

west virginia department of environmental protection

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

# **BLOOMINGROSE (MILLER) DRAINAGE**

NEAR BLOOMINGROSE  
 BOONE COUNTY, WEST VIRGINIA

VICINITY MAP



USGS 7.5' QUAD (RACINE)

INDEX TO SHEETS

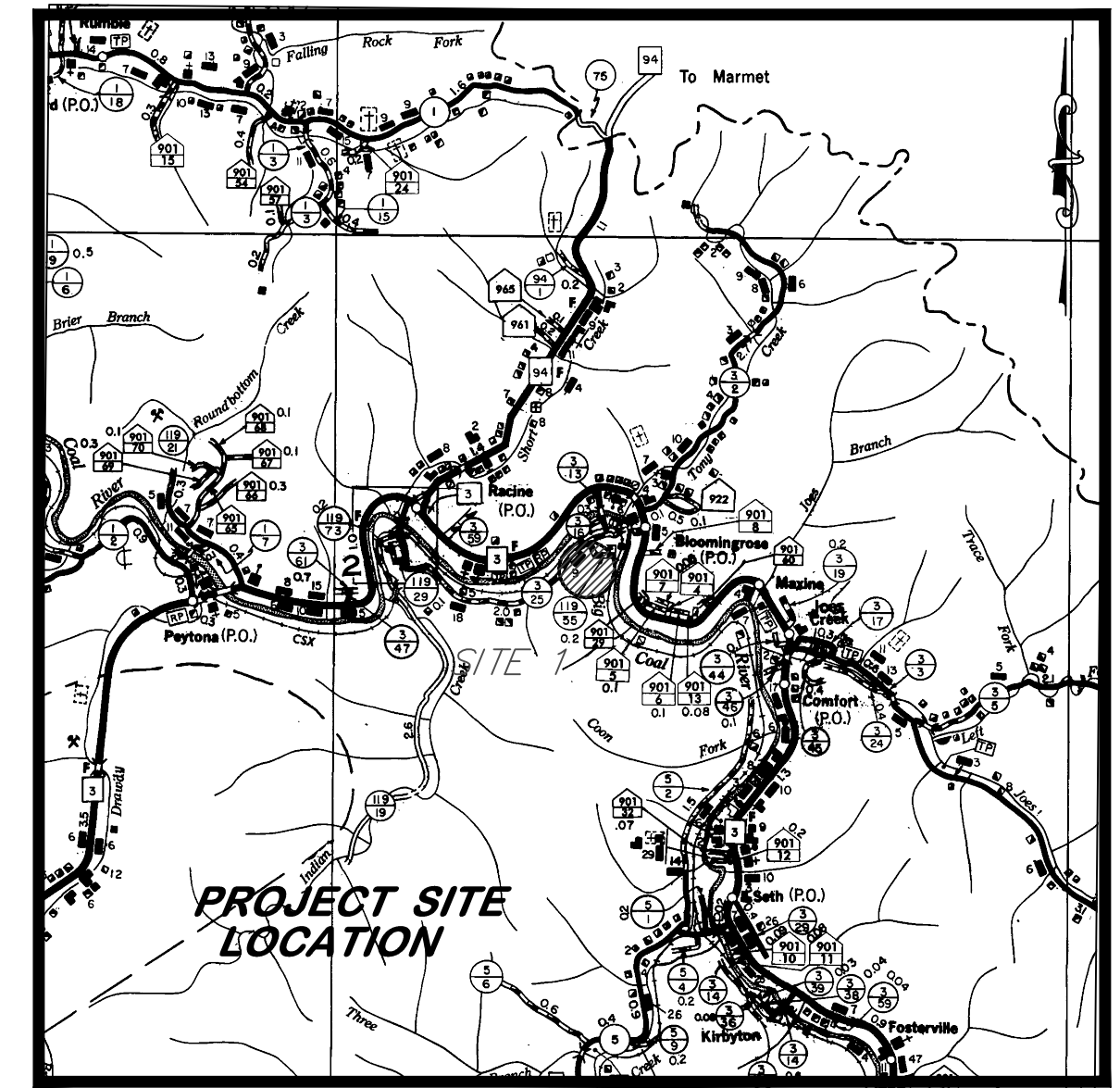
SHEET NO.	DESCRIPTION
2	EXISTING CONDITIONS AND TAX MAP OVERLAY
3	RECLAMATION AND SEDIMENT CONTROL PLAN
4	CHANNEL AND UNDERDRAIN PROFILES AND DETAILS
5	DRAINAGE DETAILS
6	TYPICAL DETAILS

BID SCHEDULE

ITEM NO.	DESCRIPTION	QUANTITY
1.0	MOBILIZATION AND DEMOBILIZATION (LIMITED TO 10% OF TOTAL BID)	LS
2.0	CONSTRUCTION LAYOUT (LIMITED TO 5% OF TOTAL BID)	LS
3.0	QUALITY CONTROL (LIMITED TO 3% OF TOTAL BID)	LS
4.0	SITE PREPARATION (LIMITED TO 10% OF TOTAL BID)	LS
4.1	GRAVEL DRIVE REHABILITATION	25 TONS
5.1	SILT FENCE SEDIMENT CONTROL	110 LF
5.2	STABILIZED CONSTRUCTION ENTRANCE (1 @ 70 LF x 12' WIDTH)	25 TONS
6.0	REVEGETATION	LS
7.1	1" GRASS LINED CHANNEL	190 LF
7.2	TYPE "G" DROP INLET	1 EA.
7.3	CLEAN OUT	1 EA.
7.4	18" HDPE PIPE	120 LF
7.5	PIPE TRENCH	LS
7.6	4' X 4' UNDERDRAIN (12" PVC SDR-35)	190 LF
7.7	12" PVC SDR-35 PIPE	40 LF
7.8	RIPRAP LINED TRANSITION AND BASIN AREA	11 CY
8.1	UNCLASSIFIED EXCAVATION	LS

\_\_\_\_\_  
 APPROVED  
 \_\_\_\_\_  
 DATE

LOCATION MAP



COUNTY HIGHWAY MAP, 1" = 1 MI.



# LEGEND

- APPROX. PROPERTY LINE
- EXIST. DRAIN OR WATER COURSE
- 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

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 LINES SET OUT AND DESIGNATED WITHIN THESE CONSTRUCTION PLANS DO NOT REPRESENT A TRUE AND ACCURATE BOUNDARY SURVEY.

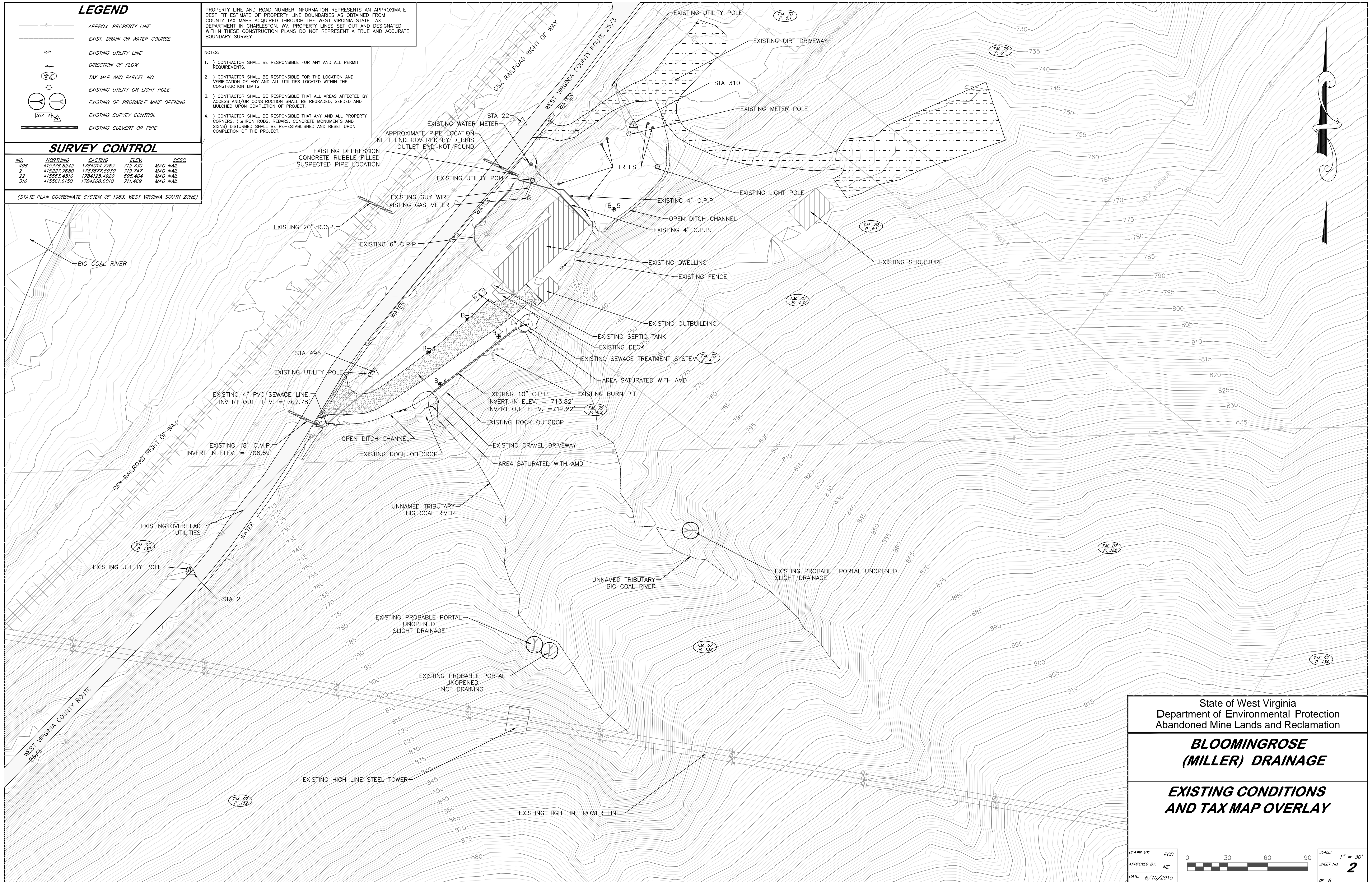
### NOTES:

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

## SURVEY CONTROL

NO.	NORTHING	EASTING	ELEV.	DESC.
496	415376.8242	1784014.7767	712.730	MAG NAIL
2	415227.7680	1783977.5930	715.747	MAG NAIL
22	415563.4510	1784125.4920	695.404	MAG NAIL
310	415561.6190	1784208.6010	711.469	MAG NAIL

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



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

## BLOOMINGROSE (MILLER) DRAINAGE

### EXISTING CONDITIONS AND TAX MAP OVERLAY

DRAWN BY: RCD  
APPROVED BY: NE  
DATE: 6/10/2015

SCALE: 1" = 30'  
SHEET NO. 2  
OF 6



**LEGEND**

- APPROX. PROPERTY LINE
- EXIST. DRAIN OR WATER COURSE
- EXISTING UTILITY LINE
- 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 TYPE "A" MANHOLE
- PROPOSED TYPE "G" INLET
- PROPOSED CONSTRUCTION LIMITS
- LIMITS OF GRAVEL DRIVE REHABILITATION
- PROPOSED CONSTRUCTION ENTRANCE
- PROPOSED PIPE OR CULVERT
- PROPOSED GRASS LINED CHANNEL
- SILT FENCE SEDIMENT CONTROL

**SURVEY CONTROL**

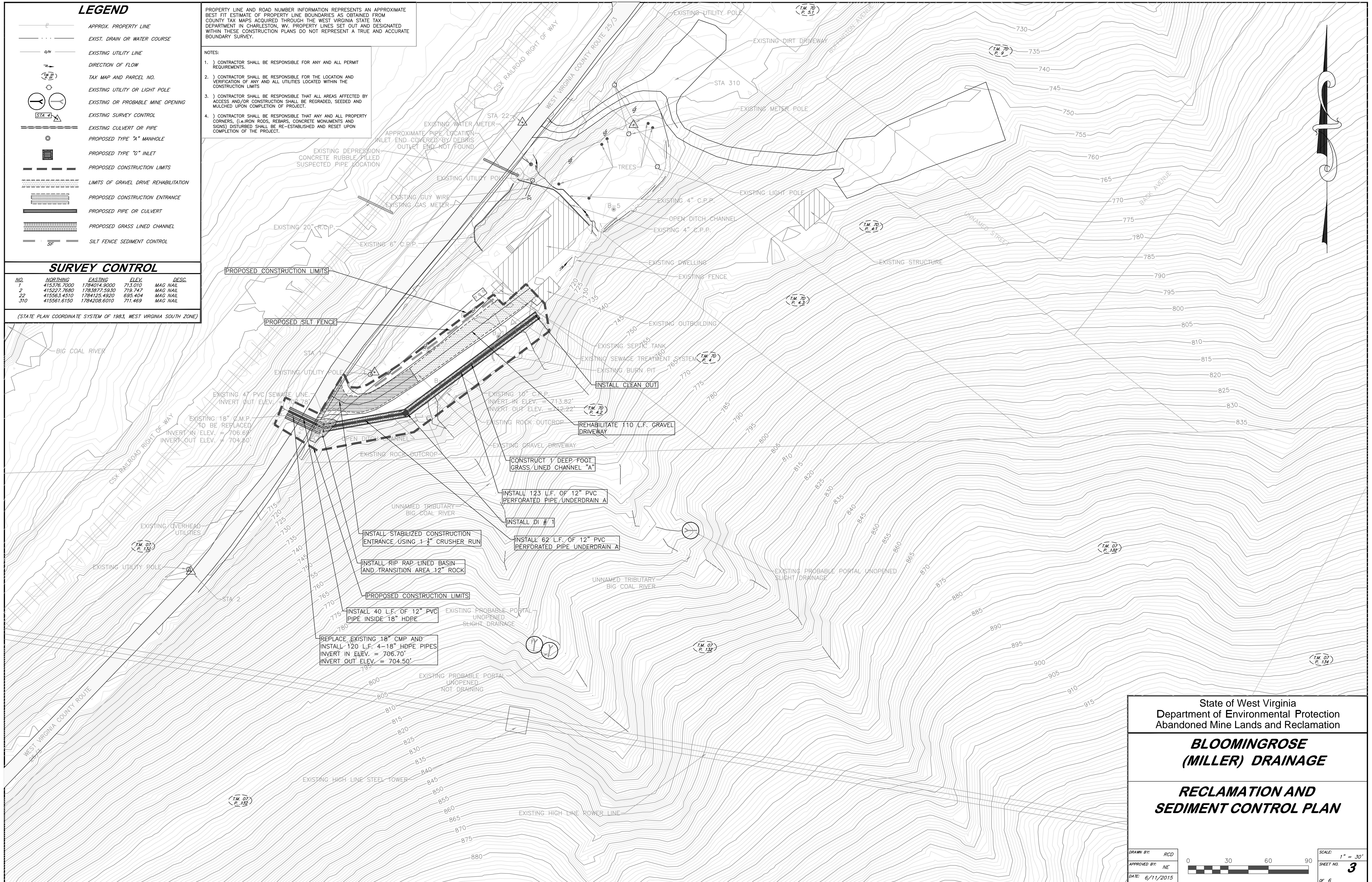
NO.	NORTHING	EASTING	ELEV.	DESC.
1	415376.7000	1784014.9000	715.010	MAG NAIL
2	415227.7680	1783977.5930	719.747	MAG NAIL
22	415563.4510	1784125.4920	695.404	MAG NAIL
310	415561.6150	1784208.6010	711.469	MAG NAIL

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

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 LINES SET OUT AND DESIGNATED WITHIN THESE CONSTRUCTION PLANS DO NOT REPRESENT A TRUE AND ACCURATE BOUNDARY SURVEY.

**NOTES:**

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State of West Virginia  
Department of Environmental Protection  
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**BLOOMINGROSE  
(MILLER) DRAINAGE**

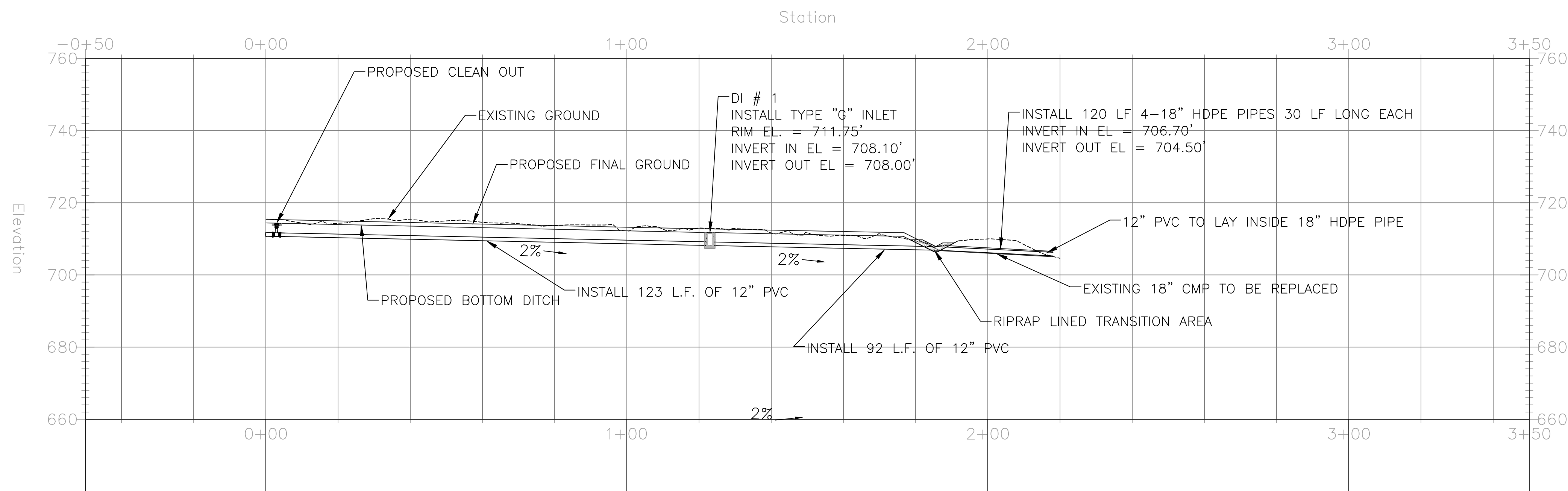
**RECLAMATION AND  
SEDIMENT CONTROL PLAN**

DRAWN BY: RCD  
APPROVED BY: NE  
DATE: 6/11/2015

SCALE: 1" = 30'

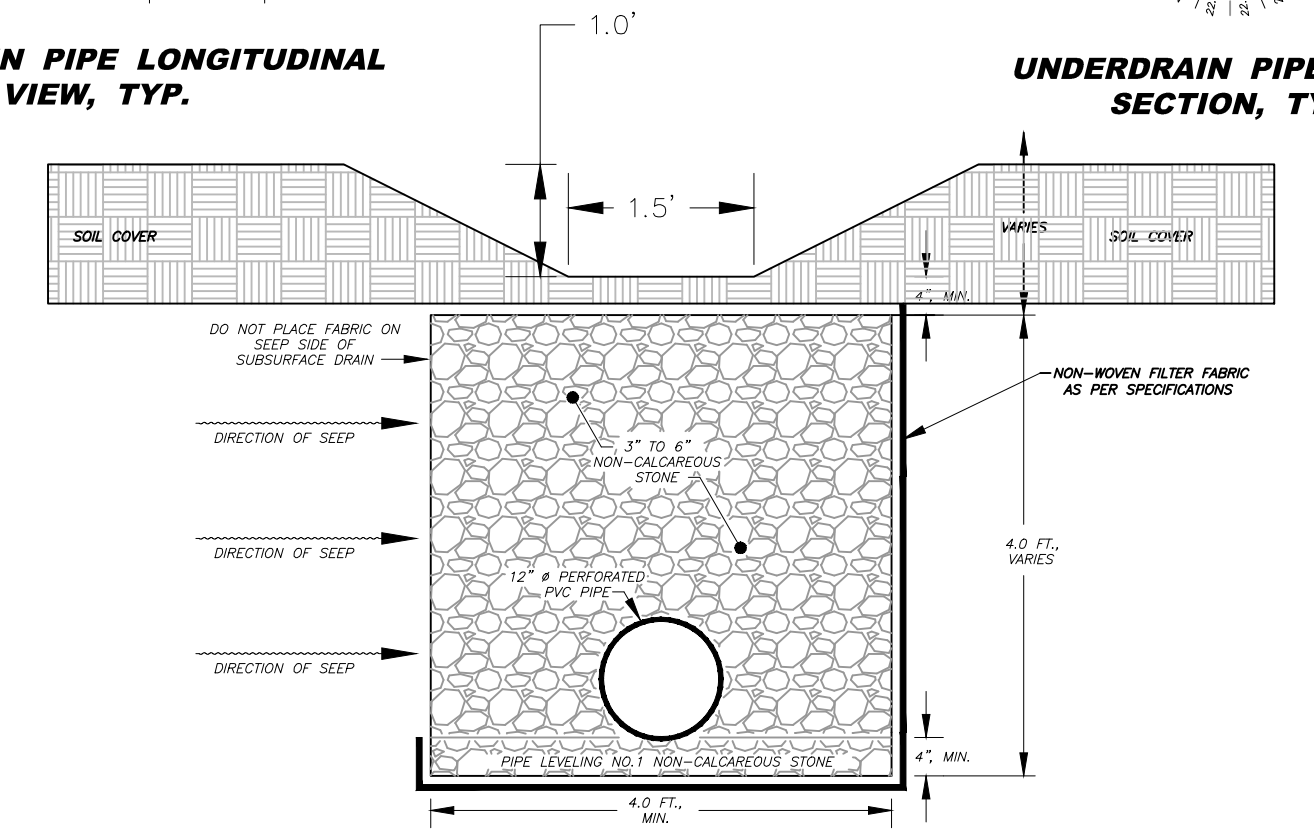
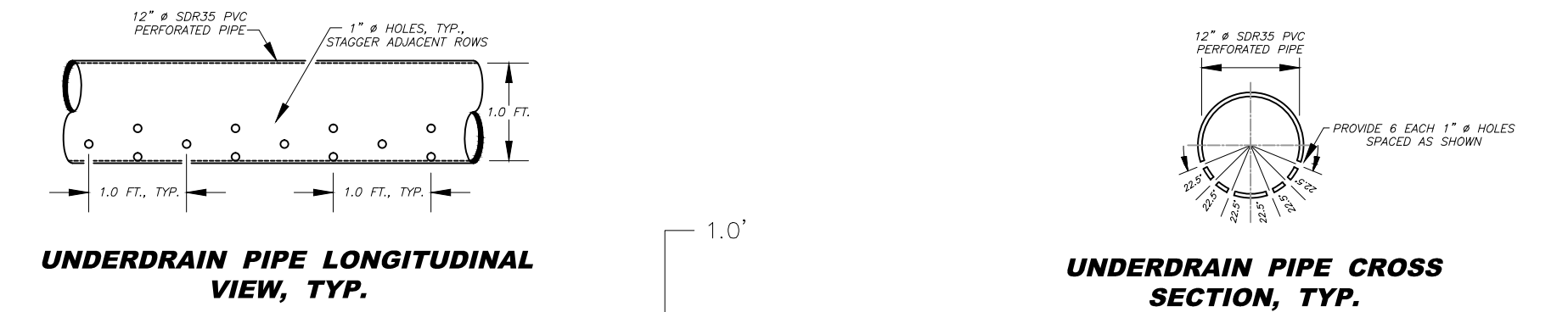
SHEET NO. **3**  
OF 6





**UNDERDRAIN AND CHANNEL A PROFILE**

SCALE: 1" = 20'

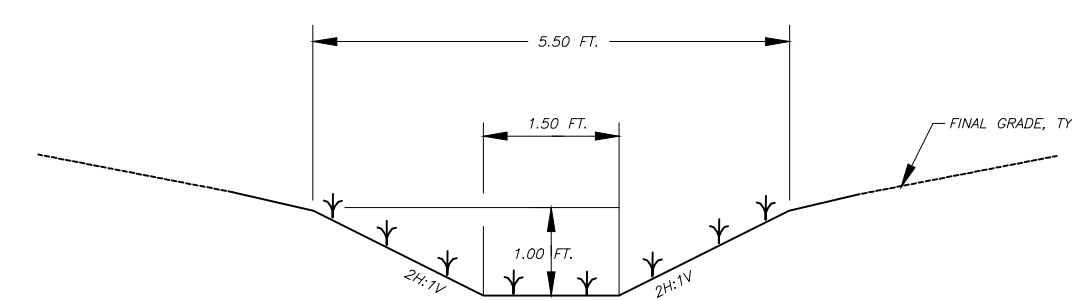


NOTES:  
1. THE FILTER FABRIC SHALL BE OVERLAPPED 1.0 FOOT, MINIMUM, AT ALL JOINTS.

**UNDERDRAIN DETAIL**

**4'X4' UNDERDRAIN**

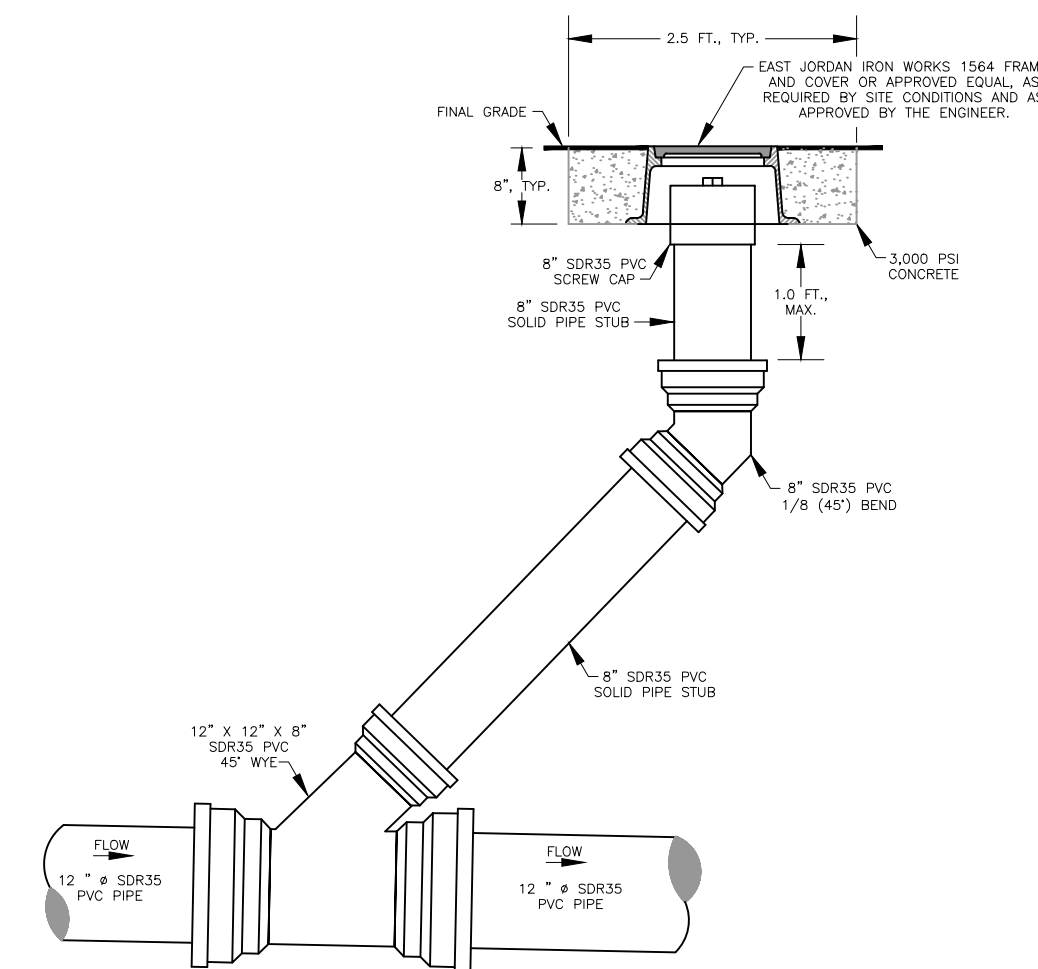
NOT TO SCALE



**GRASS LINED "TRAPEZOIDAL" CHANNEL**

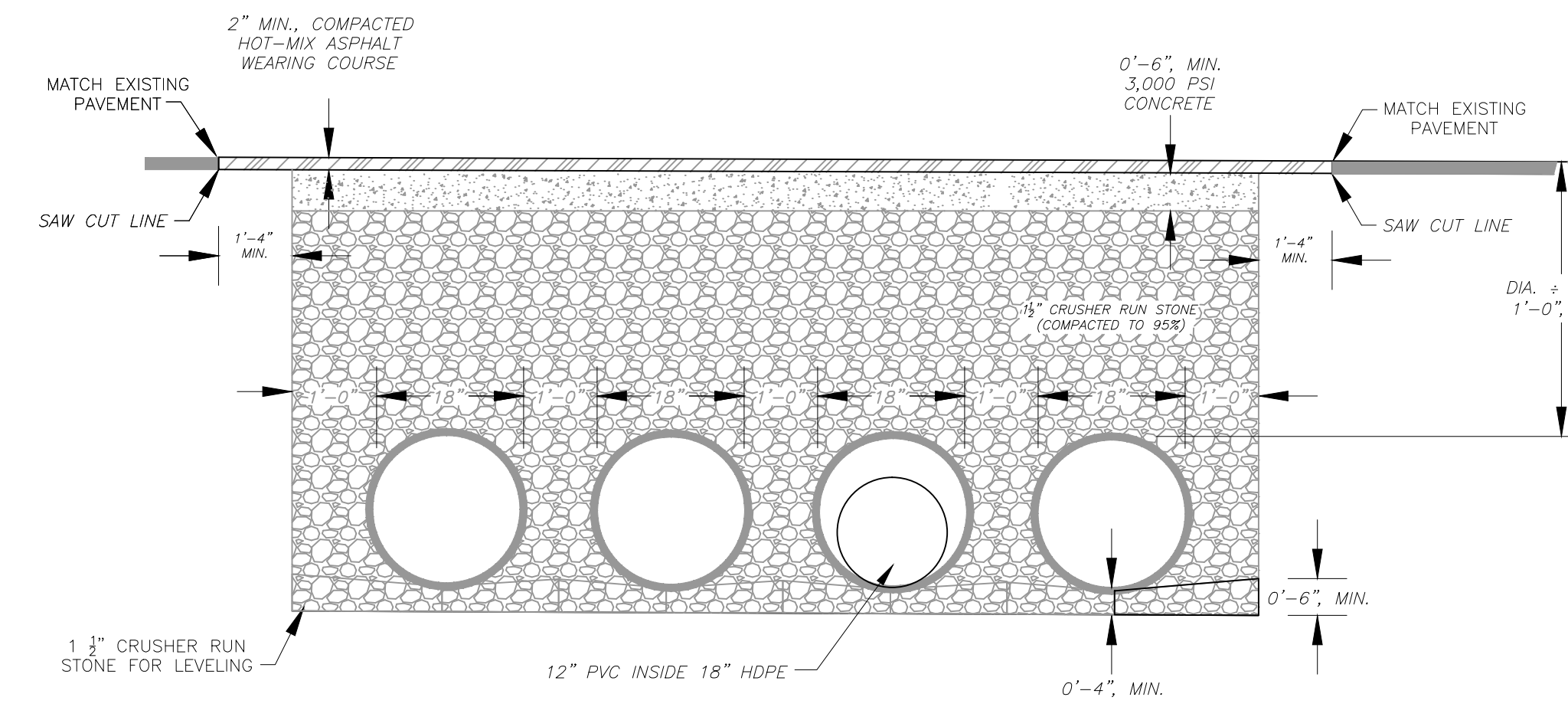
**GRASS LINED CHANNELS A**

NOT TO SCALE



**PIPE CLEAN OUT DETAIL**

NOT TO SCALE



**PIPE TRENCH - PAVED SURFACE**

(Aggregate Backfill)

State of West Virginia  
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**BLOOMINGROSE  
(MILLER) DRAINAGE**

**CHANNEL AND UNDERDRAIN  
PROFILES AND DETAILS**

DRAWN BY: RCD  
APPROVED BY: NE  
DATE: 8/05/2015

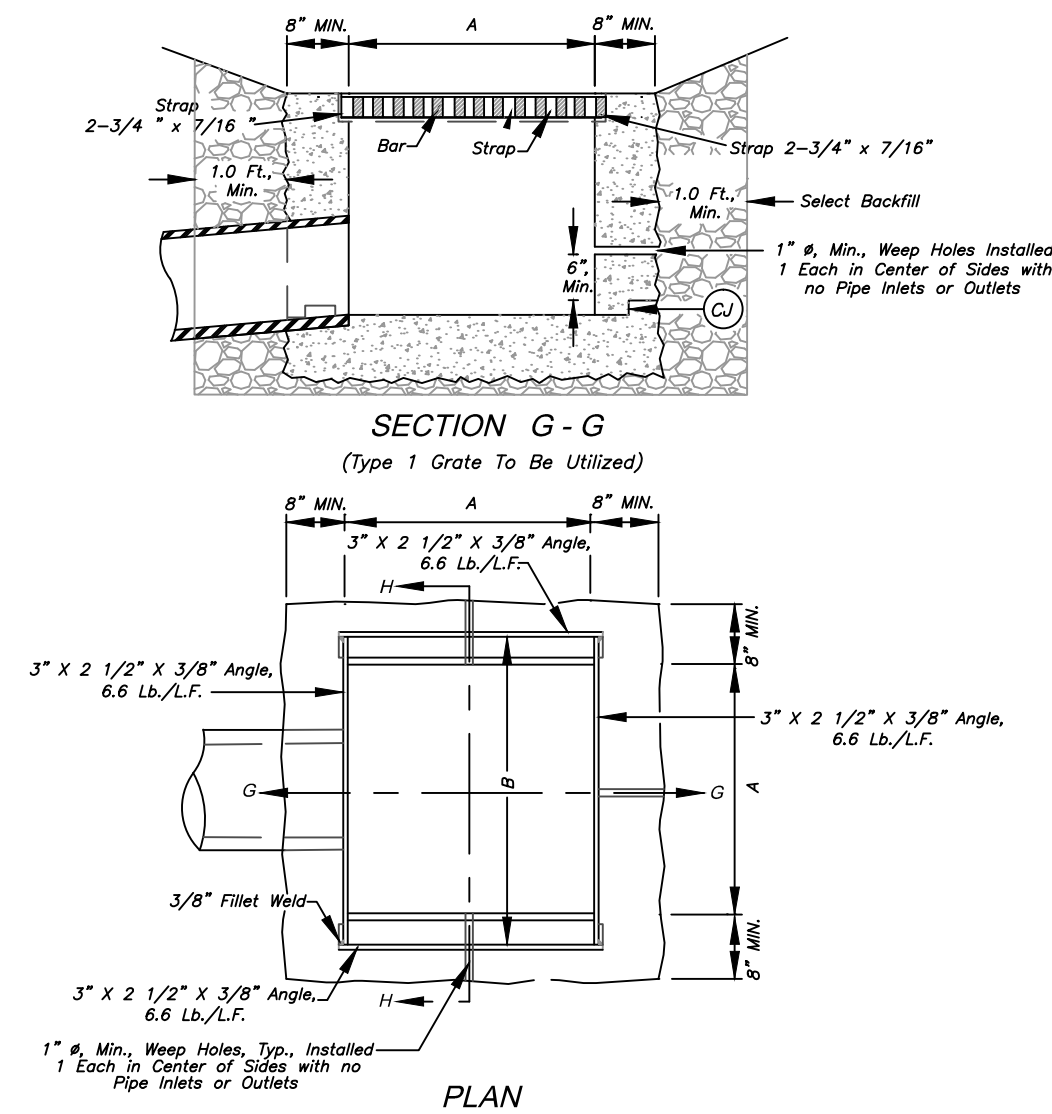


SCALE: AS NOTED  
SHEET NO. 4  
OF 6

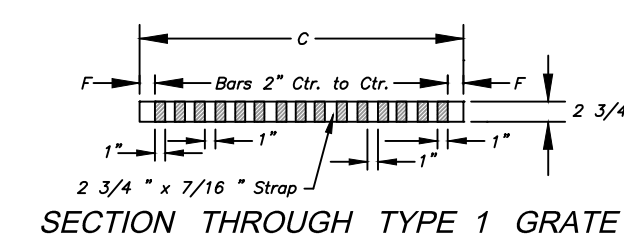
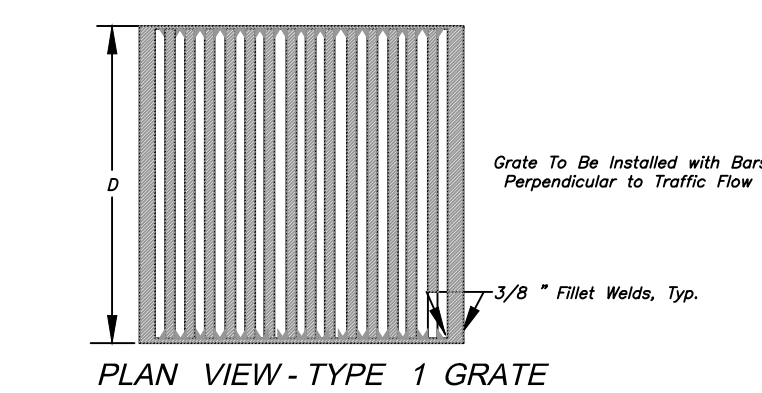
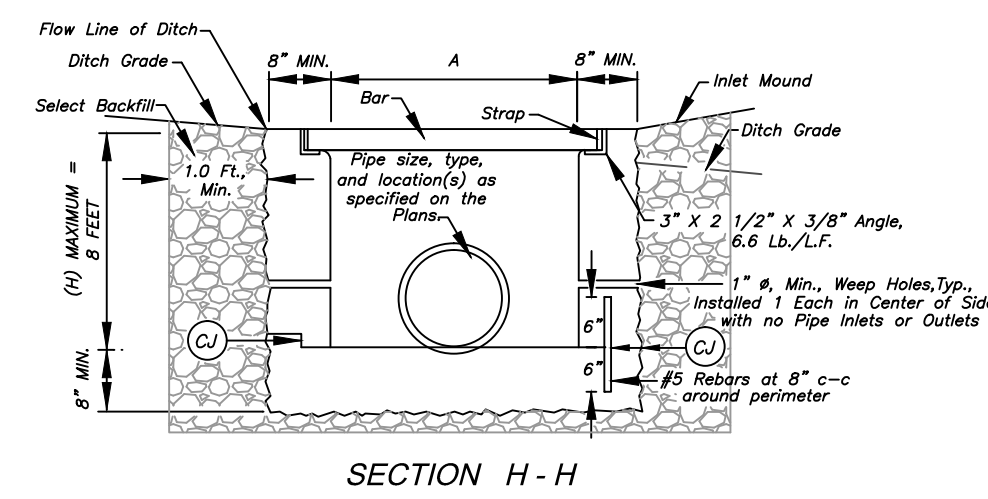
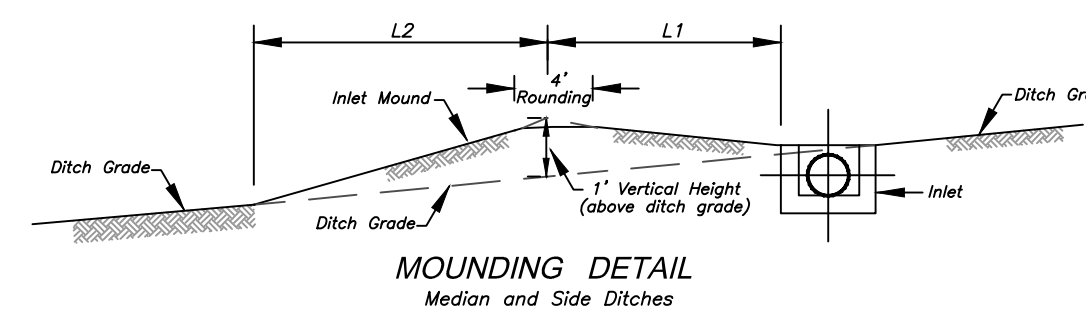
Pipe Size	DIMENSIONS				TYPE 2 GRATE			TYPE 1 GRATE				
	A	B	C	D	H (Min)	F	Bars	WT.	F	Bars	WT.	
12"	2'-8"	3'-2"	2'-7 3/4"	1'-1 3/4"	2'-0"	3 3/8"	7	223	62	1 3/8"	15	453

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"

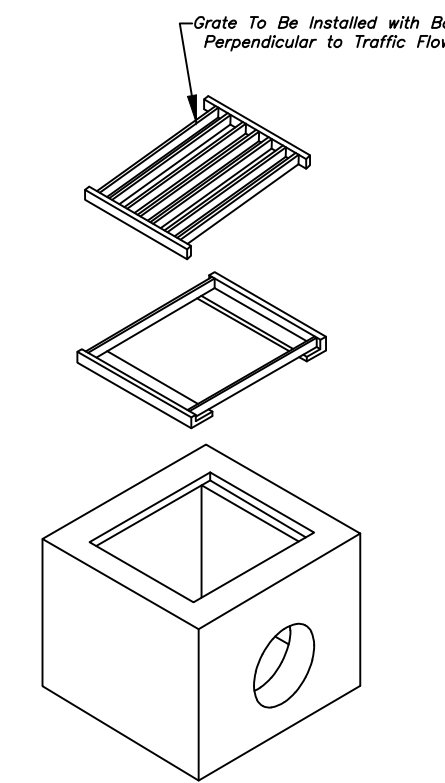
INLET MOUNDING TABLE			
DITCH GRADE (%)	L1, HORIZONTAL LENGTH (FT.)	L2, HORIZONTAL LENGTH (FT.)	
0	3	10	15
3	5	9	20
5	7.5	8	42
7.5	UP	SPECIAL DESIGN	SPECIAL DESIGN



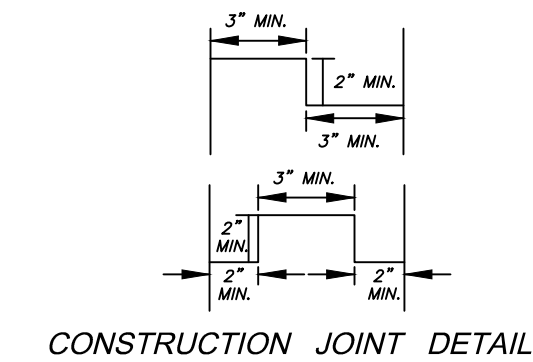
TYPE "G" INLET



TYPE "G" INLET



EXPLODED DETAIL



CONSTRUCTION JOINT DETAILS

TYPE "G" INLET

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 2 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 oveled 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 of no additional cost, shall be responsible for any temporary bracing required to transport precast inlet sections due to multiple openings.

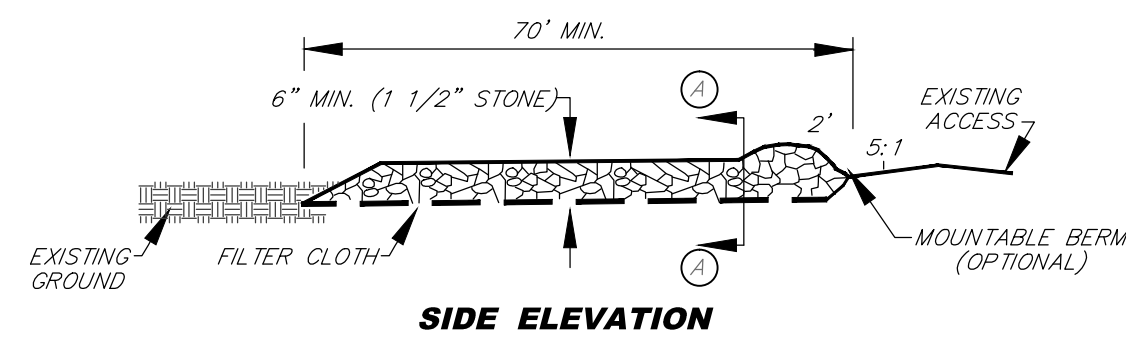
State of West Virginia  
 Department of Environmental Protection  
 Abandoned Mine Lands and Reclamation

**BLOOMINGROSE  
 (MILLER) DRAINAGE**

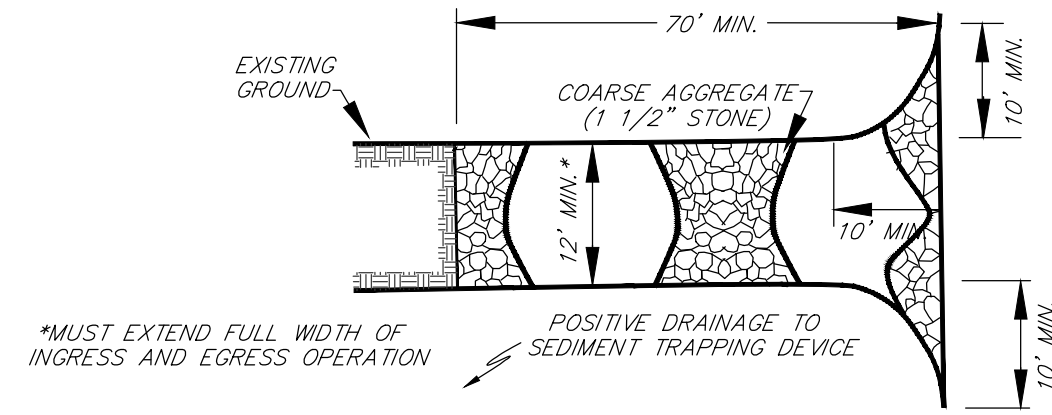
**DRAINAGE DETAILS**

DRAWN BY: RCD  
 APPROVED BY: NE  
 DATE: 8/06/2015

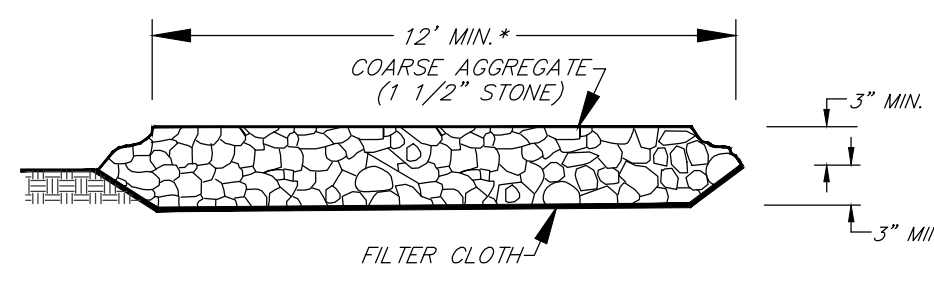
SCALE: AS NOTED  
 SHEET NO. 5  
 OF 6



**SIDE ELEVATION**



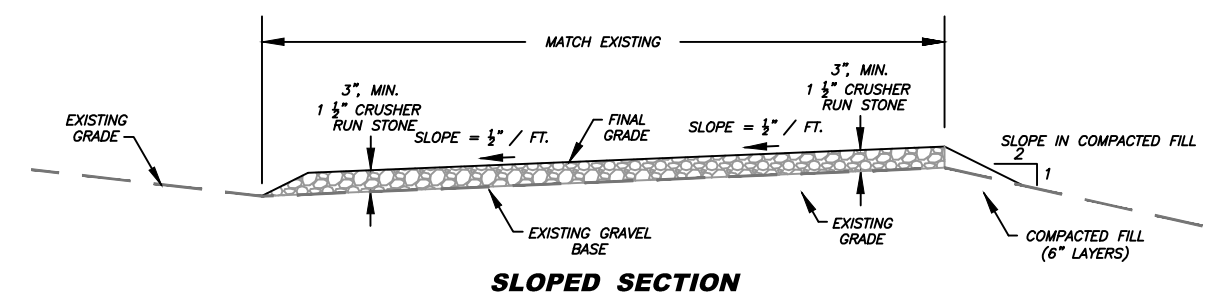
**PLAN VIEW**



**SECTION A - A**

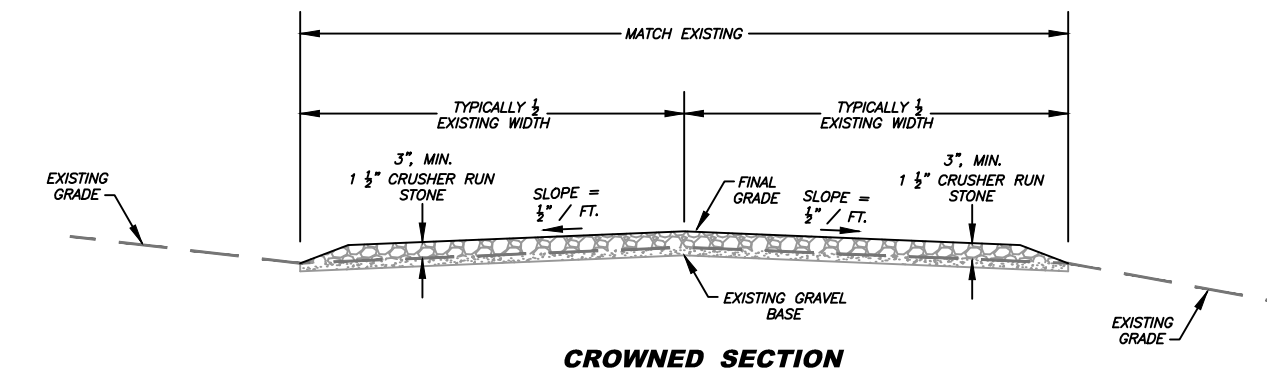
CERTAIN INSTALLATIONS SHALL WARRANT THE ADDITION OF A 3" THICK "CAP" LAYER OF 1 1/2" CLEAN STONE, WHEN INSTALLED AT THE LOCATION OF AN EXISTING DRIVEWAY OR VEHICULAR ACCESS. FOR ALL INSTALLATIONS, CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF SUCH.

**STABILIZED CONSTRUCTION ENTRANCE**



**SLOPED SECTION**

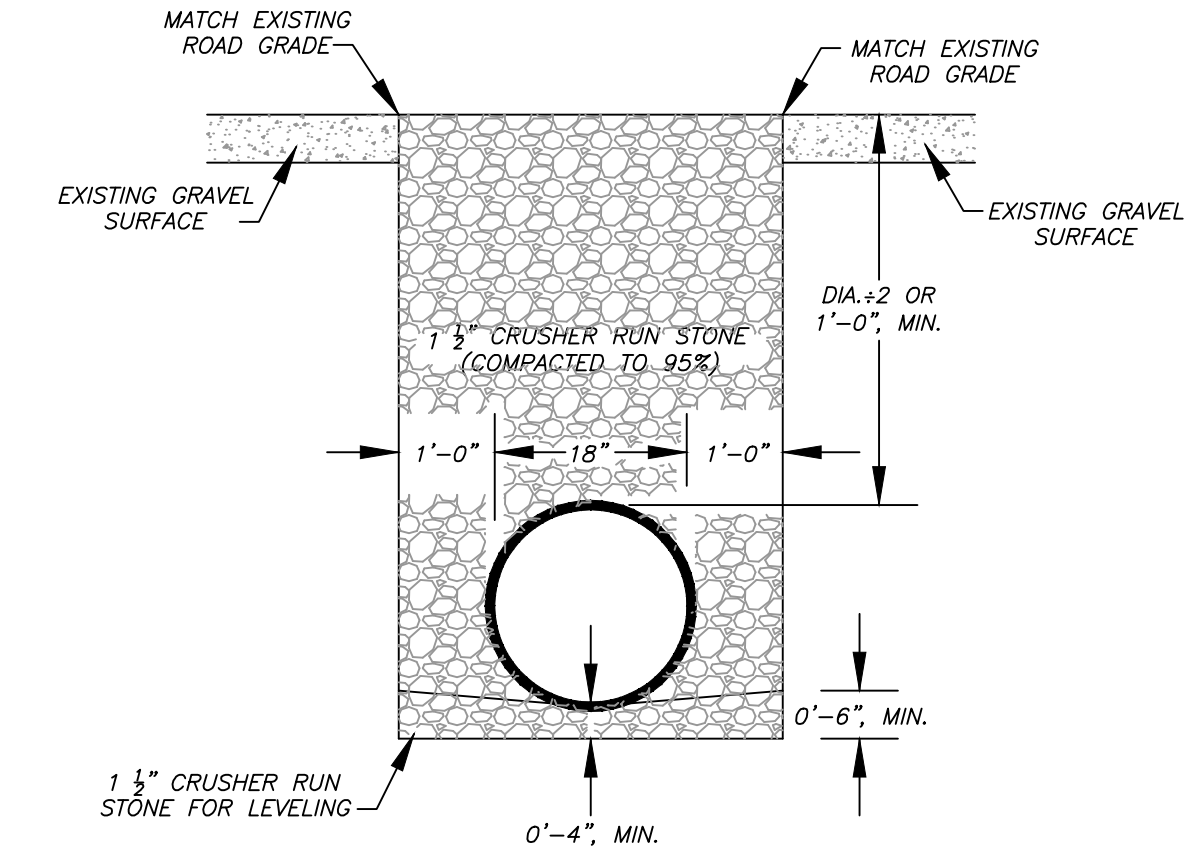
- NOTES:
- ROADWAY SURFACE MAY BE SLOPED TO EITHER SIDE AS TOPOGRAPHY AND CONDITIONS WARRANT.
  - 1 1/2" CRUSHER RUN STONE SHALL BE COMPACTED AS APPROVED BY THE ENGINEER.



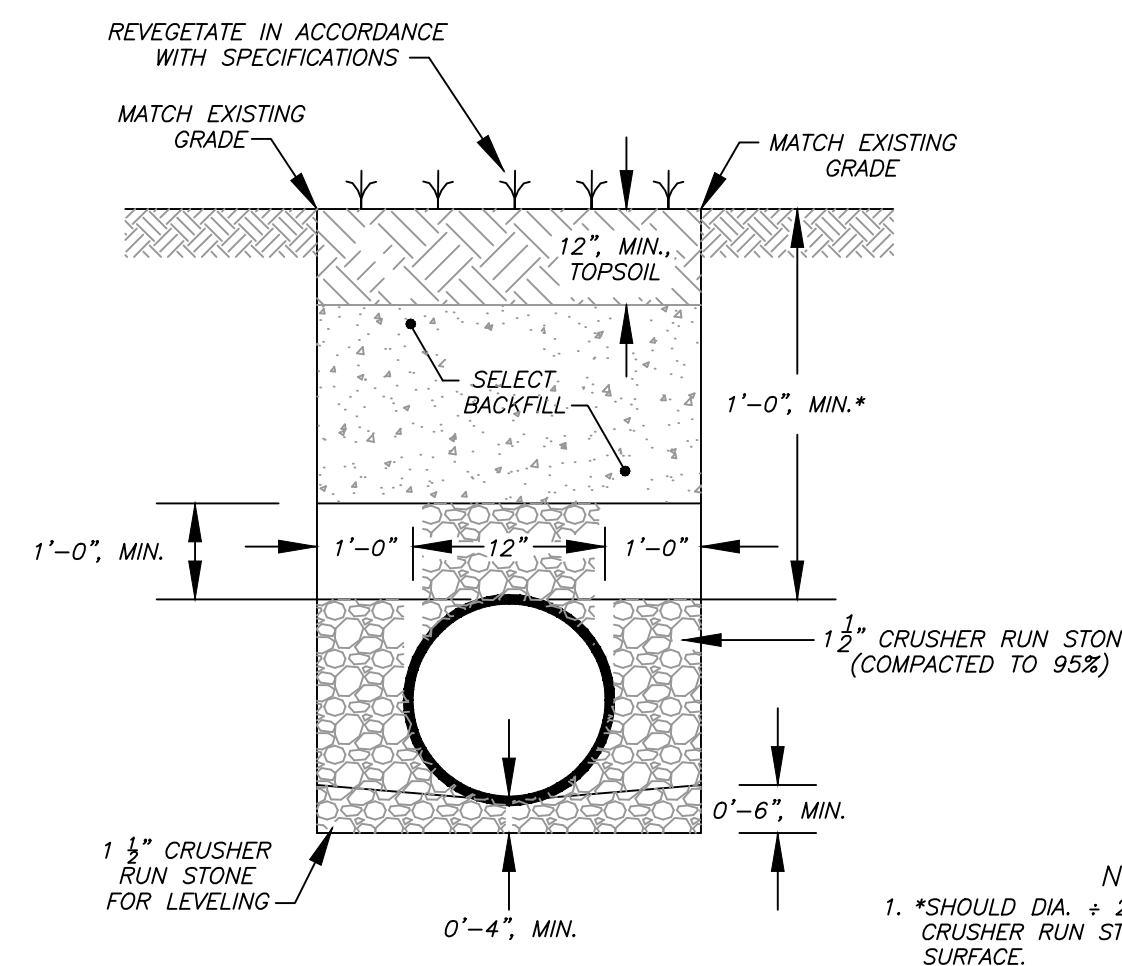
**CROWNED SECTION**

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

**GRAVEL DRIVE REHABILITATION**

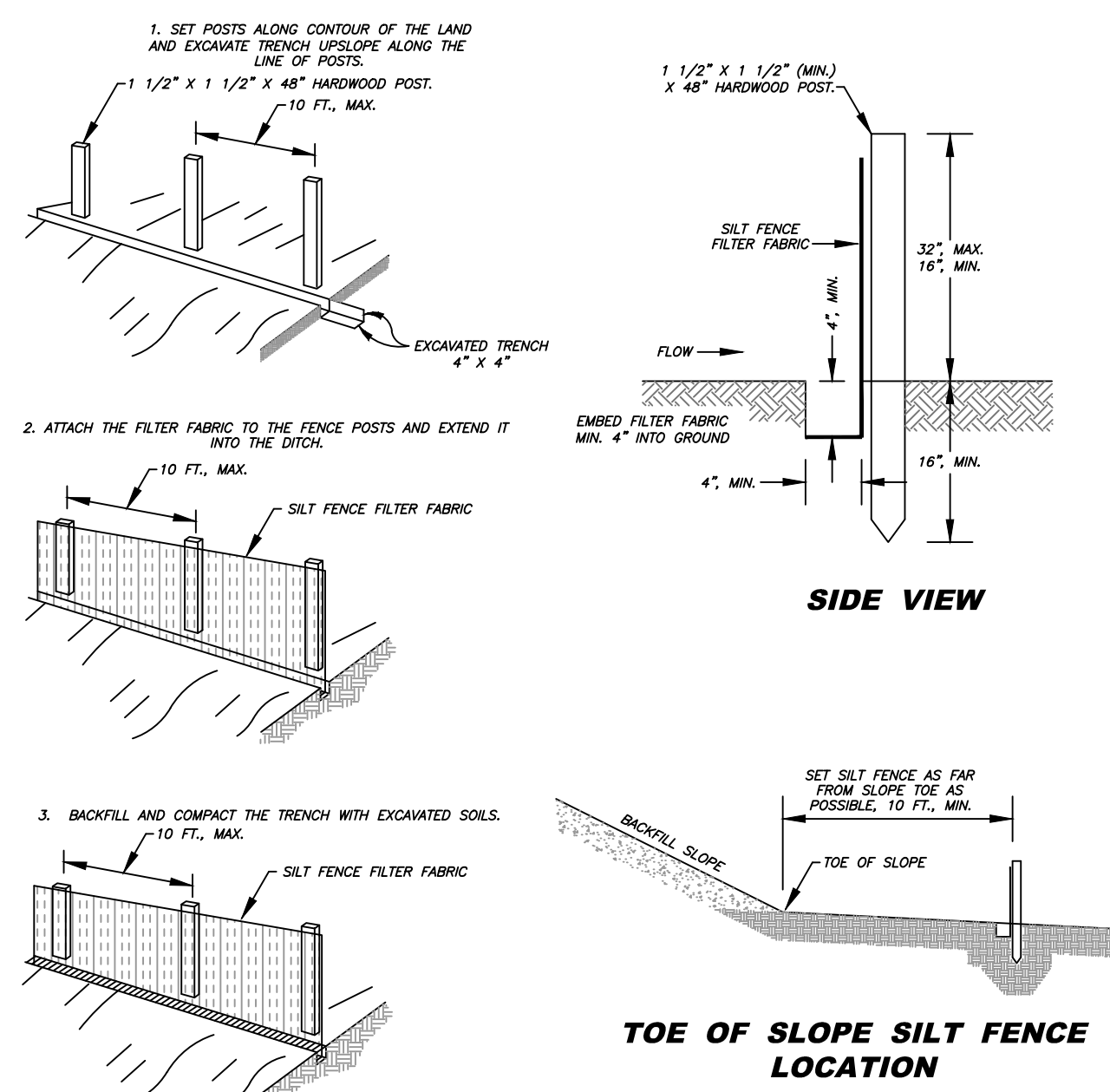


**PIPE TRENCH - AGGREGATE SURFACE**

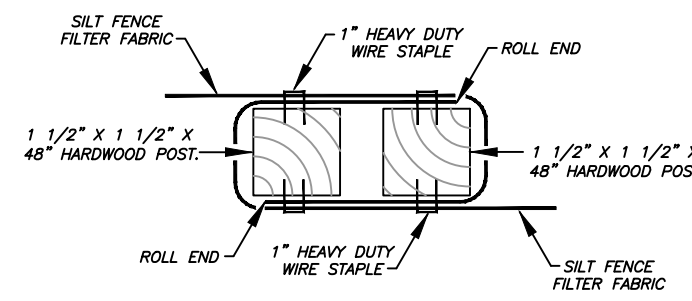


**PIPE TRENCH - VEGETATED SURFACE**

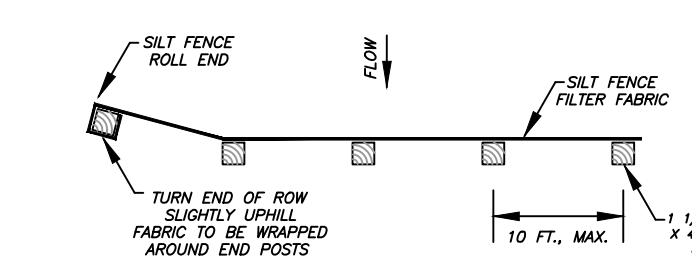
- NOTE:
- \*SHOULD DIA. + 2 BE EQUAL TO 1'-0", THEN CRUSHER RUN STONE GOES ALL THE WAY TO SURFACE.



- SILT FENCE NOTES:**
- FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO ALIGNMENT LENGTH TO AVOID JOINTS. WHERE JOINTS ARE UNAVOIDABLE, THE FABRIC SHALL BE SPIKED TOGETHER AT A SUPPORT POST BY FIRING THE POST OF EACH ROW AROUND EACH OTHER.
  - FILTER FABRIC SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE SUPPORT POSTS USING ONE INCH MINIMUM LONG HEAVY-DUTY WIRE STAPLES OR 12" WIRES WITH EIGHT INCHES MINIMUM OF FABRIC EXTENDED INTO THE TRENCH. DO NOT STAPLE FABRIC TO TREES.
  - COMPACTED SOIL BACKFILL SHALL BE PLACED IN THE 4" BY 4" TRENCH ADOP THE EXTENDED FABRIC.
  - POSTS SHALL BE CONSTRUCTED OF 1 1/2" X 1 1/2" (MIN.) HARDWOOD OR 2" X 4" PINE BY 48" LONG.
  - FILTER FABRIC SHALL BE NON-WOVEN "MIRAF 100X", "EXXON CTF 180" OR EQUAL.
  - APPROVED PREFABRICATED UNITS INCLUDE "GEOPAD", "EMHWOFENCE", OR APPROVED EQUAL.
  - THE MAXIMUM RUN OF SLOPE ABOVE A ROW OF SILT FENCE IS 110 FEET.



**END LAP TOP VIEW**



**END DETAIL**

**SILT FENCE**

State of West Virginia  
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**BLOOMINGROSE  
(MILLER) DRAINAGE**

**TYPICAL DETAILS**

DRAWN BY: RCD	SCALE: AS NOTED
APPROVED BY: NE	SHEET NO. <b>6</b>
DATE: 8/06/2015	OF 6