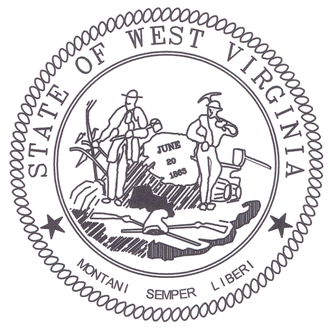






west virginia department of environmental protection

EARL RAY TOMBLIN, GOVERNOR

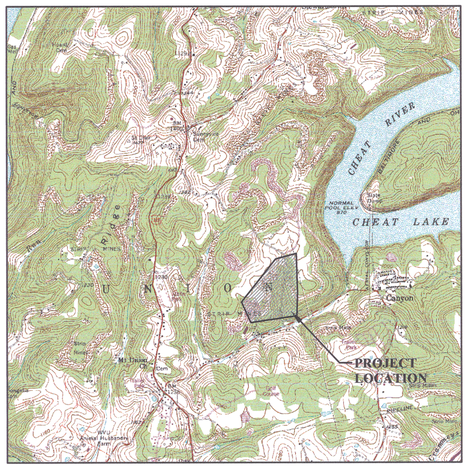
RANDY C. HUFFMAN, CABINET SECRETARY

OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

CANYON REFUSE AND DUMP

DEP 16434

AT MORGANTOWN
MONONGALIA COUNTY, WEST VIRGINIA
JANUARY 2016



VICINITY MAP
1" = 1/2 MILE
MORGANTOWN NORTH QUADRANGLE
USGS 7.5 MINUTE SERIES

BID SCHEDULE

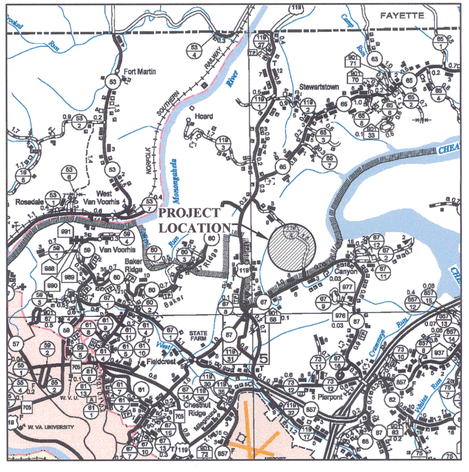
ITEM NO.	DESCRIPTION	QUANTITY
1.0	MOBILIZATION AND DEMOBILIZATION (LIMITED TO 10% OF TOTAL BID)	LS
2.0	CONSTRUCTION LAYOUT (LIMITED TO 5% OF TOTAL BID)	LS
3.0	QUALITY CONTROL (LIMITED TO 3% OF TOTAL BID)	LS
4.1	SITE PREPARATION (LIMITED TO 10% OF TOTAL BID)	LS
4.2	ACCESS ROAD REHABILITATION – 2–INCH STONE	20 TN
4.3	ACCESS ROAD REHABILITATION – NO. 57 STONE	40 TN
4.4	ACCESS ROAD REHABILITATION – CLASS 1 AGGREGATE	175 TN
4.5	FARM GATE	2 EA
5.1	24–INCH COMPOST FILTER SOCK	4,246 LF
5.2	ROLLED EROSION CONTROL PRODUCT	28,300 SY
5.3	HYDRAULICALLY–APPLIED EROSION CONTROL PRODUCT	18,500 SY
5.4	STABILIZED CONSTRUCTION ENTRANCE	2 EA
5.5	ROCK CHECK DAM	5 EA
5.6	ROCK OUTLET PROTECTION	4 EA
6.0	REVETGETATION	19.1 AC
7.1	8–FOOT RIPRAP "VEE" CHANNEL	791 LF
7.2	8–FOOT VEGETATED "VEE" CHANNEL	540 LF
7.3	VEGETATED TRAPEZOIDAL CHANNEL	444 LF
7.4	RIPRAP SLOPE DRAIN	217 LF
7.5	VEGETATED SLOPE DRAIN	100 LF
7.6	LOW WATER CROSSING STONE	300 TN
7.7	LOW WATER CROSSING GROUT	65 CY
7.8	18–INCH HDPE PIPE	36 LF
7.9	24–INCH HDPE PIPE	57 LF
7.10	TYPE A PRECAST MANHOLE	1 EA
8.1	UNCLASSIFIED EXCAVATION	76,500 CY
8.2	SOIL COVER	1,700 SY
9.1	WET/MODIFIED MINE SEAL	8 EA
9.2	SODA ASH BRIQUETTES (50 LB BAG)	80 EA
9.3	12–INCH SDR 35 CONVEYANCE PIPE	704 LF
9.4	12–INCH A 2000 CONVEYANCE PIPE	40 LF
10.1	SEEP COLLECTOR	40 LF
10.2	8–INCH CONVEYANCE PIPE	28 LF
10.3	UNDERDRAIN	420 LF

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	SHEET LAYOUT
1–2	EXISTING CONDITIONS
3–4	OVERALL SITE PLAN
5–7	RECLAMATION PLANS – SITE 1
8	RECLAMATION PLANS – SITE 2
9	RECLAMATION PLANS – SITE 3
10–12	RECLAMATION PLANS – SITE 4
13–14	PORTAL PROFILES
15–17	CHANNEL PROFILES
18–21	CROSS SECTIONS – BASELINE #1
22–25	CROSS SECTIONS – BASELINE #2
26–31	CROSS SECTIONS – BASELINE #3
32–39	CROSS SECTIONS – BASELINE #4
40	BORE LOGS
41–46	TYPICAL DETAILS



CHADWICK D. BILLER, P.E. **DATE**



LOCATION MAP
1" = 1 MILE
MONONGALIA COUNTY ROAD MAP

THRASHER
THE THRASHER GROUP, INC.
600 WHITE OAKS BOULEVARD – BRIDGEPORT, WV 26330
PHONE (304) 624–4108 • FAX (304) 624–7831

THRASHER PROJECT # 101-025-0145

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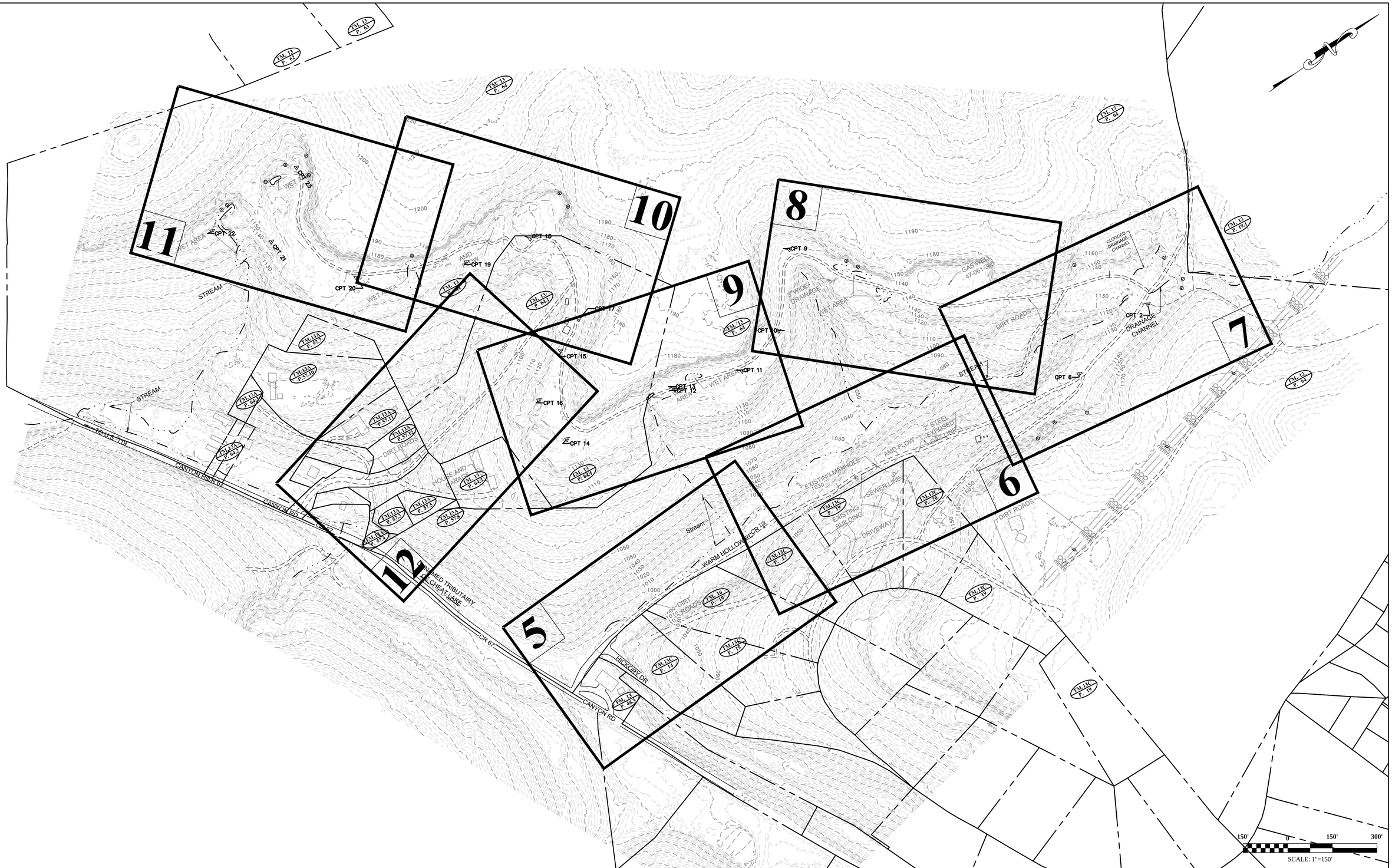

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NO.	BY	DATE	DESCRIPTION

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SURVEY BY:	
FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
SHEET LAYOUT

SHEET No.
i

LAYOUT TAB: 01_SL
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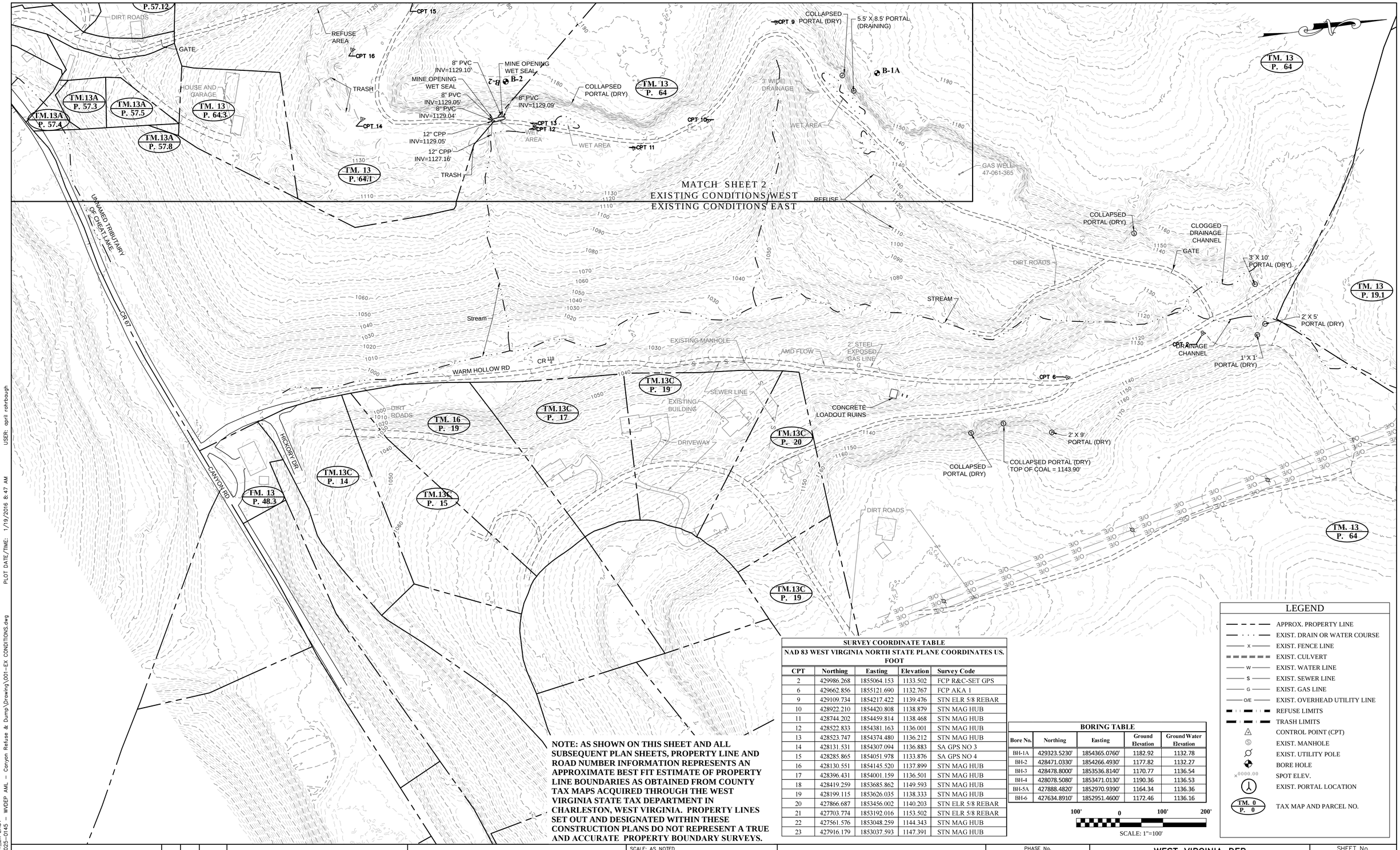

NOTE: AS SHOWN ON THIS SHEET AND ALL SUBSEQUENT PLAN SHEETS, PROPERTY LINE AND ROAD NUMBER INFORMATION REPRESENTS AN APPROXIMATE BEST FIT ESTIMATE OF PROPERTY LINE BOUNDARIES AS OBTAINED FROM COUNTY TAX MAPS ACQUIRED THROUGH THE WEST VIRGINIA STATE TAX DEPARTMENT IN CHARLESTON, WEST VIRGINIA. PROPERTY LINES SET OUT AND DESIGNATED WITHIN THESE CONSTRUCTION PLANS DO NOT REPRESENT A TRUE AND ACCURATE PROPERTY BOUNDARY SURVEYS.

SURVEY COORDINATE TABLE
NAD 83 WEST VIRGINIA NORTH STATE PLANE COORDINATES US. FOOT

CPT	Northing	Easting	Elevation	Survey Code
2	429986.268	1855064.153	1133.502	FCP R&C-SET GPS
6	429662.856	1855121.690	1132.767	FCP AKA 1
9	429109.734	1854217.422	1139.476	STN ELR 5/8 REBAR
10	428922.210	1854420.808	1138.879	STN MAG HUB
11	428744.202	1854459.814	1138.468	STN MAG HUB
12	428522.833	1854381.163	1136.001	STN MAG HUB
13	428523.747	1854374.480	1136.212	STN MAG HUB
14	428131.531	1854307.094	1136.883	SA GPS NO 3
15	428285.865	1854051.978	1133.876	SA GPS NO 4
16	428130.551	1854145.520	1137.899	STN MAG HUB
17	428396.431	1854001.159	1136.501	STN MAG HUB
18	428419.259	1853685.862	1149.593	STN MAG HUB
19	428199.115	1853626.035	1138.333	STN MAG HUB
20	427866.687	1853456.002	1140.203	STN ELR 5/8 REBAR
21	427703.774	1853192.016	1153.502	STN ELR 5/8 REBAR
22	427561.576	1853048.259	1144.343	STN MAG HUB
23	427916.179	1853037.593	1147.391	STN MAG HUB

BORING TABLE

Bore No.	Northing	Easting	Ground Elevation	Ground Water Elevation
BH-1A	429323.5230'	1854365.0760'	1182.92	1132.78
BH-2	428471.0330'	1854266.4930'	1177.82	1132.27
BH-3	428478.8000'	1853536.8140'	1170.77	1136.54
BH-4	428078.5080'	1853471.0130'	1190.36	1136.53
BH-5A	427888.4820'	1852970.9390'	1164.34	1136.36
BH-6	427634.8910'	1852951.4600'	1172.46	1136.16

100' 0 100' 200'
SCALE: 1"=100'

LEGEND

- APPROX. PROPERTY LINE
- EXIST. DRAIN OR WATER COURSE
- EXIST. FENCE LINE
- EXIST. CULVERT
- EXIST. WATER LINE
- EXIST. SEWER LINE
- EXIST. GAS LINE
- EXIST. OVERHEAD UTILITY LINE
- REFUSE LIMITS
- TRASH LIMITS
- CONTROL POINT (CPT)
- EXIST. MANHOLE
- EXIST. UTILITY POLE
- BORE HOLE
- SPOT ELEV.
- EXIST. PORTAL LOCATION
- TM. 0 P. 0 — TAX MAP AND PARCEL NO.

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NO.	BY	DATE	DESCRIPTION

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FIELD BOOK No.:	

THRASHER

PHASE No.
—
CONTRACT No.
DEP 16434
PROJECT No.
101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
EXISTING CONDITIONS EAST

SHEET No.
1

LAYOUT TAB: 01_EX EAST
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BORING TABLE

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BH-6	427634.8910'	1852951.4600'	1172.46	1136.16

LEGEND

- APPROX. PROPERTY LINE
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- EXIST. FENCE LINE
- EXIST. CULVERT
- EXIST. WATER LINE
- EXIST. SEWER LINE
- EXIST. GAS LINE
- EXIST. OVERHEAD UTILITY LINE
- REFUSE LIMITS
- TRASH LIMITS
- CONTROL POINT (CPT)
- EXIST. UTILITY POLE
- BORE HOLE
- SPOT ELEV.
- EXIST. PORTAL LOCATION
- TAX MAP AND PARCEL NO.

100' 0 100' 200'

SCALE: 1"=100'

TM. 13 P. 62

TM. 13 P. 64

COLLAPSED PORTAL (DRAINING) B-6

COLLAPSED PORTAL (DRAINING)

COLLAPSED PORTAL (DRY) B-5A

COLLAPSED PORTAL (DRY)

4' X 11' PORTAL (DRY)

6' X 12' PORTAL (DRY)

WET AREA CPT 22

CPT 23

WET AREA

STREAM

CPT 21

REFUSE

STREAM

TGUS 1HP

CPT 20

WET AREA

COLLAPSED PORTAL (DRAINING) B-4

8" PVC INV=1135.12'

8" PVC INV=1135.06'

8" PVC INV=1134.99'

MINE OPENING WET SEAL

MINE OPENING WET SEAL

8" PVC INV=1134.75'

B-3 COLLAPSED PORTAL (DRY)

AMD FLOW CPT 19

TRASH AREA CPT 18

COLLAPSED PORTAL (DRY)

TM.13A P. 57.7

TM.13A P. 64.3

TM.13A P.57.10

TM. 13 P. 64

TM.13A P. 64.2

TM. 13 P. 64.1

CANYON RD

CANYON RD

CPT 17

CINDER BLOCK RUINS

TM.13A P.57.11

TM.13A P.57.12

DIRT ROADS

CPT 15

REFUSE AREA CPT 16

GATE

CR 87

HOUSE AND GARAGE

TRASH

8" PVC INV=1129.10'

MINE OPENING WET SEAL

B-2

8" PVC INV=1129.05'

8" PVC INV=1129.04'

8" PVC INV=1129.09'

COLLAPSED PORTAL (DRY)

TM. 13 P. 64

CPT 14

CPT 13

CPT 12

CPT 10

12" CPP INV=1129.05'

12" CPP INV=1127.16'

WET AREA

WET AREA

CPT 11

TRASH

TM. 13 P. 64.1

TM.13A P. 57.3

TM.13A P. 57.5

TM. 13 P. 64.3

TM.13A P. 57.4

TM.13A P. 57.8

EXISTING CONDITIONS WEST
EXISTING CONDITIONS EAST
MATCH SHEET 1

CPT 9 COLLAPSED PORTAL (DRY)

5.5' X 8.5' PORTAL (DRAINING)

B-1A

3' WIDE DRAINAGE

WET AREA

REFUSE

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THRASHER

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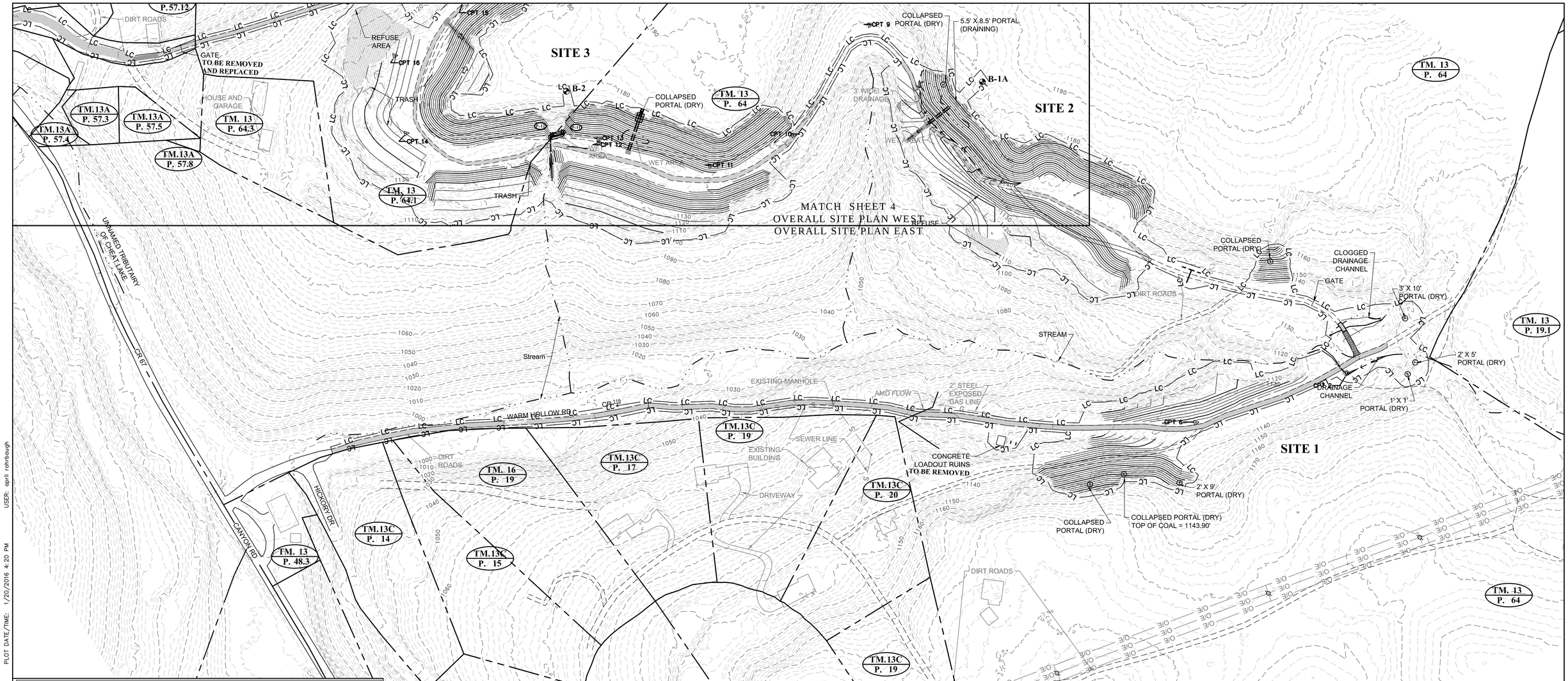
-
CONTRACT No.
DEP 16434
PROJECT No.
101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
EXISTING CONDITIONS
WEST

SHEET No.
2



LEGEND

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- EXIST. FENCE LINE
- EXIST. CULVERT
- EXIST. WATER LINE
- EXIST. SEWER LINE
- EXIST. GAS LINE
- EXIST. OVERHEAD UTILITY LINE
- REFUSE LIMITS
- TRASH LIMITS
- CONTROL POINT
- EXIST. MANHOLE
- EXIST. UTILITY POLE
- BORE HOLE
- SPOT ELEV.
- DRY MINE PORTAL
- STABILIZED CONSTRUCTION ENTRANCE
- PRO. ACCESS ROAD REHABILITATION (SEE DETAIL #4)
- PRO. CULVERT
- PRO. VEGETATED CHANNEL
- PRO. RIPRAP CHANNEL
- PRO. VEGETATED ACCESS ROAD
- PRO. ACCESS ROAD REHABILITATION
- LIMITS OF EXCAVATION
- LIMITS OF CONSTRUCTION
- LIMITS OF DISTURBANCE
- 24" COMPOST FILTER SOCK
- TEMP. CHECK DAM
- PRO. MINE SEAL PORTAL NO.
- PRO. CHANNEL NO.
- PRO. CULVERT NO.
- TAX MAP AND PARCEL NO.

NOTE: SITES 1,2,&4 SHALL BE STABILIZED USING STANDARD MULCHING PRACTICES ON SLOPES LESS THAN 2:1 OR ROLLED EROSION CONTROL PRODUCT ON SLOPE 2:1 OR STEEPER. SITE 3 SHALL BE STABILIZED WITH HYDRAULICALLY APPLIED EROSION CONTROL PRODUCTS EXCEPT THE PROPOSED CHANNELS (WHICH THEY RECEIVE RIPRAP) AND VEGETATED ACCESS ROAD, WHERE THEY SHALL RECEIVE STANDARD STABILIZATION. (SEE DETAIL #7)

BORING TABLE

Bore No.	Northing	Easting	Ground Elevation	Ground Water Elevation
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100' 0 100' 200'

SCALE: 1"=100'

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THRASHER

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WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
OVERALL SITE PLAN EAST

SHEET No. 3

LAYOUT TAB: 03_OV EAST
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LEGEND

- APPROX. PROPERTY LINE
- EXIST. DRAIN OR WATER COURSE
- EXIST. FENCE LINE
- EXIST. CULVERT
- EXIST. WATER LINE
- EXIST. SEWER LINE
- EXIST. GAS LINE
- EXIST. OVERHEAD UTILITY LINE
- REFUSE LIMITS
- TRASH LIMITS
- CONTROL POINT
- EXIST. MANHOLE
- EXIST. UTILITY POLE
- BORE HOLE
- SPOT ELEV. (0000.00)
- TM. 0 P. 0 — TAX MAP AND PARCEL NO.
- PROPOSED WET GATE MINE SEAL
- PRO. ACCESS ROAD REHABILITATION (SEE DETAIL #4)
- PRO. CULVERT
- PRO. VEGETATED CHANNEL
- PRO. RIPRAP CHANNEL
- PRO. VEGETATED ACCESS ROAD
- PRO COMBINATION OF VEGETATED CHANNEL AND UNDERDRAIN
- CFS(24) — LIMITS OF EXCAVATION
- LC — LIMITS OF CONSTRUCTION
- LOD — LIMITS OF DISTURBANCE
- COMPOST FILTER SOCK
- TEMP. CHECK DAM
- P. 0 — PRO. MINE SEAL PORTAL NO.
- 1 — PRO. CHANNEL NO.

SURVEY COORDINATE TABLE

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19	428199.115	1853626.035	1138.333	STN MAG HUB
20	427866.687	1853456.002	1140.203	STN ELR 5/8 REBAR
21	427703.774	1853192.016	1153.502	STN ELR 5/8 REBAR
22	427561.576	1853048.259	1144.343	STN MAG HUB
23	427916.179	1853037.593	1147.391	STN MAG HUB

BORING TABLE

Bore No.	Northing	Easting	Ground Elevation	Ground Water Elevation
BH-1A	429323.5230'	1854365.0760'	1182.92	1132.78
BH-2	428471.0330'	1854266.4930'	1177.82	1132.27
BH-3	428478.8000'	1853536.8140'	1170.77	1136.54
BH-4	428078.5080'	1853471.0130'	1190.36	1136.53
BH-5A	427888.4820'	1852970.9390'	1164.34	1136.36
BH-6	427634.8910'	1852951.4600'	1172.46	1136.16

NOTE: SITES 1,2,&4 SHALL BE STABILIZED USING STANDARD MULCHING PRACTICES ON SLOPES LESS THAN 2:1 OR ROLLED EROSION CONTROL PRODUCT ON SLOPE 2:1 OR STEEPER. SITE 3 SHALL BE STABILIZED WITH HYDRAULICALLY APPLIED EROSION CONTROL PRODUCTS EXCEPT THE PROPOSED CHANNELS (WHICH THEY RECEIVE RIPRAP) AND VEGETATED ACCESS ROAD, WHERE THEY SHALL RECEIVE STANDARD STABILIZATION.

100' 0 100' 200'

SCALE: 1"=100'

TM. 13 P. 62 — TM. 13 P. 63 — TM. 13 P. 64 — TM. 13 P. 64.1 — TM. 13 P. 64.3 — TM. 13A P. 64.3 — TM. 13A P. 64.2 — TM. 13A P. 57.7 — TM. 13A P. 57.10 — TM. 13A P. 57.11 — TM. 13A P. 57.12 — TM. 13A P. 57.3 — TM. 13A P. 57.5 — TM. 13A P. 57.4 — TM. 13A P. 57.8

B-1A, B-2, B-3, B-4, B-5A, B-6

CPT 2, CPT 6, CPT 9, CPT 10, CPT 11, CPT 12, CPT 13, CPT 14, CPT 15, CPT 16, CPT 17, CPT 18, CPT 19, CPT 20, CPT 22

COLLAPSED PORTAL (DRAINING) — COLLAPSED PORTAL (DRY) — 4' X 11' PORTAL (DRY) — 6' X 12' PORTAL (DRY) — 5.5' X 8.5' PORTAL (DRAINING) — 3' WIDE DRAINAGE

SITE 4 — SITE 3 — SITE 2

WET AREA — REFUSE — REFUSE AREA — TRASH — TRASH AREA — STREAM — DIRT ROADS — HOUSE AND GARAGE — CINDER BLOCK RUINS TO BE REMOVED — GATE TO BE REMOVED AND REPLACED — CANYON RD — GRAVEL

OVERALL SITE PLAN WEST
OVERALL SITE PLAN EAST
MATCH SHEET 3

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PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
OVERALL SITE PLAN WEST

SHEET No. 4

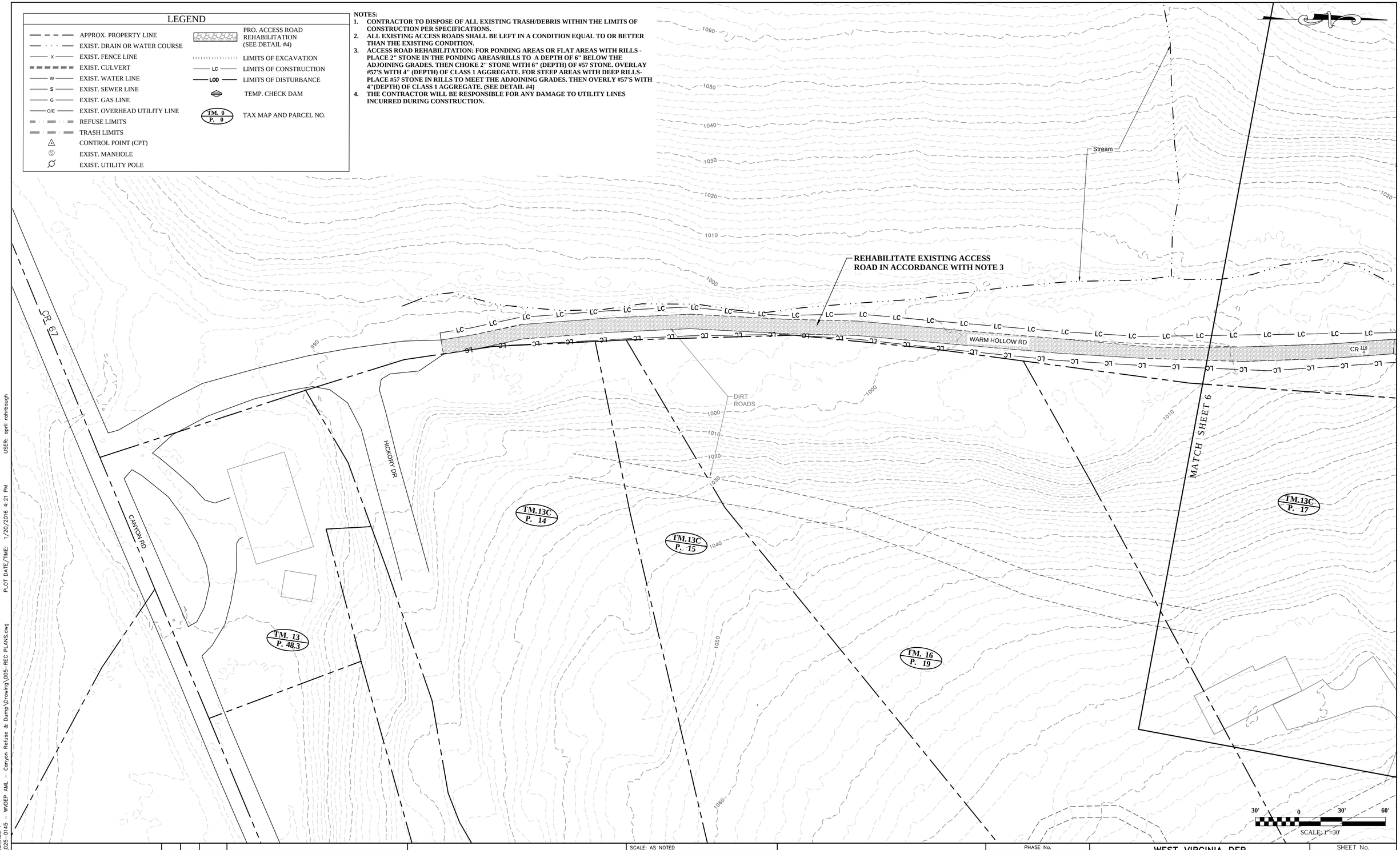
LAYOUT TAB: 04_OV WEST
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\005-REC PLANS.dwg
USER: april rohrbaugh
PLOT DATE/TIME: 1/20/2016 4:20 PM

LEGEND

- APPROX. PROPERTY LINE
- EXIST. DRAIN OR WATER COURSE
- EXIST. FENCE LINE
- EXIST. CULVERT
- EXIST. WATER LINE
- EXIST. SEWER LINE
- EXIST. GAS LINE
- EXIST. OVERHEAD UTILITY LINE
- REFUSE LIMITS
- TRASH LIMITS
- CONTROL POINT (CPT)
- EXIST. MANHOLE
- EXIST. UTILITY POLE
- PRO. ACCESS ROAD REHABILITATION (SEE DETAIL #4)
- LIMITS OF EXCAVATION
- LIMITS OF CONSTRUCTION
- LIMITS OF DISTURBANCE
- TEMP. CHECK DAM
- TAX MAP AND PARCEL NO.

NOTES:

1. **CONTRACTOR TO DISPOSE OF ALL EXISTING TRASH/DEBRIS WITHIN THE LIMITS OF CONSTRUCTION PER SPECIFICATIONS.**
2. **ALL EXISTING ACCESS ROADS SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION.**
3. **ACCESS ROAD REHABILITATION: FOR PONDING AREAS OR FLAT AREAS WITH RILLS - PLACE 2" STONE IN THE PONDING AREAS/RILLS TO A DEPTH OF 6" BELOW THE ADJOINING GRADES. THEN CHOKE 2" STONE WITH 6" (DEPTH) OF #57 STONE. OVERLAY #57'S WITH 4" (DEPTH) OF CLASS 1 AGGREGATE. FOR STEEP AREAS WITH DEEP RILLS- PLACE #57 STONE IN RILLS TO MEET THE ADJOINING GRADES. THEN OVERLY #57'S WITH 4"(DEPTH) OF CLASS 1 AGGREGATE. (SEE DETAIL #4)**
4. **THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITY LINES INCURRED DURING CONSTRUCTION.**



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THRASHER

PHASE No.	-
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
SITE #1

SHEET No. 5

LAYOUT TAB: 05_REC 1
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\005-REC PLANS.dwg
PLOT DATE/TIME: 1/20/2016 4:21 PM
USER: april rohrbaugh

LEGEND

- APPROX. PROPERTY LINE
- EXIST. DRAIN OR WATER COURSE
- EXIST. CULVERT
- W — EXIST. WATER LINE
- S — EXIST. SEWER LINE
- G — EXIST. GAS LINE
- O/E — EXIST. OVERHEAD UTILITY LINE
- REFUSE LIMITS
- TRASH LIMITS
- Ⓢ TRASH LIMITS
- PRO. ACCESS ROAD REHABILITATION (SEE DETAIL #4)
- PRO. VEGETATED ACCESS ROAD (SEE DETAIL #5)
- LIMITS OF EXCAVATION
- LC — LIMITS OF CONSTRUCTION
- LOD — LIMITS OF DISTURBANCE
- TM. 0 / P. 0 — TAX MAP AND PARCEL NO.

NOTES:

1. **CONTRACTOR TO DISPOSE OF ALL EXISTING TRASH/DEBRIS WITHIN THE LIMITS OF CONSTRUCTION PER SPECIFICATIONS.**
2. **ALL EXISTING ACCESS ROADS SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION.**
3. **ACCESS ROAD REHABILITATION: FOR PONDING AREAS OR FLAT AREAS WITH RILLS - PLACE 2" STONE IN THE PONDING AREAS/RILLS TO A DEPTH OF 6" BELOW THE ADJOINING GRADES. THEN CHOKE 2" STONE WITH 6" (DEPTH) OF #57 STONE. OVERLAY #57'S WITH 4" (DEPTH) OF CLASS 1 AGGREGATE. FOR STEEP AREAS WITH DEEP RILLS- PLACE #57 STONE IN RILLS TO MEET THE ADJOINING GRADES. THEN OVERLY #57'S WITH 4"(DEPTH) OF CLASS 1 AGGREGATE. (SEE DETAIL #4)**
4. **THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITY LINES INCURRED DURING CONSTRUCTION.**
5. **THE REMOVAL OF THE ABANDONED STRUCTURE IS INCIDENTAL TO THE SITE PREPARATION PAY ITEM, INCLUDING ANY ASSOCIATED GRADING TO SMOOTH SITE AND PROMOTE POSITIVE DRAINING.**

BASELINE #1A COORDINATE TABLE		
STATION	NORTHING	EASTING
10+00	429319.53	1855080.63

MATCH SHEET 8

MATCH SHEET 7

MATCH SHEET 5

EXISTING ACCESS ROAD

REHABILITATE EXISTING ACCESS ROAD IN ACCORDANCE TO NOTE 3

SEE NOTE 4 FOR GASLINE

2" STEEL EXPOSED GAS LINE

BASELINE #1A

10+00

EXISTING MANHOLE

SEE NOTE 4 FOR SEWER LINE.

EXISTING MANHOLE
N - 428927.1830
E - 1854980.3924
RIM. 1069.91

SEWER LINE

EXISTING BUILDING

DRIVEWAY

CR 119/4

TM.13C P. 19

TM.13C P. 20

TM.13C P. 17

PROPOSED REMOVAL OF EXISTING STRUCTURES SEE NOTE 5.

CONCRETE LOADOUT RUINS

30' 0 30' 60'

SCALE: 1"=30'

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PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
SITE #1

SHEET No. 6

LAYOUT TAB: 06_REC 1
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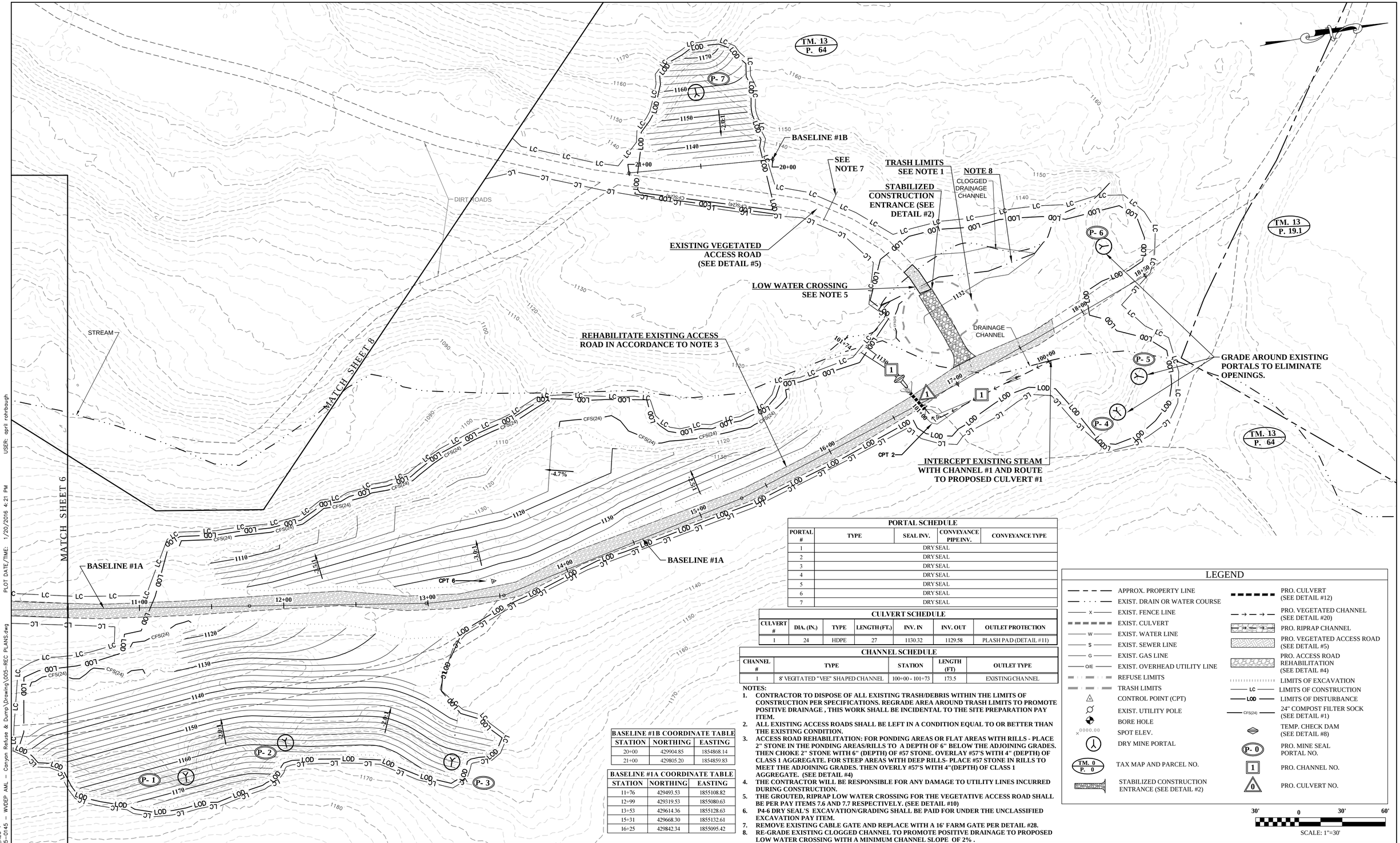

PORTAL SCHEDULE				
PORTAL #	TYPE	SEAL INV.	CONVEYANCE PIPE INV.	CONVEYANCE TYPE
1	DRY SEAL			
2	DRY SEAL			
3	DRY SEAL			
4	DRY SEAL			
5	DRY SEAL			
6	DRY SEAL			
7	DRY SEAL			

CULVERT SCHEDULE						
CULVERT #	DIA. (IN.)	TYPE	LENGTH (FT.)	INV. IN	INV. OUT	OUTLET PROTECTION
1	24	HDPE	27	1130.32	1129.58	PLASH PAD (DETAIL #11)

CHANNEL SCHEDULE				
CHANNEL #	TYPE	STATION	LENGTH (FT)	OUTLET TYPE
1	8' VEGITATED "VEE" SHAPED CHANNEL	100+00 - 101+73	173.5	EXISTING CHANNEL

NOTES:

1. CONTRACTOR TO DISPOSE OF ALL EXISTING TRASH/DEBRIS WITHIN THE LIMITS OF CONSTRUCTION PER SPECIFICATIONS. REGRADE AREA AROUND TRASH LIMITS TO PROMOTE POSITIVE DRAINAGE , THIS WORK SHALL BE INCIDENTAL TO THE SITE PREPARATION PAY ITEM.
2. ALL EXISTING ACCESS ROADS SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION.
3. ACCESS ROAD REHABILITATION: FOR PONDING AREAS OR FLAT AREAS WITH RILLS - PLACE 2" STONE IN THE PONDING AREAS/RILLS TO A DEPTH OF 6" BELOW THE ADJOINING GRADES. THEN CHOKE 2" STONE WITH 6" (DEPTH) OF #57 STONE. OVERLAY #57'S WITH 4" (DEPTH) OF CLASS 1 AGGREGATE. FOR STEEP AREAS WITH DEEP RILLS- PLACE #57 STONE IN RILLS TO MEET THE ADJOINING GRADES. THEN OVERLY #57'S WITH 4"(DEPTH) OF CLASS 1 AGGREGATE. (SEE DETAIL #4)
4. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITY LINES INCURRED DURING CONSTRUCTION.
5. THE GROUTED, RIPRAP LOW WATER CROSSING FOR THE VEGETATIVE ACCESS ROAD SHALL BE PER PAY ITEMS 7.6 AND 7.7 RESPECTIVELY. (SEE DETAIL #10)
6. P4-6 DRY SEAL'S EXCAVATION/GRADING SHALL BE PAID FOR UNDER THE UNCLASSIFIED EXCAVATION PAY ITEM.
7. REMOVE EXISTING CABLE GATE AND REPLACE WITH A 16' FARM GATE PER DETAIL #28.
8. RE-GRADE EXISTING CLOGGED CHANNEL TO PROMOTE POSITIVE DRAINAGE TO PROPOSED LOW WATER CROSSING WITH A MINIMUM CHANNEL SLOPE OF 2% .

BASELINE #1B COORDINATE TABLE		
STATION	NORTHING	EASTING
20+00	429904.85	1854868.14
21+00	429805.20	1854859.83

BASELINE #1A COORDINATE TABLE		
STATION	NORTHING	EASTING
11+76	429493.53	1855108.82
12+99	429319.53	1855080.63
13+53	429614.36	1855128.63
15+31	429668.30	1855132.61
16+25	429842.34	1855095.42

LEGEND

- APPROX. PROPERTY LINE
- EXIST. DRAIN OR WATER COURSE
- EXIST. FENCE LINE
- EXIST. CULVERT
- EXIST. WATER LINE
- EXIST. SEWER LINE
- EXIST. GAS LINE
- EXIST. OVERHEAD UTILITY LINE
- REFUSE LIMITS
- TRASH LIMITS
- CONTROL POINT (CPT)
- EXIST. UTILITY POLE
- BORE HOLE
- SPOT ELEV.
- DRY MINE PORTAL
- TAX MAP AND PARCEL NO.
- STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL #2)
- PRO. CULVERT (SEE DETAIL #12)
- PRO. VEGETATED CHANNEL (SEE DETAIL #20)
- PRO. RIPRAP CHANNEL
- PRO. VEGETATED ACCESS ROAD (SEE DETAIL #5)
- PRO. ACCESS ROAD REHABILITATION (SEE DETAIL #4)
- LIMITS OF EXCAVATION
- LIMITS OF CONSTRUCTION
- LIMITS OF DISTURBANCE
- 24" COMPOST FILTER SOCK (SEE DETAIL #1)
- TEMP. CHECK DAM (SEE DETAIL #8)
- PRO. MINE SEAL PORTAL NO.
- PRO. CHANNEL NO.
- PRO. CULVERT NO.

30' 0 30' 60'

SCALE: 1"=30'

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PHASE No.
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CONTRACT No.
DEP 16434
PROJECT No.
101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
SITE #1

SHEET No.
7

LAYOUT TAB: 07_REC 1
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\005-REC PLANS.dwg
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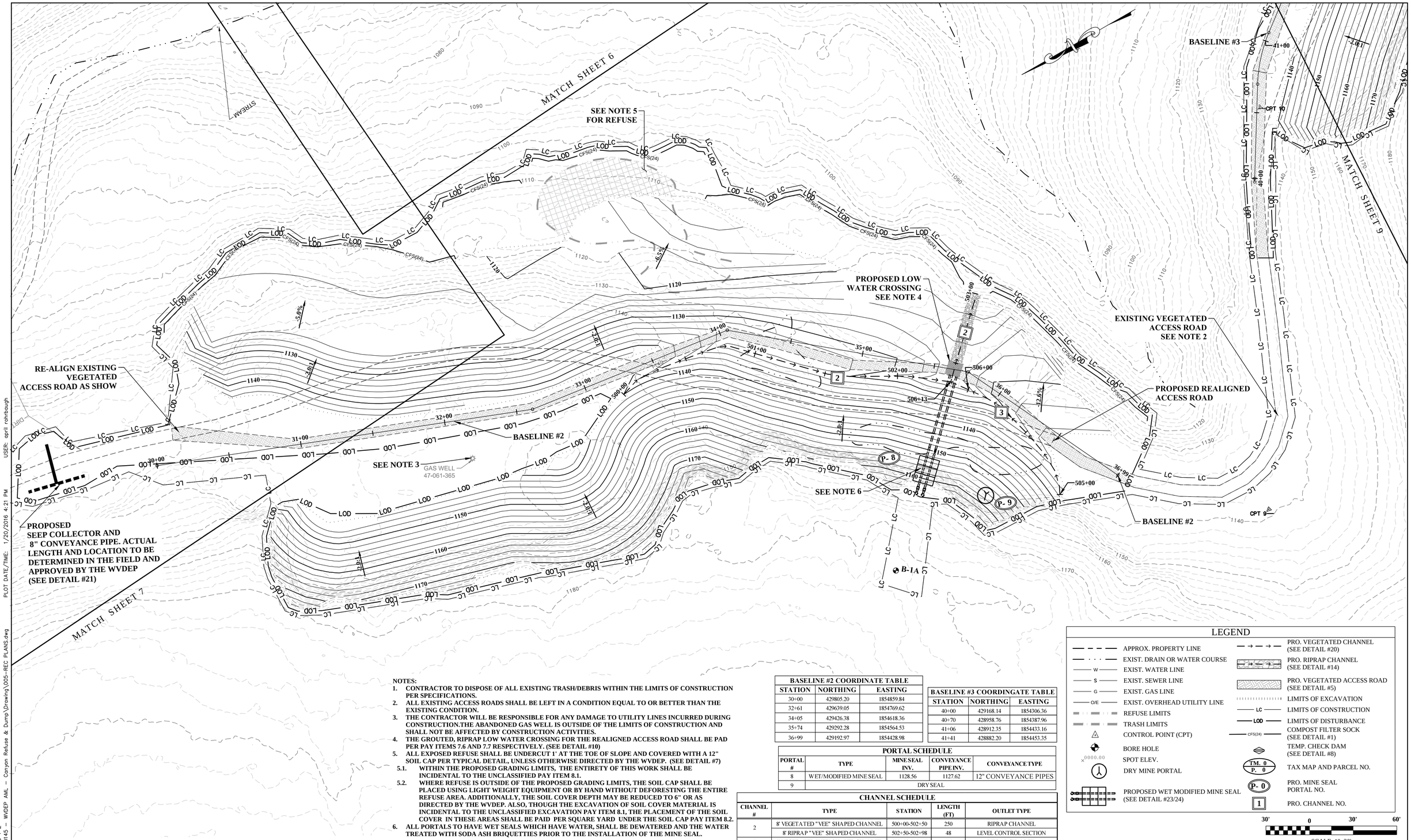

NOTES:

1. CONTRACTOR TO DISPOSE OF ALL EXISTING TRASH/DEBRIS WITHIN THE LIMITS OF CONSTRUCTION PER SPECIFICATIONS.
2. ALL EXISTING ACCESS ROADS SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION.
3. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITY LINES INCURRED DURING CONSTRUCTION.THE ABANDONED GAS WELL IS OUTSIDE OF THE LIMITS OF CONSTRUCTION AND SHALL NOT BE AFFECTED BY CONSTRUCTION ACTIVITIES.
4. THE GROUTED, RIPRAP LOW WATER CROSSING FOR THE REALIGNED ACCESS ROAD SHALL BE PAD PER PAY ITEMS 7.6 AND 7.7 RESPECTIVELY. (SEE DETAIL #10)
5. ALL EXPOSED REFUSE SHALL BE UNDERCUT 1' AT THE TOE OF SLOPE AND COVERED WITH A 12" SOIL CAP PER TYPICAL DETAIL, UNLESS OTHERWISE DIRECTED BY THE WVDEP. (SEE DETAIL #7)
   - 5.1. WITHIN THE PROPOSED GRADING LIMITS, THE ENTIRETY OF THIS WORK SHALL BE INCIDENTAL TO THE UNCLASSIFIED PAY ITEM 8.1.
   - 5.2. WHERE REFUSE IS OUTSIDE OF THE PROPOSED GRADING LIMITS, THE SOIL CAP SHALL BE PLACED USING LIGHT WEIGHT EQUIPMENT OR BY HAND WITHOUT DEFORESTING THE ENTIRE REFUSE AREA. ADDITIONALLY, THE SOIL COVER DEPTH MAY BE REDUCED TO 6" OR AS DIRECTED BY THE WVDEP. ALSO, THOUGH THE EXCAVATION OF SOIL COVER MATERIAL IS INCIDENTAL TO THE UNCLASSIFIED EXCAVATION PAY ITEM 8.1, THE PLACEMENT OF THE SOIL COVER IN THESE AREAS SHALL BE PAID PER SQUARE YARD UNDER THE SOIL CAP PAY ITEM 8.2.
6. ALL PORTALS TO HAVE WET SEALS WHICH HAVE WATER, SHALL BE DEWATERED AND THE WATER TREATED WITH SODA ASH BRIQUETTIES PRIOR TO THE INSTALLATION OF THE MINE SEAL.

BASELINE #2 COORDINATE TABLE

STATION	NORTHING	EASTING
30+00	429805.20	1854859.84
32+61	429639.05	1854769.62
34+05	429426.38	1854618.36
35+74	429292.28	1854564.53
36+99	429192.97	1854428.98

BASELINE #3 COORDINATE TABLE

STATION	NORTHING	EASTING
40+00	429168.14	1854306.36
40+70	428958.76	1854387.96
41+06	428912.35	1854433.16
41+41	428882.20	1854453.35

PORTAL SCHEDULE

PORTAL #	TYPE	MINE SEAL INV.	CONVEYANCE PIPE INV.	CONVEYANCE TYPE
8	WET/MODIFIED MINE SEAL	1128.56	1127.62	12" CONVEYANCE PIPES
9	DRY SEAL			

CHANNEL SCHEDULE

CHANNEL #	TYPE	STATION	LENGTH (FT)	OUTLET TYPE
2	8' VEGETATED "VEE" SHAPED CHANNEL	500+00-502+50	250	RIPRAP CHANNEL
	8' RIPRAP "VEE" SHAPED CHANNEL	502+50-502+98	48	LEVEL CONTROL SECTION
3	8' VEGETATED "VEE" SHAPED CHANNEL	505+55-506+13	113	RIPRAP CHANNEL

LEGEND

- APPROX. PROPERTY LINE
- EXIST. DRAIN OR WATER COURSE
- EXIST. WATER LINE
- EXIST. SEWER LINE
- EXIST. GAS LINE
- EXIST. OVERHEAD UTILITY LINE
- REFUSE LIMITS
- TRASH LIMITS
- CONTROL POINT (CPT)
- BORE HOLE
- SPOT ELEV.
- DRY MINE PORTAL
- PROPOSED WET MODIFIED MINE SEAL (SEE DETAIL #23/24)
- PRO. VEGETATED CHANNEL (SEE DETAIL #20)
- PRO. RIPRAP CHANNEL (SEE DETAIL #14)
- PRO. VEGETATED ACCESS ROAD (SEE DETAIL #5)
- LIMITS OF EXCAVATION
- LIMITS OF CONSTRUCTION
- LIMITS OF DISTURBANCE
- COMPOST FILTER SOCK (SEE DETAIL #1)
- TEMP. CHECK DAM (SEE DETAIL #8)
- TAX MAP AND PARCEL NO.
- PRO. MINE SEAL PORTAL NO.
- PRO. CHANNEL NO.

30' 0 30' 60'

SCALE: 1"=30'

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CONTRACT No.
DEP 16434
PROJECT No.
101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
SITE #2

SHEET No.
8

LAYOUT TAB: 08_REC 1_2
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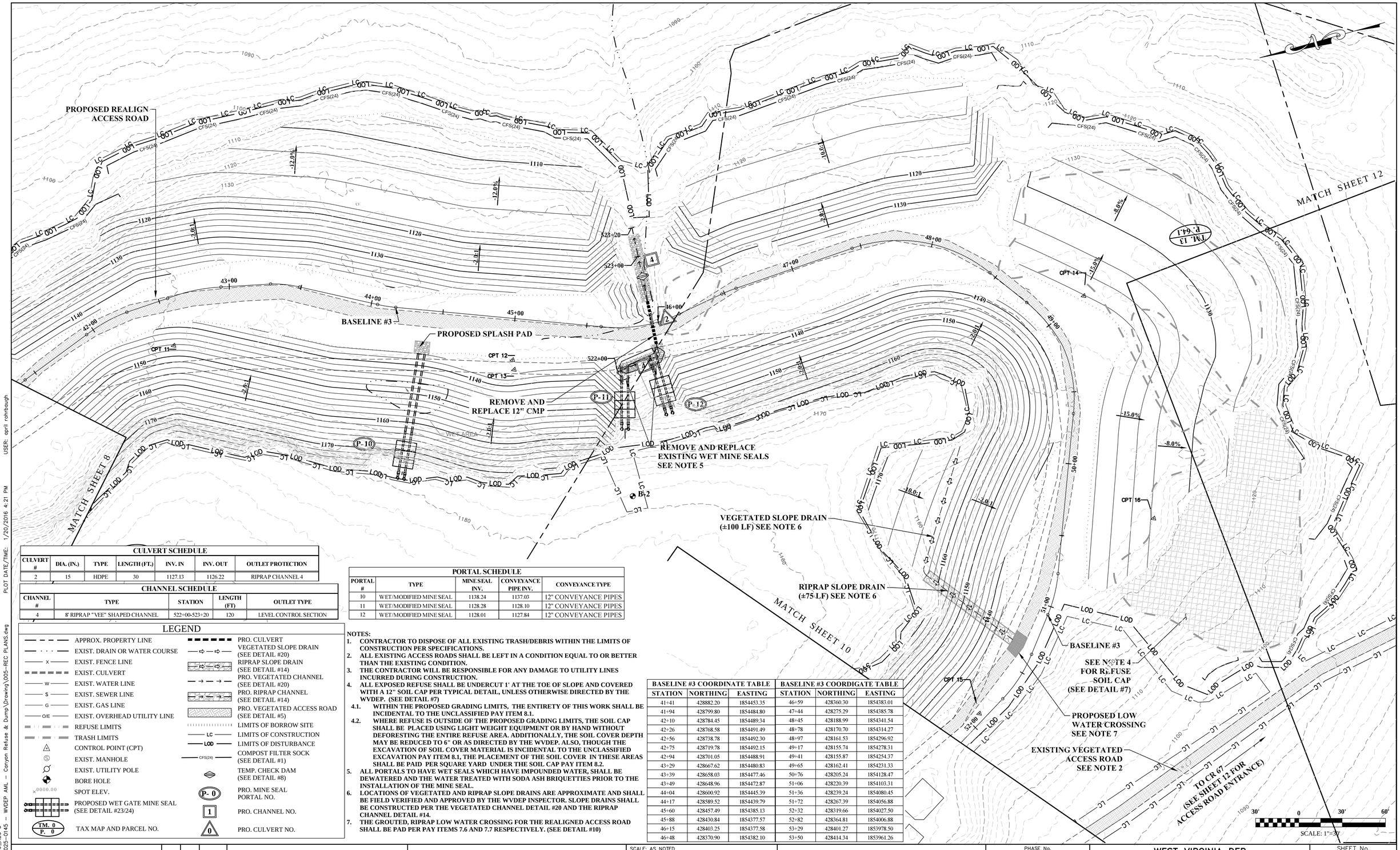

CULVERT SCHEDULE						
CULVERT #	DIA. (IN.)	TYPE	LENGTH (FT.)	INV. IN	INV. OUT	OUTLET PROTECTION
2	15	HDPE	30	1127.13	1126.22	RIPRAP CHANNEL 4

CHANNEL SCHEDULE				
CHANNEL #	TYPE	STATION	LENGTH (FT)	OUTLET TYPE
4	8' RIPRAP "VEE" SHAPED CHANNEL	522+00-523+20	120	LEVEL CONTROL SECTION

LEGEND

- APPROX. PROPERTY LINE
- EXIST. DRAIN OR WATER COURSE
- EXIST. FENCE LINE
- EXIST. CULVERT
- EXIST. WATER LINE
- EXIST. SEWER LINE
- EXIST. GAS LINE
- EXIST. OVERHEAD UTILITY LINE
- REFUSE LIMITS
- TRASH LIMITS
- CONTROL POINT (CPT)
- EXIST. MANHOLE
- EXIST. UTILITY POLE
- BORE HOLE
- SPOT ELEV.
- PROPOSED WET GATE MINE SEAL (SEE DETAIL #23/24)
- TAX MAP AND PARCEL NO. (TM. 0 / P. 0)
- PRO. CULVERT
- VEGETATED SLOPE DRAIN (SEE DETAIL #20)
- RIPRAP SLOPE DRAIN (SEE DETAIL #14)
- PRO. VEGETATED CHANNEL (SEE DETAIL #20)
- PRO. RIPRAP CHANNEL (SEE DETAIL #14)
- PRO. VEGETATED ACCESS ROAD (SEE DETAIL #5)
- LIMITS OF BORROW SITE
- LIMITS OF CONSTRUCTION
- LIMITS OF DISTURBANCE
- COMPOST FILTER SOCK (SEE DETAIL #1)
- TEMP. CHECK DAM (SEE DETAIL #8)
- PRO. MINE SEAL PORTAL NO.
- PRO. CHANNEL NO.
- PRO. CULVERT NO.

PORTAL SCHEDULE				
PORTAL #	TYPE	MINE SEAL INV.	CONVEYANCE PIPE INV.	CONVEYANCE TYPE
10	WET/MODIFIED MINE SEAL	1138.24	1137.03	12" CONVEYANCE PIPES
11	WET/MODIFIED MINE SEAL	1128.28	1128.10	12" CONVEYANCE PIPES
12	WET/MODIFIED MINE SEAL	1128.01	1127.84	12" CONVEYANCE PIPES

NOTES:

1. **CONTRACTOR TO DISPOSE OF ALL EXISTING TRASH/DEBRIS WITHIN THE LIMITS OF CONSTRUCTION PER SPECIFICATIONS.**
2. **ALL EXISTING ACCESS ROADS SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION.**
3. **THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITY LINES INCURRED DURING CONSTRUCTION.**
4. **ALL EXPOSED REFUSE SHALL BE UNDERCUT 1' AT THE TOE OF SLOPE AND COVERED WITH A 12" SOIL CAP PER TYPICAL DETAIL, UNLESS OTHERWISE DIRECTED BY THE WVDEP. (SEE DETAIL #7)**
   - 4.1. **WITHIN THE PROPOSED GRADING LIMITS, THE ENTIRETY OF THIS WORK SHALL BE INCIDENTAL TO THE UNCLASSIFIED PAY ITEM 8.1.**
   - 4.2. **WHERE REFUSE IS OUTSIDE OF THE PROPOSED GRADING LIMITS, THE SOIL CAP SHALL BE PLACED USING LIGHT WEIGHT EQUIPMENT OR BY HAND WITHOUT DEFORESTING THE ENTIRE REFUSE AREA. ADDITIONALLY, THE SOIL COVER DEPTH MAY BE REDUCED TO 6" OR AS DIRECTED BY THE WVDEP. ALSO, THOUGH THE EXCAVATION OF SOIL COVER MATERIAL IS INCIDENTAL TO THE UNCLASSIFIED EXCAVATION PAY ITEM 8.1, THE PLACEMENT OF THE SOIL COVER IN THESE AREAS SHALL BE PAID PER SQUARE YARD UNDER THE SOIL CAP PAY ITEM 8.2.**
5. **ALL PORTALS TO HAVE WET SEALS WHICH HAVE IMPOUNDED WATER, SHALL BE DEWATERED AND THE WATER TREATED WITH SODA ASH BRIQUETTIES PRIOR TO THE INSTALLATION OF THE MINE SEAL.**
6. **LOCATIONS OF VEGETATED AND RIPRAP SLOPE DRAINS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED AND APPROVED BY THE WVDEP INSPECTOR. SLOPE DRAINS SHALL BE CONSTRUCTED PER THE VEGETATED CHANNEL DETAIL #20 AND THE RIPRAP CHANNEL DETAIL #14.**
7. **THE GROUTED, RIPRAP LOW WATER CROSSING FOR THE REALIGNED ACCESS ROAD SHALL BE PAD PER PAY ITEMS 7.6 AND 7.7 RESPECTIVELY. (SEE DETAIL #10)**

BASELINE #3 COORDINATE TABLE			BASELINE #3 COORDIGATE TABLE		
STATION	NORTHING	EASTING	STATION	NORTHING	EASTING
41+41	428882.20	1854453.35	46+59	428360.30	1854383.01
41+94	428799.80	1854484.80	47+44	428275.29	1854385.78
42+10	428784.45	1854489.34	48+45	428188.99	1854341.54
42+26	428768.58	1854491.49	48+78	428170.70	1854314.27
42+56	428738.78	1854492.30	48+97	428161.53	1854296.92
42+75	428719.78	1854492.15	49+17	428155.74	1854278.31
42+94	428701.05	1854488.91	49+41	428155.87	1854254.37
43+29	428667.62	1854480.83	49+65	428162.41	1854231.33
43+39	428658.03	1854477.46	50+76	428205.24	1854128.47
43+49	428648.96	1854472.87	51+06	428220.39	1854103.31
44+04	428600.92	1854445.39	51+36	428239.24	1854080.45
44+17	428589.52	1854439.79	51+72	428267.39	1854056.88
45+60	428457.49	1854385.13	52+32	428319.66	1854027.50
45+88	428430.84	1854377.57	52+82	428364.81	1854006.88
46+15	428403.25	1854377.58	53+29	428401.27	1853978.50
46+48	428370.90	1854382.10	53+50	428414.34	1853961.26

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FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
SITE #3

SHEET No. 9

LAYOUT TAB: 09_REC 3
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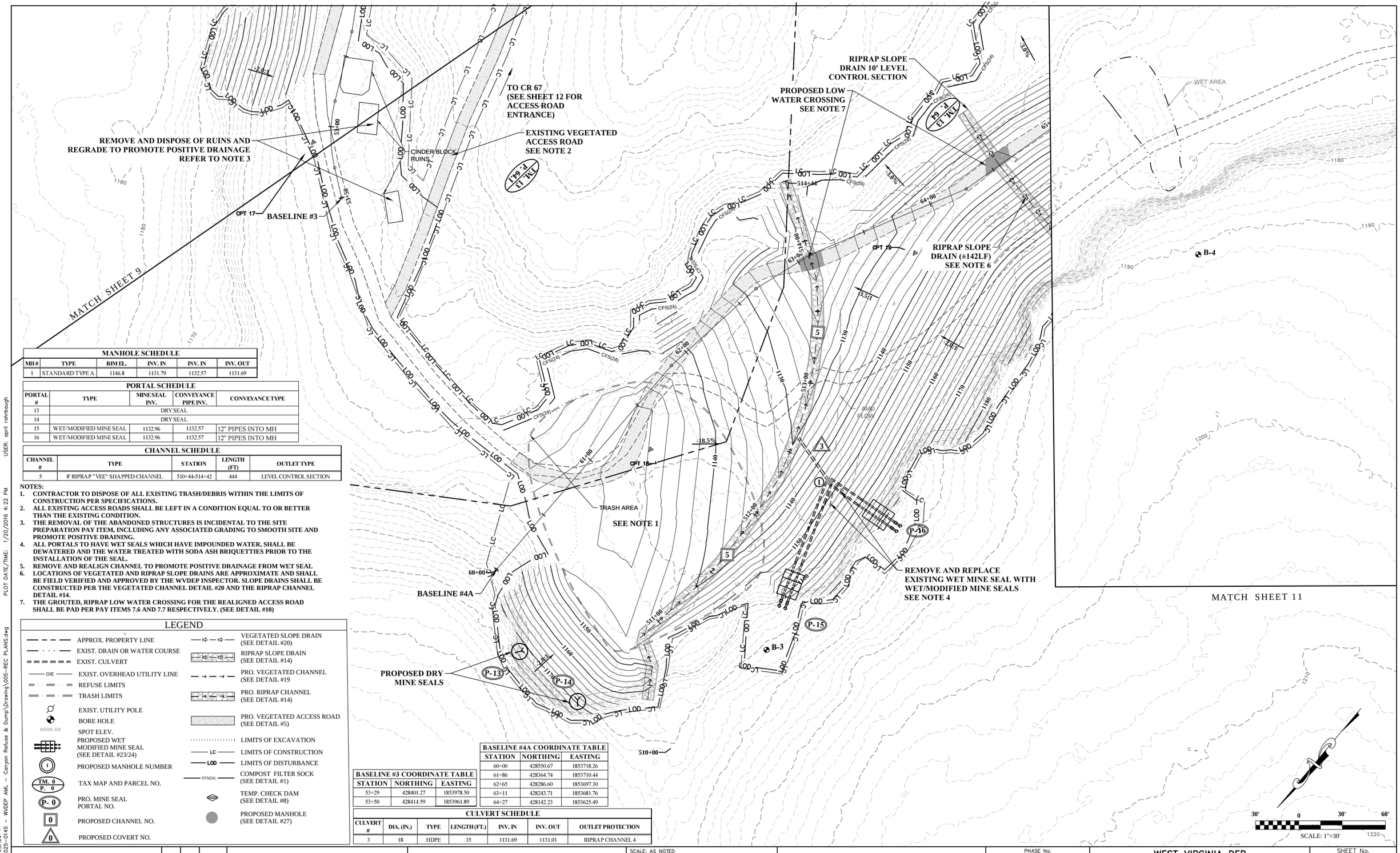

MANHOLE SCHEDULE					
MH #	TYPE	RIM EL.	INV. IN	INV. IN	INV. OUT
1	STANDARD TYPE A	1146.8	1131.79	1132.57	1131.69

PORTAL SCHEDULE				
PORTAL #	TYPE	MINE SEAL INV.	CONVEYANCE PIPE INV.	CONVEYANCE TYPE
13	DRY SEAL			
14	DRY SEAL			
15	WET/MODIFIED MINE SEAL	1132.96	1132.57	12" PIPES INTO MH
16	WET/MODIFIED MINE SEAL	1132.96	1132.57	12" PIPES INTO MH

CHANNEL SCHEDULE				
CHANNEL #	TYPE	STATION	LENGTH (FT)	OUTLET TYPE
5	8' RIPRAP "VEE" SHAPPED CHANNEL	510+44-514+42	444	LEVEL CONTROL SECTION

NOTES:

1. CONTRACTOR TO DISPOSE OF ALL EXISTING TRASH/DEBRIS WITHIN THE LIMITS OF CONSTRUCTION PER SPECIFICATIONS.
2. ALL EXISTING ACCESS ROADS SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION.
3. THE REMOVAL OF THE ABANDONED STRUCTURES IS INCIDENTAL TO THE SITE PREPARATION PAY ITEM, INCLUDING ANY ASSOCIATED GRADING TO SMOOTH SITE AND PROMOTE POSITIVE DRAINING.
4. ALL PORTALS TO HAVE WET SEALS WHICH HAVE IMPOUNDED WATER, SHALL BE DEWATERED AND THE WATER TREATED WITH SODA ASH BRIQUETTIES PRIOR TO THE INSTALLATION OF THE SEAL.
5. REMOVE AND REALIGN CHANNEL TO PROMOTE POSITIVE DRAINAGE FROM WET SEAL
6. LOCATIONS OF VEGETATED AND RIPRAP SLOPE DRAINS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED AND APPROVED BY THE WVDEP INSPECTOR. SLOPE DRAINS SHALL BE CONSTRUCTED PER THE VEGETATED CHANNEL DETAIL #20 AND THE RIPRAP CHANNEL DETAIL #14.
7. THE GROUTED, RIPRAP LOW WATER CROSSING FOR THE REALIGNED ACCESS ROAD SHALL BE PAD PER PAY ITEMS 7.6 AND 7.7 RESPECTIVELY. (SEE DETAIL #10)

LEGEND

- APPROX. PROPERTY LINE
- EXIST. DRAIN OR WATER COURSE
- EXIST. CULVERT
- O/E — EXIST. OVERHEAD UTILITY LINE
- REFUSE LIMITS
- TRASH LIMITS
- EXIST. UTILITY POLE
- BORE HOLE
- 0000.00 SPOT ELEV.
- PROPOSED WET MODIFIED MINE SEAL (SEE DETAIL #23/24)
- 1 PROPOSED MANHOLE NUMBER
- TM. 0 P. 0 TAX MAP AND PARCEL NO.
- P- 0 PRO. MINE SEAL PORTAL NO.
- 0 PROPOSED CHANNEL NO.
- 0 PROPOSED COVERT NO.
- VEGETATED SLOPE DRAIN (SEE DETAIL #20)
- RIPRAP SLOPE DRAIN (SEE DETAIL #14)
- PRO. VEGETATED CHANNEL (SEE DETAIL #19
- PRO. RIPRAP CHANNEL (SEE DETAIL #14)
- PRO. VEGETATED ACCESS ROAD (SEE DETAIL #5)
- LIMITS OF EXCAVATION
- LC — LIMITS OF CONSTRUCTION
- LOD — LIMITS OF DISTURBANCE
- CFS(24) — COMPOST FILTER SOCK (SEE DETAIL #1)
- TEMP. CHECK DAM (SEE DETAIL #8)
- PROPOSED MANHOLE (SEE DETAIL #27)

BASELINE #3 COORDINATE TABLE		
STATION	NORTHING	EASTING
53+29	428401.27	1853978.50
53+50	428414.59	1853961.89

BASELINE #4A COORDINATE TABLE		
STATION	NORTHING	EASTING
60+00	428550.67	1853718.26
61+86	428364.74	1853710.44
62+65	428286.60	1853697.30
63+11	428243.71	1853681.76
64+27	428142.23	1853625.49

CULVERT SCHEDULE						
CULVERT #	DIA. (IN.)	TYPE	LENGTH (FT.)	INV. IN	INV. OUT	OUTLET PROTECTION
3	18	HDPE	35	1131.69	1131.01	RIPRAP CHANNEL 4

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THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
SITE #4

SHEET No. 10

LAYOUT TAB: 10_REC 4
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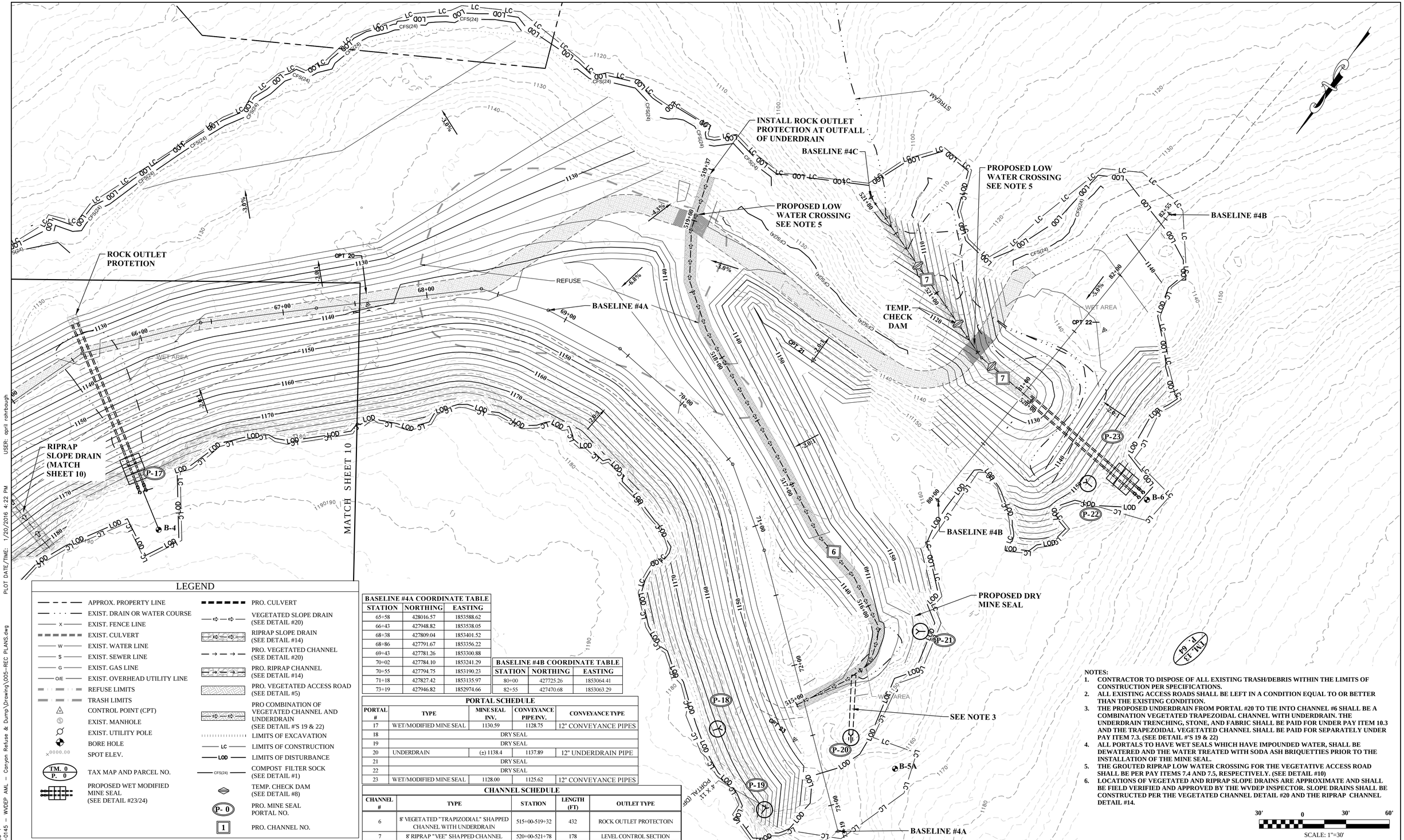

LEGEND

- APPROX. PROPERTY LINE
- EXIST. DRAIN OR WATER COURSE
- EXIST. FENCE LINE
- EXIST. CULVERT
- EXIST. WATER LINE
- EXIST. SEWER LINE
- EXIST. GAS LINE
- EXIST. OVERHEAD UTILITY LINE
- REFUSE LIMITS
- TRASH LIMITS
- CONTROL POINT (CPT)
- EXIST. MANHOLE
- EXIST. UTILITY POLE
- BORE HOLE
- SPOT ELEV.
- TAX MAP AND PARCEL NO.
- PROPOSED WET MODIFIED MINE SEAL (SEE DETAIL #23/24)
- PRO. CULVERT
- VEGETATED SLOPE DRAIN (SEE DETAIL #20)
- RIPRAP SLOPE DRAIN (SEE DETAIL #14)
- PRO. VEGETATED CHANNEL (SEE DETAIL #20)
- PRO. RIPRAP CHANNEL (SEE DETAIL #14)
- PRO. VEGETATED ACCESS ROAD (SEE DETAIL #5)
- PRO COMBINATION OF VEGETATED CHANNEL AND UNDERDRAIN (SEE DETAIL #'S 19 & 22)
- LIMITS OF EXCAVATION
- LIMITS OF CONSTRUCTION
- LIMITS OF DISTURBANCE
- COMPOST FILTER SOCK (SEE DETAIL #1)
- TEMP. CHECK DAM (SEE DETAIL #8)
- PRO. MINE SEAL PORTAL NO.
- PRO. CHANNEL NO.

BASELINE #4A COORDINATE TABLE

STATION	NORTHING	EASTING
65+58	428016.57	1853588.62
66+43	427948.82	1853538.05
68+38	427809.04	1853401.52
68+86	427791.67	1853356.22
69+43	427781.26	1853300.88
70+02	427784.10	1853241.29
70+55	427794.75	1853190.23
71+18	427827.42	1853135.97
73+19	427946.82	1852974.66

BASELINE #4B COORDINATE TABLE

STATION	NORTHING	EASTING
80+00	427725.26	1853064.41
82+55	427470.68	1853063.29

PORTAL SCHEDULE

PORTAL #	TYPE	MINE SEAL INV.	CONVEYANCE PIPE INV.	CONVEYANCE TYPE
17	WET/MODIFIED MINE SEAL	1130.59	1128.75	12" CONVEYANCE PIPES
18	DRY SEAL			
19	DRY SEAL			
20	UNDERDRAIN	(±) 1138.4	1137.89	12" UNDERDRAIN PIPE
21	DRY SEAL			
22	DRY SEAL			
23	WET/MODIFIED MINE SEAL	1128.00	1125.62	12" CONVEYANCE PIPES

CHANNEL SCHEDULE

CHANNEL #	TYPE	STATION	LENGTH (FT)	OUTLET TYPE
6	8' VEGETATED "TRAPIZODIAL" SHAPPED CHANNEL WITH UNDERDRAIN	515+00-519+32	432	ROCK OUTLET PROTECTOIN
7	8' RIPRAP "VEE" SHAPPED CHANNEL	520+00-521+78	178	LEVEL CONTROL SECTION

NOTES:

1. CONTRACTOR TO DISPOSE OF ALL EXISTING TRASH/DEBRIS WITHIN THE LIMITS OF CONSTRUCTION PER SPECIFICATIONS.
2. ALL EXISTING ACCESS ROADS SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION.
3. THE PROPOSED UNDERDRAIN FROM PORTAL #20 TO TIE INTO CHANNEL #6 SHALL BE A COMBINATION VEGETATED TRAPEZOIDAL CHANNEL WITH UNDERDRAIN. THE UNDERDRAIN TRENCHING, STONE, AND FABRIC SHALL BE PAID FOR UNDER PAY ITEM 10.3 AND THE TRAPEZOIDAL VEGETATED CHANNEL SHALL BE PAID FOR SEPARATELY UNDER PAY ITEM 7.3. (SEE DETAIL #'S 19 & 22)
4. ALL PORTALS TO HAVE WET SEALS WHICH HAVE IMPOUNDED WATER, SHALL BE DEWATERED AND THE WATER TREATED WITH SODA ASH BRIQUETTIES PRIOR TO THE INSTALLATION OF THE MINE SEAL.
5. THE GROUTED RIPRAP LOW WATER CROSSING FOR THE VEGETATIVE ACCESS ROAD SHALL BE PER PAY ITEMS 7.4 AND 7.5, RESPECTIVELY. (SEE DETAIL #10)
6. LOCATIONS OF VEGETATED AND RIPRAP SLOPE DRAINS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED AND APPROVED BY THE WVDEP INSPECTOR. SLOPE DRAINS SHALL BE CONSTRUCTED PER THE VEGETATED CHANNEL DETAIL #20 AND THE RIPRAP CHANNEL DETAIL #14.

30' 0 30' 60'

SCALE: 1"=30'

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THRASHER

PHASE No. –
CONTRACT No. DEP 16434
PROJECT No. 101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
SITE #4

SHEET No. 11

LAYOUT TAB: 11_REC 4
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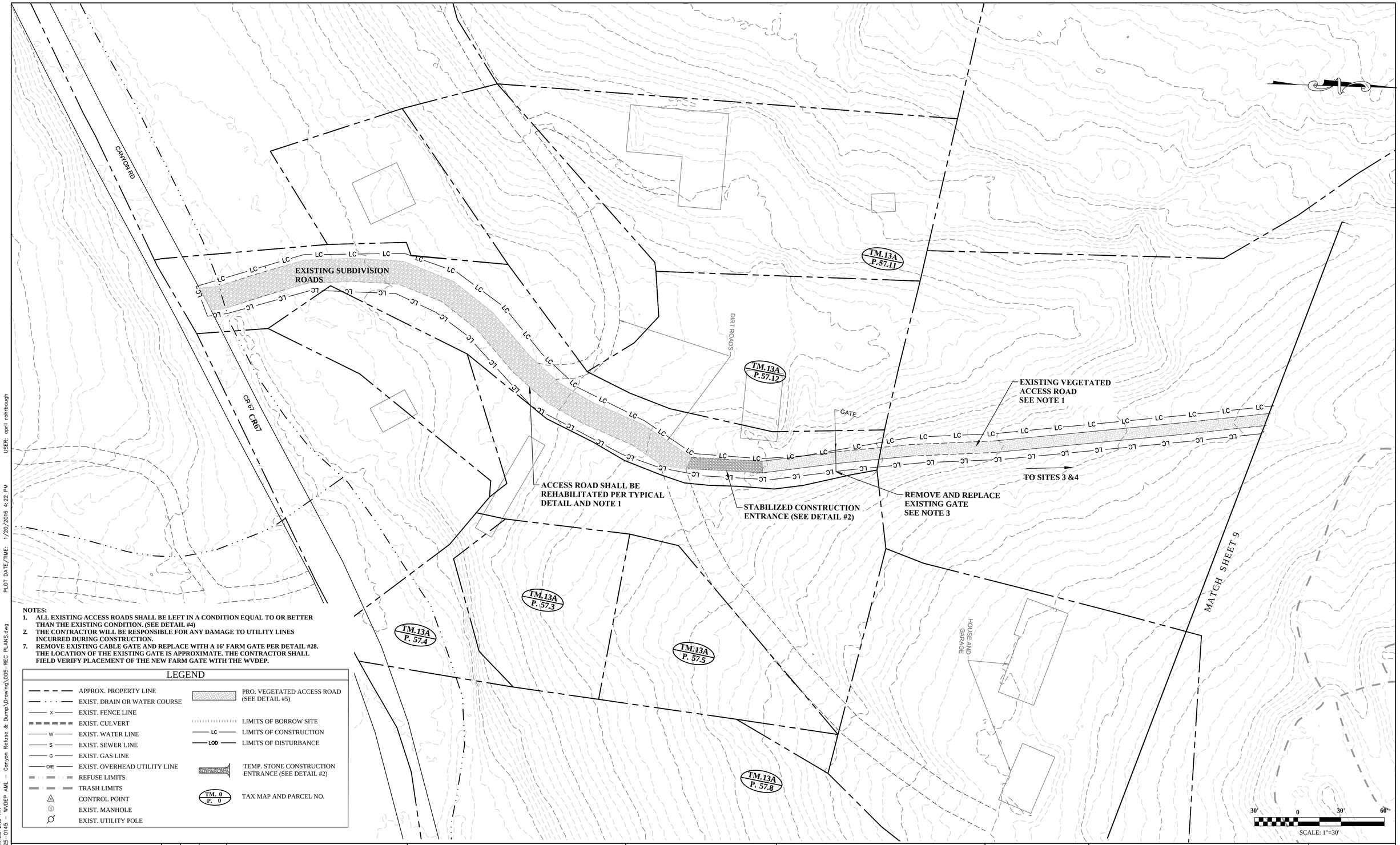

NOTES:

1. ALL EXISTING ACCESS ROADS SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION. (SEE DETAIL #4)
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITY LINES INCURRED DURING CONSTRUCTION.
7. REMOVE EXISTING CABLE GATE AND REPLACE WITH A 16' FARM GATE PER DETAIL #28. THE LOCATION OF THE EXISTING GATE IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY PLACEMENT OF THE NEW FARM GATE WITH THE WVDEP.

LEGEND

APPROX. PROPERTY LINE	PRO. VEGETATED ACCESS ROAD (SEE DETAIL #5)
EXIST. DRAIN OR WATER COURSE	
EXIST. FENCE LINE	LIMITS OF BORROW SITE
EXIST. CULVERT	LIMITS OF CONSTRUCTION
EXIST. WATER LINE	LIMITS OF DISTURBANCE
EXIST. SEWER LINE	
EXIST. GAS LINE	TEMP. STONE CONSTRUCTION ENTRANCE (SEE DETAIL #2)
EXIST. OVERHEAD UTILITY LINE	
REFUSE LIMITS	
TRASH LIMITS	TAX MAP AND PARCEL NO.
CONTROL POINT	
EXIST. MANHOLE	
EXIST. UTILITY POLE	

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CONTRACT No. DEP 16434
PROJECT No. 101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
SITE 3&4

SHEET No. 12

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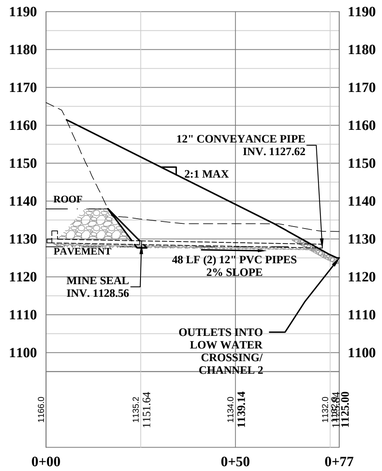

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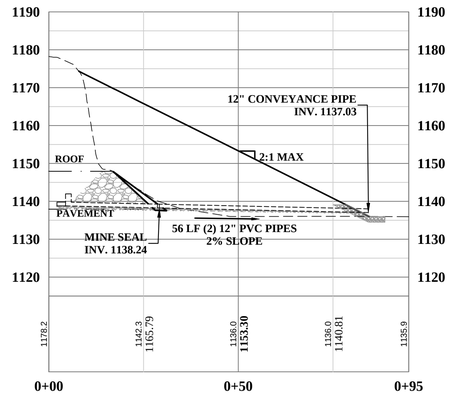

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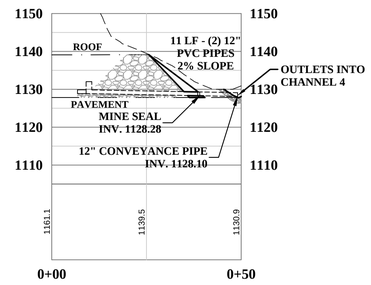

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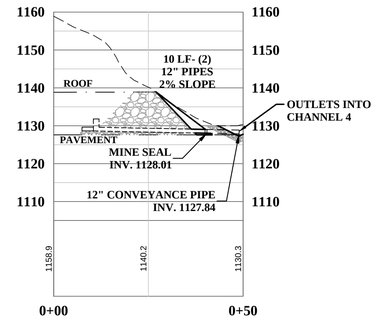

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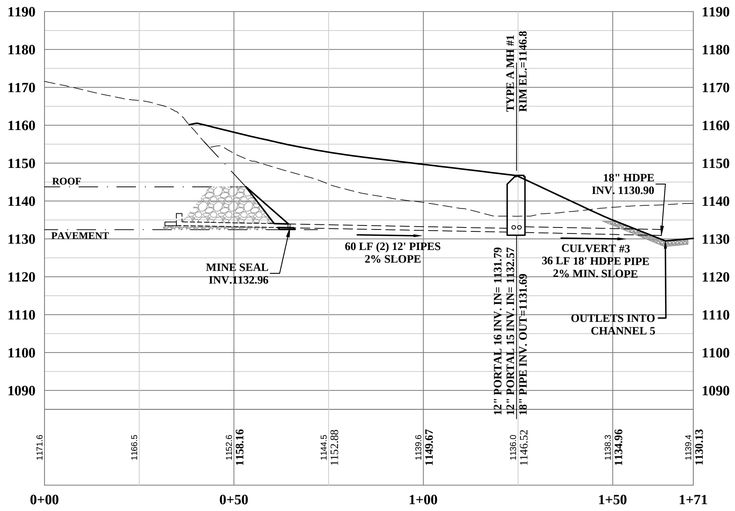

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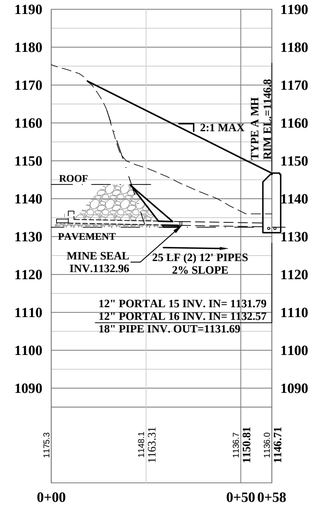

MANHOLE SCHEDULE

MH #	TYPE	RIM EL.	INV. IN	INV. IN	INV. OUT
1	STANDARD TYPE A	1146.8	1131.79	1132.57	1131.69

CULVERT SCHEDULE

CULVERT #	DIA. (IN.)	TYPE	LENGTH (FT.)	INV. IN	INV. OUT	OUTLET PROTECTION
3	18	HDPE	35	1131.69	1131.01	RIPRAP CHANNEL 4

PORTAL SCHEDULE

PORTAL #	TYPE	MINE SEAL INV.	CONVEYANCE PIPE INV.	CONVEYANCE TYPE
8	WET/MODIFIED MINE SEAL	1128.56	1127.62	12" CONVEYANCE PIPES
10	WET/MODIFIED MINE SEAL	1138.24	1137.03	12" CONVEYANCE PIPES
11	WET/MODIFIED MINE SEAL	1128.28	1128.10	12" CONVEYANCE PIPES
12	WET/MODIFIED MINE SEAL	1128.01	1127.84	12" CONVEYANCE PIPES
15	WET/MODIFIED MINE SEAL	1132.96	1132.57	12" PIPES INTO MH
16	WET/MODIFIED MINE SEAL	1132.96	1132.57	12" PIPES INTO MH

LEGEND

- EXISTING GROUND
- PROPOSED FINISHED GRADE
- COAL ROOF & PAVEMENT
- PROPOSED PIPE

VERT. 0 — 20 ft.
HOR. 0 — 20 ft.

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THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
PORTAL PROFILES

SHEET No. 13

LAYOUT TAB: PROFILE-PORTALS 1-1
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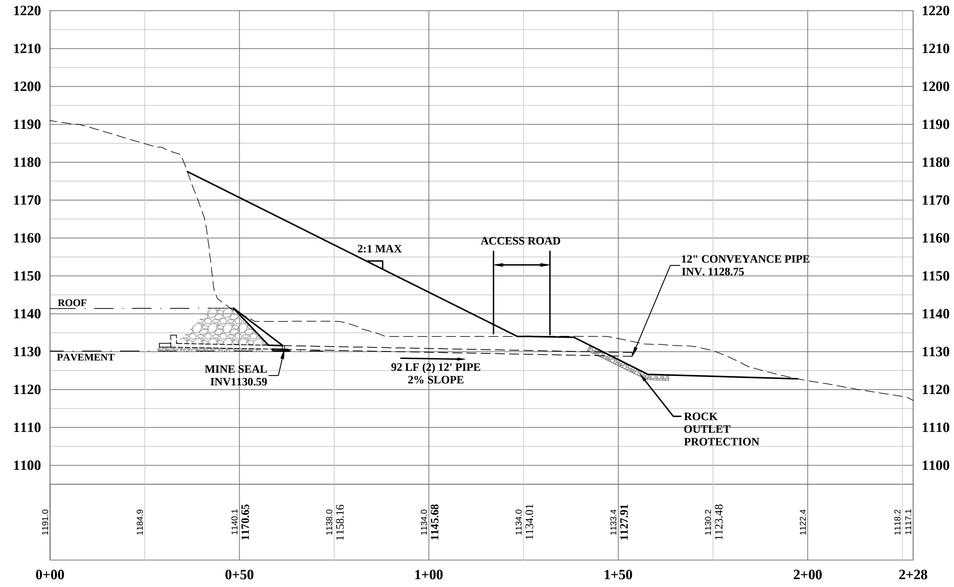
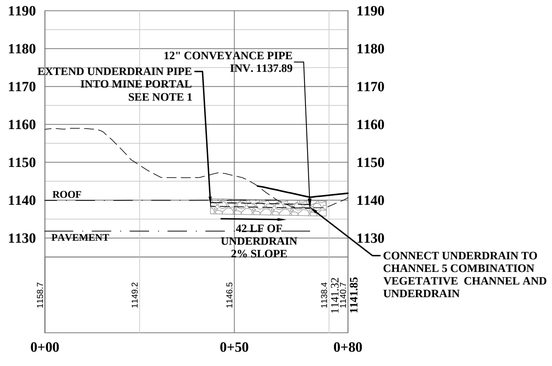
PORTAL 17



PORTAL 20 & UNDER DRAIN



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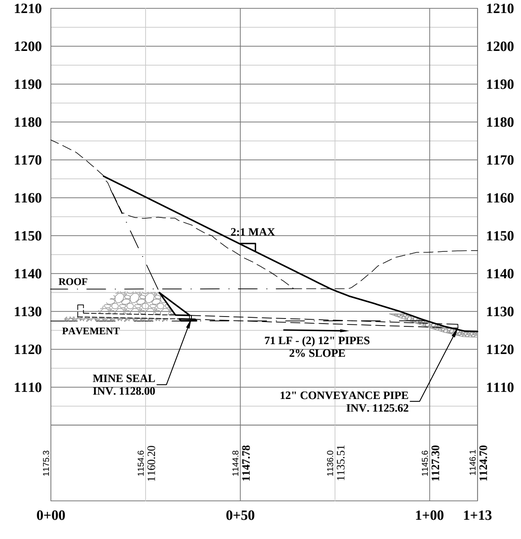

NOTE:

1. **DUE TO THE DEPTH OF FILL, PORTAL #17'S MINE SEAL AND THE FIRST 20' OF EACH CONVEYANCE PIPE (40 LINEAR FEET TOTAL) SHALL BE A-2000. THE REMAINING 74' OF EACH CONVEYANCE PIPE (148 LINEAR FEET TOTAL) SHALL BE SDR 35.**
2. **EXTEND UNDER DRAIN PIPE AND STONE INTO OPEN/COLLAPSED PORTAL AS FAR AS PRACTICABLE AND AS DIRECTED BY THE WVDEP INSPECTOR.**

PORTAL SCHEDULE

PORTAL #	TYPE	MINE SEAL INV.	CONVEYANCE PIPE INV.	CONVEYANCE TYPE
17	WET/MODIFIED MINE SEAL	1130.59	1128.75	12" CONVEYANCE PIPES
20	UNDERDRAIN	(±) 1138.4	1137.89	12" UNDERDRAIN PIPE
23	WET/MODIFIED MINE SEAL	1128.00	1125.62	12" CONVEYANCE PIPES

LEGEND

- EXISTING GROUND
- PROPOSED FINISHED GRADE
- COAL ROOF & PAVEMENT
- PROPOSED PIPE

VERT. 0 — 20 ft.

HOR. 0 — 20 ft.

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PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
PORTAL PROFILES

SHEET No. 14

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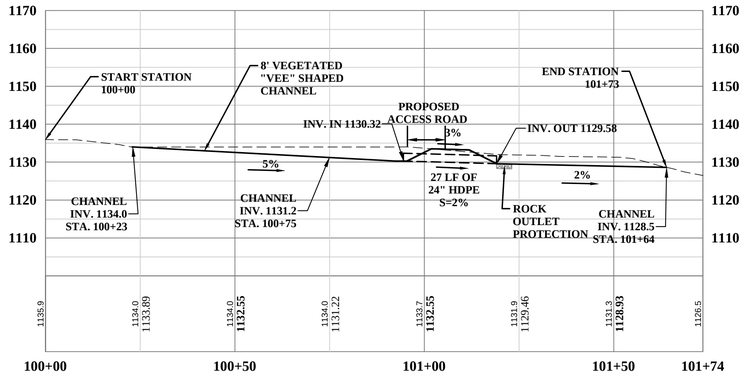
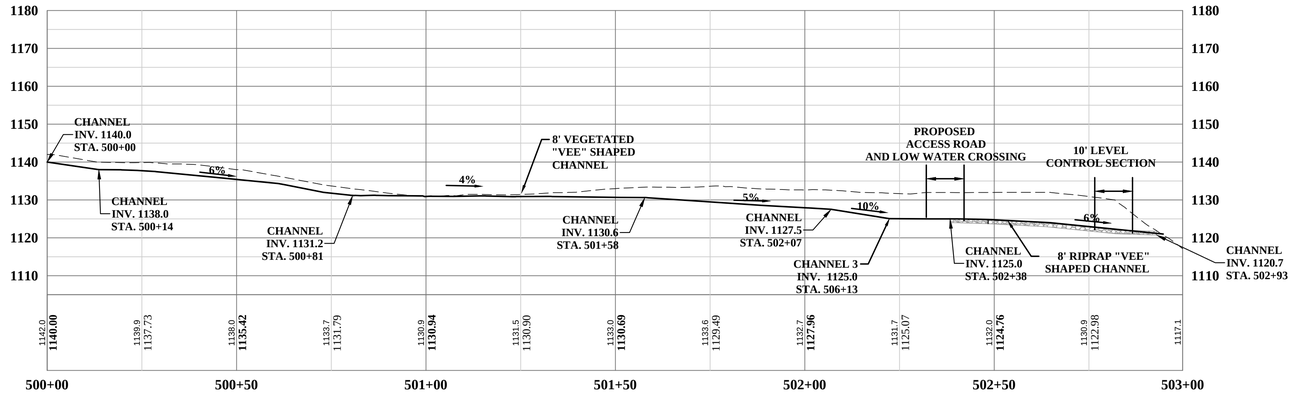
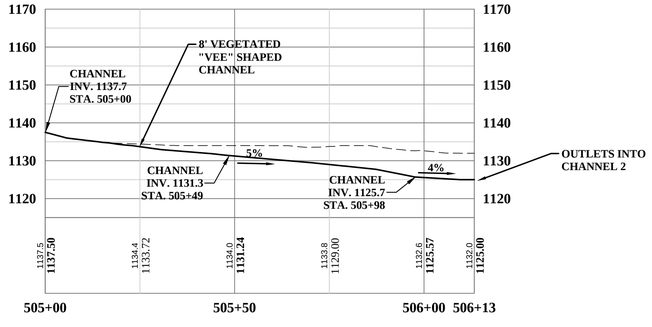
CHANNEL 1 & CULVERT 1



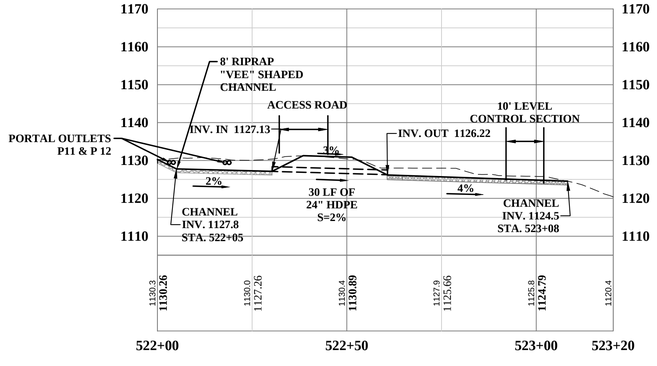
CHANNEL 2



CHANNEL 3



CHANNEL 4 & CULVERT 2



CULVERT SCHEDULE

CULVERT #	DIA. (IN.)	TYPE	LENGTH (FT.)	INV. IN	INV. OUT	OUTLET PROTECTION
1	24	HDPE	27	1130.50	1129.70	VEGITATED CHANNEL #1
2	15	HDPE	30	1130.50	1129.70	RIPRAP CHANNEL 4

CHANNEL SCHEDULE

CHANNEL #	TYPE	STATION	LENGTH (FT)	OUTLET TYPE
1	8' VEGITATIVE "VEE" SHAPPED CHANNEL	100+00 - 101+73	173.5	EXISTING CHANNEL
2	8' VEGETATED "VEE" SHAPED CHANNEL	500+00-502+50	250	RIPRAP CHANNEL
	8' RIPRAP "VEE" SHAPED CHANNEL	502+50-502+98	48	LEVEL CONTROL SECTION
3	8' VEGETATED "VEE" SHAPED CHANNEL	505+55-506+13	113	RIPRAP CHANNEL
4	8' RIPRAP "VEE" SHAPED CHANNEL	522+00-523+20	120	LEVEL CONTROL SECTION

LEGEND

- EXISTING GROUND
- PROPOSED FINISHED GRADE
- PROPOSED RIPRAP CHANNEL
- PROPOSED CULVERT

VERT. 0 — 20 ft.

HOR. 0 — 20 ft.

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APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

THRASHER

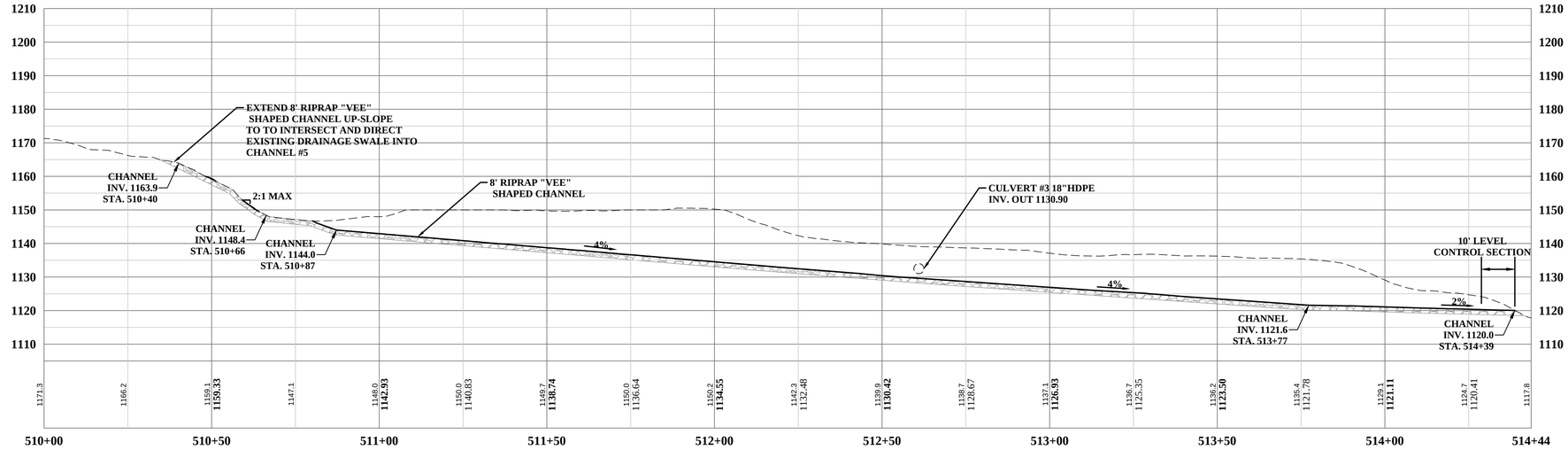
PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
CHANNEL PROFILES

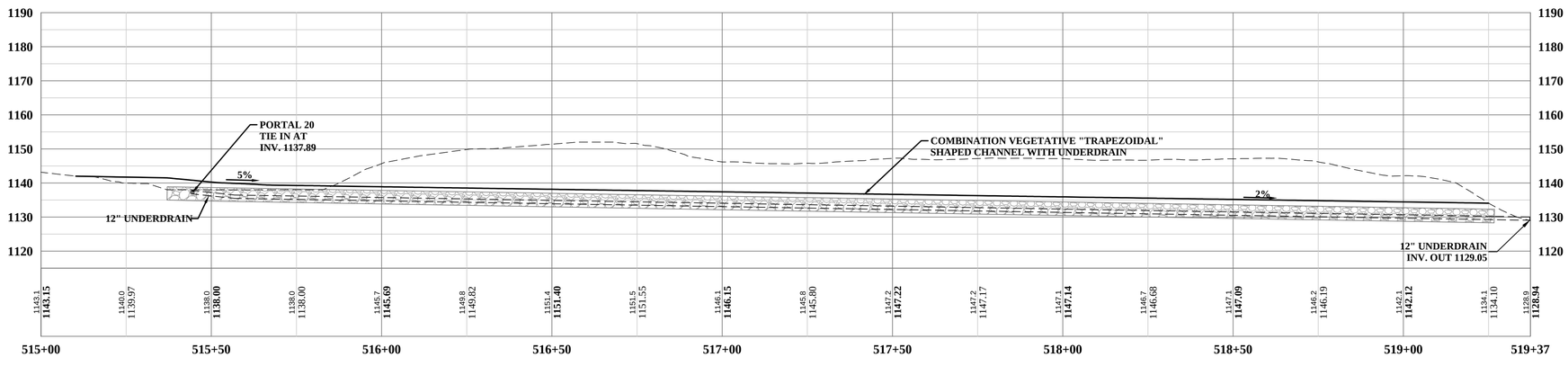
SHEET No. 15

LAYOUT TAB: PROFILE-CHANNELS 1-1
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
USER: april rohrbaugh
PLOT DATE/TIME: 1/20/2016 4:00 PM

CHANNEL 5



CHANNEL 6 & UNDERDRAIN 1



CHANNEL SCHEDULE				
CHANNEL #	TYPE	STATION	LENGTH (FT)	OUTLET TYPE
5	8' RIPRAP "VEE" SHAPPED CHANNEL	510+44-514+42	444	LEVEL CONTROL SECTION
6	8' VEGETATED "TRAPIZODIAL" SHAPPED CHANNEL WITH UNDERDRAIN	515+00-519+32	432	ROCK OUTLET PROTECTOIN

LEGEND

- EXISTING GROUND
- PROPOSED FINISHED GRADE
- PROPOSED RIPRAP CHANNEL
- PROPOSED UNDERDRAIN

VERT. 0 — 20 ft.

HOR. 0 — 20 ft.

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FIELD BOOK No.:	

THRASHER

PHASE No.	–
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PROJECT No.	101-025-0145

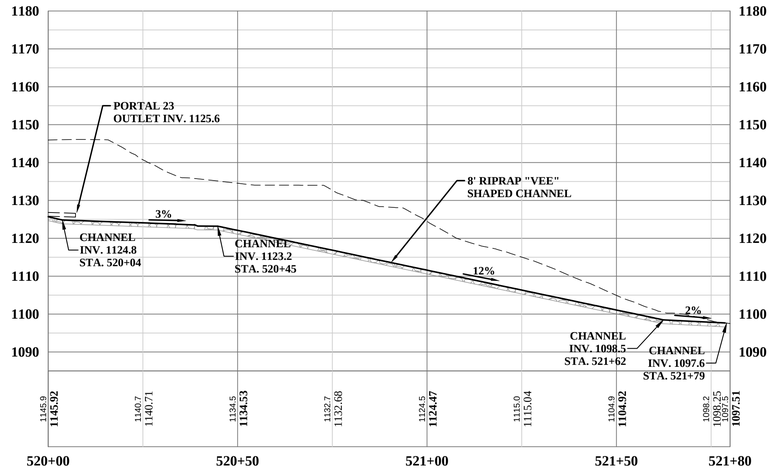
WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
CHANNEL PROFILES

SHEET No. 16

LAYOUT TAB: PROFILE-CHANNELS 1-2
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:00 PM
USER: april rohrbaugh

LAYOUT TAB: PROFILE-CHANNELS 1-3
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:00 PM
USER: april rohrbaugh

CHANNEL 7



CHANNEL SCHEDULE				
CHANNEL #	TYPE	STATION	LENGTH (FT)	OUTLET TYPE
7	8' RIPRAP "VEE" SHAPED CHANNEL	520+00-521+79	179	LEVEL CONTROL SECTION

LEGEND

- EXISTING GROUND
- PROPOSED FINISHED GRADE
- PROPOSED RIPRAP CHANNEL
- PROPOSED PIPE

VERT. 0 — 20 ft.

HOR. 0 — 20 ft.

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SURVEY BY:	
FIELD BOOK No.:	

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CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
CHANNEL PROFILES

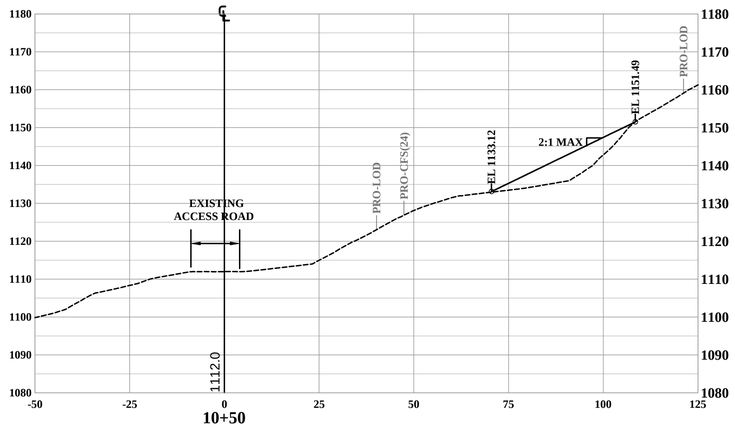
SHEET No.

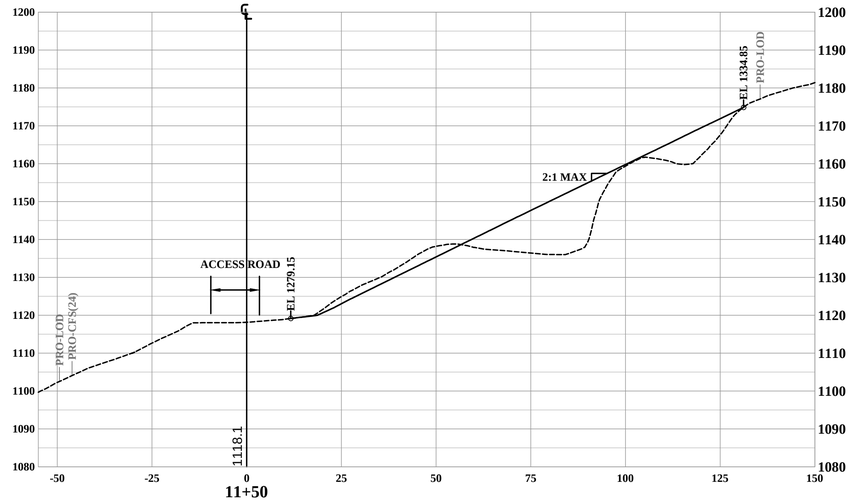
17

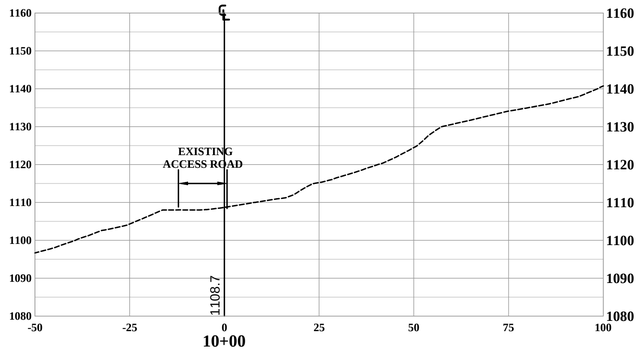
NOTE: THE MATERIAL TO BE EXCAVATED MAY BE MIXED WITH REFUSE. ANY REFUSE MATERIAL FOUND SHALL BE COMPACTED IN THE "BOTTOM" LAYERS OF THE BACKFILL. REFUSE SHOULD BE PLACED ABOVE TOP OF COAL WHENEVER POSSIBLE. THE TOP 12" OF BACKFILL (SOIL CAP) SHALL BE ANY SUITABLE MATERIAL THAT CAN SUPPORT VEGETATION, AS DEFINED IN THE SPECIFICATIONS. AS EXCAVATION PROGRESSES, SUITABLE (OR NON-REFUSE) MATERIAL SHALL BE STOCK-PILED TO BE USED FOR THE SOIL CAP.

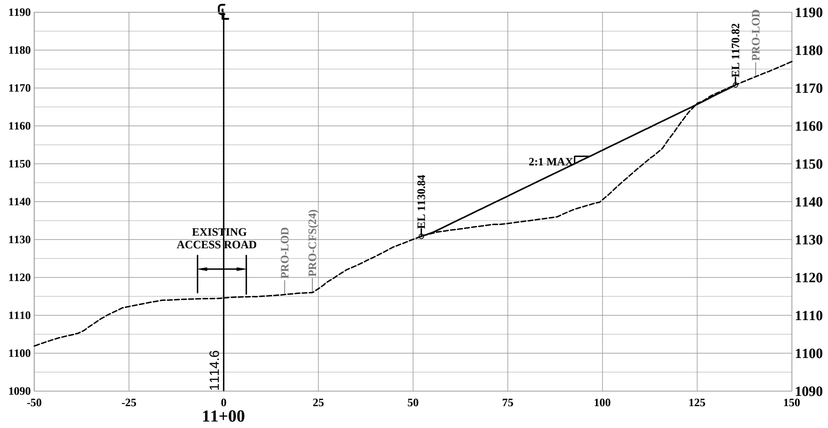
LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE









VERT. 20 ft. 0

HOR. 0 20 ft.

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SURVEY BY:
FIELD BOOK No.:

THRASHER

PHASE No. –
CONTRACT No. DEP 16434
PROJECT No. 101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #1A – CROSS SECTIONS

SHEET No. 18

LAYOUT TAB: XS-BASELINE 1_1
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
USER: april rohrbaugh
PLOT DATE/TIME: 1/20/2016 4:00 PM

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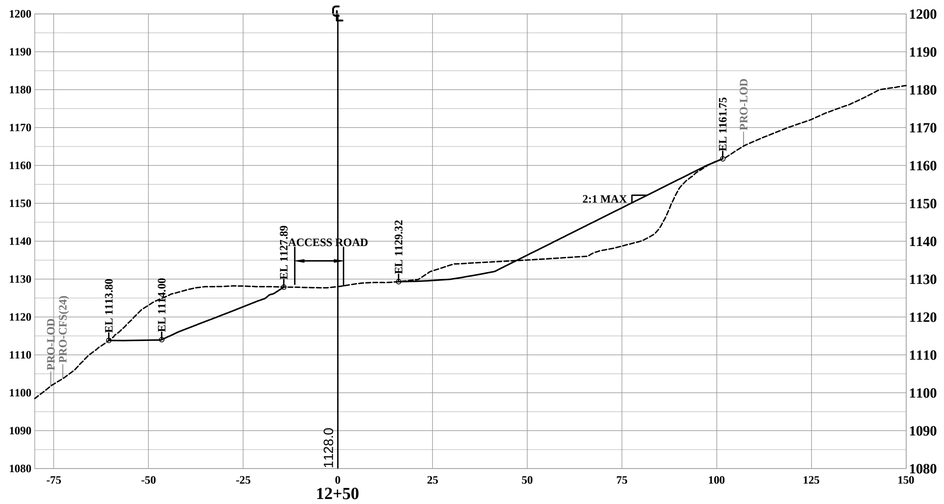
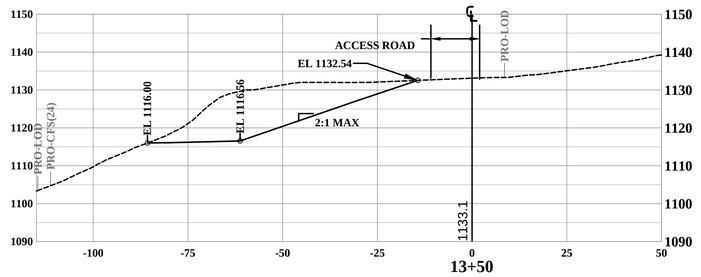
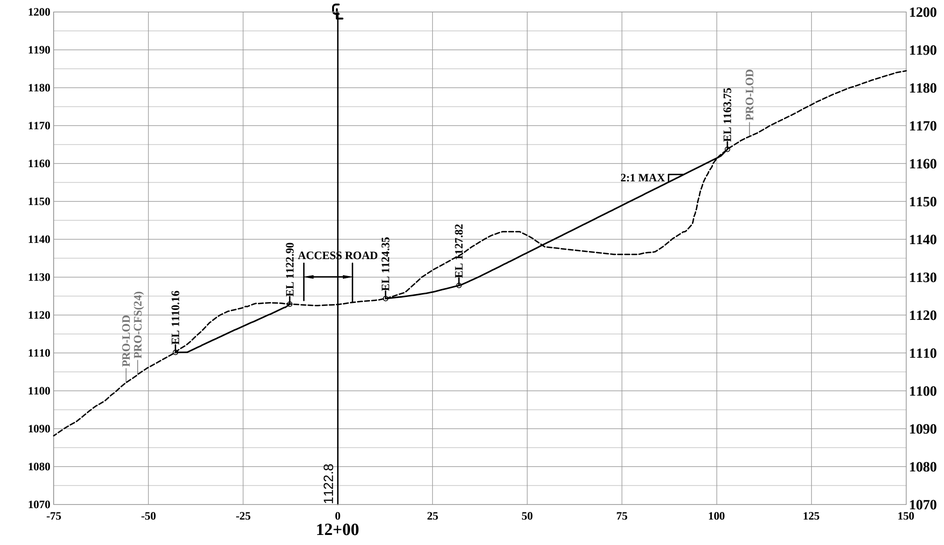
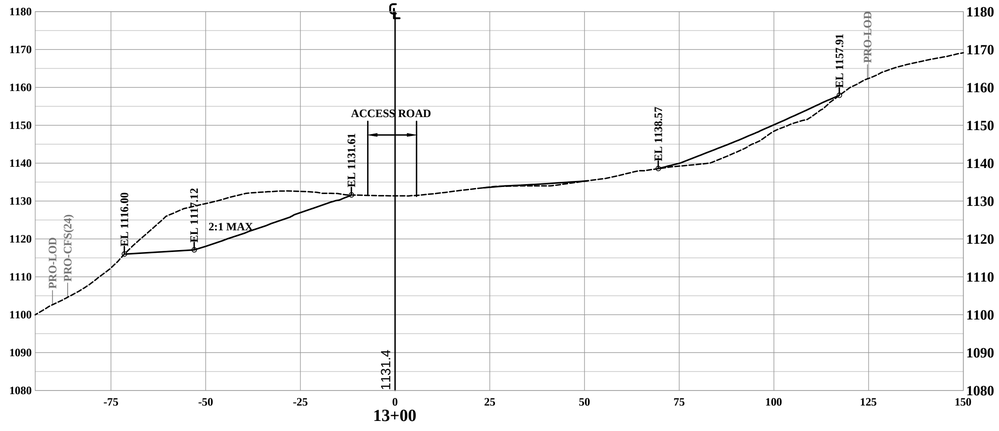
LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE









20 ft.
VERT. 0
0 20 ft.
HOR.

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PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #1A – CROSS SECTIONS

SHEET No. 19

LAYOUT TAB: XS-BASELINE 1_2
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
USER: april rohrbaugh
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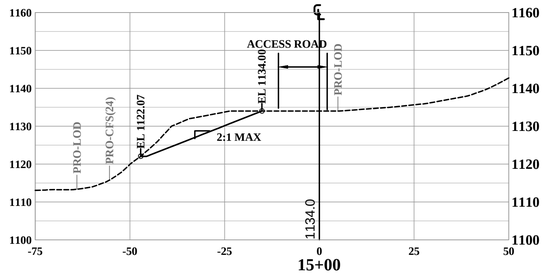
LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE



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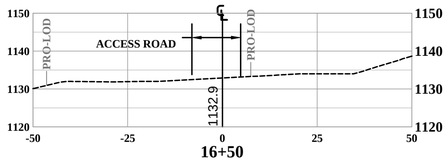

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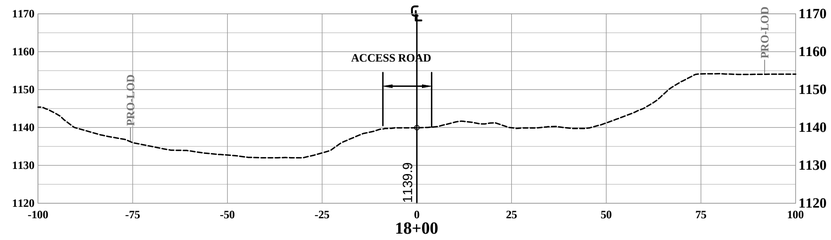

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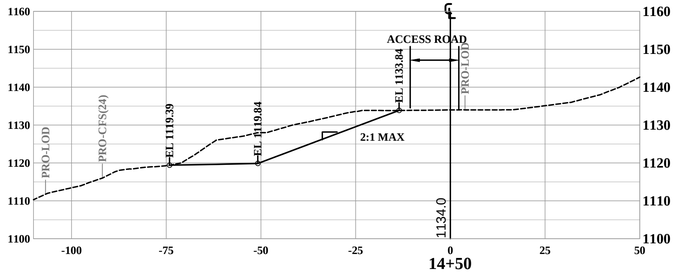

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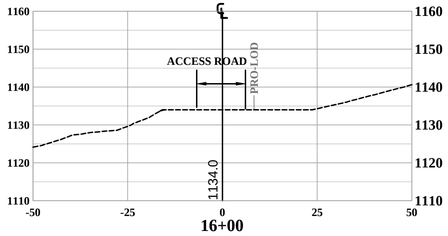

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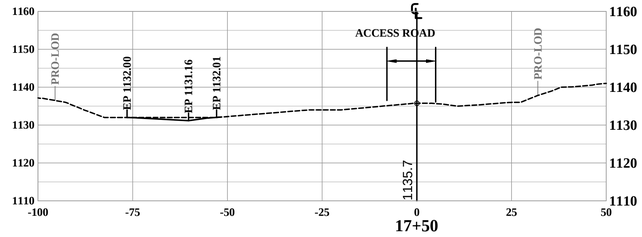

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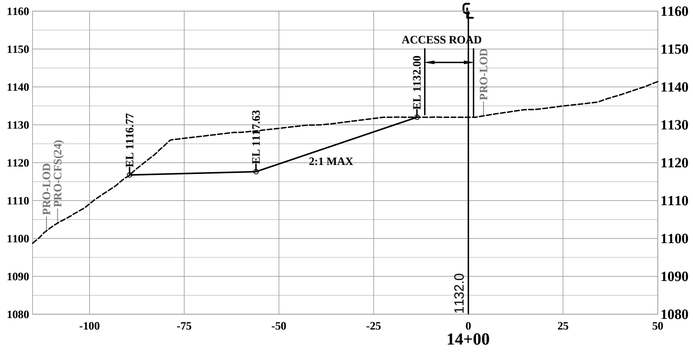

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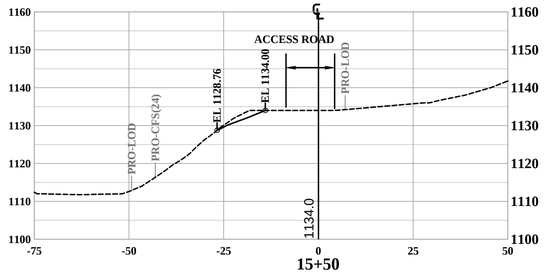

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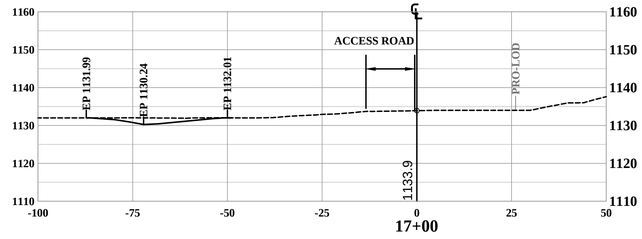

17+00

20 ft.
VERT. 0
HOR. 0 20 ft.

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SURVEY BY:	
FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #1A – CROSS SECTIONS

SHEET No. 20

LAYOUT TAB: XS-BASELINE 1_3
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:00 PM
USER: april robrbaugh

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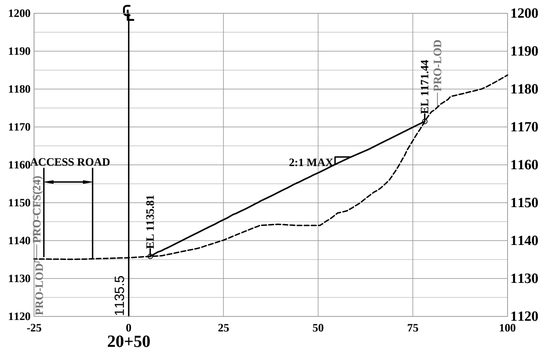
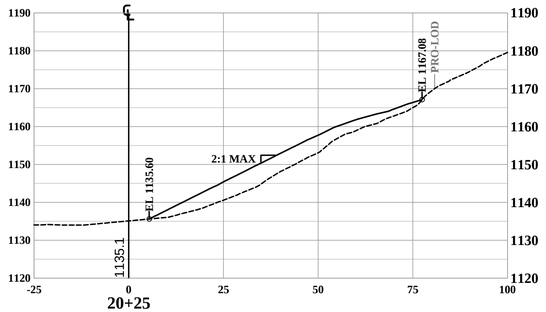
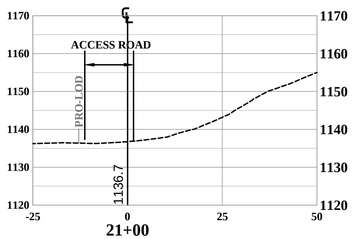
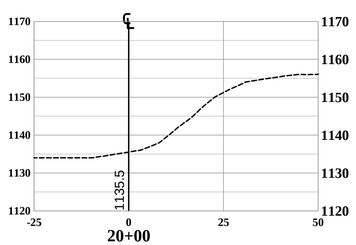
LEGEND

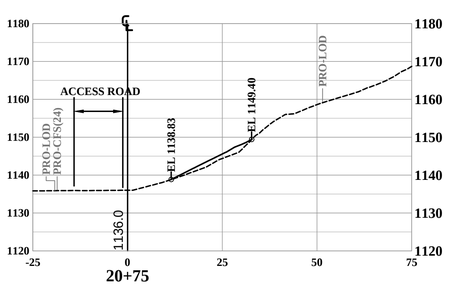
- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE











20 ft.
VERT. 0
0 20 ft.
HOR.

LAYOUT TAB: XS-BASELINE 1_4
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
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THRASHER

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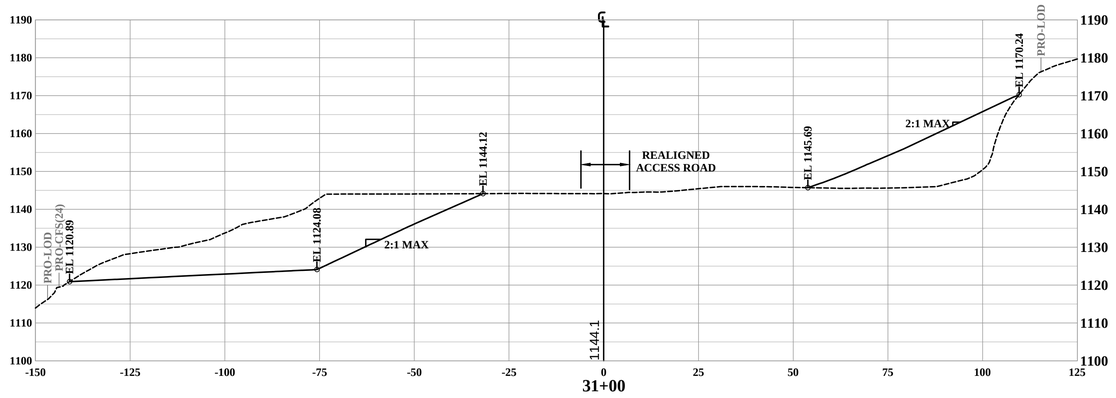
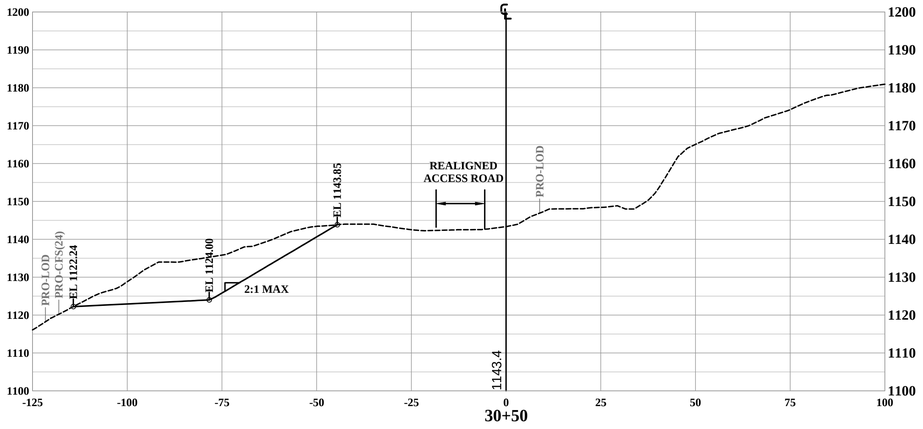
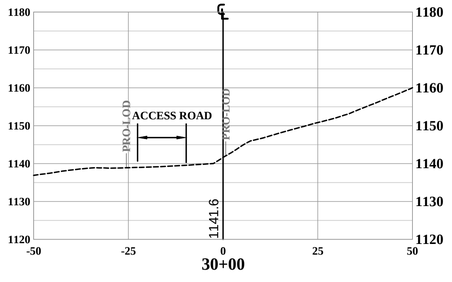
CONTRACT No.
DEP 16434
PROJECT No.
101-025-0145

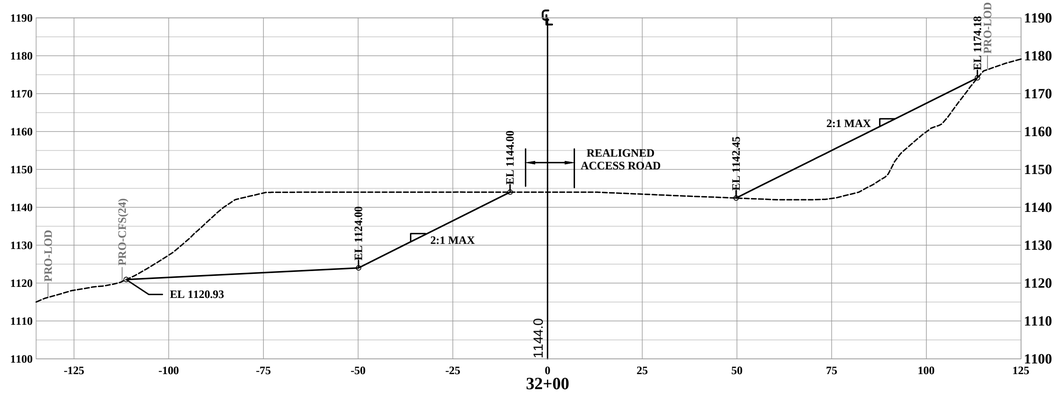
WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #1B – CROSS SECTIONS

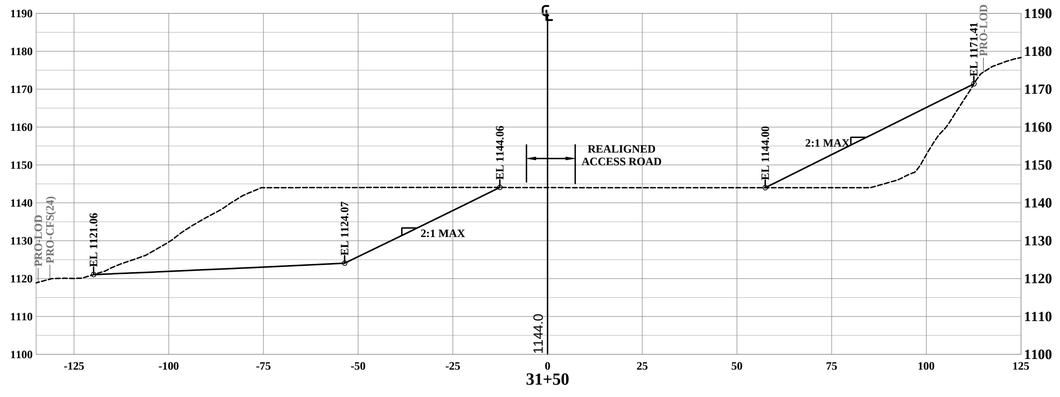
SHEET No.
21











NOTE: THE MATERIAL TO BE EXCAVATED MAY BE MIXED WITH REFUSE. ANY REFUSE MATERIAL FOUND SHALL BE COMPACTED IN THE "BOTTOM" LAYERS OF THE BACKFILL. REFUSE SHOULD BE PLACED ABOVE TOP OF COAL WHENEVER POSSIBLE. THE TOP 12" OF BACKFILL (SOIL CAP) SHALL BE ANY SUITABLE MATERIAL THAT CAN SUPPORT VEGETATION, AS DEFINED IN THE SPECIFICATIONS. AS EXCAVATION PROGRESSES, SUITABLE (OR NON-REFUSE) MATERIAL SHALL BE STOCK-PILED TO BE USED FOR THE SOIL CAP.

LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE

VERT. 0 — 20 ft.

HOR. 0 — 20 ft.

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APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #2 – CROSS SECTIONS

SHEET No. 22

LAYOUT TAB: XS-BASELINE 2
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:00 PM
USER: april robrbaugh

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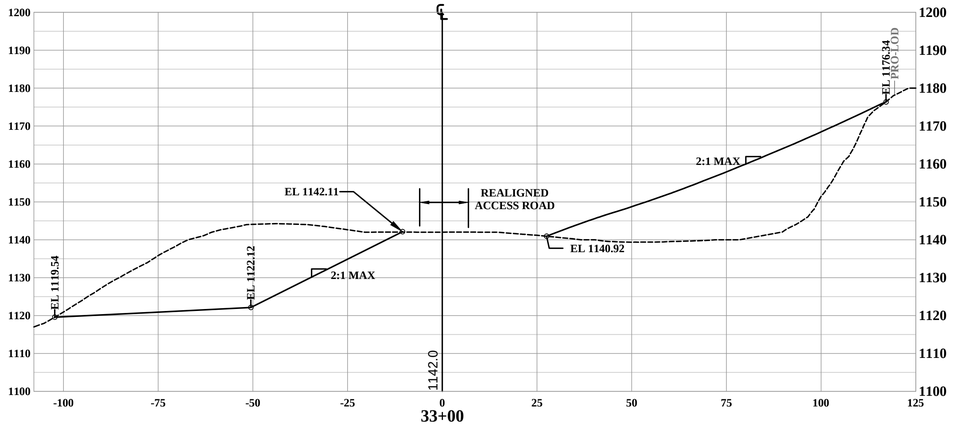
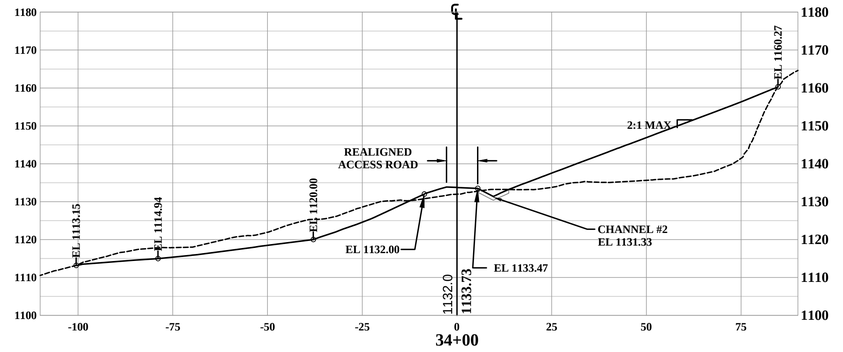
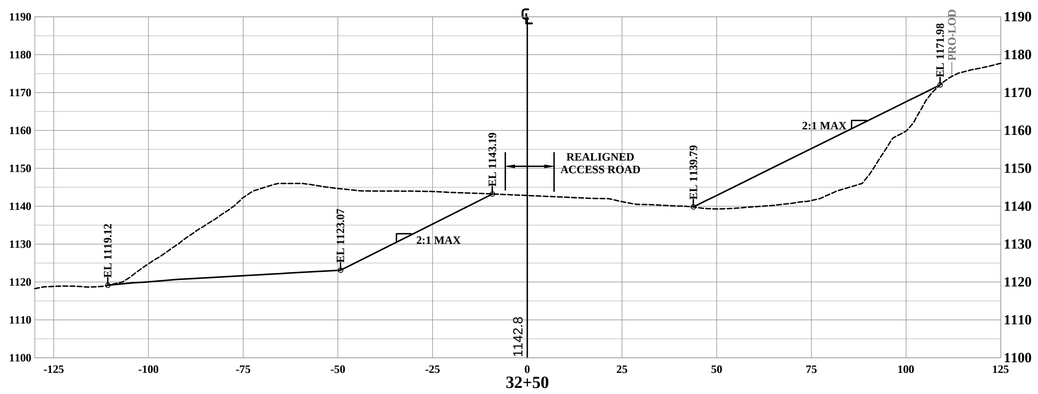
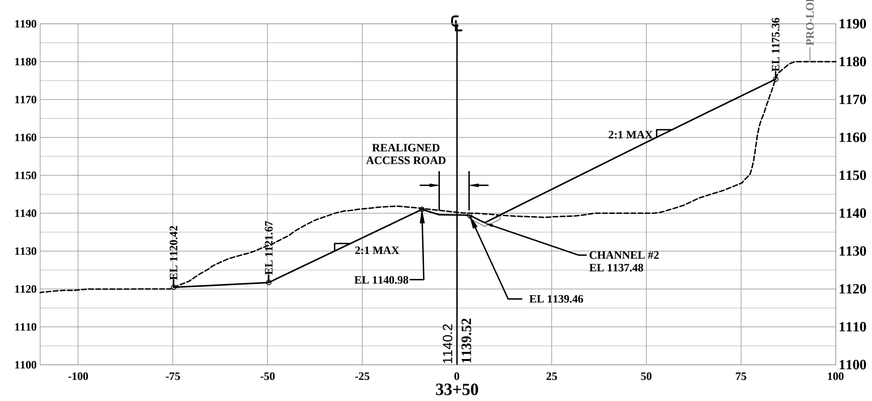
LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- PROPOSED VEGETATED CHANNEL
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE









VERT. 20 ft. 0

HOR. 0 20 ft.

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APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #2 – CROSS SECTIONS

SHEET No. 23

LAYOUT TAB: XS-BASELINE 2_2
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
USER: april rohrbough
PLOT DATE/TIME: 1/20/2016 4:01 PM

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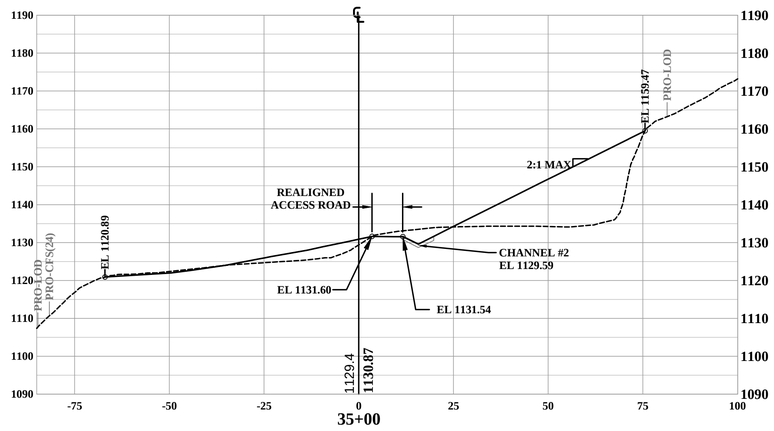
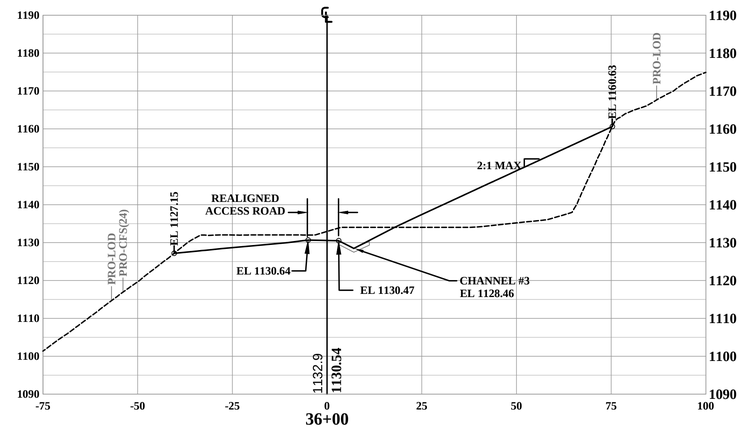
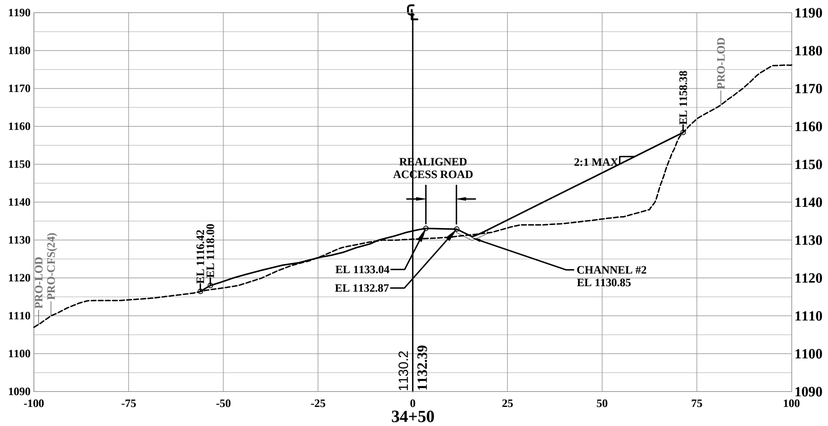
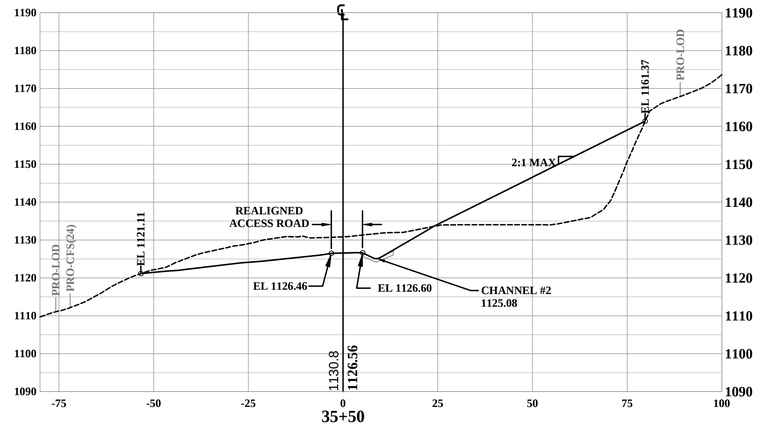
LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- PROPOSED VEGETATED CHANNEL
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE









VERT. 20 ft. 0

HOR. 0 20 ft.

LAYOUT TAB: XS-BASELINE 2_3
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:01 PM
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SURVEY BY:	
FIELD BOOK No.:	

THRASHER

PHASE No.: –
CONTRACT No.: DEP 16434
PROJECT No.: 101-025-0145

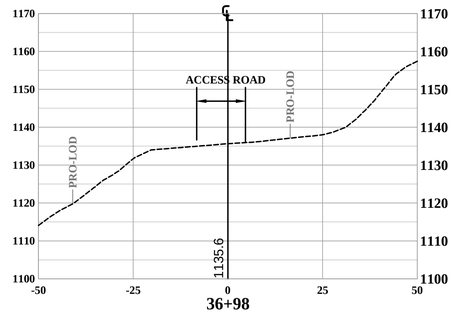
WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #2 – CROSS SECTIONS

SHEET No. 24

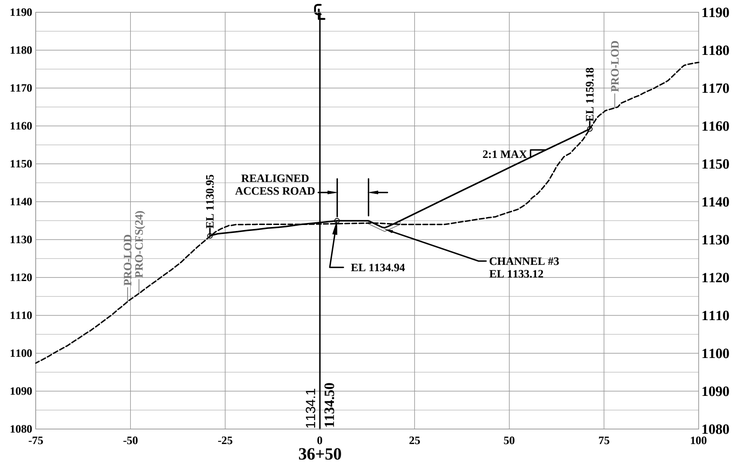
NOTE: THE MATERIAL TO BE EXCAVATED MAY BE MIXED WITH REFUSE. ANY REFUSE MATERIAL FOUND SHALL BE COMPACTED IN THE "BOTTOM" LAYERS OF THE BACKFILL. REFUSE SHOULD BE PLACED ABOVE TOP OF COAL WHENEVER POSSIBLE. THE TOP 12" OF BACKFILL (SOIL CAP) SHALL BE ANY SUITABLE MATERIAL THAT CAN SUPPORT VEGETATION, AS DEFINED IN THE SPECIFICATIONS. AS EXCAVATION PROGRESSES, SUITABLE (OR NON-REFUSE) MATERIAL SHALL BE STOCK-PILED TO BE USED FOR THE SOIL CAP.

LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- PROPOSED VEGETATED CHANNEL
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE



36+98



36+50

20 ft.
VERT. 0
0 20 ft.
HOR.

LAYOUT TAB: XS-BASELINE 2_4
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg PLOT DATE/TIME: 1/20/2016 4:01 PM
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PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

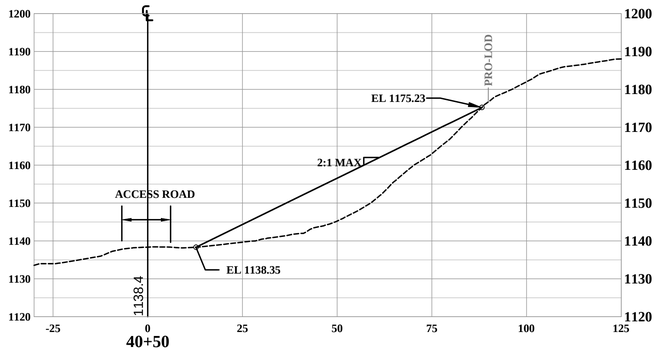
WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #2 – CROSS SECTIONS

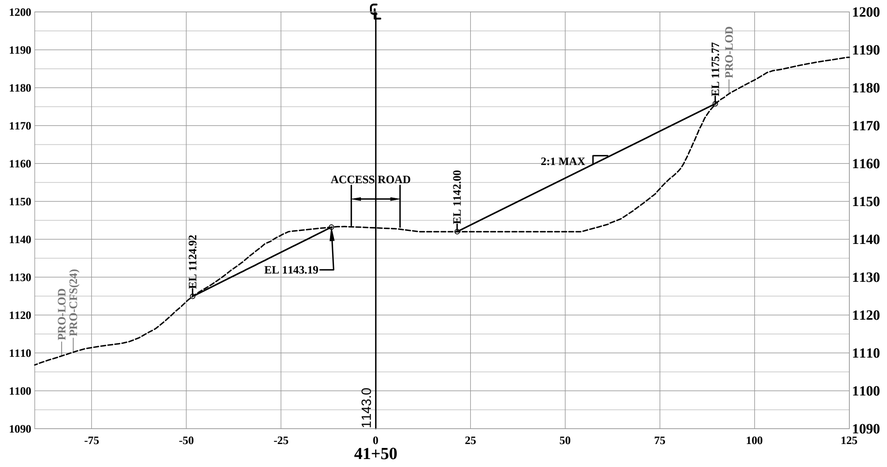
SHEET No.
25

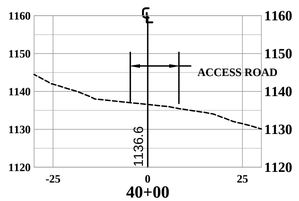
NOTE: THE MATERIAL TO BE EXCAVATED MAY BE MIXED WITH REFUSE. ANY REFUSE MATERIAL FOUND SHALL BE COMPACTED IN THE "BOTTOM" LAYERS OF THE BACKFILL. REFUSE SHOULD BE PLACED ABOVE TOP OF COAL WHENEVER POSSIBLE. THE TOP 12" OF BACKFILL (SOIL CAP) SHALL BE ANY SUITABLE MATERIAL THAT CAN SUPPORT VEGETATION, AS DEFINED IN THE SPECIFICATIONS. AS EXCAVATION PROGRESSES, SUITABLE (OR NON-REFUSE) MATERIAL SHALL BE STOCK-PILED TO BE USED FOR THE SOIL CAP.

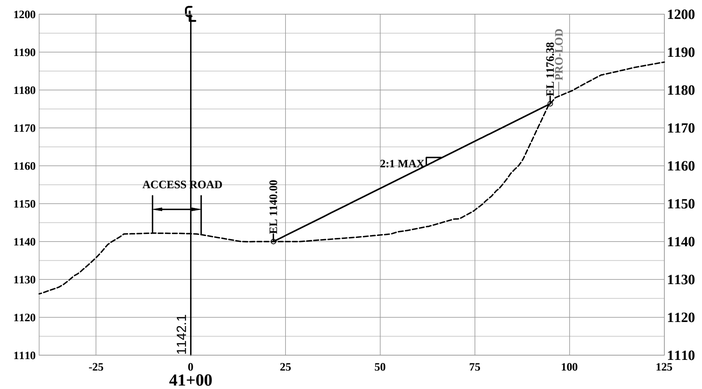
LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE









20 ft.
VERT. 0
0 20 ft.
HOR.

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SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #3 – CROSS SECTIONS

SHEET No. 26

LAYOUT TAB: XS-BASELINE 3_1
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:01 PM
USER: april rohrbough

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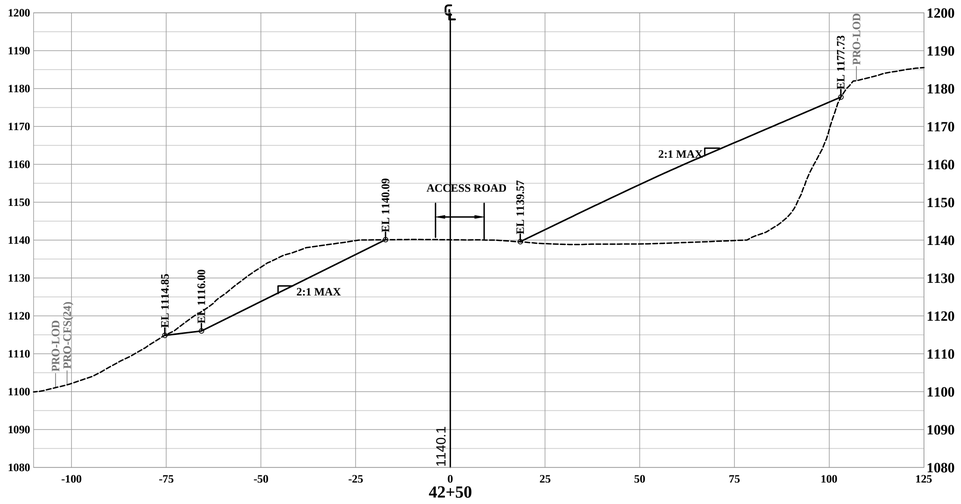
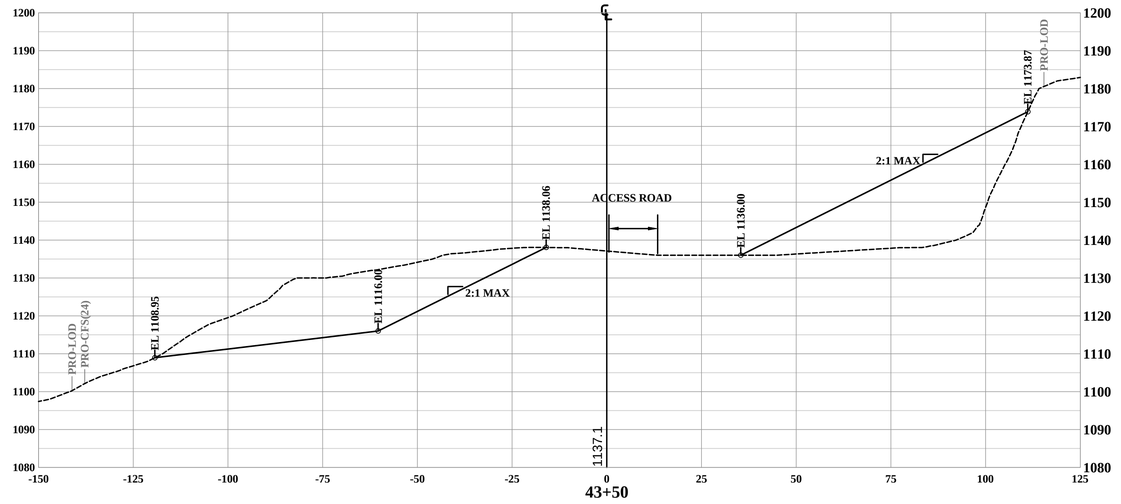
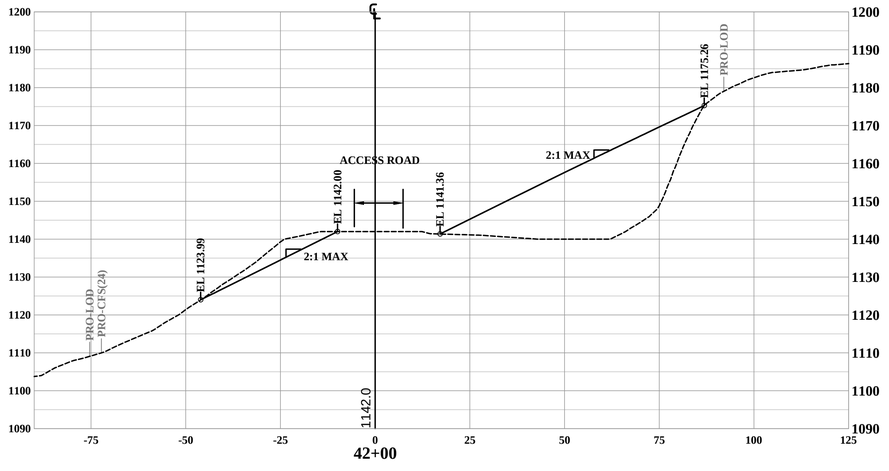
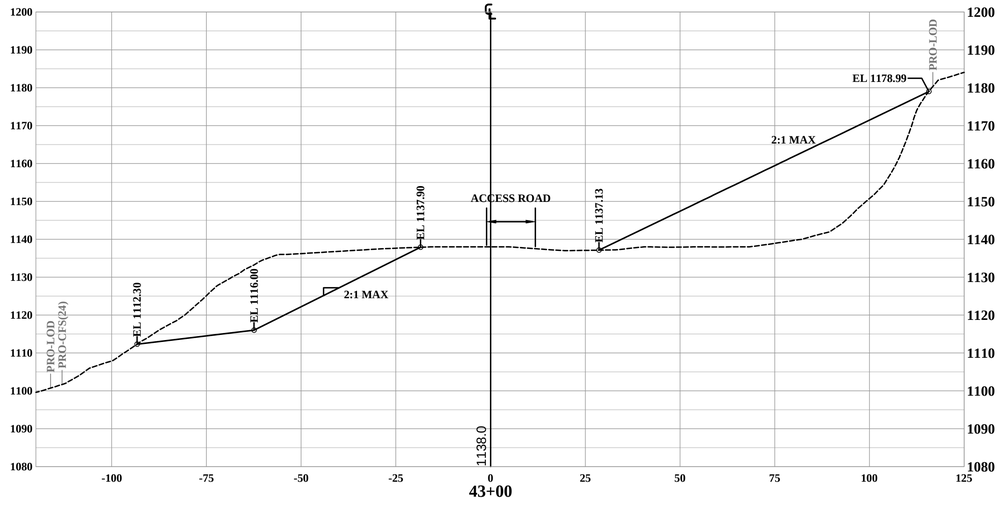
LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE









VERT. 0 — 20 ft.

HOR. 0 — 20 ft.

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SURVEY DATE:	
SURVEY BY:	
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THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #3 – CROSS SECTIONS

SHEET No. 27

LAYOUT TAB: XS-BASELINE 3_2
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:01 PM
USER: april rohrbaugh

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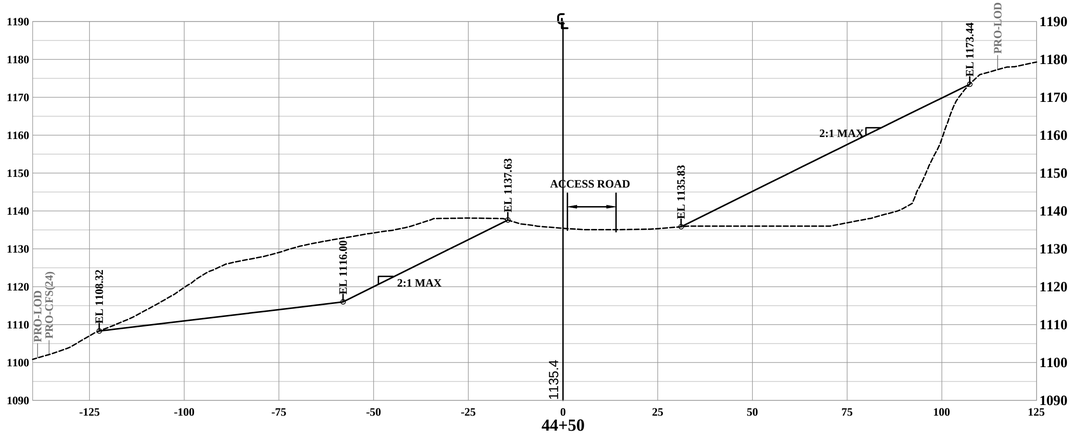
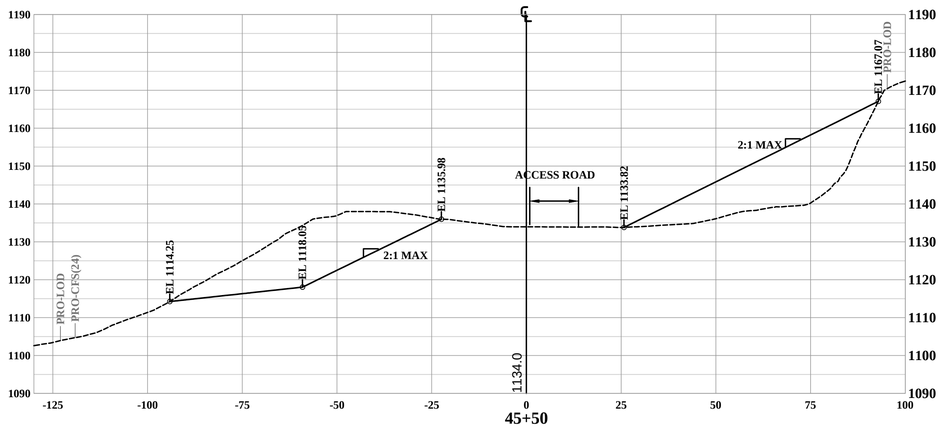
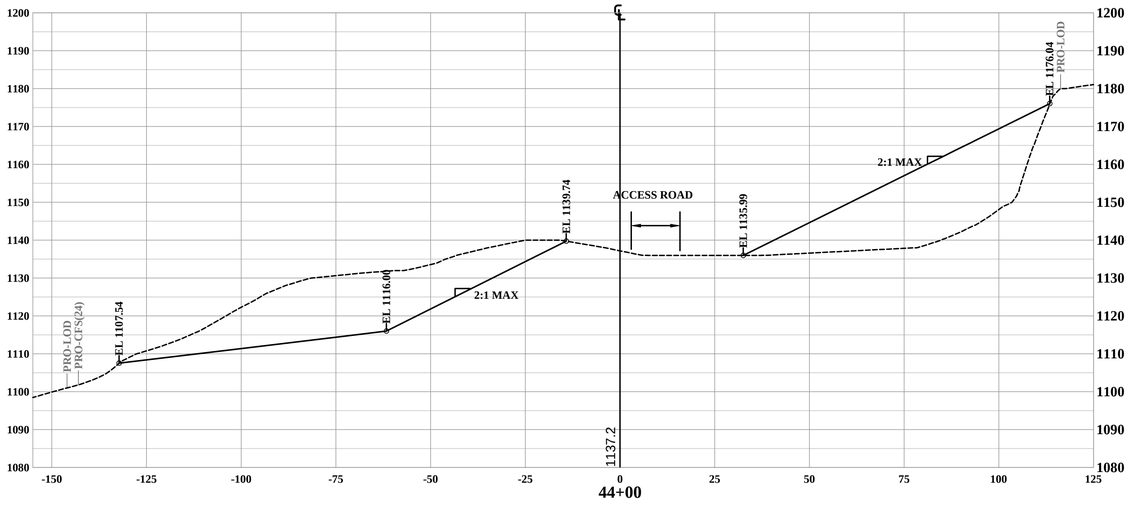
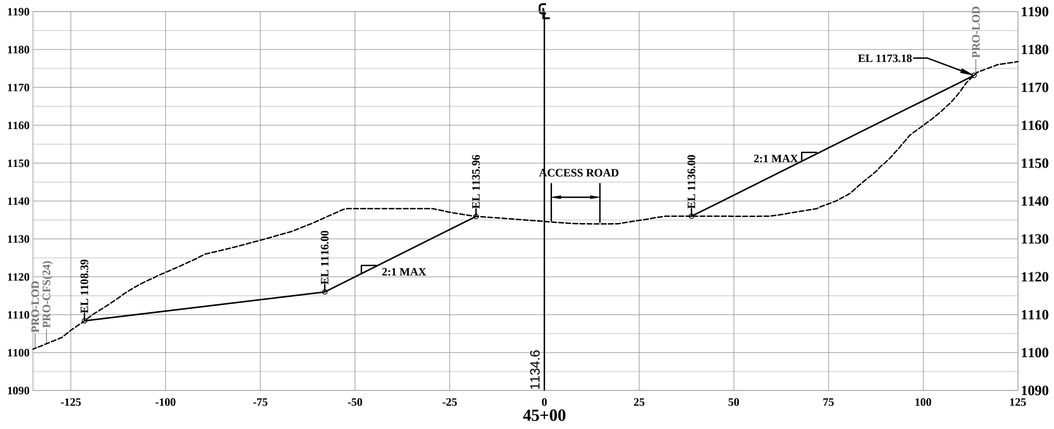
LEGEND

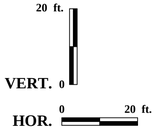
- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE











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SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #3 – CROSS SECTIONS

SHEET No. 28

LAYOUT TAB: XS-BASELINE 3_3
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:01 PM
USER: april rohrbaugh

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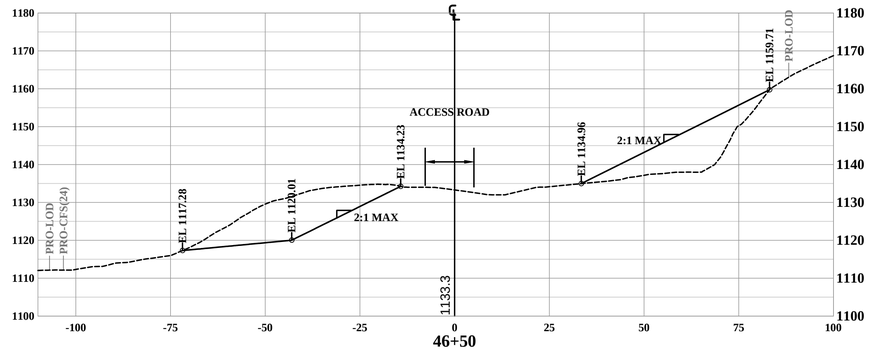
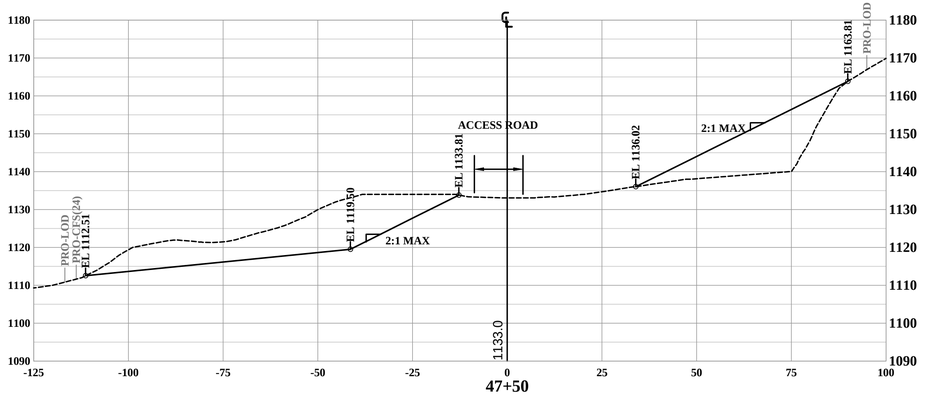
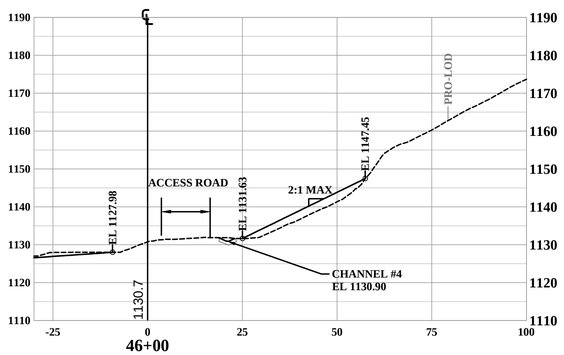
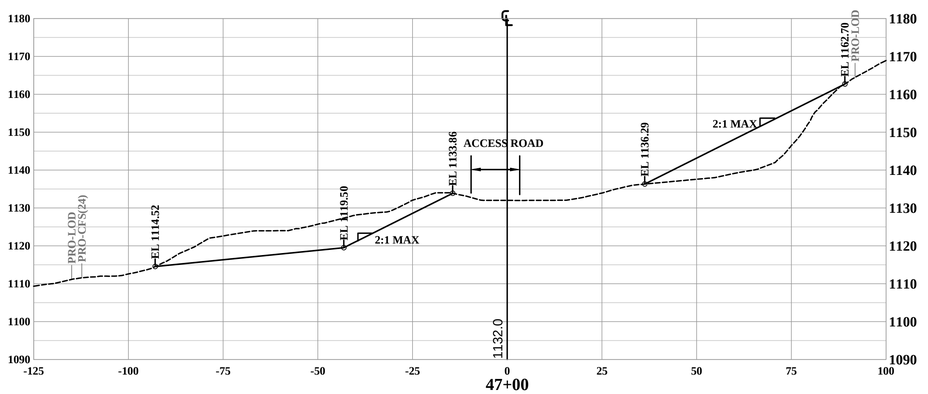
LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- PROPOSED VEGETATED CHANNEL
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE









VERT. 0 — 20 ft.

HOR. 0 — 20 ft.

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APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

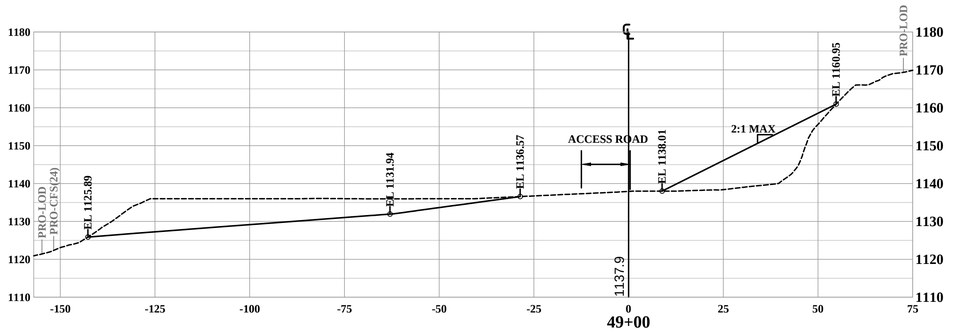
THRASHER

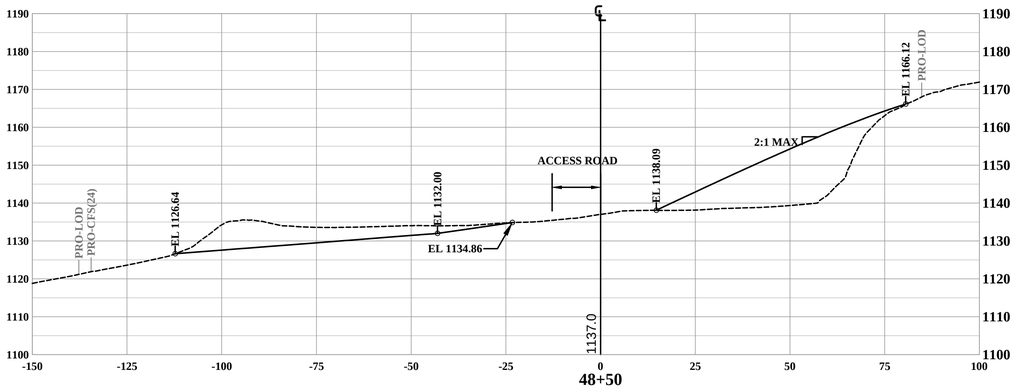
PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

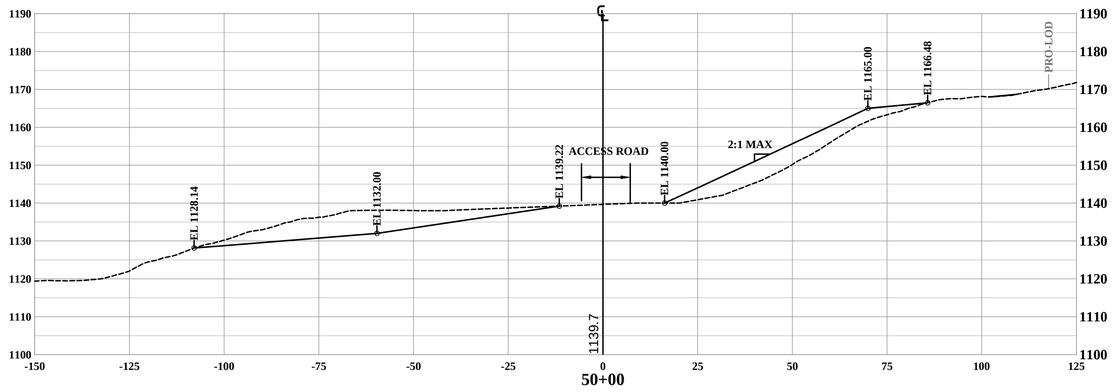
WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #3 – CROSS SECTIONS

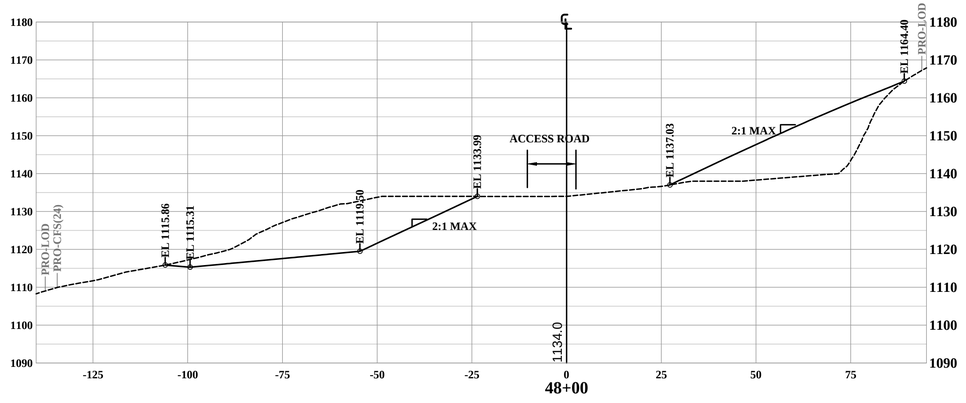
SHEET No. 29

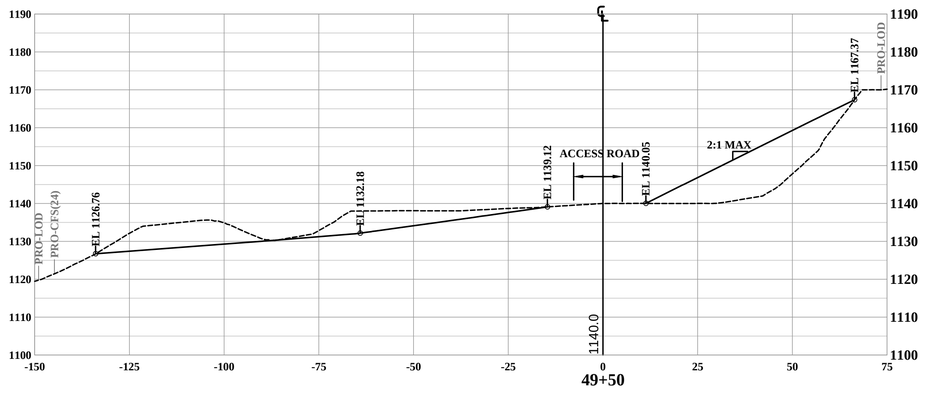
LAYOUT TAB: XS-BASELINE 3_4
CAD FILE: R:\025-0145 – WVDEP AML – Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:01 PM
USER: april rohrbaugh











NOTE: THE MATERIAL TO BE EXCAVATED MAY BE MIXED WITH REFUSE. ANY REFUSE MATERIAL FOUND SHALL BE COMPACTED IN THE "BOTTOM" LAYERS OF THE BACKFILL. REFUSE SHOULD BE PLACED ABOVE TOP OF COAL WHENEVER POSSIBLE. THE TOP 12" OF BACKFILL (SOIL CAP) SHALL BE ANY SUITABLE MATERIAL THAT CAN SUPPORT VEGETATION, AS DEFINED IN THE SPECIFICATIONS. AS EXCAVATION PROGRESSES, SUITABLE (OR NON-REFUSE) MATERIAL SHALL BE STOCK-PILED TO BE USED FOR THE SOIL CAP.

LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE

VERT. 0 — 20 ft.

HOR. 0 — 20 ft.

LAYOUT TAB: XS-BASELINE 3_5
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
USER: april rohrbaugh
PLOT DATE/TIME: 1/20/2016 4:01 PM

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SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

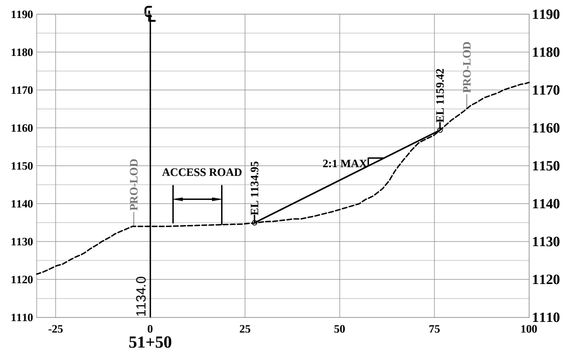
WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #3 – CROSS SECTIONS

SHEET No. 30

NOTE: THE MATERIAL TO BE EXCAVATED MAY BE MIXED WITH REFUSE. ANY REFUSE MATERIAL FOUND SHALL BE COMPACTED IN THE "BOTTOM" LAYERS OF THE BACKFILL. REFUSE SHOULD BE PLACED ABOVE TOP OF COAL WHENEVER POSSIBLE. THE TOP 12" OF BACKFILL (SOIL CAP) SHALL BE ANY SUITABLE MATERIAL THAT CAN SUPPORT VEGETATION, AS DEFINED IN THE SPECIFICATIONS. AS EXCAVATION PROGRESSES, SUITABLE (OR NON-REFUSE) MATERIAL SHALL BE STOCK-PILED TO BE USED FOR THE SOIL CAP.

LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE



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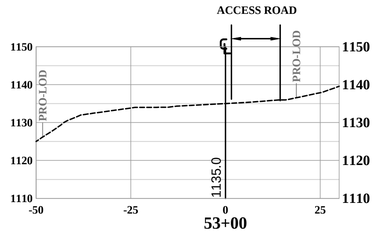

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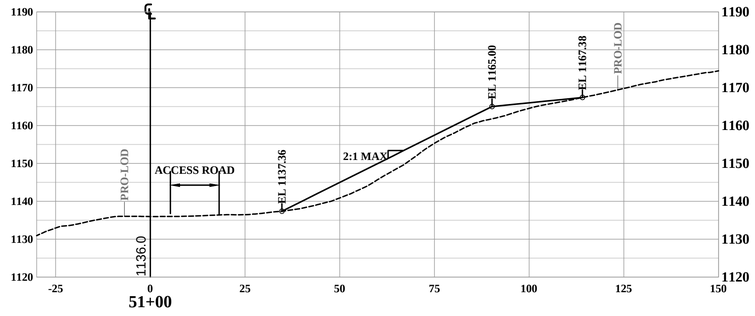

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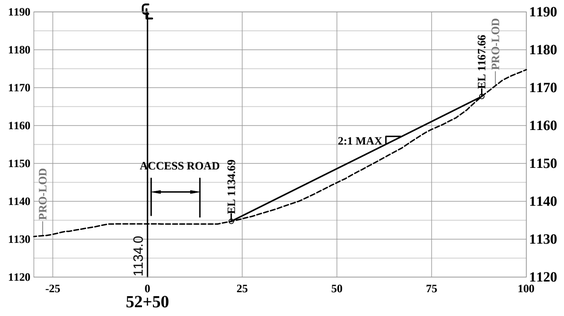

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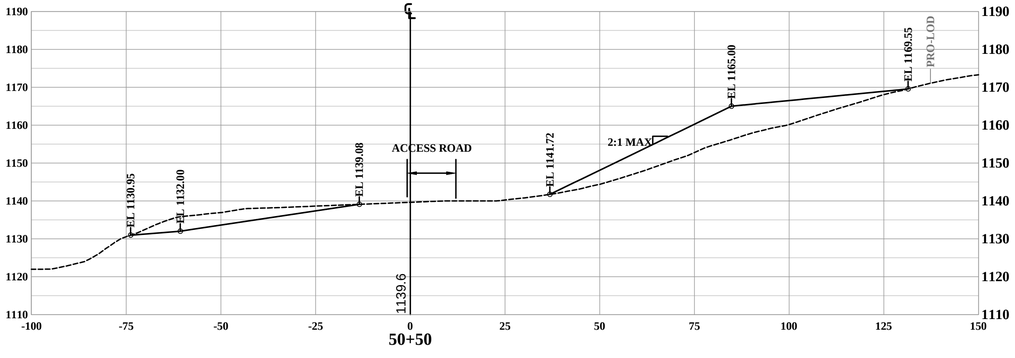

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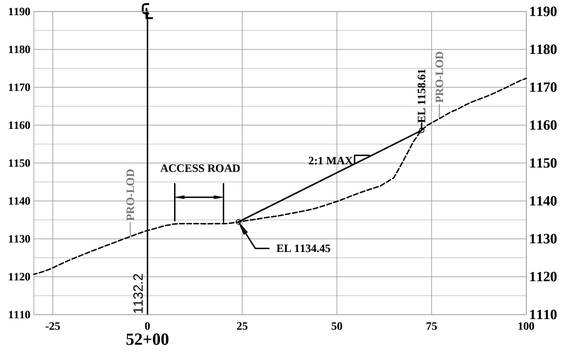

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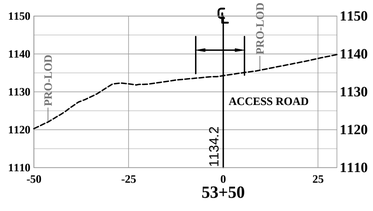

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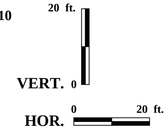

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SURVEY BY:	
FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #3 – CROSS SECTIONS

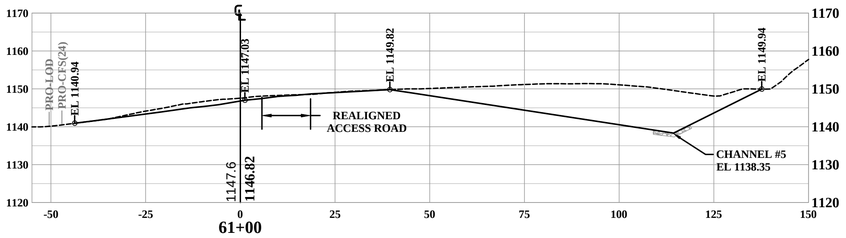
SHEET No. 31

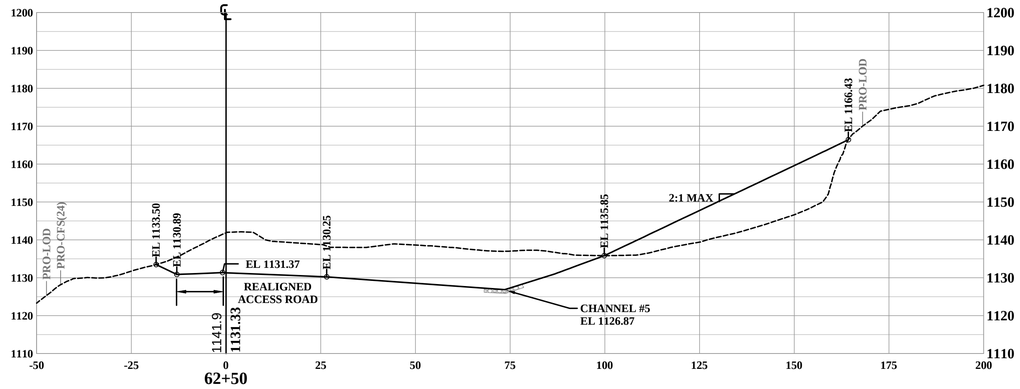
LAYOUT TAB: XS-BASELINE 3_6
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:02 PM
USER: april rohrbaugh

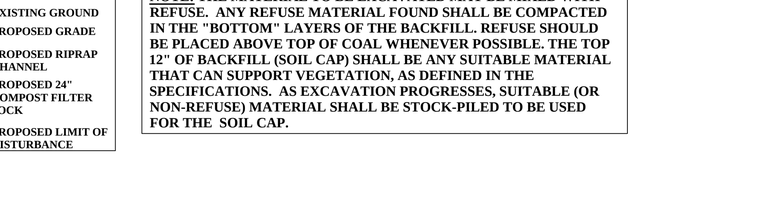
LEGEND

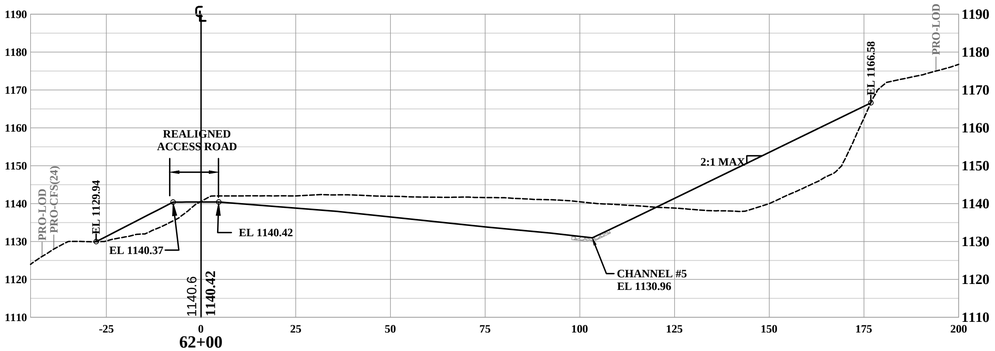
- EXISTING GROUND
- PROPOSED GRADE
- PROPOSED RIPRAP CHANNEL
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE

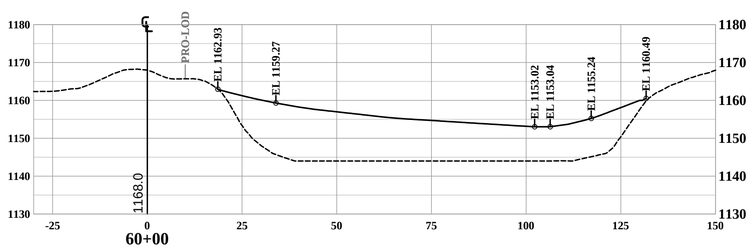
NOTE: THE MATERIAL TO BE EXCAVATED MAY BE MIXED WITH REFUSE. ANY REFUSE MATERIAL FOUND SHALL BE COMPACTED IN THE "BOTTOM" LAYERS OF THE BACKFILL. REFUSE SHOULD BE PLACED ABOVE TOP OF COAL WHENEVER POSSIBLE. THE TOP 12" OF BACKFILL (SOIL CAP) SHALL BE ANY SUITABLE MATERIAL THAT CAN SUPPORT VEGETATION, AS DEFINED IN THE SPECIFICATIONS. AS EXCAVATION PROGRESSES, SUITABLE (OR NON-REFUSE) MATERIAL SHALL BE STOCK-PILED TO BE USED FOR THE SOIL CAP.

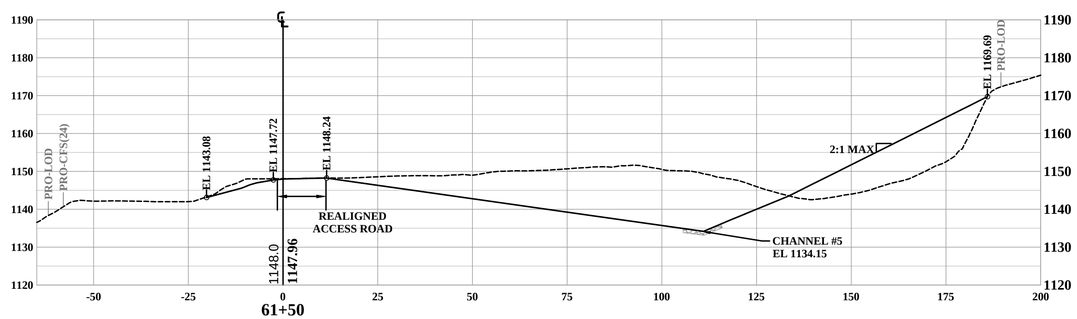












VERT. 0 — 20 ft.

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THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #4A – CROSS SECTIONS

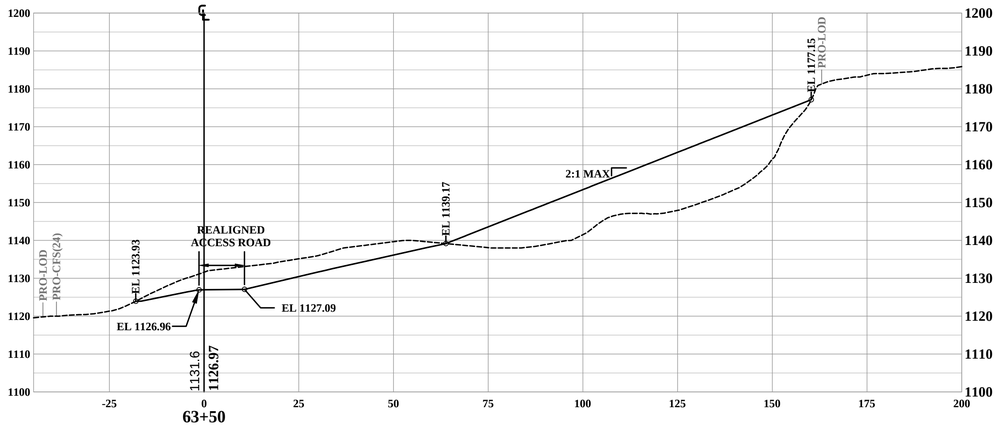
SHEET No. 32

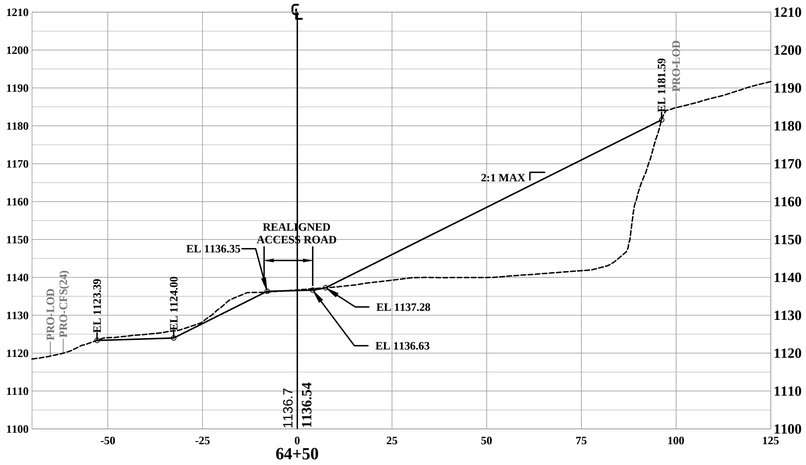
LAYOUT TAB: XS-BASELINE 4_1
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
USER: april rohrbaugh
PLOT DATE/TIME: 1/20/2016 4:02 PM

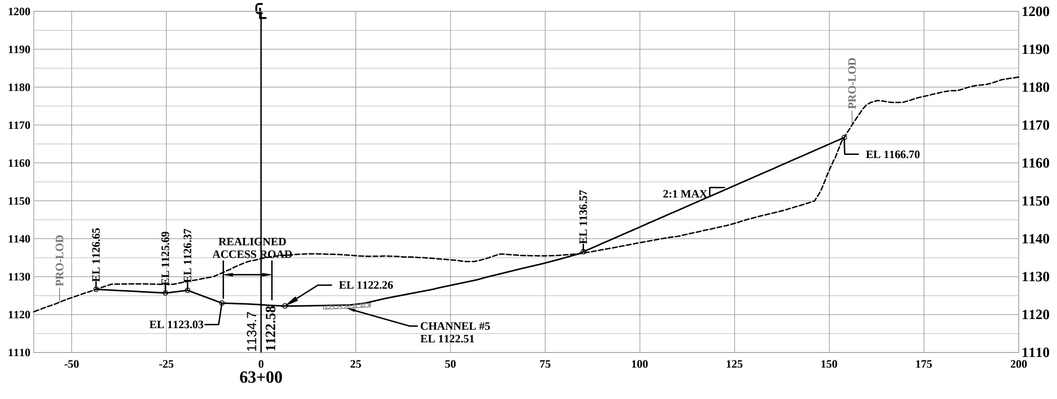
NOTE: THE MATERIAL TO BE EXCAVATED MAY BE MIXED WITH REFUSE. ANY REFUSE MATERIAL FOUND SHALL BE COMPACTED IN THE "BOTTOM" LAYERS OF THE BACKFILL. REFUSE SHOULD BE PLACED ABOVE TOP OF COAL WHENEVER POSSIBLE. THE TOP 12" OF BACKFILL (SOIL CAP) SHALL BE ANY SUITABLE MATERIAL THAT CAN SUPPORT VEGETATION, AS DEFINED IN THE SPECIFICATIONS. AS EXCAVATION PROGRESSES, SUITABLE (OR NON-REFUSE) MATERIAL SHALL BE STOCK-PILED TO BE USED FOR THE SOIL CAP.

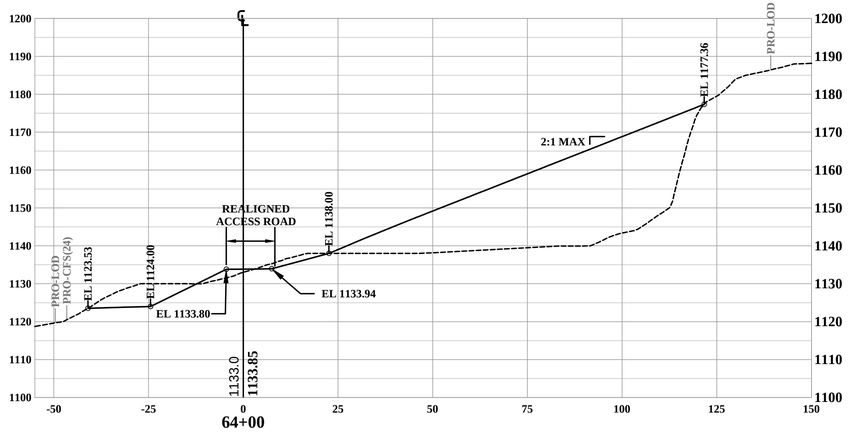
LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- PROPOSED RIPRAP CHANNEL
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE









VERT. 0 — 20 ft.

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FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #4A – CROSS SECTIONS

SHEET No. 33

LAYOUT TAB: XS-BASELINE 4_2
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:02 PM
USER: april robrbaugh

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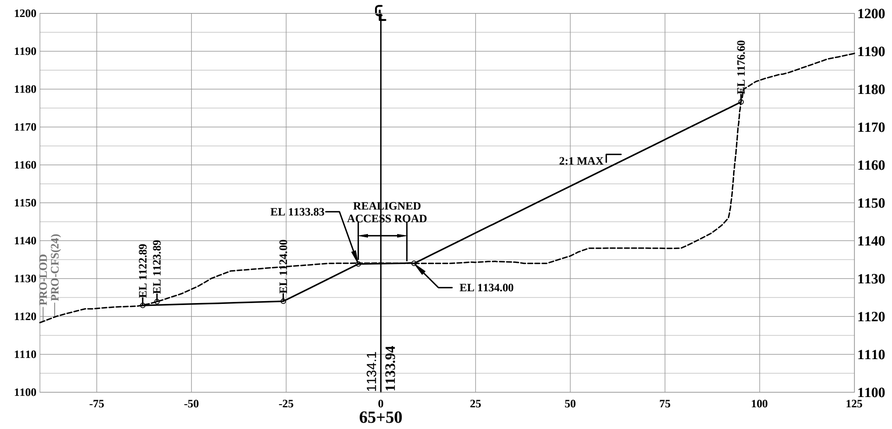
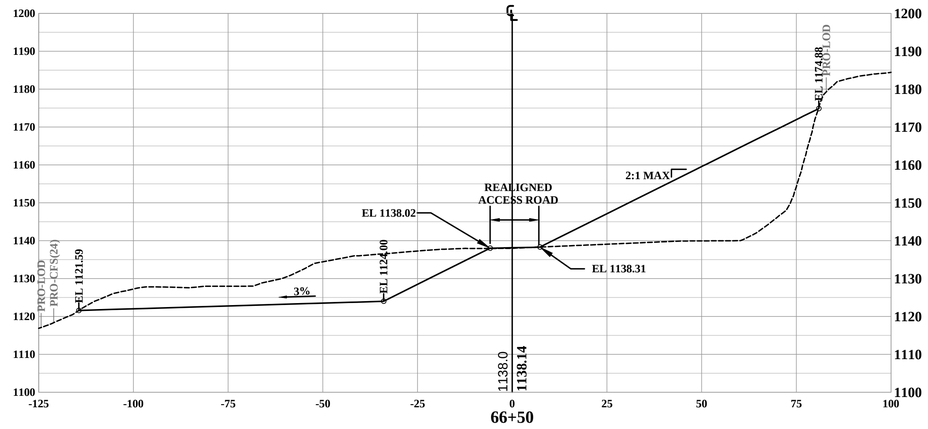
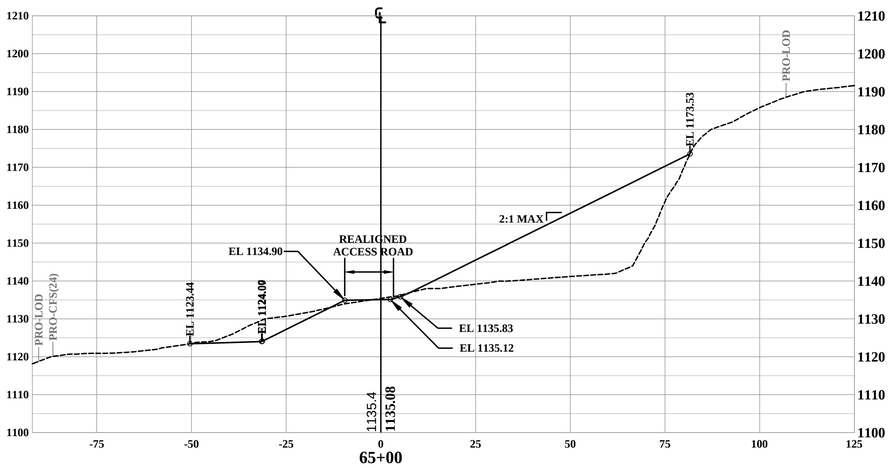
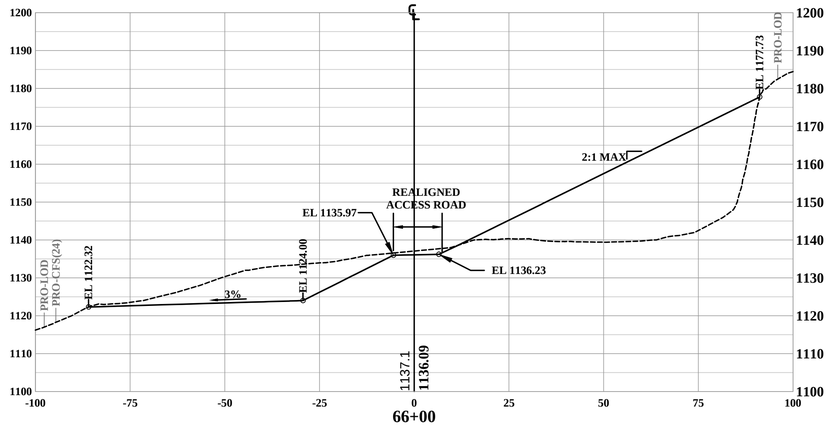
LEGEND

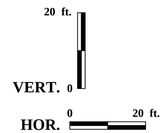
- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE











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SURVEY BY:	
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THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #4A – CROSS SECTIONS

SHEET No. 34

LAYOUT TAB: XS-BASELINE 4_3
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
USER: april rohrbaugh
PLOT DATE/TIME: 1/20/2016 4:02 PM

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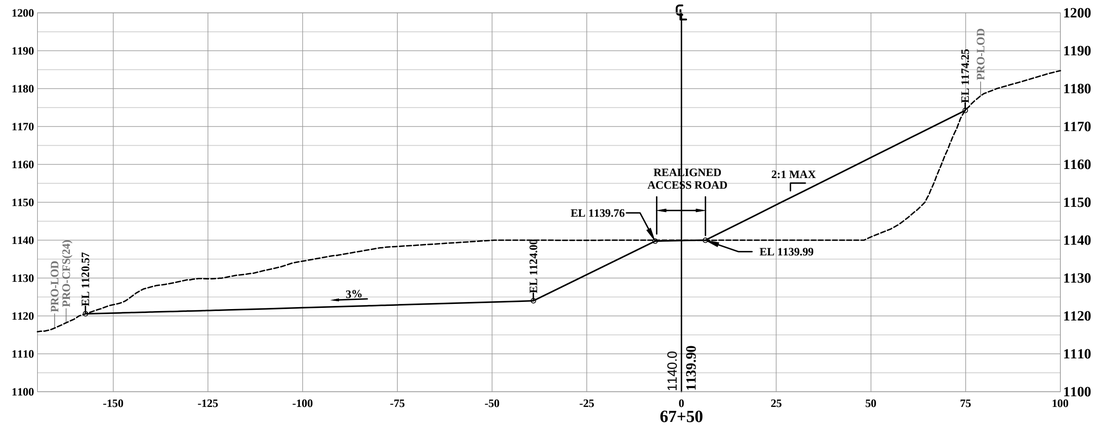
LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE



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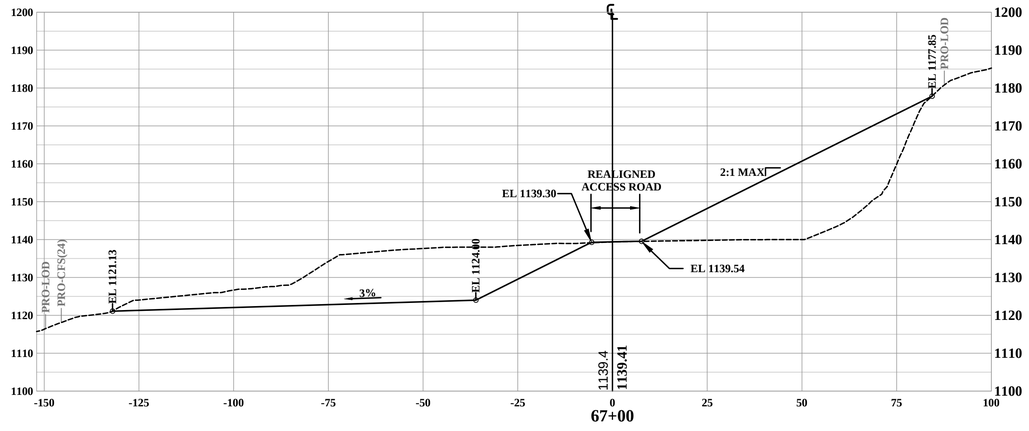

67+00

20 ft.
VERT. 0
0 20 ft.
HOR.

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SURVEY BY:	
FIELD BOOK No.:	

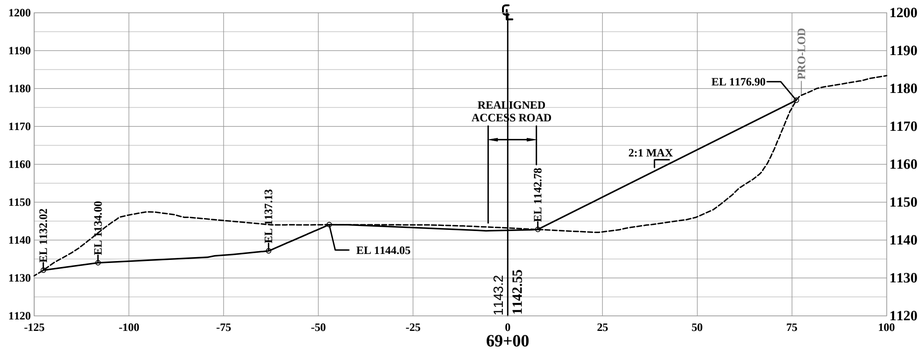
THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

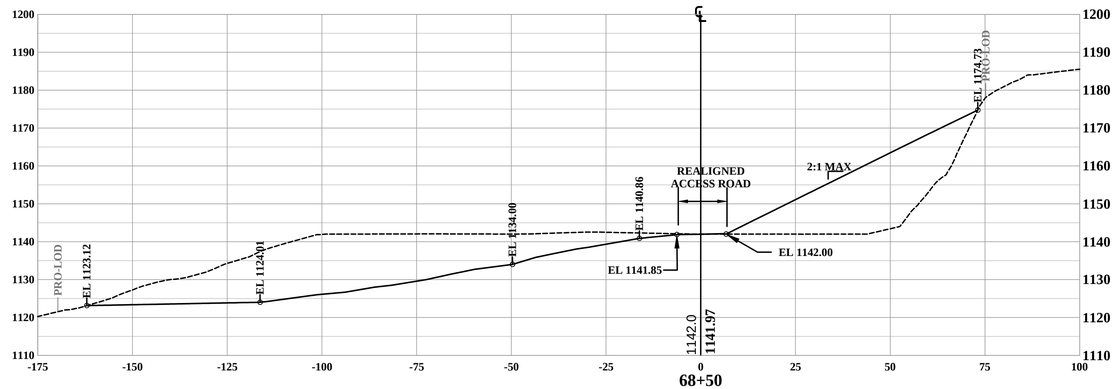
WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #4A – CROSS SECTIONS

SHEET No. 35

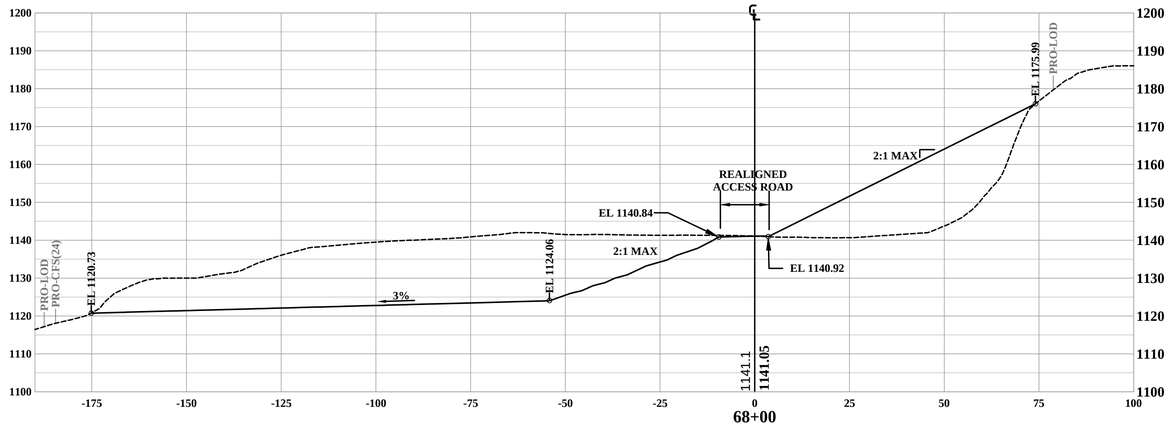
LAYOUT TAB: XS-BASELINE 4_4
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:02 PM
USER: april rohrbaugh



69+00



68+50



68+00

LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE

NOTE: THE MATERIAL TO BE EXCAVATED MAY BE MIXED WITH REFUSE. ANY REFUSE MATERIAL FOUND SHALL BE COMPACTED IN THE "BOTTOM" LAYERS OF THE BACKFILL. REFUSE SHOULD BE PLACED ABOVE TOP OF COAL WHENEVER POSSIBLE. THE TOP 12" OF BACKFILL (SOIL CAP) SHALL BE ANY SUITABLE MATERIAL THAT CAN SUPPORT VEGETATION, AS DEFINED IN THE SPECIFICATIONS. AS EXCAVATION PROGRESSES, SUITABLE (OR NON-REFUSE) MATERIAL SHALL BE STOCK-PILED TO BE USED FOR THE SOIL CAP.

VERT. 0 — 20 ft.

HOR. 0 — 20 ft.

LAYOUT TAB: XS-BASELINE 4_5
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:02 PM
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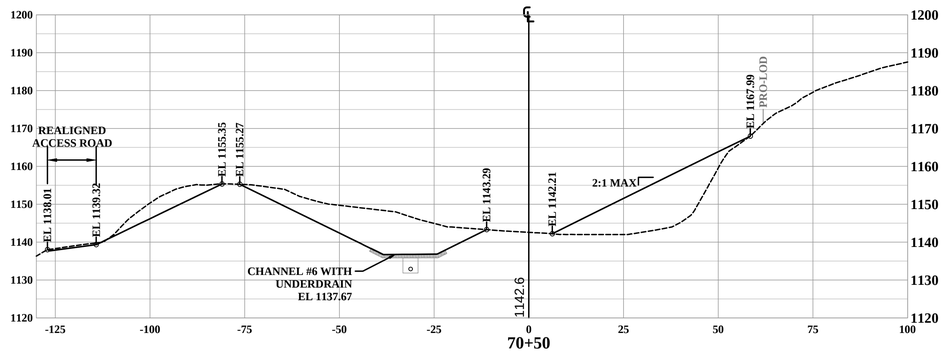
FIELD BOOK No.:	

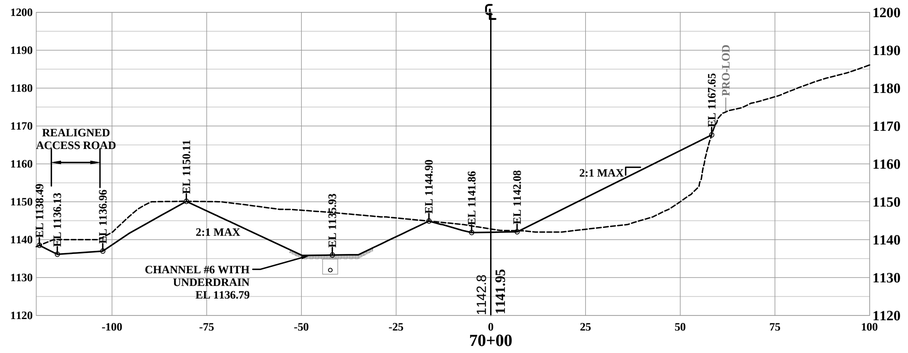
THRASHER

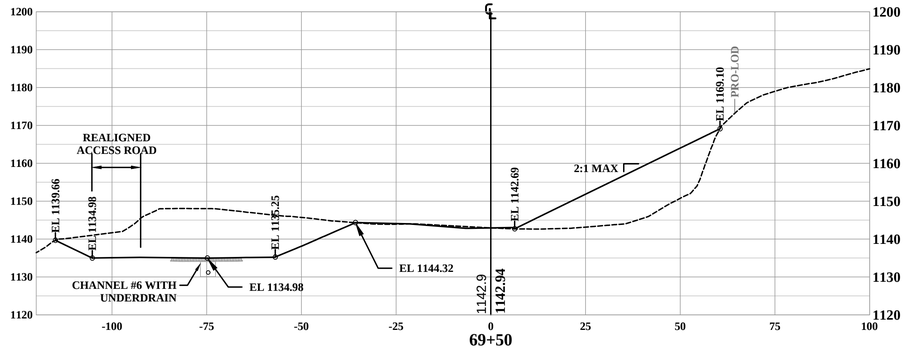
PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #4A – CROSS SECTIONS

SHEET No. 36







LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- PROPOSED VEGETATED TRAPEZOIDAL CHANNEL WITH UNDERDRAIN
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE

NOTE: THE MATERIAL TO BE EXCAVATED MAY BE MIXED WITH REFUSE. ANY REFUSE MATERIAL FOUND SHALL BE COMPACTED IN THE "BOTTOM" LAYERS OF THE BACKFILL. REFUSE SHOULD BE PLACED ABOVE TOP OF COAL WHENEVER POSSIBLE. THE TOP 12" OF BACKFILL (SOIL CAP) SHALL BE ANY SUITABLE MATERIAL THAT CAN SUPPORT VEGETATION, AS DEFINED IN THE SPECIFICATIONS. AS EXCAVATION PROGRESSES, SUITABLE (OR NON-REFUSE) MATERIAL SHALL BE STOCK-PILED TO BE USED FOR THE SOIL CAP.

VERT. 0 — 20 ft.

HOR. 0 — 20 ft.

LAYOUT TAB: XS-BASELINE 4_6
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg
PLOT DATE/TIME: 1/20/2016 4:02 PM
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THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

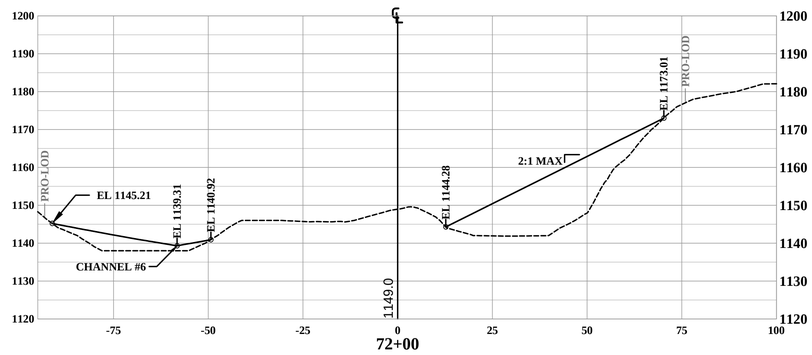
WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #4A – CROSS SECTIONS

SHEET No. 37

NOTE: THE MATERIAL TO BE EXCAVATED MAY BE MIXED WITH REFUSE. ANY REFUSE MATERIAL FOUND SHALL BE COMPACTED IN THE "BOTTOM" LAYERS OF THE BACKFILL. REFUSE SHOULD BE PLACED ABOVE TOP OF COAL WHENEVER POSSIBLE. THE TOP 12" OF BACKFILL (SOIL CAP) SHALL BE ANY SUITABLE MATERIAL THAT CAN SUPPORT VEGETATION, AS DEFINED IN THE SPECIFICATIONS. AS EXCAVATION PROGRESSES, SUITABLE (OR NON-REFUSE) MATERIAL SHALL BE STOCK-PILED TO BE USED FOR THE SOIL CAP.

LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE



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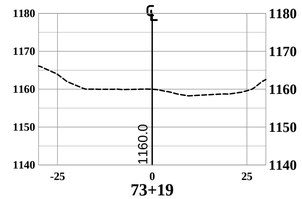

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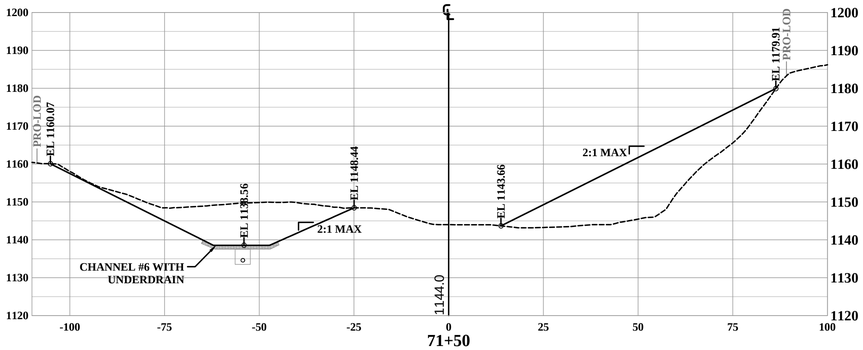

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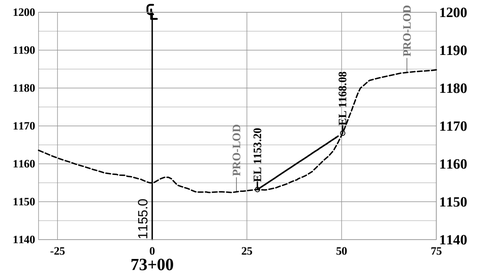

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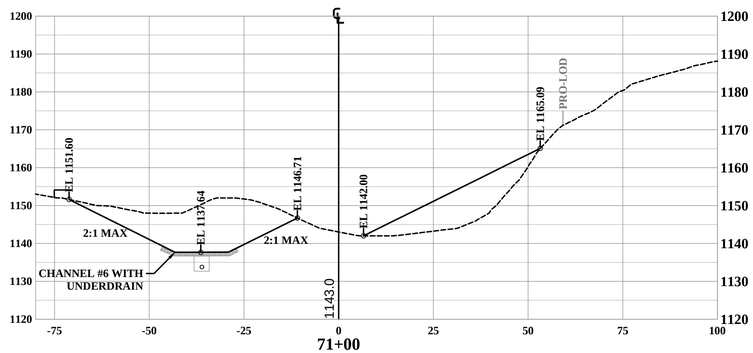

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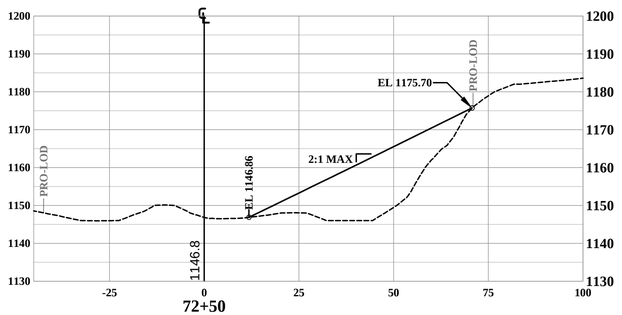

72+50

20 ft.
VERT. 0
0 20 ft.
HOR.

USER: april rohrbaugh
PLOT DATE/TIME: 1/20/2016 4:02 PM
LAYOUT TAB: XS-BASELINE 4_7
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg

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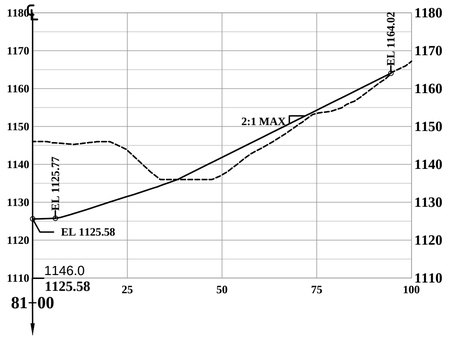
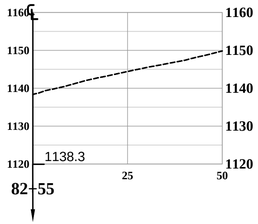
THRASHER

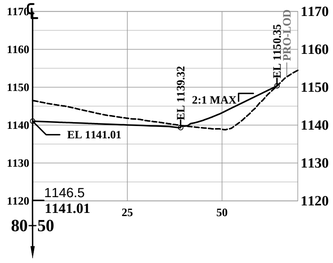
PHASE No. –
CONTRACT No. DEP 16434
PROJECT No. 101-025-0145

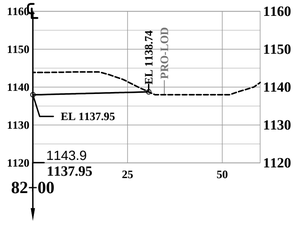
WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #4A – CROSS SECTIONS

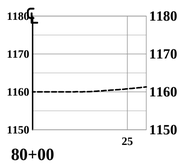
SHEET No. 38

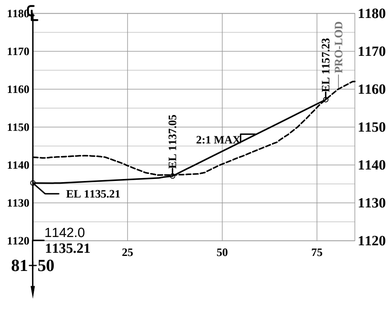












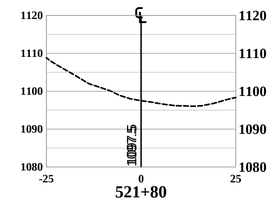
BASELINE 4B

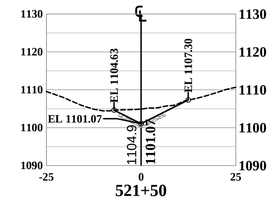
NOTE: BASELINE 4B CROSS SECTIONS ARE ONLY FROM THE RIGHT OF CENTER LINE, REFER TO BASELINE 4C (CHANNEL 7) FOR THE CROSS SECTIONAL AREA TO THE LEFT OF CENTERLINE.

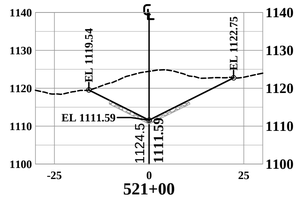
LEGEND

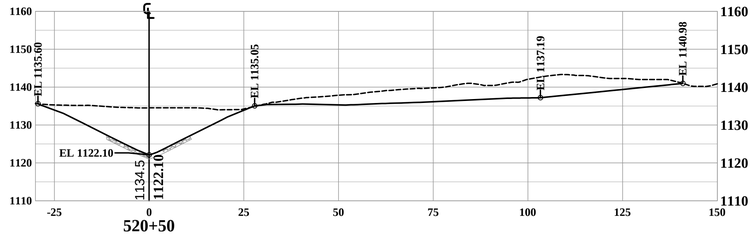
- EXISTING GROUND
- PROPOSED GRADE
- PROPOSED RIPRAP CHANNEL
- CFS-24 — PROPOSED 24" COMPOST FILTER SOCK
- LOD — PROPOSED LIMIT OF DISTURBANCE

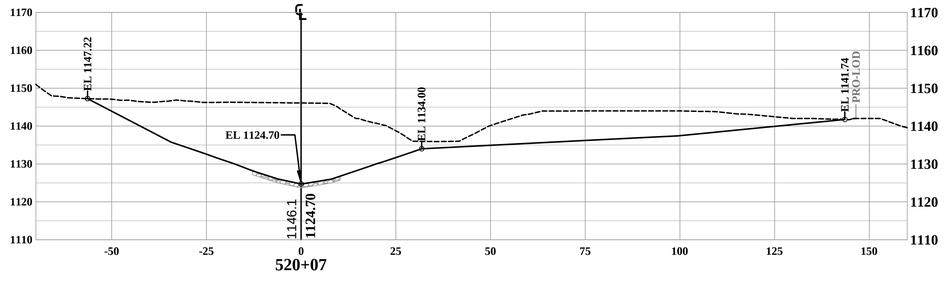
NOTE: THE MATERIAL TO BE EXCAVATED MAY BE MIXED WITH REFUSE. ANY REFUSE MATERIAL FOUND SHALL BE COMPACTED IN THE "BOTTOM" LAYERS OF THE BACKFILL. REFUSE SHOULD BE PLACED ABOVE TOP OF COAL WHENEVER POSSIBLE. THE TOP 12" OF BACKFILL (SOIL CAP) SHALL BE ANY SUITABLE MATERIAL THAT CAN SUPPORT VEGETATION, AS DEFINED IN THE SPECIFICATIONS. AS EXCAVATION PROGRESSES, SUITABLE (OR NON-REFUSE) MATERIAL SHALL BE STOCK-PILED TO BE USED FOR THE SOIL CAP.











BASELINE 4C (CHANNEL 7)

20 ft.
VERT. 0
0 20 ft.
HOR.

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APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

THRASHER

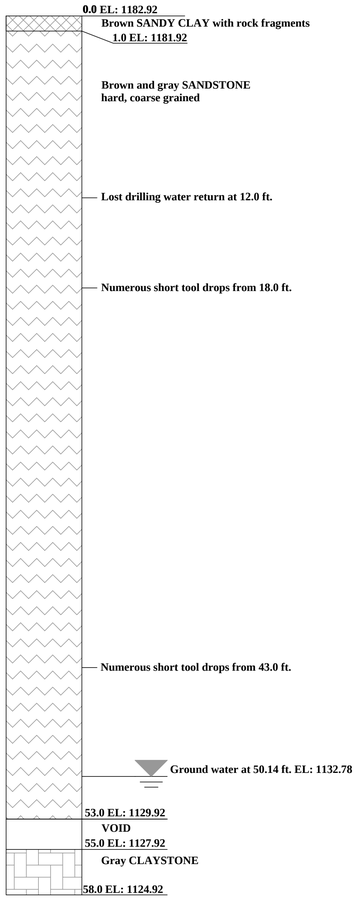
PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
RECLAMATION PLANS
BASELINE #'S 4B & 4C – CROSS SECTIONS

SHEET No. 39

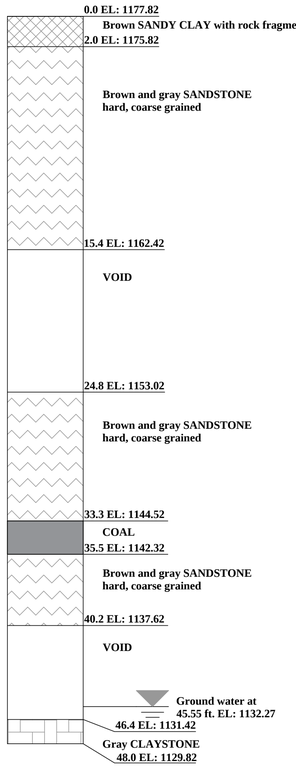
USER: april rohrbaugh
PLOT DATE/TIME: 1/20/2016 4:03 PM
LAYOUT TAB: XS-BASELINE 5_1
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\013-PROFILES_SECTIONS.dwg

B-1A



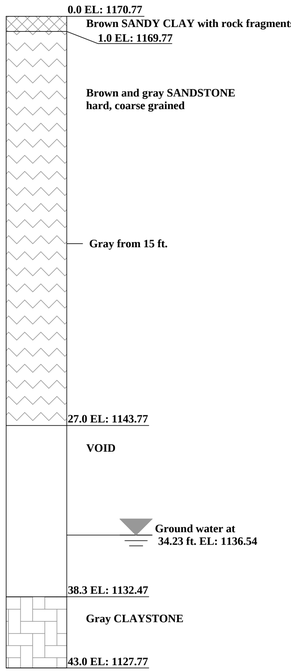
Bottom of test boring at 58.0 ft.

B-2



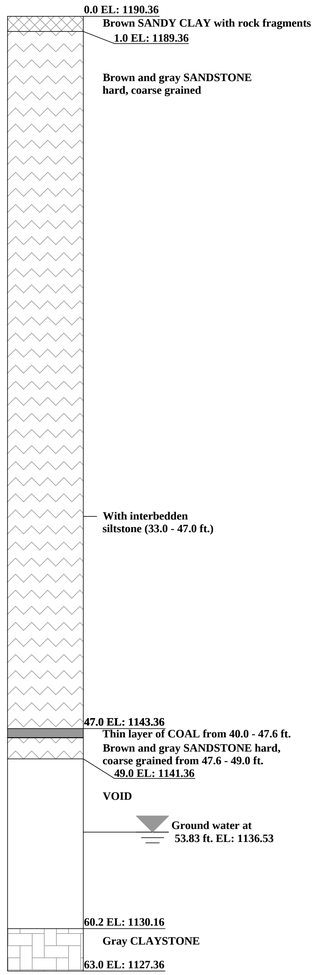
Bottom of test boring at 48.0 FT.

B-3



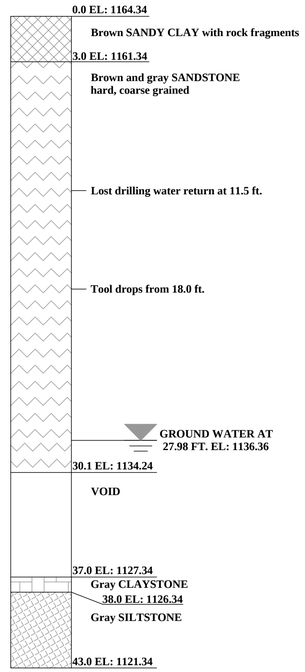
Bottom of test boring at 43.0 ft.

B-4



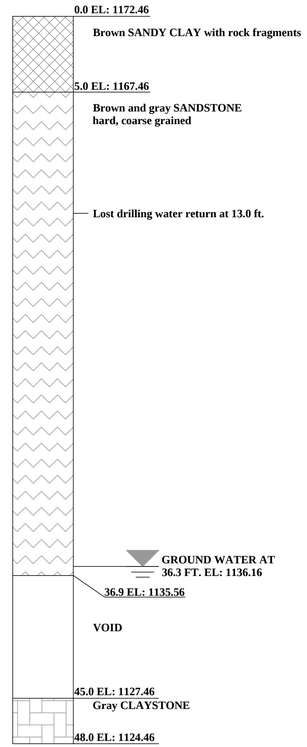
Bottom of test boring at 63.0 ft.

B-5A



Bottom of test boring at 43.0 ft.

B-6



Bottom of test boring at 48.0 ft.

NOTE: SUBSURFACE INVESTIGATION PERFORMED BY NGE ENVIRONMENTAL & GEOTECHNICAL ENGINEERING SOLUTIONS. SEE SECTION 11 OF THE SPECIFICATIONS FOR ADDITIONAL BORE LOG INFORMATION.

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FIELD BOOK No.:	

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PHASE No.	-
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
TYPICAL DETAILS
BORE LOGS

SHEET No. 40

LAYOUT TAB: Bore Log
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\042-DETAILS.dwg
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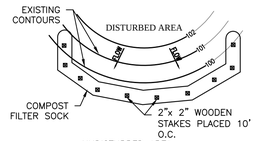
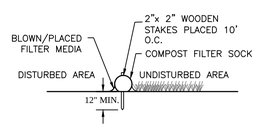
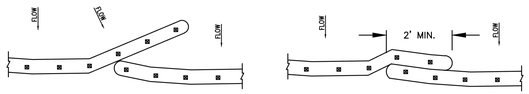
USER: april rohrbough



PLAN VIEW



SECTION VIEW



END-TO-END SOCK JOINING

COMPOST SHALL MEET THE FOLLOWING STANDARDS:

ORGANIC MATTER CONTENT	80% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.0
MOISTURE CONTENT	35% - 55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBBLE SALT CONCENTRATION	5.0 dS MAXIMUM

COMPOST FILTER SOCK TO BE INSTALLED IN ACCORDANCE WITH FILTREXX MANUFACTURER SPECIFICATIONS, OR AN APPROVED EQUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8' UP SLOPE AT 45° TO THE MAIN SOCK ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY DIAMETER SOCK SHALL NOT EXCEED THAT SHOWN ON BELOW TABLE.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

SOCKS SHALL BE INSPECTED AS DESCRIBED IN THE MAINTENANCE AND INSPECTION NOTES IN THE EROSION AND SEDIMENT CONTROL NOTES OF THESE PLANS. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1YR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, ALL STAKES SHALL BE REMOVED. DEGRADABLE FILTER SOCK MAY BE LEFT IN PLACE AND VEGETATED – THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT PRIOR TO SEEDING. THE MESH FROM ALL POLYPROPYLENE FILTER SOCKS SHALL BE REMOVED – THE MULCH SHALL BE SPREAD AS A SOIL SUPPLEMENT PRIOR TO SEEDING.

REPRODUCED FROM *FILTREXX LOW IMPACT DESIGN MANUAL* PAGE 324.

Slope Percent	Maximum Slope Length Above Sediment Control in Feet (Meters) *				
	8-IN (200-mm) Sediment Control	12-IN (300-mm) Sediment Control	18-IN (450-mm) Sediment Control	24-IN (600-mm) Sediment Control	32-IN (800-mm) Sediment Control
	6.5-IN (160-mm) **	9.5-IN (240-mm) **	14.5-IN (360-mm) **	19-IN (480-mm) **	26-IN (650-mm) **
2 (or less)	600 (180)	750 (225)	1000 (300)	1300 (400)	1650 (500)
5	400 (120)	500 (150)	550 (165)	650 (200)	750 (225)
10	200 (60)	250 (75)	300 (90)	400 (120)	500 (150)
15	140 (40)	170 (50)	200 (60)	325 (100)	450 (140)
20	100 (30)	125 (38)	140 (42)	260 (80)	400 (120)
25	80 (24)	100 (30)	110 (33)	200 (60)	275 (85)
30	60 (18)	75 (23)	90 (27)	130 (40)	200 (60)
35	60 (18)	75 (23)	80 (24)	115 (35)	150 (45)
40	60 (18)	75 (23)	80 (24)	100 (30)	125 (38)
45	40 (12)	50 (15)	60 (18)	80 (24)	100 (30)
50	40 (12)	50 (15)	55 (17)	65 (20)	75 (23)

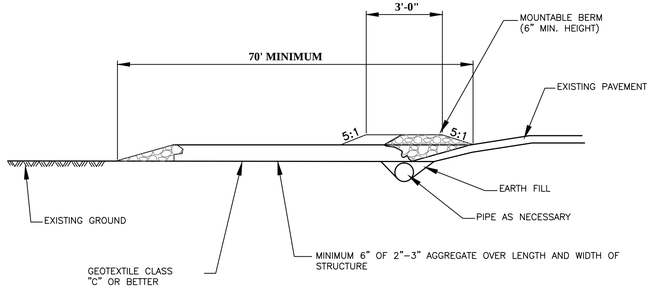
* Based on a failure point of 36-IN (0.9-m) super silt fence (wire reinforced) at 1000-FT (303-m) of slope, watershed width equivalent to receiving length of sediment control device, 1-IN/24-HR (25-mm/24-HR) rain event.

** Effective height of Sediment Control after installation and with constant head from runoff as determined by Ohio State University.

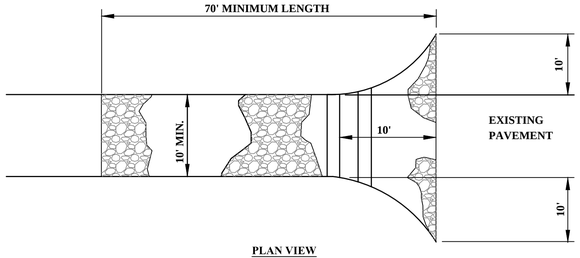
RESTRICTIONS
(1) COMPOST FILTER SOCK WILL NOT BE PLACED IN ANY AREA OF CONCENTRATED FLOWS SUCH AS SWALES, DITCHES, CHANNELS, ETC.
(2) COMPOST FILTER SOCK WILL NOT BE USED IN AREA WHERE ROCK OR ROCKY SOILS PREVENT THE FULL AND UNIFORM ANCHORING OF THE COMPOST FILTER SOCK.
(3) COMPOST FILTER SOCK WILL NOT BE PLACED ACROSS THE ENTRANCES TO PIPES OR CULVERTS AND WILL NOT BE WRAPPED AROUND THE PRINCIPAL SPILLWAY STRUCTURES OF SEDIMENT TRAPS OR BASINS.

INSTALLATION
(1) COMPOST FILTER SOCK WILL BE INSTALLED WITH LITTLE, IF ANY DISTURBANCE TO THE DOWNSLOPE SIDE OF THE COMPOST FILTER SOCK.

1 COMPOST FILTER SOCK DETAIL
NOT TO SCALE

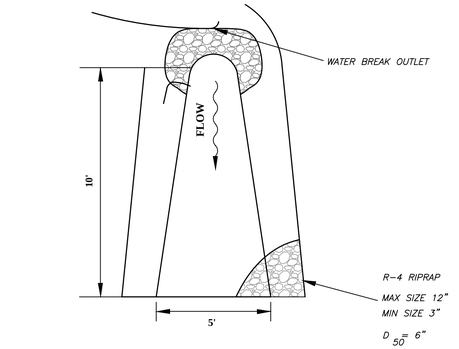


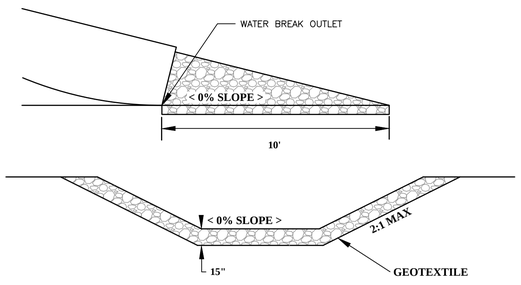
PROFILE VIEW



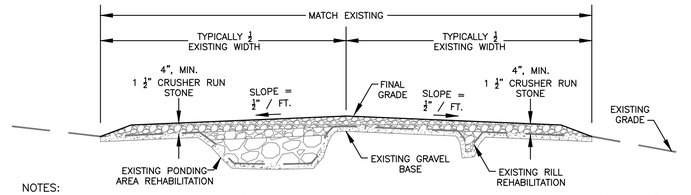
PLAN VIEW

2 STABILIZED CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



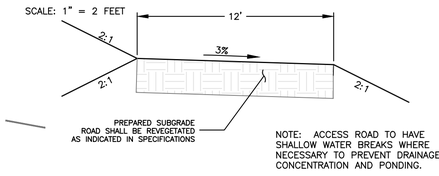


3 WATER BREAK ROCK OUTLET PROTECTION
NOT TO SCALE



NOTES:
1. PRIOR TO TOP STONE PLACEMENT OF 4" CLASS 1 AGGREGATE (CRUSHER RUN), REGRADE EXISTING ROADWAY INTO "CROWNED" OR "SLOPE TO DITCH" CONFIGURATION AS DIRECTED BY THE ENGINEER.
2. FOR PONDING AREAS OR FLAT AREAS WITH RILLS – PLACE 2" STONE IN THE PONDING AREAS/RILLS TO A DEPTH OF 6" BELOW THE ADJOINING GRADES. THEN CHOKE 2" STONE WITH 6" (DEPTH) OF #57 STONE. OVERLAY #57'S WITH 4" (DEPTH) OF CLASS 1 AGGREGATE.
3. FOR STEEP AREAS WITH DEEP RILLS– PLACE #57 STONE IN RILLS TO MEET THE ADJOINING GRADES. THEN OVERLY #57'S WITH 4"(DEPTH) OF CLASS 1 AGGREGATE.
4. FOR MINOR ROAD MAINTENANCE – REMOVE, REFILL, AND COMPACT SOFT SPOTS AS DIRECTED BY THE ENGINEER. THEN OVERLY #57'S WITH 4"(DEPTH) OF CLASS 1 AGGREGATE.
5. 1 1/2" CRUSHER RUN STONE SHALL MEET THE GRADATION REQUIREMENTS FOR CLASS I AGGREGATE IN TABLE 704.6.2A OF THE WVDOH STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.ALL CUT/FILL SLOPES SHALL BE 2H:1V.

4 TYPICAL SECTION GRAVEL ACCESS ROAD REHABILITATION, TYP. DETAIL
NOT TO SCALE

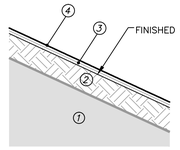


NOTE: ACCESS ROAD TO HAVE SHALLOW WATER BREAKS WHERE NECESSARY TO PREVENT DRAINAGE CONCENTRATION AND PONDING.

5 TYPICAL VEGETATED ACCESS ROAD DETAIL
NOT TO SCALE

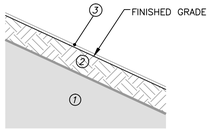
NOTES:

1. LENGTH – 70' MINIMUM.
2. WIDTH – 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE. THE PLAN APPROVAL AUTHORITY MAY NOT REQUIRE SINGLE FAMILY RESIDENCES TO USE GEOTEXTILE.
4. STONE – CRUSHER AGGREGATE (2" – 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
5. SURFACE WATER – ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE. PIPE MUST BE SIZED ACCORDING TO THE DRAINAGE AND THE AMOUNT OF RUN OFF TO BE CONVEYED. A 6" DIAMETER MINIMUM WILL BE REQUIRED. WHEN THE STABILIZED CONSTRUCTION ENTRANCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY A PIPE WILL NOT BE NECESSARY.
6. LOCATION – A STABILIZED CONTRACTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.



1. *BACKFILLED OR EXISTING MIXED REFUSE MATERIAL*
2. *12" NON–REFUSE MATERIAL (SOIL CAP)*
3. *SEEDING & SOIL AMENDMENTS*
4. STABILIZE:
   - FOR SLOPES 2:1 AND STEEPER – ROLLED EROSION CONTROL PRODUCTS (RECP), SEE DETAIL THIS SHEET
   - SLOPES LESS THAN 2:1 – STANDARD MULCH (STRAW/WOOD FIBER)

TYPICAL DETAIL SOIL CAP SECTION WITH STANDARD STABILIZATION
NOT TO SCALE



1. *BACKFILLED OR EXISTING MIXED REFUSE MATERIAL*
2. *12" NON–REFUSE MATERIAL (SOIL CAP)*
3. STABILIZED: HP–FGM
   - ALL SLOPES – FLEXTERRA, SEEDING & SOIL AMENDMENTS

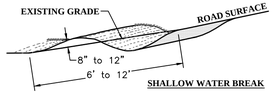
TYPICAL DETAIL SOIL CAP SECTION WITH HYDRAULICALLY APPLIED EROSION CONTROL
NOT TO SCALE

6 WATER BREAK DETAIL
NOT TO SCALE

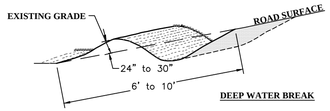
THE STUCTURES MAY BE SHALLOW OR DEEP DEPENDING UPON THE NEED. WATER BREAKS SHOULD BE INSTALLED AT ABOUT A 30–DEGREE ANGLE DOWN SLOPE. THE OUT–FLOW END OF THE WATER BREAK SHOULD BE OPEN TO KEEP WATER FROM ACCUMULATING AND BE PROTECTED BY A BUFFER OR FILTER ZONE TO CLEAN THE SEDIMENT OUT OF THE WATER AND PREVENT EROSION.

THE FOLLOWING TABULATION PRESENTS THE RECOMMENDED SPACING:

(PERCENT)	APPROXIMATE DISTANCE NEEDED BETWEEN WATER BREAKS (FEET)
1	400
2	245
5	125
10	78
15	58
20	47
25	40
30	35
35	32
40	29



SHALLOW WATER BREAK



DEEP WATER BREAK

7 TYPICAL SOIL CAP DETAILS
NOT TO SCALE

SEEDING NOTES:

- 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 OURS.
- 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.
- 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.
- WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 14 DAYS FROM WHEN ACTIVITIES CEASED, (E.G., THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY HALTED IS LESS THAT 14 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.
- 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 RESEEDED IMMEDIATELY, OR AS SOON AS WEATHER CONDITIONS ALLOW.

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SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101–025–0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
TYPICAL DETAILS
DETAILS #1

SHEET No. 41

LAYOUT TAB: DETAIL 1
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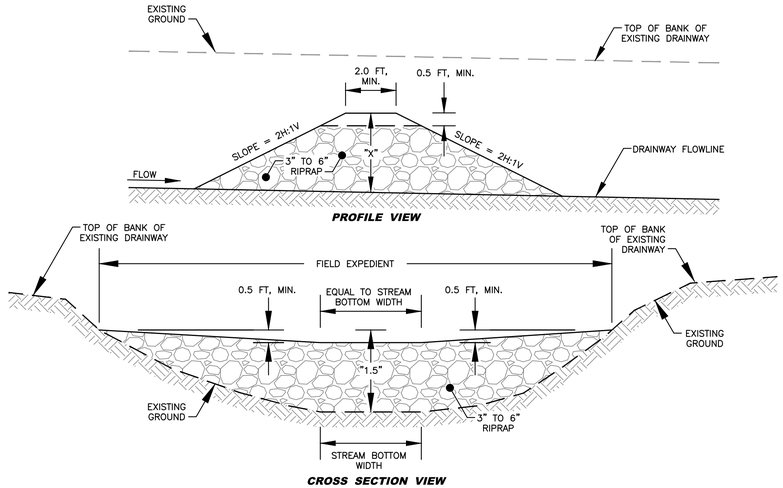
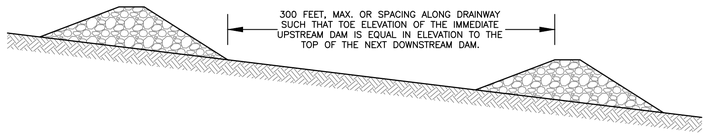
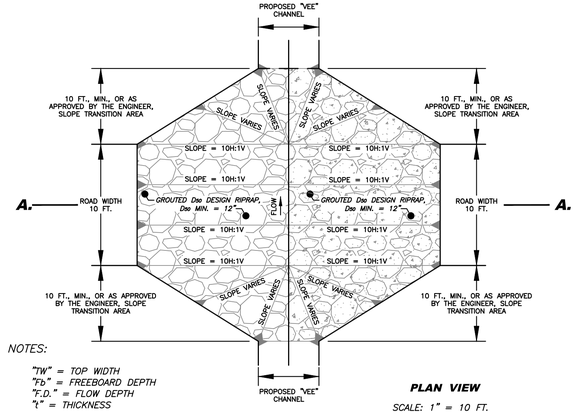




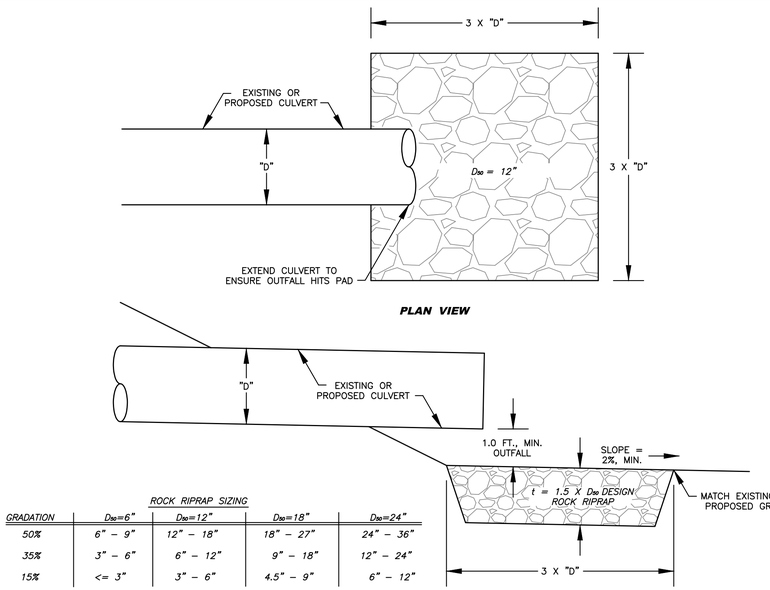
NOTES:

1. 1.5' 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 "VEE" SHAPED OR EXISTING "VEE" 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.

8 TYPICAL ROCK CHECK DAM DETAIL
NOT TO SCALE



10 TYPICAL GROUTED RIPRAP "VEE" CHANNEL LOW WATER ROAD CROSSING DETAIL
NOT TO SCALE



ROCK RIPRAP SIZING

GRADATION	D50=6"	D50=12"	D50=18"	D50=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"

NOTES:
"D" = CULVERT DIAMETER
"t" = THICKNESS

11 TYPICAL RIPRAP OUTLET PROTECTION SPLASH PAD DETAIL
NOT TO SCALE

NOTES:

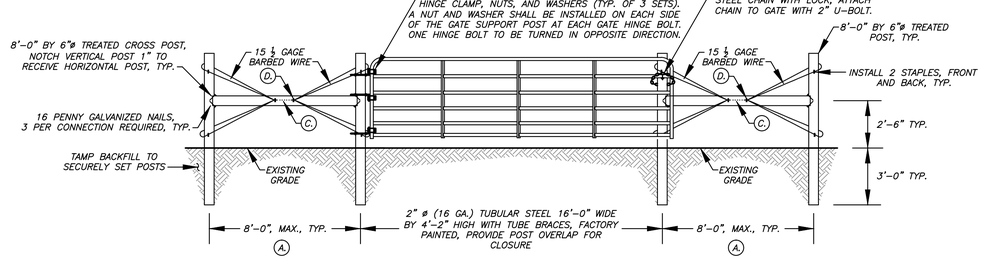
A. INSTALL BOTH SETS OF GATE SUPPORT POSTS PRIOR TO INSTALLING THE GATE. ALL POSTS SHALL BE 8'–0" BY 0'–6" ø OR 8'–0" AND 0'–6" BY 0'–6" SQUARE AND PRESSURE TREATED LUMBER.

B. WRAP FENCE AROUND EACH GATE SUPPORT POST EXTENDING FROM 6" TO 8" FROM THE TOP AND 6" TO 8" FROM THE GROUND POST FORMING A LOOP OF WIRE AROUND BOTH POSTS. OVERLAP ENDS OF LOOPED WIRE 4" MINIMUM IN EACH DIRECTION. OVERLAP SHOULD BE PLACED ON OUTSIDE OF INSTALLED GATE SUPPORT POST INSTALLATION AND ATTACHED TO THE GATE SUPPORT POST BY TWO 1 ½" NUMBER 9 STAPLES. PLACE THE STAPLES AT THE INTERSECTION OF THE OVERLAP FENCE STRANDS CAPTURING BOTH STRANDS. BEND THE PIG TAIL OF FENCE BACK ALONG THE ALIGNMENT OF THE FENCE AND INSTALL ANOTHER STAPLE CAPTURING BOTH STRANDS. REPEAT FOR OTHER OVERLAPPED STRAND. CONTINUE THE PROCESS ON THE OPPOSITE POST FORMING AN "X" CONFIGURATION AS SHOWN.

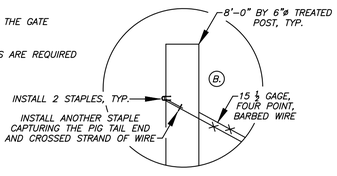
C. PLACE A STEEL BAR AT THE "X" INTERSECTION ADJACENT TO THE HORIZONTAL SUPPORT POST. TWIST THE FENCE STRANDS TOGETHER TO BRING THE GATE SUPPORT POSTS INTO TENSION.

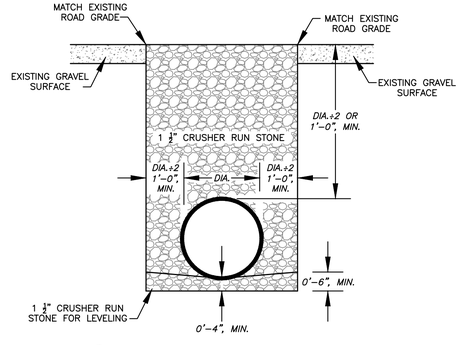
D. INSTALL TWO 1 ½" NUMBER 9 STAPLES INTO THE HORIZONTAL SUPPORT POST AT THE END OF THE TWISTED STRANDS AS SHOWN, FOUR STAPLES ARE REQUIRED PER INSTALLATION.

GATE SHALL BE INSTALLED TO SWING OPEN MORE THAN 90°.



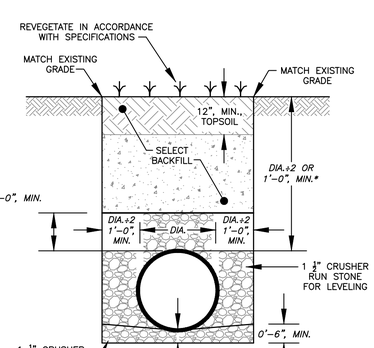
28 FARM GATE DETAIL
NOT TO SCALE





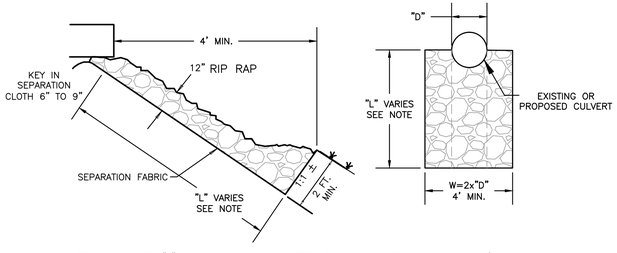
12 HDPE CULVERT TYPICAL SECTION PIPE TRENCH - AGGREGATE SURFACE DETAIL
NOT TO SCALE

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



13 HDPE CULVERT TYPICAL SECTION PIPE TRENCH - VEGETATED SURFACE DETAIL
NOT TO SCALE

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



NOTE: THE LENGTH "L" OF THE DUMP ROCK GUTTER SHALL BE BASED ON A MINIMUM 4' HORIZONTAL LENGTH. THE ACTUAL LENGTH OF THE DUMP ROCK GUTTER WILL BE DEPENDENT UPON THE THE NATURAL SLOPE OF THE BANK AT THE OUTLET OF THE EXISTING OR PROPOSED CULVERT.

9 TYPICAL DUMP ROCK GUTTER DETAIL
NOT TO SCALE

Construction Specifications
Dump Rock Gutter

1. Subgrade Preparation: The subgrade for the riprap or SEPARATION shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density approximately that of the surrounding undisturbed material. Brush, trees, stumps and other objectionable material shall be removed.

2. Separation Fabric: Placement of the separation fabric should be done immediately after slope preparation. For granular SEPARATIONs, the stone should be spread in a uniform layer to the specified depth, normally 6 inches. Where more than one– layer of SEPARATION material is used, the layer should be spread so that there is minimal mixing of the layers. When installing geotextile SEPARATION cloths, the cloth should be placed directly on the prepared slope. The edges of the sheets should overlap by at least 12 inches. Anchor pins, 15 inches long, should be spaced every 3 feet along the overlap. The upper and lower ends of the cloth should be buried at least 12 inches. Care should be taken not to damage the cloth when placing the riprap. If damage occurs, that sheet should be removed and replaced. For large stone (Class C or greater), a 6–inch layer of granular SEPARATION will be necessary to prevent damage to the cloth.

3. Stone Placement: Placement of riprap should follow immediately after placement of the SEPARATION. The riprap should be placed so that it produces a dense well–graded mass of stone with a minimum of voids. The desired distribution of stones throughout the mass may be obtained by selective loading at the quarry, controlled dumping of successive loads during final placing, or by a combination of these methods. The riprap should be placed to its full thickness in one operation. The riprap should not be placed in layers. The riprap should not be placed by dumping into chutes or similar methods that are likely to cause segregation of the various stone sizes. Blend the stone surface smoothly with the surrounding area, allowing no protrusions, overfall or in the case of channels so the stone does not form a dam to incoming runoff. Care should also be taken not to dislodge the underlying material when placing the stones. The finished slope must be free of pockets of small stone or clusters of large stones. Hand placing may be necessary to achieve the required grades and a good distribution of stone sizes. Final thickness of the riprap blanket should be within plus or minus 1/4 of the specified thickness.

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FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101–025–0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
TYPICAL DETAILS
DETAILS #2

SHEET No. 42

LAYOUT TAB: DETAIL 2
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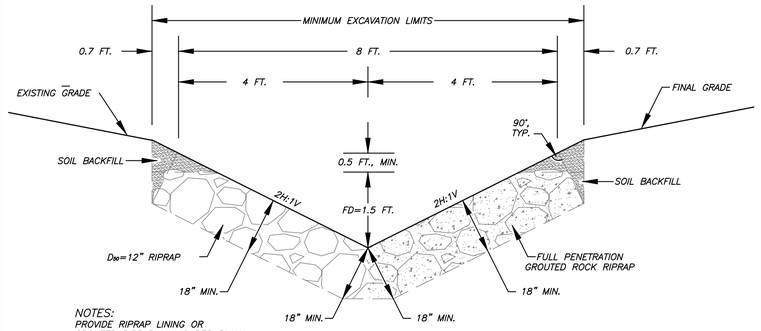
USER: april rohrbaugh
PLOT DATE/TIME: 1/18/2016 4:29 PM

ROCK RIPRAP SIZING

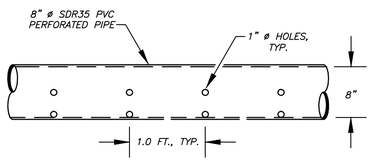
GRADATION	D_{50}=6"	D_{50}=12"	D_{50}=18"	D_{50}=24"
50%	6" – 9"	12" – 18"	18" – 27"	24" – 36"
35%	3" – 6"	6" – 12"	9" – 18"	12" – 24"
15%	<= 3"	3" – 6"	4.5" – 9"	6" – 12"



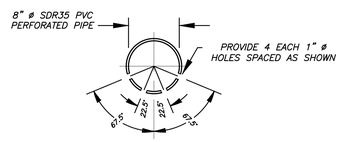
NOTES:
PROVIDE RIPRAP LINING OR GROUTED RIPRAP LINING PER PLAN AND CHANNEL PROFILES.

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

14 TYPICAL 8' RIPRAP OR GROUTED RIPRAP 2H:1V "VEE" CHANNEL DETAIL
NOT TO SCALE

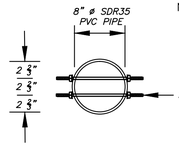


SEEP COLLECTOR PIPE LONGITUDINAL VIEW, TYP.



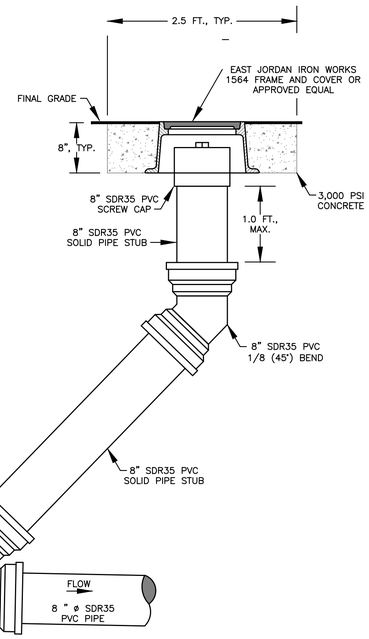
SEEP COLLECTOR PIPE CROSS SECTION, TYP.

15 TYPICAL SEEP COLLECTOR PIPE DETAILS
NOT TO SCALE

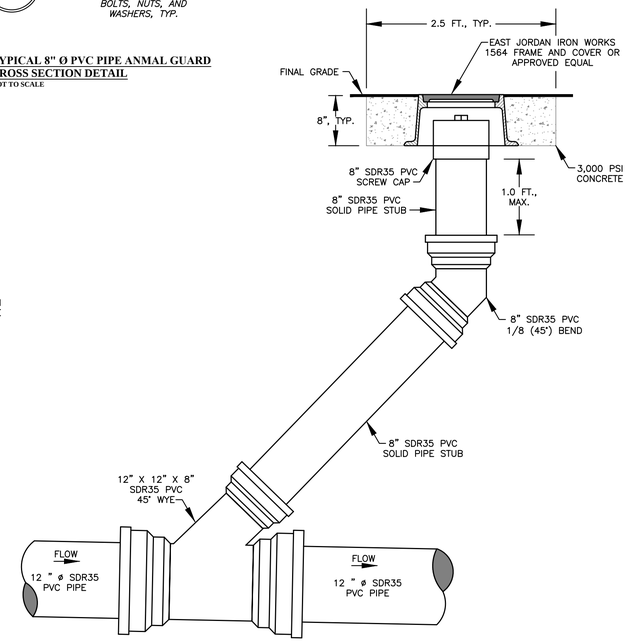


NOTE:
1. ANIMAL GUARDS SHALL BE INSTALLED THE SAME DAY AS THE PIPE IS INSTALLED.
2. SEE SHEET 45 FOR 12" ANIMAL GUARD CROSS SECTION TYPICAL DETAIL

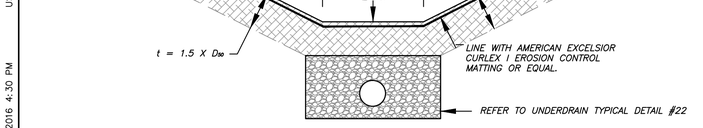
17 TYPICAL 8" Ø PVC PIPE ANMAL GUARD CROSS SECTION DETAIL
NOT TO SCALE



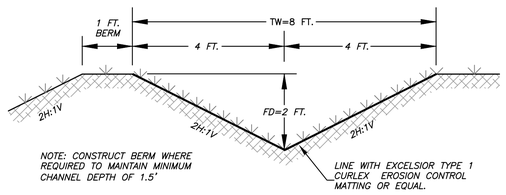
16 TYPICAL 8" INLINE CLEAN-OUT DETAIL
NOT TO SCALE

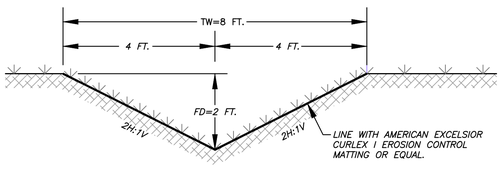


18 TYPICAL 12" INLINE CLEAN-OUT DETAIL
NOT TO SCALE

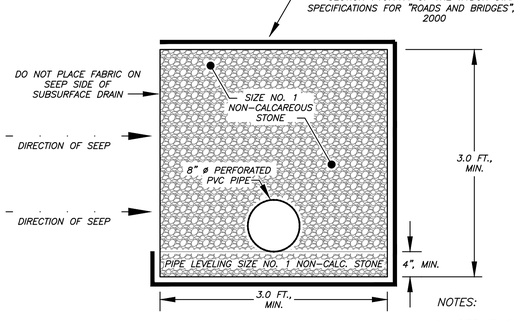


14 TYPICAL SECTION VEGETATED 2H:1V "TRAPEZOIDAL" CHANNEL DETAIL
NOT TO SCALE



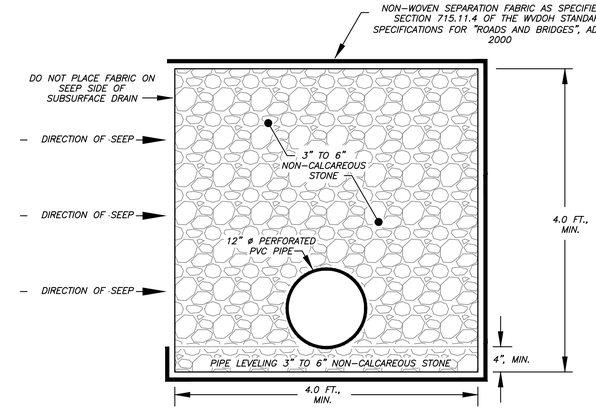


20 TYPICAL 8' VEGETATED SECTION "VEE" CHANNEL DETAIL
NOT TO SCALE



NOTES:
1. SIZE NO. 1 (AASHTO NO. 1) NON-CALCAREOUS STONE SHALL MEET THE GRADATION REQUIREMENTS IN TABLE 703.4 OF THE WVDOH SPECIFICATIONS FOR ROADS AND BRIDGES.
2. THE SEPARATION FABRIC SHALL BE OVERLAPPED 1.0 FOOT, MINIMUM, AT ALL JOINTS.

21 TYPICAL SEEP COLLECTOR DETAIL
NOT TO SCALE



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

22 TYPICAL UNDERDRAIN DETAIL
NOT TO SCALE

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SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
TYPICAL DETAILS
DETAILS #3

SHEET No. 43

LAYOUT TAB: DETAIL_3
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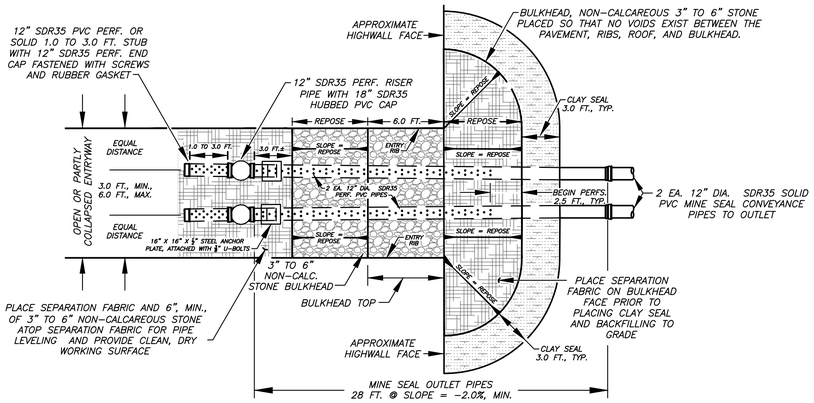
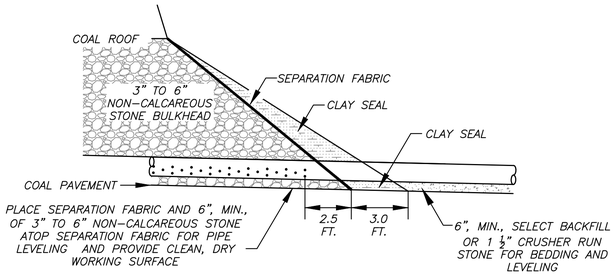


PLAN VIEW TOP OF BULKHEAD ELEVATION

SCALE: 1" = 6 FT.

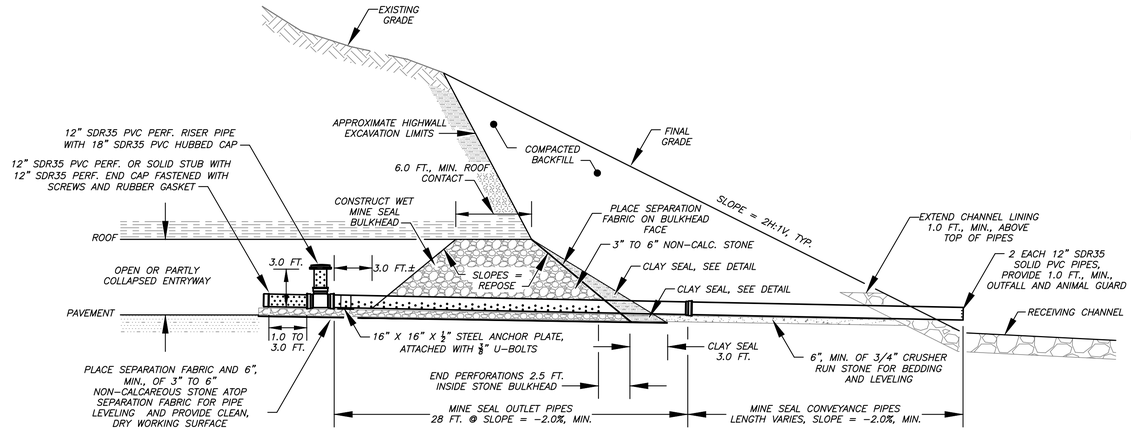
NOTES:

1. THE TWO (2) JOINTS (28.0 FEET) OF MINE SEAL OUTLET PIPES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "WET MINE SEALS" REGARDLESS OF WHERE THESE PIPES END IN THE INSTALLATION.
2. THE MINE SEAL CONVEYANCE PIPE LENGTHS VARY AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "MINE SEAL CONVEYANCE PIPES". MINE SEAL CONVEYANCE PIPES BEGIN AT THE END OF THE MINE SEAL OUTLET PIPES AND EXTEND TO THE PLANNED OUTFALL.
3. THE PERFORATED END CAP LOCATED INSIDE THE MINE AT THE END OF THE ONE TO THREE FOOT (1.0' TO 3.0') STUB SHALL HAVE A RUBBER GASKET, PLACED ON THE UPSTREAM END OF THE STUB AND SCREWED IN PLACE.
4. THE STONE BULKHEAD SHALL BE IN CONTACT WITH COAL ROOF FOR A DISTANCE EQUAL TO THE OPENING HEIGHT OR A MINIMUM OF 6.0 FEET. THE INSIDE AND OUTSIDE STONE BULKHEAD FACES SHALL BE CONSTRUCTED AT THE ANGLE OF REPOSE OF THE 3" TO 6" NON-CALCAREOUS STONE PLACED.
5. 1 ½" CRUSHER RUN STONE SHALL MEET THE GRADATION REQUIREMENTS FOR CLASS 1 AGGREGATE IN TABLE 704.6.2A OF THE WVDOH SPECIFICATIONS FOR ROADS AND BRIDGES.



CLAY SEAL DETAILS, TYP.

SCALE: 1" = 4 FT.

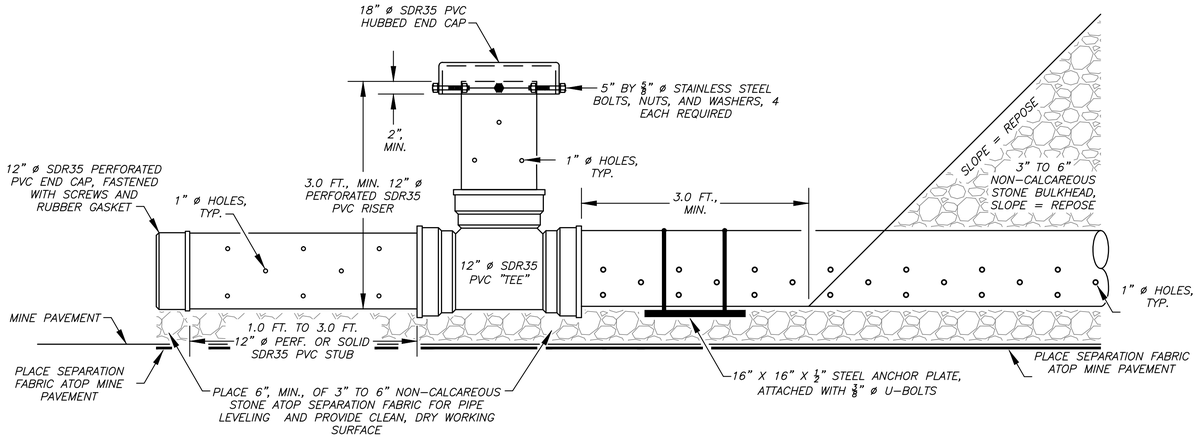


PROFILE VIEW, TYP.

SCALE: 1" = 6 FT.

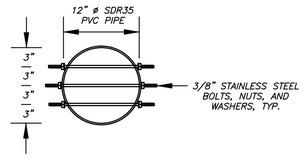
TYPICAL DETAIL WET MINE SEAL

SCALE AS NOTED



TYPICAL "TEE" RISER DETAIL

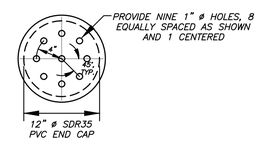
SCALE: 1" = 1 FT.



12" Ø PVC PIPE ANIMAL GUARD CROSS SECTION, TYP.

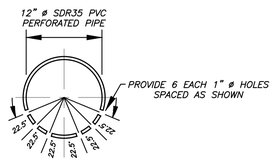
SCALE: 1" = 1 FT.

NOTE:
1. ANIMAL GUARDS SHALL BE INSTALLED THE SAME DAY AS THE PIPE IS INSTALLED.



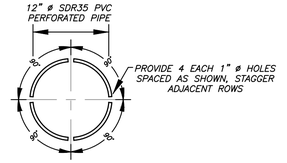
PERFORATED END CAP, TYP.

SCALE: 1" = 1 FT.



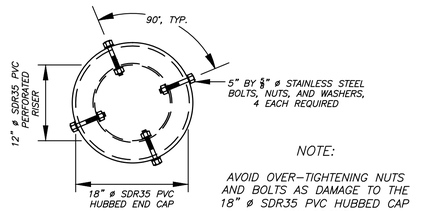
WET MINE SEAL OUTLET PIPES CROSS SECTION, TYP.

SCALE: 1" = 1 FT.



WET MINE SEAL RISER PIPES AND STUBS CROSS SECTION, TYP.

SCALE: 1" = 1 FT.

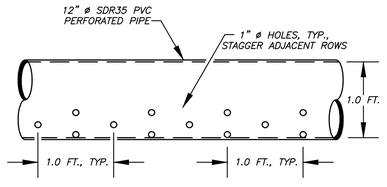


NOTE:

AVOID OVER-TIGHTENING NUTS AND BOLTS AS DAMAGE TO THE 18" ø SDR35 PVC HUBBED CAP MAY OCCUR

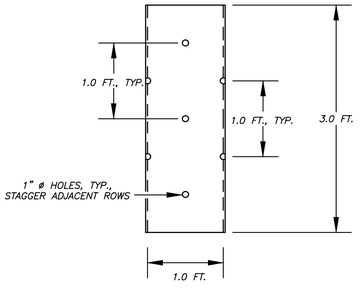
RISER CAP DETAIL, TYP.

SCALE: 1" = 1 FT.



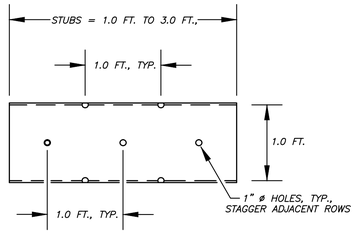
WET MINE SEAL OUTLET PIPES LONGITUDINAL VIEW, TYP.

SCALE: 1" = 1 FT.



WET MINE SEAL RISER PIPES ELEVATION VIEW, TYP.

SCALE: 1" = 1 FT.



WET MINE SEAL STUBS LONGITUDINAL VIEW, TYP.

SCALE: 1" = 1 FT.

(23) TYPICAL WET MINE SEAL PIPE DETAILS
SCALE AS NOTED

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CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
TYPICAL DETAILS
DETAILS #4

SHEET No. 44

LAYOUT TAB: DETAIL 4
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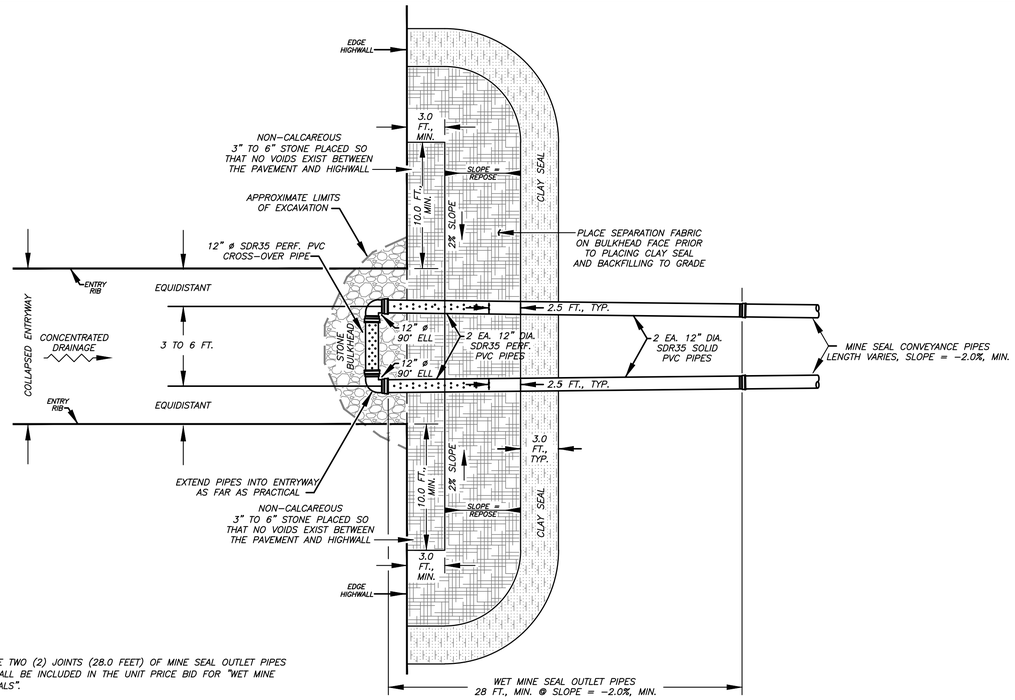
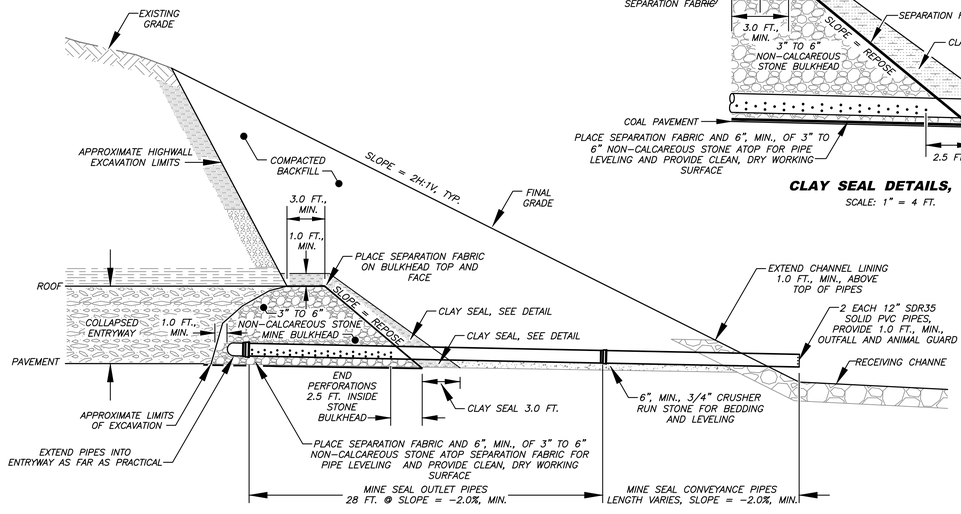


PLAN VIEW, TOP OF BULKHEAD ELEVATION

SCALE: 1" = 6 FT.

NOTES:

1. THE TWO (2) JOINTS (28.0 FEET) OF MINE SEAL OUTLET PIPES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "WET MINE SEALS".
2. THE MINE SEAL CONVEYANCE PIPE LENGTHS VARY AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "MINE SEAL CONVEYANCE PIPES".
3. 1 ½" CRUSHER RUN STONE SHALL MEET THE GRADATION REQUIREMENTS FOR CLASS 1 AGGREGATE IN TABLE 704.6.2A OF THE WVDOH SPECIFICATIONS FOR ROADS AND BRIDGES.

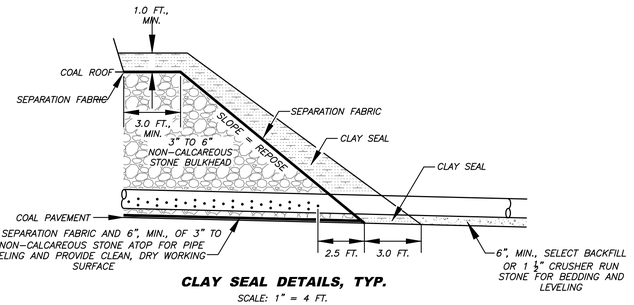


PROFILE VIEW, TYP.

SCALE: 1" = 6 FT.

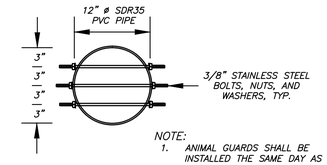
TYPICAL DETAIL
MODIFIED MINE SEAL

SCALE AS NOTED



CLAY SEAL DETAILS, TYP.

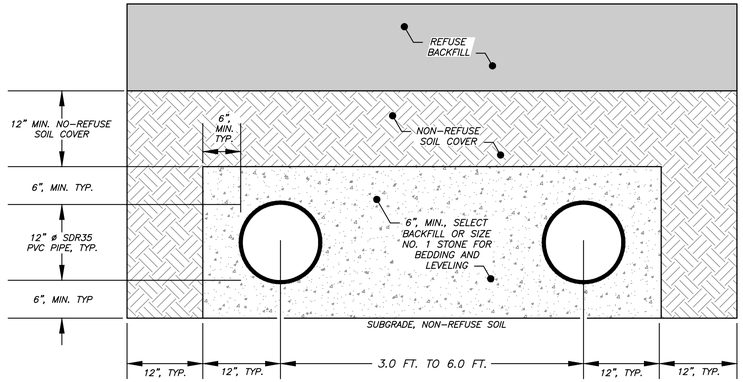
SCALE: 1" = 4 FT.



NOTE:
1. ANIMAL GUARDS SHALL BE INSTALLED THE SAME DAY AS THE PIPE IS INSTALLED.

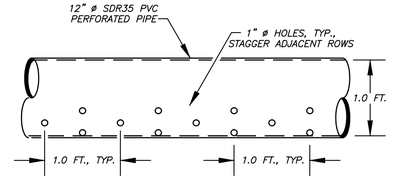
26 TYPICAL 12" Ø PVC PIPE ANIMAL GUARD CROSS SECTION DETAIL

1" = 1 FT.



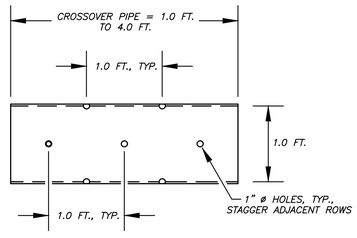
25 TYPICAL CONVEYANCE PIPE SECTION PIPE TRENCH - REFUSE BACKFILL DETAIL

1" = 1 FT.



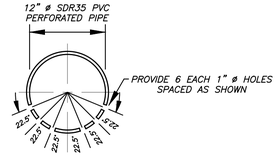
MODIFIED MINE SEAL OUTLET PIPES LONGITUDINAL VIEW, TYP.

SCALE: 1" = 1 FT.



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

SCALE: 1" = 1 FT.



MODIFIED MINE SEAL OUTLET PIPES CROSS SECTION, TYP.

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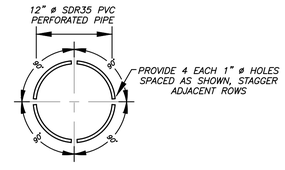

MODIFIED MINE SEAL CROSS-OVER PIPE CROSS SECTION, TYP.

SCALE: 1" = 1 FT.

23 TYPICAL MODIFIED MINE SEAL PIPE DETAILS

SCALE AS NOTED

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APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
TYPICAL DETAILS
DETAILS #5

SHEET No. 45

LAYOUT TAB: DETAIL 5
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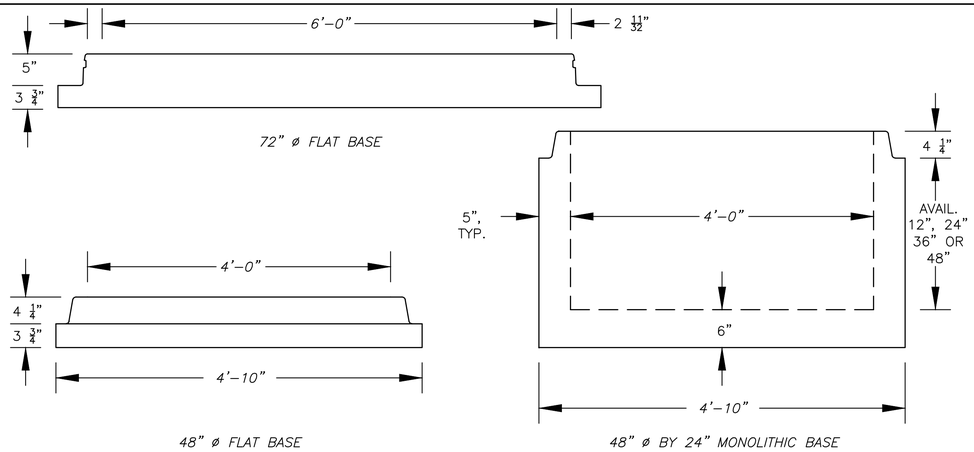
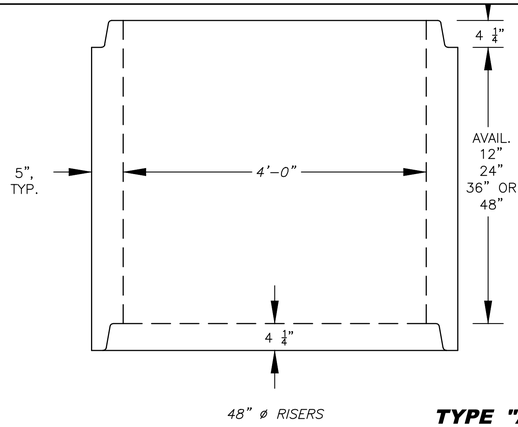
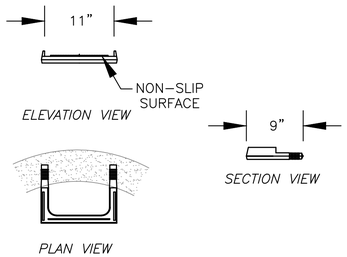


TYPE "A" MANHOLE BASE



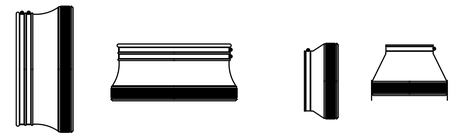
TYPE "A" MANHOLE RISERS



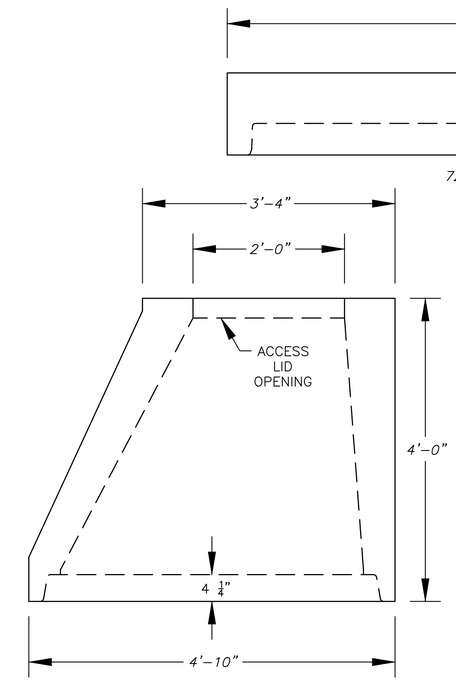
TYPE "A" MANHOLE 11" STEP

PRESS-SEAL GASKETS

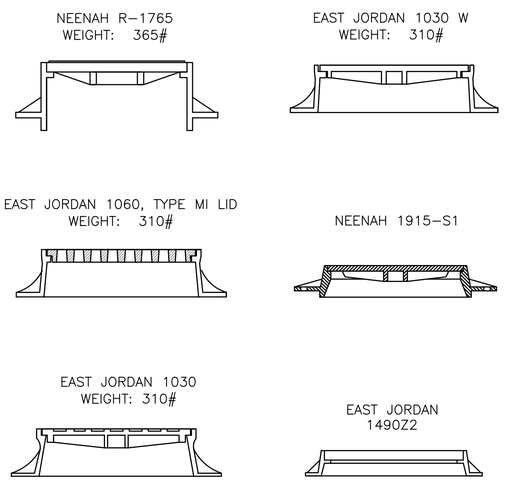
TYPE PIPE AND SIZE	ITEM NUMBER
6" Ø PVC PIPE	12Y PSX
8" Ø PVC PIPE	12M PSX
10" Ø PVC PIPE	16Y PSX
12" Ø PVC PIPE	16M PSX
18" Ø PVC PIPE	22M PSX
24" Ø RCP	34L PSX



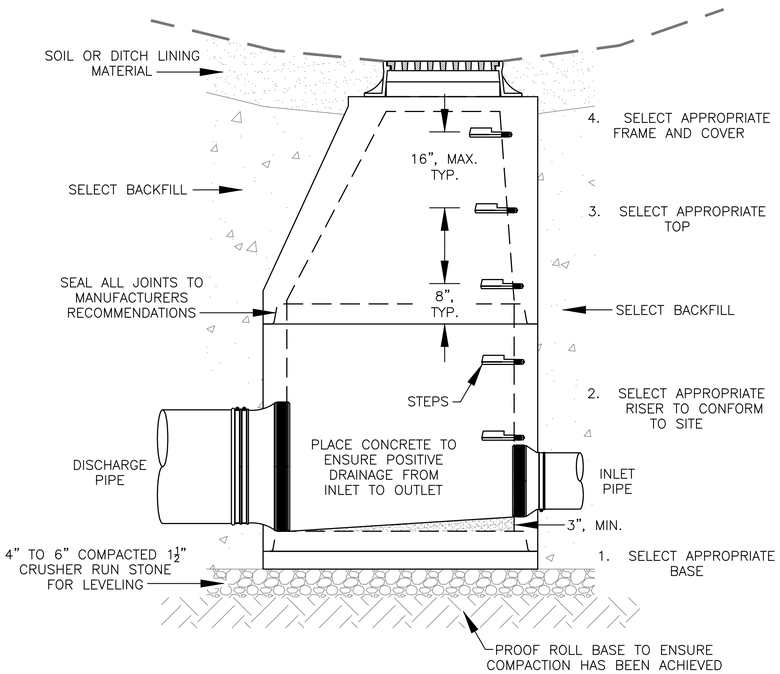
TYPE "A" MANHOLE PIPE GASKETS



TYPE "A" MANHOLE TOPS



TYPE "A" MANHOLE FRAMES AND COVERS



TYPE "A" MANHOLE INSTALLATION, TYP.

NOTES:

1. UNITS SHOWN ARE PRE-CAST.
2. MINIMUM HEIGHT OF RISER ABOVE TOP OF PIPE IS 25% OF THE DIAMETER OF PIPE.
3. RISER AND BOTTOM SECTIONS MAY BE USED IN ANY COMBINATION TO PRODUCE MANHOLE OF DESIRED DEPTH. FLAT TOPS WILL ONLY BE USED AS APPROVED BY THE ENGINEER.
4. JOINTS SHALL CONSIST OF MORTAR OR SEALED O-RINGS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
5. THE MANHOLE BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS.

(27) **TYPICAL TYPE A MANHOLE DETAIL**
NOT TO SCALE

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NO.	BY	DATE	DESCRIPTION

dep

SCALE: AS NOTED	
DRAWN: AER	DATE: 11-14
CHECKED: RRM	DATE: 11-14
APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

THRASHER

PHASE No.	–
CONTRACT No.	DEP 16434
PROJECT No.	101-025-0145

WEST VIRGINIA DEP
ABANDONED MINE LANDS & RECLAMATION
CANYON REFUSE & DUMP
TYPICAL DETAILS
DETAILS #6

SHEET No. 46

LAYOUT TAB: DETAIL 6
CAD FILE: R:\025-0145 - WVDEP AML - Canyon Refuse & Dump\Drawing\042-DETAILS.dwg
PLOT DATE/TIME: 1/18/2016 4:30 PM
USER: april rohrbaugh