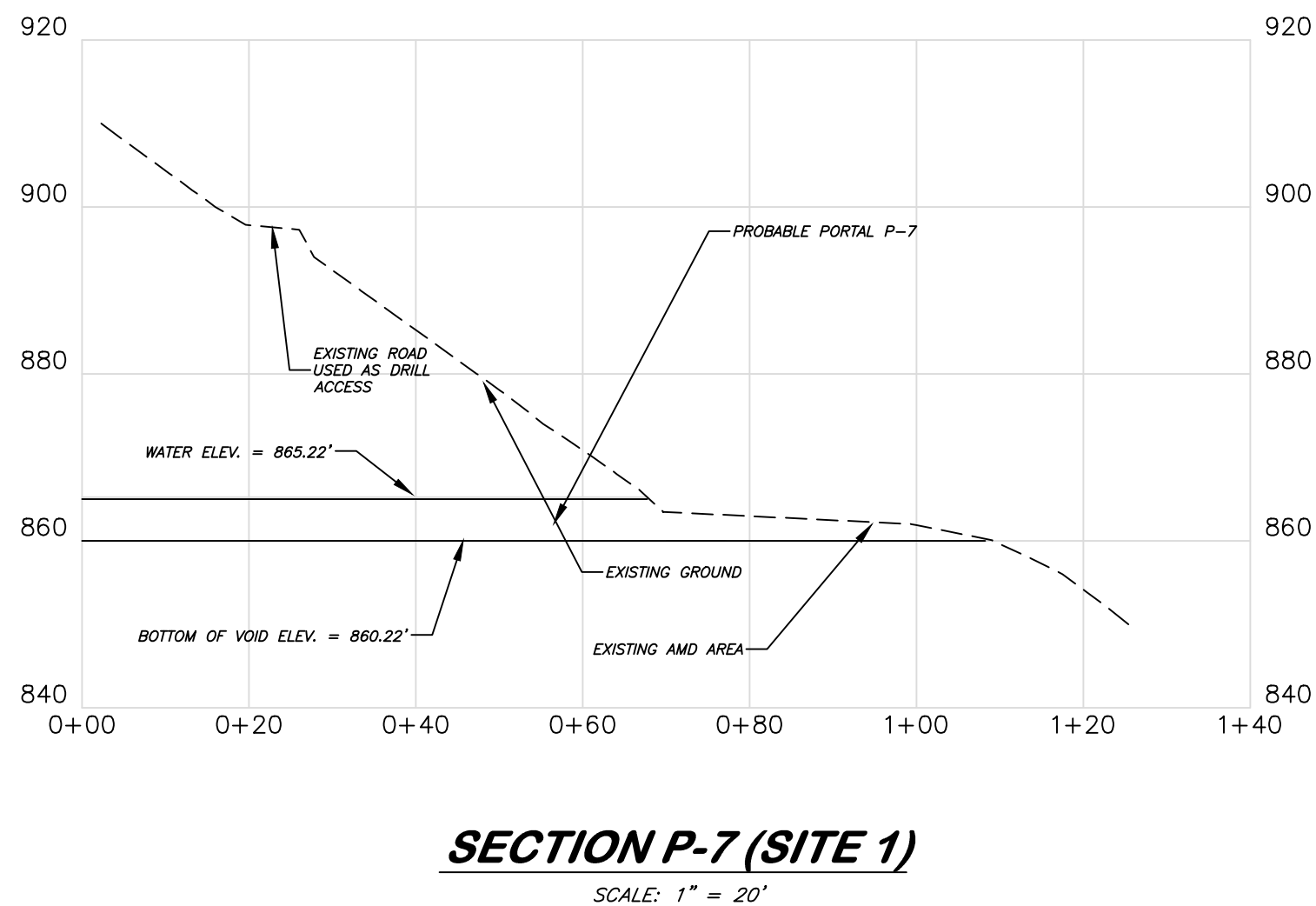
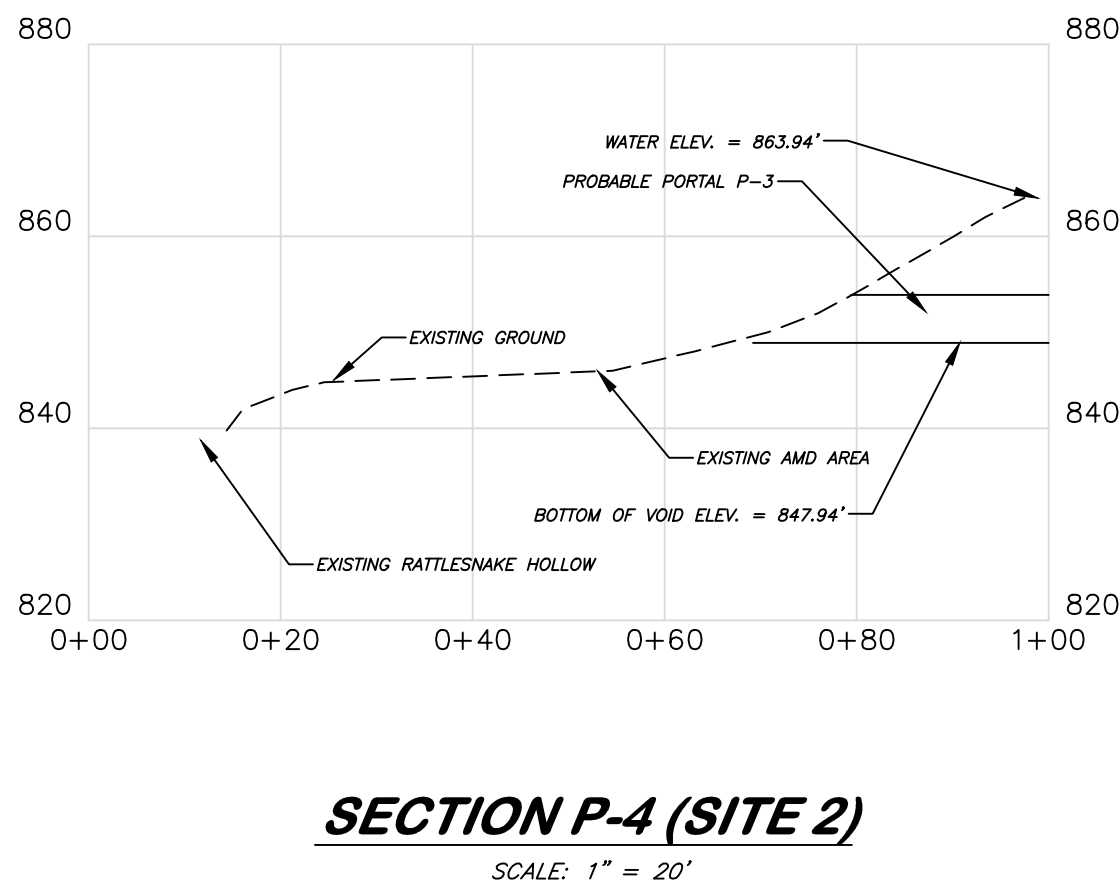
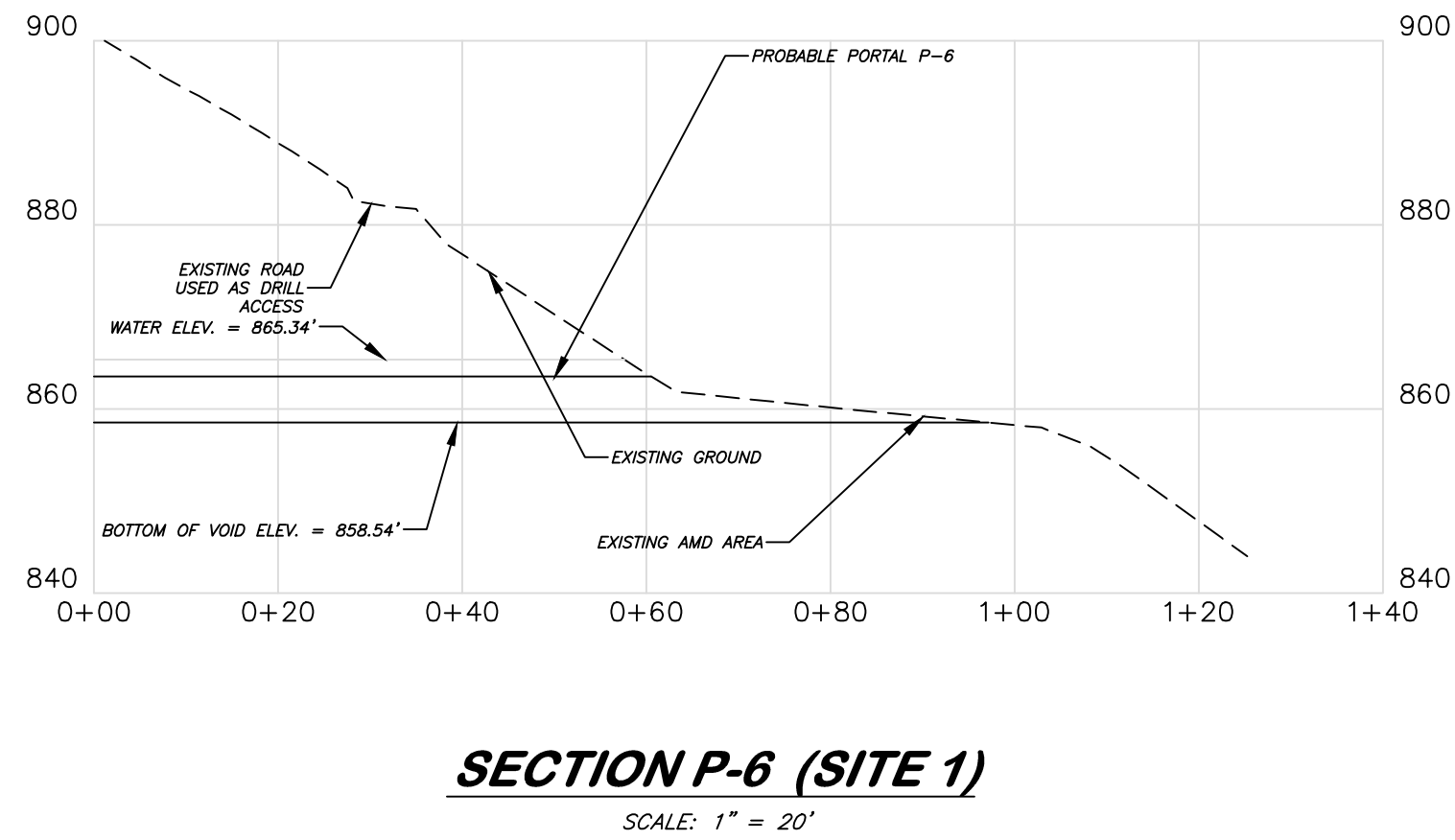
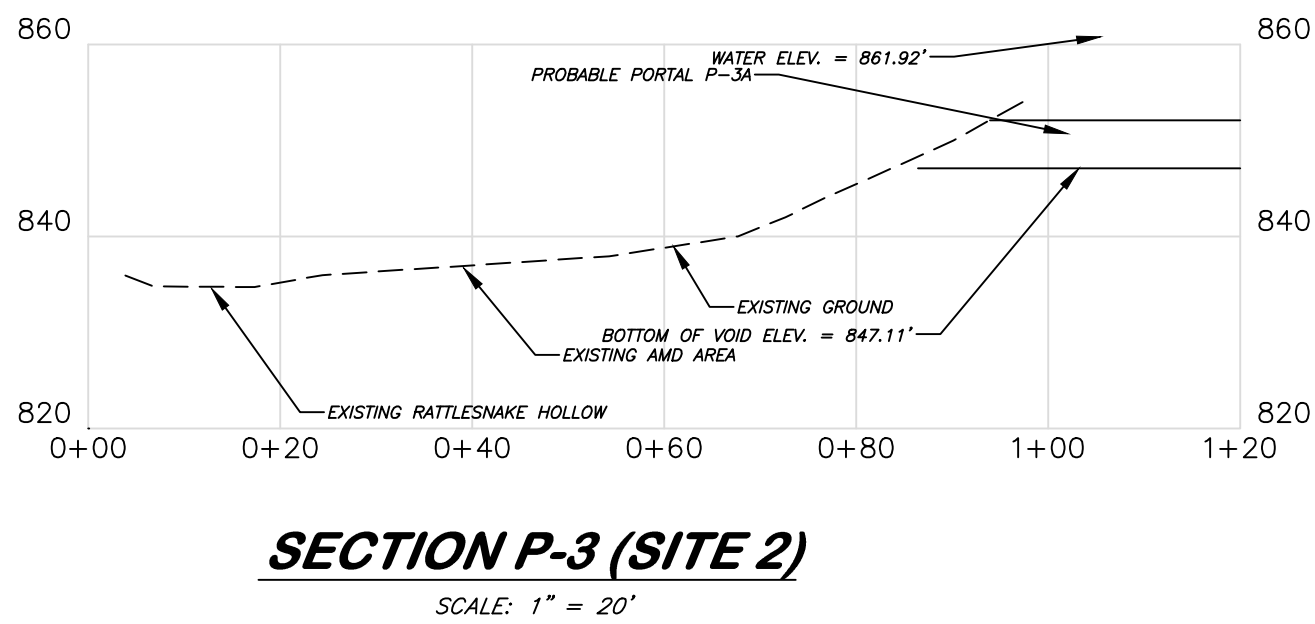
State of West Virginia
Department of Environmental Protection
Abandoned Mine Lands and Reclamation

**MORRISVALE (HOLESTIN)
DRAINAGE**

**PROFILE AND
CROSS SECTION CHANNEL "A"
AND CHANNEL "B"**

DRAWN BY: RCD
APPROVED BY: AW
DATE: 2/10/2015

SCALE: 1" = 10'
SHEET NO. 5
OF 9

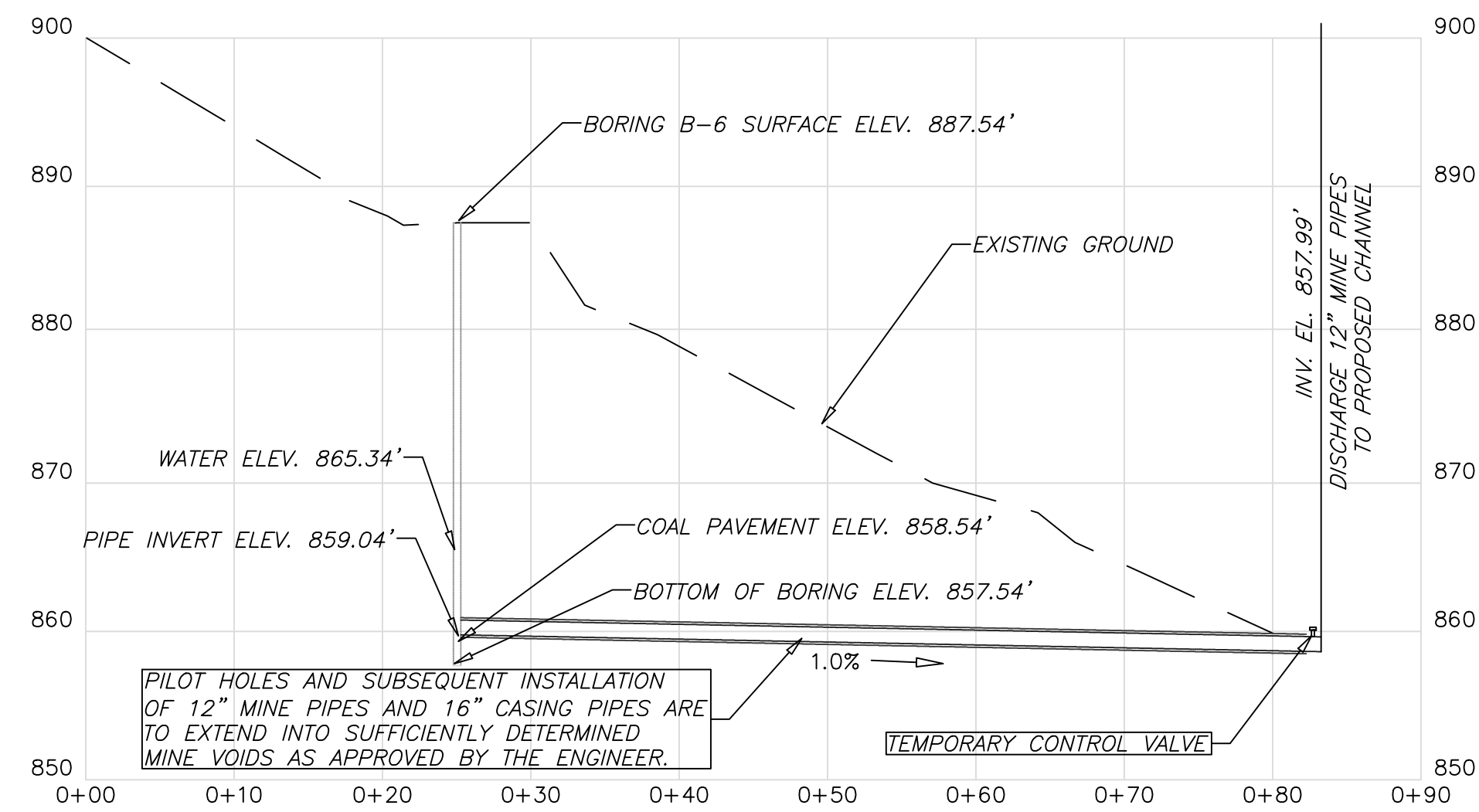


State of West Virginia
 Department of Environmental Protection
 Abandoned Mine Lands and Reclamation

MORRISVALE (HOLESTIN)
DRAINAGE

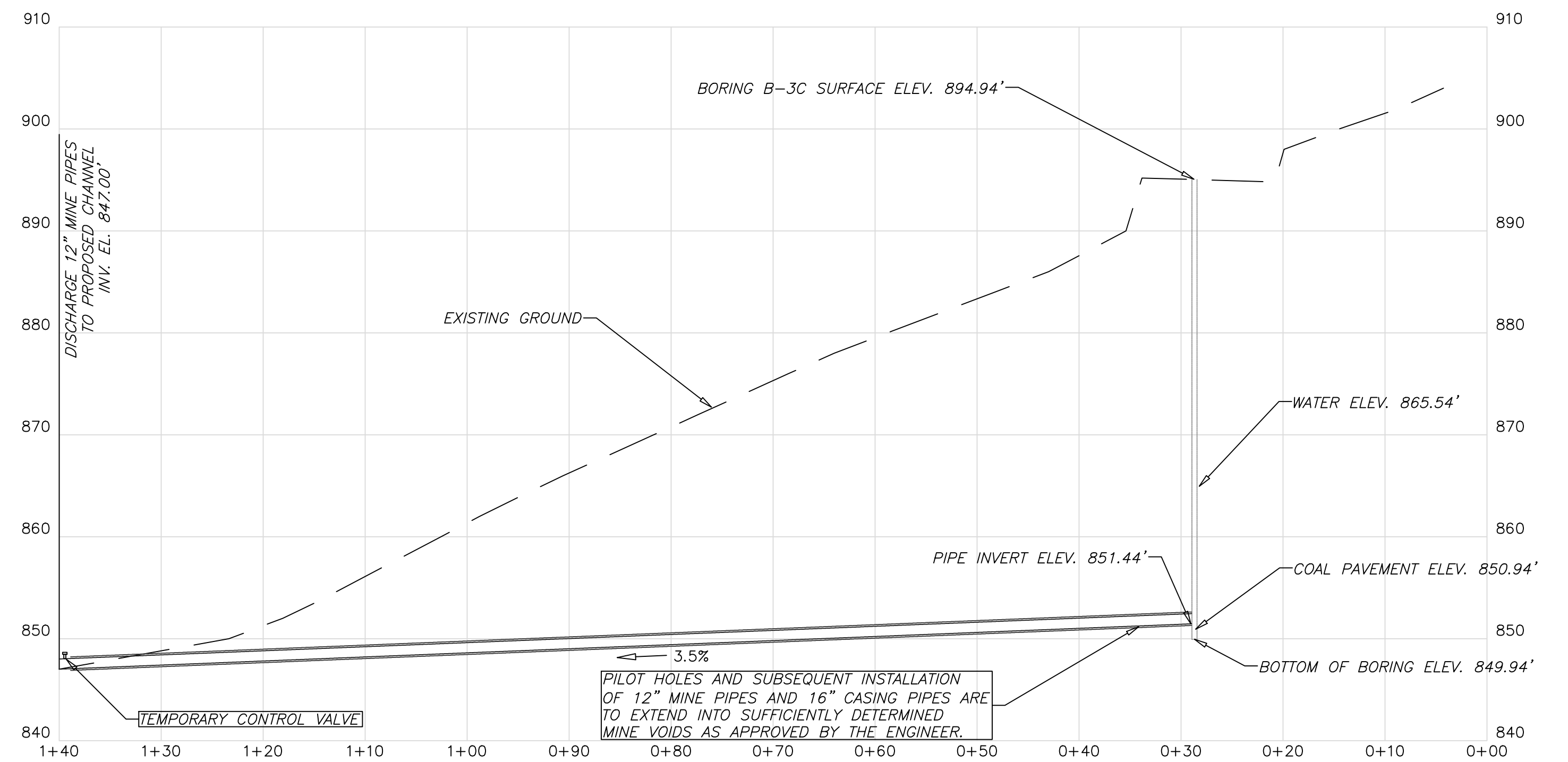
PROBABLE PORTAL
CROSS SECTIONS
P-3,P-4, P6 AND P-7

DRAWN BY:	RCD	SCALE: 1" = 20' SHEET NO. 6 OF 9
APPROVED BY:	AW	
DATE:	2/19/2015	



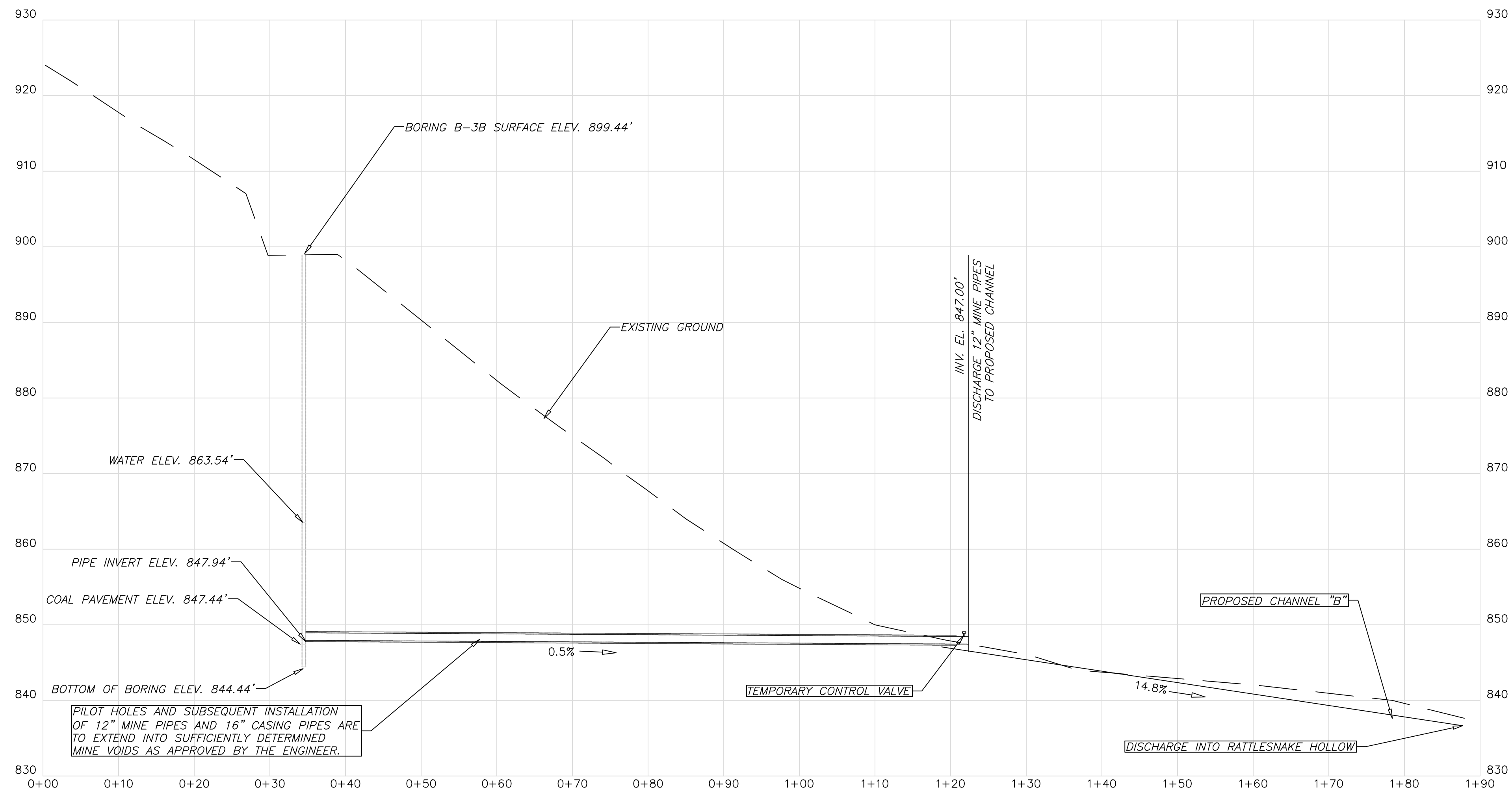
PROFILE HORIZONTAL BORING NO. 1 SITE 1

SCALE: 1" = 10'



PROFILE HORIZONTAL BORING NO. 3 SITE 2

SCALE: 1" = 10'



PROFILE HORIZONTAL BORING NO. 2 SITE 2

SCALE: 1" = 10'

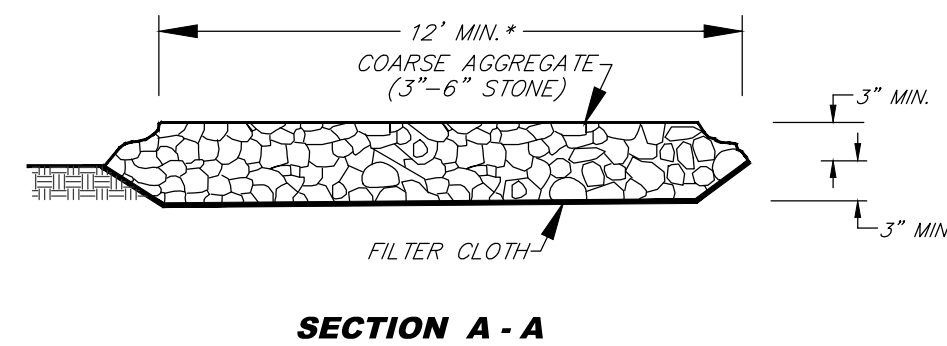
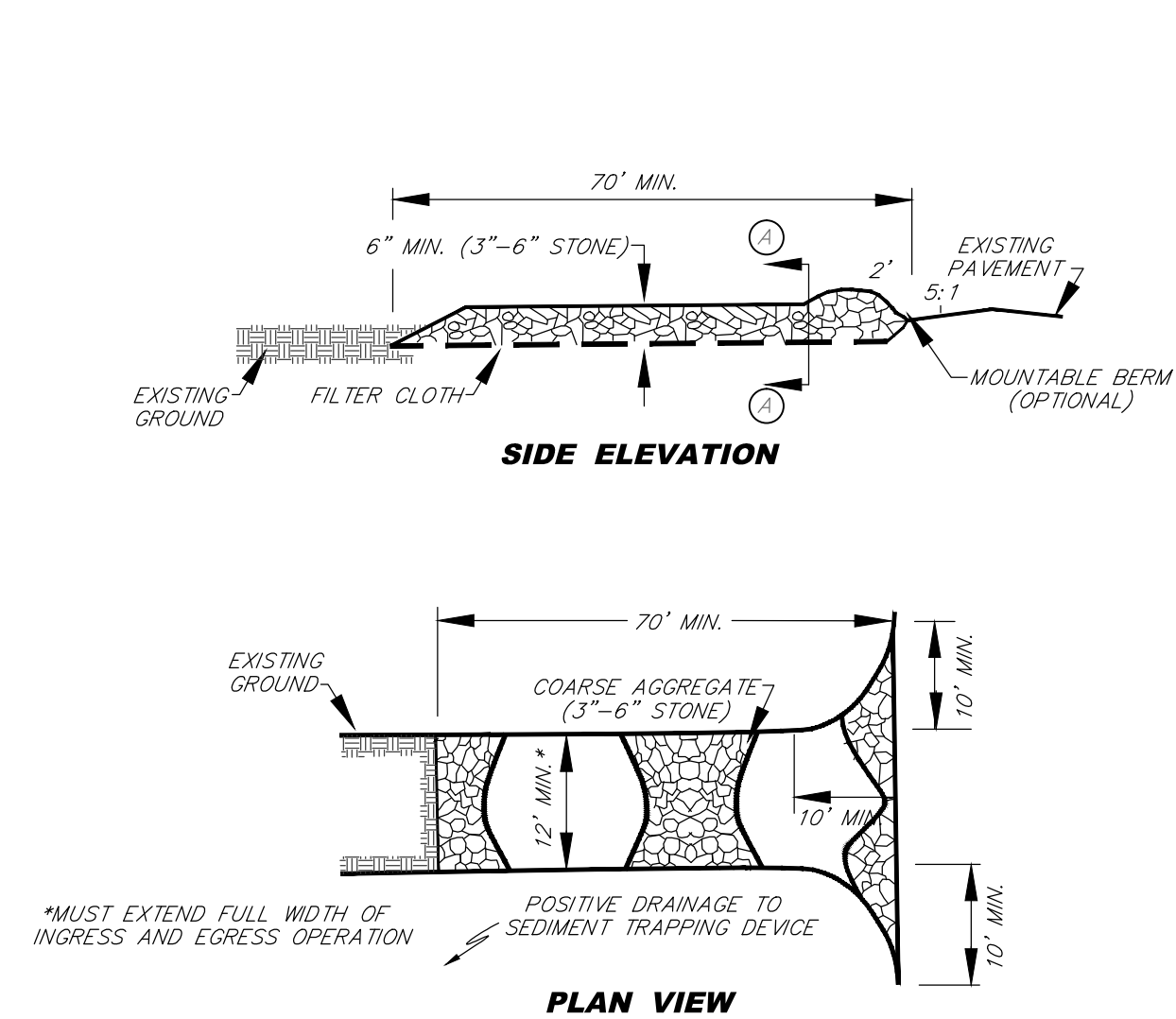
State of West Virginia
Department of Environmental Protection
Abandoned Mine Lands and Reclamation

**MORRISVALE (HOLESTIN)
DRAINAGE**

**PROFILE
HORIZONTAL BORING
NOS. 1, 2 AND 3**

DRAWN BY: RCD
APPROVED BY: AW
DATE: 6/4/2015

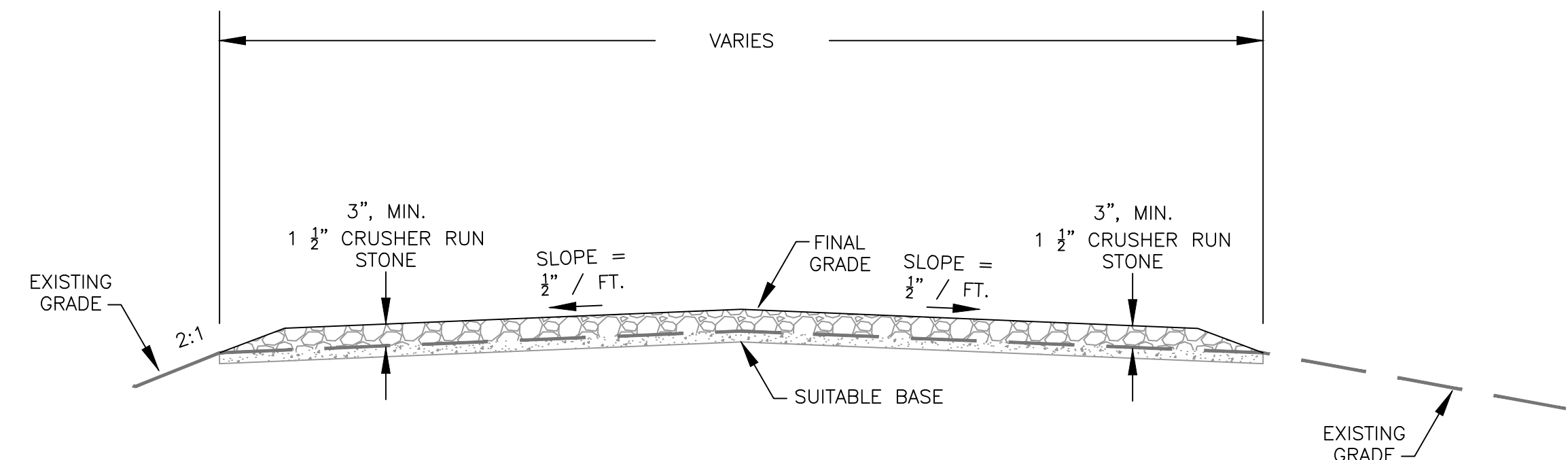
SCALE: 1" = 10'
SHEET NO. **7**
OF 9



CERTAIN INSTALLATIONS SHALL WARRANT THE ADDITION OF A 3" THICK "CAP" LAYER OF 1 1/2" CLEAN STONE WHEN INSTALLED AT THE LOCATION OF AN EXISTING DRIVEWAY OR VEHICULAR ACCESS. FOR ALL INSTALLATIONS, CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF SUCH.

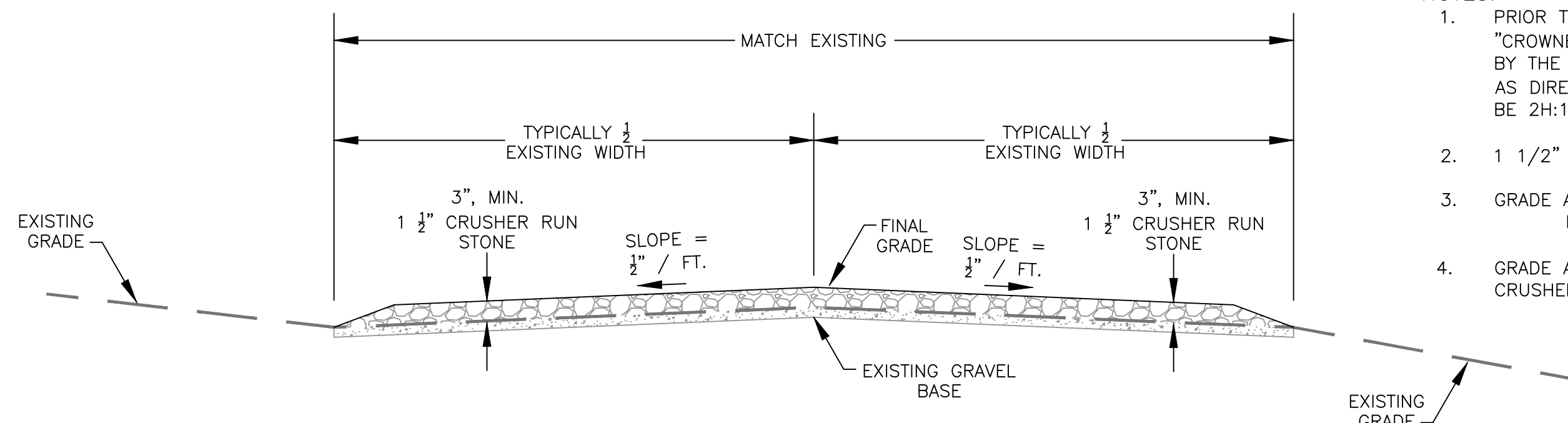
STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



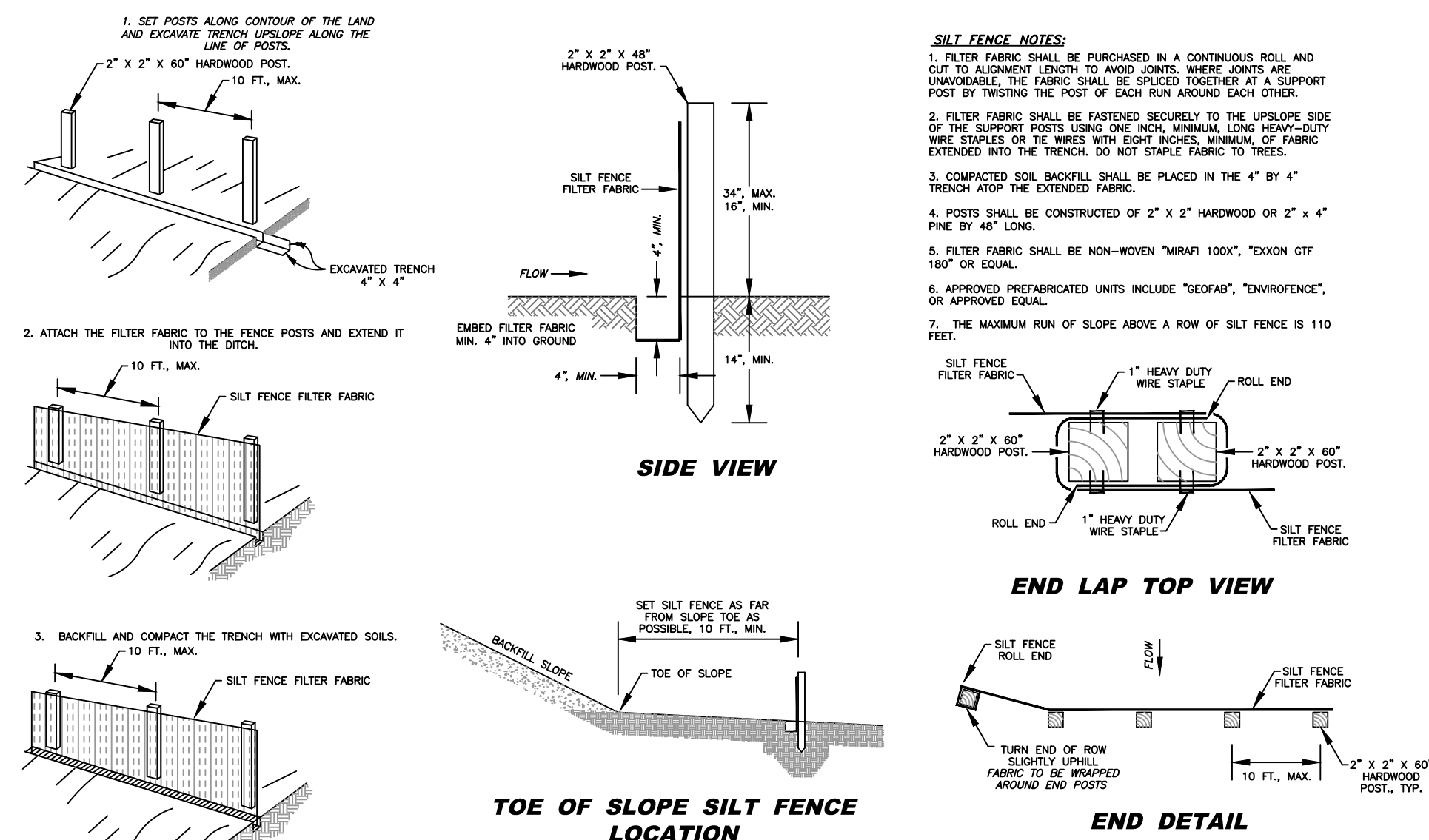
NOT TO SCALE

- NOTES:
1. PRIOR TO STONE PLACEMENT, GRADE SUITABLE SUBGRADE INTO "CROWNED" OR "SLOPE TO DITCH" CONFIGURATION AS DIRECTED BY THE ENGINEER. REMOVE, REFILL, AND COMPACT SOFT SPOTS AS DIRECTED BY THE ENGINEER. ALL CUT/FILL SLOPES SHALL BE 2H:1V.

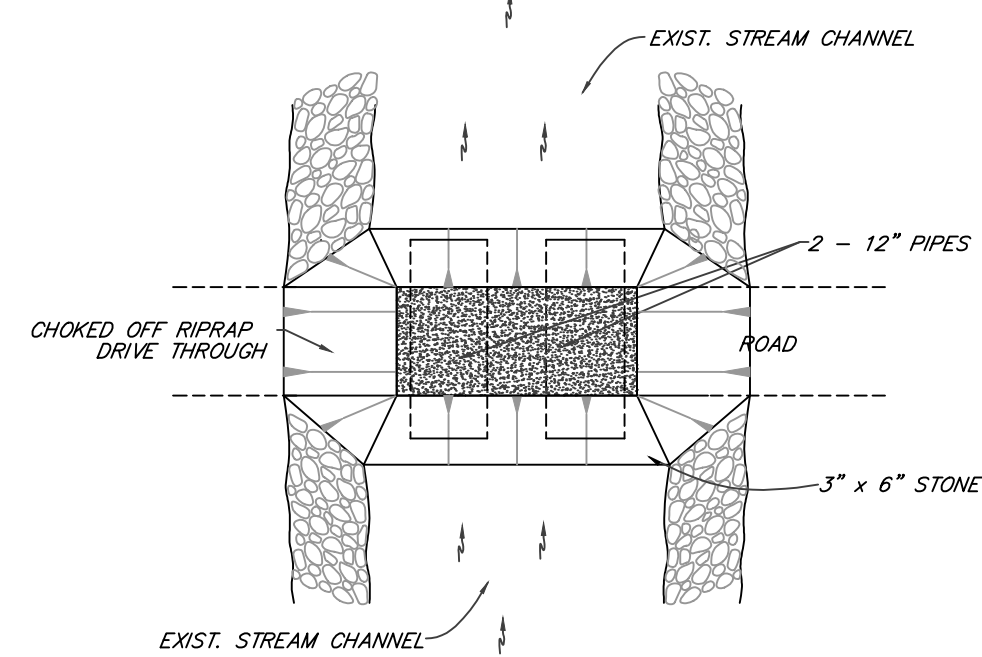
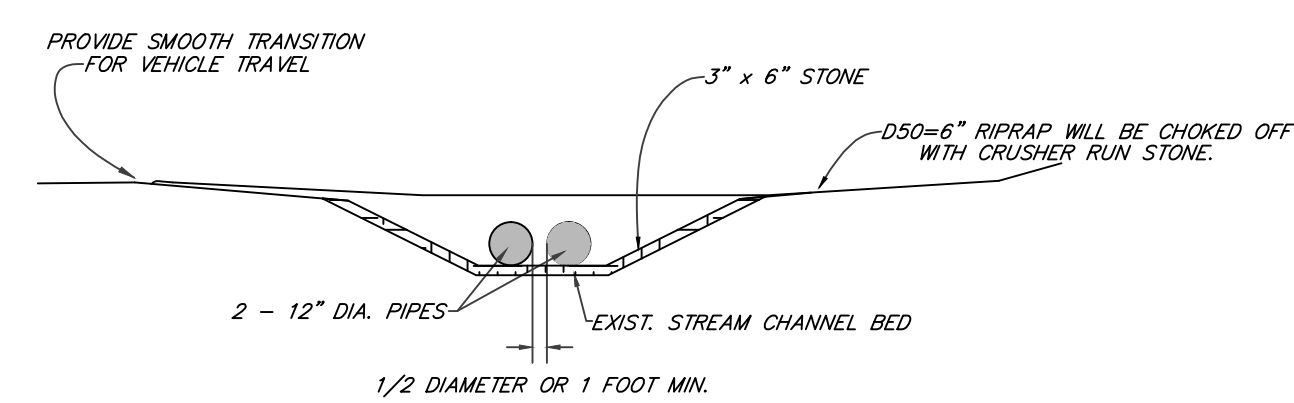


NOT TO SCALE

- NOTES:
1. PRIOR TO STONE PLACEMENT, REGRADE EXISTING ROADWAY INTO "CROWNED" OR "SLOPE TO DITCH" CONFIGURATION AS DIRECTED BY THE ENGINEER. REMOVE, REFILL, AND COMPACT SOFT SPOTS AS DIRECTED BY THE ENGINEER. ALL CUT/FILL SLOPES SHALL BE 2H:1V.
 2. 1 1/2" CRUSHER RUN STONE.
 3. GRADE AND COMPACT BASE JUST PRIOR TO PLACEMENT OF REHABILITATION LAYER.
 4. GRADE APPROVED MATERIAL AND ROLLER COMPACT 1 1/2" CRUSHER RUN ONCE PLACED



NOT TO SCALE



NOT TO SCALE

State of West Virginia Department of Environmental Protection Abandoned Mine Lands and Reclamation		
MORRISVALE (HOLESTIN) DRAINAGE		
TYPICAL DETAILS		
DRAWN BY: RCD	SCALE: AS NOTED	SHEET NO. 8 OF 9
APPROVED BY: AW		
DATE: 6/4/2015		

State of West Virginia Department of Environmental Protection Abandoned Mine Lands and Reclamation
<i>MORRISVALE (HOLESTIN) DRAINAGE</i>
<i>HORIZONTAL BORING DETAILS</i>

DRAWN BY:	<i>RCD</i>
APPROVED BY:	<i>AW</i>
DATE:	<i>6/4/2015</i>

SCALE:	<i>AS NOTED</i>
SHEET NO.	<i>9</i>
OF:	<i>9</i>