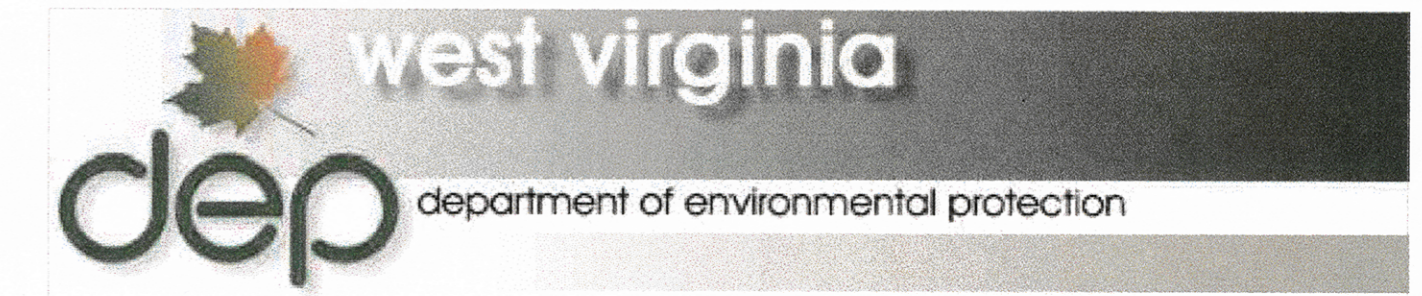


WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION



OFFICE OF ABANDONED MINE LANDS

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

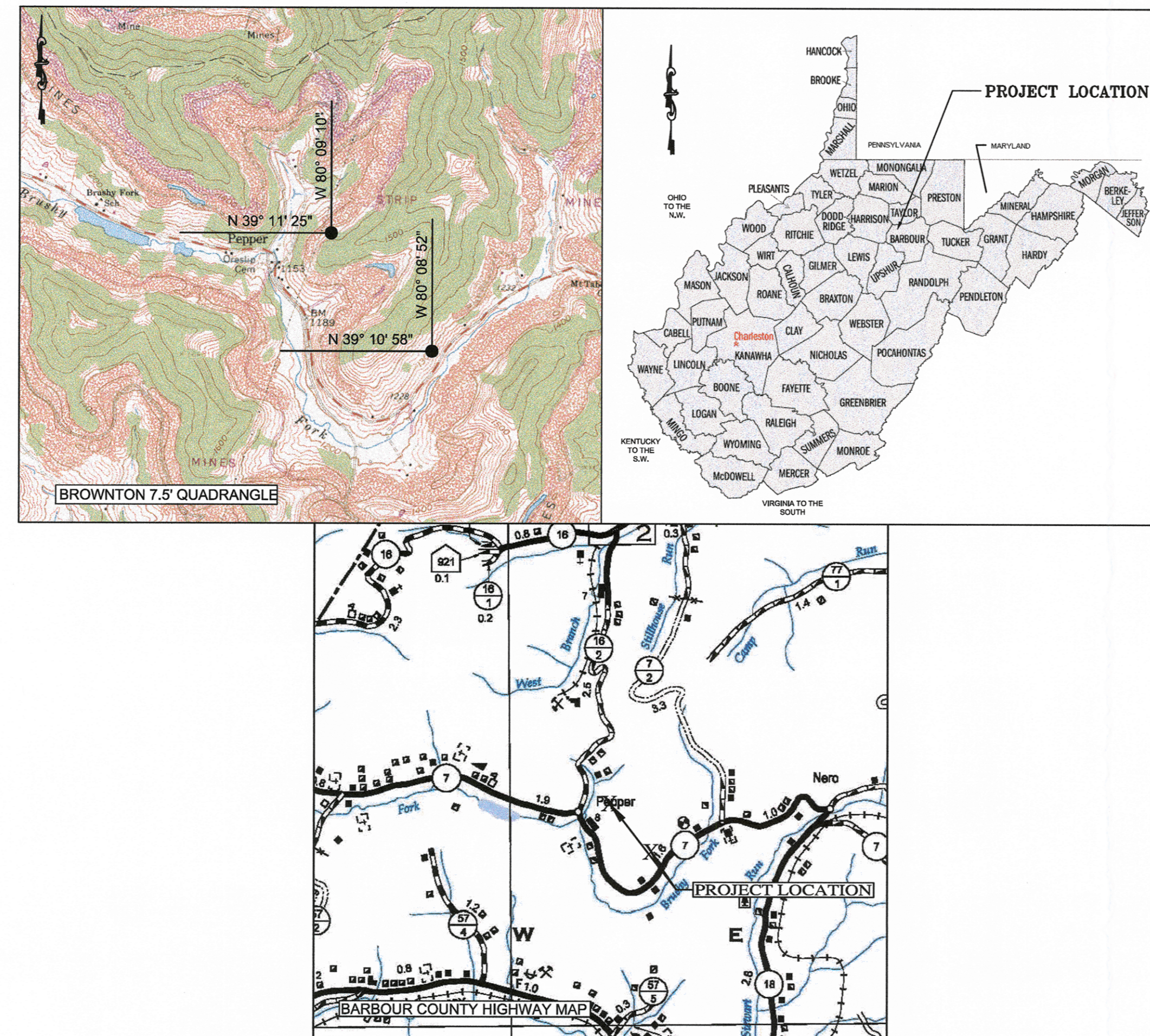


PEPPER PORTALS AND DRAINAGE PROJECT

ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA

April 9, 2014

DRAWING LIST	
TITLE	SHEET NO.
Cover Sheet	1
Existing Conditions	2
Existing Conditions - Moreno Property	3
Property Map	4
Property Map - Moreno Property	5
Index Sheet	6
Proposed Plan	7
Proposed Plan	8
Proposed Plan - Moreno Property	9
Proposed Plan With Tax Map Parcel Overlay	10
Proposed Plan With Tax Map Parcel Overlay	11
Proposed Plan With Tax Map Parcel Overlay - Moreno Property	12
Baseline Survey Information	13
Profile & Sections 100+00-104+00	14
Baseline Sections 104+50-109+00	15
Baseline Sections 109+50-113+50	16
Baseline Sections 114+00-116+50	17
Access Profile & Sections 0+00-7+00	18
Access Sections 7+50-9+50	19
Channel Profiles	20
Geologic Columns	21
Detail Sheet 1	22
Detail Sheet 2	23
Detail Sheet 3	24
Detail Sheet 4	25



Project Location Maps

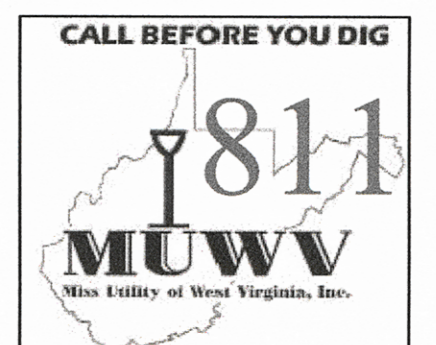
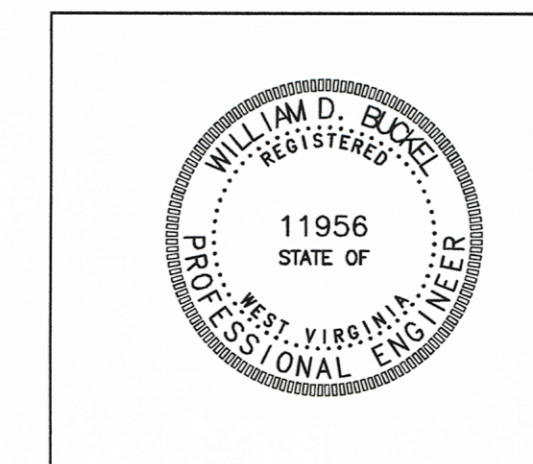
BID SCHEDULE

ITEM NO.	QUANTITY	DESCRIPTION	
1.0	1	LS	Mobilization and Demobilization (Shall not exceed 10% of total)
2.0	1	LS	Construction Layout (Shall not exceed 5% of total)
3.0	1	LS	Quality Control (Shall not exceed 3% of total)
4.0	1	LS	Site Preparation (Shall not exceed 7% of total)
5.1	1900	LF	Super Silt Fence
5.2	8100	LF	Erosion Control Wattles
5.3	61	EA	Rock Check Dams
5.4	2	EA	Stabilized Construction Entrances
5.5	3	EA	Riprap Dissipater
6.0	14.2	AC	Revegetation
7.1	130	LF	15-inch HDPE Culvert
7.2	68	LF	24-inch HDPE Culvert
7.3	150	LF	Grouted Riprap Vee Drainage Channel - Type A
7.4	2611	LF	Synthetic Lined Vee Drainage Channel - Type B
7.5	45	LF	Riprap Trapezoidal Drainage Channel - Type C
7.6	198	LF	Grouted Riprap Trapezoidal Drainage Channel - Type D
7.7	1	EA	Low Water Crossing
8.0	79309	CY	Unclassified Excavation
9.1	1	EA	Modified Wet Mine Seal
9.2	25	EA	Soda Ash Briquettes, 50 lb. Bag
9.3	1	EA	Straw Bale/Silt Fence Pit
9.4	314	LF	12-inch Conveyance Pipe Solid
10.0	100	LF	Underdrains
13.1	982	LF	Access Road
13.2	3	EA	Farm Gate
13.3	126	CY	Stone Filled Gabion Baskets
13.4	140	LF	Temporary Fence
13.5	150	LF	Permanent Fence
15.0	1	EA	Encapsulated Aggregate Plug

ENGINEER — **Hatch Mott MacDonald**

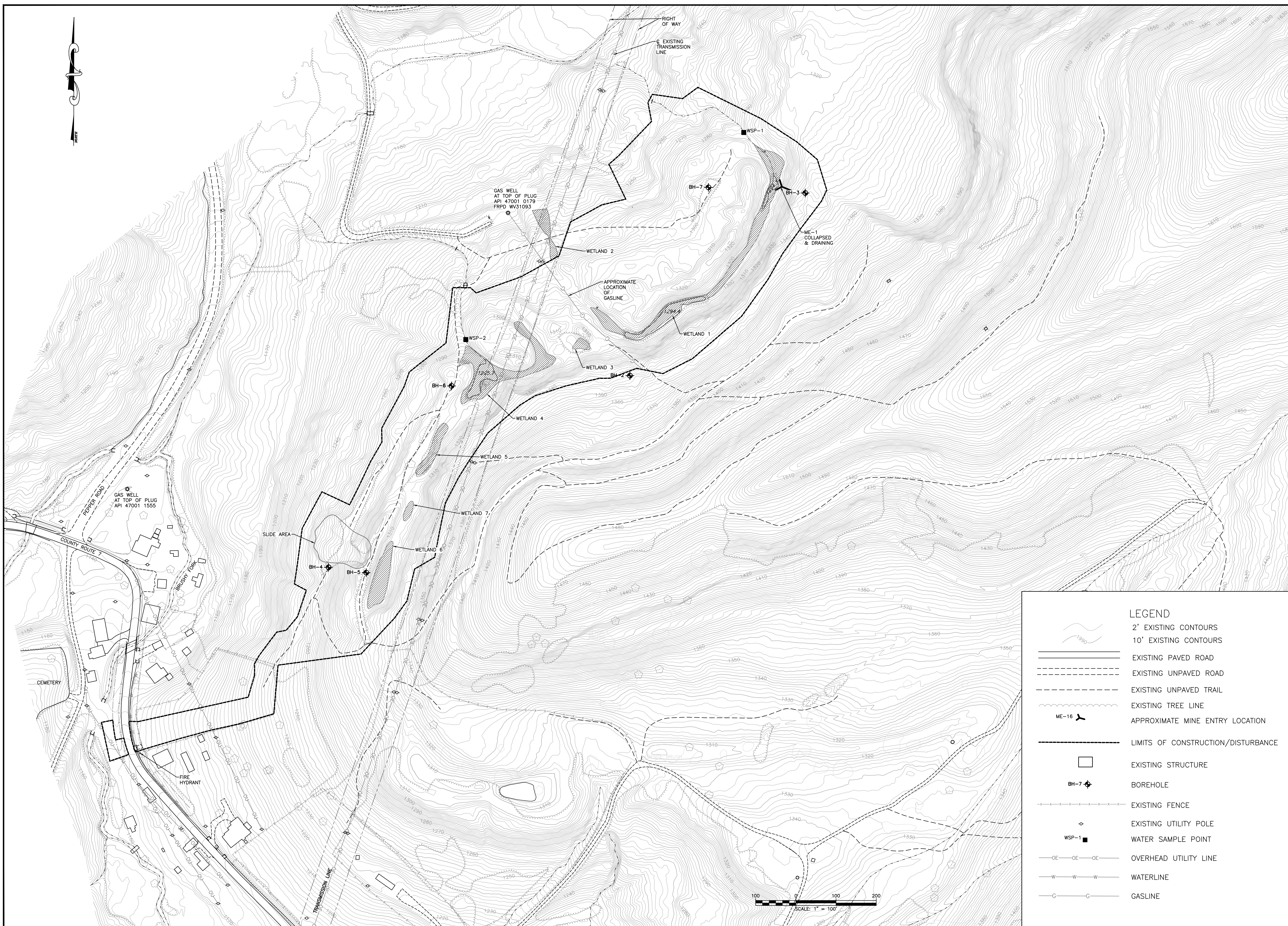
2601 Cranberry Square
 Morgantown, WV 26508
 T: 304.212.4390 F: 304.594.2814
 www.hatchmott.com

William D. Buckel, P.E.
 WV No. 011956

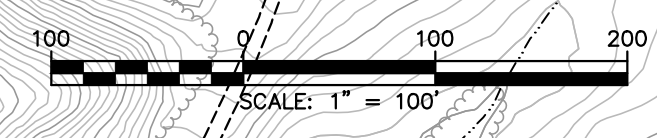


Miss Utility of West Virginia
 5608 MacCorkle Ave. S. W.
 So. Charleston, WV 25309


1.800.245.4848



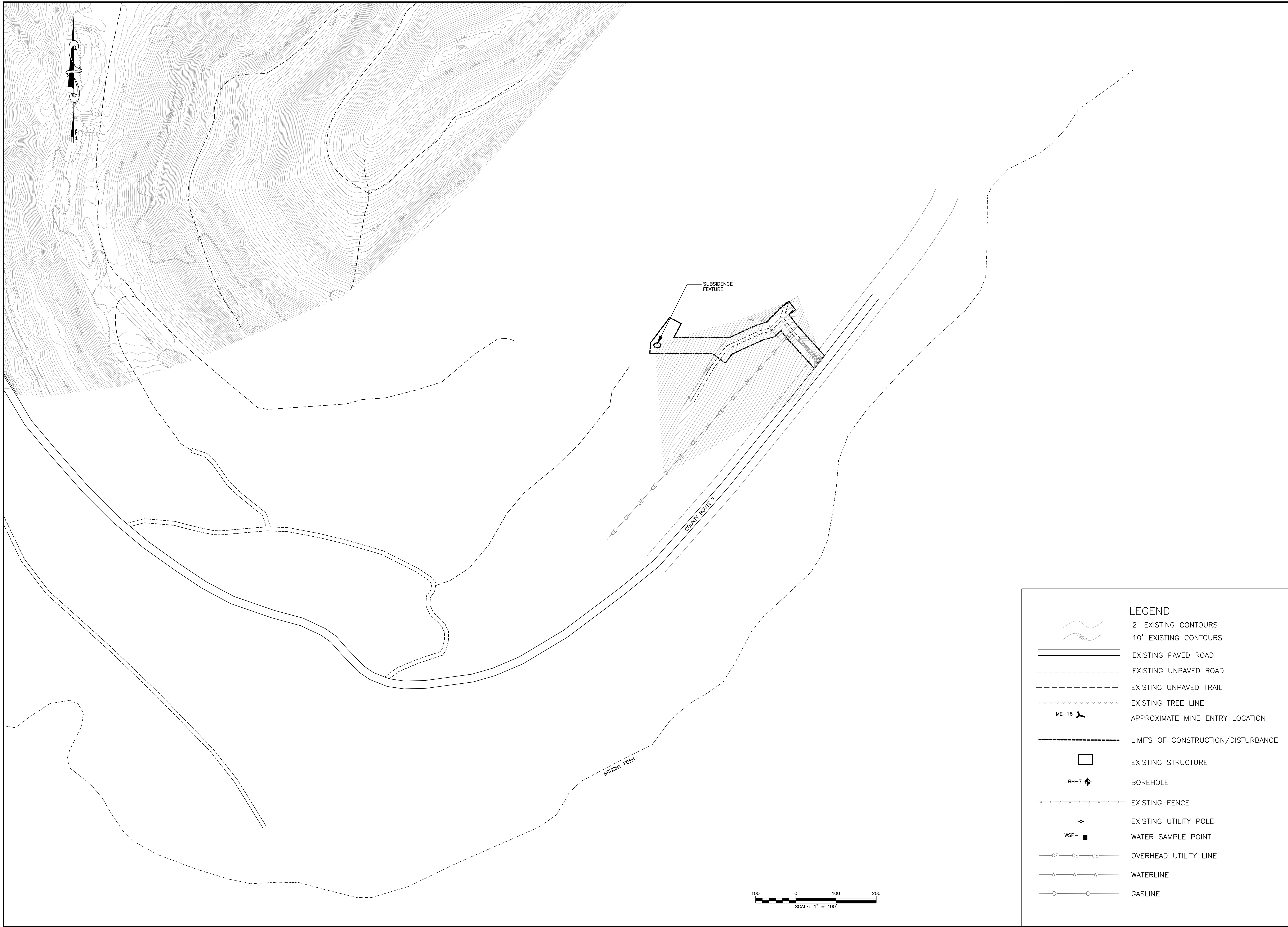
LEGEND	
	2' EXISTING CONTOURS
	10' EXISTING CONTOURS
	EXISTING PAVED ROAD
	EXISTING UNPAVED ROAD
	EXISTING UNPAVED TRAIL
	EXISTING TREE LINE
	APPROXIMATE MINE ENTRY LOCATION
	LIMITS OF CONSTRUCTION/DISTURBANCE
	EXISTING STRUCTURE
	BOREHOLE
	EXISTING FENCE
	EXISTING UTILITY POLE
	WATER SAMPLE POINT
	OVERHEAD UTILITY LINE
	WATERLINE
	GASLINE



No.	Description	Date	By
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 Hatch Mott MacDonald 2601 Cranberry Square Morgantown, West Virginia 26508	Approved WDB	Date 10.31.2014
Checked JLL	Drawn BLP	Designated HMM

WV DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF ABANDONED MINE LANDS	
ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA PEPPER PORTALS AND DRAINAGE EXISTING CONDITIONS	
Job 319151	No. 2 B/O 2 Total 25



LEGEND

- 2' EXISTING CONTOURS
- 10' EXISTING CONTOURS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EXISTING UNPAVED TRAIL
- EXISTING TREE LINE
- APPROXIMATE MINE ENTRY LOCATION
- LIMITS OF CONSTRUCTION/DISTURBANCE
- EXISTING STRUCTURE
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- EXISTING FENCE
- EXISTING UTILITY POLE
- WATER SAMPLE POINT
- OVERHEAD UTILITY LINE
- WATERLINE
- GASLINE

Hatch Mott MacDonald
2601 Cranberry Square
Morgantown, West Virginia 26508

101 Cambridge Place
Bridgeport, West Virginia 26330

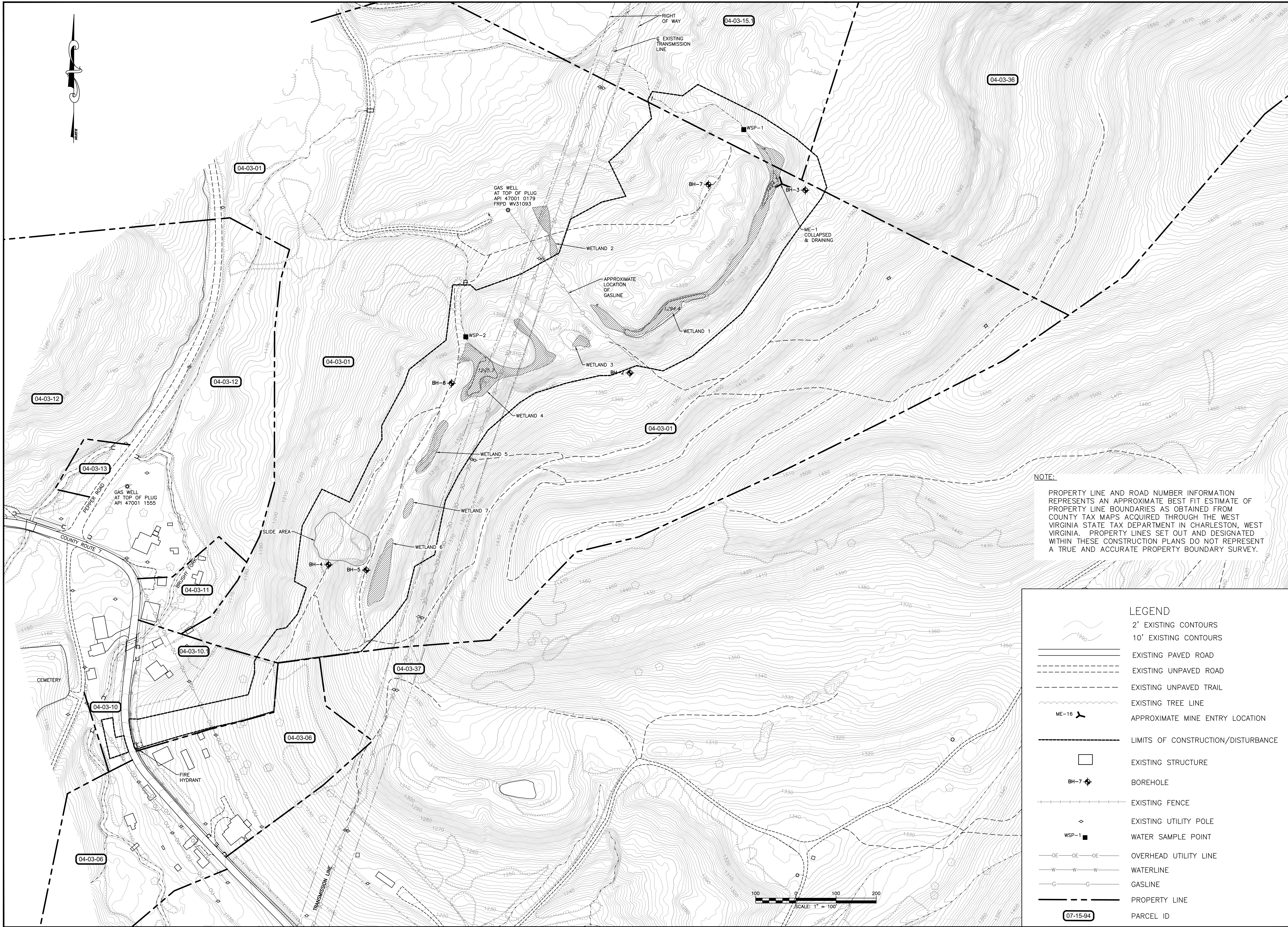
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WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS
ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
PEPPER PORTALS AND DRAINAGE
EXISTING CONDITIONS - MORENO PROPERTY

Approved: WDB
Checked: JLL
Drawn: BLP
Designed: HMM

Job No.	319151	No.	3
B/O	3	Total	25

Date: 10.31.2014



NOTE:
 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, WEST VIRGINIA. PROPERTY LINES SET OUT AND DESIGNATED WITHIN THESE CONSTRUCTION PLANS DO NOT REPRESENT A TRUE AND ACCURATE PROPERTY BOUNDARY SURVEY.

LEGEND

- 2' EXISTING CONTOURS
- 10' EXISTING CONTOURS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EXISTING UNPAVED TRAIL
- EXISTING TREE LINE
- APPROXIMATE MINE ENTRY LOCATION
- LIMITS OF CONSTRUCTION/DISTURBANCE
- EXISTING STRUCTURE
- BOREHOLE
- EXISTING FENCE
- EXISTING UTILITY POLE
- WATER SAMPLE POINT
- OVERHEAD UTILITY LINE
- WATERLINE
- GASLINE
- PROPERTY LINE
- PARCEL ID

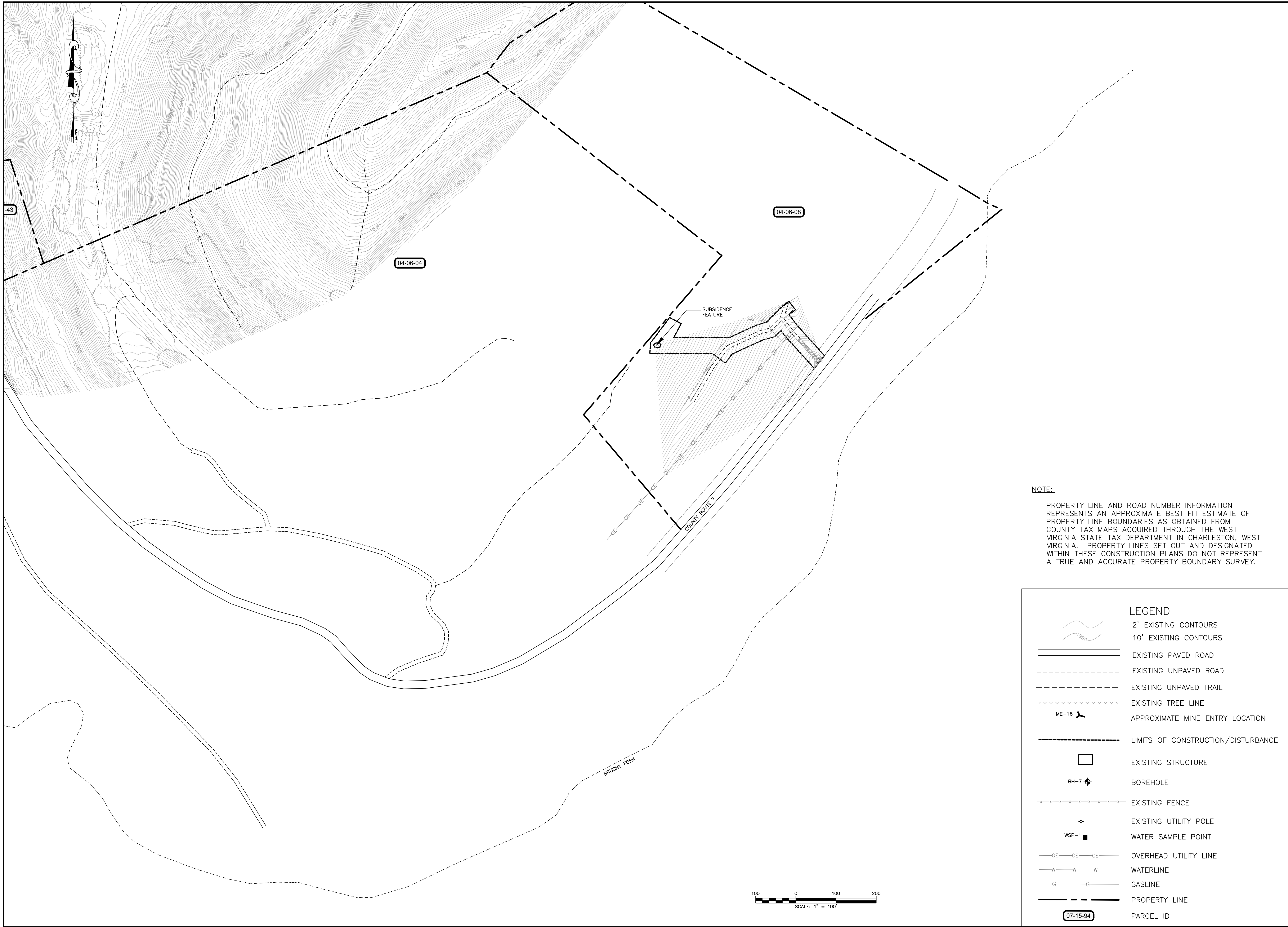
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Hatch Mott MacDonald
 2601 Cranberry Square
 Morgantown, West Virginia 26508

Checked: JLL
 Drawn: BLP
 Approved: WDB
 Date: 10.31.2014

WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS
 ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
**PEPPER PORTALS AND DRAINAGE
 PROPERTY MAP**

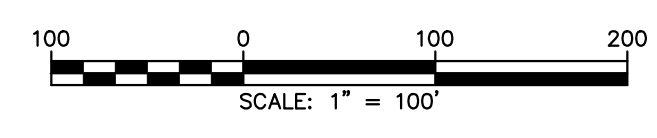
Job No.	319151	4
B/O	4	Total 25



NOTE:
 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, WEST VIRGINIA. PROPERTY LINES SET OUT AND DESIGNATED WITHIN THESE CONSTRUCTION PLANS DO NOT REPRESENT A TRUE AND ACCURATE PROPERTY BOUNDARY SURVEY.

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- 2' EXISTING CONTOURS
- 10' EXISTING CONTOURS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EXISTING UNPAVED TRAIL
- EXISTING TREE LINE
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- EXISTING STRUCTURE
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- EXISTING FENCE
- EXISTING UTILITY POLE
- WATER SAMPLE POINT
- OVERHEAD UTILITY LINE
- WATERLINE
- GASLINE
- PROPERTY LINE
- PARCEL ID



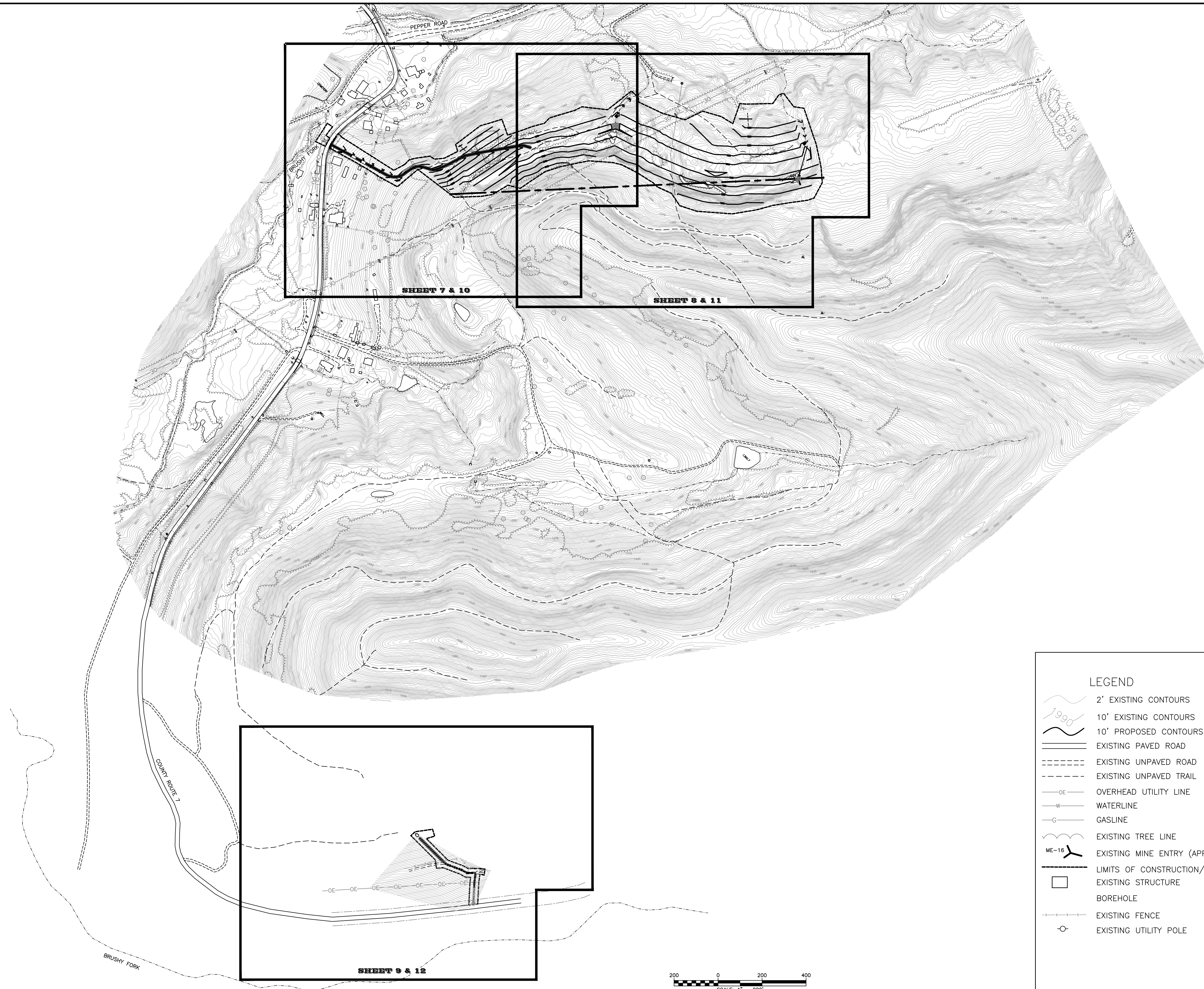
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Hatch Mott MacDonald
 2601 Cranberry Square
 Morgantown, West Virginia 26508

Designed: HMM
 Drawn: BLP
 Checked: JLL
 Approved: WDB
 Date: 10.31.2014

WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS
 ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
**PEPPER PORTALS AND DRAINAGE
 PROPERTY MAP - MORENO PROPERTY**

Job No.	319151	5
B/O	5	Total 25



- LEGEND**
- 2' EXISTING CONTOURS
 - 10' EXISTING CONTOURS
 - 10' PROPOSED CONTOURS
 - EXISTING PAVED ROAD
 - EXISTING UNPAVED ROAD
 - EXISTING UNPAVED TRAIL
 - OVERHEAD UTILITY LINE
 - WATERLINE
 - GASLINE
 - EXISTING TREE LINE
 - EXISTING MINE ENTRY (APPROXIMATE)
 - LIMITS OF CONSTRUCTION/DISTURBANCE
 - EXISTING STRUCTURE
 - BOREHOLE
 - EXISTING FENCE
 - EXISTING UTILITY POLE

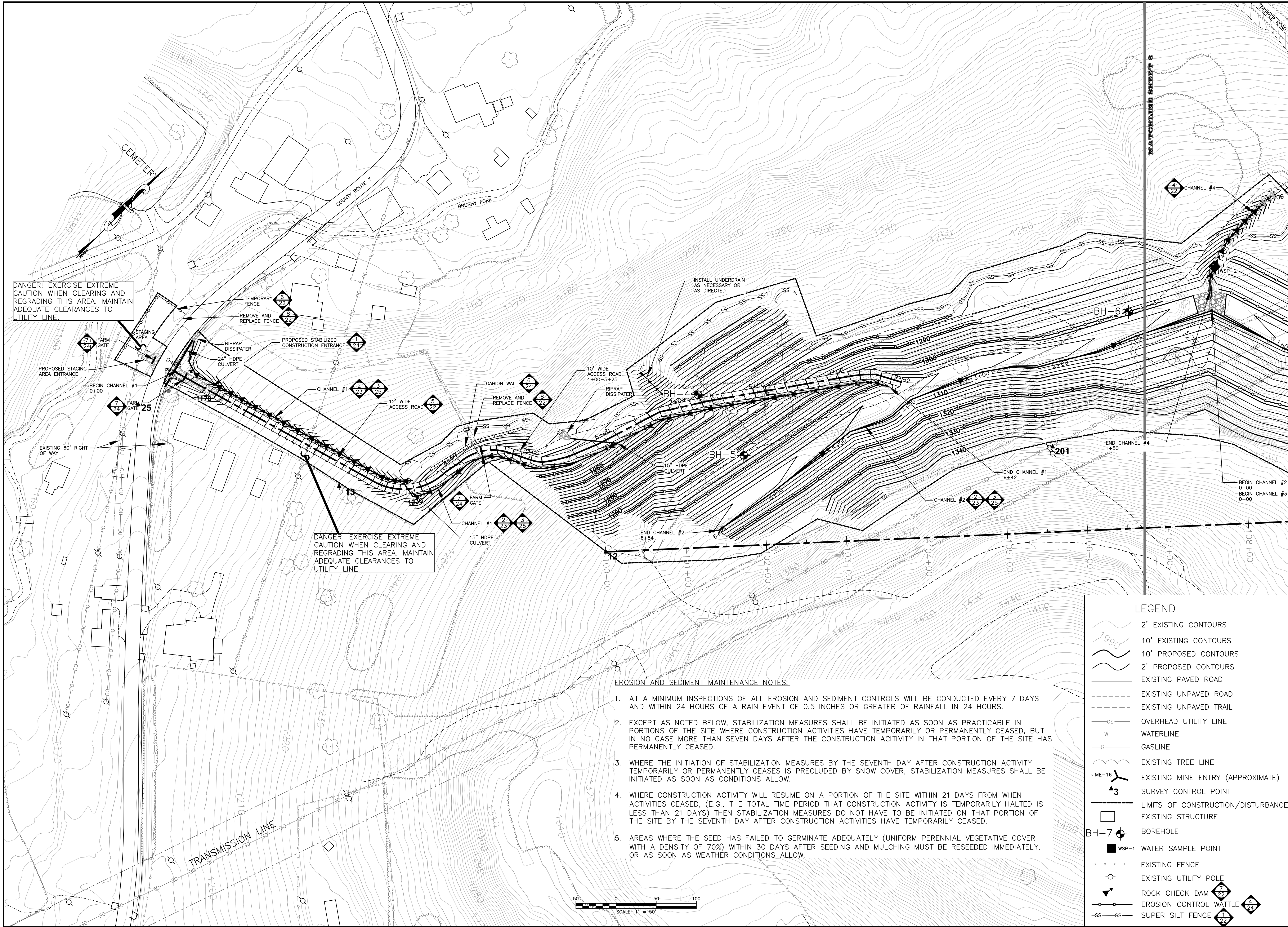
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Hatch Mott
 MacDonald
 2601 Cranberry Square
 Morgantown, West Virginia 26508

Designed HMM	Drawn BLP	Checked JLL	Approved WDB	Date 10.31.2014
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WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS
 ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
**PEPPER PORTALS AND DRAINAGE
 INDEX SHEET**

Job 319151	No. 6
B/O 6	Total 25

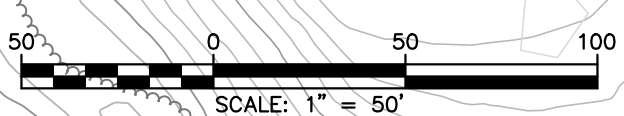


DANGER! EXERCISE EXTREME CAUTION WHEN CLEARING AND REGRADING THIS AREA. MAINTAIN ADEQUATE CLEARANCES TO UTILITY LINE.

DANGER! EXERCISE EXTREME CAUTION WHEN CLEARING AND REGRADING THIS AREA. MAINTAIN ADEQUATE CLEARANCES TO UTILITY LINE.

EROSION AND SEDIMENT MAINTENANCE NOTES:

1. AT A MINIMUM INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROLS WILL BE CONDUCTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAIN EVENT OF 0.5 INCHES OR GREATER OF RAINFALL IN 24 HOURS.
2. EXCEPT AS NOTED BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY CEASED.
3. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE SEVENTH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS CONDITIONS ALLOW.
4. WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (E.G., THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY HALTED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE SEVENTH DAY AFTER CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED.
5. AREAS WHERE THE SEED HAS FAILED TO GERMINATE ADEQUATELY (UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70%) WITHIN 30 DAYS AFTER SEEDING AND MULCHING MUST BE RESEEDING IMMEDIATELY, OR AS SOON AS WEATHER CONDITIONS ALLOW.



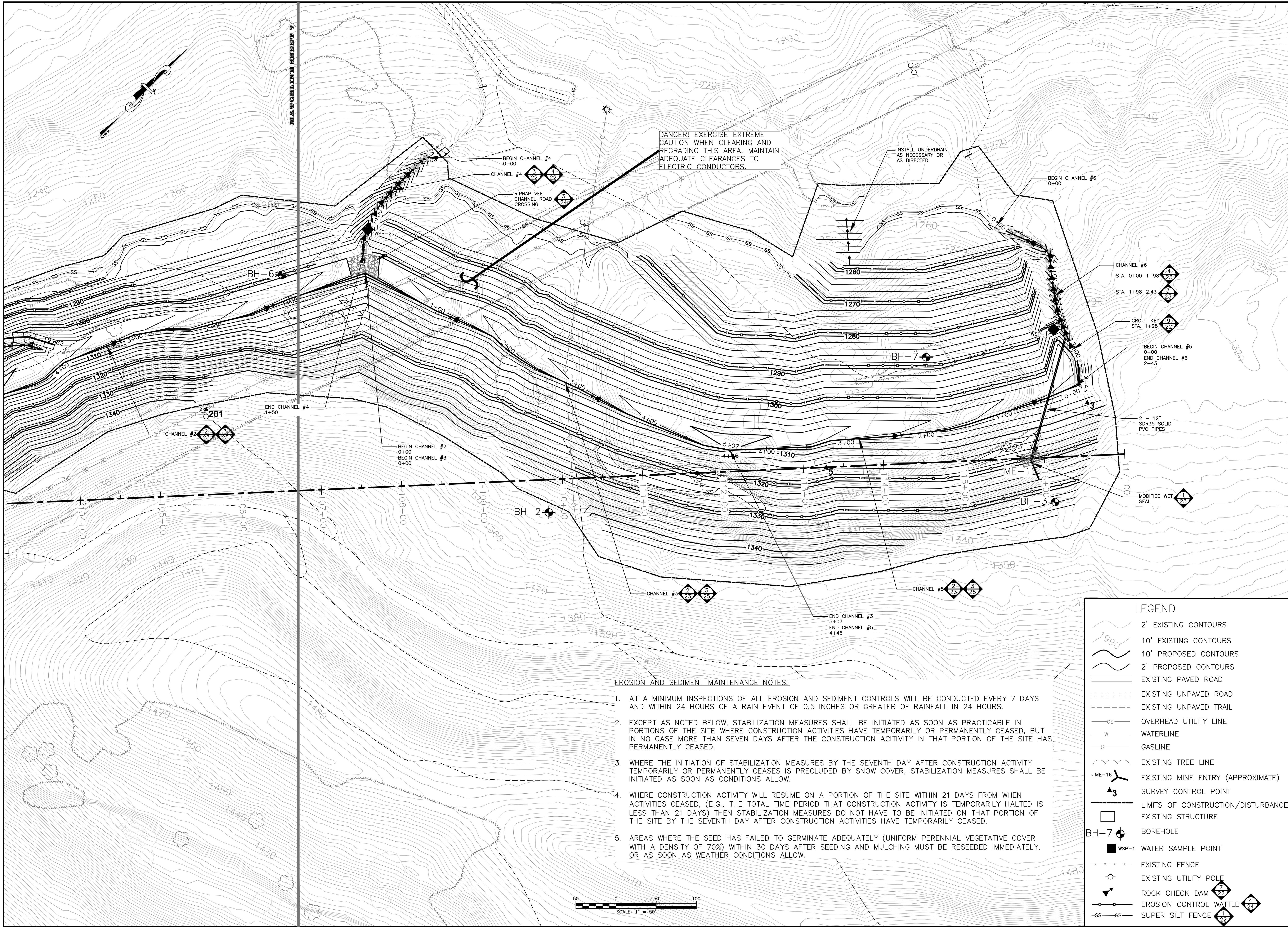
LEGEND

- 2' EXISTING CONTOURS
- 10' EXISTING CONTOURS
- 10' PROPOSED CONTOURS
- 2' PROPOSED CONTOURS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EXISTING UNPAVED TRAIL
- OVERHEAD UTILITY LINE
- WATERLINE
- GASLINE
- EXISTING TREE LINE
- EXISTING MINE ENTRY (APPROXIMATE)
- SURVEY CONTROL POINT
- LIMITS OF CONSTRUCTION/DISTURBANCE
- EXISTING STRUCTURE
- BOREHOLE
- WATER SAMPLE POINT
- EXISTING FENCE
- EXISTING UTILITY POLE
- ROCK CHECK DAM
- EROSION CONTROL WATTLE
- SUPER SILT FENCE

No.	Description	Date	By
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Hatch Mott MacDonald
 2601 Cranberry Square
 Morgantown, West Virginia 26508

Drawn: BLP
 Checked: JLL
 Approved: WDB
 Date: 10.31.2014

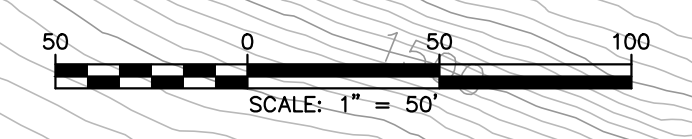


DANGER! EXERCISE EXTREME CAUTION WHEN CLEARING AND REGRADING THIS AREA. MAINTAIN ADEQUATE CLEARANCES TO ELECTRIC CONDUCTORS.

INSTALL UNDERDRAIN AS NECESSARY OR AS DIRECTED

EROSION AND SEDIMENT MAINTENANCE NOTES:

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LEGEND	
	2' EXISTING CONTOURS
	10' EXISTING CONTOURS
	10' PROPOSED CONTOURS
	2' PROPOSED CONTOURS
	EXISTING PAVED ROAD
	EXISTING UNPAVED ROAD
	EXISTING UNPAVED TRAIL
	OVERHEAD UTILITY LINE
	WATERLINE
	GASLINE
	EXISTING TREE LINE
	EXISTING MINE ENTRY (APPROXIMATE)
	SURVEY CONTROL POINT
	LIMITS OF CONSTRUCTION/DISTURBANCE
	EXISTING STRUCTURE
	BOREHOLE
	WATER SAMPLE POINT
	EXISTING FENCE
	EXISTING UTILITY POLE
	ROCK CHECK DAM
	EROSION CONTROL WATTLE
	SUPER SILT FENCE

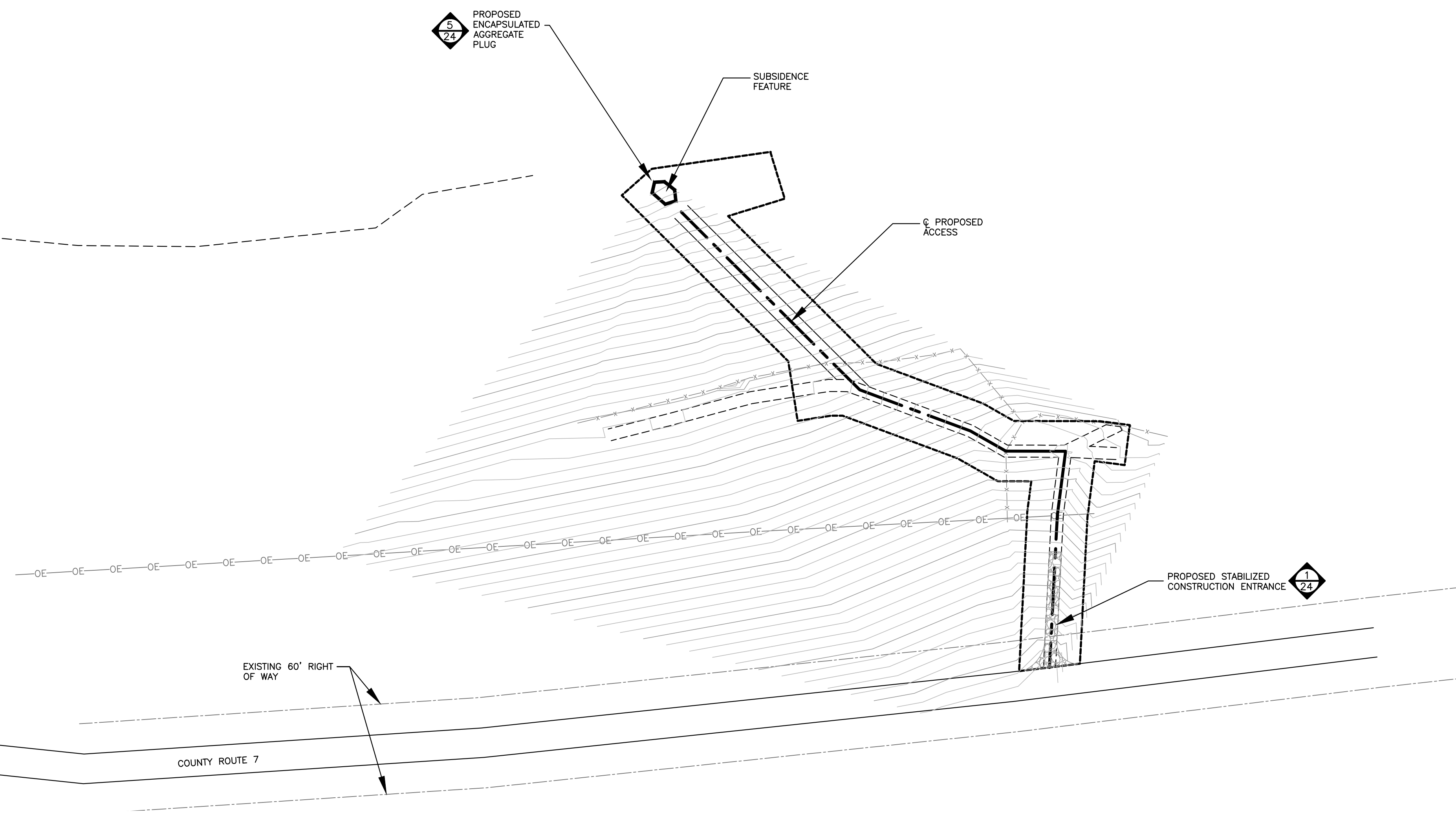
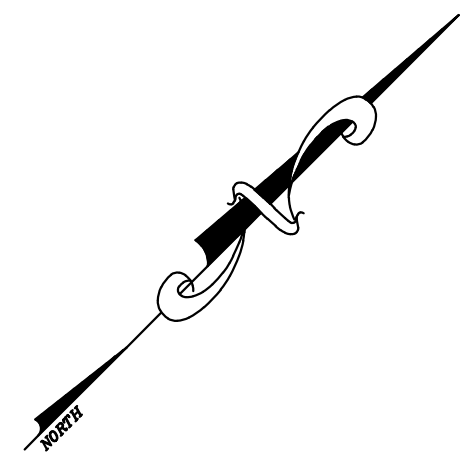
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Hatch Mott MacDonald
 2601 Cranberry Square
 Morgantown, West Virginia 26508

Drawn: BLP
 Checked: JLL
 Approved: WDB
 Date: 04-09-2014

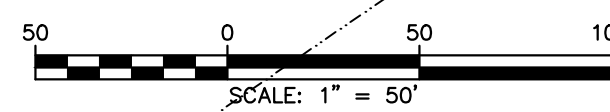
WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS
 ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
PEPPER PORTALS AND DRAINAGE PROPOSED PLAN

Job No.	8
1919151	
B/O	8
Total	25



EROSION AND SEDIMENT MAINTENANCE NOTES:

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LEGEND

	2' EXISTING CONTOURS
	10' EXISTING CONTOURS
	10' PROPOSED CONTOURS
	2' PROPOSED CONTOURS
	EXISTING PAVED ROAD
	EXISTING UNPAVED ROAD
	EXISTING UNPAVED TRAIL
	OVERHEAD UTILITY LINE
	WATERLINE
	GASLINE
	EXISTING TREE LINE
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	SURVEY CONTROL POINT
	LIMITS OF CONSTRUCTION/DISTURBANCE
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	WATER SAMPLE POINT
	EXISTING FENCE
	EXISTING UTILITY POLE
	ROCK CHECK DAM
	EROSION CONTROL WATTLE
	SUPER SILT FENCE

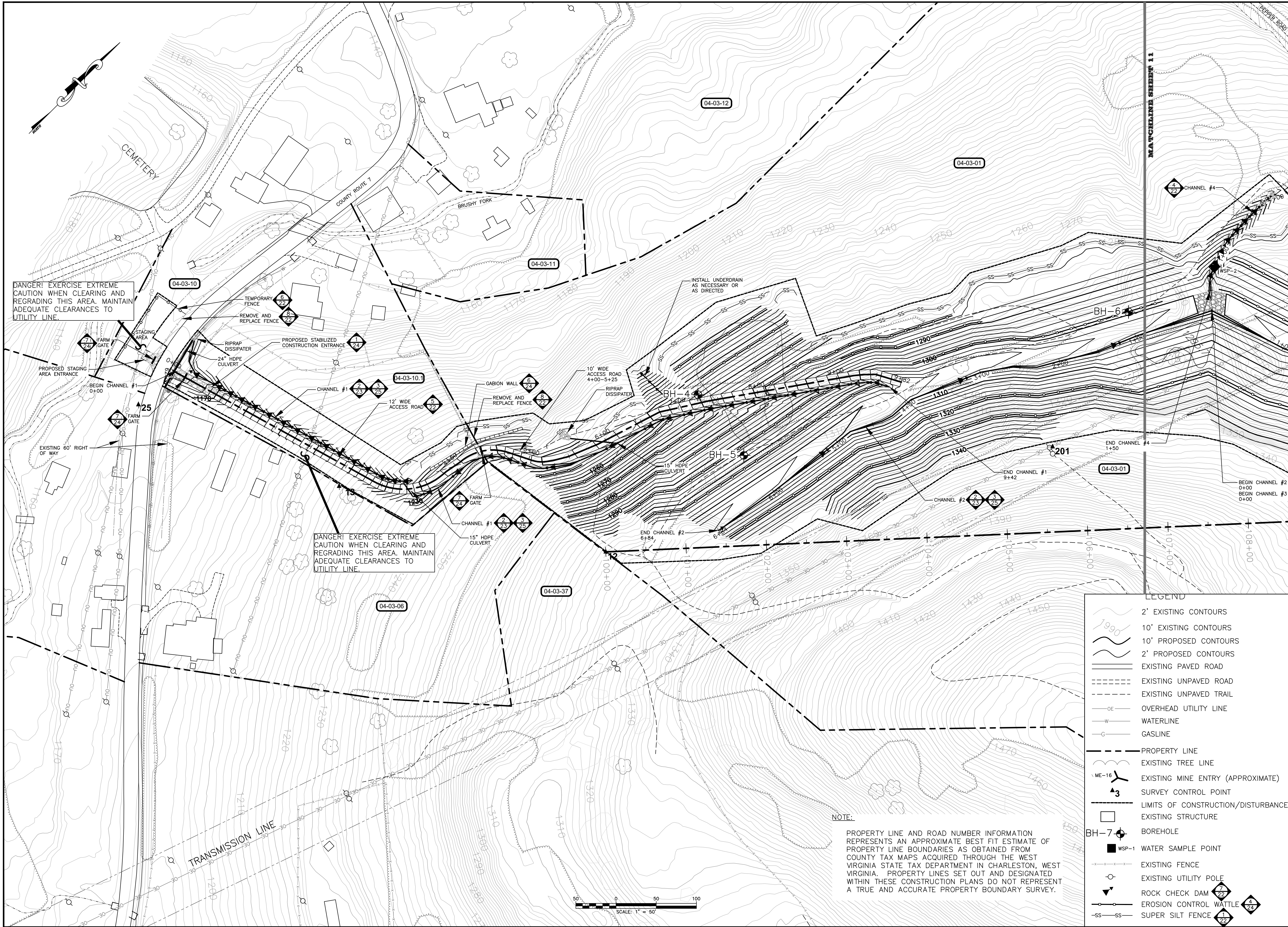


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Hatch Mott MacDonald 2601 Cranberry Square Morgantown, West Virginia 26508	Checked: JLL Drawn: BLP	Approved: WDB Date: 10.31.2014
	Designed: HMM	

WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS
 ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
PEPPER PORTALS AND DRAINAGE
PROPOSED PLAN - MORENO PROPERTY

Job No.	319151	9
B/O	9	Total 25



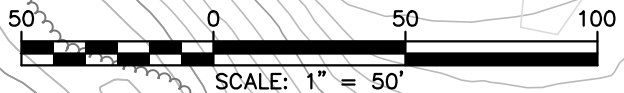
DANGER! EXERCISE EXTREME CAUTION WHEN CLEARING AND REGRADING THIS AREA. MAINTAIN ADEQUATE CLEARANCES TO UTILITY LINE.

DANGER! EXERCISE EXTREME CAUTION WHEN CLEARING AND REGRADING THIS AREA. MAINTAIN ADEQUATE CLEARANCES TO UTILITY LINE.

NOTE:
 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, WEST VIRGINIA. PROPERTY LINES SET OUT AND DESIGNATED WITHIN THESE CONSTRUCTION PLANS DO NOT REPRESENT A TRUE AND ACCURATE PROPERTY BOUNDARY SURVEY.

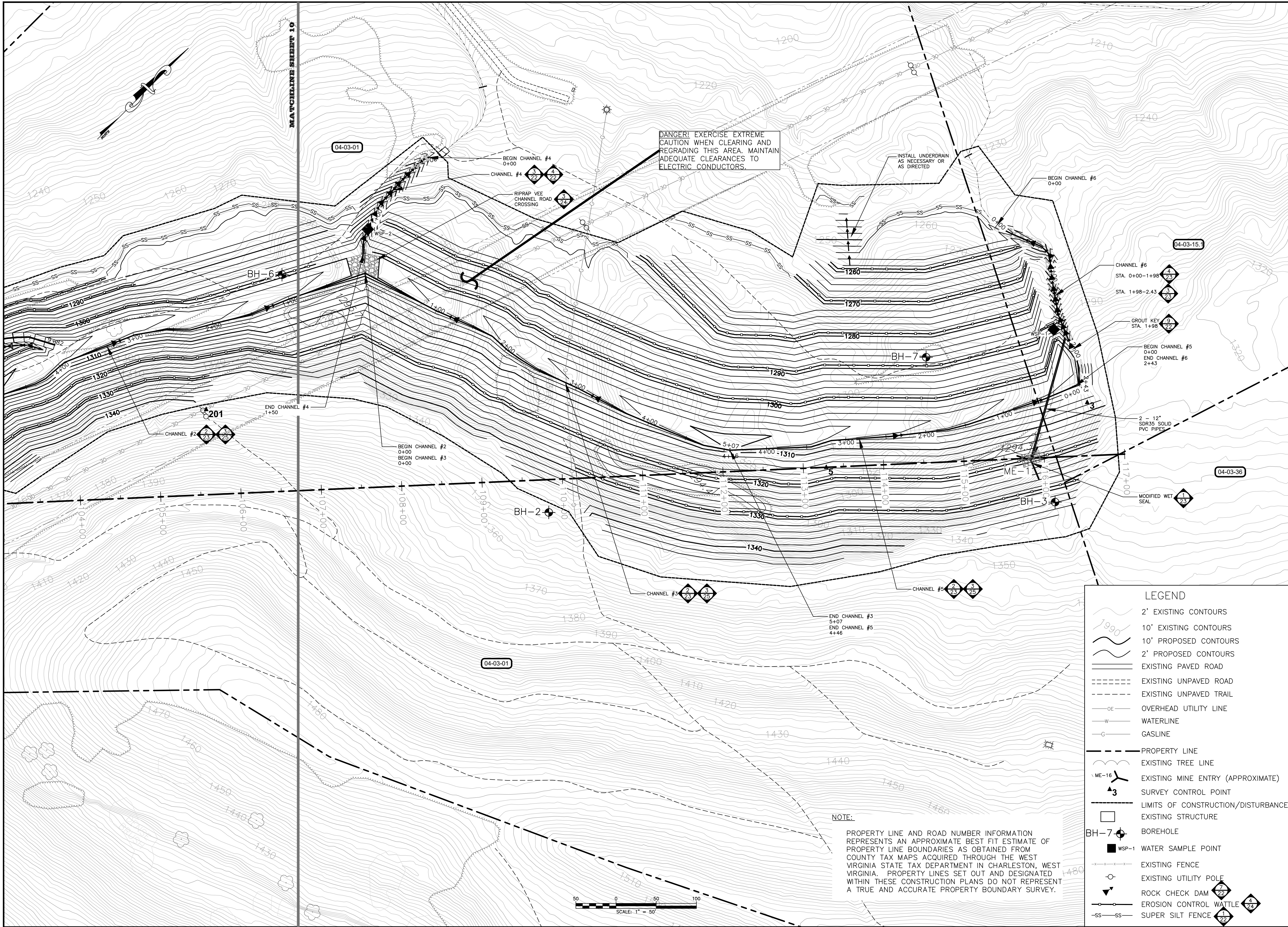
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	2' EXISTING CONTOURS
	10' EXISTING CONTOURS
	10' PROPOSED CONTOURS
	2' PROPOSED CONTOURS
	EXISTING PAVED ROAD
	EXISTING UNPAVED ROAD
	EXISTING UNPAVED TRAIL
	OVERHEAD UTILITY LINE
	WATERLINE
	GASLINE
	PROPERTY LINE
	EXISTING TREE LINE
	EXISTING MINE ENTRY (APPROXIMATE)
	SURVEY CONTROL POINT
	LIMITS OF CONSTRUCTION/DISTURBANCE
	EXISTING STRUCTURE
	BOREHOLE
	WATER SAMPLE POINT
	EXISTING FENCE
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	ROCK CHECK DAM
	EROSION CONTROL WATTLE
	SUPER SILT FENCE



No.	Date	By	Revision
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Date	Approved	Checked	Drawn	Designed
10.31.2014	WDB	JLL	BLP	HMM



DANGER! EXERCISE EXTREME CAUTION WHEN CLEARING AND REGRADING THIS AREA. MAINTAIN ADEQUATE CLEARANCES TO ELECTRIC CONDUCTORS.

INSTALL UNDERDRAIN AS NECESSARY OR AS DIRECTED

NOTE:
 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, WEST VIRGINIA. PROPERTY LINES SET OUT AND DESIGNATED WITHIN THESE CONSTRUCTION PLANS DO NOT REPRESENT A TRUE AND ACCURATE PROPERTY BOUNDARY SURVEY.

LEGEND

- 2' EXISTING CONTOURS
- 10' EXISTING CONTOURS
- 10' PROPOSED CONTOURS
- 2' PROPOSED CONTOURS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EXISTING UNPAVED TRAIL
- OVERHEAD UTILITY LINE
- WATERLINE
- GASLINE
- PROPERTY LINE
- EXISTING TREE LINE
- EXISTING MINE ENTRY (APPROXIMATE)
- SURVEY CONTROL POINT
- LIMITS OF CONSTRUCTION/DISTURBANCE
- EXISTING STRUCTURE
- BOREHOLE
- WATER SAMPLE POINT
- EXISTING FENCE
- EXISTING UTILITY POLE
- ROCK CHECK DAM
- EROSION CONTROL WATTLE
- SUPER SILT FENCE



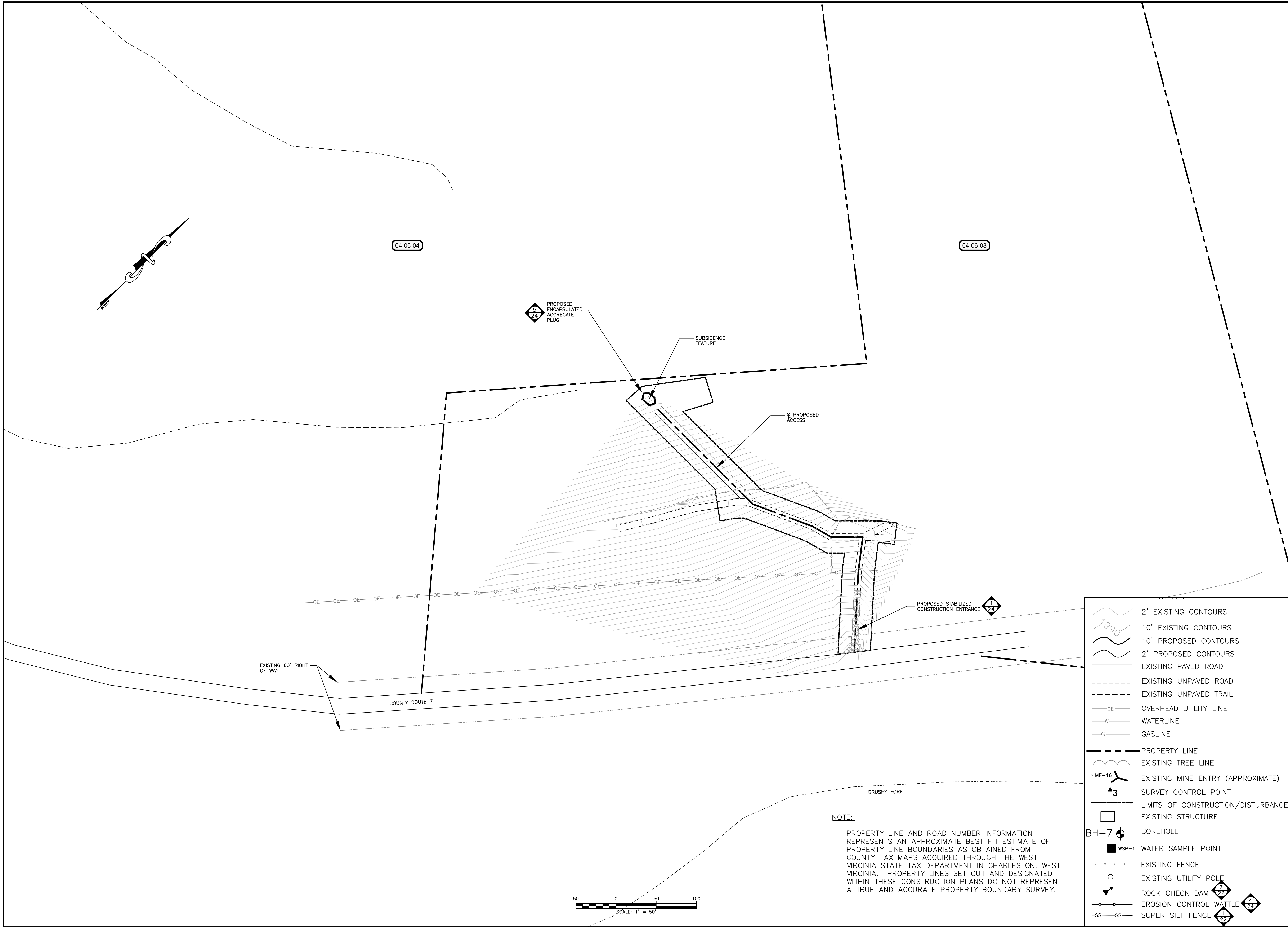
No.	Description	Date	By
1		04-09-2014	WDB
2			
3			
4			
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8			

Hatch Mott MacDonald
 2601 Cranberry Square
 Morgantown, West Virginia 26508

Drawn: BLP
 Checked: JLL
 Approved: WDB
 Date: 04-09-2014

WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS
 ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
**PEPPER PORTALS AND DRAINAGE
 PROPOSED PLAN WITH TAX MAP PARCEL OVERLAY**

Job No. 319151 / 11
 B/O 11 / Total 25



NOTE:
 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, WEST VIRGINIA. PROPERTY LINES SET OUT AND DESIGNATED WITHIN THESE CONSTRUCTION PLANS DO NOT REPRESENT A TRUE AND ACCURATE PROPERTY BOUNDARY SURVEY.

LEGEND	
	2' EXISTING CONTOURS
	10' EXISTING CONTOURS
	10' PROPOSED CONTOURS
	2' PROPOSED CONTOURS
	EXISTING PAVED ROAD
	EXISTING UNPAVED ROAD
	EXISTING UNPAVED TRAIL
	OVERHEAD UTILITY LINE
	WATERLINE
	GASLINE
	PROPERTY LINE
	EXISTING TREE LINE
	EXISTING MINE ENTRY (APPROXIMATE)
	SURVEY CONTROL POINT
	LIMITS OF CONSTRUCTION/DISTURBANCE
	EXISTING STRUCTURE
	BOREHOLE
	WATER SAMPLE POINT
	EXISTING FENCE
	EXISTING UTILITY POLE
	ROCK CHECK DAM
	EROSION CONTROL WATTLE
	SUPER SILT FENCE

Hatch Mott MacDonald
 2601 Cranberry Square
 Morgantown, West Virginia 26508

101 Cambridge Place
 Bridgeport, West Virginia 26330

No.	Description	Date	By
1			
2			
3			
4			
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Designed HMM	Drawn BLP	Checked JLL	Approved WDB	Date 10.31.2014
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WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS
 ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
PEPPER PORTALS AND DRAINAGE
 PROPOSED PLAN WITH TAX MAP PARCEL OVERLAY - MORENO PROPERTY

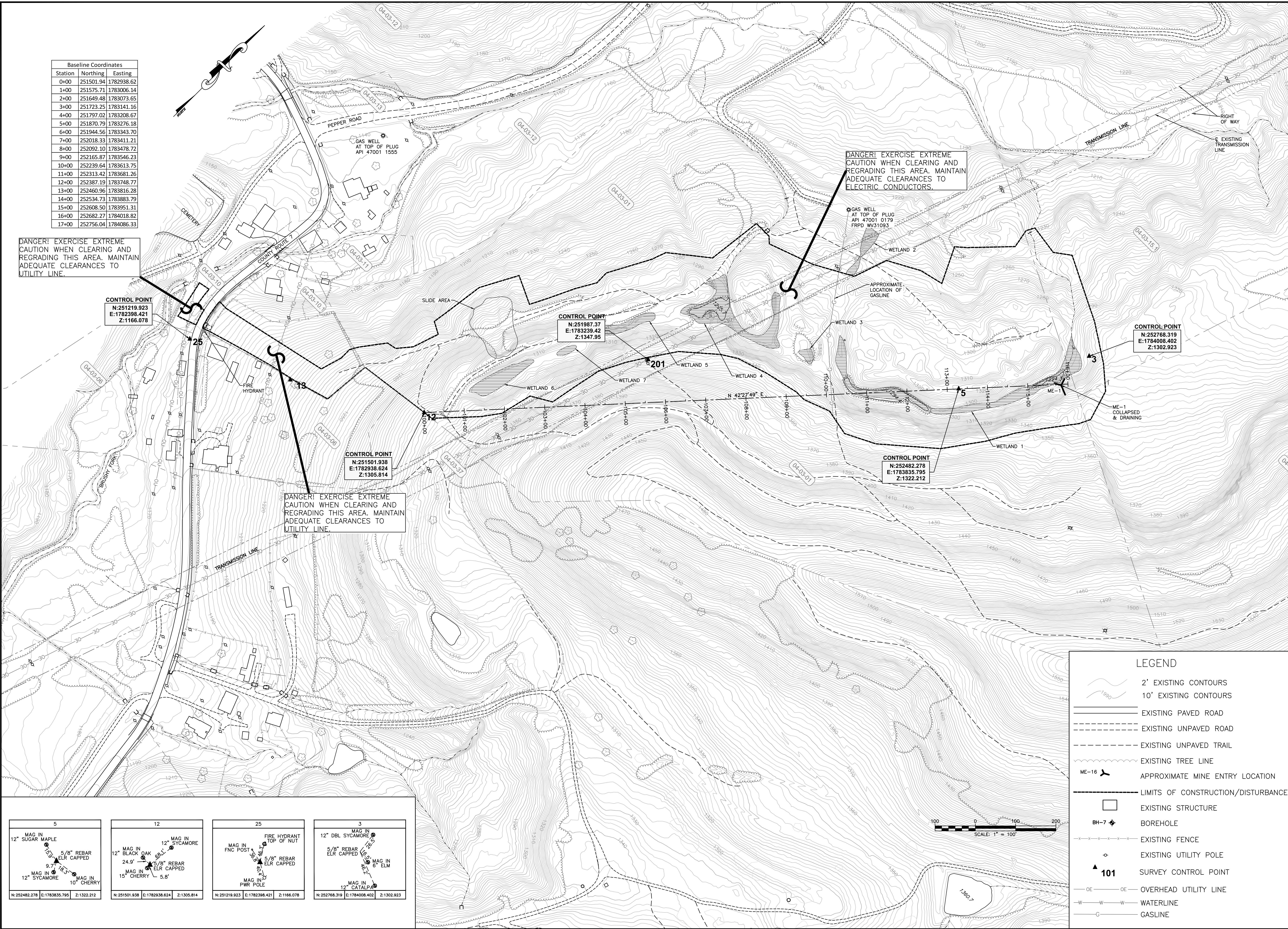
Job No.	319151	12
B/O	12	Total 25

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1+00	251575.71	1783006.14
2+00	251649.48	1783073.65
3+00	251723.25	1783141.16
4+00	251797.02	1783208.67
5+00	251870.79	1783276.18
6+00	251944.56	1783343.70
7+00	252018.33	1783411.21
8+00	252092.10	1783478.72
9+00	252165.87	1783546.23
10+00	252239.64	1783613.75
11+00	252313.42	1783681.26
12+00	252387.19	1783748.77
13+00	252460.96	1783816.28
14+00	252534.73	1783883.79
15+00	252608.50	1783951.31
16+00	252682.27	1784018.82
17+00	252756.04	1784086.33

DANGER! EXERCISE EXTREME CAUTION WHEN CLEARING AND REGRADING THIS AREA. MAINTAIN ADEQUATE CLEARANCES TO UTILITY LINE.

DANGER! EXERCISE EXTREME CAUTION WHEN CLEARING AND REGRADING THIS AREA. MAINTAIN ADEQUATE CLEARANCES TO ELECTRIC CONDUCTORS.

DANGER! EXERCISE EXTREME CAUTION WHEN CLEARING AND REGRADING THIS AREA. MAINTAIN ADEQUATE CLEARANCES TO UTILITY LINE.



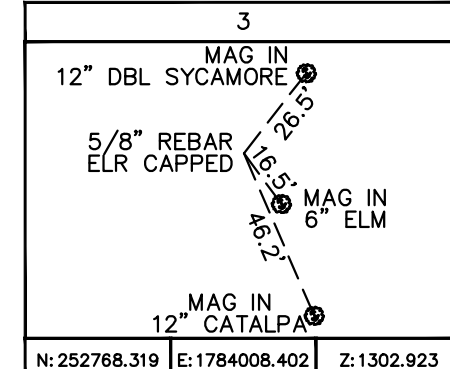
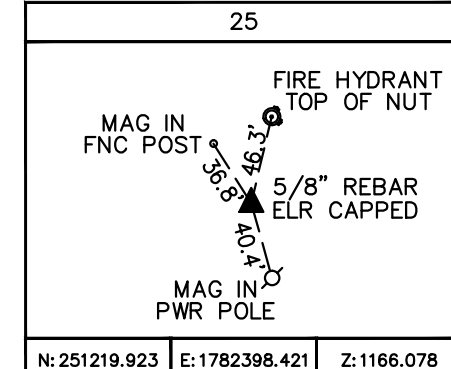
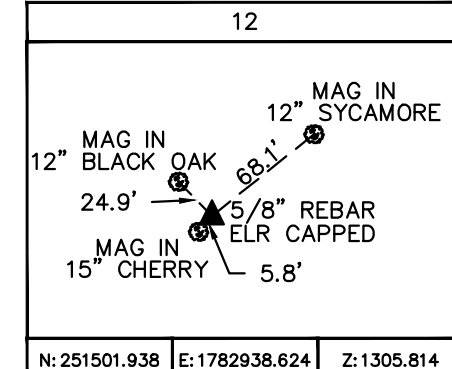
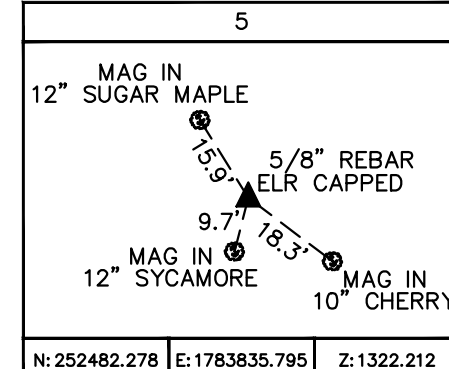
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CONTROL POINT
N:251987.37
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CONTROL POINT
N:251501.938
E:1782938.624
Z:1305.814

CONTROL POINT
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CONTROL POINT
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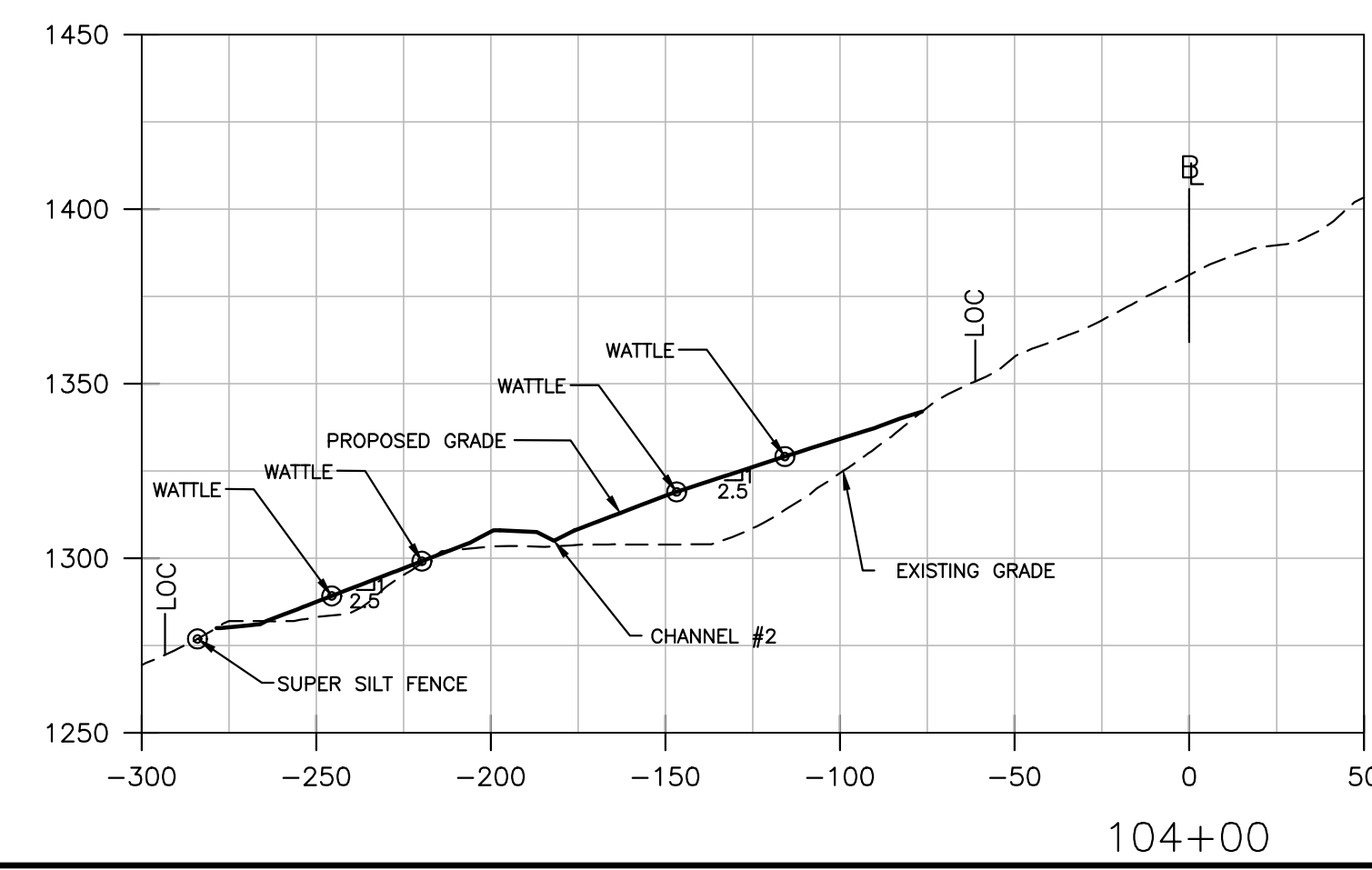
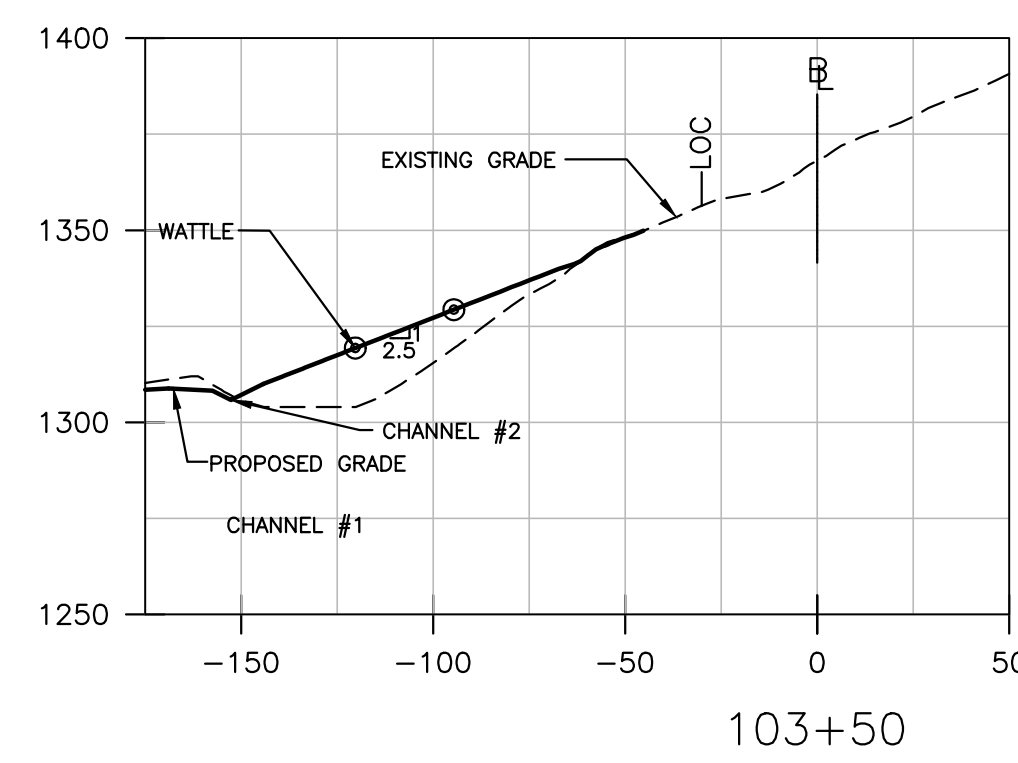
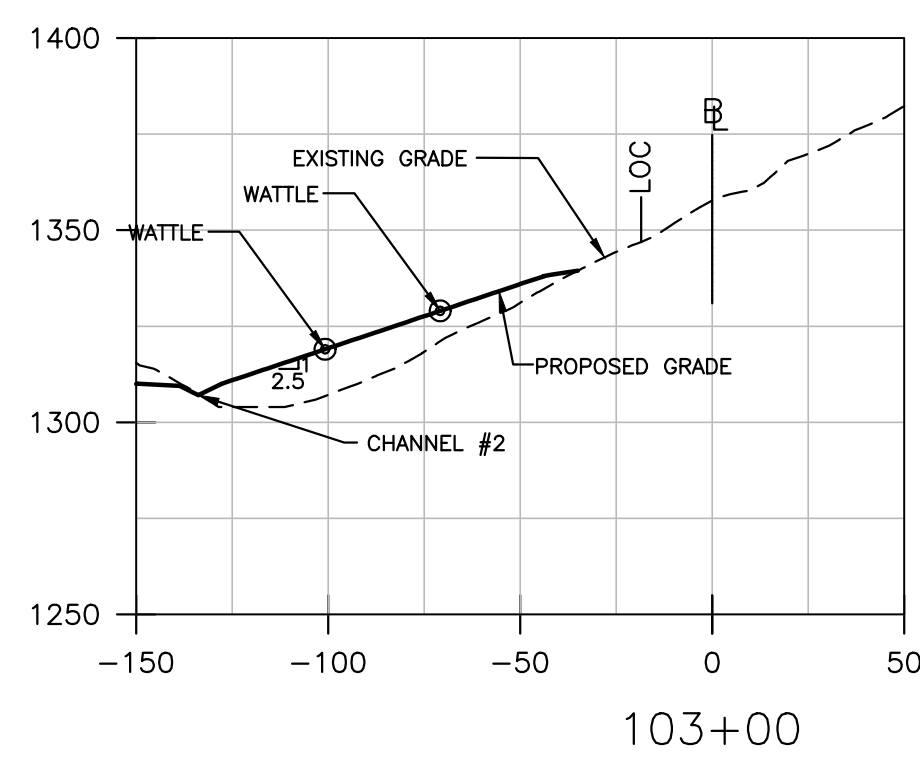
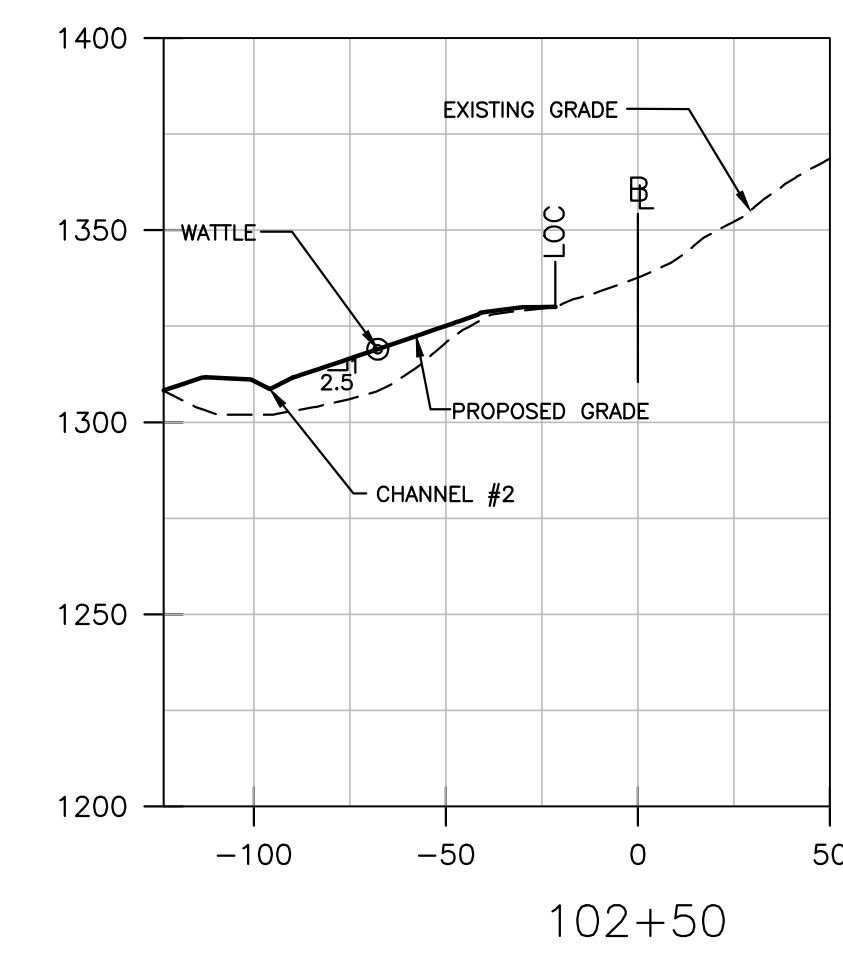
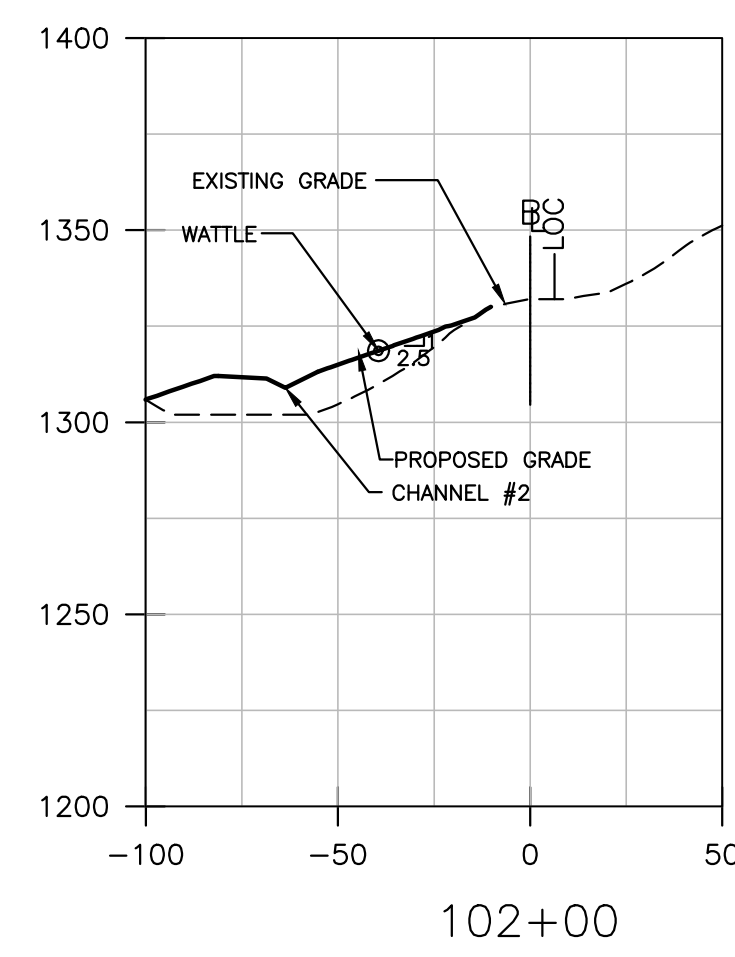
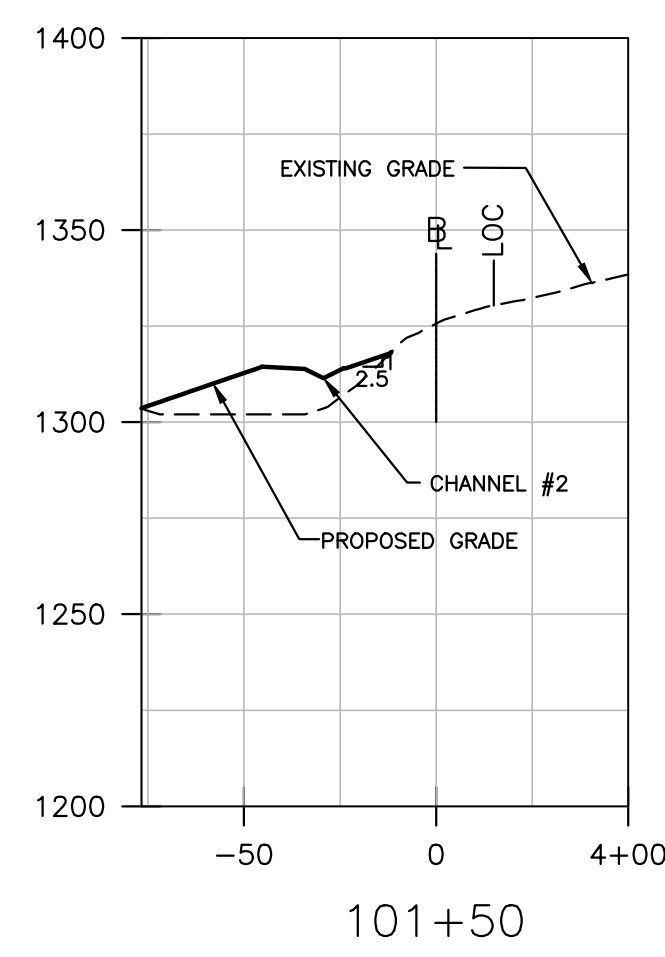
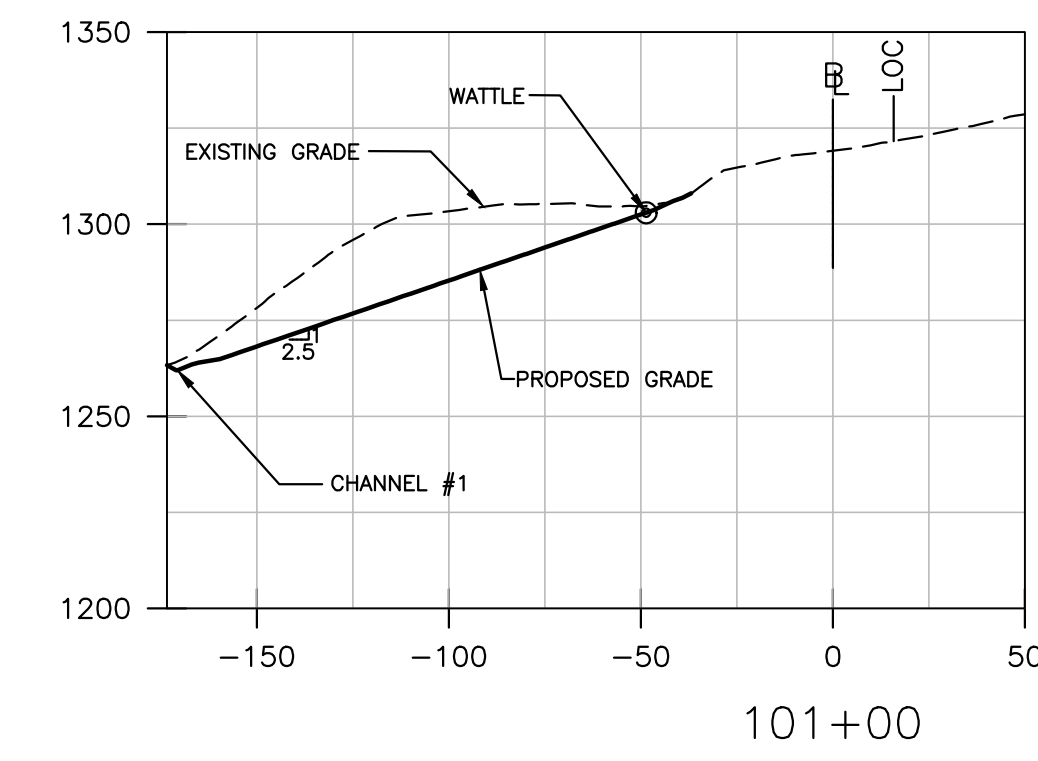
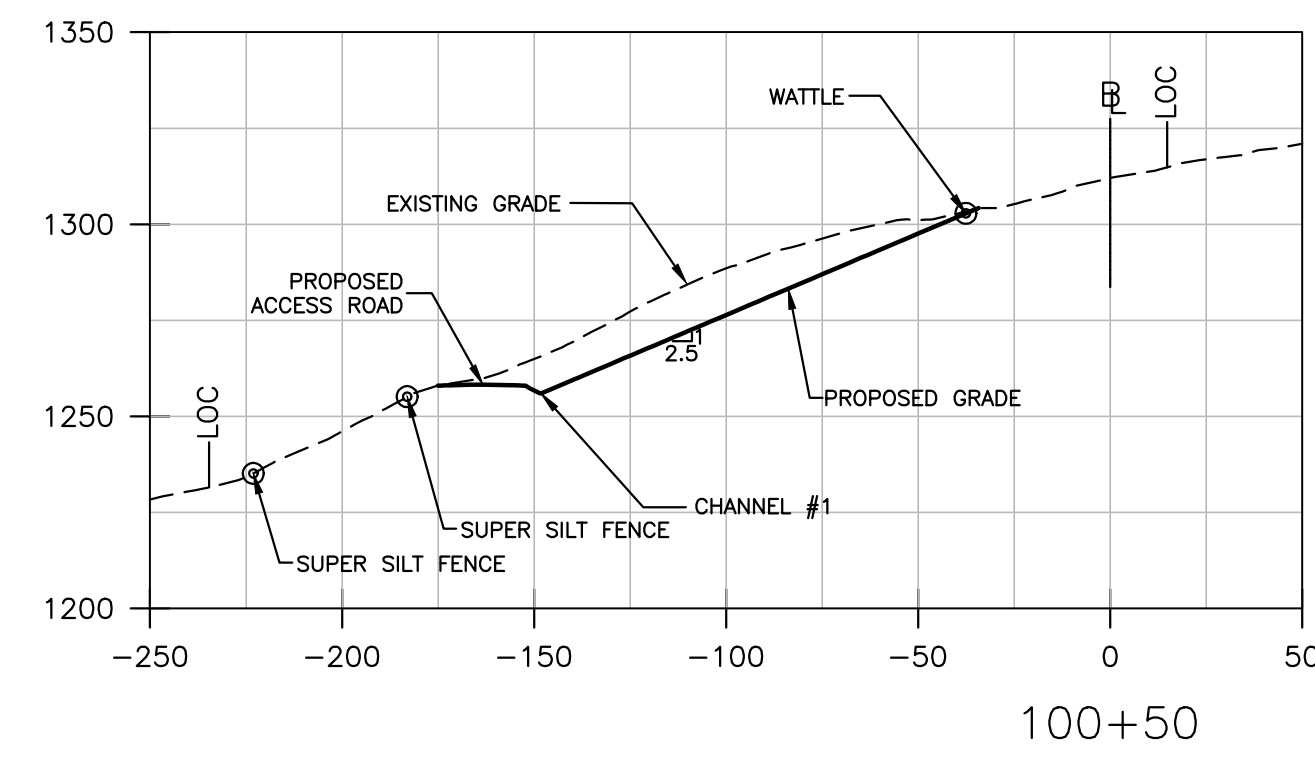
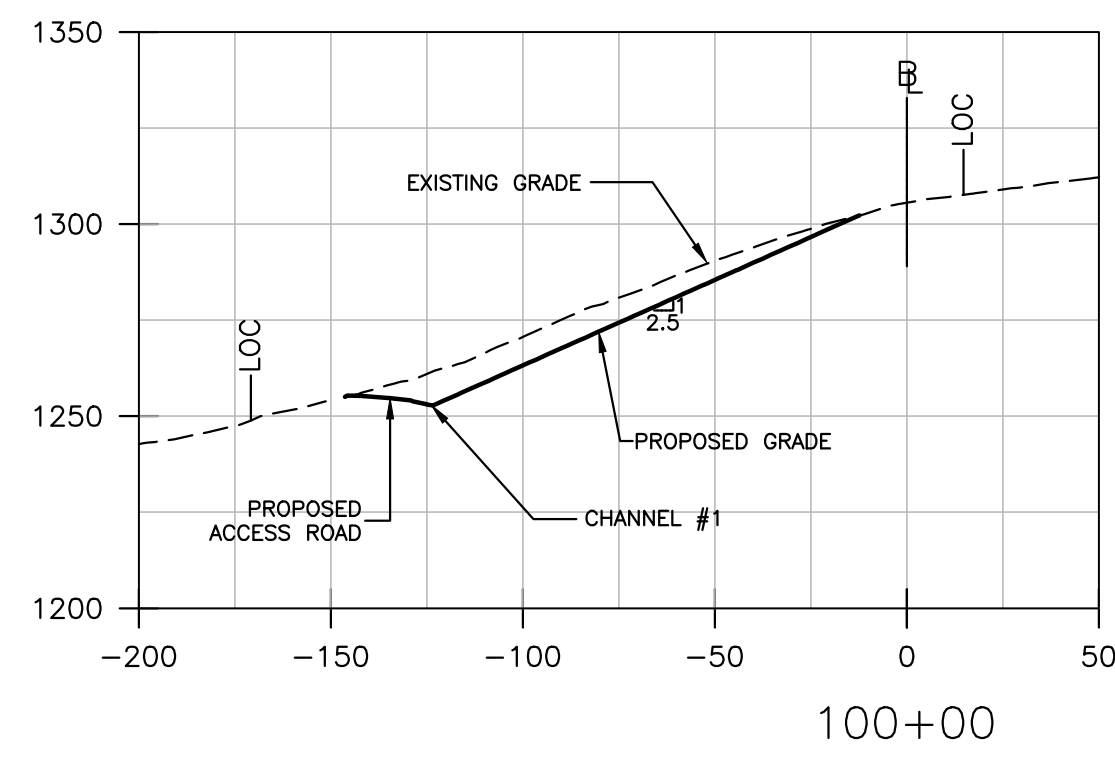
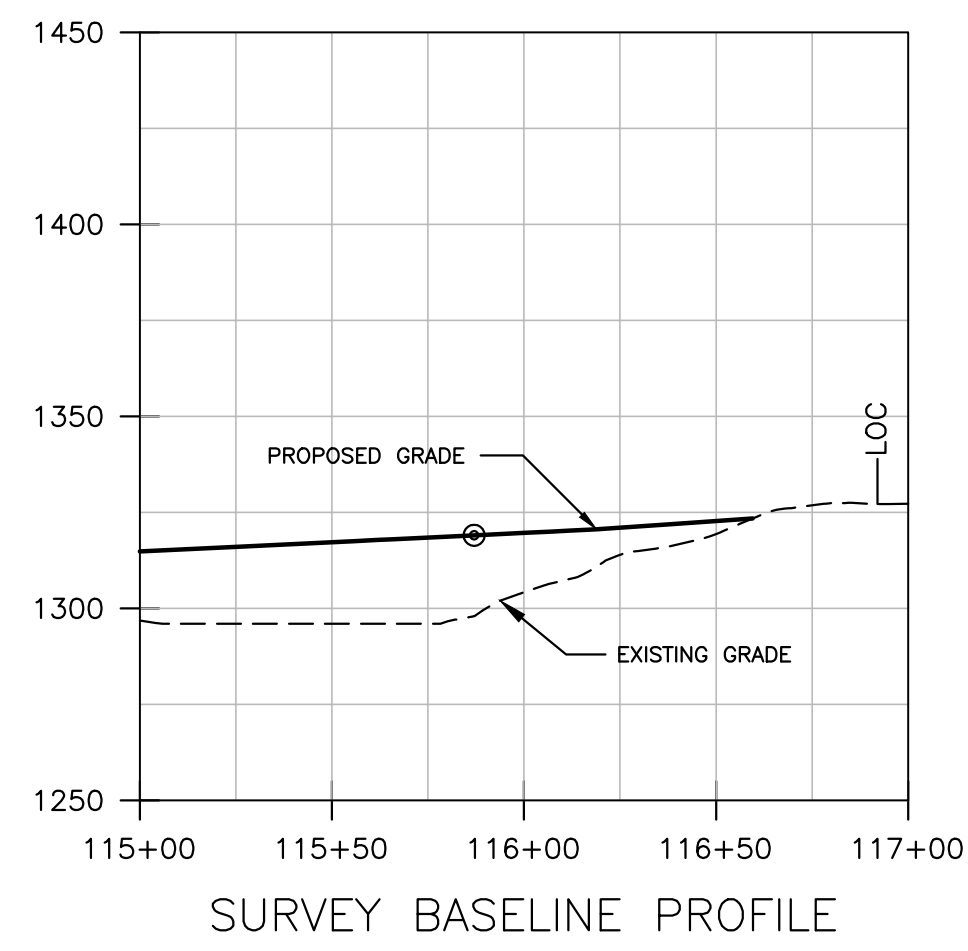
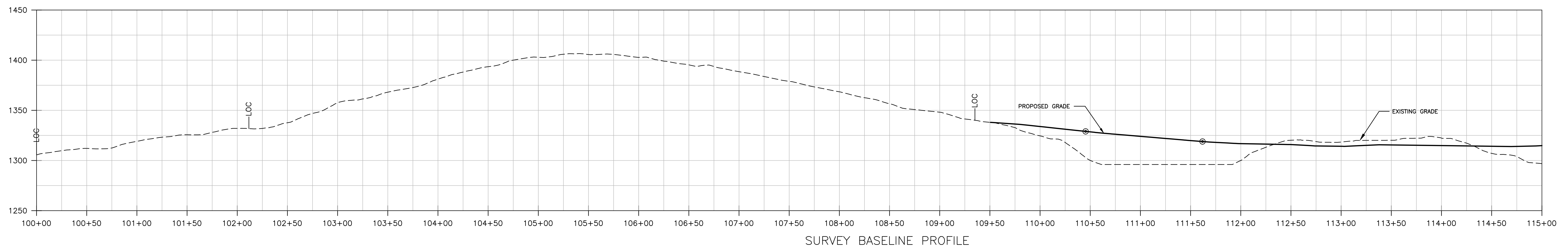
LEGEND	
	2' EXISTING CONTOURS
	10' EXISTING CONTOURS
	EXISTING PAVED ROAD
	EXISTING UNPAVED ROAD
	EXISTING UNPAVED TRAIL
	EXISTING TREE LINE
	APPROXIMATE MINE ENTRY LOCATION
	LIMITS OF CONSTRUCTION/DISTURBANCE
	EXISTING STRUCTURE
	BOREHOLE
	EXISTING FENCE
	EXISTING UTILITY POLE
	SURVEY CONTROL POINT
	OVERHEAD UTILITY LINE
	WATERLINE
	GASLINE

No.	Description	Date	By
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Hatch Mott MacDonald
2601 Cranberry Square
Martinsburg, West Virginia 26508

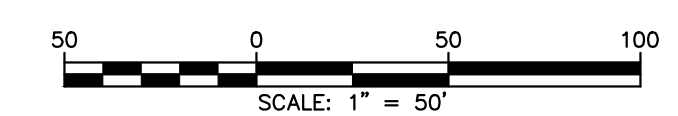
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Checked: JLL
Drawn: BLP
Designed: HMM

Date: 10.31.2014



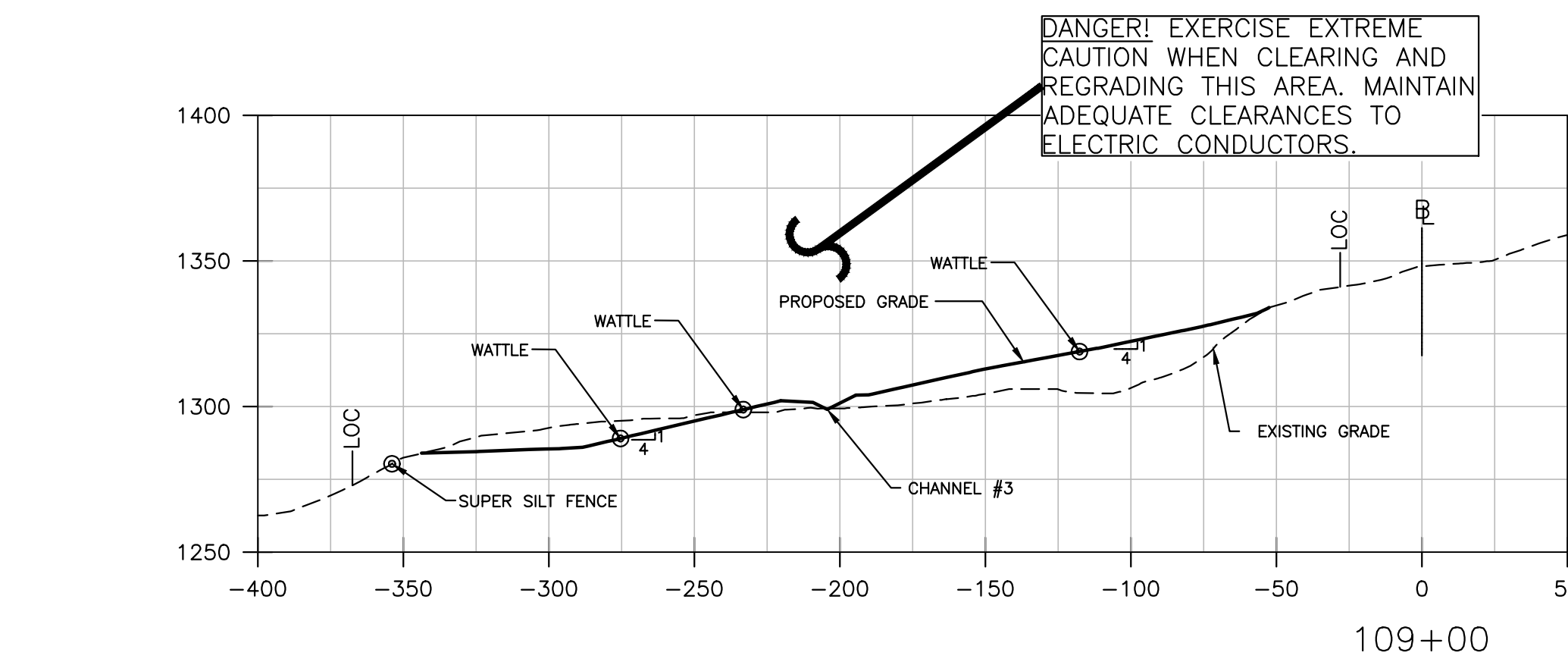
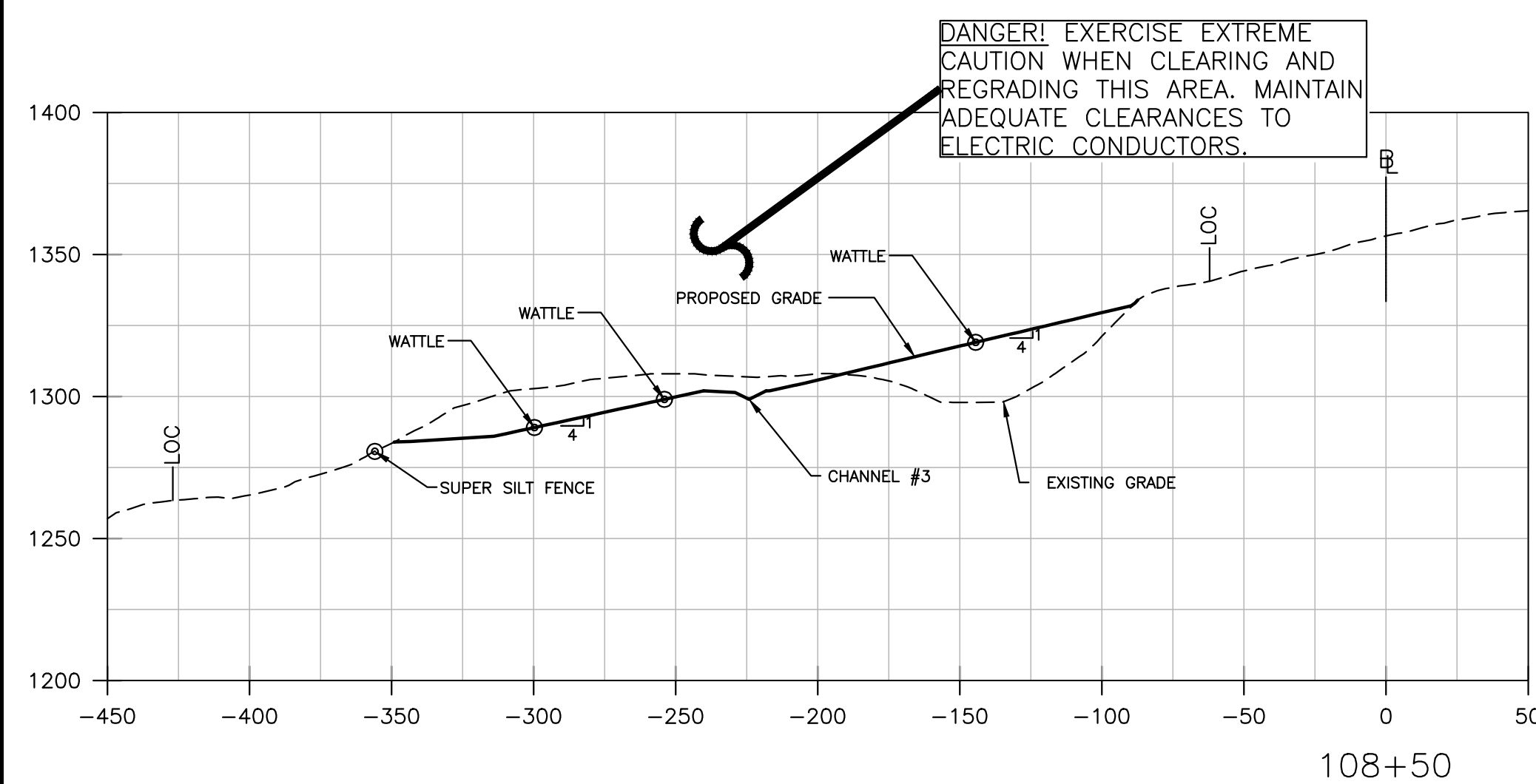
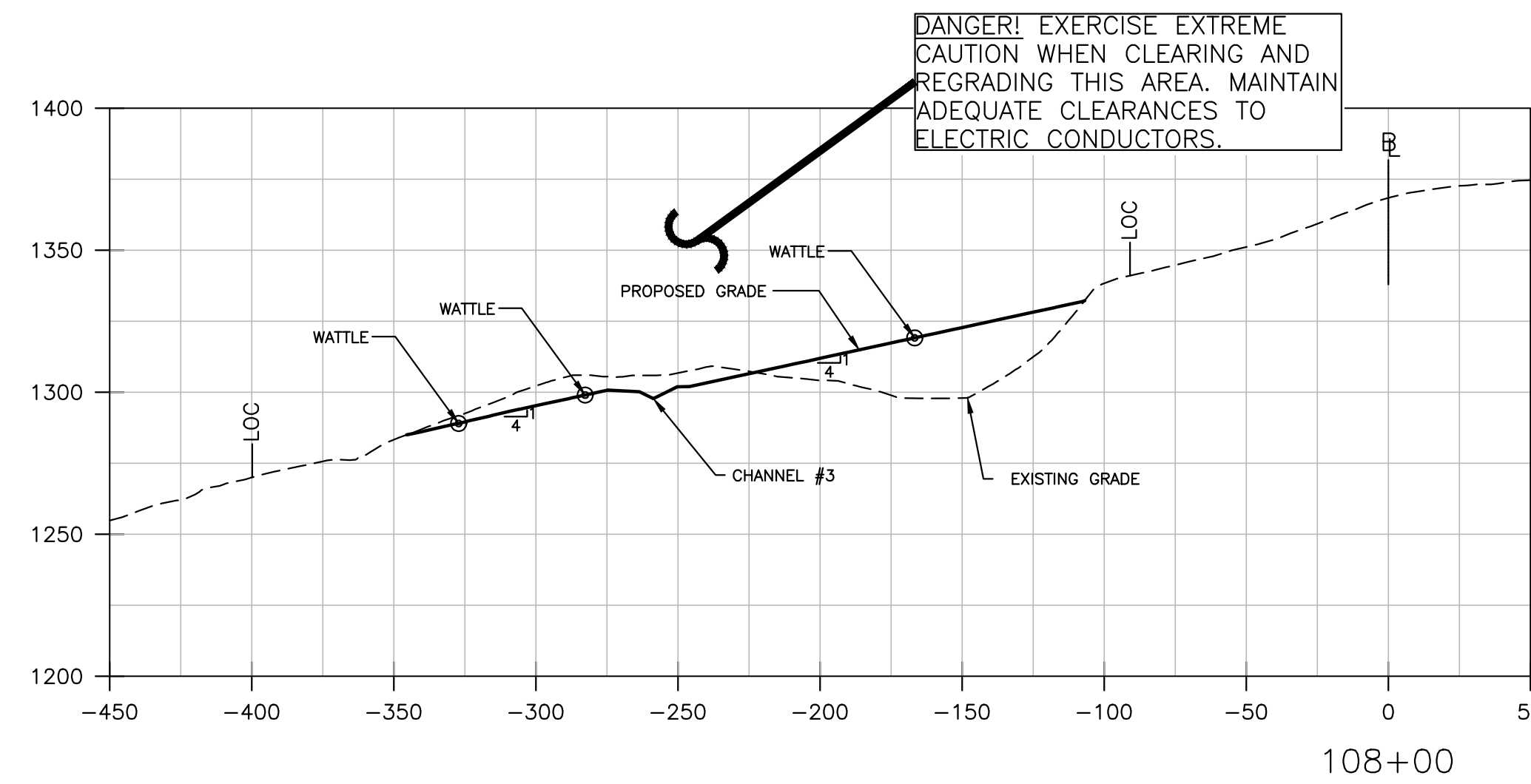
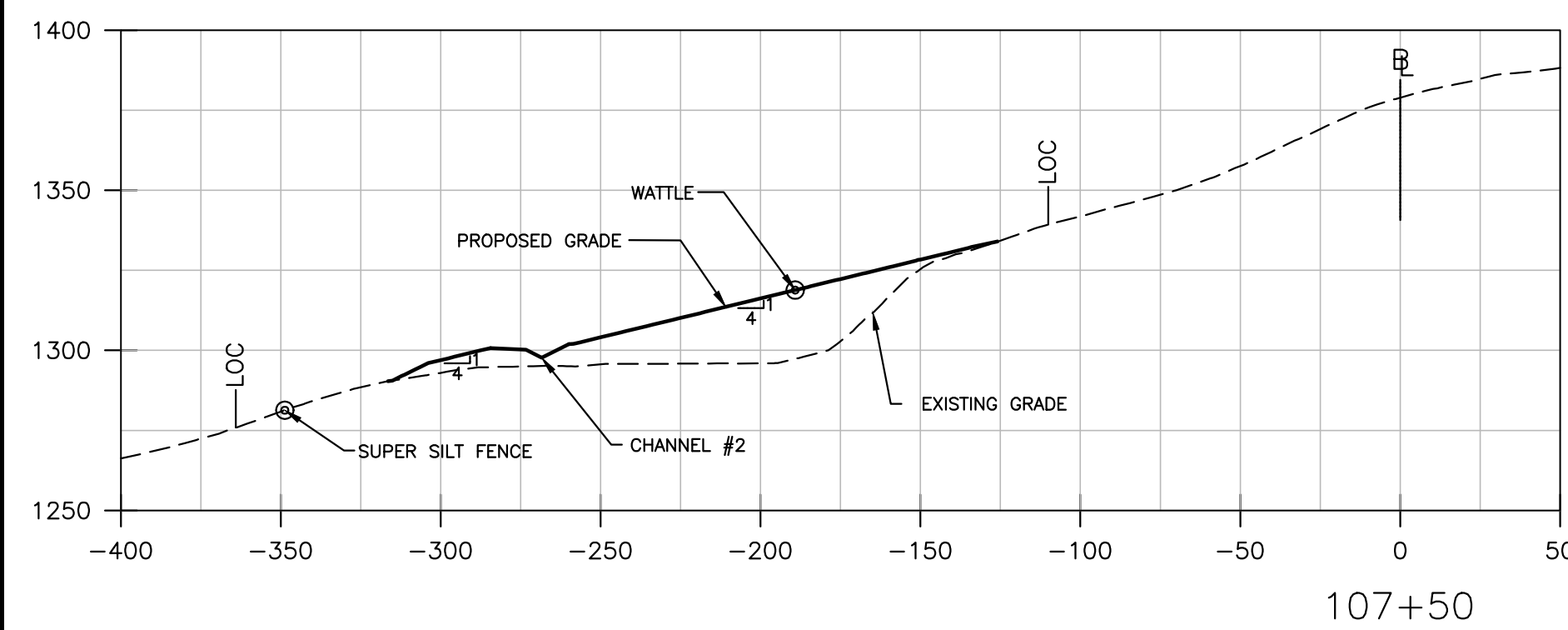
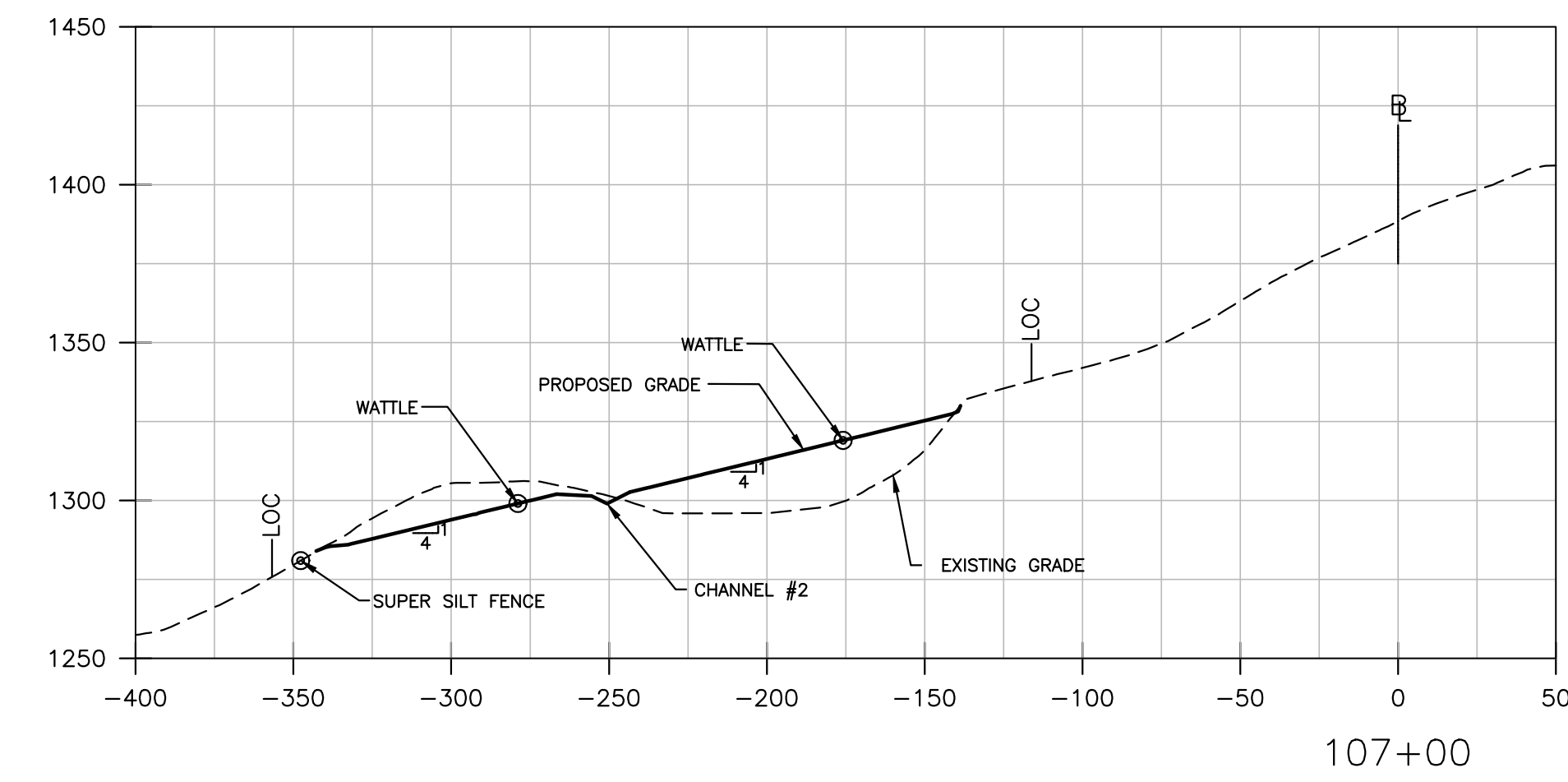
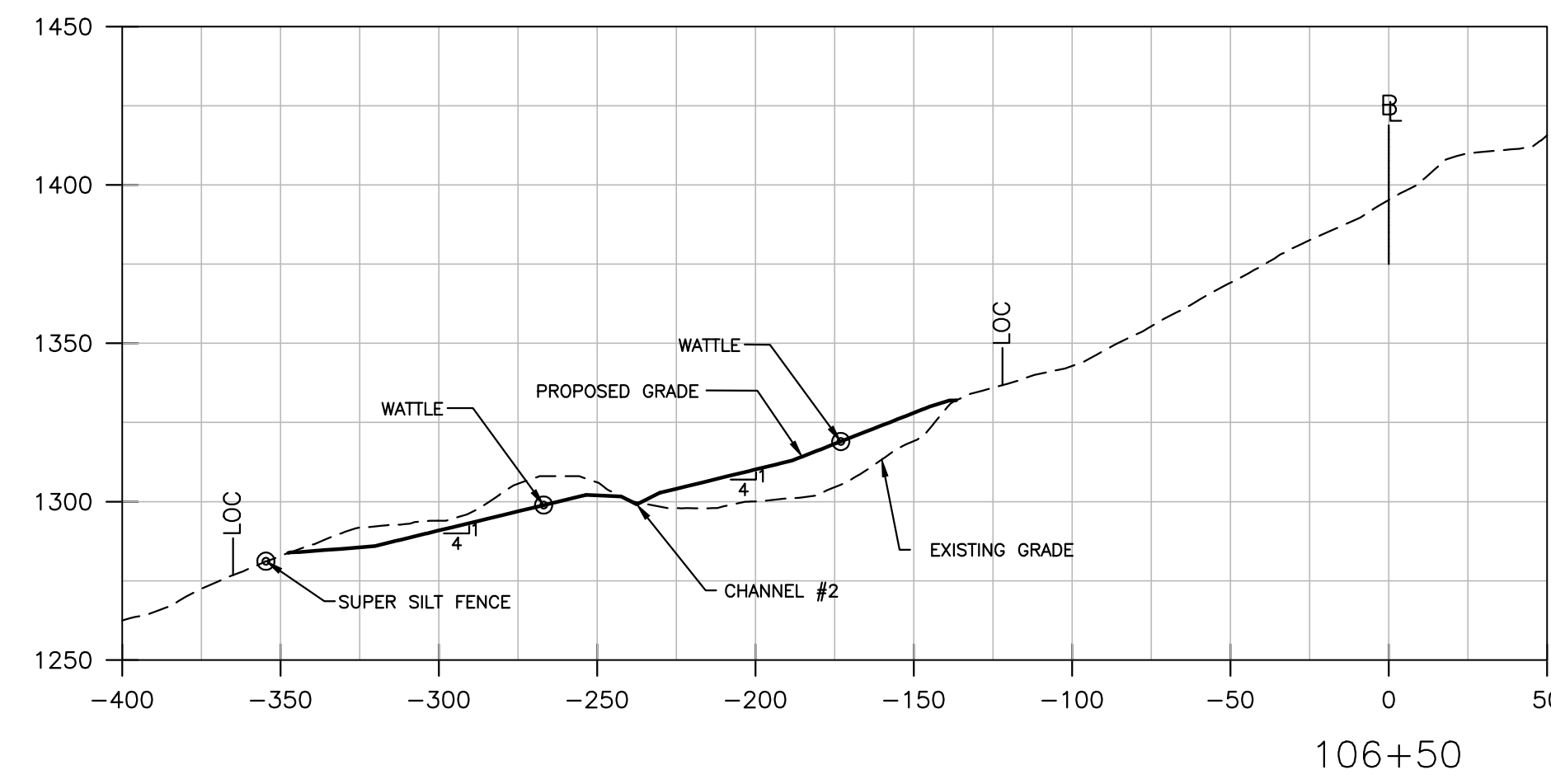
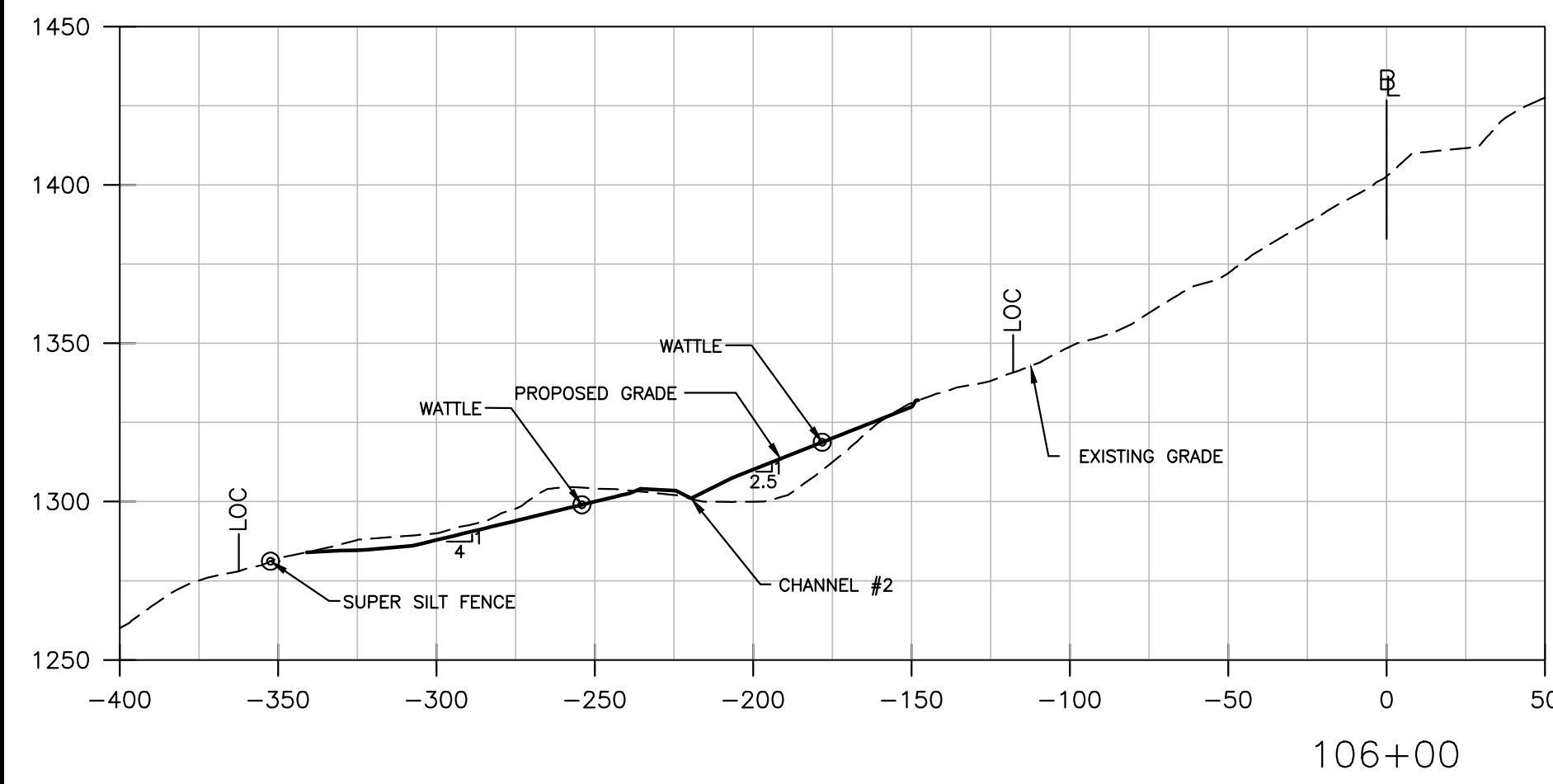
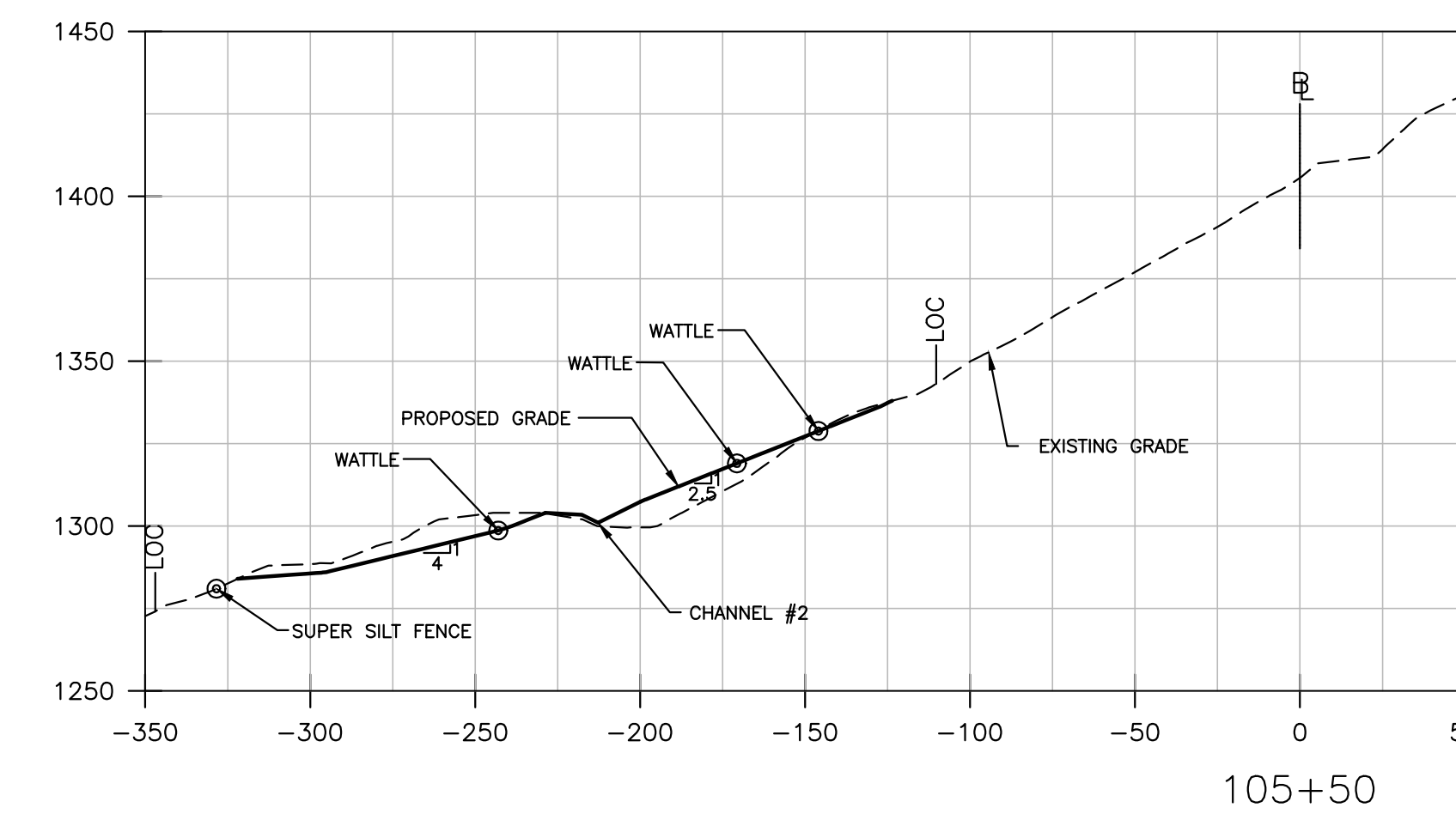
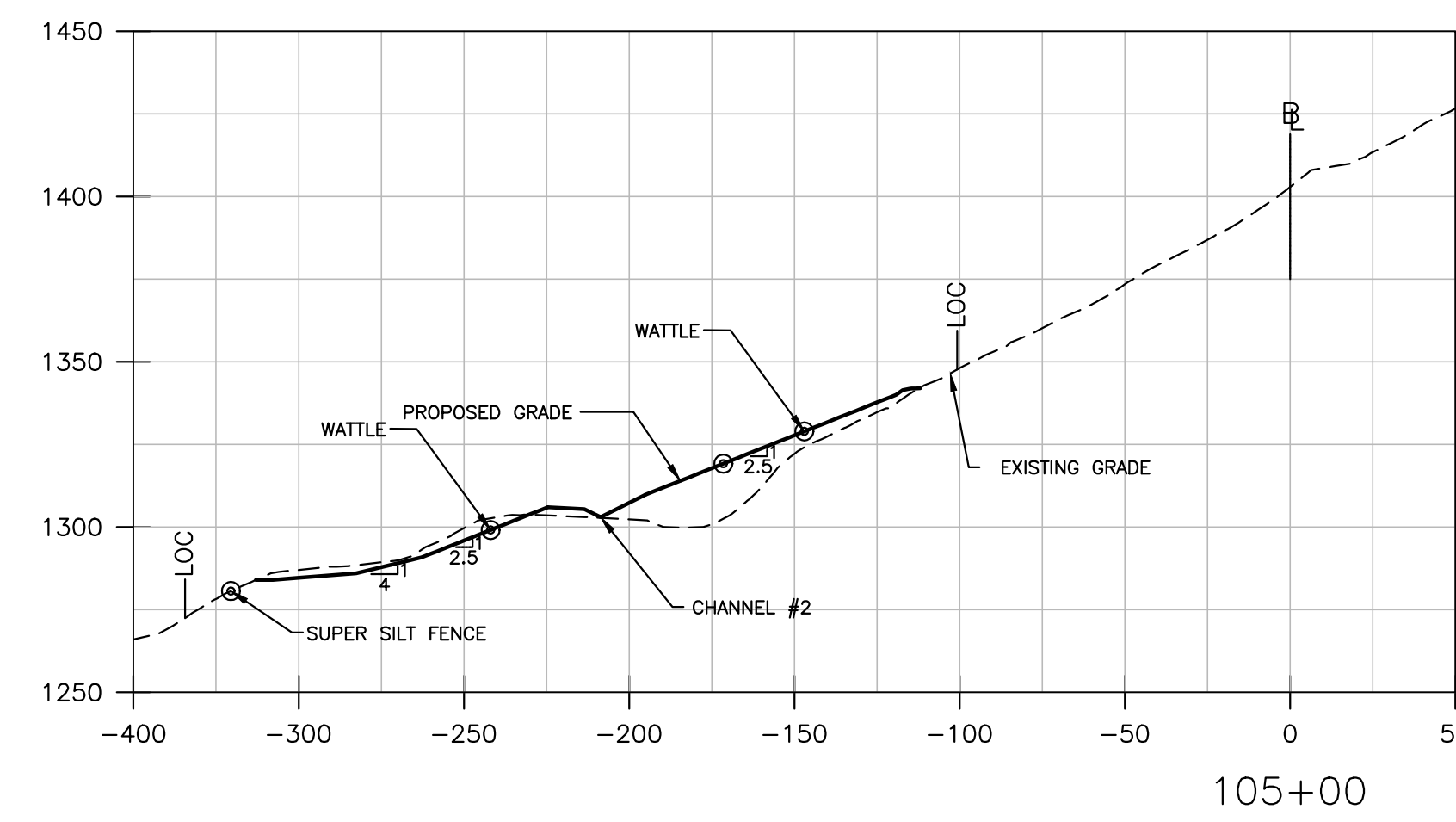
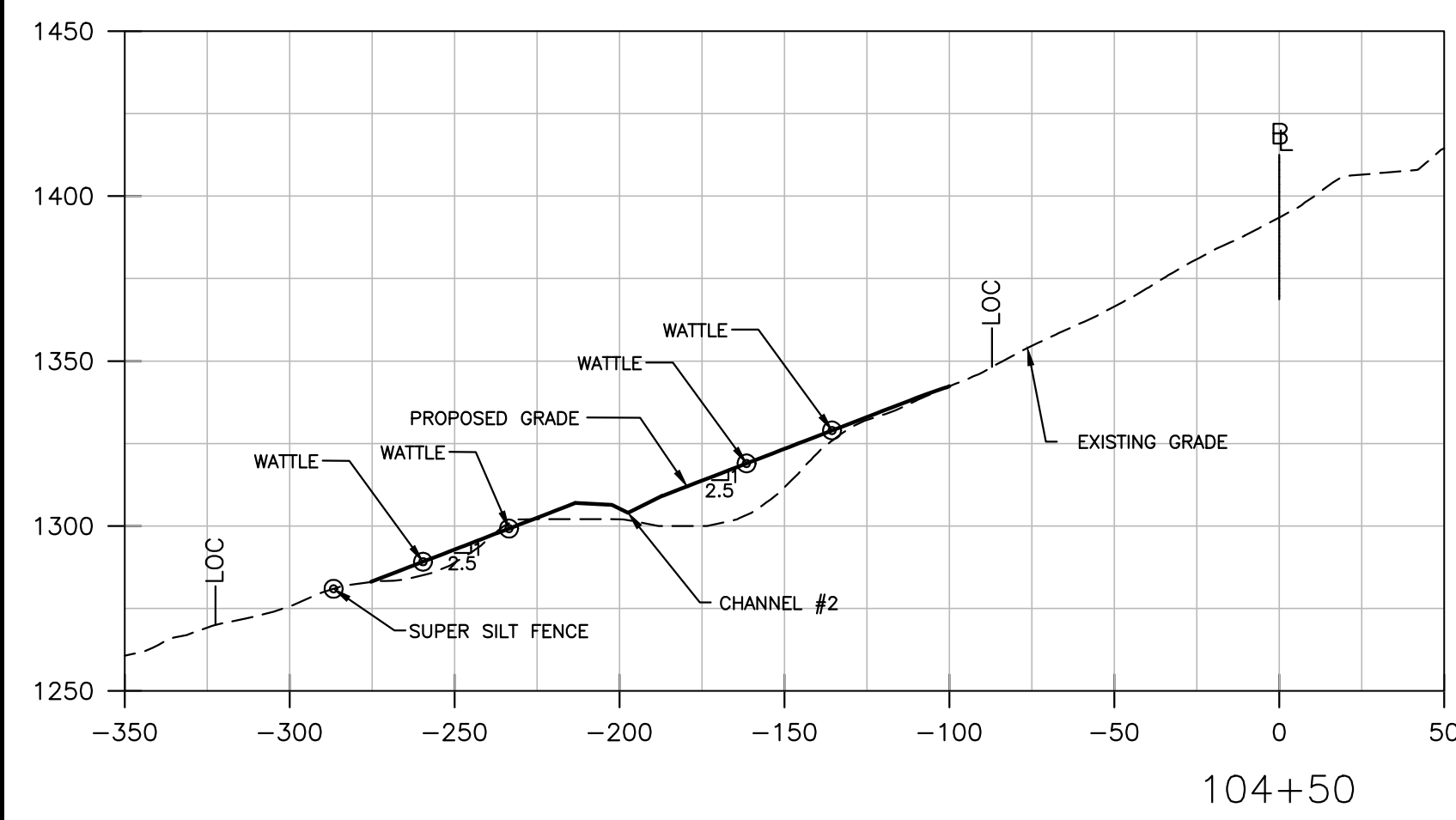
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LOC - LIMITS OF CONSTRUCTION
 EB - BASELINE



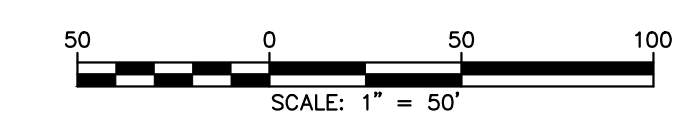
No.	Description	Revision	Date	By
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1				

 Hatch Mott MacDonald 2601 Cranberry Square Morgantown, West Virginia 26508	Checked: JLL Drawn: SNC Designed: HMM	Approved: WDB	Date: 04.09.2014
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~LEGEND~

LOC	- LIMITS OF CONSTRUCTION
EL	- BASELINE



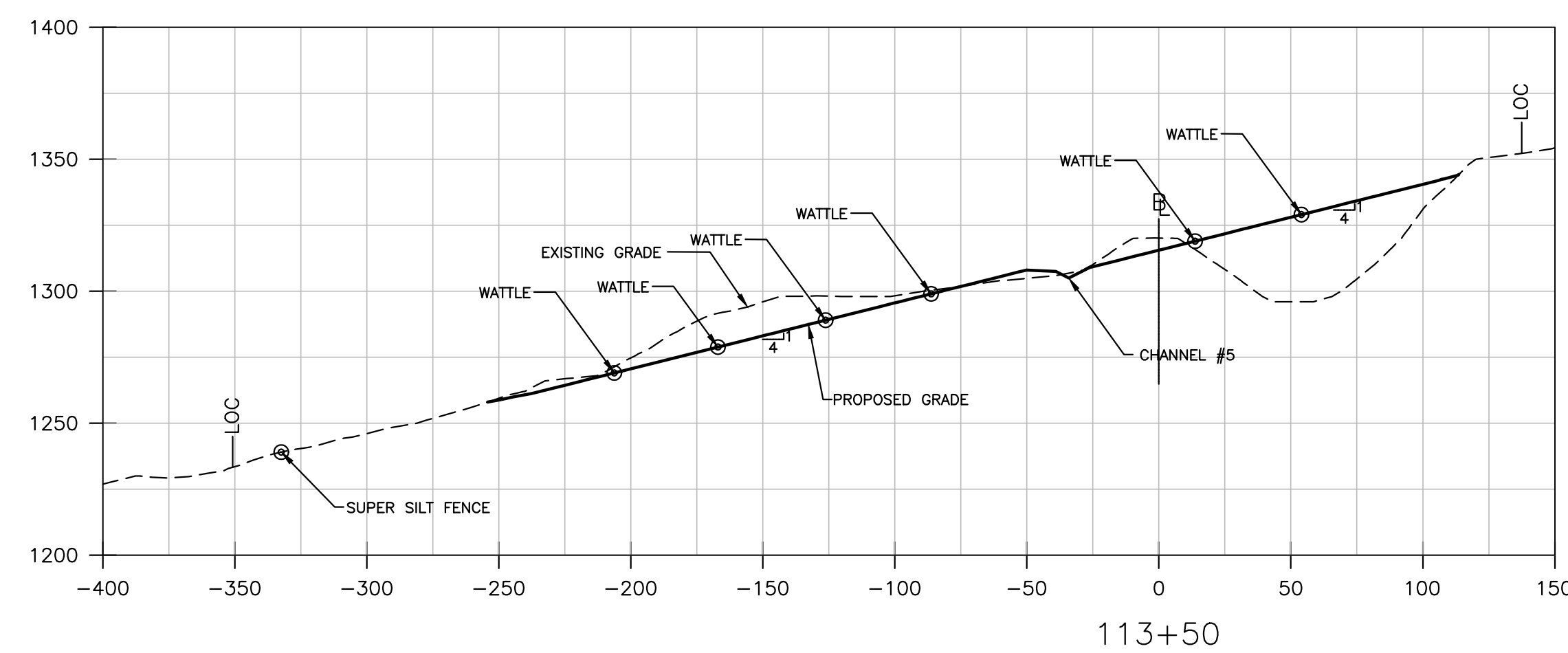
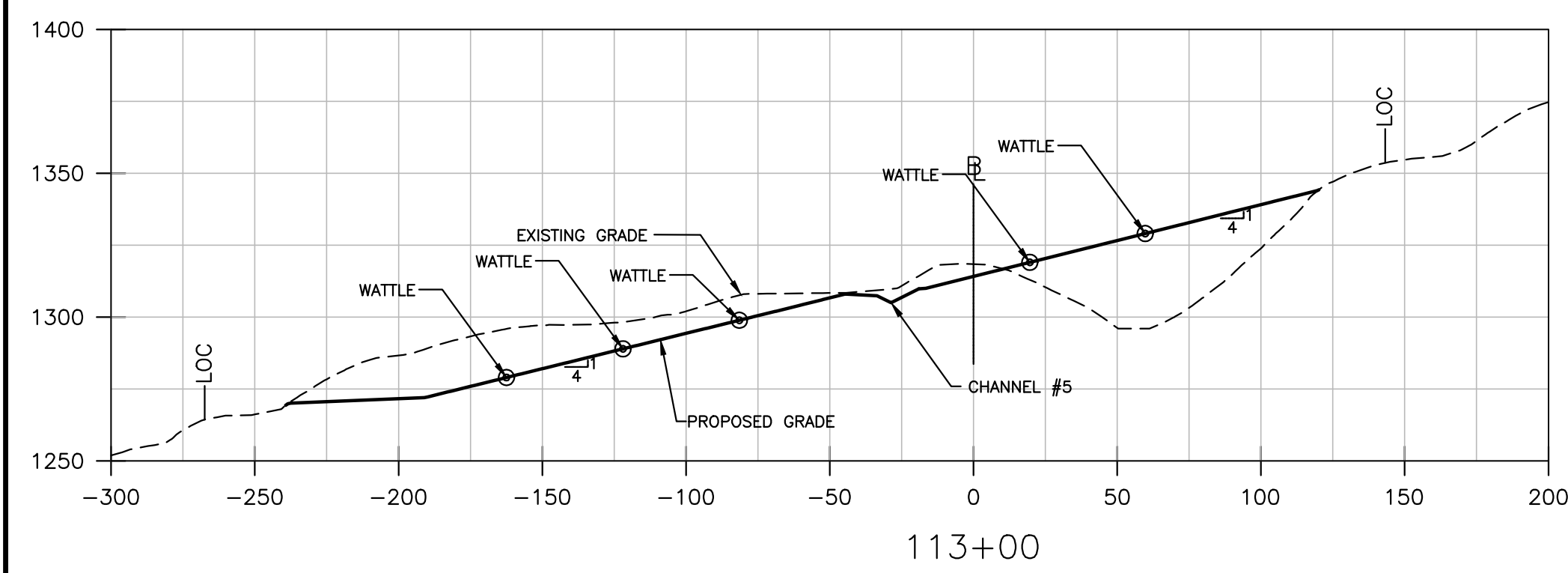
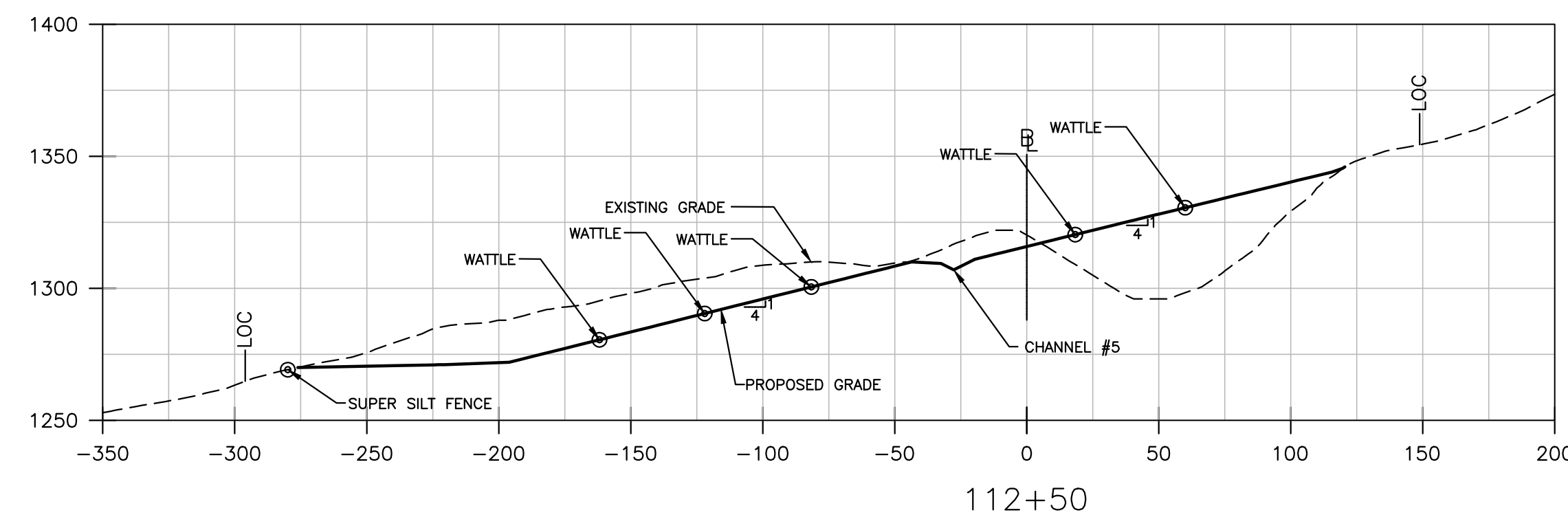
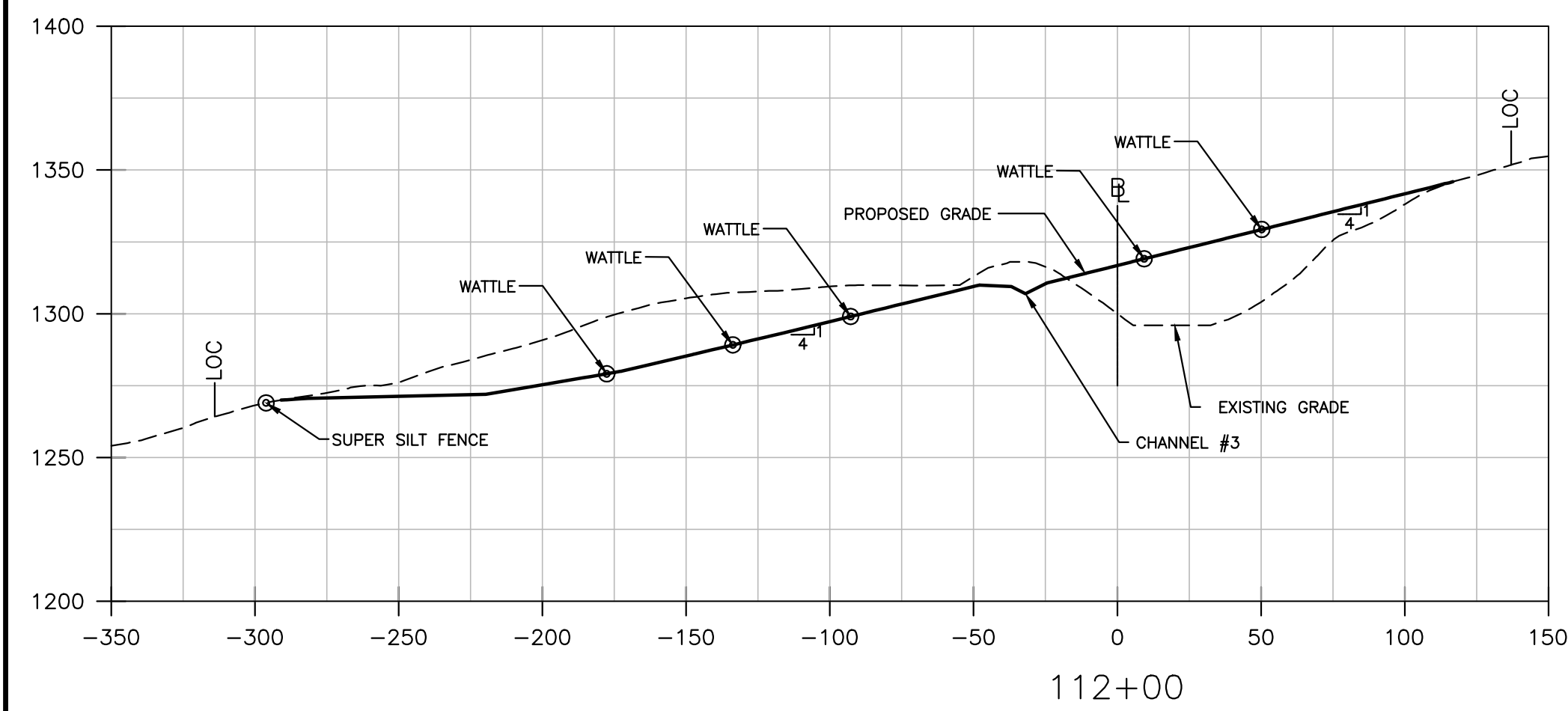
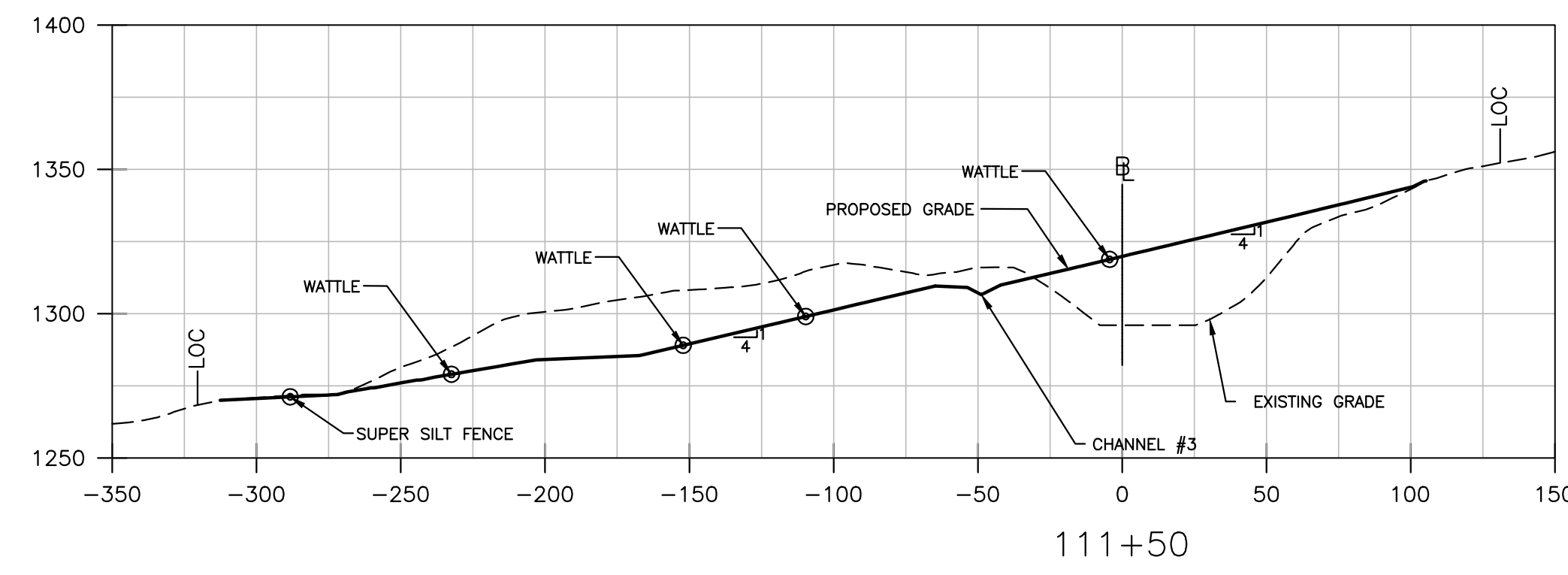
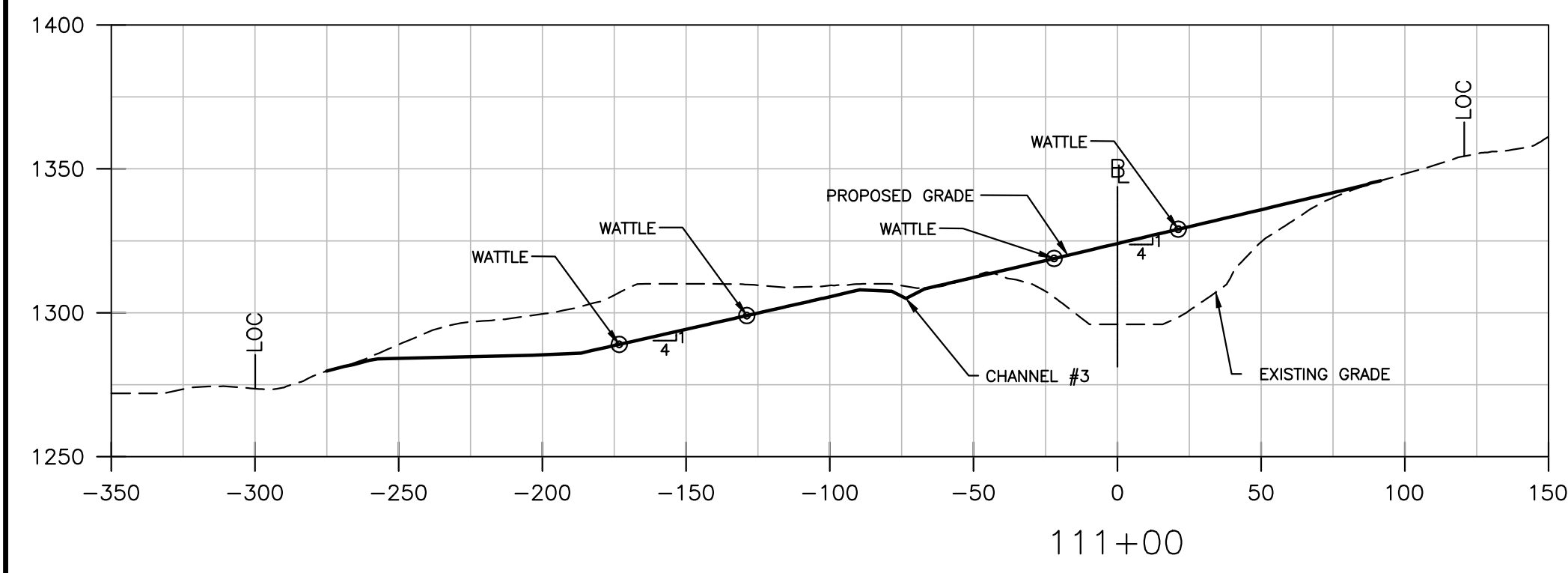
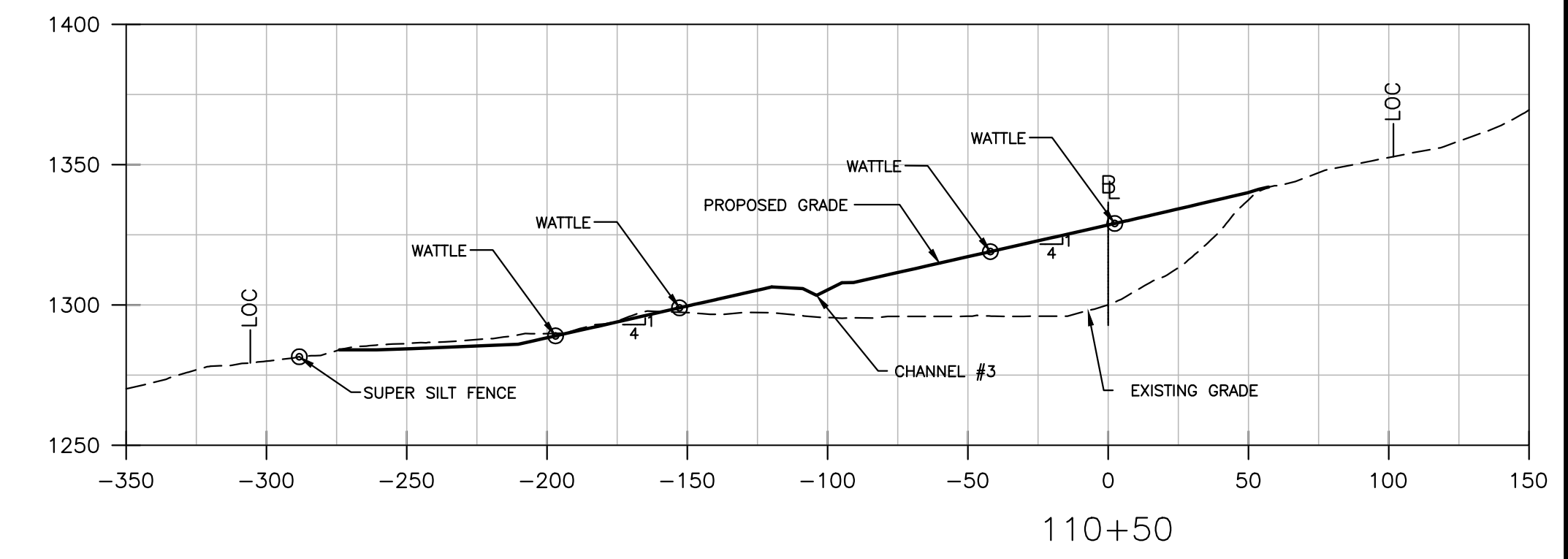
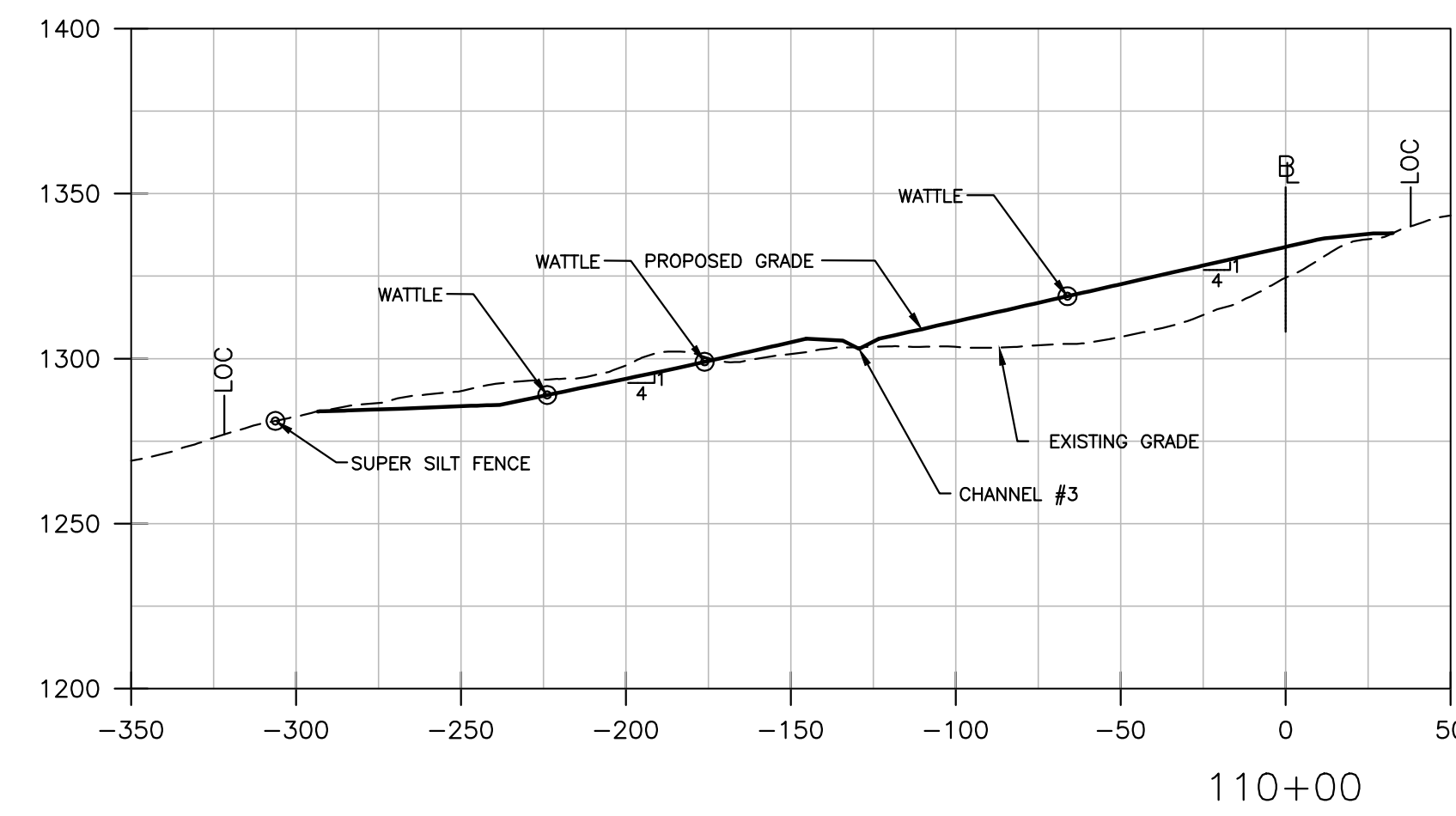
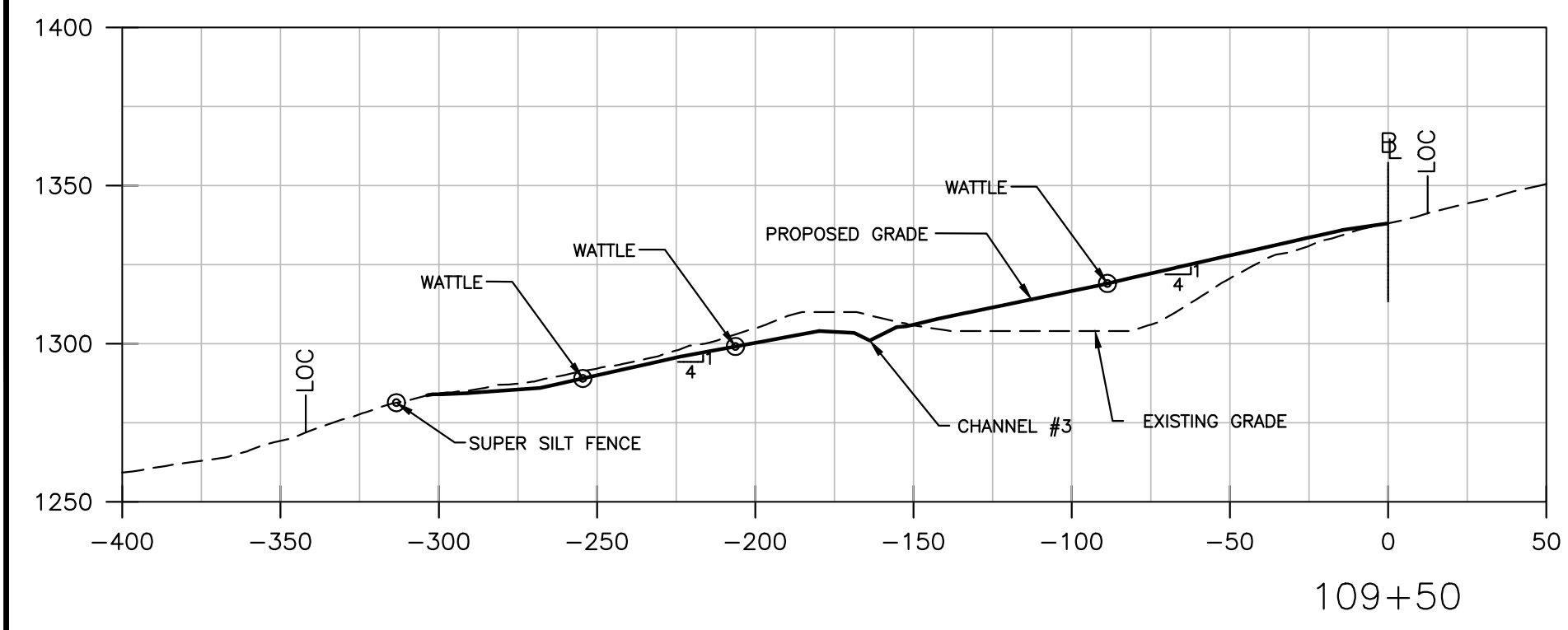
No.	Description	Date	By
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Hatch Mott MacDonald
 2601 Cranberry Square
 Morgantown, West Virginia 26508

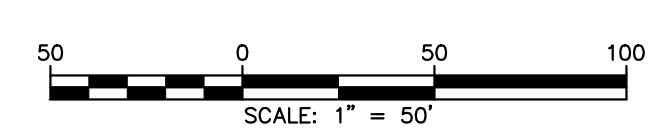
Designed: HMM
 Drawn: SNC
 Checked: JLL
 Approved: WDB
 Date: 04.09.2014

WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS
 ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
 PEPPER PORTALS AND DRAINAGE
 BASELINE SECTIONS 104+50-109+00

Job No.	15
319151	
B/O	Total
15	25



~LEGEND~
 LOC - LIMITS OF CONSTRUCTION
 ▭ - BASELINE



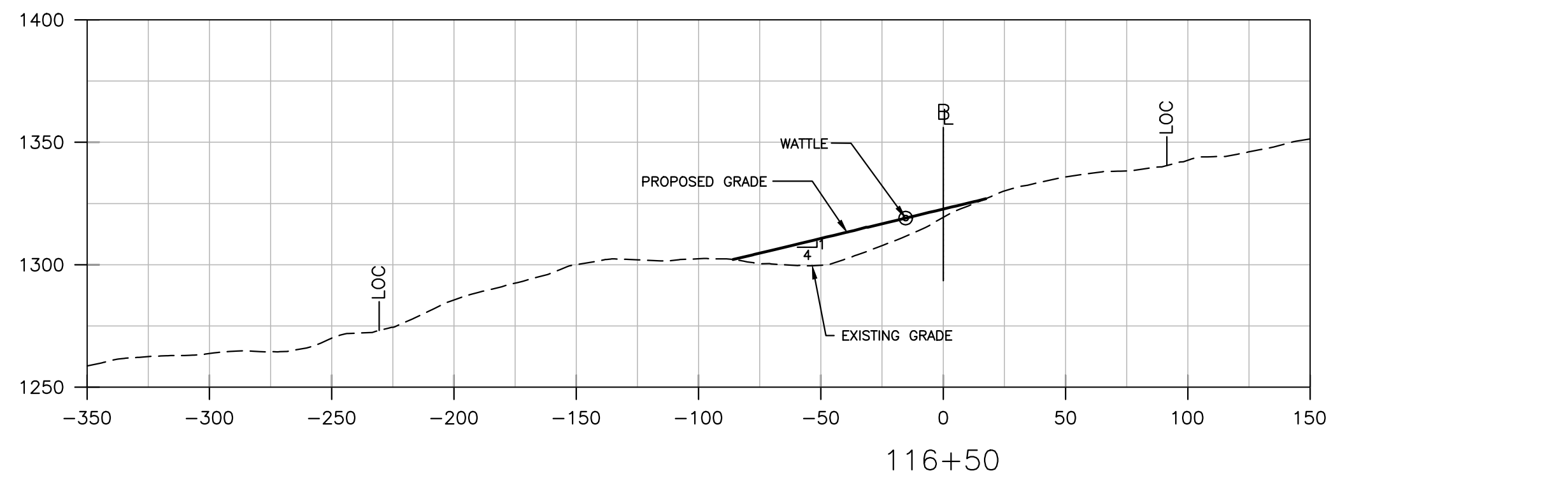
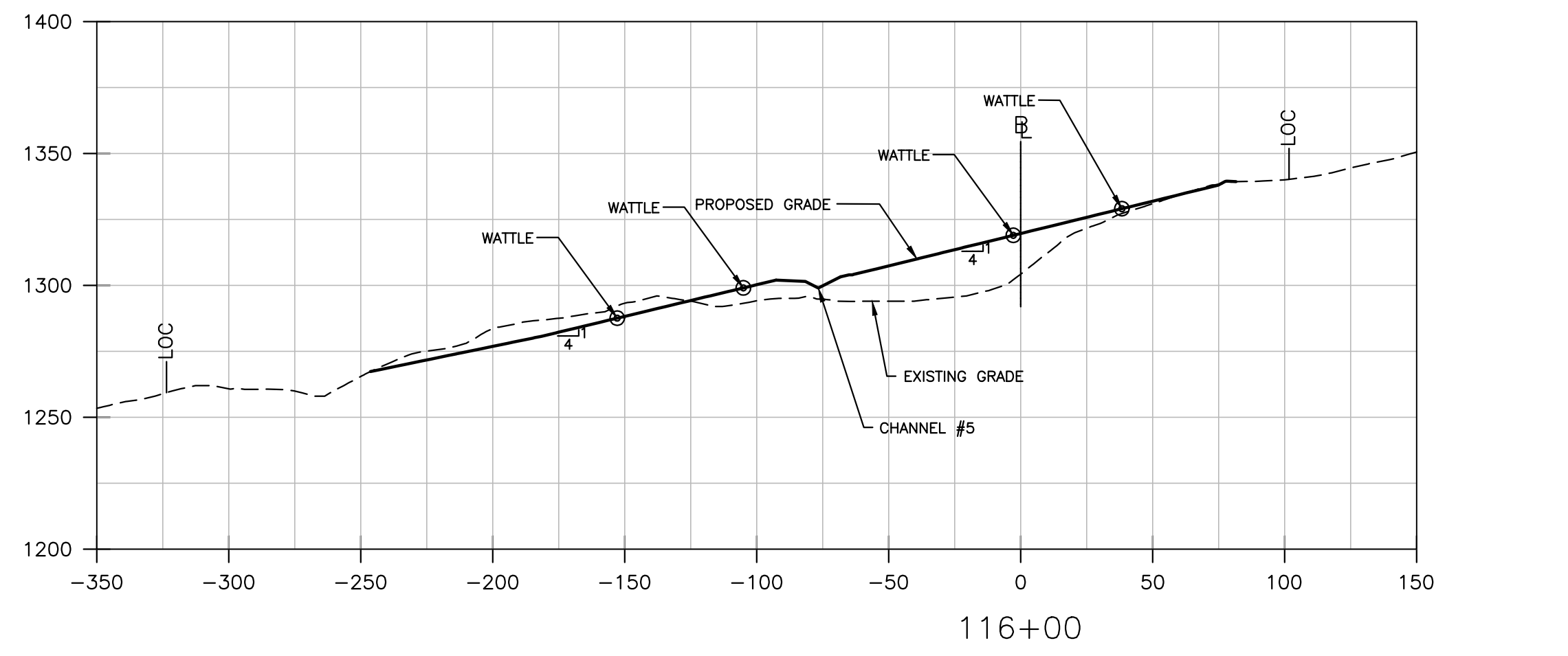
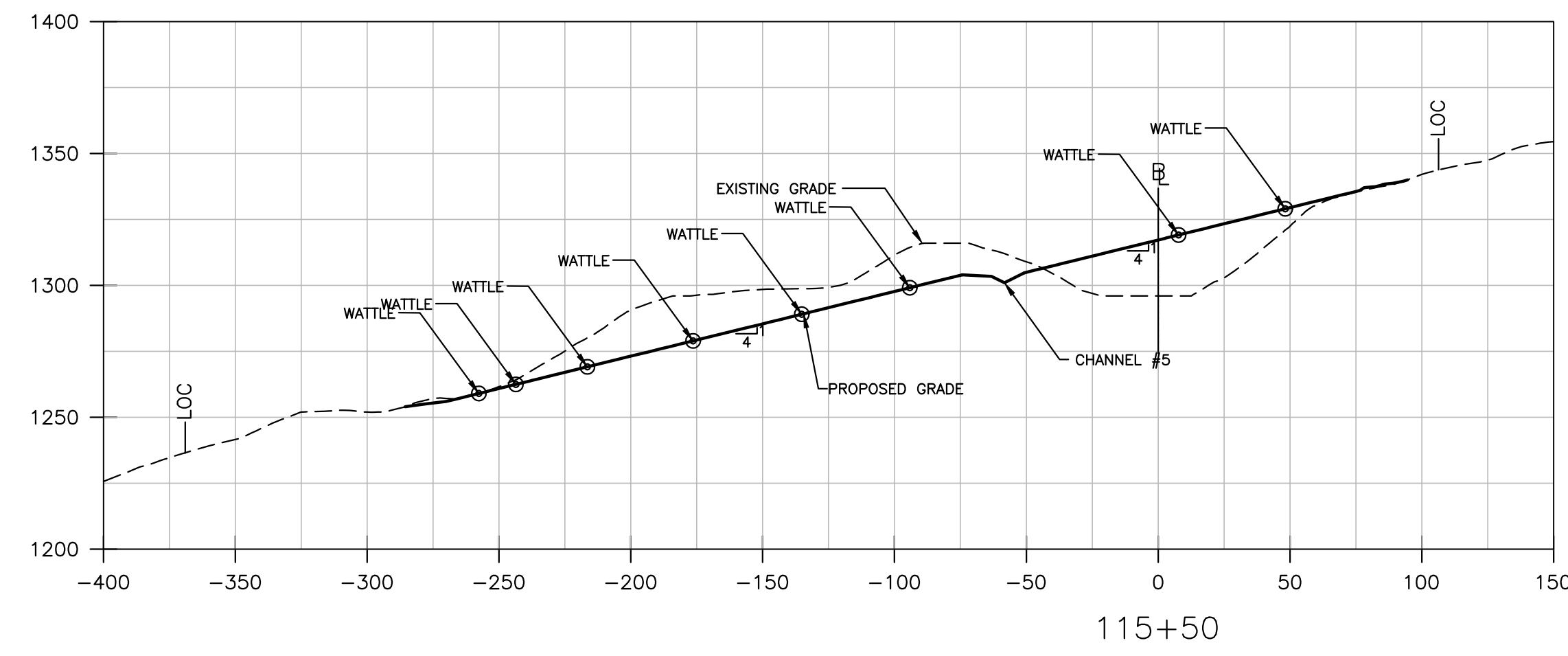
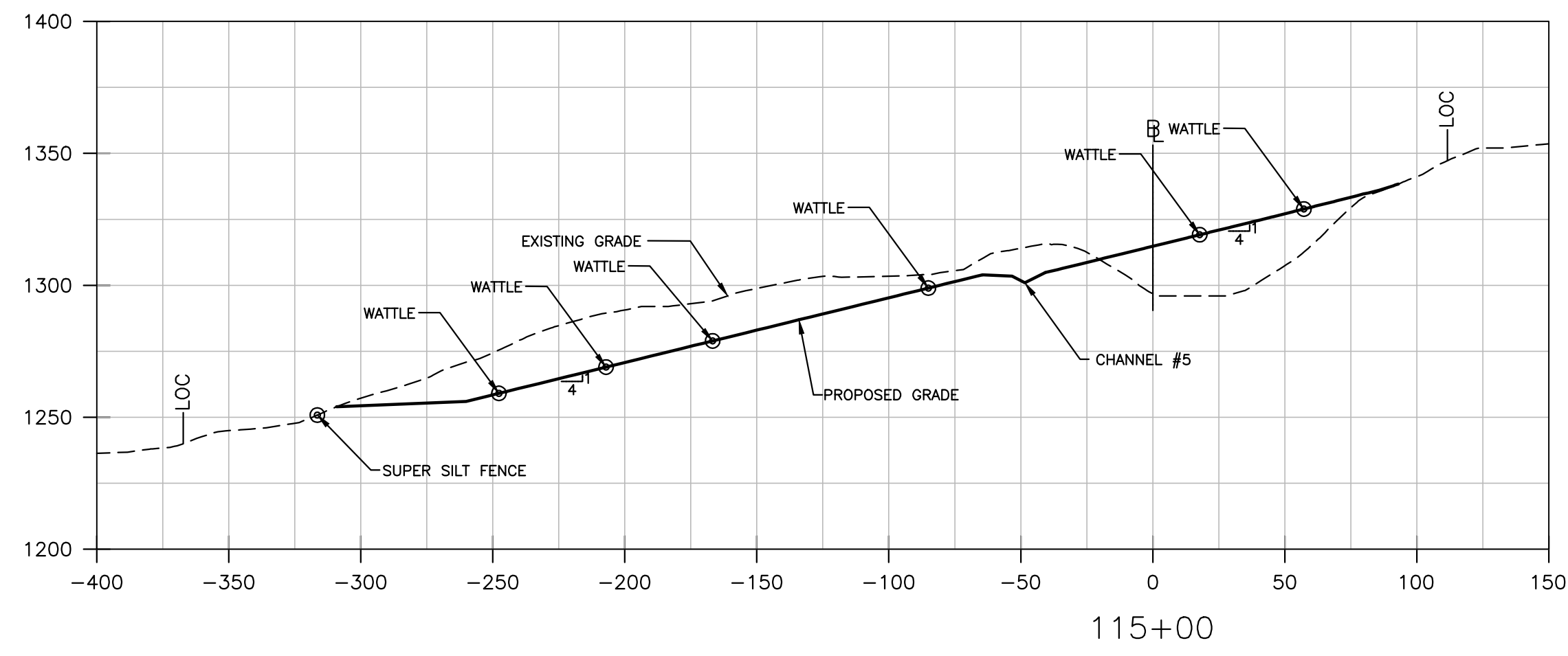
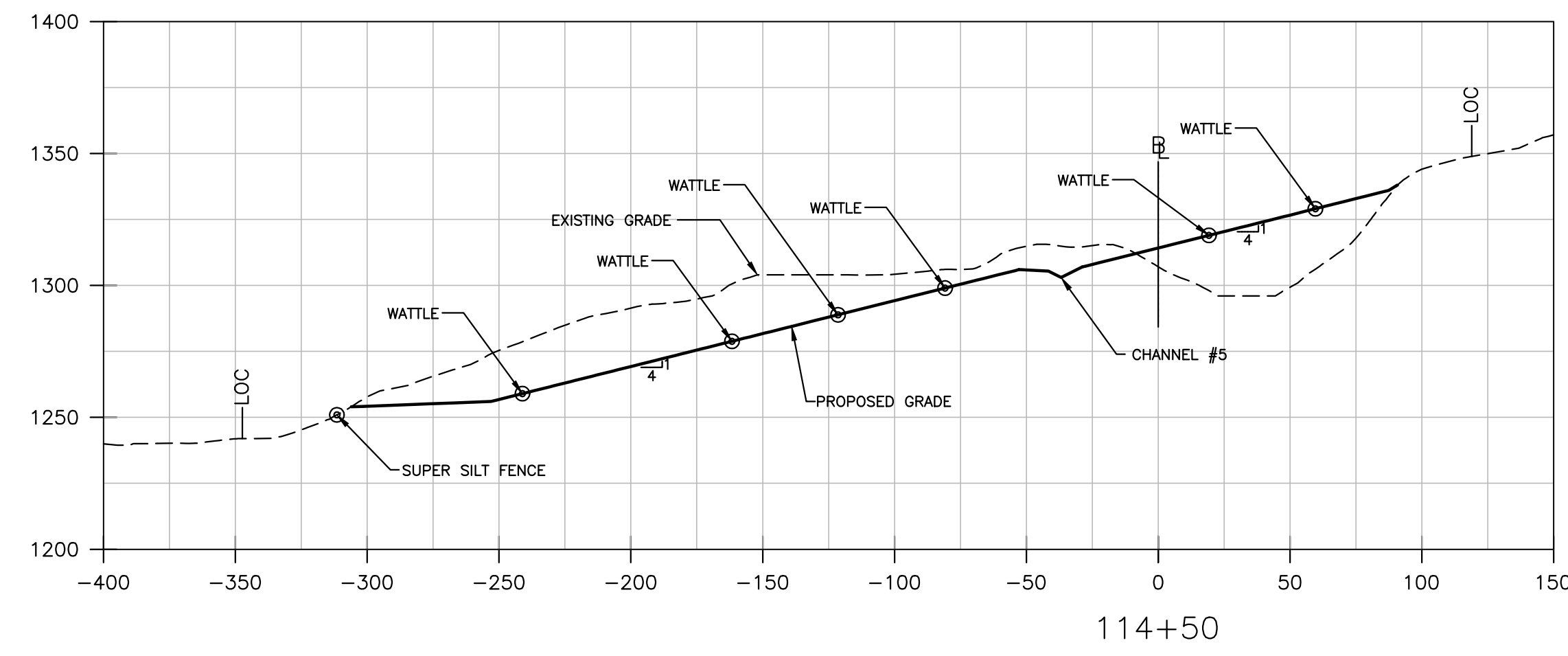
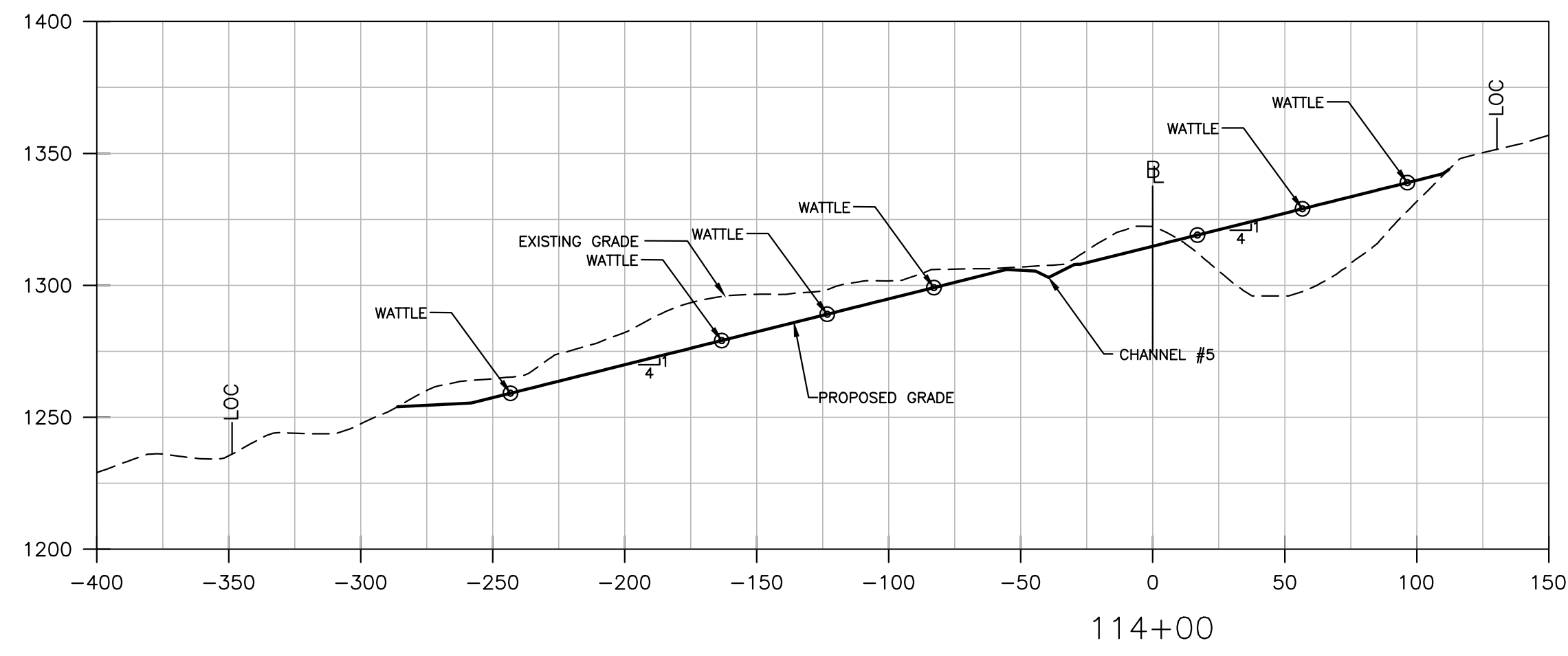
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Hatch Mott MacDonald
 2601 Cranberry Square
 Morgantown, West Virginia 26508

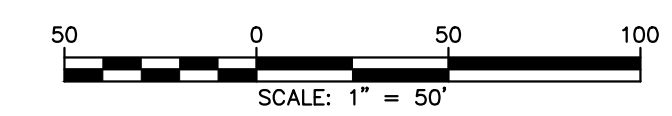
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 Drawn: SNC
 Checked: JLL
 Approved: WDB
 Date: 04.09.2014

WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS
 ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
PEPPER PORTALS AND DRAINAGE
BASELINE SECTIONS 109+50-113+50

Job No.	16
319151	
B/O	Total
16	25



~LEGEND~
 LOC - LIMITS OF CONSTRUCTION
 PD - BASELINE



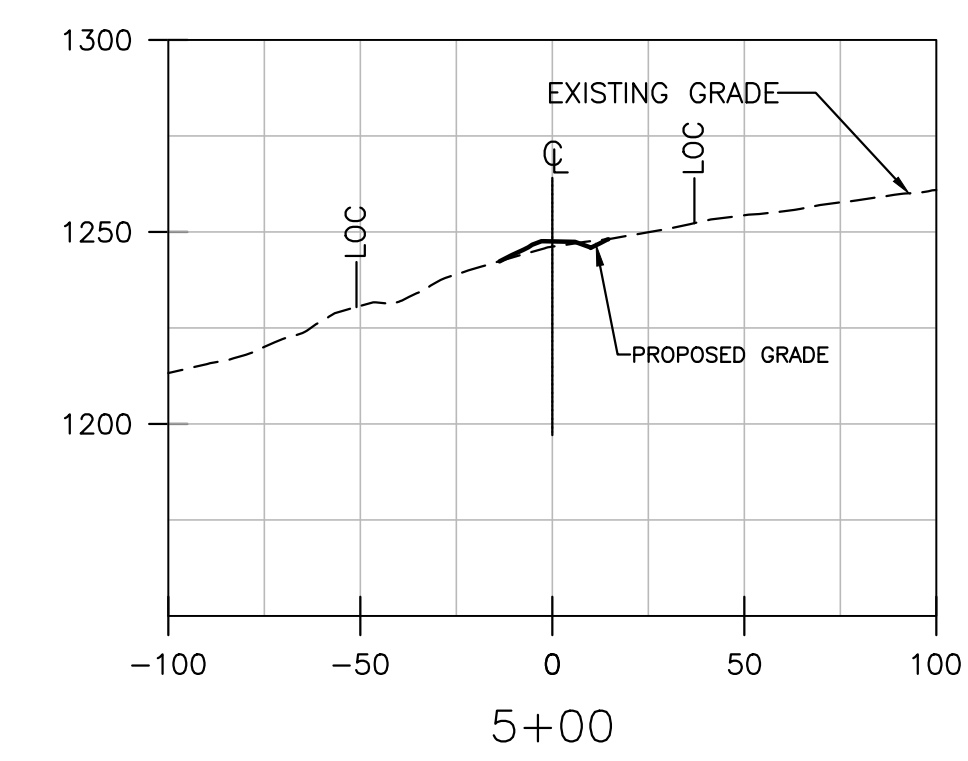
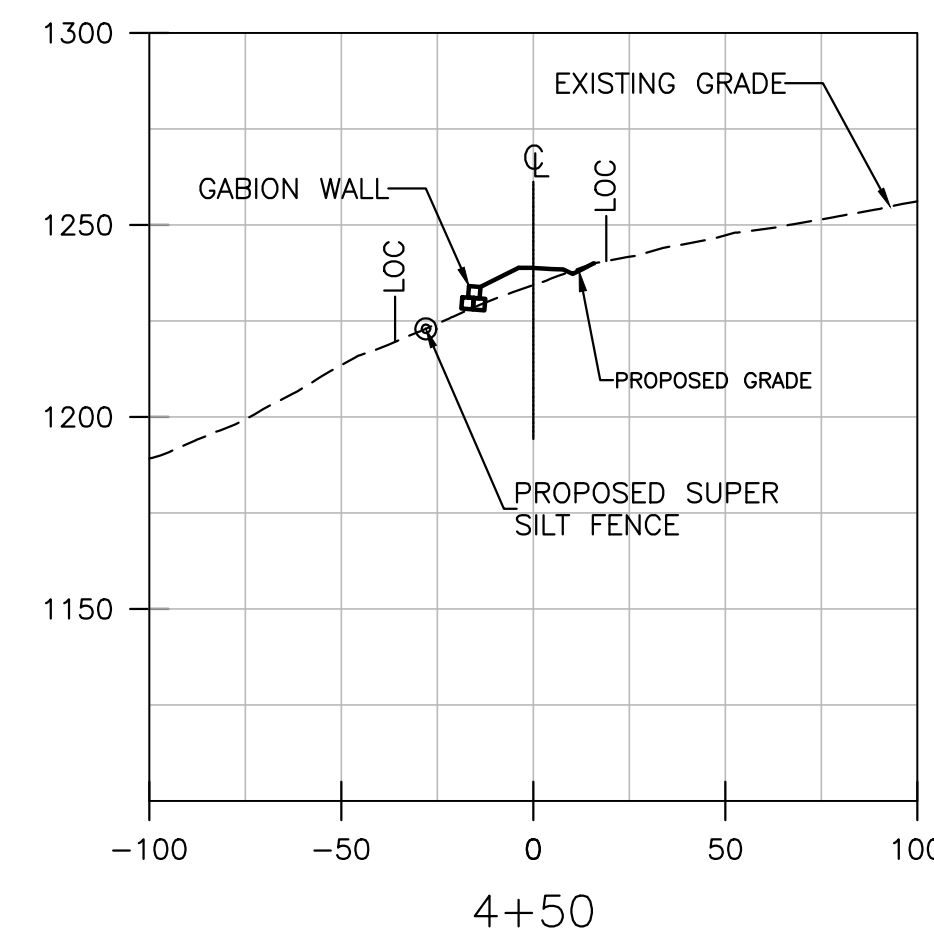
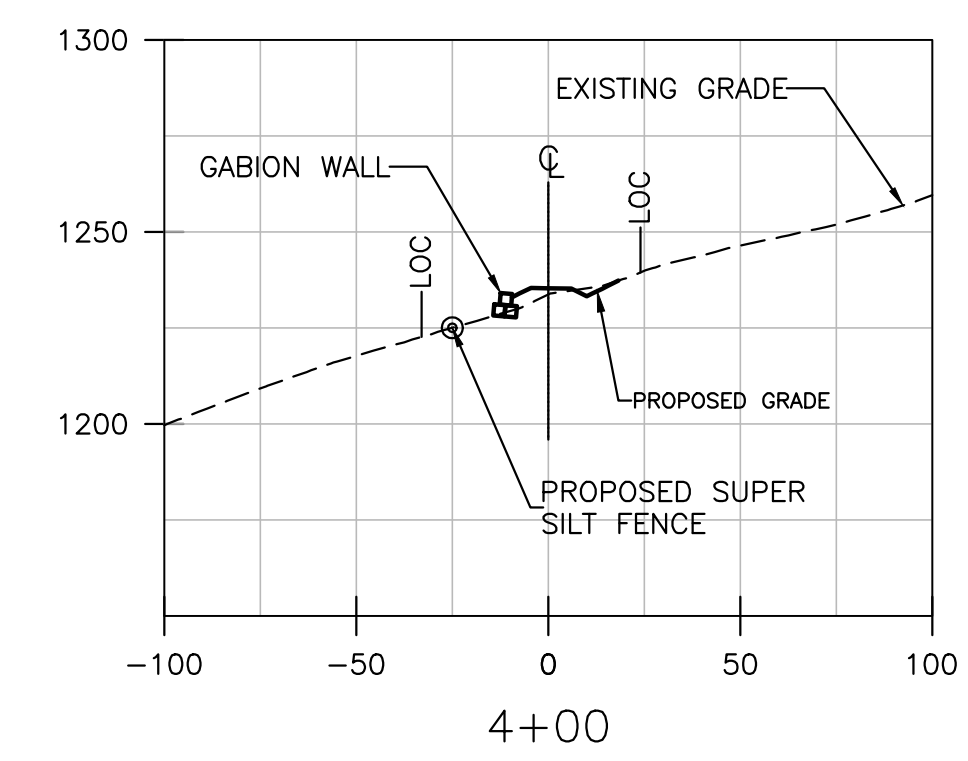
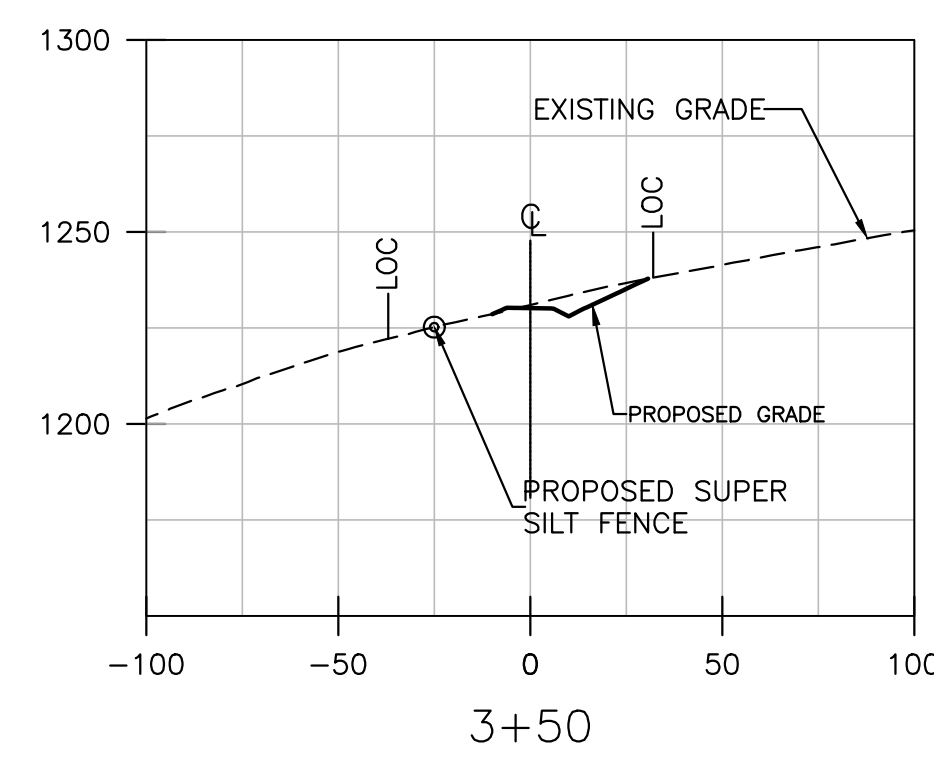
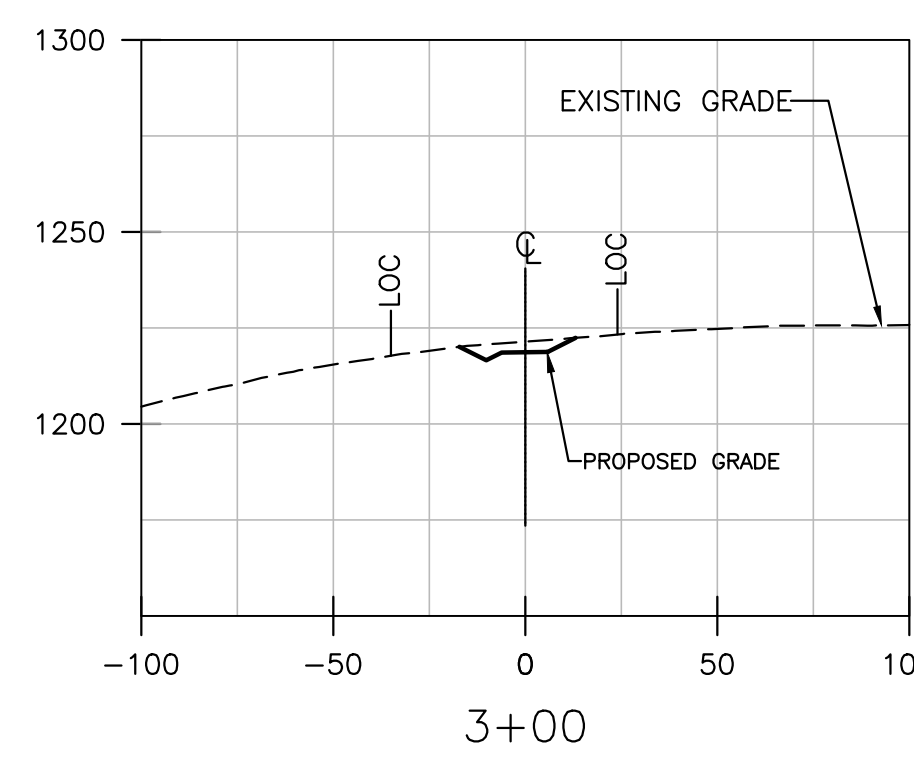
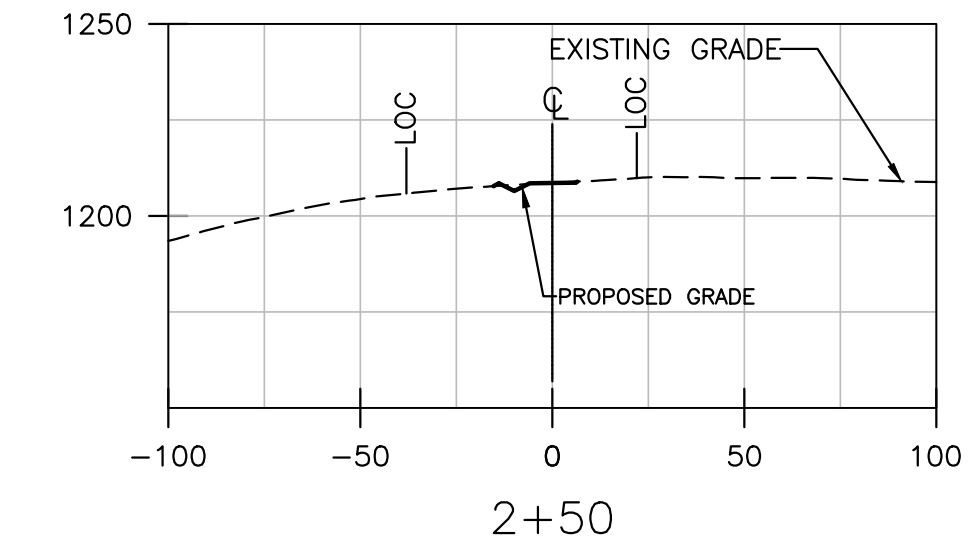
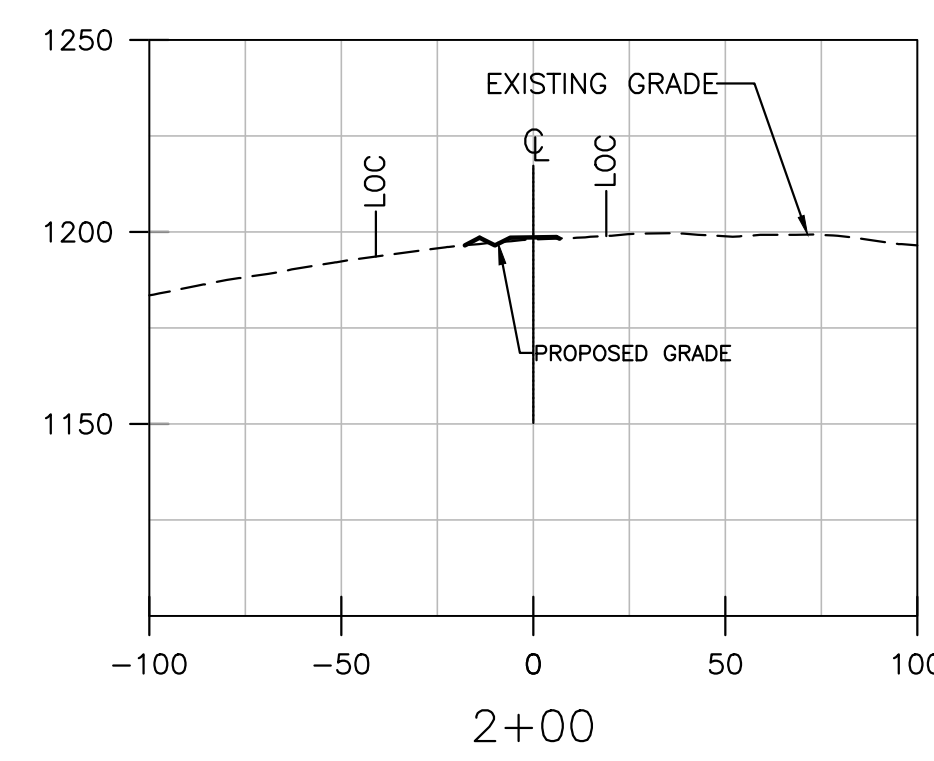
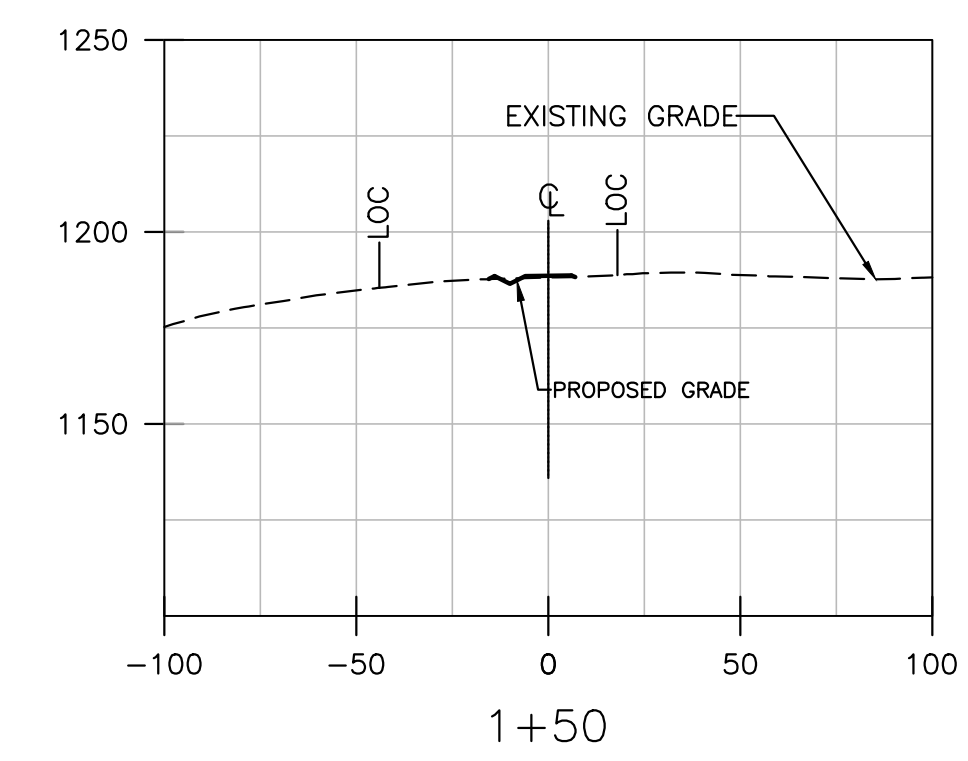
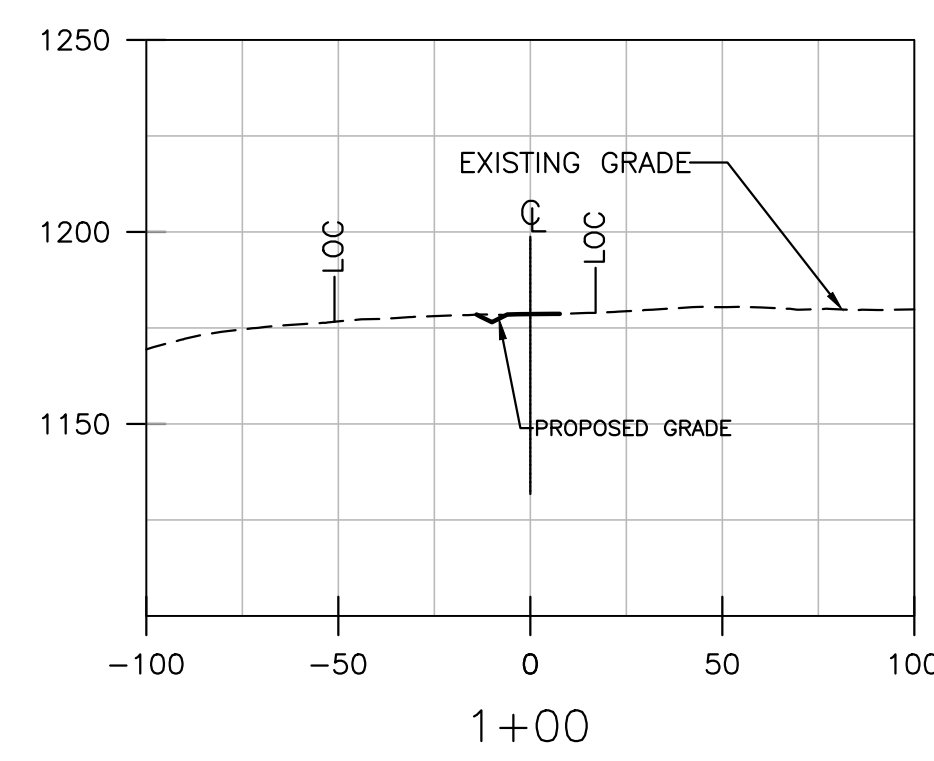
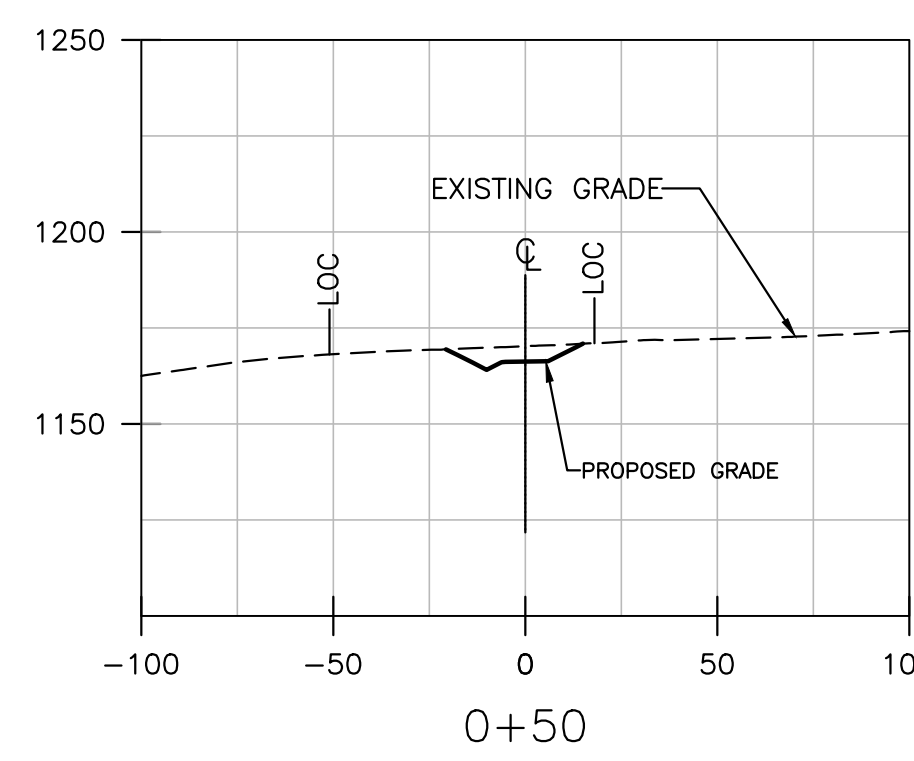
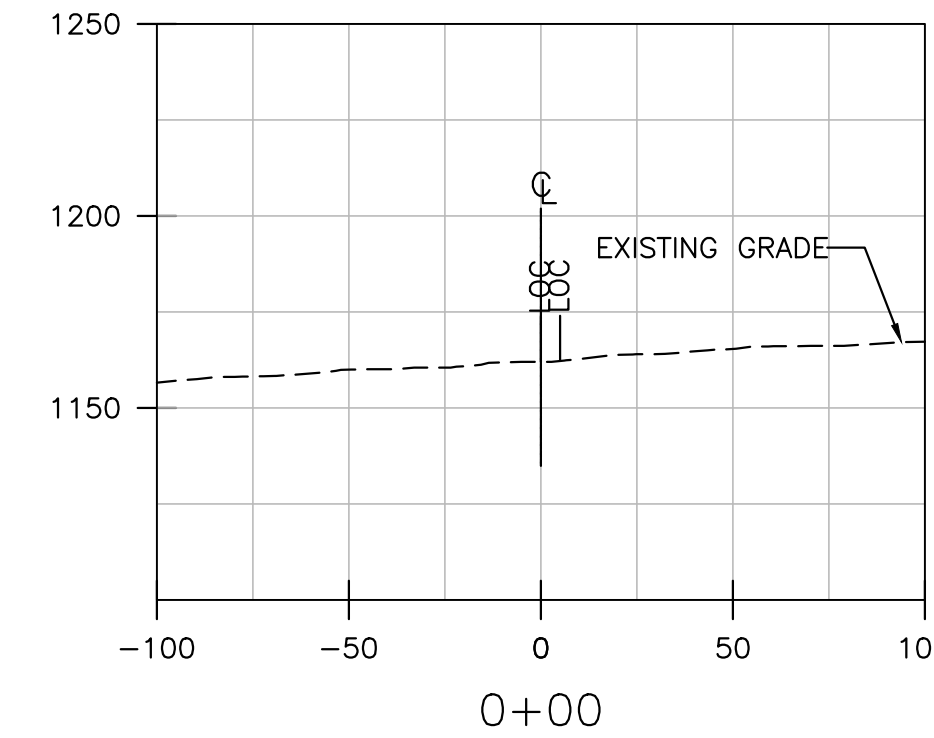
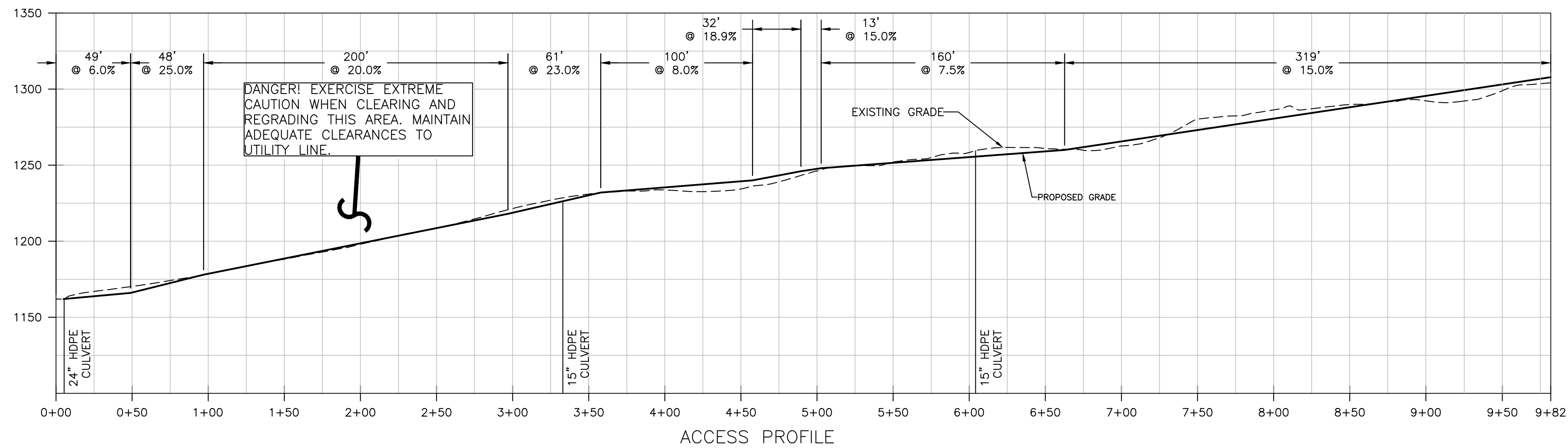
No.	Description	Revision	Date	By
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Hatch Mott MacDonald
 2601 Cranberry Square
 Morgantown, West Virginia 26508

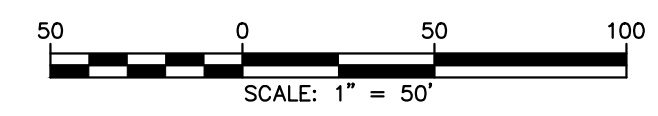
Designed: HMM
 Drawn: SNC
 Checked: JLL
 Approved: WDB
 Date: 04.09.2014

WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS
 ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
 PEPPER PORTALS AND DRAINAGE
 BASELINE SECTIONS 114+00-116+50

Job	No.
319151	17
B/O	Total
17	25



~LEGEND~
 LOC - LIMITS OF CONSTRUCTION
 CL - CENTERLINE



No.	Description	Revision	Date	By
8				
7				
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Hatch Mott MacDonald
 2601 Cranberry Square
 Morgantown, West Virginia 26508

Drawn: SNC
 Checked: JLL
 Approved: WDB
 Date: 04.09.2014

WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS
 ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
**PEPPER PORTALS AND DRAINAGE
 ACCESS PROFILE & SECTIONS 0+00-7+00**

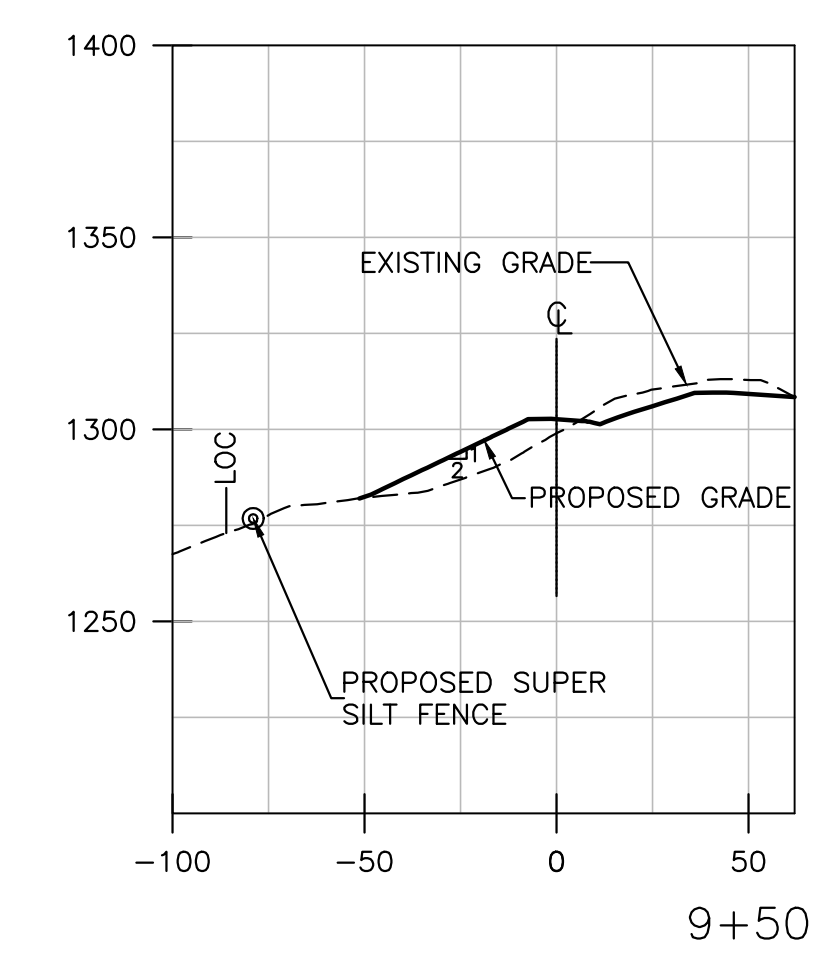
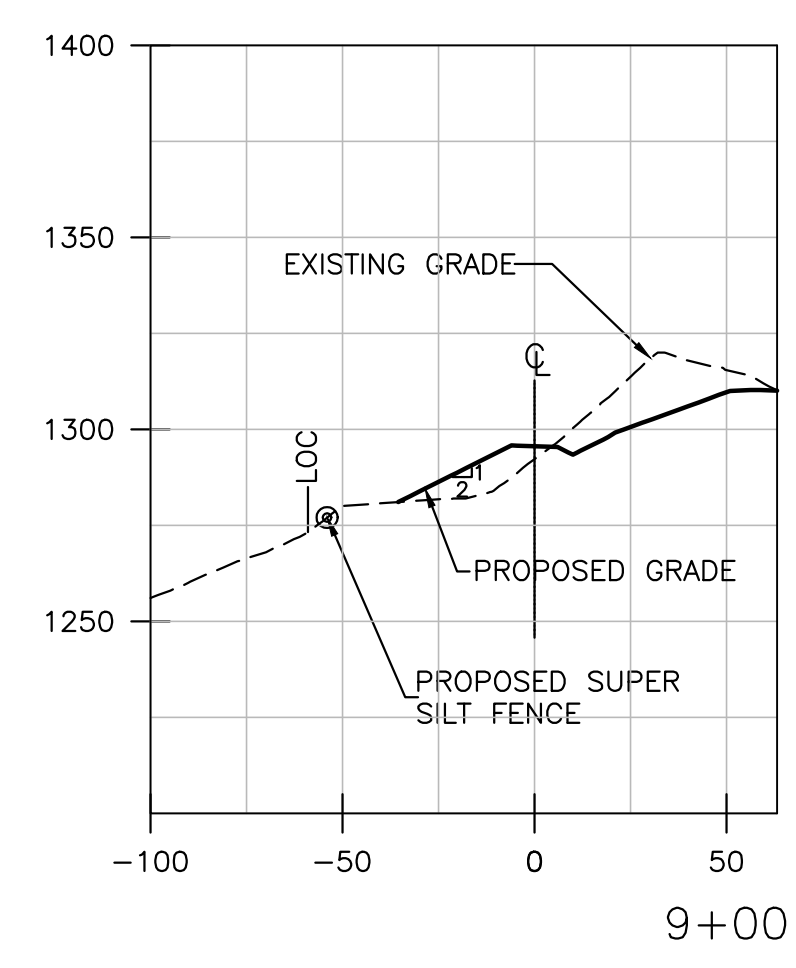
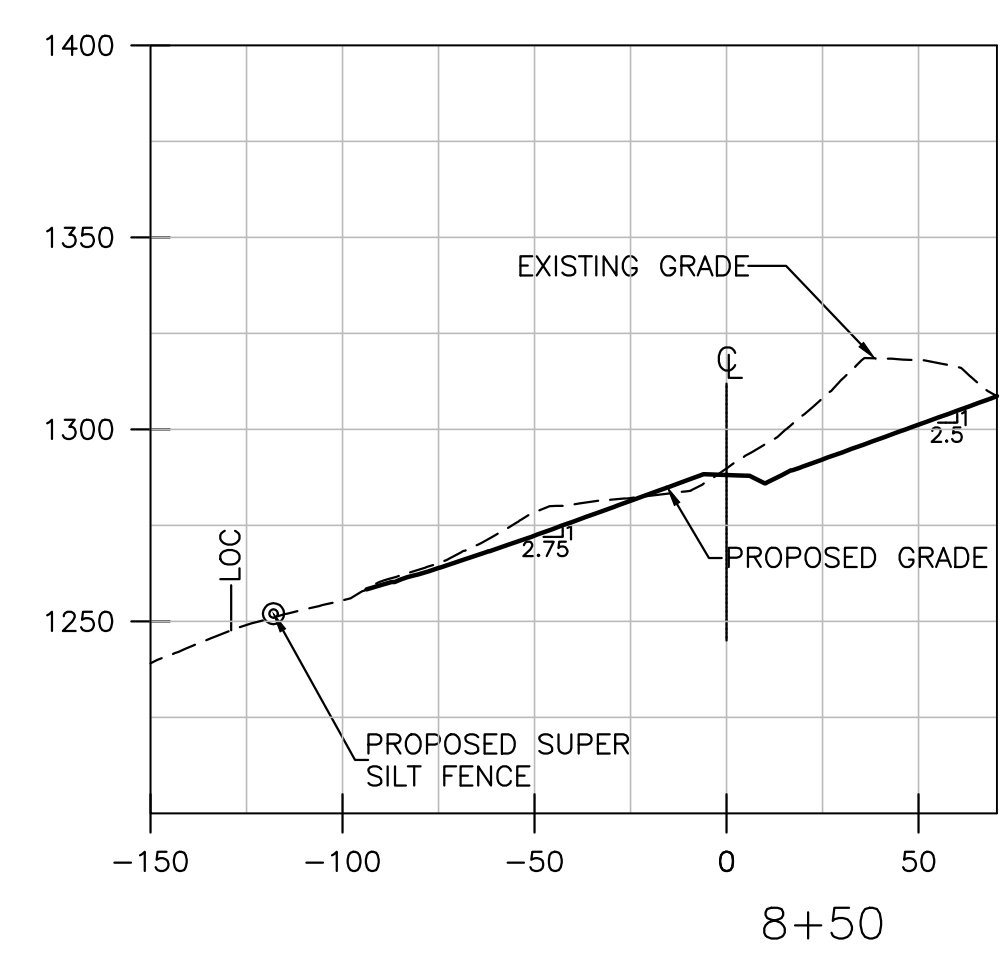
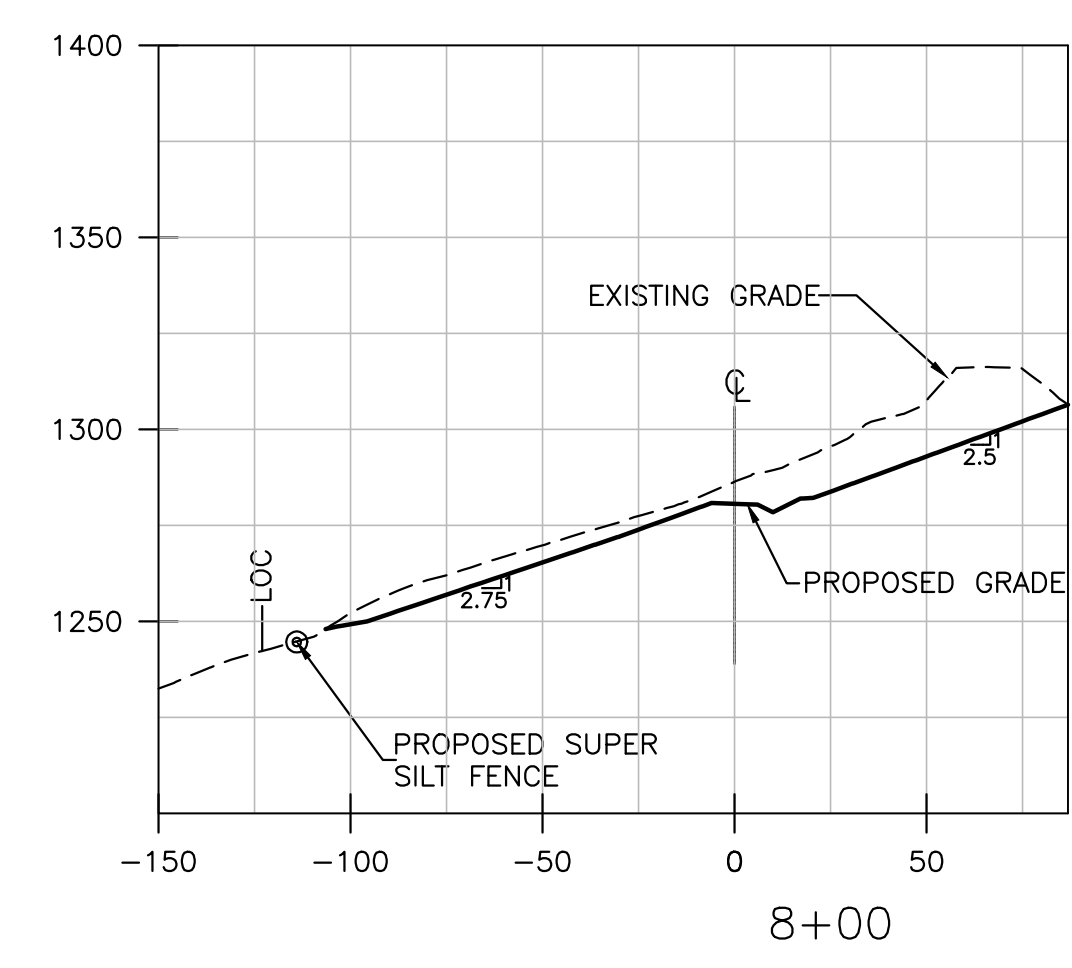
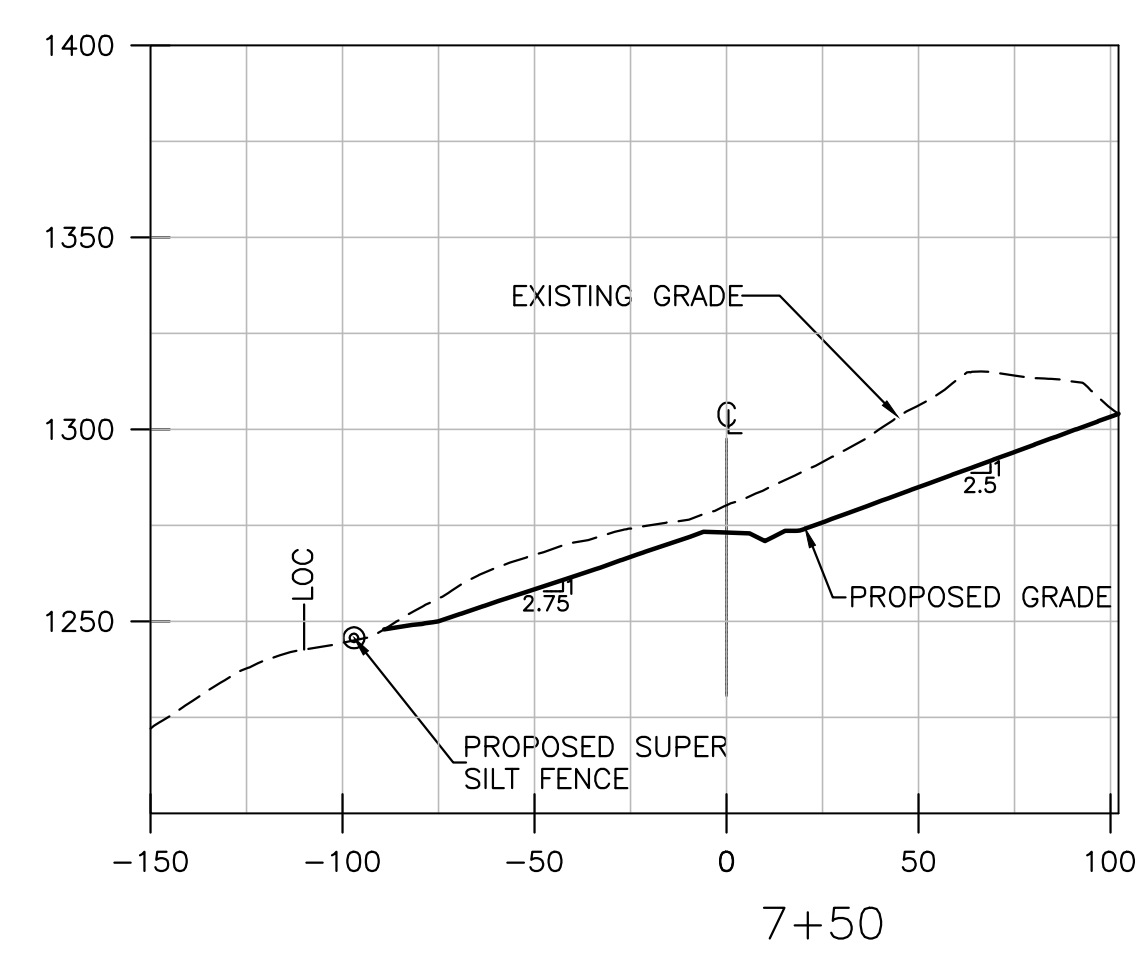
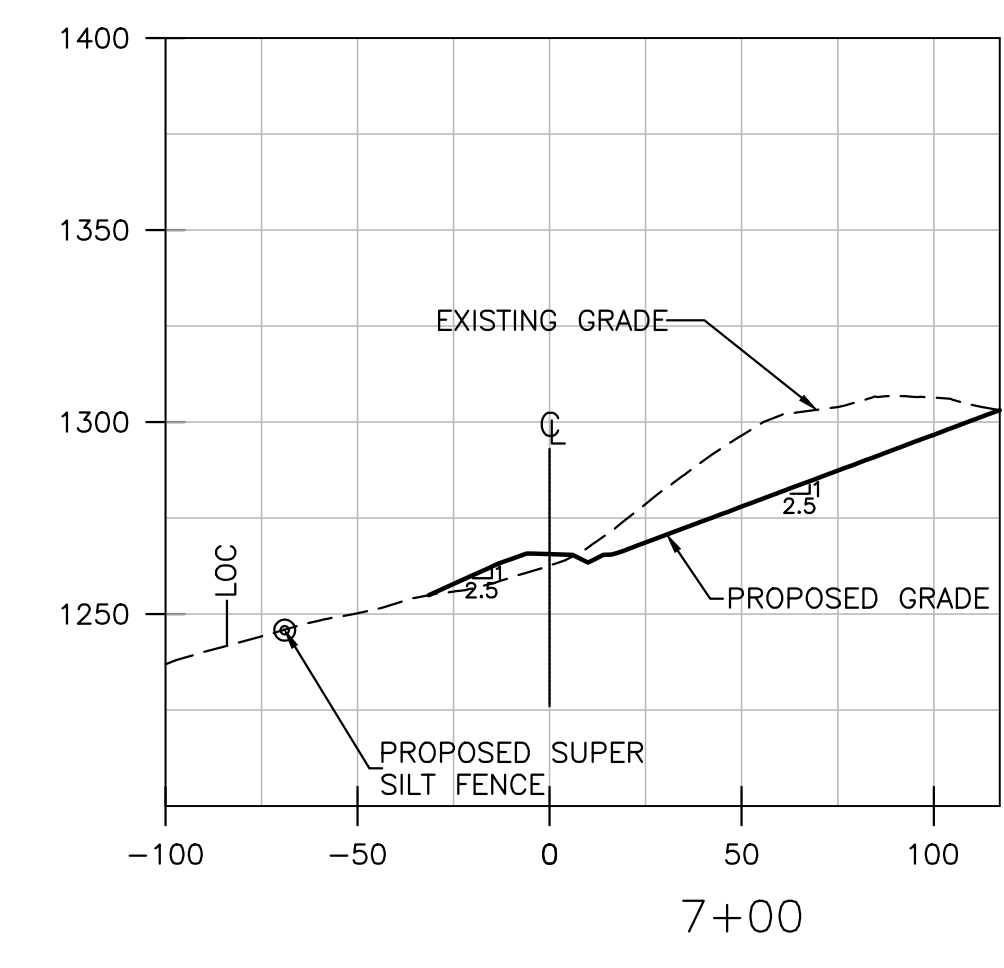
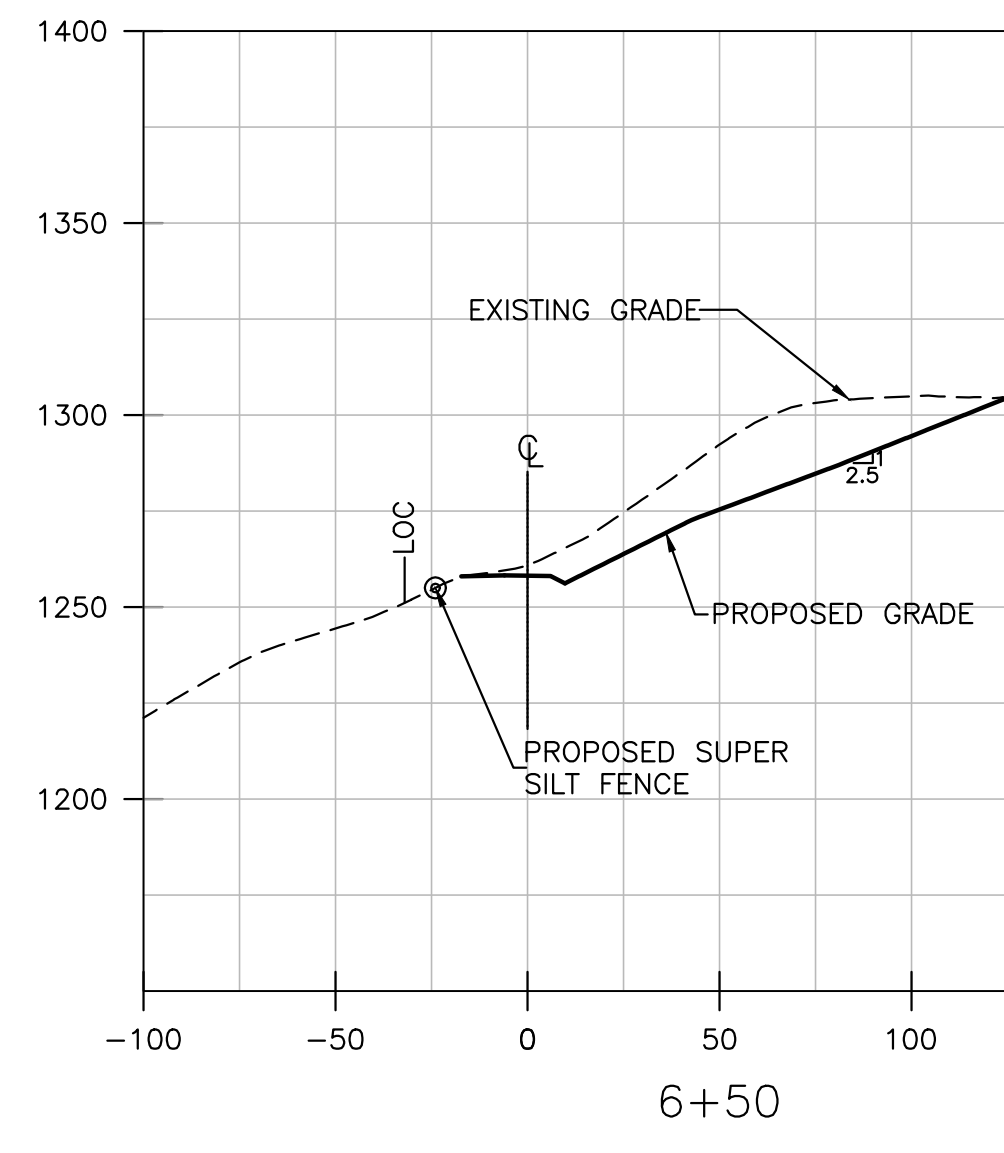
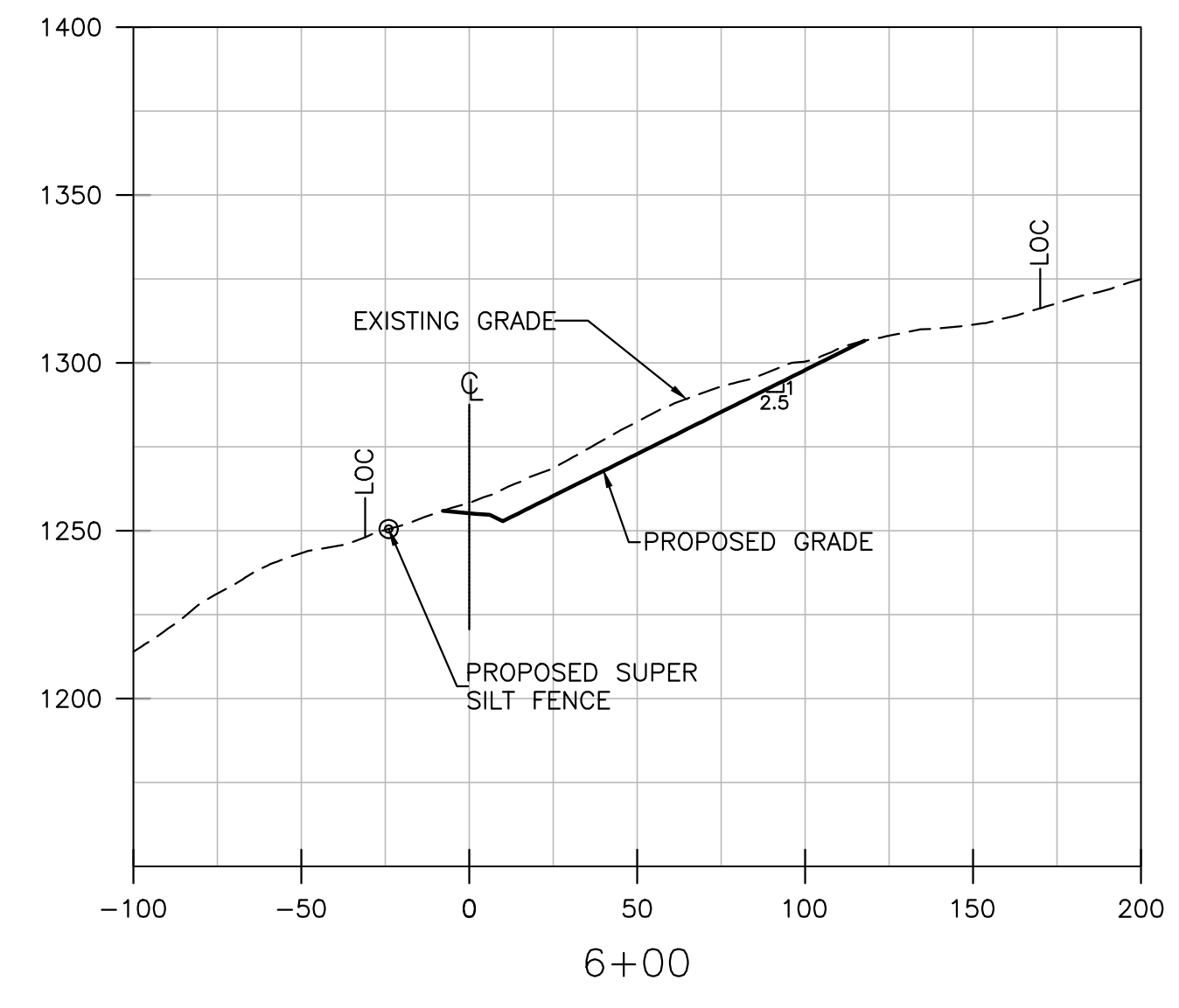
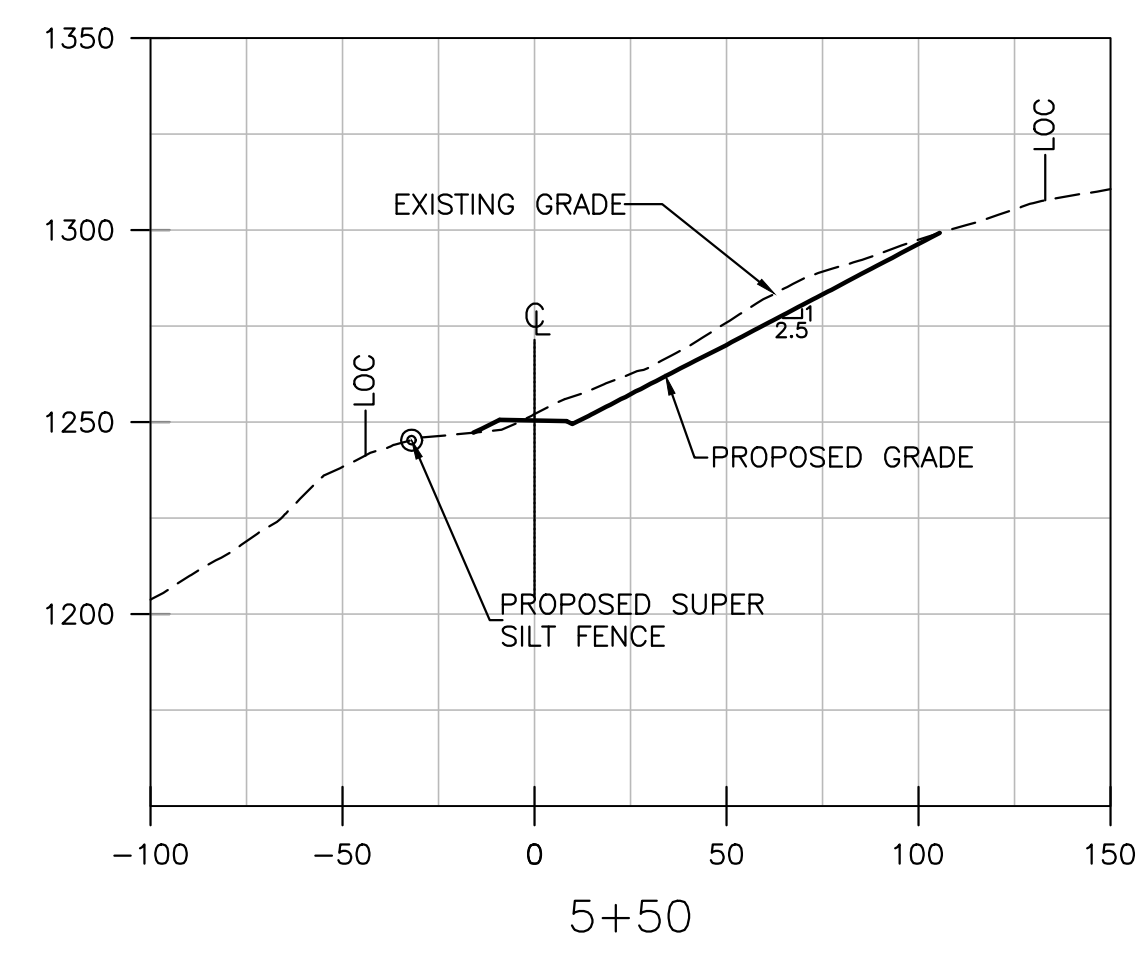
Job No.	319151	18
B/O	18	Total 25

No.	Description	Date	By
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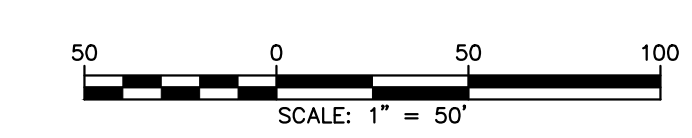
Designed	Drawn	Checked	Approved	Date
HMM	SNC	JLL	WDB	04.09.2014

WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS
 ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
 PEPPER PORTALS AND DRAINAGE
 ACCESS 7+50-9+50

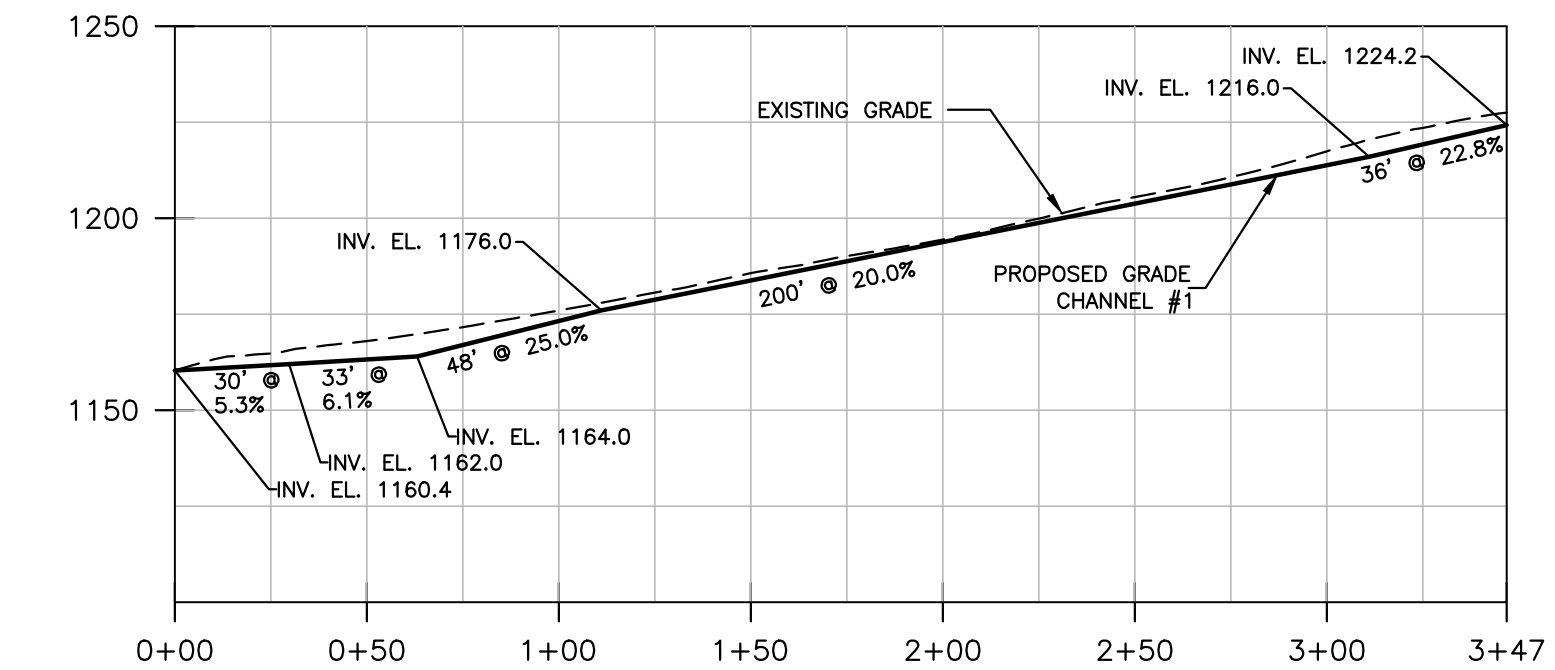
Job	No.
319151	19
B/O	Total
19	25



~ LEGEND ~
 LOC - LIMITS OF CONSTRUCTION
 C - CENTERLINE

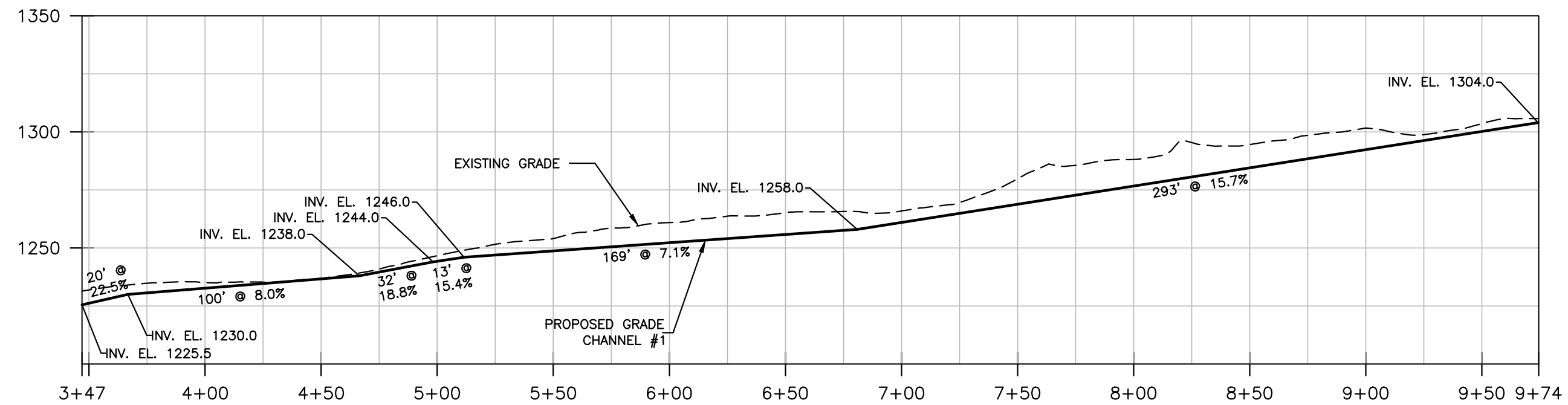


DITCH SUMMARY TABLE		
CHANNEL	TYPE	DESCRIPTION
1	B	1' DEEP SYNTHETIC LINED VEE
2	B	2' DEEP SYNTHETIC LINED VEE
3	B	2' DEEP SYNTHETIC LINED VEE
4	A	2' DEEP GROUTED RIPRAP VEE
5	B	2' DEEP SYNTHETIC LINE VEE
6 - 0+00-1+98	D	2' DEEP GROUTED RIPRAP TRAPEZOIDAL
6 - 1+98-2+43	C	2' DEEP RIPRAP TRAPEZOIDAL



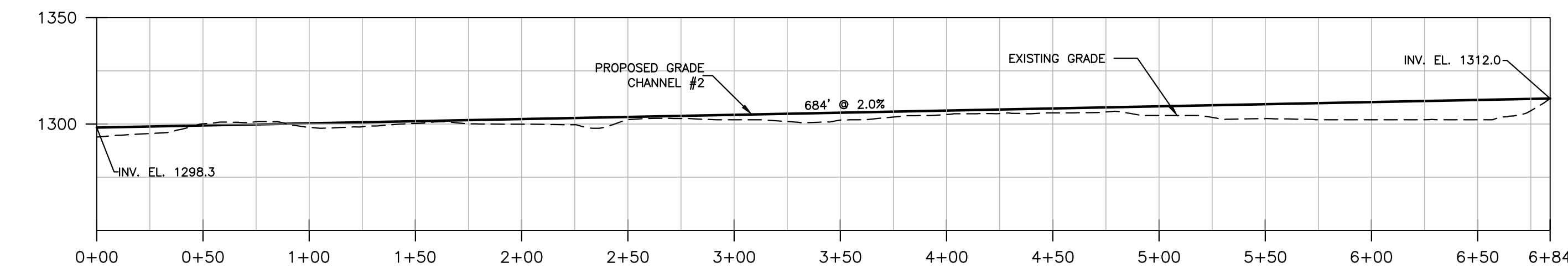
PROFILE - ACCESS ROAD/CHANNEL #1
(SEE DETAIL TYPE ⬡)

PROPOSED DRAINAGE CHANNEL 1 - SUMMARY					
STATION	D (MIN. FT.) (D=Fb+F.D.)	SIDE SLOPES	B (FT.)	AVG. SLOPE (FT./FT.)	LINING
0+00-0+30	1	2:1	0	0.053	SYNTHETIC MAT
0+30-0+63	1	2:1	0	0.061	SYNTHETIC MAT
0+63-1+11	1	2:1	0	0.250	SYNTHETIC MAT
1+11-3+11	1	2:1	0	0.200	SYNTHETIC MAT
3+11-3+47	1	2:1	0	0.228	SYNTHETIC MAT



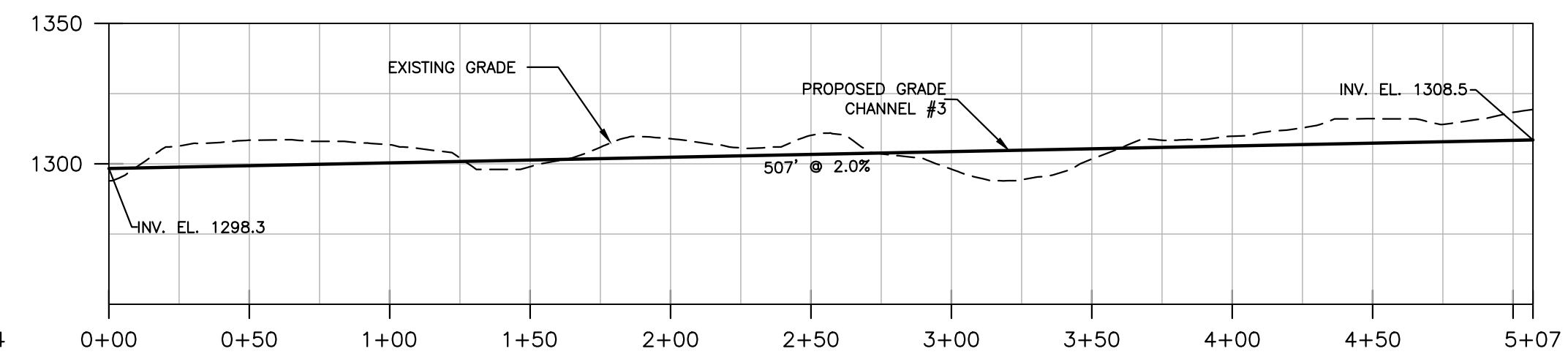
PROFILE - ACCESS ROAD/CHANNEL #1
(SEE DETAIL TYPE ⬡)

PROPOSED DRAINAGE CHANNEL 1 - SUMMARY					
STATION	D (MIN. FT.) (D=Fb+F.D.)	SIDE SLOPES	B (FT.)	AVG. SLOPE (FT./FT.)	LINING
3+47-3+67	1	2:1	0	0.225	SYNTHETIC MAT
3+67-4+67	1	2:1	0	0.080	SYNTHETIC MAT
4+67-4+99	1	2:1	0	0.188	SYNTHETIC MAT
4+99-5+12	1	2:1	0	0.154	SYNTHETIC MAT
5+12-6+81	1	2:1	0	0.071	SYNTHETIC MAT
6+81-9+74	1	2:1	0	0.170	SYNTHETIC MAT



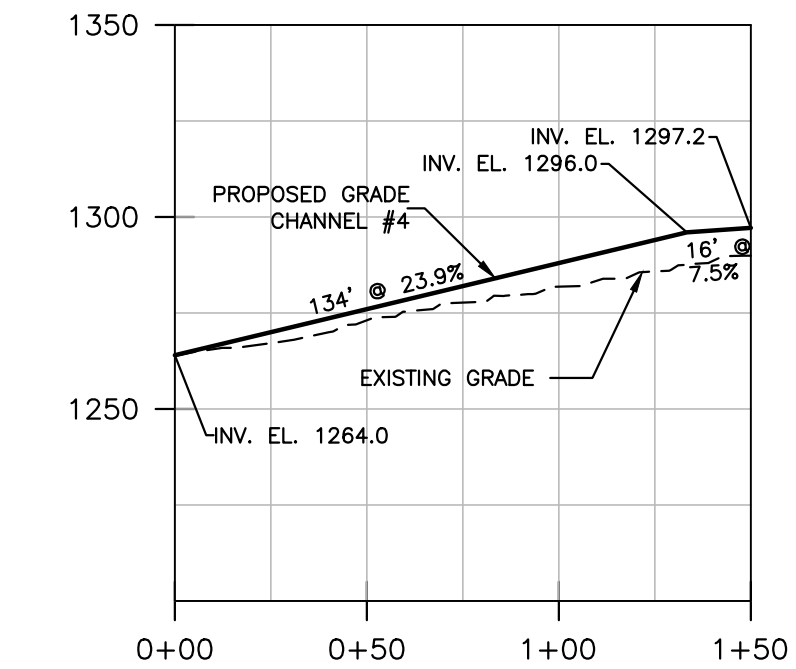
PROFILE - VEGETATED BENCH/CHANNEL #2
(SEE DETAIL TYPE ⬡)

PROPOSED DRAINAGE CHANNEL 2 - SUMMARY				
STATION	D (MIN. FT.) (D=Fb+F.D.)	SIDE SLOPES	B (FT.)	AVG. SLOPE (FT./FT.)
0+00-6+84	2	2:1	0	0.02



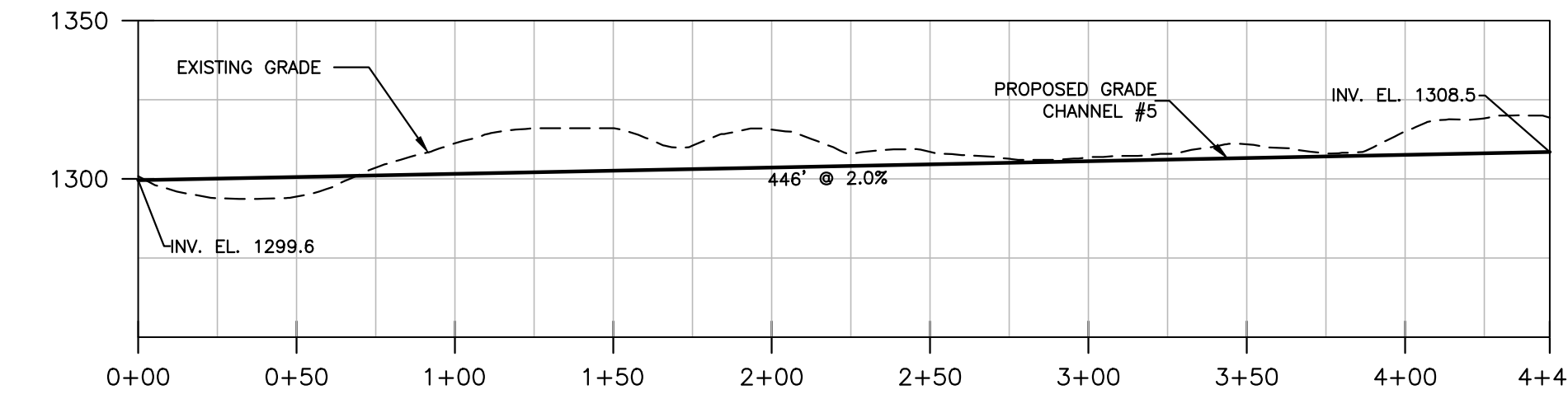
PROFILE - VEGETATED BENCH/CHANNEL #3
(SEE DETAIL TYPE ⬡)

PROPOSED DRAINAGE CHANNEL 3 - SUMMARY				
STATION	D (MIN. FT.) (D=Fb+F.D.)	SIDE SLOPES	B (FT.)	AVG. SLOPE (FT./FT.)
0+00-5+07	2	2:1	0	0.02



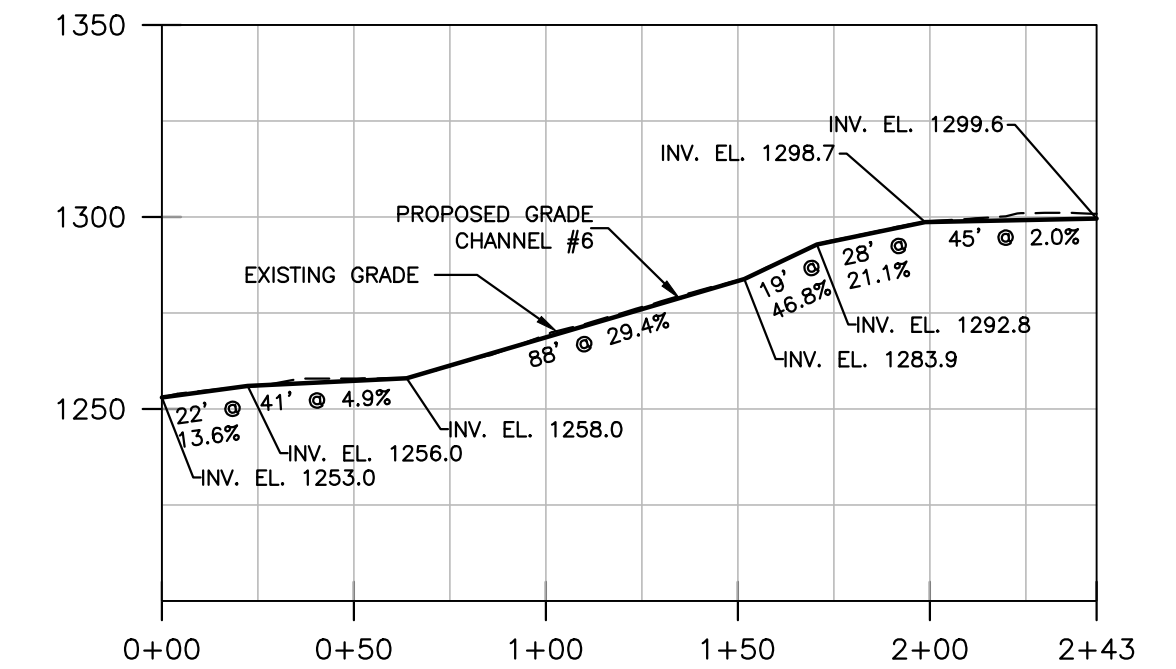
PROFILE - TRAPEZOIDAL DITCH/CHANNEL #4
(SEE DETAIL TYPE ⬡)

PROPOSED DRAINAGE CHANNEL 4 - SUMMARY				
STATION	D (MIN. FT.) (D=Fb+F.D.)	SIDE SLOPES	B (FT.)	AVG. SLOPE (FT./FT.)
0+00-1+34	2.0	2:1	0	0.239
1+34-1+50	2.0	2:1	0	0.071



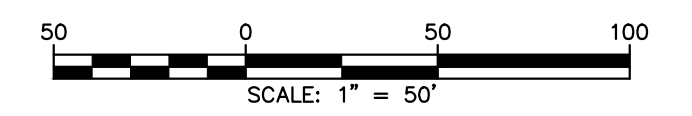
PROFILE - VEGETATED BENCH/CHANNEL #5
(SEE DETAIL TYPE ⬡)

PROPOSED DRAINAGE CHANNEL 5 - SUMMARY				
STATION	D (MIN. FT.) (D=Fb+F.D.)	SIDE SLOPES	B (FT.)	AVG. SLOPE (FT./FT.)
0+00-4+46	2	2:1	0	0.02



PROFILE - TRAPEZOIDAL DITCH/CHANNEL #6
(SEE DETAIL TYPE ⬡ & ⬢)

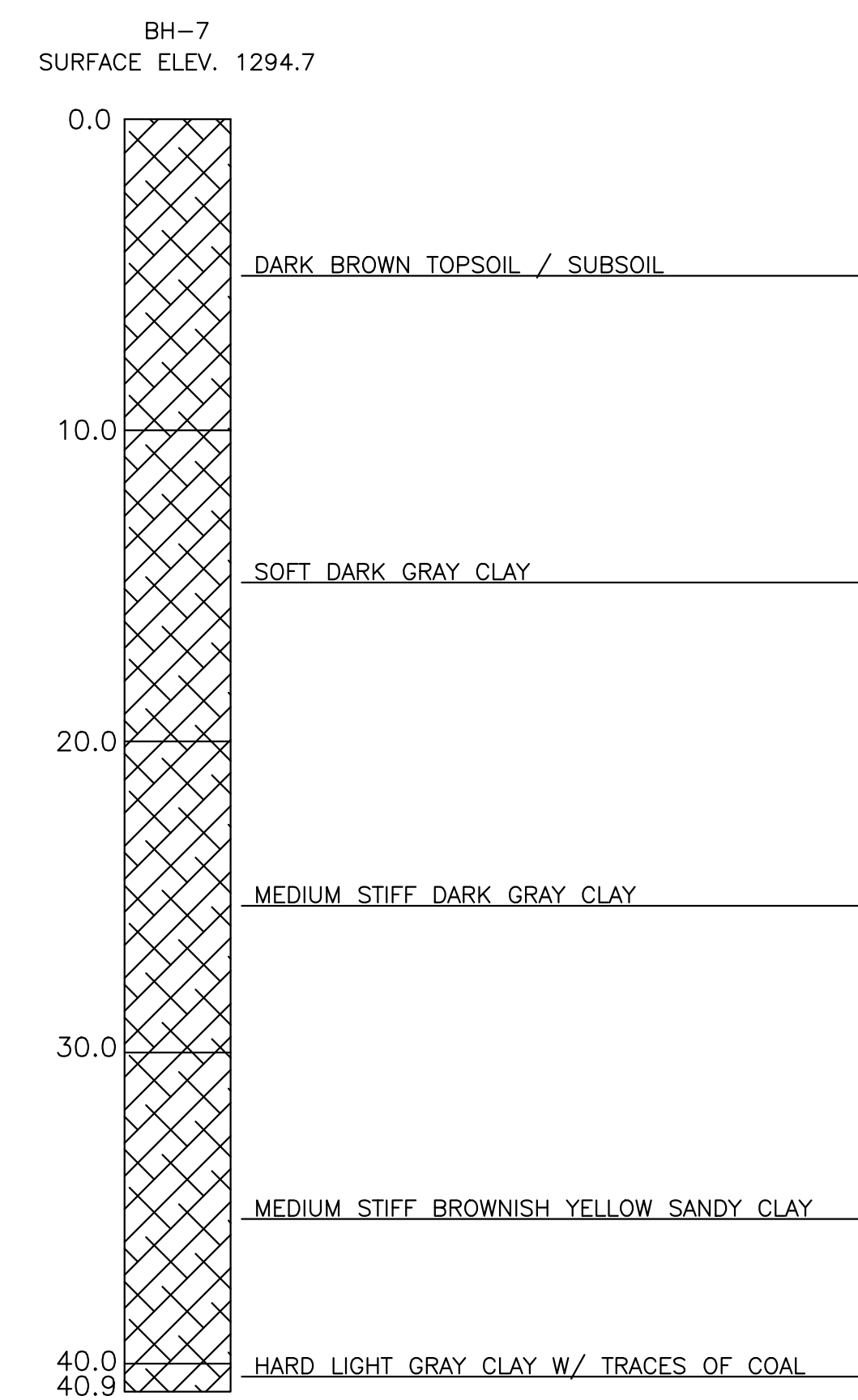
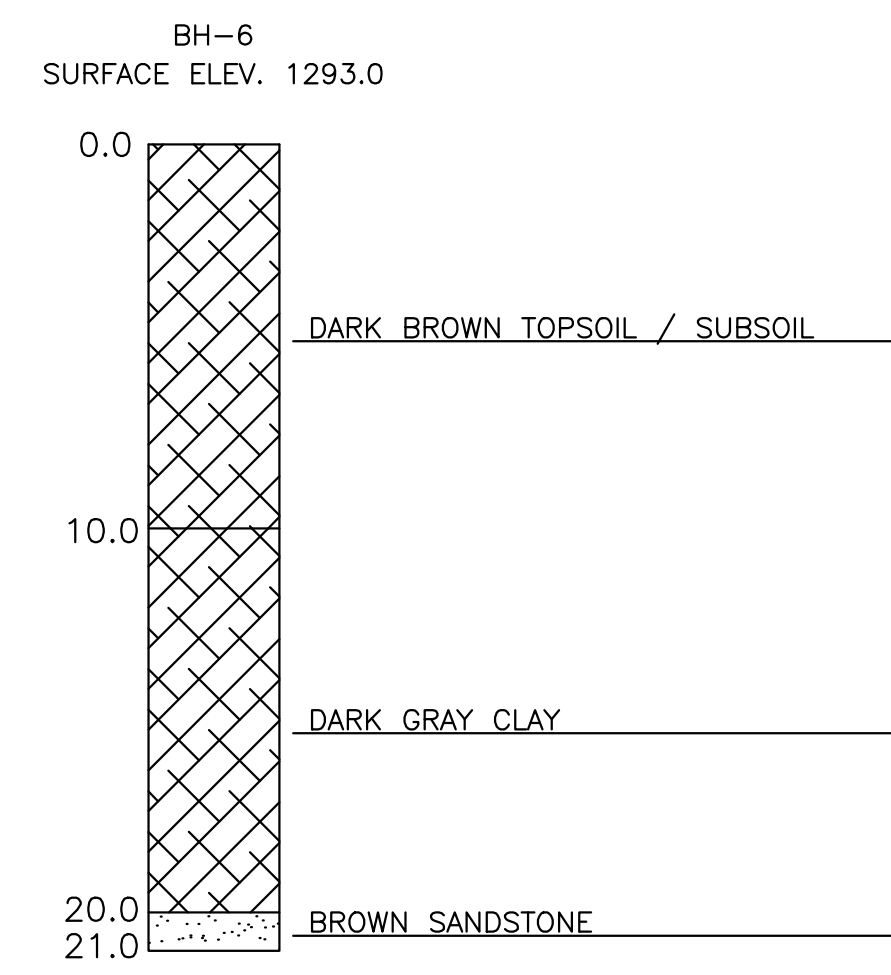
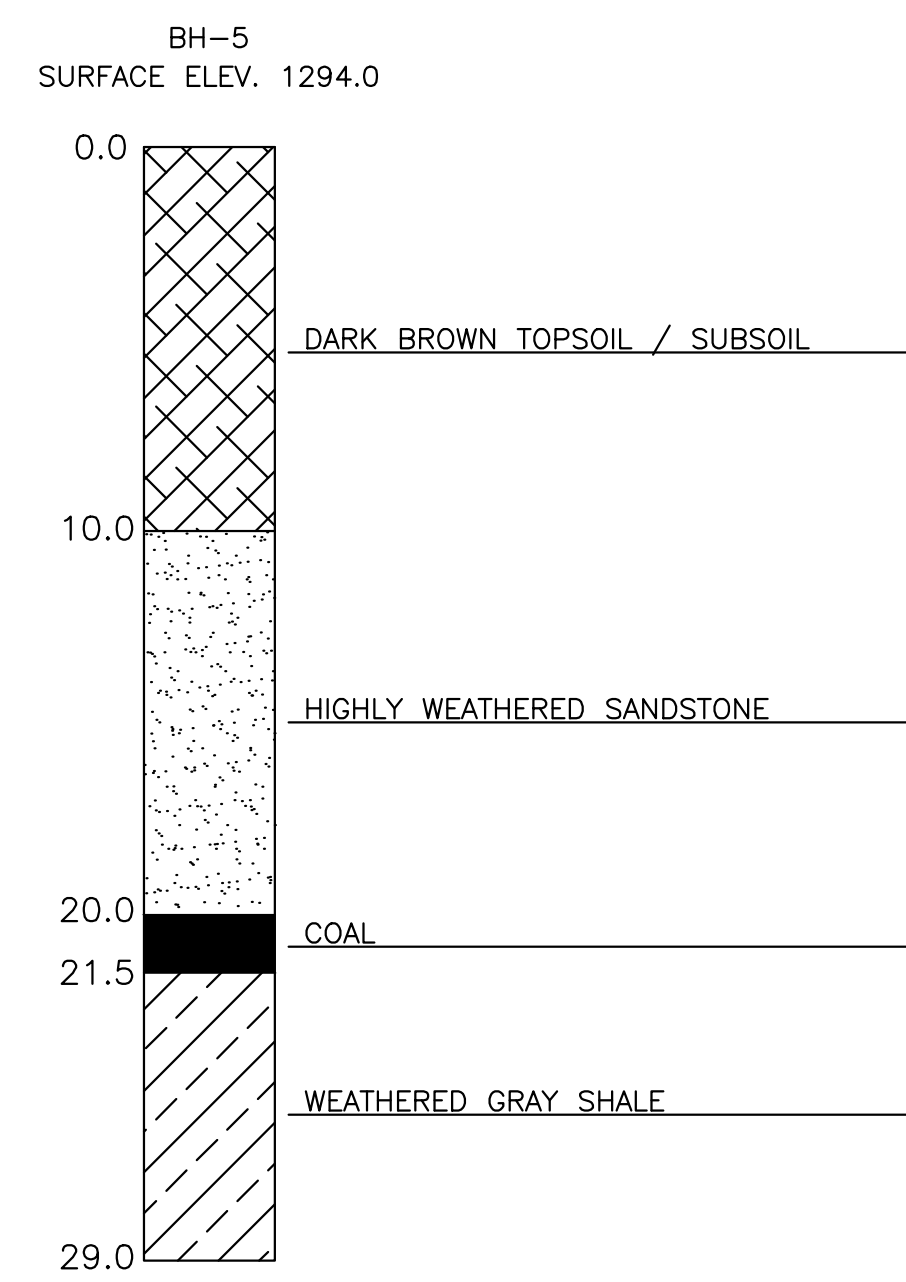
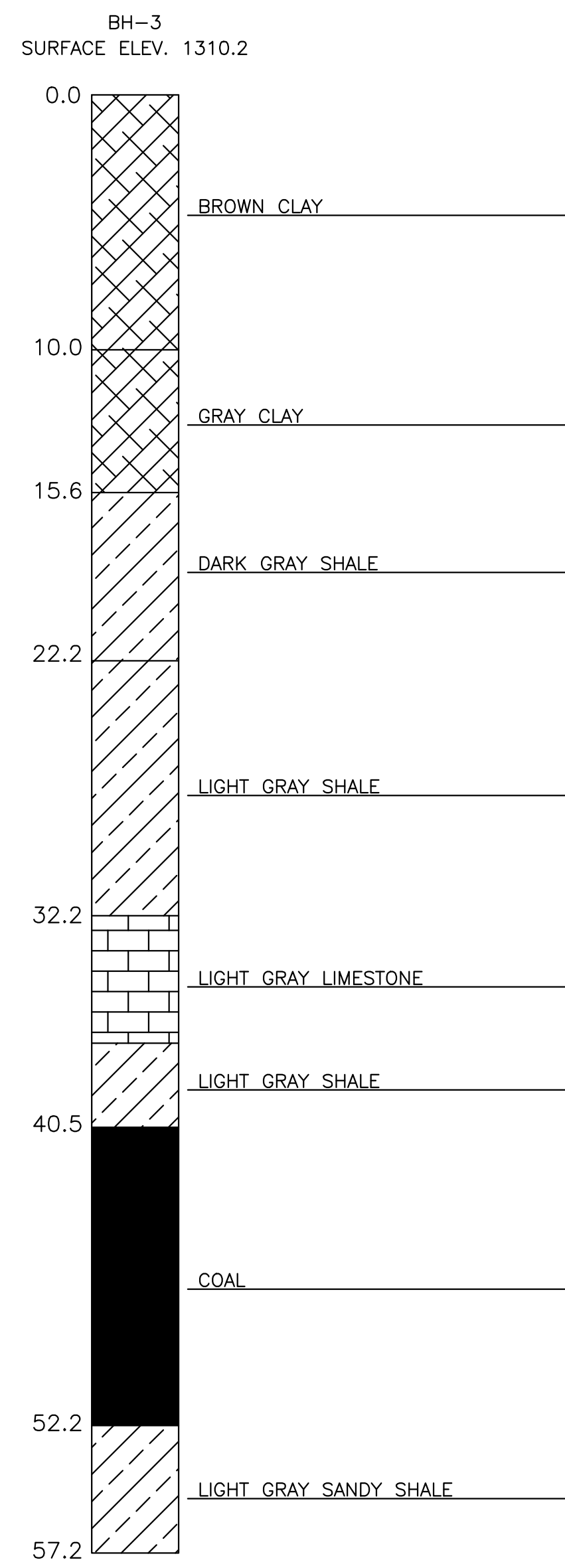
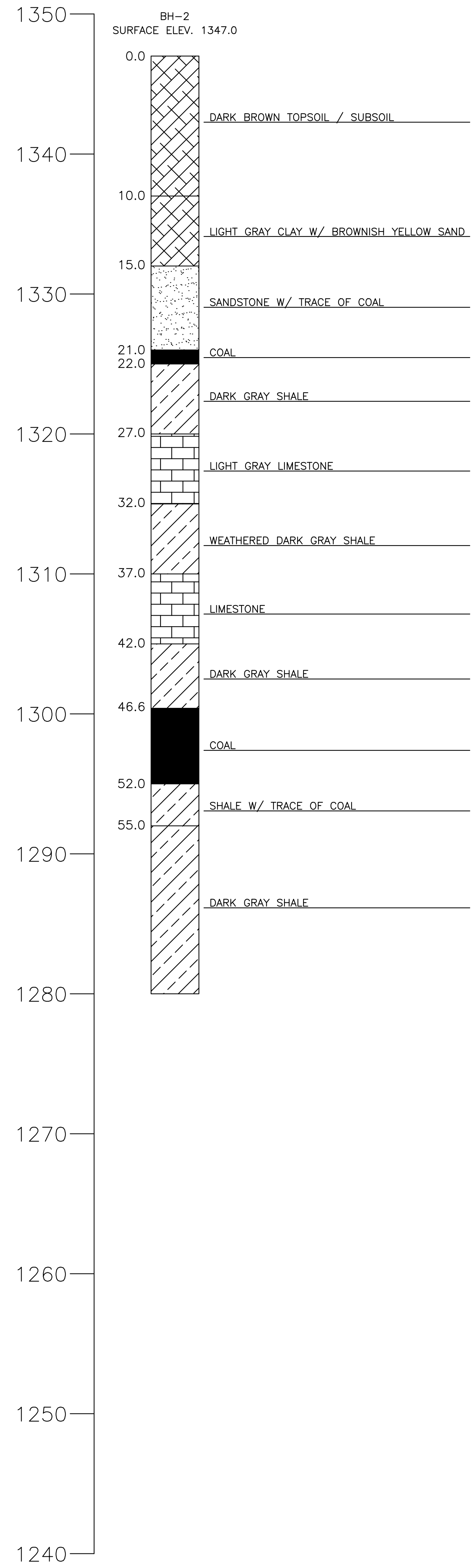
PROPOSED DRAINAGE CHANNEL 6 - SUMMARY				
STATION	D (MIN. FT.) (D=Fb+F.D.)	SIDE SLOPES	B (FT.)	AVG. SLOPE (FT./FT.)
0+00-0+22	2	2:1	3	0.14
0+22-0+63	2	2:1	3	0.05
0+63-1+51	2	2:1	3	0.29
1+51-1+70	2	2:1	3	0.47
1+70-1+98	2	2:1	3	0.21
1+98-2+43	2	2:1	3	0.02



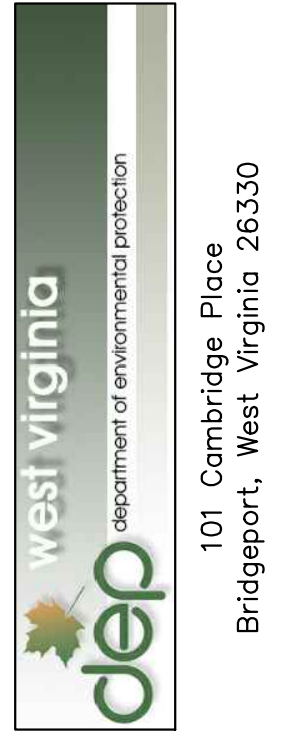
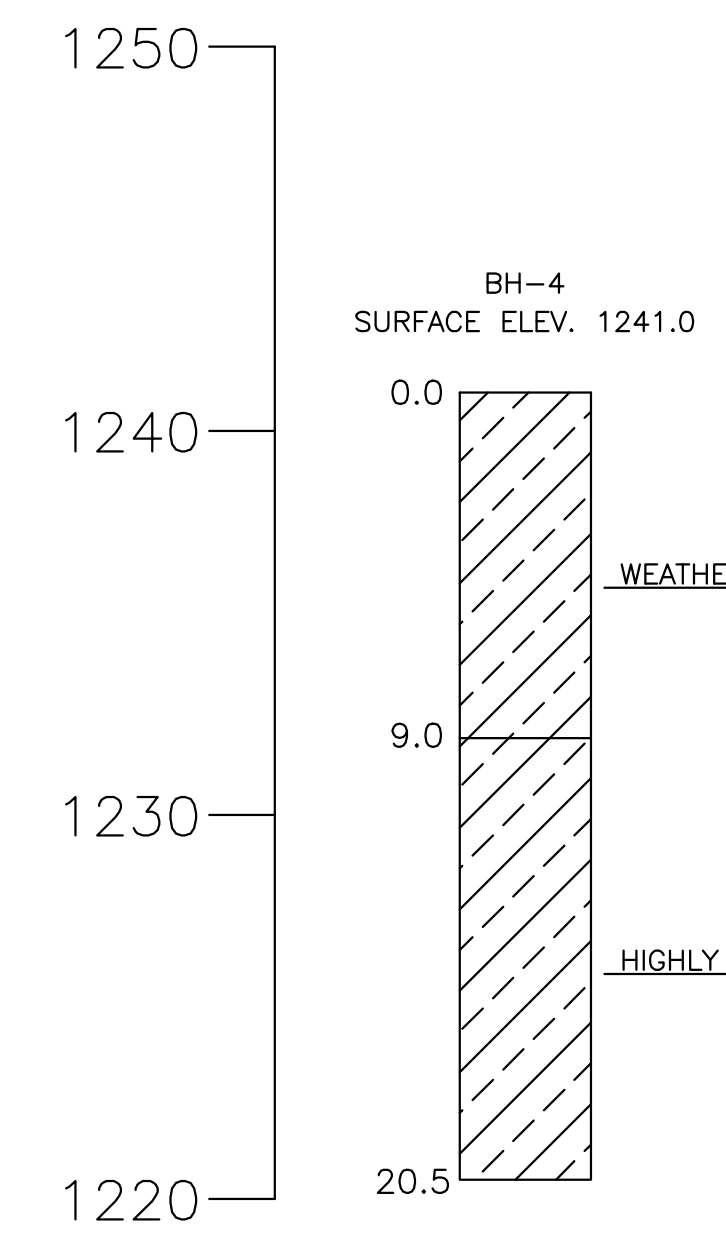
No.	Description	Date	By
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Drawn	BLP	Checked	JLL	Approved	WDB	Date	04.09.2014
Designed	HMM						

Job	No.
319151	20
B/O	Total
20	25



SCALE: 1" = 5'

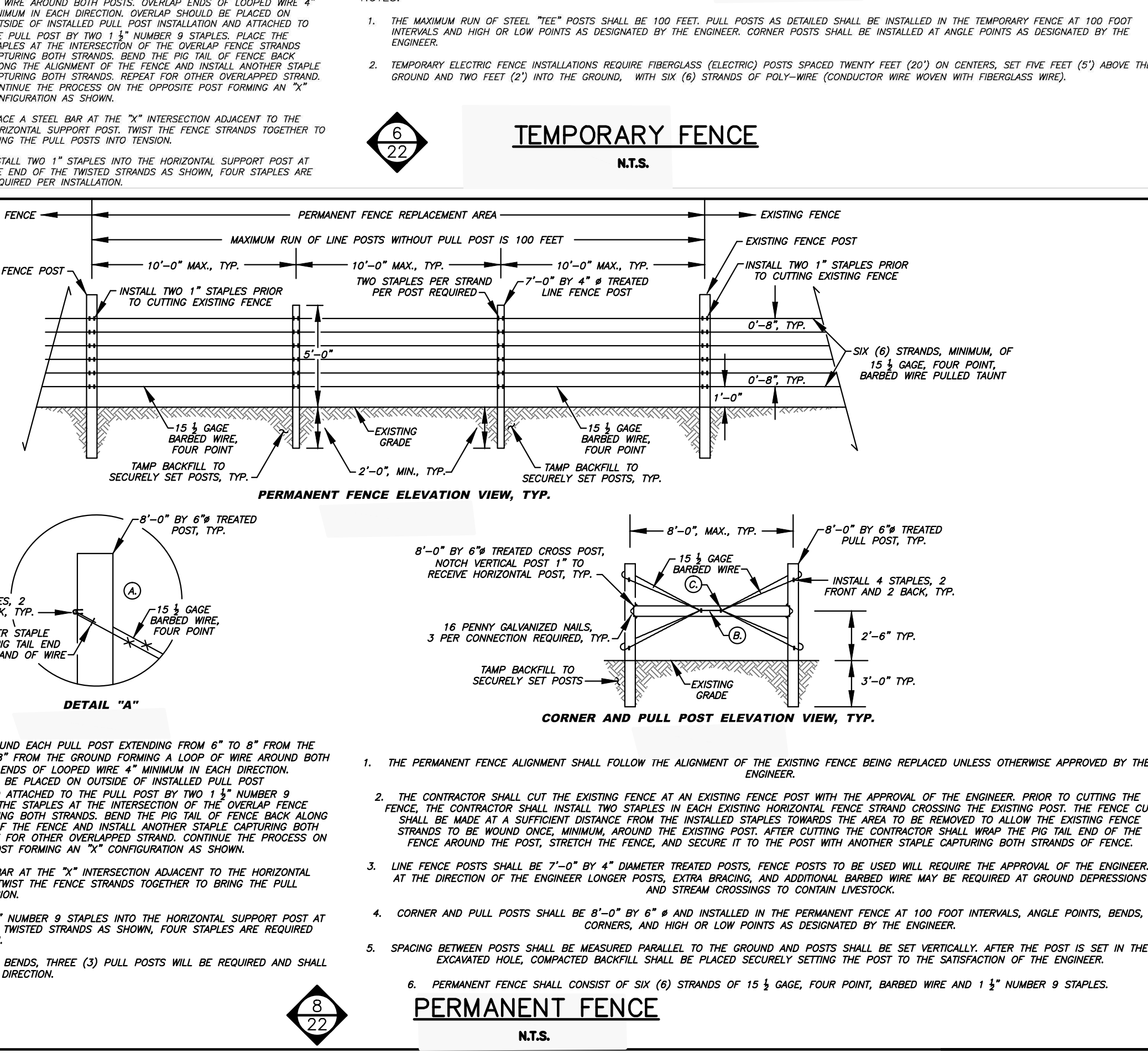
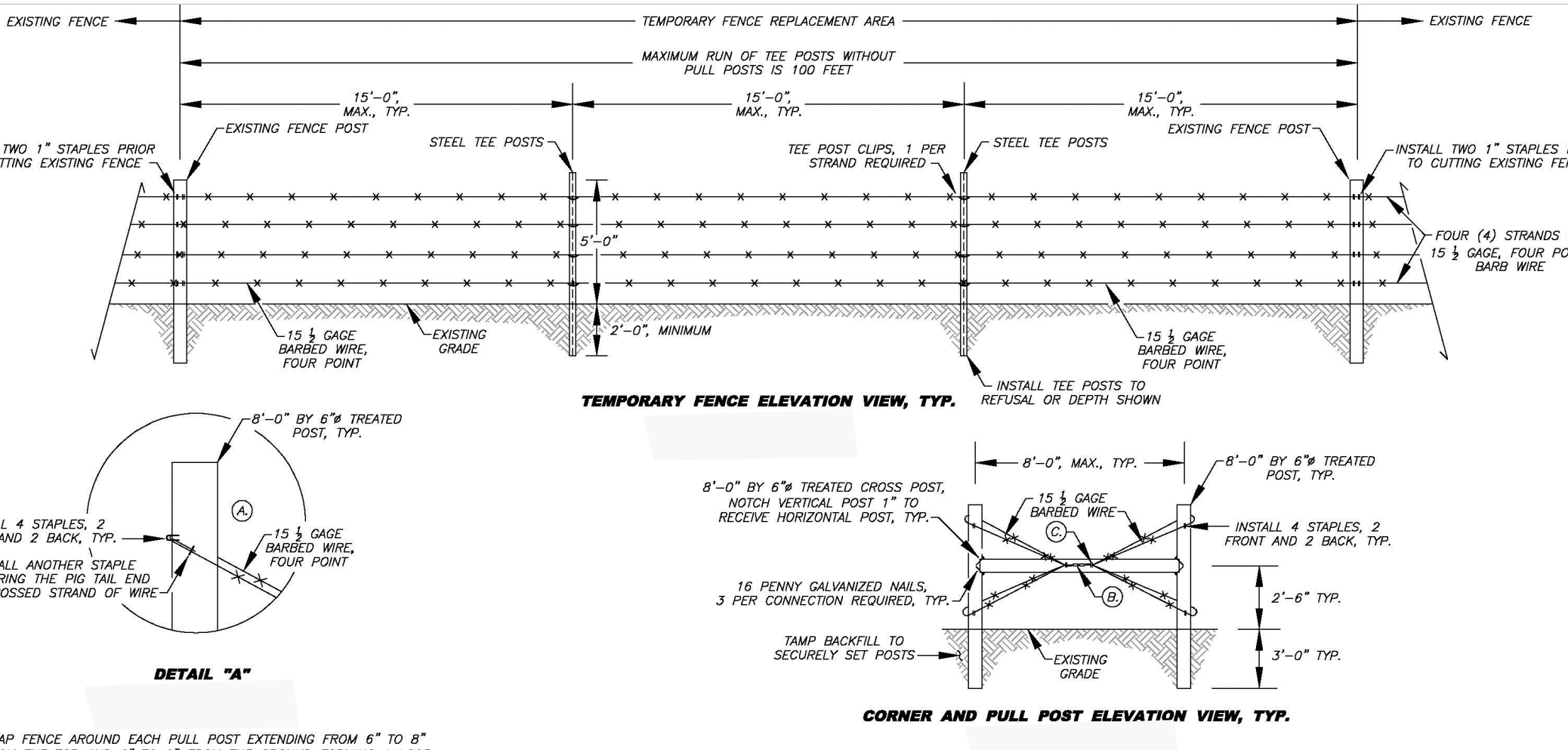
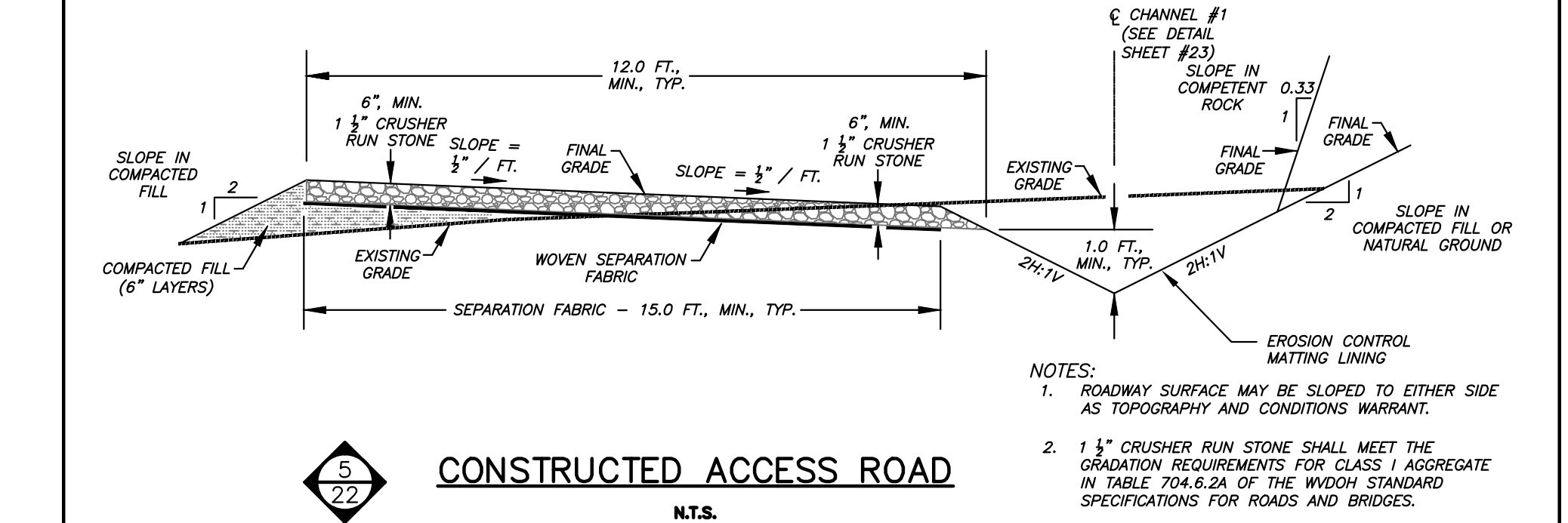
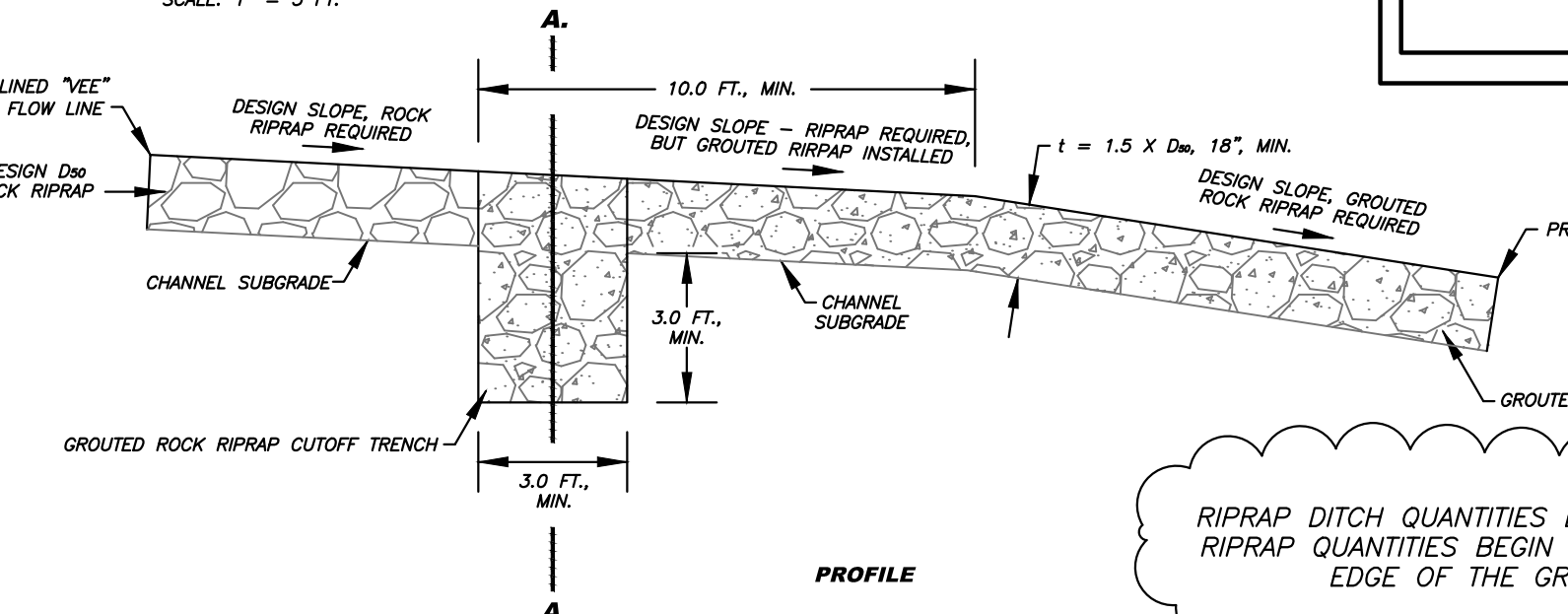
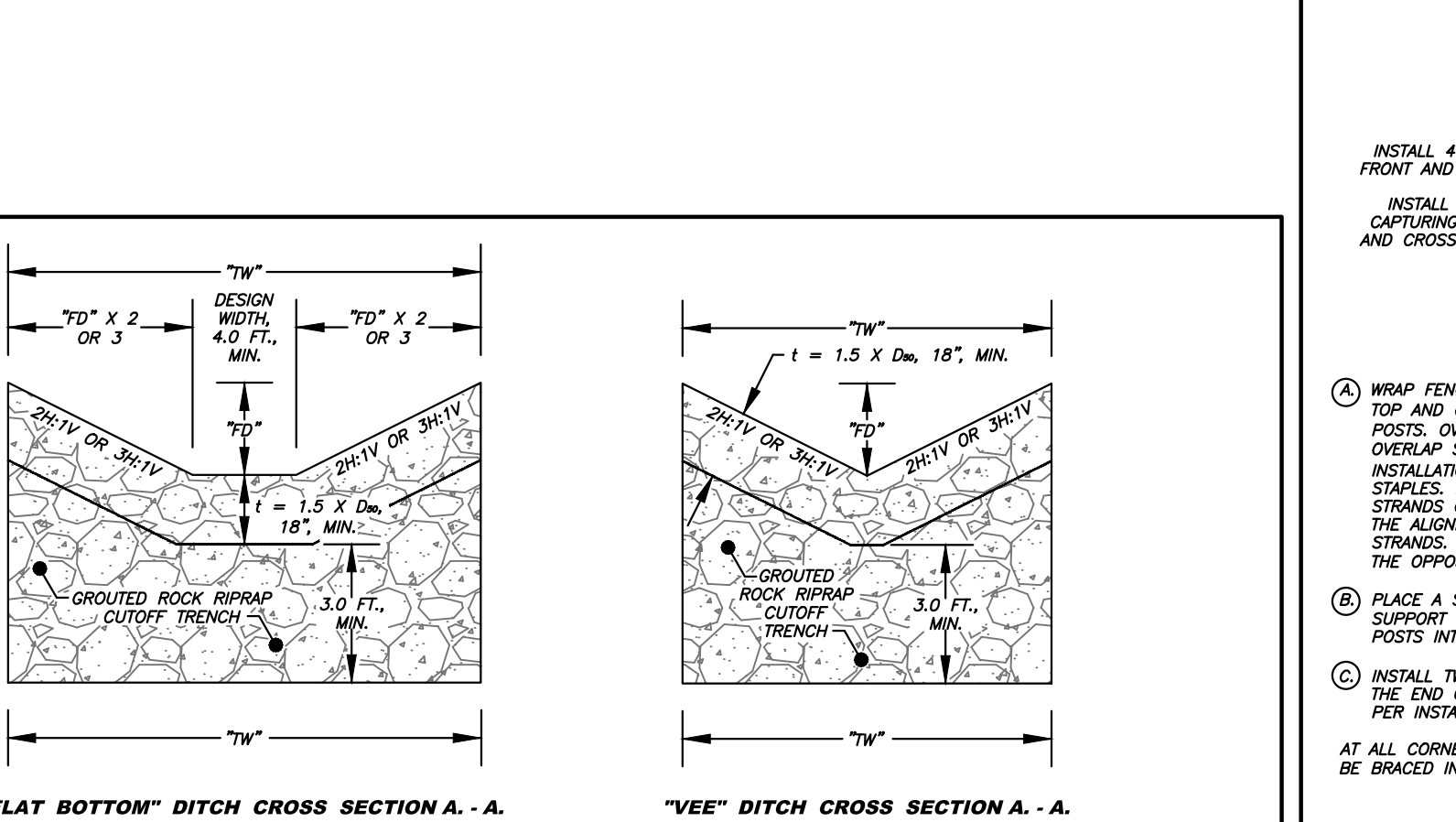
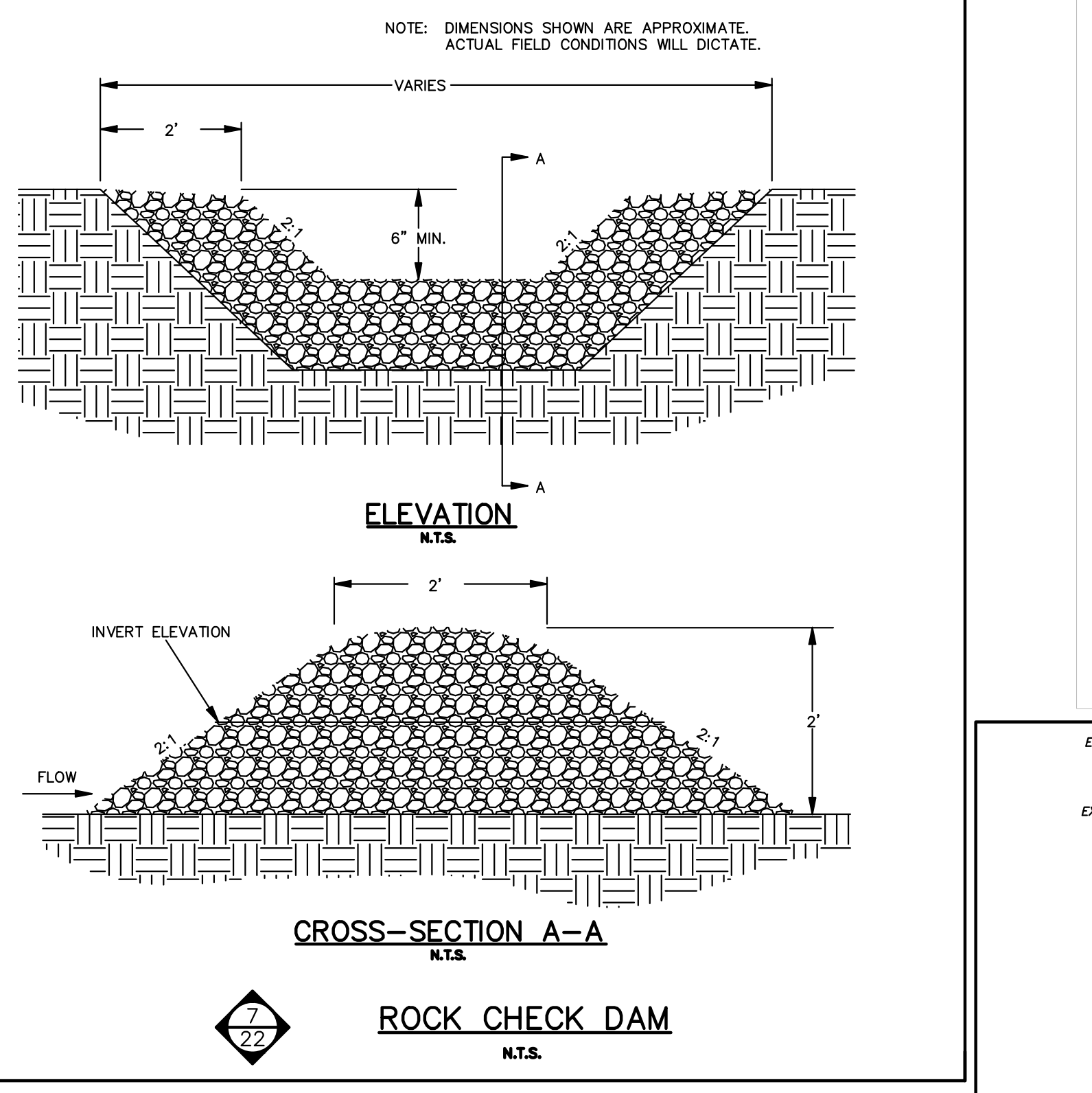
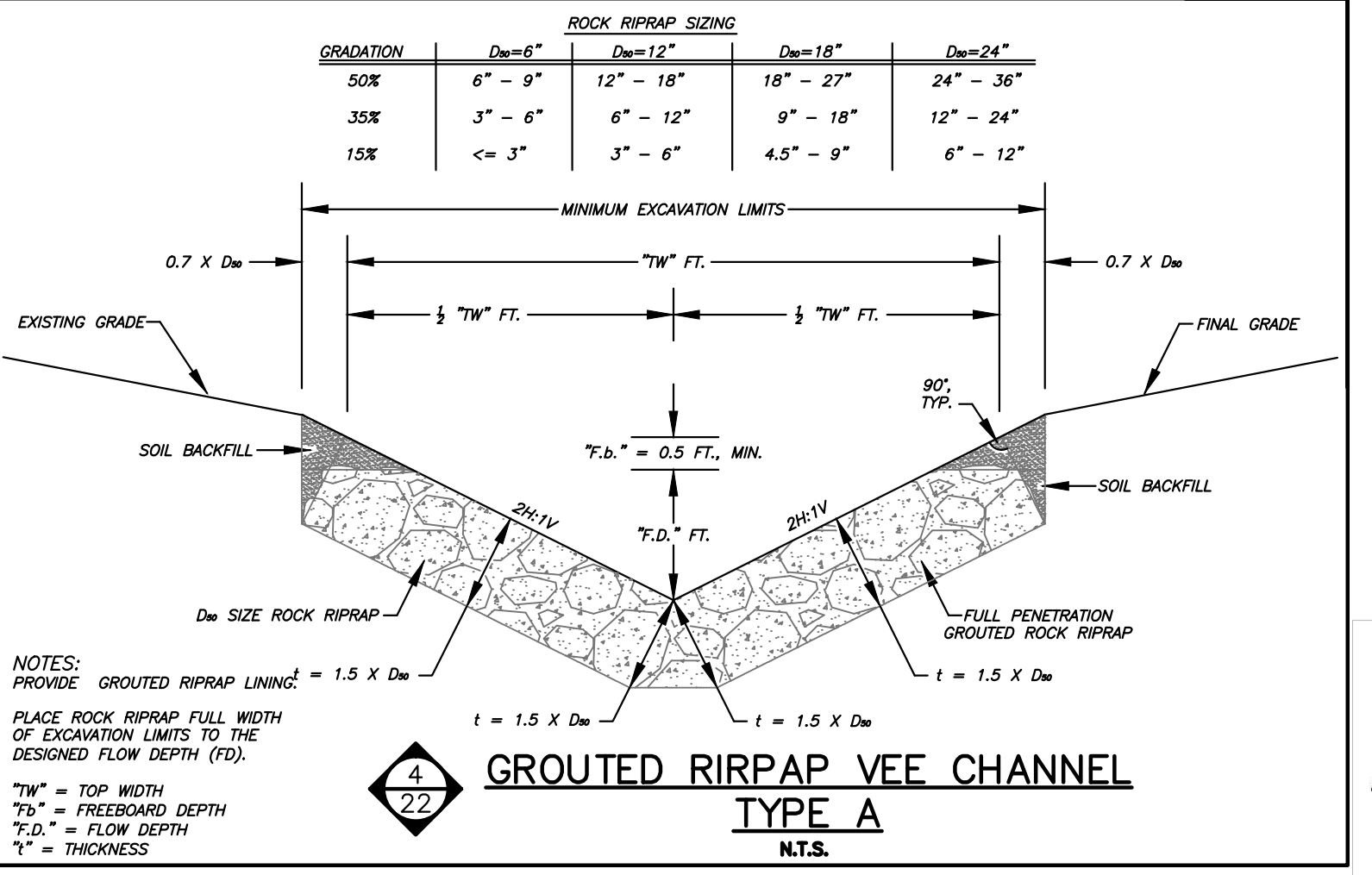
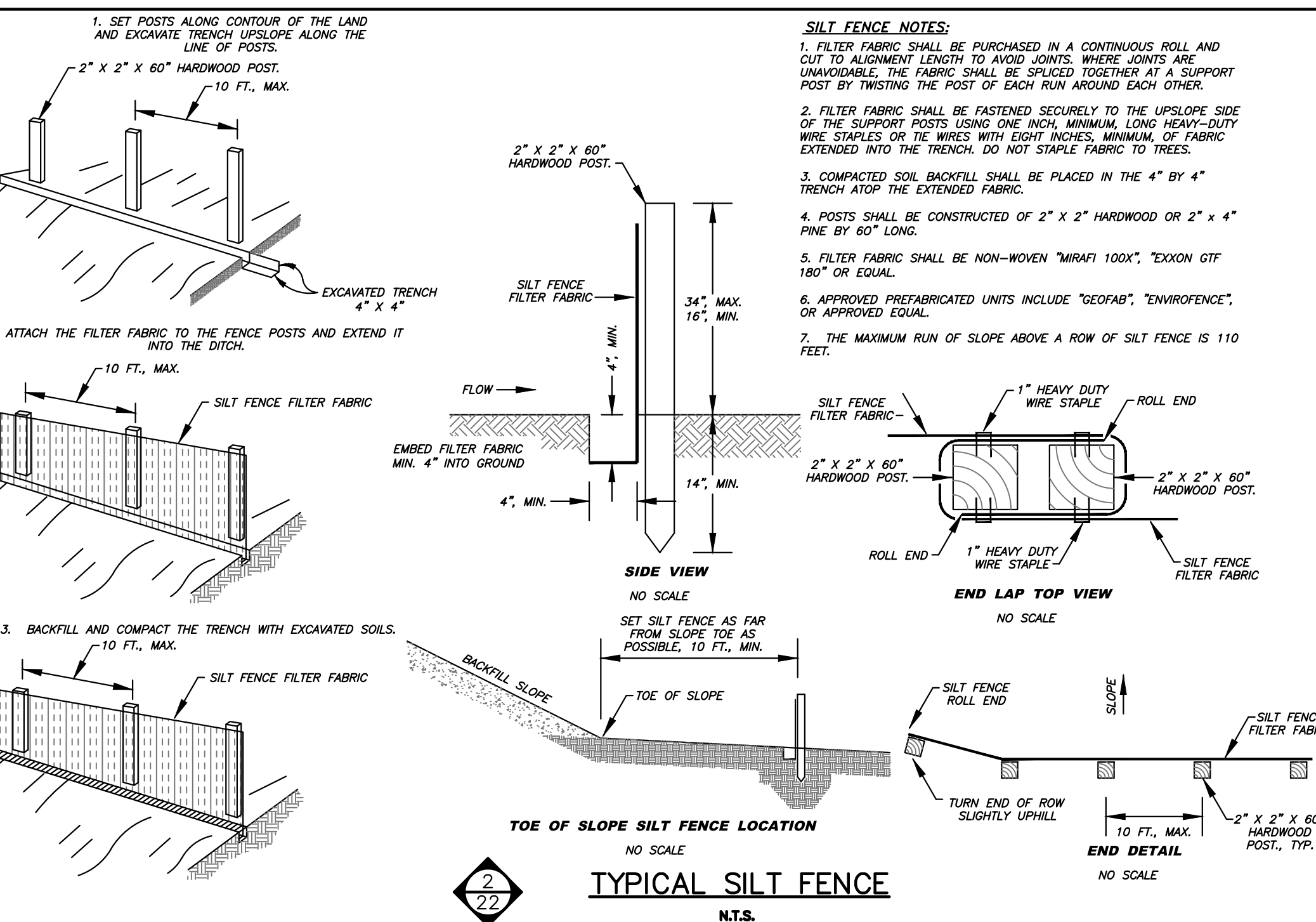
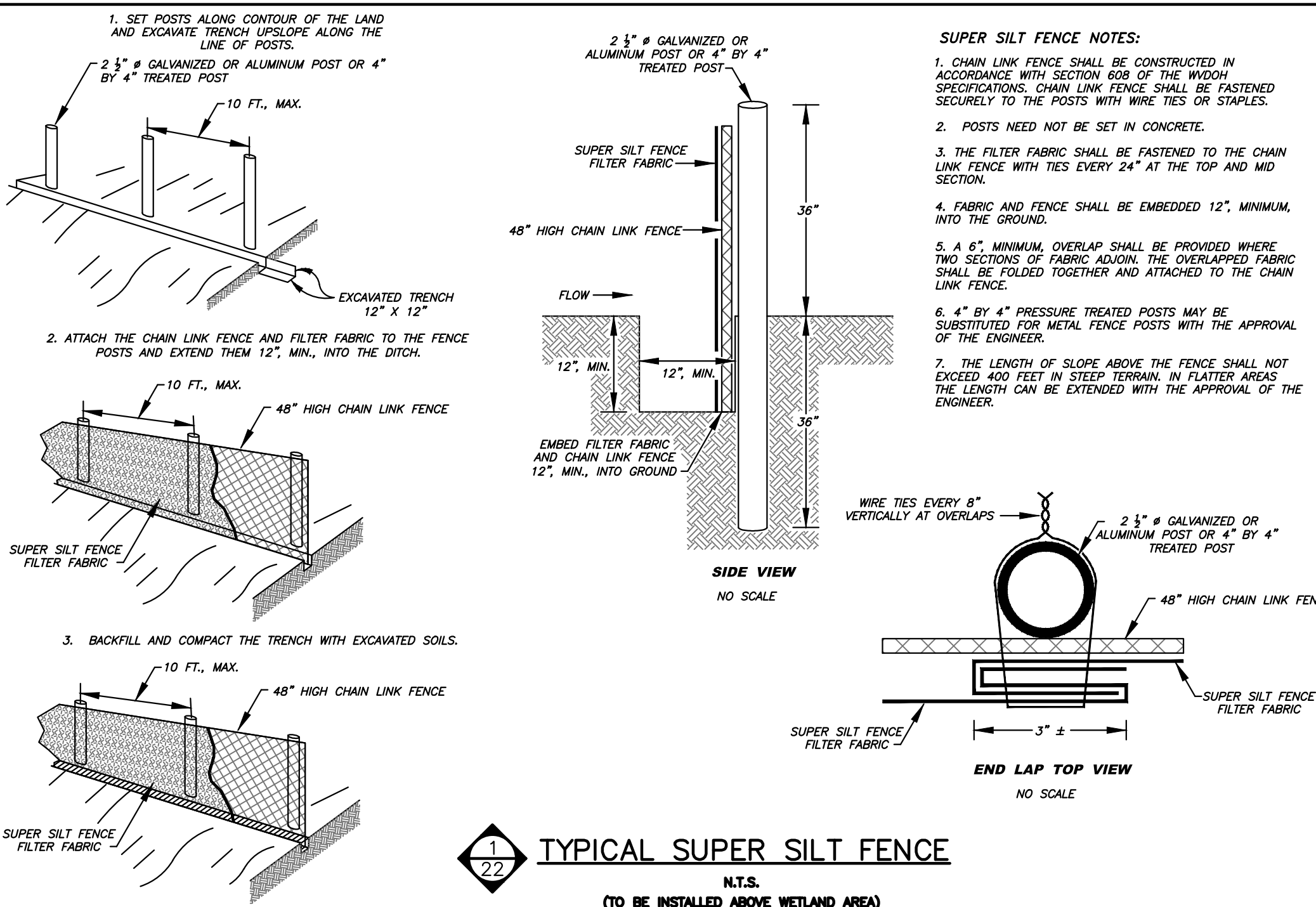


No.	Description	Date	By
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Designed HMM	Drawn SNC	Checked JLL	Approved WDB	Date 04.09.2014
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WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS
ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
PEPPER PORTALS AND DRAINAGE
GEOLOGIC COLUMNS

Job 319151	No. 21
B/O 21	Total 25



Hatch Mott MacDonald
2601 Cranberry Square
Morgantown, West Virginia 26508

Job No. 319151
B/O 22
Total 25

Scale: As Shown

Drawn: SNC
Checked: JLL
Approved: WDB
Date: 04.09.2014

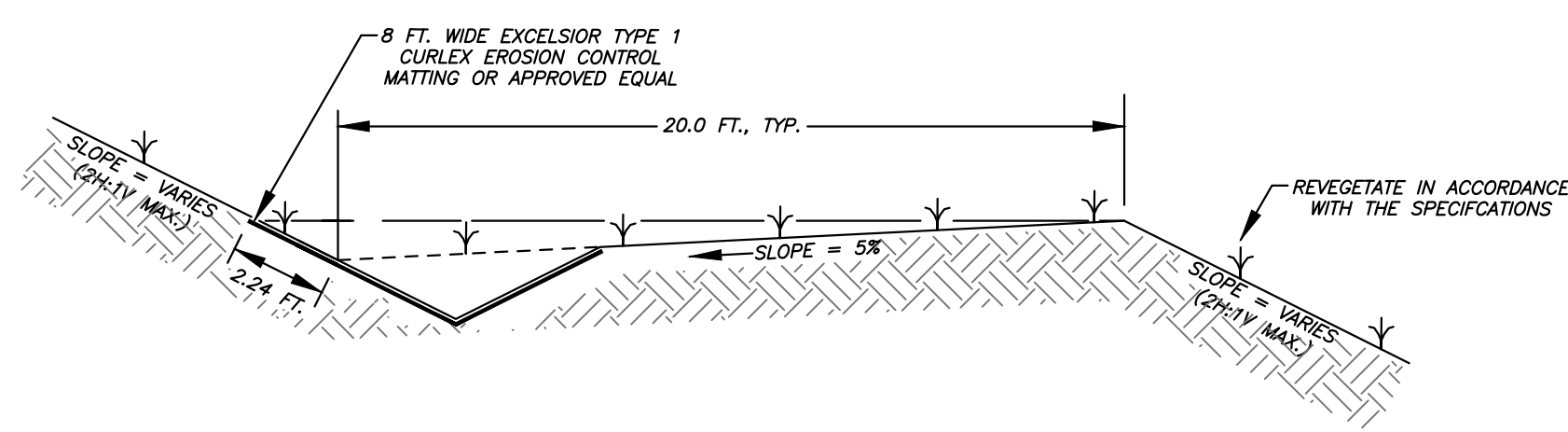
Revision: 1

WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS

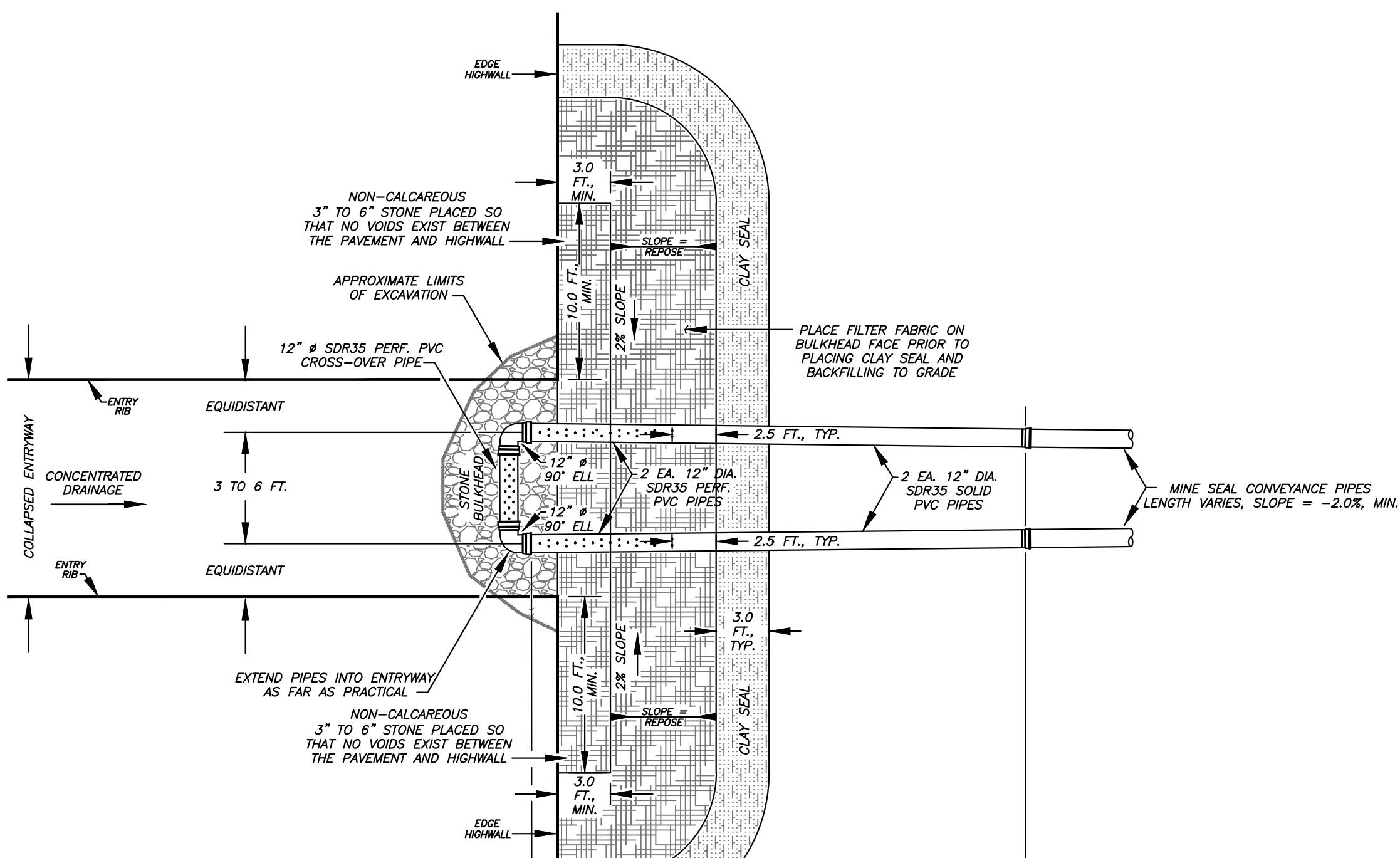
ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA

PEPPER PORTALS AND DRAINAGE
DETAIL SHEET 1

101 Cambridge Place
Bridgeport, West Virginia 26330

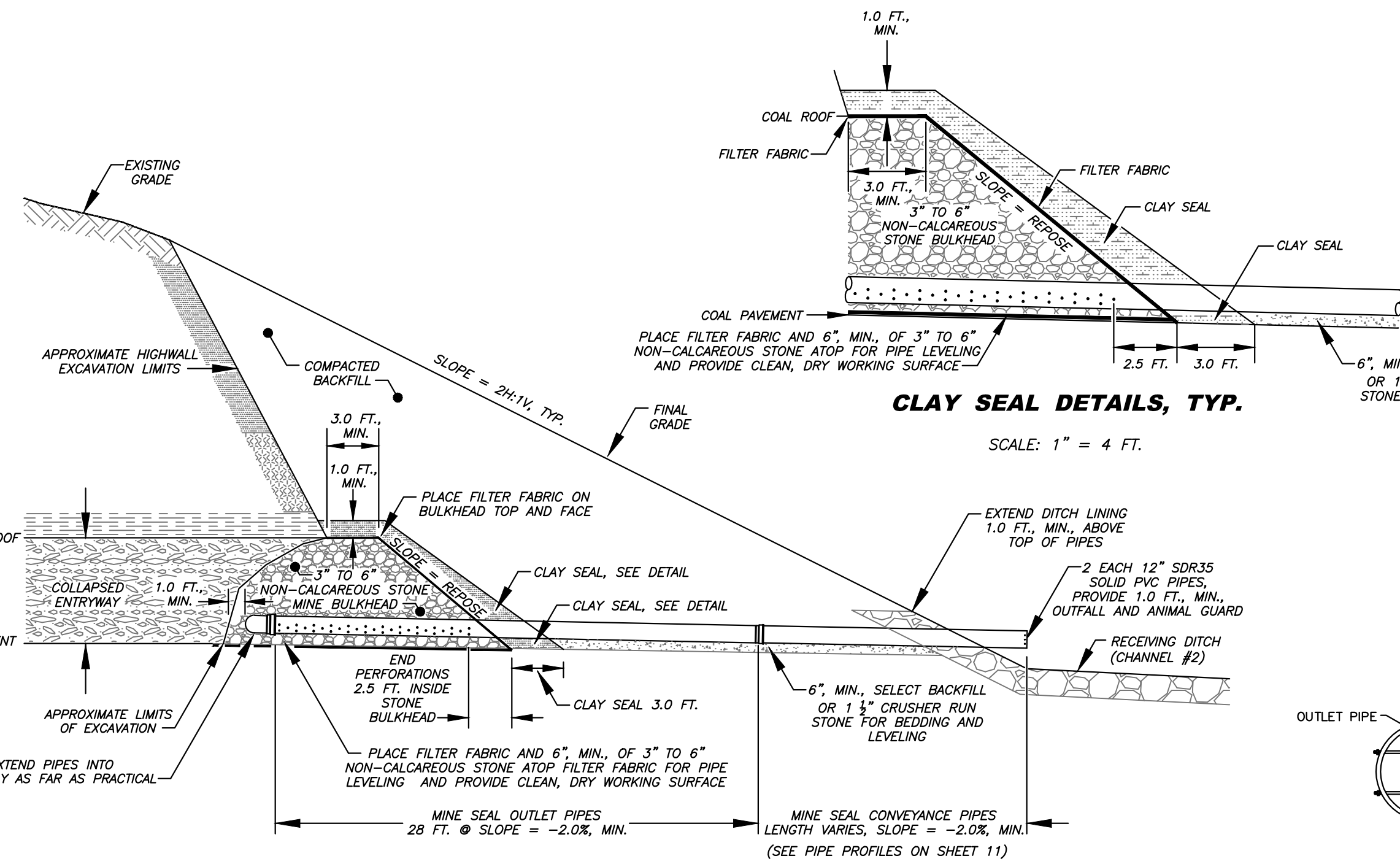


5
2/3
BENCH CONSTRUCTION, TYPICAL SECTION
N.T.S.

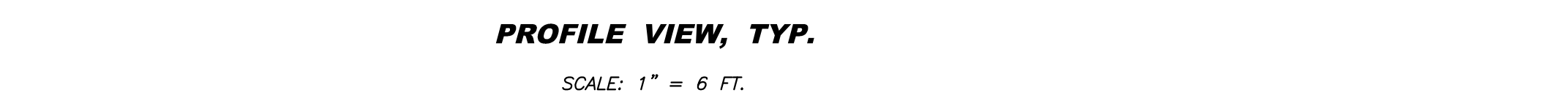


PLAN VIEW, TOP OF BULKHEAD ELEVATION
SCALE: 1" = 6 FT.

- NOTES:
- THE TWO (2) JOINTS (28.0 FEET) OF MINE SEAL OUTLET PIPES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "WET MINE SEALS".
 - THE MINE SEAL CONVEYANCE PIPE LENGTHS VARY AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "MINE SEAL CONVEYANCE PIPES".
 - 1 1/2" CRUSHER RUN STONE SHALL MEET THE GRADATION REQUIREMENTS FOR CLASS 1 AGGREGATE IN TABLE 704.6.2A OF THE IWBCH SPECIFICATIONS FOR ROADS AND BRIDGES.



CLAY SEAL DETAILS, TYP.
SCALE: 1" = 4 FT.



PROFILE VIEW, TYP.
SCALE: 1" = 6 FT.



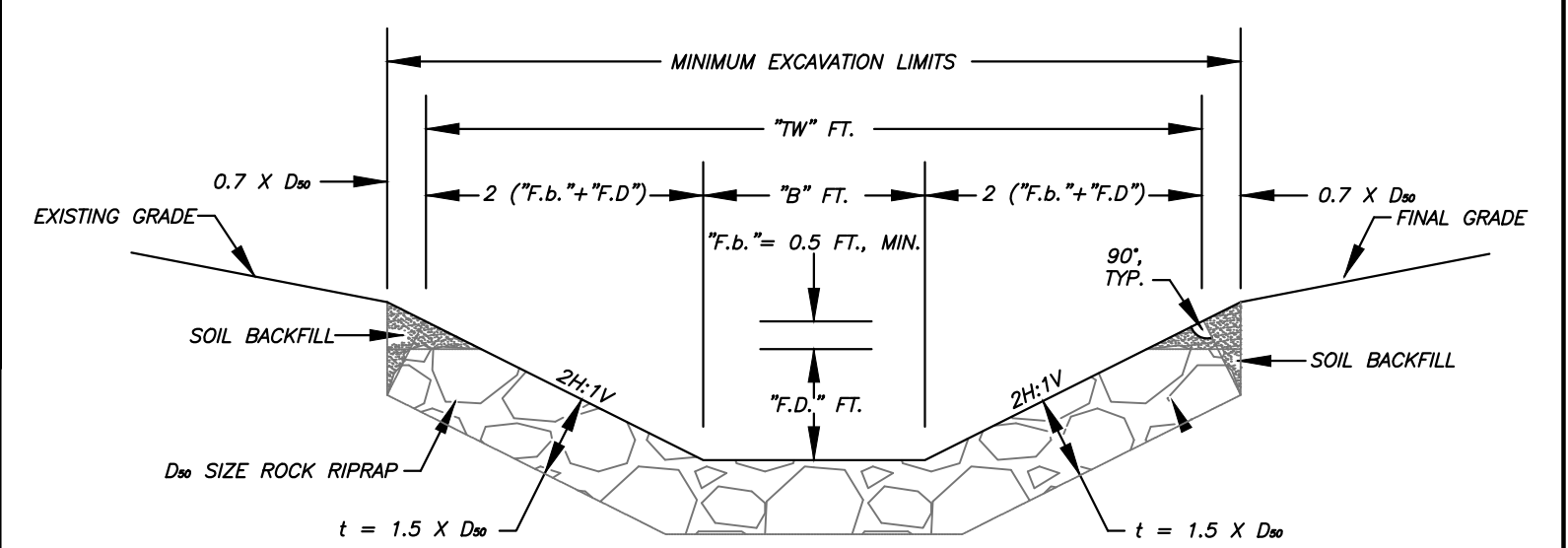
TYPICAL ANIMAL GUARD
N.T.S.

1
2/3
MODIFIED WET MINE SEAL
N.T.S.

NOTES:
PROVIDE RIPRAP LINING.
PLACE ROCK RIPRAP FULL WIDTH OF EXCAVATION LIMITS TO THE DESIGNED FLOW DEPTH (FD).

TW" = TOP WIDTH
Fb" = FREEBOARD DEPTH
F.D." = FLOW DEPTH
T" = THICKNESS
B" = BOTTOM WIDTH
D" = Fb + F.D.

GRADATION	ROCK RIPRAP SIZING			
	D ₅₀ =6"	D ₅₀ =12"	D ₅₀ =18"	D ₅₀ =24"
50%	6" - 9"	12" - 18"	18" - 27"	24" - 36"
35%	3" - 6"	6" - 12"	9" - 18"	12" - 24"
15%	<= 3"	3" - 6"	4.5" - 9"	6" - 12"

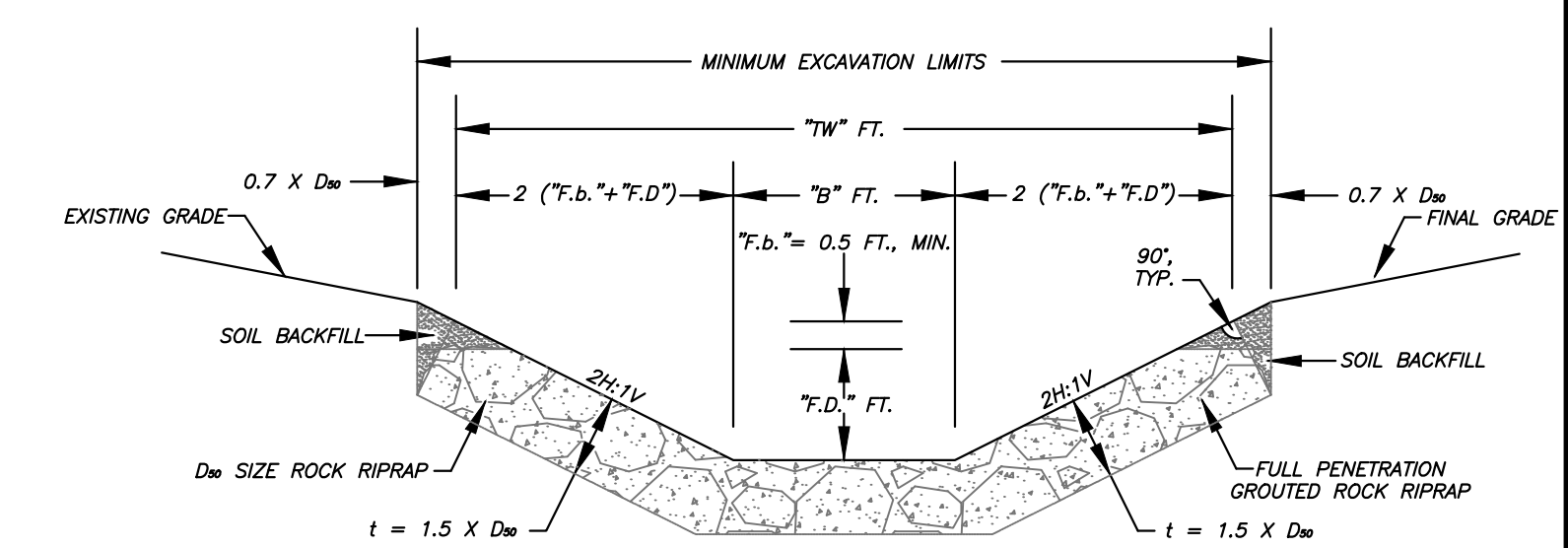


3
2/3
RIPRAP TRAPEZOIDAL CHANNEL
TYPE C
N.T.S.

NOTES:
PROVIDE GROUDED RIPRAP LINING.
PLACE ROCK RIPRAP FULL WIDTH OF EXCAVATION LIMITS TO THE DESIGNED FLOW DEPTH (FD).

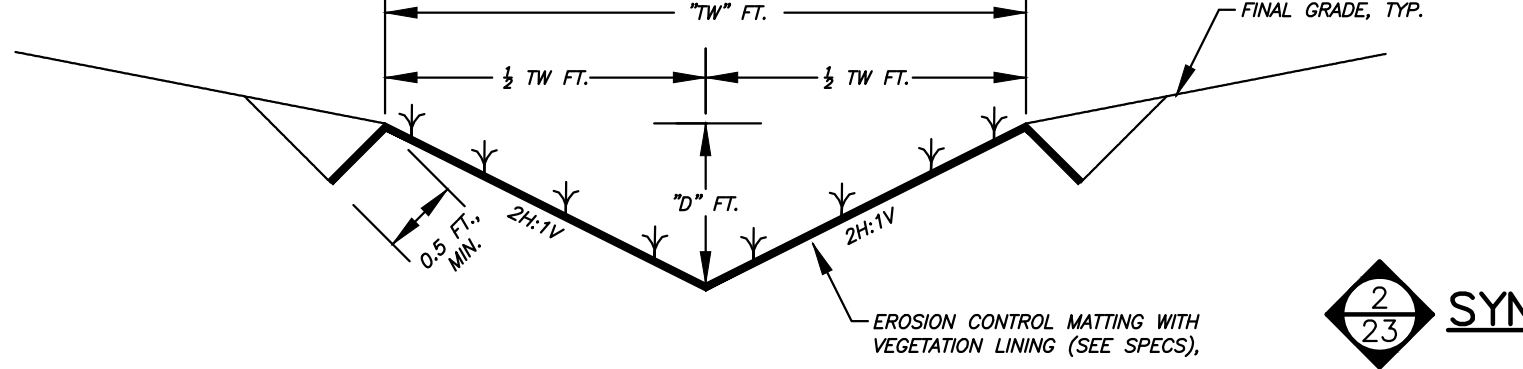
TW" = TOP WIDTH
Fb" = FREEBOARD DEPTH
F.D." = FLOW DEPTH
T" = THICKNESS
B" = BOTTOM WIDTH
D" = Fb + F.D.

GRADATION	ROCK RIPRAP SIZING			
	D ₅₀ =6"	D ₅₀ =12"	D ₅₀ =18"	D ₅₀ =24"
50%	6" - 9"	12" - 18"	18" - 27"	24" - 36"
35%	3" - 6"	6" - 12"	9" - 18"	12" - 24"
15%	<= 3"	3" - 6"	4.5" - 9"	6" - 12"

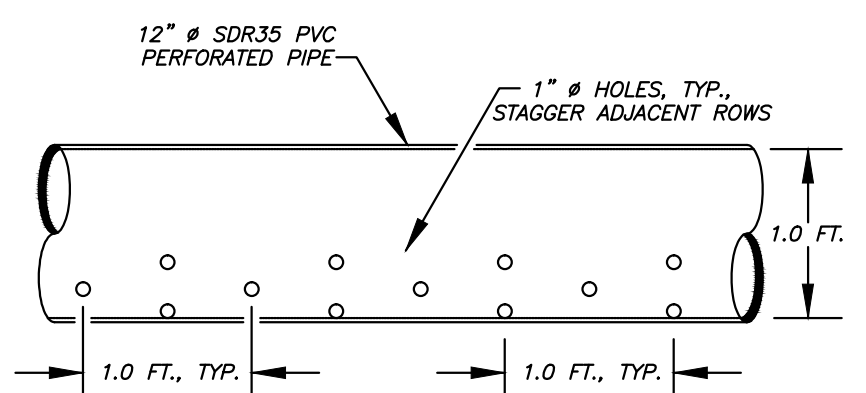
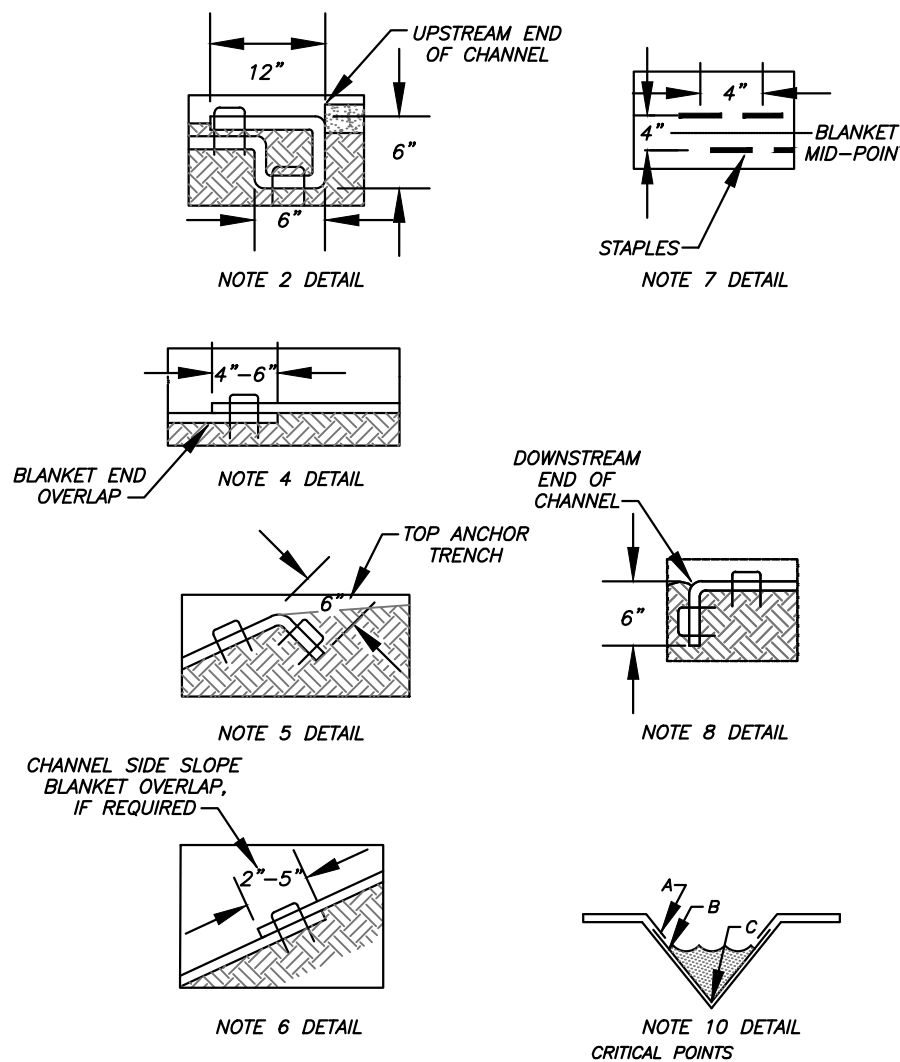


4
2/3
GROUDED RIPRAP TRAPEZOIDAL CHANNEL
TYPE D
N.T.S.

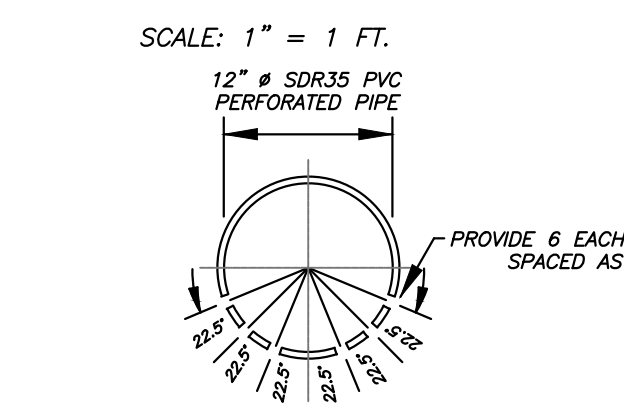
- NOTES:
- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 - BEGIN AT THE UPSTREAM END OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" ACROSS THE WIDTH OF THE BLANKET.
 - ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
 - PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4" - 6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
 - FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 - ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 3" - 5" (DEPENDING ON BLANKET TYPE) AND STAPLED.
 - IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
 - THE DOWNSTREAM END OF THE CHANNEL BLANKET MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 - IN LOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE REQUIRED TO PROPERLY ANCHOR THE BLANKET.
 - HORIZONTAL STAPLE SPACING SHOULD BE ALTERED, IF NECESSARY, TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
 - PERMANENT SEED MIXTURE, IN ACCORDANCE WITH THE SPECIFICATIONS, SHALL BE USED FOR VEGETATED CHANNELS EXCEPT CROWNWETCH (CORONILLA VARIA) AT 20 LBS./AC. SHALL BE SUBSTITUTED FOR BIRDSFOOT TREFLOID.
 - TW" = TOP WIDTH
D" = DEPTH



2
2/3
SYNTHETIC LINED VEE CHANNEL
TYPE B
N.T.S.

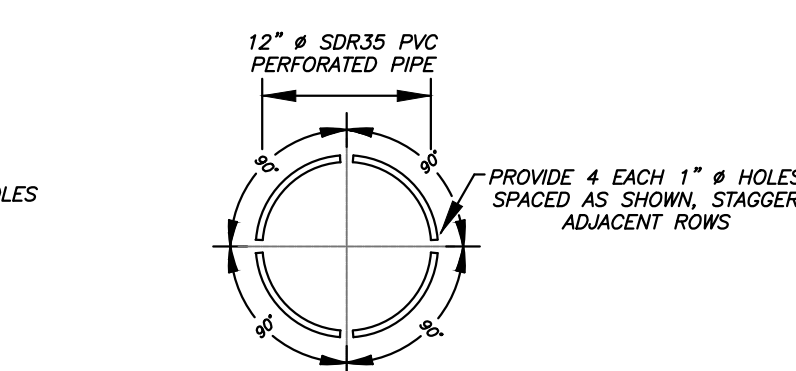


MODIFIED MINE SEAL OUTLET PIPES
LONGITUDINAL VIEW, TYP.



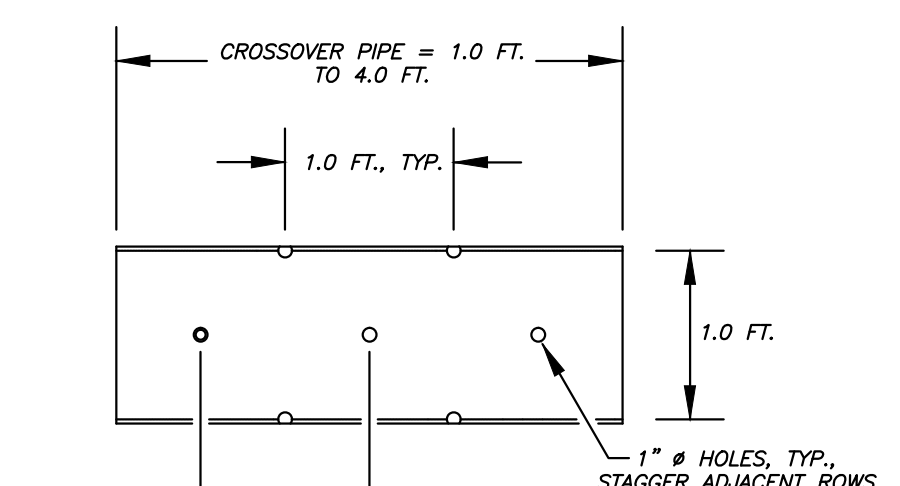
MODIFIED MINE SEAL OUTLET PIPES
CROSS SECTION, TYP.

SCALE: 1" = 1 FT.



MODIFIED MINE SEAL CROSS-OVER PIPE
CROSS SECTION, TYP.

SCALE: 1" = 1 FT.



MODIFIED MINE SEAL CROSS-OVER PIPE
LONGITUDINAL VIEW, TYP.

SCALE: 1" = 1 FT.

west virginia
department of environmental protection
dep

101 Cambridge Place
Bridgeport, West Virginia 26330

No.	Description	Revision
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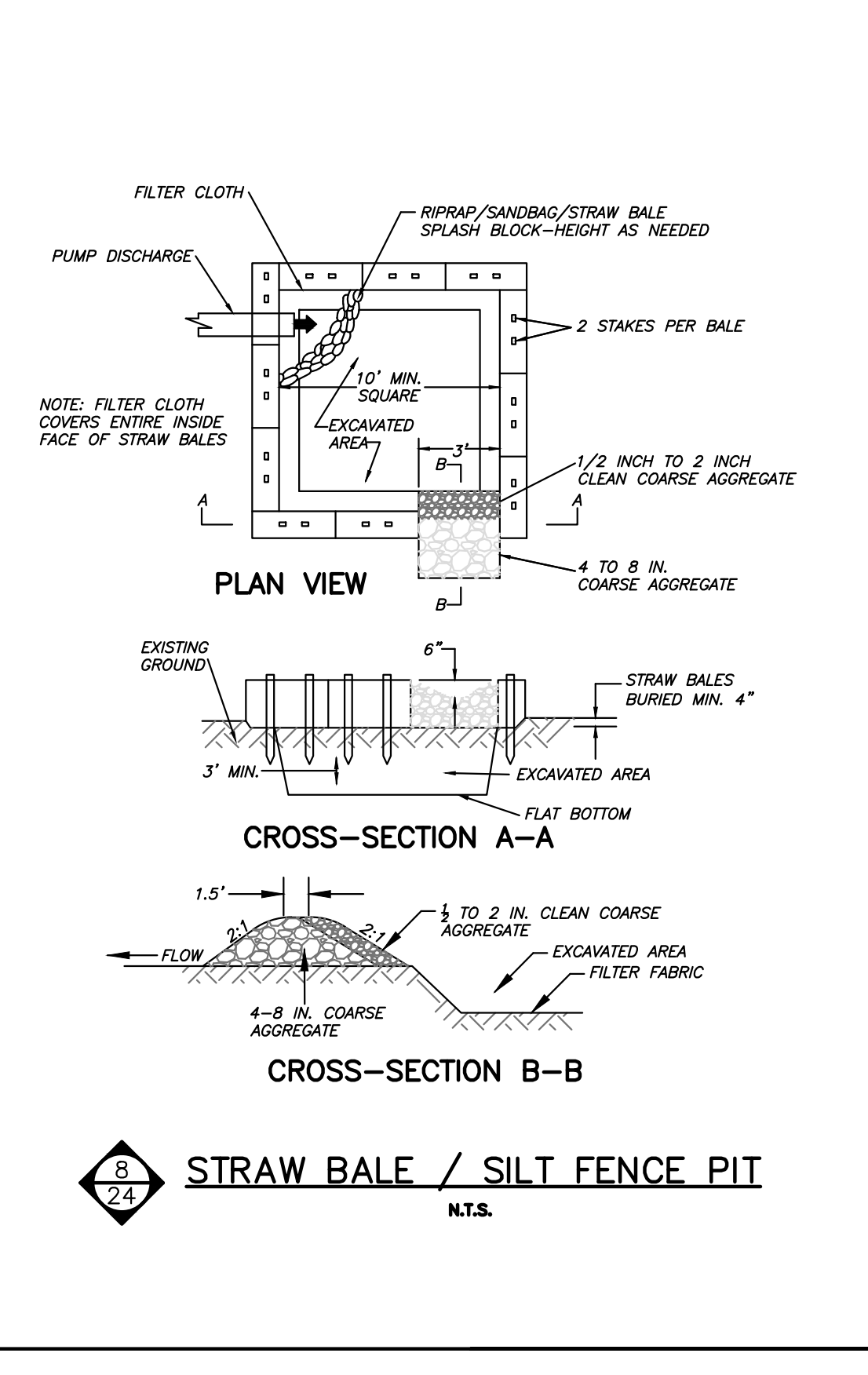
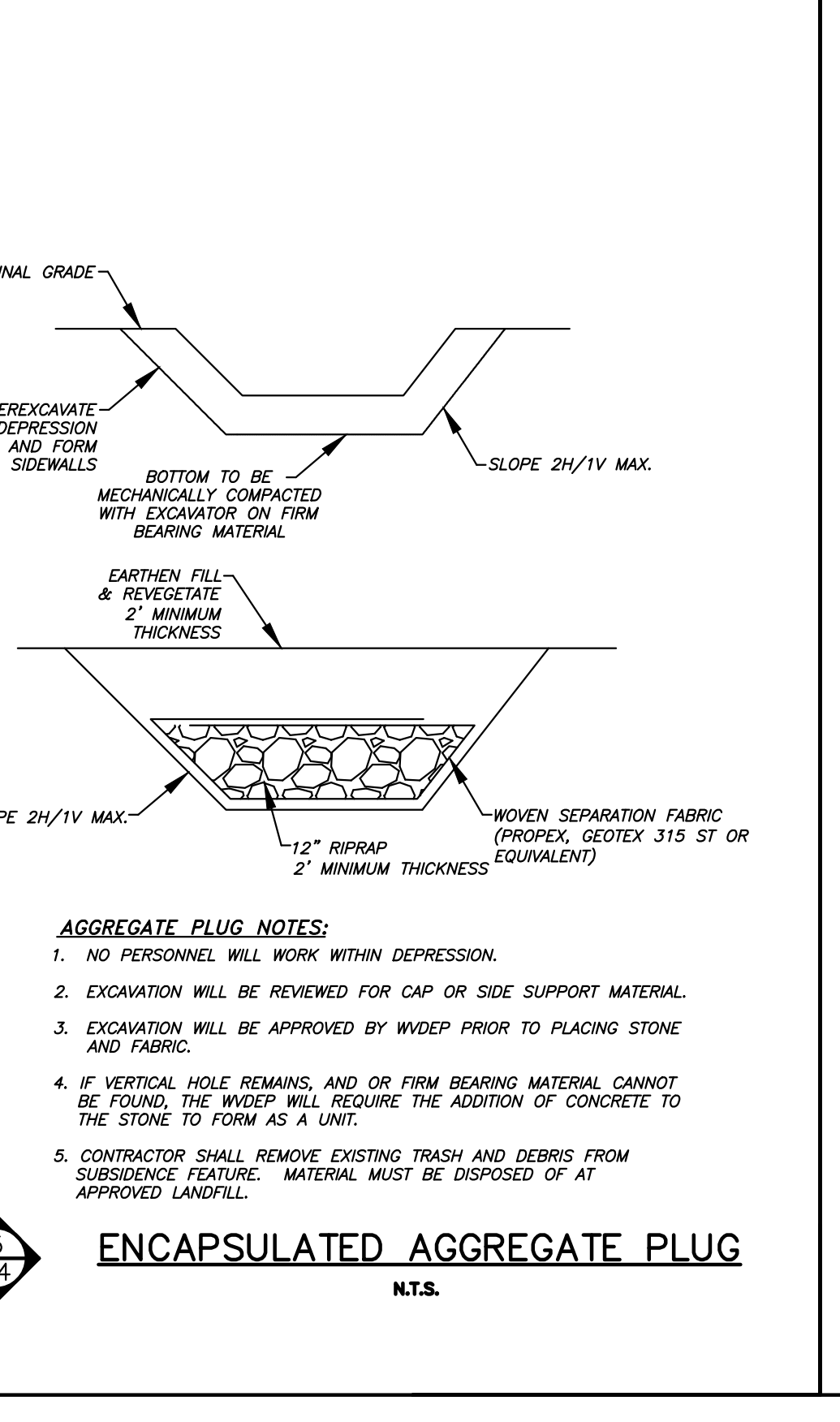
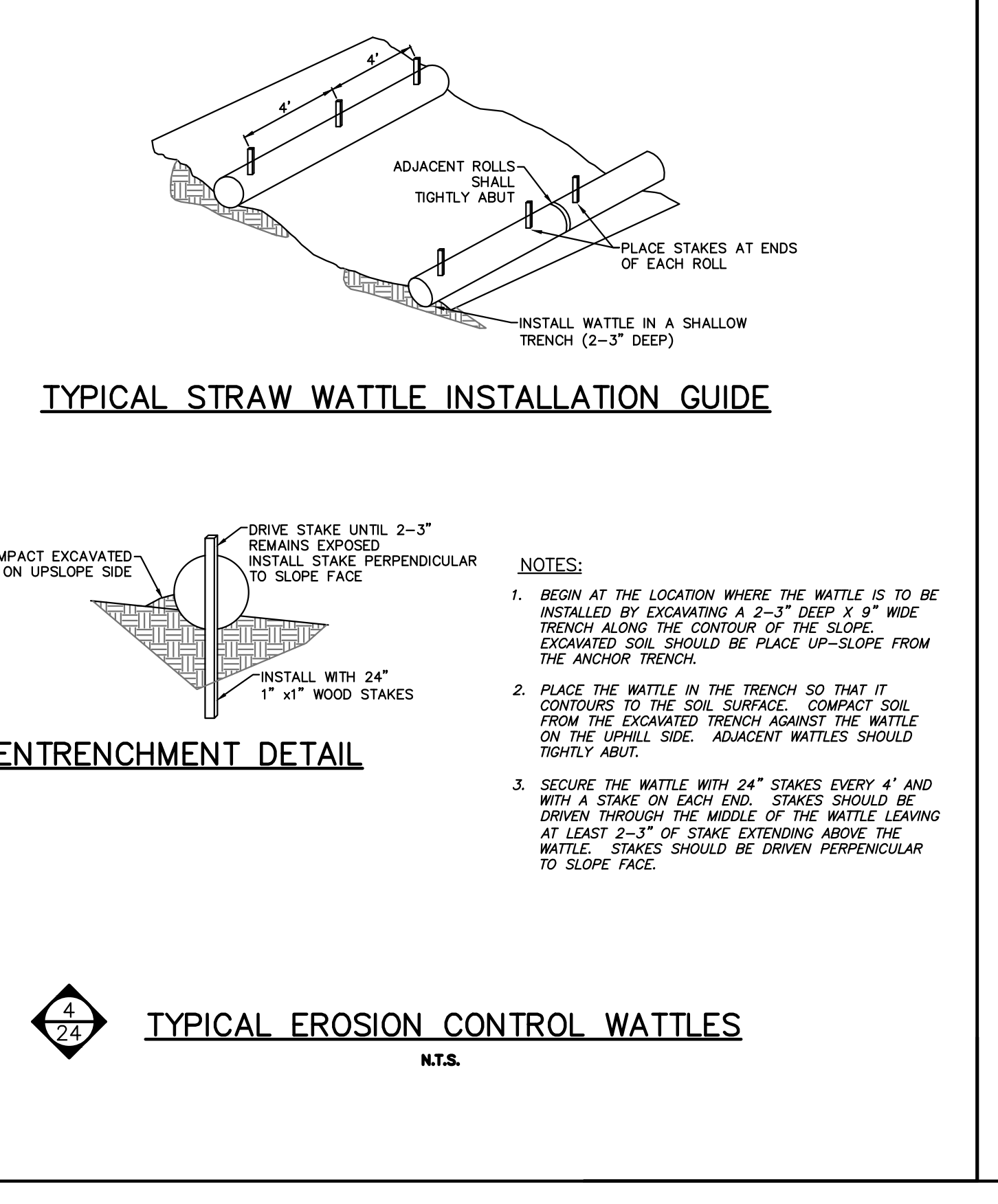
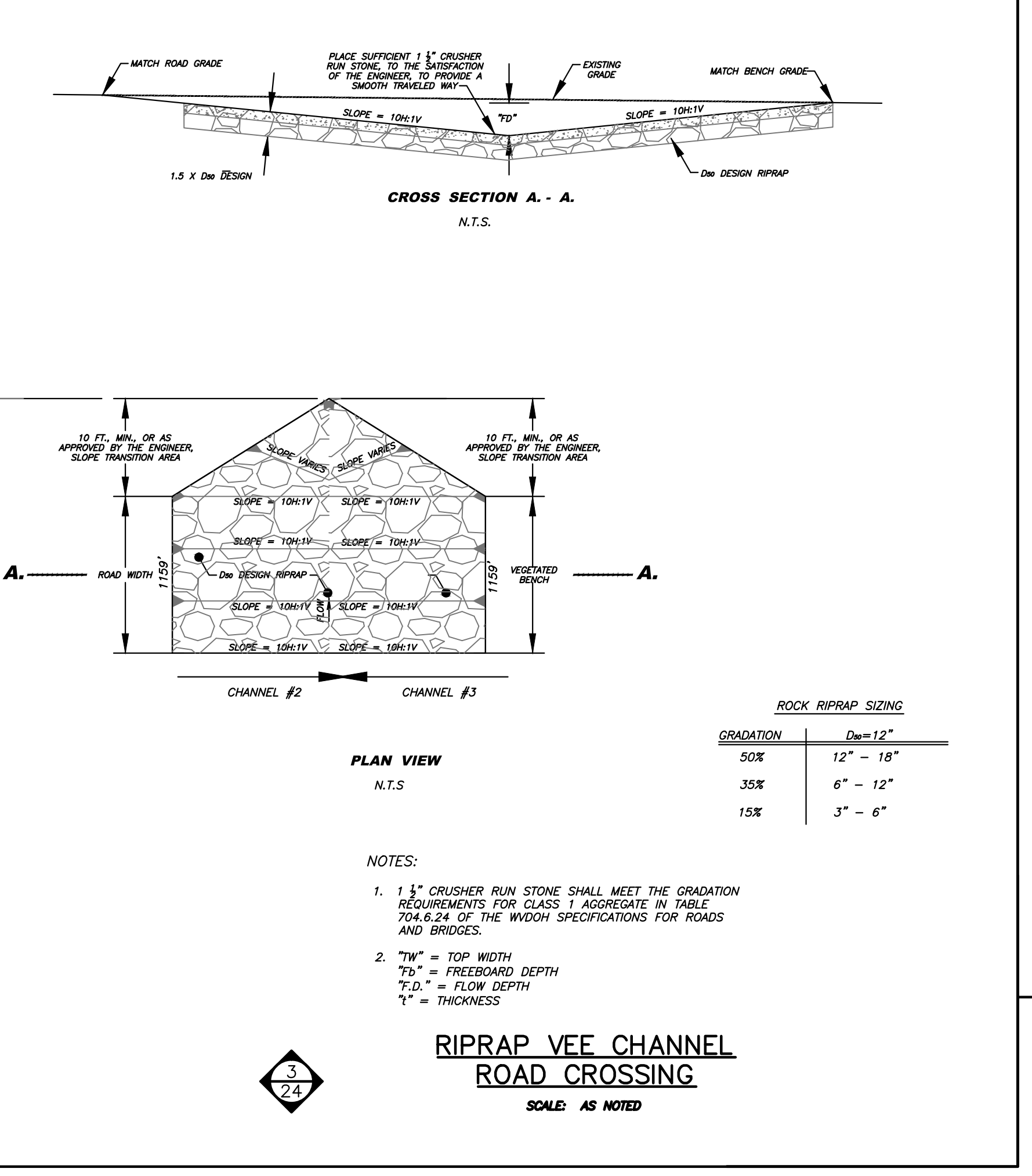
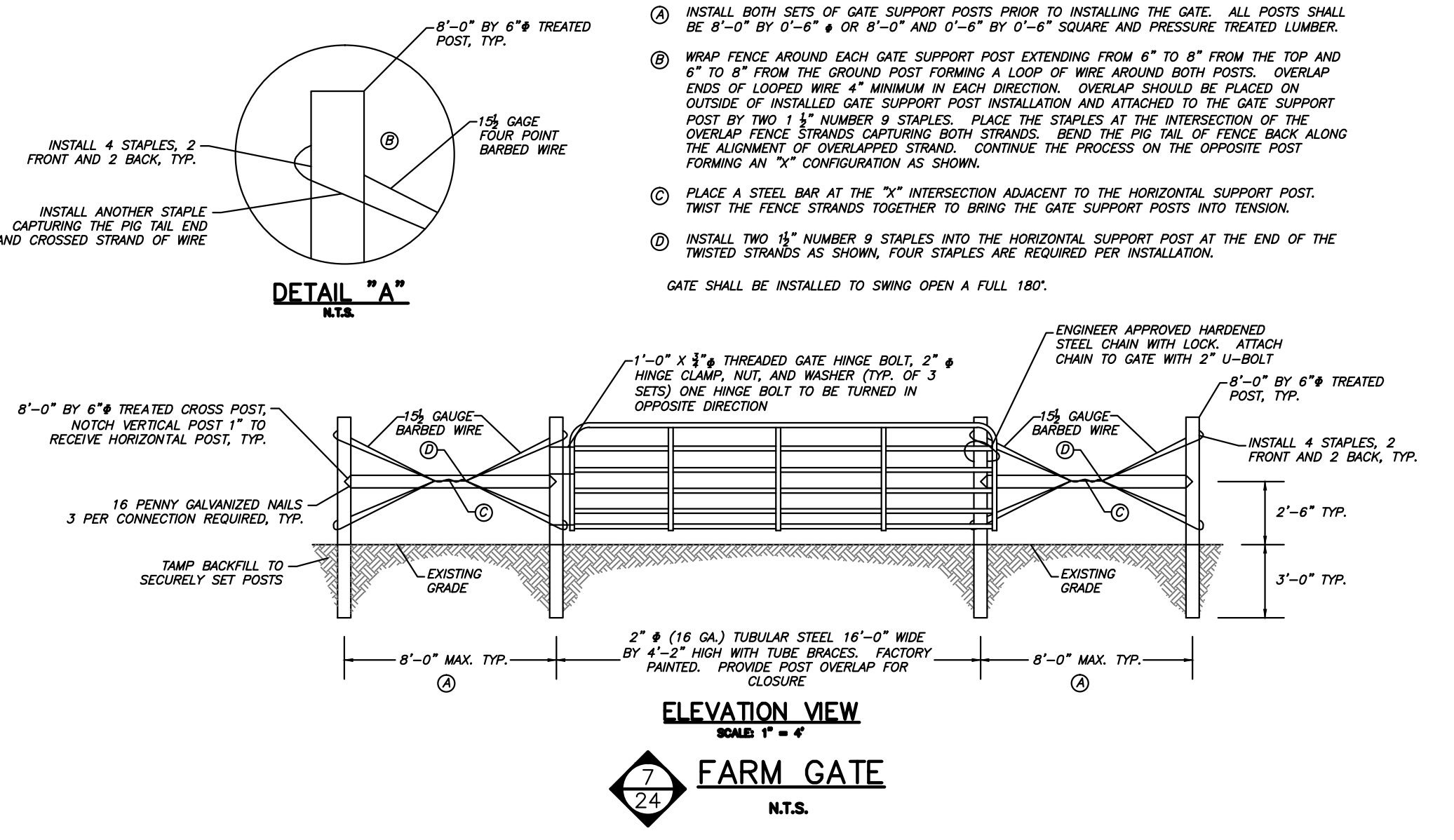
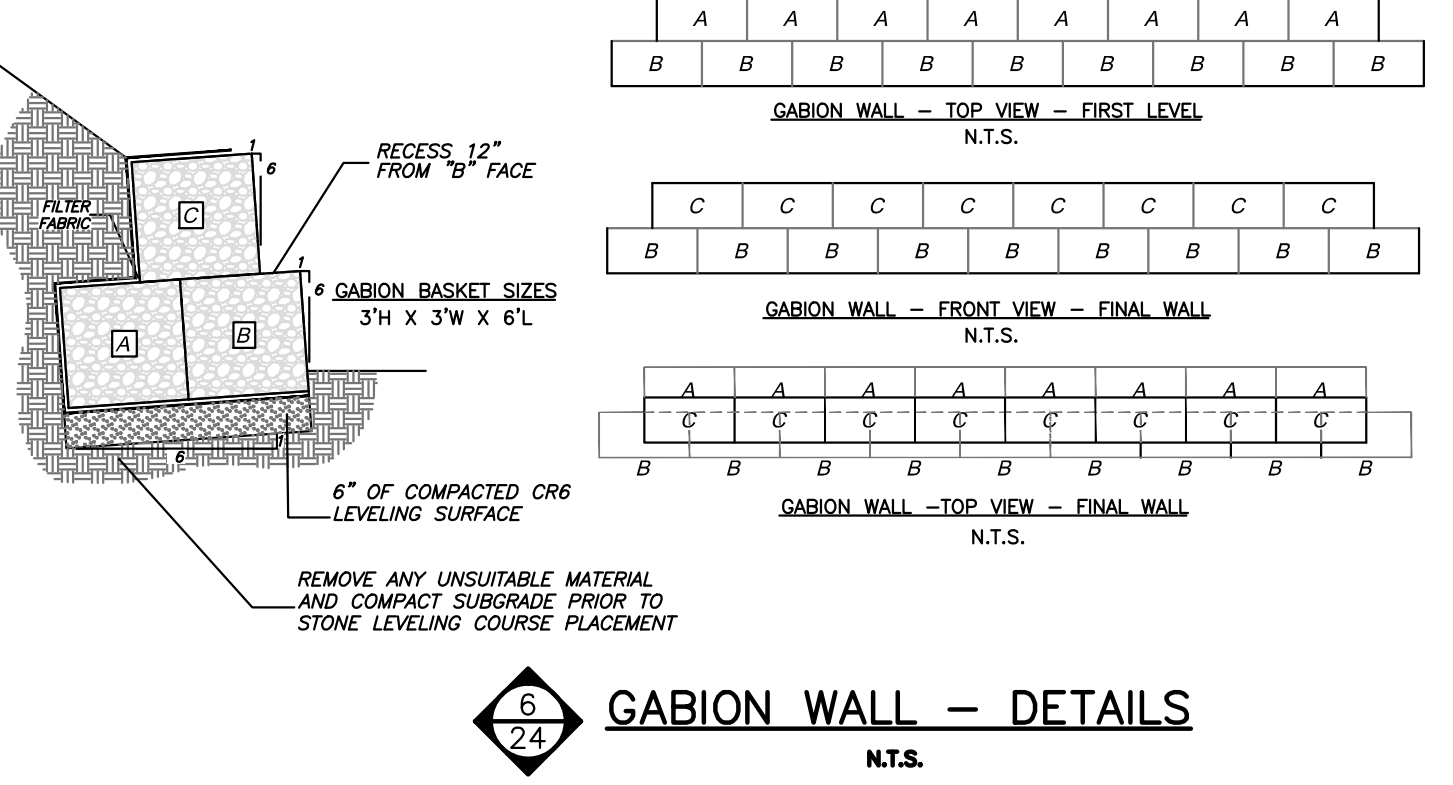
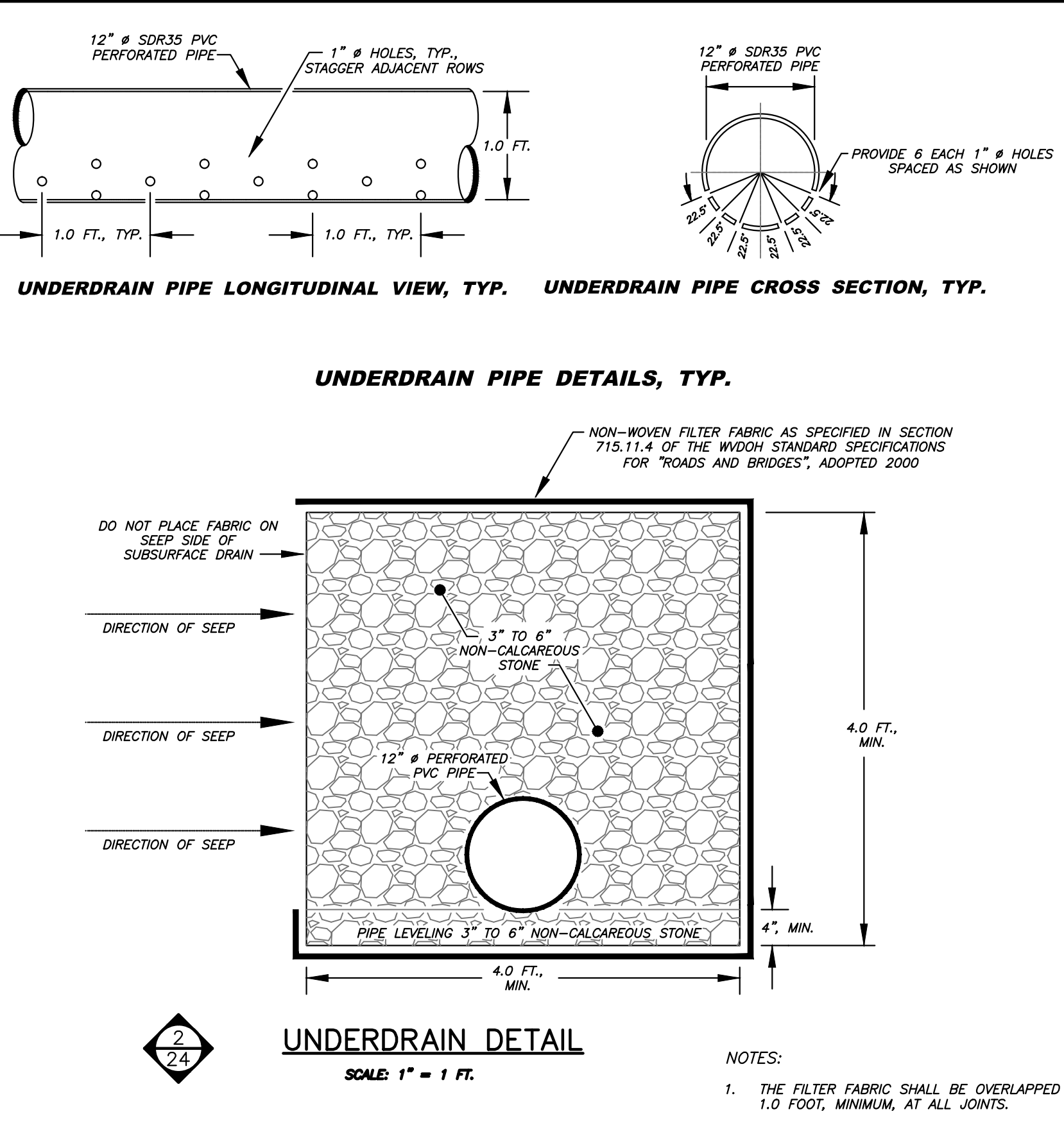
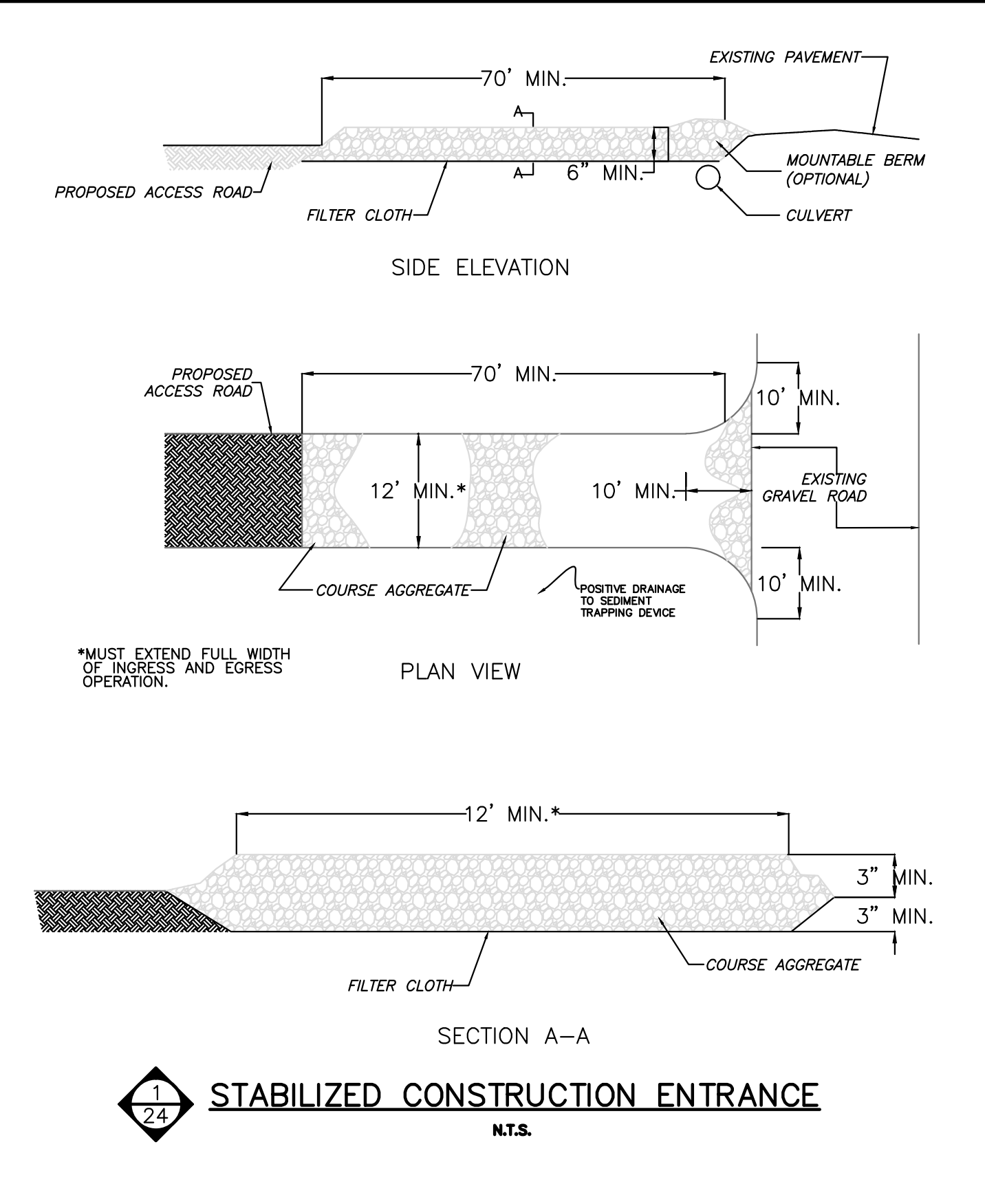
Date: 04.09.2014

Approved: WDB
Checked: JLL
Drawn: SNC
Designed: HMM

Hatch Mott MacDonald
2601 Cranberry Square
Morgantown, West Virginia 26508

WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS
ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
PEPPER PORTALS AND DRAINAGE
DETAIL SHEET 2

Job No.	319151	23
B/O	23	Total 25



west virginia
department of environmental protection
dep

101 Cambridge Place
Bridgeport, West Virginia 26330

No.	Date	Description	Revision
1	04.09.2014	WDB	
2		JLL	
3		SNC	
4		HMM	

Hatch Mott
MacDonald
2601 Cranberry Square
Morgantown, West Virginia 26508

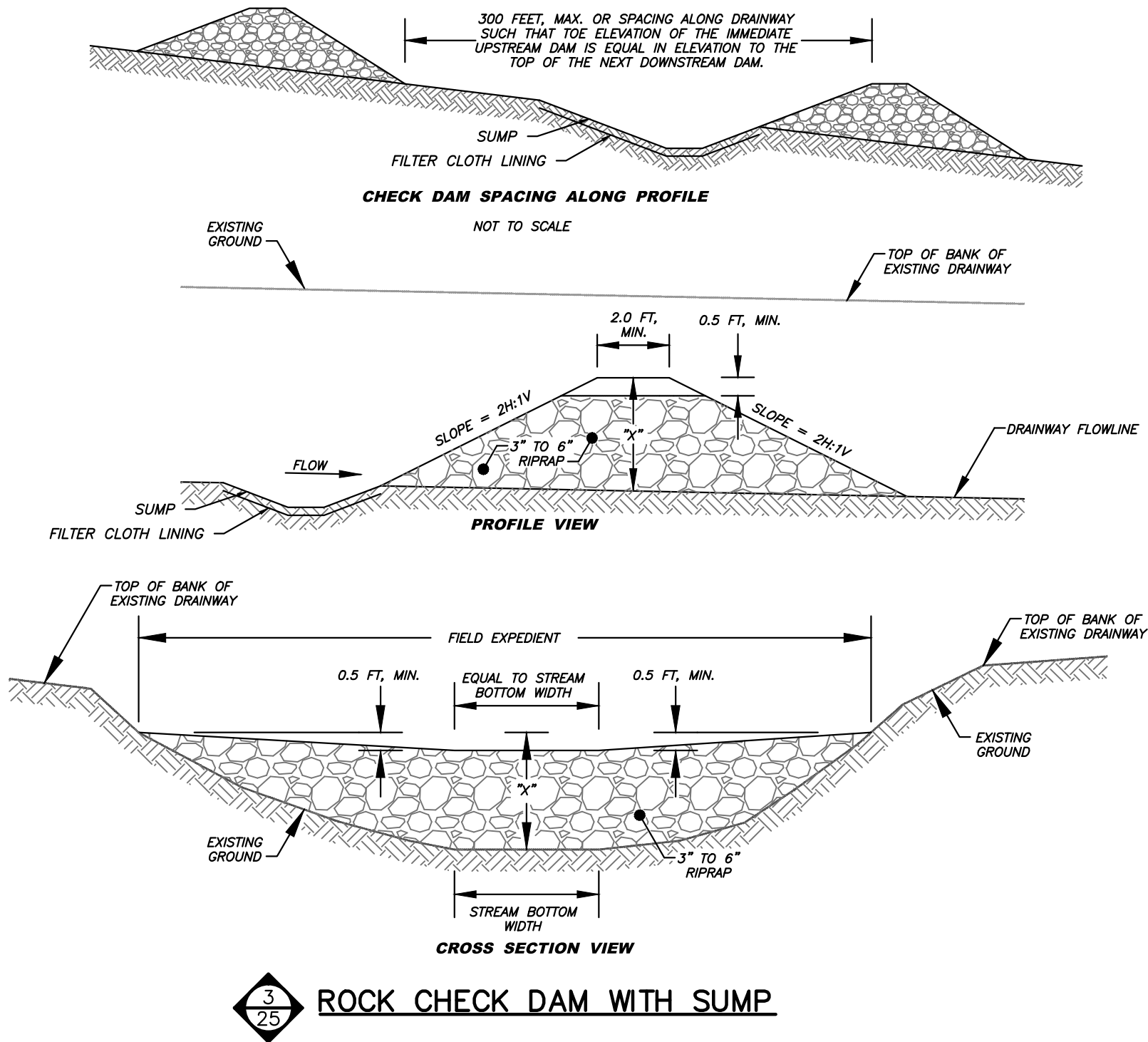
Checked: JLL
Drawn: SNC
Designed: HMM

Approved: WDB

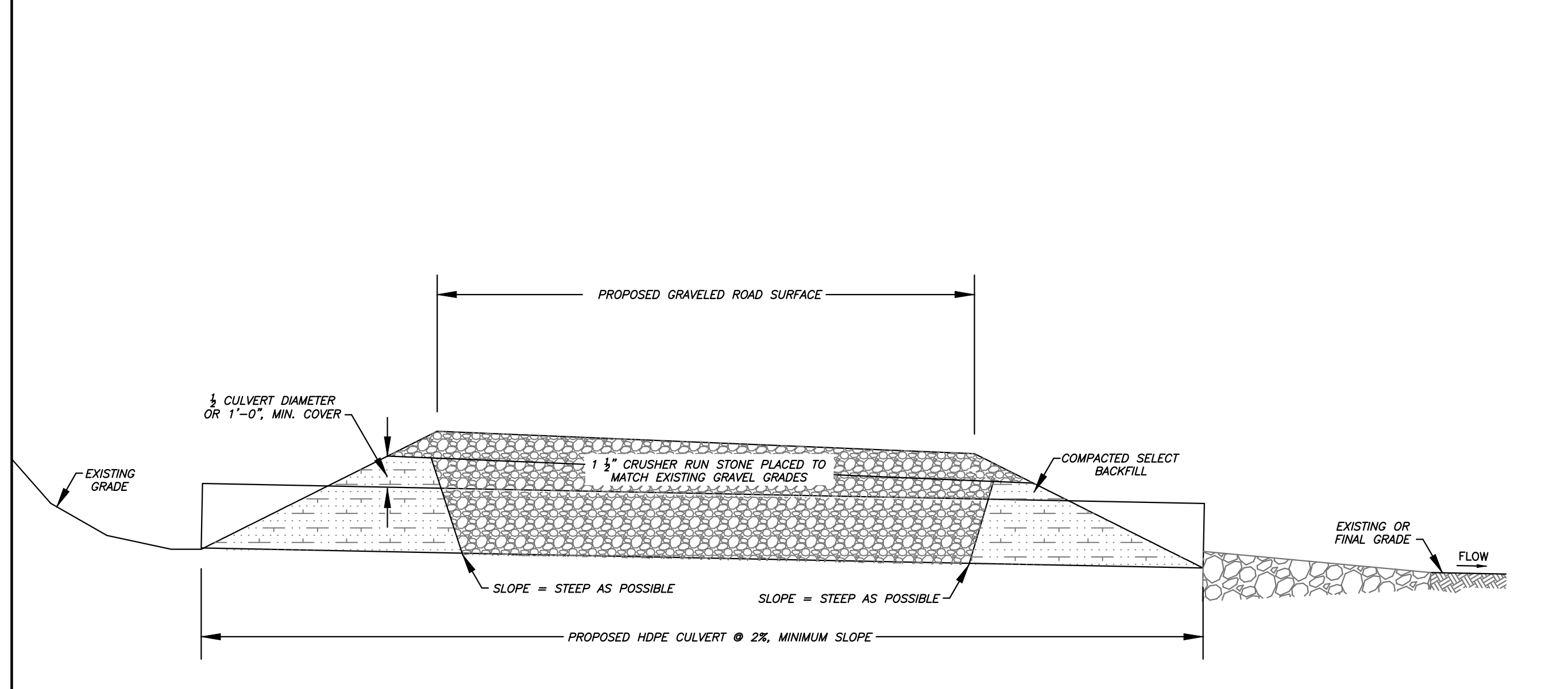
Job No. 319151
B/O 24
Total 25

WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS
ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
PEPPER PORTALS AND DRAINAGE
DETAIL SHEET 3

- NOTES:
1. "X" DIMENSION AS DETAILED BY THE SPECIFICATIONS, FOR SEDIMENT CONTROL THE MAXIMUM HEIGHT OF THE ROCK CHECK DAM IS 3 FEET. HOWEVER, ROCK CHECK DAMS CAN BE CONSTRUCTED IN SMALLER DITCHES. THE CENTER OF THE ROCK CHECK DAM SHALL BE 0'-6" LOWER THAN THE OUTER EDGES AS SHOWN.
 2. ROCK CHECK DAMS ARE NORMALLY INSTALLED IN EXISTING DRAINS AND THE TOP CROSS SECTION OF THE DAM SHOULD HAVE A LEVEL CENTER SECTION THE SAME WIDTH AS THE EXISTING CHANNEL BOTTOM AND 0'-6" LOWER THAN THE OUTER EDGES OF THE DAM. ROCK CHECK DAMS PLACED IN PROJECT CONSTRUCTED FLAT-BOTTOM DITCHES SHALL HAVE SIMILAR DIMENSIONS.
 3. THE CENTER OF ROCK CHECK DAMS CONSTRUCTED IN PROJECT CONSTRUCTED "V" SHAPED OR EXISTING "V" SHAPED DITCHES SHALL BE 0'-6" LOWER THAN AND SLOPED TO THE OUTER TOP EDGES OF THE DITCH SO HIGH FLOWS GO OVER THE TOP OF THE DAM AND NOT AROUND THE EDGES.
 4. ROCK CHECK DAMS SHALL BE REMOVED AFTER THE FIRST GROWING SEASON.

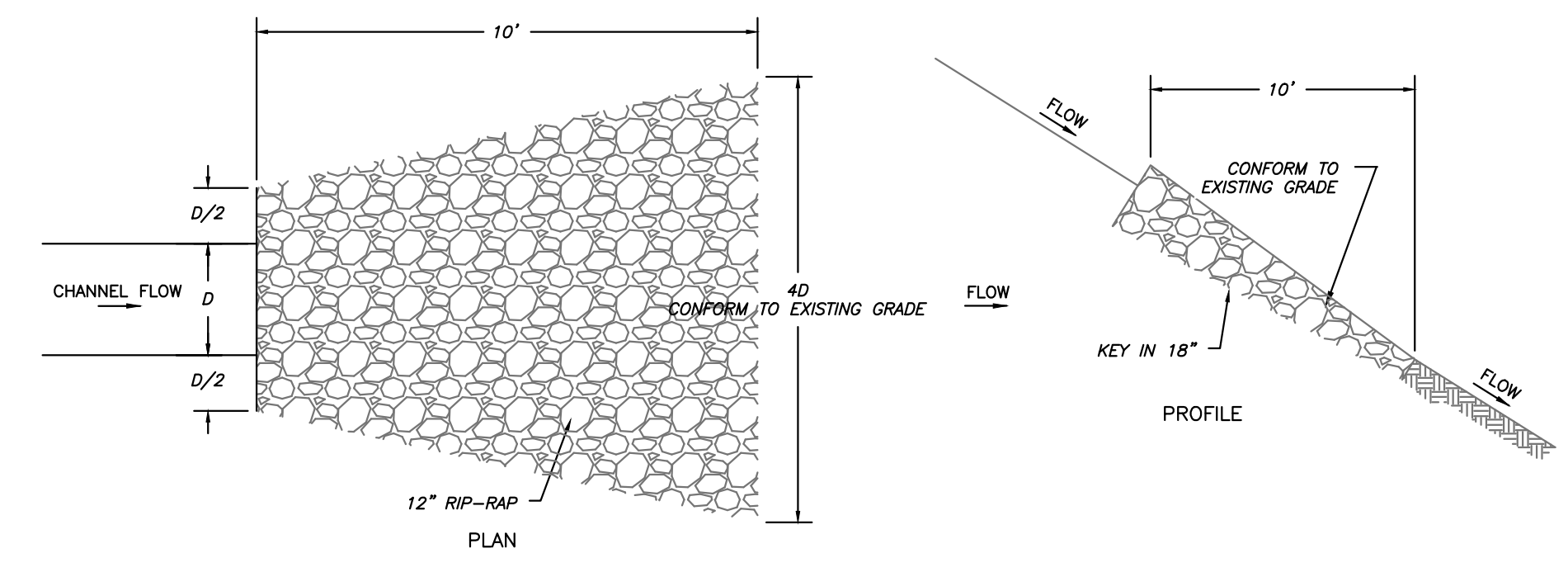


3
25
ROCK CHECK DAM WITH SUMP
N.T.S.

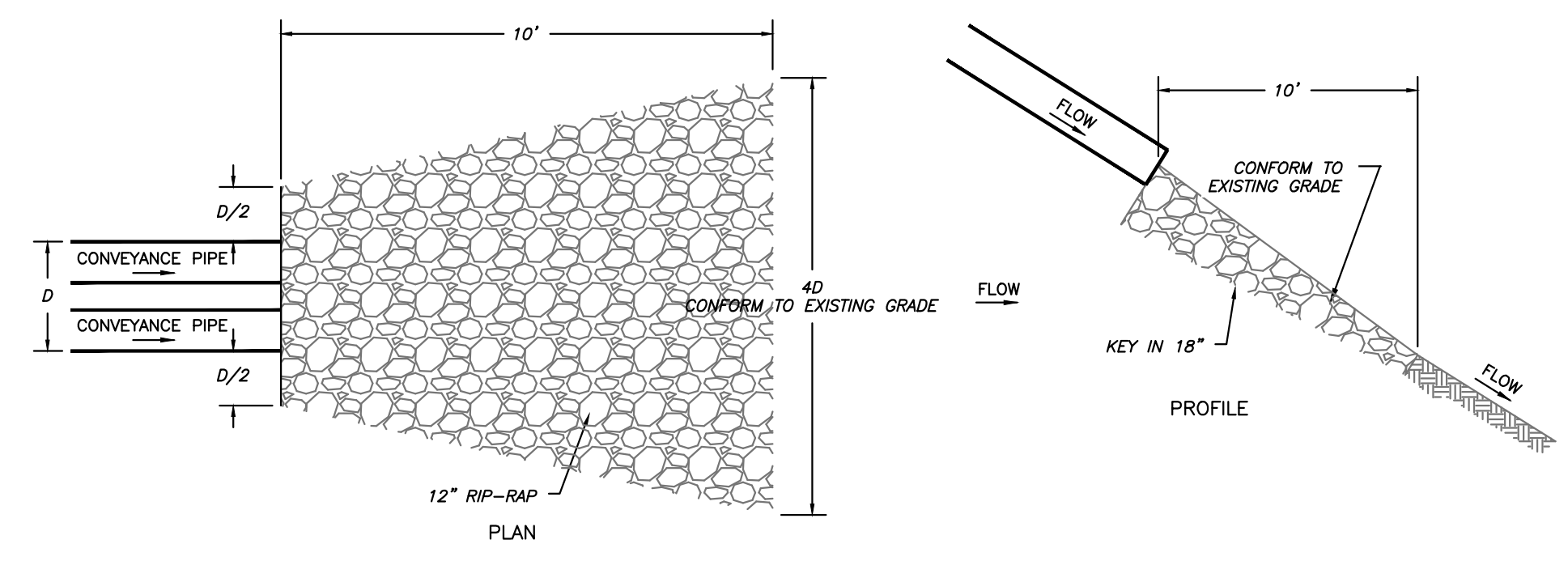


1
25
CULVERT TYPICAL
N.T.S.

- NOTES:
1. 1 1/2" CRUSHER RUN STONE SHALL MEET THE GRADATION REQUIREMENTS FOR CLASS 1 AGGREGATE IN TABLE 704.6.2A OF THE WVDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.



CHANNEL APPLICATION



CONVEYANCE PIPE APPLICATION

2
25
TYPICAL RIPRAP DISSIPATER
N.T.S.

No.	Description	Date	By
1			
2			
3			
4			
5			
6			
7			
8			

Designated	HMM
Drawn	SNC
Checked	JLL
Approved	WDB
Date	04.09.2014

WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS
ELK DISTRICT, BARBOUR COUNTY, WEST VIRGINIA
PEPPER PORTALS AND DRAINAGE
DETAIL SHEET 4

Job	No.
319151	25
B/O	Total
25	25