



Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Quotation
32 - Reclamation

Proc Folder: 18934

Doc Description: Addendum No 03: Buffalo Coal Co., S-52-80, DEP16308 Reclam.

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2014-12-08	2014-12-30 13:30:00	CRFQ 0313 DEP1500000021	4

BID RECEIVING LOCATION

BID CLERK

DEPARTMENT OF ADMINISTRATION

PURCHASING DIVISION

2019 WASHINGTON ST E

CHARLESTON

WV 25305

US

VENDOR

Vendor Name, Address and Telephone Number:

McCourt & Son Construction, Inc.

5802 Centralia Road

Sutton, WV 26601

304-765-5288

Total Bid: \$1,101,240.00

12/30/14 11:44:34
West Virginia Purchasing Division

FOR INFORMATION CONTACT THE BUYER

Jamie H Adkins

(304) 926-0499

jamie.h.adkins@wv.gov

Signature X

FEIN # 55-0624840

12/30/2014 JHM
DATE 12/30/2014

All offers subject to all terms and conditions contained in this solicitation

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Mobilization and Demobilization	1	LS	50,000.00	50,000.00

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Mobilization and Demobilization (Cannot be more than 10% of TOTAL AMOUNT BID for the Project)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	Construction Layout Stakes	1.00000	LS	30,000.00	30,000.00

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Construction Layout Stakes (Cannot be more than 5% of TOTAL AMOUNT BID for the Project)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	Quality Control	1.00000	LS	20,000.00	20,000.00

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Quality Control (Cannot be more than 5% of TOTALAMOUNT BID for the Project)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI US	
	WV26416		WV 26416-9998

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
4	Site Preparation	1.00000	LS	70,000. ⁰⁰	70,000. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Site Preparation (Cannot be more than 10% of TOTALAMOUNT BID for the Project)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI US	
	WV26416		WV 26416-9998

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
5	Incidental Stone	500.00000	TON	40. ⁰⁰	20,000. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Incidental Stone

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
6	Fence	2800.00000	LF	21. ⁰⁰	58,800. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Fence

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
7	Farm Gate	6.00000	EA	1,000. ⁰⁰	6,000. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Farm Gate

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
8	Access Road Number One	1000.00000	LF	20. ⁰⁰	20,000. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Access Road Number One

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
9	Straw Wattles	6200.00000	LF	3.50	21,700.00

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Straw Wattles

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
10	Silt Fence	2100.00000	LF	1.50	3,150.00

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Silt Fence

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US	ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
11	Revegetation (Plan View)	41.00000	ACRE	3,500. ⁰⁰	143,500. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Revegetation (Plan View)

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US	ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
12	2.0 Ft. Deep V shaped Riprap Ditch	800.00000	LF	37. ⁰⁰	29,600. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

2.0 Ft. Deep V Shaped Grouted Riprap Ditch

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US	ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
13	2.5 Ft. Deep V shaped Riprap Ditch	1550.00000	LF	42. ⁰⁰	65,100. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

2.5 Ft. Deep V Shaped Grouted Riprap Ditch

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
14	3.0 Ft. Deep V shaped Riprap Ditch	500.00000	LF	46. ⁰⁰	23,000. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

3.0 Ft. Deep V Shaped Grouted Riprap Ditch

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
15	Spillway Number One	1.00000	LS	25,000. ⁰⁰	25,000. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Spillway Number One

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
16	Spillway Number Two	1.00000	LS	22,000. ⁰⁰	22,000. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :
Spillway Number Two

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
17	Spillway Number Three	1.00000	LS	20,000. ⁰⁰	20,000. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :
Spillway Number Three

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
18	Spillway Number Four	1.00000	LS	25,000. ⁰⁰	25,000. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Spillway Number Four

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
19	Spillway Number Five	1.00000	LS	20,000. ⁰⁰	20,000. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Spillway Number Five

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
20	Siphon Box	1.00000	LS	13,000. ⁰⁰	13,000. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Siphon Box

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
21	Distribution Box	1.00000	LS	14,000. ⁰⁰	14,000. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Distribution Box

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
22	8 inch SDR35 PVC Pipe	400.00000	LF	14.25	5,700. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

8 inch SDR35 PVC Pipe

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
23	6 inch HDPE DR-17 Pipe	1900.00000	LF	12.50	23,750. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

6 inch HDPE DR-17 Pipe

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
24	4 inch HDPE DR-17 Pipe	100.00000	LF	4.50	450.00

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

4 inch HDPE DR-17 Pipe

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
25	Pipe Number One	70.00000	LF	57.00	3,990.00

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Pipe Number One

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
26	Pipe Number Two	61.00000	LF	50. ⁰⁰	3,050. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Pipe Number Two

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
27	Weir	1.00000	LS	6,500. ⁰⁰	6,500. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Weir

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
28	Intake Support System	1.00000	LS	10,000. ⁰⁰	10,000. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Intake Support System

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
29	Unclassified Excavation	90000.00000	CY	3.50	315,000.00

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

Unclassified Excavation

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
30	12 inch Subsurface Drain	500.00000	LF	55.00	27,500.00

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :

12 inch Subsurface Drain

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
31	Conveyance Pipe	50.00000	LF	14. ⁰⁰	700. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :
Conveyance Pipe

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV26416 US		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION 47 SCHOOL ST, STE 301 PHILIPPI WV 26416-9998 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
32	12 inch Inline Cleanout	5.00000	EA	950. ⁰⁰	4,750. ⁰⁰

Comm Code	Manufacturer	Specification	Model #
77111603			

Extended Description :
12 inch Inline Cleanout

DEP1500000021	Document Phase Draft	Document Description Addendum No. 03: Buffalo Coal Co.,S-52-80, DEP16308 Reclam.	Page 15 of 15
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ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

BUFFALO COAL COMPANY, INC. – Permit Number S-52-80
-REVISED- BID SCHEDULE

25

Company Name: McCourt & Son Construction, Inc. ^{DEP 16308}

Address: 5802 Centralia Road, Sutton, WV 26601

The DEP reserves the right to request additional information and supporting documentation regarding Unit Prices, when the Unit Price appears to be unreasonable.

ITEM NO.	QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1.0	Lump Sum	Mobilization and Demobilization (Cannot be more than 10% of TOTAL AMOUNT BID for the Project)	\$ LS	\$ 50,000.00
2.0	Lump Sum	Construction Layout Stakes (Cannot be more than 5% of TOTAL AMOUNT BID for the Project)	\$ LS	\$ 30,000.00
3.0	Lump Sum	Quality Control (Cannot be more than 5% of TOTAL AMOUNT BID for the Project)	\$ LS	\$ 20,000.00
4.1	Lump Sum	Site Preparation (Cannot be more than 10% of TOTAL AMOUNT BID for the Project)	\$ LS	\$ 70,000.00
4.2	500 TN	Incidental Stone	\$ 40.00	\$ 20,000.00
4.3	2800 LF	Fence	\$ 21.00	\$ 58,800.00
4.4	6 EA	Farm Gate	\$ 1,000.00	\$ 6,000.00
4.5	1,000 LF	Access Road Number One	\$ 20.00	\$ 20,000.00
5.1	6,200 LF	Straw Wattles	\$ 3.50	\$ 21,700.00
5.2	2,100 LF	Silt Fence	\$ 1.50	\$ 3,150.00
6.0	41 AC	Revegetation (Plan View)	\$ 3,500.00	\$ 143,500.00
7.1	800 LF	2.0 Ft. Deep "Vee" Shaped Grouted Riprap Ditch	\$ 37.00	\$ 29,600.00
7.2	1,550 LF	2.5 Ft. Deep "Vee" Shaped Grouted Riprap Ditch	\$ 42.00	\$ 65,100.00
7.3	500 LF	3.0 Ft. Deep "Vee" Shaped Grouted Riprap Ditch	\$ 46.00	\$ 23,000.00
7.4	Lump Sum	Spillway Number One	\$ LS	\$ 25,000.00
7.5	Lump Sum	Spillway Number Two	\$ LS	\$ 22,000.00
7.6	Lump Sum	Spillway Number Three	\$ LS	\$ 20,000.00
7.7	Lump Sum	Spillway Number Four	\$ LS	\$ 25,000.00
7.8	Lump Sum	Spillway Number Five	\$ LS	\$ 20,000.00
7.9	Lump Sum	Siphon Box	\$ LS	\$ 13,000.00
7.10	Lump Sum	Distribution Box	\$ LS	\$ 14,000.00
7.11	400 LF	8" SDR35 PVC Pipe	\$ 14.25	\$ 5,700.00
7.12	1,900 LF	6" HDPE DR-17 Pipe	\$ 12.50	\$ 23,750.00
7.13	100 LF	4" HDPE DR-17 Pipe	\$ 4.50	\$ 450.00
7.14	70 LF	Pipe Number One	\$ 57.00	\$ 3,990.00
7.15	61 LF	Pipe Number Two	\$ 50.00	\$ 3,050.00
7.16	Lump Sum	Weir	\$ LS	\$ 6,500.00
7.17	Lump Sum	Intake Support System	\$ LS	\$ 10,000.00
8.0	90,000 CY	Unclassified Excavation	\$ 3.50	\$ 315,000.00
10.1	500 LF	12" Subsurface Drain	\$ 55.00	\$ 27,500.00
10.2	50 LF	Conveyance Pipe	\$ 14.00	\$ 700.00
10.3	5 EA	12" Inline Cleanout	\$ 950.00	\$ 4,750.00
		TOTAL:	\$ 1,101,240.00	

Bidders Authorized Signature: 

Date: 12/30/2014

INSTRUCTIONS TO VENDORS SUBMITTING BIDS

1. **REVIEW DOCUMENTS THOROUGHLY:** The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.
2. **MANDATORY TERMS:** The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.
3. **PREBID MEETING:** The item identified below shall apply to this Solicitation.
 - ☐ A pre-bid meeting will not be held prior to bid opening.
 - ☐ A **NON-MANDATORY PRE-BID** meeting will be held at the following place and time:

- ☒ A **MANDATORY PRE-BID** meeting will be held at the following place and time:
 10/30/2014 at 10:00 AM, EST. May be accessed by taking WV RT93 east from Davis for 11.7 miles to the intersection with the permitted haulroad. Turn south (right) onto the haulroad and travel approximately 3.9 miles through two (2) locked gates to the project site located south (right side) of the road.

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one person attending the pre-bid meeting may represent more than one Vendor.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. The State will not accept any other form of proof or documentation to verify attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing. Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in, but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

4. **VENDOR QUESTION DEADLINE:** Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are non-binding. Submitted e-mails should have solicitation number in the subject line.

Question Submission Deadline: 11/6/2014 at 5:00 pm, EST.

Submit Questions to: Greg Clay
 2019 Washington Street, East
 Charleston, WV 25305
 Fax: (304) 558-4115 (Vendors should not use this fax number for bid submission)
 Email: Gregory.C.Clay@wv.gov

5. **VERBAL COMMUNICATION:** Any verbal communication between the Vendor and any State personnel is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.
6. **BID SUBMISSION:** All bids must be submitted electronically through wvOASIS or signed and delivered by the Vendor to the Purchasing Division at the address listed below on or before the date and time of the bid opening. Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via e-mail. Acceptable delivery methods include electronic submission via wvOASIS, hand delivery, delivery by courier, or facsimile. The bid delivery address is:

Department of Administration, Purchasing Division
 2019 Washington Street East
 Charleston, WV 25305-0130

A bid that is not submitted electronically through wvOASIS should contain the information listed below on the face of the envelope or the bid may be rejected by the Purchasing Division.:

SEALED BID: Buffalo DEP16308 Project
 BUYER: Greg Clay
 SOLICITATION NO.: CRFQ 0313 DEP1500000021
 BID OPENING DATE: 11/19/2014
 BID OPENING TIME: 1:30 PM, EST.
 FAX NUMBER: (304) 558-3970

In the event that Vendor is responding to a request for proposal, and chooses to respond in a manner other than by electronic submission through wvOASIS, the Vendor shall submit one original technical and one original cost proposal plus convenience copies of each to the Purchasing Division at the address shown above. Additionally, if Vendor does not submit its bid through wvOASIS, the Vendor should identify the bid type as either a technical or cost proposal on the face of each bid envelope submitted in response to a request for proposal as follows:

BID TYPE: (This only applies to CRFP)

☐ Technical

☒ Cost

7. **BID OPENING:** Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when confirmation of delivery is provided by wvOASIS (in the case of electronic submission) or when the bid is time stamped by the official Purchasing Division time clock (in the case of hand delivery).

Bid Opening Date and Time: **NOVEMBER 19, 2014 AT 1:30 PM, EST.**
 Bid Opening Location: Department of Administration, Purchasing Division
 2019 Washington Street East
 Charleston, WV 25305-0130

8. **ADDENDUM ACKNOWLEDGEMENT:** Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

9. **BID FORMATTING:** Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.
10. **ALTERNATES:** Any model, brand, or specification listed in this Solicitation establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.
11. **EXCEPTIONS AND CLARIFICATIONS:** The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.
12. **COMMUNICATION LIMITATIONS:** In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.
13. **REGISTRATION:** Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the \$125 fee, if applicable.
14. **UNIT PRICE:** Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.
15. **PREFERENCE:** Vendor Preference may only be granted upon written request and only in accordance with the West Virginia Code § 5A-3-37 and the West Virginia Code of State Rules. A Vendor Preference Certificate form has been attached hereto to allow Vendor to apply for the preference. Vendor's failure to submit the Vendor Preference Certificate form with its bid will result in denial of Vendor Preference. Vendor Preference does not apply to construction projects.
16. **SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES:** For any solicitations publicly advertised for bid, in accordance with West Virginia Code §5A-3-37(a)(7) and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women-owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the

same preference made available to any resident vendor. Any non-resident small, women-owned, or minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to contract award to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority owned business shall be applied in accordance with W. Va. CSR § 148-22-9.

- 17. WAIVER OF MINOR IRREGULARITIES:** The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.

GENERAL TERMS AND CONDITIONS:

1. **CONTRACTUAL AGREEMENT:** Issuance of a Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.

2. **DEFINITIONS:** As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.
 - 2.1. **"Agency" or "Agencies"** means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.
 - 2.2. **"Contract"** means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.
 - 2.3. **"Director"** means the Director of the West Virginia Department of Administration, Purchasing Division.
 - 2.4. **"Purchasing Division"** means the West Virginia Department of Administration, Purchasing Division.
 - 2.5. **"Award Document"** means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.
 - 2.6. **"Solicitation"** means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.
 - 2.7. **"State"** means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.
 - 2.8. **"Vendor" or "Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. **CONTRACT TERM; RENEWAL; EXTENSION:** The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

☐ **Term Contract**

Initial Contract Term: This Contract becomes effective on _____ and extends for a period of _____ year(s).

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Renewal of this Contract is limited to _____ successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed _____ months in total. Automatic renewal of this Contract is prohibited. Notwithstanding the foregoing, Purchasing Division approval is not required on agency delegated or exempt purchases. Attorney General approval may be required for vendor terms and conditions.

Delivery Order Limitations: In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

☒ **Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within 365 days.

☐ **Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days. Upon completion, the vendor agrees that maintenance, monitoring, or warranty services will be provided for one year thereafter with an additional _____ successive one year renewal periods or multiple renewal periods of less than one year provided that the multiple renewal periods do not exceed _____ months in total. Automatic renewal of this Contract is prohibited.

☐ **One Time Purchase:** The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

☐ **Other:** See attached.

4. **NOTICE TO PROCEED:** Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Award Document will be considered notice to proceed.
5. **QUANTITIES:** The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.
 - ☐ **Open End Contract:** Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.
 - ☐ **Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.
 - ☒ **Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.
 - ☐ **One Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.
6. **PRICING:** The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification.
7. **EMERGENCY PURCHASES:** The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute of breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One Time Purchase contract.
8. **REQUIRED DOCUMENTS:** All of the items checked below must be provided to the Purchasing Division by the Vendor as specified below.

☒ **BID BOND:** All Vendors shall furnish a bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

☒ **PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of _____. The performance bond must be received by the Purchasing Division prior to Contract award. On construction contracts, the performance bond must be 100% of the Contract value.

☒ **LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under \$100,000. Personal or business checks are not acceptable.

☐ **MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

☒ **INSURANCE:** The apparent successful Vendor shall furnish proof of the following insurance prior to Contract award and shall list the state as a certificate holder:

☒ **Commercial General Liability Insurance:** In the amount of \$2,000,000.00 or more.

☐ **Builders Risk Insurance:** In an amount equal to 100% of the amount of the Contract.

☒ \$2,000,000.00 Aggregate

☒ \$2,000,000.00 Automobile

☐

☐

☐

The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether or not that insurance requirement is listed above.

- ☐ **LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section entitled Licensing, of the General Terms and Conditions, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits prior to Contract award, in a form acceptable to the Purchasing Division.

☐
☐
☐
☐

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications prior to Contract award regardless of whether or not that requirement is listed above.

9. **WORKERS' COMPENSATION INSURANCE:** The apparent successful Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.
10. **LITIGATION BOND:** The Director reserves the right to require any Vendor that files a protest of an award to submit a litigation bond in the amount equal to one percent of the lowest bid submitted or \$5,000, whichever is greater. The entire amount of the bond shall be forfeited if the hearing officer determines that the protest was filed for frivolous or improper purpose, including but not limited to, the purpose of harassing, causing unnecessary delay, or needless expense for the Agency. All litigation bonds shall be made payable to the Purchasing Division. In lieu of a bond, the protester may submit a cashier's check or certified check payable to the Purchasing Division. Cashier's or certified checks will be deposited with and held by the State Treasurer's office. If it is determined that the protest has not been filed for frivolous or improper purpose, the bond or deposit shall be returned in its entirety.
11. **LIQUIDATED DAMAGES:** Vendor shall pay liquidated damages in the amount of \$250.00 for each day of delay.
- This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy.

12. **ACCEPTANCE/REJECTION:** The State may accept or reject any bid in whole, or in part. Vendor's signature on its bid signifies acceptance of the terms and conditions contained in the Solicitation and Vendor agrees to be bound by the terms of the Contract, as reflected in the Award Document, upon receipt.
13. **FUNDING:** This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available.
14. **PAYMENT:** Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears.
15. **TAXES:** The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
16. **CANCELLATION:** The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-7.16.2.
17. **TIME:** Time is of the essence with regard to all matters of time and performance in this Contract.
18. **APPLICABLE LAW:** This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code or West Virginia Code of State Rules is void and of no effect.
19. **COMPLIANCE:** Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable law.
20. **PREVAILING WAGE:** On any contract for the construction of a public improvement, Vendor and any subcontractors utilized by Vendor shall pay a rate or rates of wages which shall not be less than the fair minimum rate or rates of wages (prevailing wage), as established by the West Virginia Division of Labor under West Virginia Code §§ 21-5A-1 et seq. and available at <http://www.sos.wv.gov/administrative-law/wagerates/Pages/default.aspx>. Vendor shall be responsible for ensuring compliance with

prevailing wage requirements and determining when prevailing wage requirements are applicable. The required contract provisions contained in West Virginia Code of State Rules § 42-7-3 are specifically incorporated herein by reference.

21. **ARBITRATION:** Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.
22. **MODIFICATIONS:** This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary, no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). No Change shall be implemented by the Vendor until such time as the Vendor receives an approved written change order from the Purchasing Division.
23. **WAIVER:** The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.
24. **SUBSEQUENT FORMS:** The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.
25. **ASSIGNMENT:** Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments. Notwithstanding the foregoing, Purchasing Division approval may or may not be required on certain agency delegated or exempt purchases.
26. **WARRANTY:** The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.
27. **STATE EMPLOYEES:** State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.
28. **BANKRUPTCY:** In the event the Vendor files for bankruptcy protection, the State of West Virginia may deem this Contract null and void, and terminate this Contract without notice.

29. CONFIDENTIALITY: The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/default.html>.

30. DISCLOSURE: Vendor's response to the Solicitation and the resulting Contract are considered public documents and will be disclosed to the public in accordance with the laws, rules, and policies governing the West Virginia Purchasing Division. Those laws include, but are not limited to, the Freedom of Information Act found in West Virginia Code §§ 29B-1-1 et seq. and the competitive bidding laws found West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq.

If a Vendor considers any part of its bid to be exempt from public disclosure, Vendor must so indicate by specifically identifying the exempt information, identifying the exemption that applies, providing a detailed justification for the exemption, segregating the exempt information from the general bid information, and submitting the exempt information as part of its bid but in a segregated and clearly identifiable format. Failure to comply with the foregoing requirements will result in public disclosure of the Vendor's bid without further notice. A Vendor's act of marking all or nearly all of its bid as exempt is not sufficient to avoid disclosure and WILL NOT BE HONORED. Vendor's act of marking a bid or any part thereof as "confidential" or "proprietary" is not sufficient to avoid disclosure and WILL NOT BE HONORED. A legend or other statement indicating that all or substantially all of the bid is exempt from disclosure is not sufficient to avoid disclosure and WILL NOT BE HONORED. Additionally, pricing or cost information will not be considered exempt from disclosure and requests to withhold publication of pricing or cost information WILL NOT BE HONORED.

Vendor will be required to defend any claimed exemption for nondisclosure in the event of an administrative or judicial challenge to the State's nondisclosure. Vendor must indemnify the State for any costs incurred related to any exemptions claimed by Vendor. Any questions regarding the applicability of the various public records laws should be addressed to your own legal counsel prior to bid submission.

31. LICENSING: In accordance with West Virginia Code of State Rules §148-1-6.1.7, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

32. ANTITRUST: In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

33. VENDOR CERTIFICATIONS: By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein. Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

34. PURCHASING CARD ACCEPTANCE: The State of West Virginia currently utilizes a Purchasing Card program, administered under contract by a banking institution, to process payment for goods and services. The Vendor must accept the State of West Virginia's Purchasing Card for payment of all orders under this Contract unless the box below is checked.

☒ Vendor is not required to accept the State of West Virginia's Purchasing Card as payment for all goods and services.

35. VENDOR RELATIONSHIP: The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but

not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing. Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

- 36. INDEMNIFICATION:** The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.
- 37. PURCHASING AFFIDAVIT:** In accordance with West Virginia Code § 5A-3-10a, all Vendors are required to sign, notarize, and submit the Purchasing Affidavit stating that neither the Vendor nor a related party owe a debt to the State in excess of \$1,000. The affidavit must be submitted prior to award, but should be submitted with the Vendor's bid. A copy of the Purchasing Affidavit is included herewith.
- 38. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE:** This Contract may be utilized by and extends to other agencies, spending units, and political subdivisions of the State of West Virginia; county, municipal, and other local government bodies; and school districts ("Other Government Entities"). This Contract shall be extended to the aforementioned Other Government Entities on the same prices, terms, and conditions as those offered and agreed to in this Contract. If the Vendor does not wish to extend the prices, terms, and conditions of its bid and subsequent contract to the Other Government Entities, the Vendor must clearly indicate such refusal in its bid. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.
- 39. CONFLICT OF INTEREST:** Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.
- 40. REPORTS:** Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:
- ☒ Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

- ☐ Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.requisitions@wv.gov.

- 41. BACKGROUND CHECK:** In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision.

The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

- 42. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS:** Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

- a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.
- b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open hearth, basic oxygen, electric furnace, Bessemer or other steel making process. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:
- c. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars (\$2,500.00), whichever is greater.

For the purposes of this section, the cost is the value of the steel product as delivered to the project; or

- d. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

43. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL: In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars (\$50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a "substantial labor surplus area", as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products.

This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

ADDITIONAL TERMS AND CONDITIONS (Construction Contracts Only)

1. **CONTRACTOR'S LICENSE:** West Virginia Code § 21-11-2 requires that all persons desiring to perform contracting work in this state be licensed. The West Virginia Contractors Licensing Board is empowered to issue the contractor's license. Applications for a contractor's license may be made by contacting the West Virginia Division of Labor. West Virginia Code § 21-11-11 requires any prospective Vendor to include the contractor's license number on its bid. Failure to include a contractor's license number on the bid shall result in Vendor's bid being disqualified. Vendors should include a contractor's license number in the space provided below.

Contractor's Name: McCourt & Son Construction, Inc.

Contractor's License No. WV001913

The apparent successful Vendor must furnish a copy of its contractor's license prior to the issuance of a Award Document.

2. **DRUG-FREE WORKPLACE AFFIDAVIT:** W. Va. Code § 21-1D-5 provides that any solicitation for a public improvement contract requires each Vendor that submits a bid for the work to submit at the same time an affidavit that the Vendor has a written plan for a drug-free workplace policy. To comply with this law, Vendor must either complete the enclosed drug-free workplace affidavit and submit the same with its bid or complete a similar affidavit that fulfills all of the requirements of the applicable code. Failure to submit the signed and notarized drug-free workplace affidavit or a similar affidavit that fully complies with the requirements of the applicable code, with the bid shall result in disqualification of Vendor's bid. Pursuant to W. Va. Code 21-1D-2(b) and (k), this provision does not apply to public improvement contracts the value of which is \$100,000 or less or temporary or emergency repairs.

2.1 **DRUG-FREE WORKPLACE POLICY:** Pursuant to W. Va. Code § 21-1D-4, Vendor and its subcontractors must implement and maintain a written drug-free workplace policy that complies with said article. The awarding public authority shall cancel this contract if: (1) Vendor fails to implement and maintain a written drug-free workplace policy described in the preceding paragraph, (2) Vendor fails to provide information regarding implementation of its drug-free workplace policy at the request of the public authority; or (3) Vendor provides to the public authority false information regarding the contractor's drug-free workplace policy. Pursuant to W. Va. Code 21-1D-2(b) and (k), this provision does not apply to public improvement contracts the value of which is \$100,000 or less or temporary or emergency repairs.

3. **DRUG FREE WORKPLACE REPORT:** Pursuant to W. Va. Code § 21-1D-7b, no less than once per year, or upon completion of the project, every contractor shall provide a certified report to the public authority which let the contract. For contracts over \$25,000, the

public authority shall be the West Virginia Purchasing Division. For contracts of \$25,000 or less, the public authority shall be the agency issuing the contract. The report shall include:

- (1) Information to show that the education and training service to the requirements of West Virginia Code § 21-1D-5 was provided;
- (2) The name of the laboratory certified by the United States Department of Health and Human Services or its successor that performs the drug tests;
- (3) The average number of employees in connection with the construction on the public improvement;
- (4) Drug test results for the following categories including the number of positive tests and the number of negative tests: (A) Pre-employment and new hires; (B) Reasonable suspicion; (C) Post-accident; and (D) Random.

Vendor should utilize the attached Certified Drug Free Workplace Report Coversheet when submitting the report required hereunder. Pursuant to W. Va. Code 21-1D-2(b) and (k), this provision does not apply to public improvement contracts the value of which is \$100,000 or less or temporary or emergency repairs.

4. **AIA DOCUMENTS:** All construction contracts that will be completed in conjunction with architectural services procured under Chapter 5G of the West Virginia Code will be governed by the AIA A101-2007 and A201-2007 or the A107-2007 documents, as amended by the Supplementary Conditions for the State of West Virginia, in addition to the terms and conditions contained herein.
5. **SUBCONTRACTOR LIST SUBMISSION:** In accordance with W. Va. Code § 5-22-1, The apparent low bidder on a contract for the construction, alteration, decoration, painting or improvement of a new or existing building or structure valued at more than \$250,000.00 shall submit a list of all subcontractors who will perform more than \$25,000.00 of work on the project including labor and materials. This provision shall not apply to any other construction projects, such as highway, mine reclamation, water or sewer projects. Additionally, if no subcontractors who will perform more than \$25,000.00 of work are to be used to complete the project, it will be noted on the subcontractor list.
 - a. Required Information. The subcontractor list shall contain the following information:
 - i. Bidder's name
 - ii. Name of each subcontractor
 - iii. License numbers as required by W. Va. Code § 21-11-1 et. seq.
 - iv. Notation that no subcontractor will be used to perform more than \$25,000.00 of work, when applicable
 - b. Submission. The completed subcontractor list shall be provided to the Purchasing Division within one business day of the opening of bids for review. Failure to submit the subcontractor

list within one business day after the deadline for submitting bids shall result in disqualification of the bid.

c. Substitution of Subcontractor. Written approval must be obtained from the State Spending Unit before any subcontractor substitution is permitted. Substitutions are not permitted unless:

- i. The subcontractor listed in the original bid has filed for bankruptcy;
- ii. The subcontractor in the original bid has been debarred or suspended; or
- iii. The contractor certifies in writing that the subcontractor listed in the original bill fails, is unable, or refuses to perform his subcontract.


6. **GREEN BUILDINGS MINIMUM ENERGY STANDARDS:** In accordance with § 22-29-4, all new building construction projects of public agencies that have not entered the schematic design phase prior to July 1, 2012, or any building construction project receiving state grant funds and appropriations, including public schools, that have not entered the schematic design phase prior to July 1, 2012, shall be designed and constructed complying with the ICC International Energy Conservation Code, adopted by the State Fire Commission, and the ANSI/ASHRAE/IESNA Standard 90.1-2007: Provided, That if any construction project has a commitment of federal funds to pay for a portion of such project, this provision shall only apply to the extent such standards are consistent with the federal standards.

CERTIFICATION AND SIGNATURE PAGE

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

McCourt & Son Construction, Inc.

(Company)



Tommy H. McCourt, President

(Authorized Signature) (Representative Name, Title)

304-765-5288 304-765-5293 12/30/2014

(Phone Number) (Fax Number) (Date)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: DEP1500000021

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

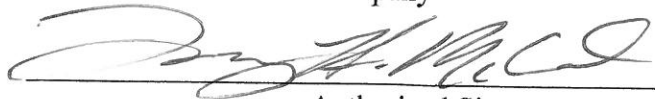
(Check the box next to each addendum received)

<input checked="" type="checkbox"/> Addendum No. 1	<input type="checkbox"/> Addendum No. 6
<input checked="" type="checkbox"/> Addendum No. 2	<input type="checkbox"/> Addendum No. 7
<input checked="" type="checkbox"/> Addendum No. 3	<input type="checkbox"/> Addendum No. 8
<input type="checkbox"/> Addendum No. 4	<input type="checkbox"/> Addendum No. 9
<input type="checkbox"/> Addendum No. 5	<input type="checkbox"/> Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

McCourt & Son Construction, Inc.

Company



Authorized Signature

12/30/2014

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

Revised 6/8/2012

SOLICITATION NUMBER: CRFQ DEP1500000021

Addendum Number: 01

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- ☒ | Modify bid opening date and time
- ☐ | Modify specifications of product or service being sought
- ☐ | Attachment of vendor questions and responses
- ☐ | Attachment of pre-bid sign-in sheet
- ☐ | Correction of error
- ☐ | Other

Description of Modification to Solicitation:

This addendum is issued to modify the bid opening date.

The bid opening date will be changed to December 9, 2014 at 1:30 PM, EST.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

SOLICITATION NUMBER: DEP1500000021

Addendum Number: 02

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- ☐ | Modify bid opening date and time
- ☐ | Modify specifications of product or service being sought
- ☒ | Attachment of vendor questions and responses
- ☒ | Attachment of pre-bid sign-in sheet
- ☐ | Correction of error
- ☒ | Other

Description of Modification to Solicitation:

This addendum is issued for the following reasons:

1. To provide a copy of the mandatory pre bid sign-in sheet.
2. To provide answers to vendor submitted questions.
3. To provide a revised bid schedule and commodity lines.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

SOLICITATION NUMBER: DEP1500000021

Addendum Number: 03

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- ☒ | Modify bid opening date and time
- ☒ | Modify specifications of product or service being sought
- ☐ | Attachment of vendor questions and responses
- ☐ | Attachment of pre-bid sign-in sheet
- ☐ | Correction of error
- ☐ | Other

Description of Modification to Solicitation:

This addendum is issued to provide additional revisions to plans and specifications.

The bid opening date is changed to December 30, 2014 at 1:30 PM, EST.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

**Addendum #3 - Questions During Pre-Bid Conference
For DEP16308
BUFFALO COAL COMPANY, INC.
Permit S-52-80**

REVISION #1: Plans

Detail #17 on plans for the 6 inch HDPE sludge pipe currently indicates using 1.5 inch crusher run limestone for pipe bedding and surrounding the entire pipe. The revision is that the 1.5 inch crusher run limestone shall remain on the bottom 4 inches for leveling, but the remainder stone may be omitted, and onsite select backfill may be used around and above the pipe.

REVISION #2: Specifications

Section 6.0 Revegetation

Item 6.2.2 Limestone

The lime to be used will be an agricultural grade pulverized limestone containing a minimum of 75% total carbonates or calcium carbonate equivalent. Fineness will be such that no less than 70% will pass through a #100 sieve and 100% will pass through a #20 sieve.

Agency Purchasing Division
REQ P O# DEP16308

BID BOND

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned, McCourt & Son Construction, Inc.
of 2790 Centralia Road Sutton, WV 26601, as Principal, and Granite RE, Inc.
of 14001 Quailbrook Dr., Oklahoma City, Ok 73134, a corporation organized and existing under the laws of the State of Oklahoma
with its principal office in the City of Oklahoma City, as Surety, are held and firmly bound unto the State
of West Virginia, as Obligor, in the penal sum of Five Percent of the Amount Bid (5%) for the payment of which,
well and truly to be made, we jointly and severally bind ourselves, our heirs, administrators, executors, successors and assigns

The Condition of the above obligation is such that whereas the Principal has submitted to the Purchasing Section of the
Department of Administration a certain bid or proposal, attached hereto and made a part hereof, to enter into a contract in writing for
DEP16308 Grant County, WV

NOW THEREFORE,

(a) If said bid shall be rejected, or
(b) If said bid shall be accepted and the Principal shall enter into a contract in accordance with the bid or proposal attached
hereto and shall furnish any other bonds and insurance required by the bid or proposal, and shall in all other respects perform the
agreement created by the acceptance of said bid, then this obligation shall be null and void, otherwise (this obligation shall remain in full
force and effect. It is expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event,
exceed the penal amount of this obligation as herein stated.

The Surety, for the value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no
way impaired or affected by any extension of the time within which the Obligor may accept such bid, and said Surety does hereby
waive notice of any such extension.

IN WITNESS WHEREOF, Principal and Surety have hereunto set their hands and seals, and such of them as are corporations
have caused their corporate seals to be affixed hereunto and these presents to be signed by their proper officers, (this
9th day of December, 20 14,

Principal Corporate Seal

McCourt & Son Construction, Inc.

(Name of Principal)

By [Signature]

(Must be President or
Vice President)

President

(Title)

Surety Corporate Seal

Granite RE, Inc.

(Name of Surety)

[Signature]

Attorney-in-Fact - Karen Baker

IMPORTANT - Surety executing bonds must be licensed in West Virginia to transact surety insurance. Raised corporate seals
must be affixed, a power of attorney must be attached.

GRANITE RE, INC.
GENERAL POWER OF ATTORNEY

Know all Men by these Presents:

That GRANITE RE, INC., a corporation organized and existing under the laws of the State of OKLAHOMA and having its principal office at the City of OKLAHOMA CITY in the State of OKLAHOMA does hereby constitute and appoint:

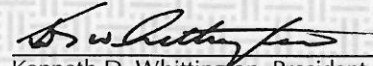
CHARLES C. MARTIN; JAMES F. OAKES; KAREN BAKER; LAVONNE SHERROD its true and lawful Attorney-in-Fact(s) for the following purposes, to wit:

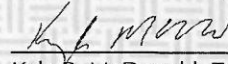
To sign its name as surety to, and to execute, seal and acknowledge any and all bonds, and to respectively do and perform any and all acts and things set forth in the resolution of the Board of Directors of the said GRANITE RE, INC. a certified copy of which is hereto annexed and made a part of this Power of Attorney; and the said GRANITE RE, INC. through us, its Board of Directors, hereby ratifies and confirms all and whatsoever the said:

CHARLES C. MARTIN; JAMES F. OAKES; KAREN BAKER; LAVONNE SHERROD may lawfully do in the premises by virtue of these presents.

In Witness Whereof, the said GRANITE RE, INC. has caused this instrument to be sealed with its corporate seal, duly attested by the signatures of its President and Secretary/Treasurer, this 3rd day of July, 2013.




Kenneth D. Whittington, President


Kyle P. McDonald, Treasurer

STATE OF OKLAHOMA)
) SS:
COUNTY OF OKLAHOMA)

On this 3rd day of July, 2013, before me personally came Kenneth D. Whittington, President of the GRANITE RE, INC. Company and Kyle P. McDonald, Secretary/Treasurer of said Company, with both of whom I am personally acquainted, who being by me severally duly sworn, said, that they, the said Kenneth D. Whittington and Kyle P. McDonald were respectively the President and the Secretary/Treasurer of GRANITE RE, INC., the corporation described in and which executed the foregoing Power of Attorney; that they each knew the seal of said corporation; that the seal affixed to said Power of Attorney was such corporate seal, that it was so fixed by order of the Board of Directors of said corporation, and that they signed their name thereto by like order as President and Secretary/Treasurer, respectively, of the Company.




Notary Public

My Commission Expires:
August 8, 2017
Commission #: 01013257

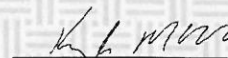
GRANITE RE, INC.
Certificate

THE UNDERSIGNED, being the duly elected and acting Secretary/Treasurer of Granite Re, Inc., an Oklahoma Corporation, HEREBY CERTIFIES that the following resolution is a true and correct excerpt from the July 15, 1987, minutes of the meeting of the Board of Directors of Granite Re, Inc. and that said Power of Attorney has not been revoked and is now in full force and effect.

"RESOLVED, that the President, any Vice President, the Secretary, and any Assistant Vice President shall each have authority to appoint individuals as attorneys-in-fact or under other appropriate titles with authority to execute on behalf of the company fidelity and surety bonds and other documents of similar character issued by the Company in the course of its business. On any instrument making or evidencing such appointment, the signatures may be affixed by facsimile. On any instrument conferring such authority or on any bond or undertaking of the Company, the seal, or a facsimile thereof, may be impressed or affixed or in any other manner reproduced; provided, however, that the seal shall not be necessary to the validity of any such instrument or undertaking."

IN WITNESS WHEREOF, the undersigned has subscribed this Certificate and affixed the corporate seal of the Corporation this 9th day of December, 20 14.




Kyle P. McDonald, Secretary/Treasurer

State of West Virginia
Purchasing Division

CERTIFIED DRUG-FREE WORKPLACE REPORT COVERSHEET

In accordance with *West Virginia Code* § 21-1D-7b, no less than once per year, or upon completion of the project, every contractor shall provide a certified report to the public authority which let the contract. That report must include each of the items identified below in the Required Report Content section.

Instructions: Vendor should complete this coversheet, attach it to the required report, and submit it to the appropriate location as follows: For contracts more than \$25,000, the report should be mailed to the West Virginia Purchasing Division at 2019 Washington Street East, Charleston, WV 25305. For contracts of \$25,000 or less, the vendor should mail the report to the public authority issuing the contract.

Contract Identification:

Contract Number: _____

Contract Purpose: _____

Agency Requesting Work: _____

Required Report Content: The attached report must include each of the items listed below. The vendor should check each box as an indication that the required information has been included in the attached report.

- ☐ Information indicating the education and training service to the requirements of *West Virginia Code* § 21-1D-5 was provided;
- ☐ Name of the laboratory certified by the United States Department of Health and Human Services or its successor that performs the drug tests;
- ☐ Average number of employees in connection with the construction on the public improvement;
- ☐ Drug test results for the following categories including the number of positive tests and the number of negative tests: (A) Pre-employment and new hires; (B) Reasonable suspicion; (C) Post-accident; and (D) Random.

Vendor Contact Information:

Vendor Name: McCourt & Son Construction, Inc.

Vendor Telephone: 304-765-5288

Vendor Address: 5802 Centralia Road

Vendor Fax: 304-765-5293

Sutton, WV 26601



State of West Virginia
DRUG FREE WORKPLACE CONFORMANCE AFFIDAVIT
West Virginia Code §21-1D-5

STATE OF WEST VIRGINIA,

COUNTY OF Braxton, **TO-WIT:**

I, Tommy H. McCourt, after being first duly sworn, depose and state as follows:

1. I am an employee of McCourt & Son Construction, Inc.; and,
(Company Name)
2. I do hereby attest that McCourt & Son Construction, Inc.
(Company Name)

maintains a valid written drug free workplace policy and that such policy is in compliance with **West Virginia Code §21-1D**.

The above statements are sworn to under the penalty of perjury.

By: [Signature]

Title: President

Company Name: McCourt & Son Construction, Inc.

Date: 12/30/2014

Taken, subscribed and sworn to before me this 30 day of December, 2014.

By Commission expires November 27, 2016

(Seal)



[Signature]
(Notary Public)

THIS AFFIDAVIT MUST BE SUBMITTED WITH THE BID IN ORDER TO COMPLY WITH WV CODE PROVISIONS. FAILURE TO INCLUDE THE AFFIDAVIT WITH THE BID SHALL RESULT IN DISQUALIFICATION OF THE BID.

STATE OF WEST VIRGINIA
Purchasing Division

DEP16308

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: McCourt & Son Construction, Inc.

Authorized Signature: [Signature] Date: 12/30/2014

State of WV

County of Braxton, to-wit:

Taken, subscribed, and sworn to before me this 30 day of December, 2014.

My Commission expires November 27, 2016.

AFFIX SEAL HERE

NOTARY PUBLIC

[Signature]

Purchasing Affidavit (Revised 07/01/2012)



OMB #1029-0119
Expiration Date: 1/31/16

AML CONTRACTOR INFORMATION FORM

You must complete this form for your AML contracting officer to request an eligibility evaluation from the Office of Surface Mining to determine if you are eligible to receive an AML contract. This requirement applies to contractors and their sub-contractors and is found under OSM's regulations at 30 CFR 874.16. When possible, please type your information onto this form to reduce errors on our end. NOTE: Signature and date this form is signed must be recent (within the last month) to be considered for a current bid

Part A: General Information

Business Name: McCourt & Son Construction, Inc. Tax Payer ID No.: 55-0624840
Address: 5802 Centralia Road
City: Sutton State: WV Zip Code: 26601 Phone: 304-765-5288
Fax No.: 304-765-5293 E-mail address: mccourtandson@wirefire.com

Part B: Legal Structure

(X) Corporation () Sole Proprietorship () Partnership () LLC
() Other (please specify) _____

Part C: Certifying and updating information in the Applicant/Violator System (AVS). Select only one of the following options, follow the instructions for that option, and sign below.

I, Tommy H. McCourt, have the express authority to certify that:
(print name)

1. X Information on the attached Entity Organizational Family Tree (OFT) from AVS is accurate, complete, and up-to-date. If you select this option, you must attach an Entity OFT from AVS to this form. Sign and date below and do not complete Part D.
2. _____ Part of the information on the attached Entity OFT from AVS is missing or incorrect and must be updated. If you select this option, you must attach an Entity OFT from AVS to this form. Use Part D to provide the missing or corrected information. Sign and date below and complete Part D.
3. _____ Our business currently is not listed in AVS. If you select this option, you must provide all information required in Part D. Sign and date below and complete Part D.

12/30/2014
Date

[Signature] President
Signature

Title

IMPORTANT! In order to certify in Part C to the accuracy of existing information in AVS, you must obtain a copy of your business' Entity OFT. To obtain an Entity OFT, contact the AVS Office, toll-free, at 800-643-9748 or from the AVS website at <https://avss.osmre.gov>.

Part D. N/A

Contractor's Business Name: _____

If the current Entity OFT information for your business is incomplete or incorrect in AVS, or if there is no information in AVS for your business, you must provide all of the following information as it applies to your business. Please make as many copies of this page as you require.

- Every officer (President, Vice President, Secretary, Treasurer, etc.);
- All Directors;
- All persons performing a function similar to a Director;
- Every person or business that owns 10% or more of the voting stock in your business;
- Every partner, if your business is a partnership;
- Every member and manager, if your business is a limited liability company; and
- Any other person(s) who has the ability to determine the manner in which the AML reclamation project is being conducted.

Name	_____	Position/Title	_____
Address	_____	Telephone #	_____
	_____	% of Ownership	_____
Begin Date:	_____	Ending Date:	_____
Name	_____	Position/Title	_____
Address	_____	Telephone #	_____
	_____	% of Ownership	_____
Begin Date:	_____	Ending Date:	_____
Name	_____	Position/Title	_____
Address	_____	Telephone #	_____
	_____	% of Ownership	_____
Begin Date:	_____	Ending Date:	_____
Name	_____	Position/Title	_____
Address	_____	Telephone #	_____
	_____	% of Ownership	_____
Begin Date:	_____	Ending Date:	_____

PAPERWORK REDUCTION STATEMENT

The Paperwork Reduction Act of 1995 (44 U.S.C. 3501) requires us to inform you that: Federal Agencies may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. This information is necessary for all successful bidders prior to the distribution of AML funds, and is required to obtain a benefit.

Public reporting burden for this form is estimated to range from 15 minutes to 1 hour, with an average of 22 minutes per response, including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. You may direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Office of Surface Mining Reclamation and Enforcement, Room 202 SIB, Constitution Ave., NW, Washington, D.C. 20240.



AVS OFT Report - 7/26/2012 4:05:56 PM

All OFT's where the selected entity is listed as an entity or related entity

Entity Selected (139788) Mccourt & Son Construction Inc

Parent Entity	Description	Related Entity	% Ownership	Begin Date	End Date
(139788) Mccourt & Son Construction Inc	President	(139789) Tommy H Mccourt		2/14/1982	
(139788) Mccourt & Son Construction Inc	Shareholder	(139789) Tommy H Mccourt	50%	2/14/1982	
(139788) Mccourt & Son Construction Inc	Secretary	(139790) Lydia Mccourt		2/14/1996	
(139788) Mccourt & Son Construction Inc	Shareholder	(139790) Lydia Mccourt	50%	2/14/1996	
(139788) Mccourt & Son Construction Inc	Treasurer	(139790) Lydia Mccourt		2/14/1996	
(139788) Mccourt & Son Construction Inc	Vice President	(139791) James C Mccourt		2/14/1996	

**BUFFALO COAL COMPANY, INC.
S-52-80**

DEP16308

**LAND RECLAMATION & WATER
TREATMENT PROJECT**

**BID PREPARATION,
GENERAL PERFORMANCE
STANDARDS,**

AND

**TECHNICAL SPECIFICATIONS
APRIL 2014**

BUFFALO COAL COMPANY, INC.**S-52-80****DEP16308****DIRECTIONS TO SITE**

The Buffalo Coal Company, Inc. forfeited Permit Number S-52-80 project may be accessed by taking West Virginia Route 93 east from Davis for 11.7 miles to the intersection with the permitted haulroad. Turn south (right) onto the haulroad and travel approximately 3.9 miles through two (2) locked gates to the project site located south (right side) of the road.

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BID PREPARATION INFORMATION**HISTORICAL INFORMATION**

Prospective bidders may review files at the West Virginia Department of Environmental Protection, Charleston, WV office, or the Regional West Virginia Department of Environmental Protection Office at 47 School Street Suite 301, Philippi, WV 26416. These files may contain additional information not included in the contract. Documents including, but not limited to, permit applications, permits, inspection reports, environmental documents, permit violation history, geological and geotechnical information, probable hydrologic consequences, maps, modifications, NPDES information and other related data. Copies may be obtained upon request and payment of copying fees.

PREBID CONFERENCE

At the time of the Pre-bid conference, potential bidders with questions pertaining to the contract shall provide a written list to the DEP.

DEP shall respond to all questions in a written Addendum prior to the bid opening date.

Considerable foot travel over rough terrain and/or inclement weather may be required.

VIDEO

The information given at the pre-bid showing by the project contact person or the assigned person shall be documented on video tape and shall be an integral part of this contract's requirements, but will not supersede the written contract. All information on video tape that is new or provides clarification to the specifications, will be issued in writing by a formal addendum and will become part of the written contract.

INTENT OF CONTRACT

The intent of the contract is for the reclamation/restoration of forfeited mine lands as required by West Virginia Department of Environmental Protection. The contractor is to provide for the construction and completion in every detail of the work described. The Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the Plans, Specifications, and terms of the Contract.

Should any misunderstanding arise as to the intent or meaning of the Contract, or any discrepancies appear, the decision of the Director of Division of Land Restoration shall be final.

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GENERAL PERFORMANCE STANDARDS

INTRODUCTION

The performance standards and non-compliance penalties which govern special reclamation-bond forfeiture projects are in Chapter 22A, Article 3, of the Code of West Virginia and subsequent rules and regulations. The following performance standards are of a general nature and do not represent all the performance standards applicable to a special reclamation-bond forfeiture project. However, some or all of these standards will pertain to each project.

BACKFILLING

1. Unless otherwise noted, the highwall shall be eliminated and the disturbed area graded to the approximate original contour.
2. The material used to backfill and eliminate the highwall shall be sufficiently compacted so as to insure stability of the backfill throughout the warranty period.
3. The land above the highwall shall not be disturbed unless otherwise directed.
4. The best available material to support vegetation, sufficient to establish a permanent vegetative cover and to achieve the approved post mining land use, shall be used.

BLASTING

The performance standards of the most current edition of the Surface Mining Blasting Rule (Title 199, Series 1) must be adhered to.

NOTICE TO PROCEED

A Notice to Proceed shall be issued to the Contractor by the project contact person for the Department of Environmental Protection. Actual construction may only begin after a Notice to Proceed is given and as specified. Such notice shall specify the starting date of the Purchase Order, the Work Performance Period, and the completion date of the Work Performance Period. Extensions may be granted based upon weather conditions and/or unforeseen site conditions and shall be processed as a change order by the WV Purchasing Division.

PRE-CONSTRUCTION CONFERENCE

The Contractor in possession of the awarded Purchase Order shall schedule a Pre-Construction Conference on the site within ten (10) days after receiving the Notice To Proceed. The Contractor's Agent (foreman or the on-the-ground supervisor) must be in attendance.

GENERAL SUPERVISION

This Contact is under the general supervision of the West Virginia Department of Environmental Protection's contact person for the purpose of Contract compliance inspection only. Contractor shall supervise work being conducted at all times. All services rendered by the Engineer/Contact Person consist of professional opinions and recommendations made in accordance with generally accepted engineering practice. Under no circumstances is it the intent of the Engineer/Contact Person to directly control the physical activities of the Contractor or the Contractor's workmen's accomplishment of work on this project.

CONTRACTOR RESPONSIBILITY

Buffalo Coal Company, Inc.**S-52-80****DEP16308**

The Contractor is responsible for compliance with all aspects of this written Contract. All changes will be issued as a formal change order by the WV Purchasing Division.

A responsible Contractor's Agent (foreman or on the ground supervisor) shall be on the site at all working times who demonstrates a knowledge of mined land reclamation, contract requirements and responds to DEP (Owner) inspections.

The Contractor shall maintain the work covered under this contract during construction and until the project is accepted. All cost of maintenance work during construction and before the project is accepted shall be included in the unit or lump sum prices on the various pay items.

CONCURRENT RECLAMATION

Reclamation of this project shall commence at a definite point as defined and shall progress from that point with total reclamation to include backfilling, grading/regrading, and revegetation. Changes may be granted based upon weather or differing site conditions with prior approval.

DIFFERING SITE CONDITIONS

During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided by the Contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected work is performed.

Upon written notification, the Engineer/Contact Person will investigate the conditions, and if determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding loss of anticipated profits, will be made and the Contract modified in writing accordingly. The Engineer/Contact Person will notify the Contractor of DEP's determination whether or not an adjustment of the Contract is warranted.

No Contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice.

No Contract adjustment will be allowed under this clause for any effects caused on unchanged work.

HANDLING AND STORAGE OF MATERIALS

Materials which are stored on site, before utilization, shall be stored so as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may be inspected again prior to their use in the work. Damaged or deteriorated materials shall be removed and replaced by materials meeting the original specifications.

Aggregate stockpiles shall be made on ground that is denuded of vegetation, hard, and well drained. Addition and removal of aggregate from the stockpile shall be done in a manner which will not result in the inclusion of foreign material into the aggregate or result in the separation of sizes. The use of the aggregate will determine if exceptions are permitted.

All materials shall be handled in such a manner as to preserve their quality and fitness for the work.

FINAL INSPECTION

A final inspection meeting by the Department of Environmental Protection's representative and the Contractor is required for the construction phase and prior to Demobilization.

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ACREAGE QUANTITIES

The acreage quantities in this Contract are for bidding purposes only and are a set (definite) number for the project area as specified at the pre-bid showing. Only surveyed acreage's through figures the Contractor and/or the State develops will be honored to alter these acreage numbers. No separate payment will be made for surveying.

PAYMENT

Invoices must be submitted on prescribed Department of Environmental Protection, Special Reclamation Program forms and include verification. Certified contractor payrolls for operators directly involved in this project and a current workers compensation certificate must accompany each invoice for payment. Verification of wage rates may include employee interviews. Invoices shall be signed in blue ink so that it is easy to verify that document is an original. Vendor should submit with their bid the current remit-to address to be used for payment processing.

CONTRACT WARRANTY

A Warranty Period of one (1) year shall commence from the final date of service as indicated on the final invoice for payment. No payment will be made for additional work necessary to comply with warranty requirements.

CONTRACT NON-COMPLIANCE

If in the opinion of the Department of Environmental Protection the Contract is not in compliance with any line item specification, that portion of the project shall cease until a compliance schedule and understanding is demonstrated in writing and accepted by the Director of Division of Land Restoration.

CONTRACT DELETIONS

Any line item, or any portion thereof, may be deleted when determined by the DEP project contact person that such line item, or portion thereof, is deemed unnecessary for the successful reclamation of this project. No claim for loss of anticipated profits will be considered. All contract deletions will be processed as a change order by the WV Purchasing Division.

Buffalo Coal Company, Inc.

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Attn:

S

Re: Notice to Proceed
Permit Name: _____
Permit No. _____
Purchase Order No.: DEP

Dear :

The purpose of this letter is to express our appreciation for your work in advance and to recognize a reclamation partnership project. The official starting date for the above mentioned purchase order is . The work performance period must be completed by . The contract life of one year is provided to accomplish all line items and to process all payments within that period.

You must schedule a pre-construction conference on site within ten (10) days after receiving this notice to proceed. It is then mandatory that construction begins within ten (10) days of the pre-construction conference and continues diligently until completion of the project. Please contact this office to schedule the pre-construction conference. The foreman, superintendent, or on-the-ground supervisor must be in attendance at this conference.

Failure to comply with this notice to proceed will cause termination of the contract and forfeiture of your performance bond.

If you have any questions please feel free to contact this office.

Sincerely,

E

BUFFALO COAL COMPANY, INC. – Permit Number S-52-80
BID SCHEDULE
DEP 16308

Company Name: _____
 Address: _____

The DEP reserves the right to request additional information and supporting documentation regarding Unit Prices, when the Unit Price appears to be unreasonable.

ITEM NO.	QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1.0	Lump Sum	Mobilization and Demobilization (Cannot be more than 10% of TOTAL AMOUNT BID for the Project)	\$	\$
2.0	Lump Sum	Construction Layout Stakes (Cannot be more than 5% of TOTAL AMOUNT BID for the Project)	\$	\$
3.0	Lump Sum	Quality Control (Cannot be more than 5% of TOTAL AMOUNT BID for the Project)	\$	\$
4.1	Lump Sum	Site Preparation (Cannot be more than 10% of TOTAL AMOUNT BID for the Project)	\$	\$
4.2	500 TN	Incidental Stone	\$	\$
4.3	2800 LF	Fence	\$	\$
4.4	6 EA	Farm Gate	\$	\$
4.5	1,000 LF	Access Road Number One	\$	\$
5.1	6,200 LF	Straw Wattles	\$	\$
5.2	2,100 LF	Silt Fence	\$	\$
6.0	41 AC	Revegetation (Plan View)	\$	\$
7.1	800 LF	2.0 Ft. Deep "Vee" Shaped Grouted Riprap Ditch	\$	\$
7.2	1,550 LF	2.5 Ft. Deep "Vee" Shaped Grouted Riprap Ditch	\$	\$
7.3	500 LF	3.0 Ft. Deep "Vee" Shaped Grouted Riprap Ditch	\$	\$
7.4	Lump Sum	Spillway Number One	\$	\$
7.5	Lump Sum	Spillway Number Two	\$	\$
7.6	Lump Sum	Spillway Number Three	\$	\$
7.7	Lump Sum	Spillway Number Four	\$	\$
7.8	Lump Sum	Spillway Number Five	\$	\$
7.9	Lump Sum	Siphon Box	\$	\$
7.10	Lump Sum	Distribution Box	\$	\$
7.11	400 LF	8" SDR35 PVC Pipe	\$	\$
7.12	1,900 LF	6" HDPE DR-17 Pipe	\$	\$
7.13	100 LF	4" HDPE DR-17 Pipe	\$	\$
7.14	70 LF	Pipe Number One	\$	\$
7.15	56 LF	Pipe Number Two	\$	\$
7.16	Lump Sum	Weir	\$	\$
7.17	Lump Sum	Intake Support System	\$	\$
8.0	90,000 CY	Unclassified Excavation	\$	\$
10.1	500 LF	12" Subsurface Drain	\$	\$
10.2	50 LF	Conveyance Pipe	\$	\$
10.3	5 EA	12" Inline Cleanout	\$	\$
TOTAL:			\$	

Bidders Authorized Signature: _____

Date: _____

Buffalo Coal Company, Inc.

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DEP16308

**BUFFALO COAL COMPANY, INC., INC., PERMIT S-52-80
P.O. Number DEP16308**

I. SPECIAL PROVISIONS

1. LOCATION / SITE DESCRIPTION

The Buffalo Coal Company, Inc. forfeited Permit Number S-52-80 project is located 9.5 air miles east of Davis in Grant County West Virginia, on the Mount Storm Lake 7.5 minute USGS Quadrangle, and drains to the Stony River of the North Branch of the Potomac River Basin. The permit was a surface mine in the Upper Freeport coal seam. An open pit, now full of water, and drastically disturbed mine lands exist throughout the permit area. Excavated overburden material is stockpiled in the permit area to backfill the pit and smooth drastically disturbed areas. The Office of Special Reclamation operates an active acid mine drainage treatment system to mitigate the drainage from this project area. Drainage control for the permit consists of a 1,600 foot long diversion ditch and pond. The Office of Special Reclamation has modified the pond to better settle treated acid mine drainage from a water wheel system treating with calcium oxide.

The scope of work will be to regrade and smooth the drastically disturbed mine lands; construct four (4) sludge cells in the backfill/regrade area and install a sludge pumping line from the settlement ponds to the constructed cells; construct ditches to divert upgradient runoff and groundwater around and/or through the project area; excavate the pit pond (Pond Number One) to the lines and grades shown on the plans; and install an effluent handling system for the acid mine drainage emanating from Pond Number One into the existing water-wheel treatment system. The Contractor will be required to provide erosion and sediment control and re-establish vegetation on all disturbed areas in accordance with the plans and specifications. Site drainage conveyances consist of "vee" shaped grouted riprap ditches and the installation of two corrugated exterior smooth wall interior HDPE pipe culverts. A weir structure for flow measurements will be constructed across the spillway at the final discharge point for the settlement ponds receiving drainage from the water-wheel treatment system.

The Contractor will be required to provide smooth, aesthetically pleasing final grade slopes and place 12", minimum, of material capable of supporting vegetation on all final regrade slopes. The existing fly ash stockpiles indicated on the plans shall be placed as a soil amendment atop final grades and spread thinly over as much of the re-graded area as possible. The existing material stockpile near the western project limits shall be preserved and used as final soil cover material. All coal or coal refuse exposed at final plan elevations shall be undercut 12", minimum, and 12", minimum, of material capable of supporting vegetation shall be placed on top of the undercut bringing the site to final grades shown on the plans. Subsurface drains and associated inline clean-outs may be constructed as excavation conditions warrant and with the approval of the Engineer. The Contractor will also be required to clear, grub, and burn organic materials on the 41 acre site. The Contractor will be required to upgrade and maintain existing access roads leading to the project site, and leave all roads in a condition better than or equal to that

Buffalo Coal Company, Inc.**Permit S-52-80****DEP16308**

existing upon mobilization operations. In addition, the Contractor will be required to leave public roads utilized to gain access during the construction phase in a condition equal to or better than existed at the time of mobilization operations. All Contractor constructed access roads shall be regraded to approximate original contours and revegetated.

Directions to the Site:

The Buffalo Coal Company, Inc. forfeited Permit Number S-52-80 project may be accessed by taking West Virginia Route 93 east from Davis for 11.7 miles to the intersection with the permitted haulroad. Turn south (right) onto the haulroad and travel approximately 3.9 miles through two (2) locked gates to the project site located south (right side) of the road.

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2. REFERENCE SPECIFICATIONS / DEFINITIONS

All references to "Owner" or WVDEP in these Specifications shall mean West Virginia Department of Environmental Protection, Office of Special Reclamation.

All reference to "Engineer" in these Specifications shall mean the Owner's Engineer or authorized representative.

All reference to "ASTM" shall mean the American Society of Testing and Material Specifications, Latest Edition unless otherwise noted.

All reference to "AASHTO Specifications" shall mean the Standard Specifications for Transportation Materials and Methods of Sampling and Testing by the American Association of State Highway and Transportation Officials, latest edition, and all subsequent addenda thereto.

All reference to "WVDOH Standard Specifications" shall mean State of West Virginia Department of Transportation, Division of Highways Standard Specifications for Roads and Bridges, adopted 2010, and all-subsequent addenda thereto.

All references to the "Contractor" shall be understood to mean the successful bidder and or firm or corporation undertaking the execution of the work under the terms of these Specifications.

All reference to "OSHA" shall be understood to mean The Occupational Safety and Health Administration and the standards set in the Occupational Safety and Health Act of 1970.

All reference to "refuse" and/or "mine spoil" shall be understood to mean all coal refuse, shale, sandstone and other rock fragments that were generated and disposed of as such within the project area during mining and processing of coal.

All reference to "AMD" shall be understood to mean all acid mine drainage discharges from the project site.

All reference to "OSM" and/or "OSMRE" shall be understood to mean Office of Surface Mining Reclamation and Enforcement.

Buffalo Coal Company, Inc.

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3. SCOPE OF WORK

The work covered by the Special Provisions and Technical Specifications consists of furnishing all labor, plant, power, equipment and supplies, and performing all operations necessary for the completion of the project. The Contractor shall perform all operations necessary for:

- mobilization and demobilization of necessary and sufficient sized equipment to the project area to complete the construction project within stated timeframes;
- survey and construction layout of grading, facilities, constructions, and appurtenances shown on the Plans;
- site preparation including clearing and grubbing at the site and burning cleared and grubbed material to ash, upgrading and maintaining existing roadways, pumping of water from the existing pit and pond excavation, temporary embankment and diversion ditch construction, and removing all and any type of debris, trash, and garbage;
- construction of an access road;
- installation of an intake support system and intake lines, installation of a Fluid Dynamics Siphon system, Model 413, or approved equal, construction of a Distribution Box, and associated piping connecting the intake system to the siphon to the distribution box to existing buried lines leading to the existing water-wheel treatment system;
- regrading of the site to lines and grades shown on the Plans;
- installation of grouted riprap lined drainage channels to control surface and ground water runoff; installation of pipe culverts; construction of sludge cells and spillways; installation of a sludge pipeline; installation of a weir; construction of Pond One Spillway; and the potential installation of subsurface drains to divert encountered ground water;
- construction and maintenance of sediment and erosion control structures and diversion ditches as detailed on the plans and herein specified;
- placement of soil cover material over regraded slopes, exposed coal and/or coal refuse, and "acid burn-out" areas; and
- revegetation of disturbed areas.

The Contractor also shall be responsible for surveying, including establishing construction baselines, measuring and developing all completed quantities on the job, and for ordering, purchase and delivery of any and all materials required for construction or

Buffalo Coal Company, Inc.

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required for development of support areas. The Contractor shall perform all other operations as incidental to the program as specified herein.

4. **BIDDERS TO EXAMINE LOCATION**

Prospective bidders are required to examine the locations of the proposed work and to determine, each in their own way, the difficulties which may be encountered in the prosecution of the same. The submission of a bid shall be prima facie evidence that such examination and determinations have been made by the Bidder. No claims for additional compensation will be considered by the Owner based on obstructions or conditions at the location of the work, which may add to the difficulties or costs of construction, even though such obstructions or conditions are not shown on the contract plans or indicated in the other construction documents. Prospective bidders are advised that should they deem it necessary to obtain any subsurface samples of test borings etc., at the site, they should obtain their own permission from the landowners.

5. **SCHEDULE OF WORK**

Before commencing work on this project, the Contractor shall prepare and submit a schedule of construction activities for approval by the Owner.

The Contractor shall provide adequate supervision, labor, tools, equipment, and materials to prosecute the work energetically and complete the work within the time specified.

It is the intention not to delay the work for the checking of lines or grades, but if necessary, working operations shall be suspended for such reasonable time as the Engineer may require for that purpose. No special compensation shall be paid for the cost to the Contractor for any of the work or delay occasioned by checking lines and grades, by making other necessary measurements, or by inspection.

The Contractor's work hours for this project shall be from 7:00 a.m. to 7:00 p.m. Monday through Saturday. Work on Sunday and major holidays, as defined by the Engineer, will not be allowed on this project.

6. **MEASUREMENT OF QUANTITIES**

The Contractor shall be responsible for providing all necessary volumetric, dimension, and weight measurement equipment necessary to prosecute the work as shown on the Construction Drawings and to accurately determine quantities for payment of Contract Bid Items as approved by the Engineer. Such measurements and equipment shall be subject to the approval of the Engineer for use in this project.

7. **BORROW (DISPOSAL) AREAS**

All borrow (disposal) areas must be approved by WVDEP. Should the Contractor decide to obtain and utilize any borrow areas outside of construction limits, or move material from one property owner to another unless designated, the Contractor shall be responsible

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to obtain from the property owner(s) of the borrow areas, all necessary rights of entry, including rights of entry for WVDEP and OSMRE for inspection purposes. The said rights of entry agreement must state that the property owner(s) agree to indemnify and hold harmless the WVDEP from all liability and/or damages resulting from the contractor's use of property for which the contractor was to obtain rights of entry for borrow, disposal, access or other purposes. Said indemnification shall include, but is not limited to, liability and damages resulting from the contractor's failure to obtain any or not all the rights of entry; failure to obtain the proper rights of entry; failure to utilize appropriate language in the rights of entry agreements; or failure to obtain permission and signature of all persons or entities holding a legal interest in the subject property(ies) covered by the rights of entry.

The Contractor shall also submit a borrow area reclamation plan for prior approval by WVDEP. The Contractor shall observe the following NEPA compliance schedule relative to selecting and utilizing any off site borrow areas and or any waste disposal areas.

- a. No borrow (disposal) site operations will affect a site listed in, eligible or proposed to be listed in the National Register of Historic Places.
- b. No borrow (disposal) operations will be located within one-quarter mile of any Federally listed established or prospective component of the National Wild and Scenic River System under 16 USC 1274 and 1276.
- c. Borrow (disposal) site operations will not cause a significant encroachment within the base floodplain (CE.O. 11988: Floodplain Management).
- d. Borrow (disposal) site operations will not be located in or affect a critical habitat of a Federally listed endangered or threatened species under 16 USC 1531, et. seq.
- e. No borrow (disposal) operations will occur in wetland areas which are designated by appropriate agencies.
- f. Borrow (disposal) site operations will be consistent with any approved plans governing ambient air quality.
- g. Adherence to these mitigation measures does not relieve the Contractor of the obligation or responsibility to obtain any other Federal, State, or local approvals required to use borrow (disposal) areas and conduct such activities.
- h. Documentation: Copies of borrow (disposal) site approvals and concurrences will be submitted to the WVDEP prior to the commencement of reclamation activities.
- i. Site Monitoring: Borrow (disposal) activities will be monitored by the State to ensure compliance with contractual requirements, applicable Federal, State, and local laws, and any permit conditions.

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8. DISPOSAL OF UNSUITABLE MATERIAL

All waste areas shall be obtained in accordance with **Special Provisions Section 7** of these specifications. All unsuitable materials (wood, trash, debris, and garbage) as determined by the Engineer, shall be wasted by the Contractor, at his/her expense, outside the limits of work conforming to the requirements of the applicable sub-sections of **Section 4.0** of these Specifications. Wood may be burned in designated areas in conformity with the applicable sub-sections of **Sections 4.0** of these Specifications. Coal, coal refuse, black or dark gray shales, and exposed coal seams and other similar potentially toxic (acidic) materials shall be soil covered on-site and in accordance with these Specifications.

The Contractor shall observe the NEPA compliance schedule relative to selecting and utilizing any off-site disposal areas in accordance with **Special Provisions Section 7** of these Specifications.

9. INTERPRETATION OF APPROXIMATE ESTIMATE OF QUANTITIES

The estimate of quantities of work to be done and/or materials to be furnished under the Special Provisions and Technical Specifications, as shown on the Contract Bid Schedule, is approximate and is given only as a basis of calculation upon which the award of the Contract is to be made. WVDEP reserves the right to increase or decrease any or all of the quantities of work or to omit any of them, as it may deem necessary.

10. SAFETY

All regulations of the Occupational Safety and Health Act of 1970 (**OSHA**) are in effect for this Contract. WVDEP shall not be liable for any citations received by the Contractor as a result of failure to comply with applicable **OSHA** standards. Compensation is to be included in the various items of the Contract for the expense involved in complying with these standards. In addition, the Contractor shall comply with **Section 107.7** of the **WVDOH Standard Specifications** regarding public convenience and safety. The Contractor shall comply with **OSHA Regulation 29CFR1926 Subpart P** for excavation of trenches associated with pipe, culvert, subsurface drains, and similar constructions. The Contractor will be required to comply with all WVDOT rules, regulations, weight limits, and speed limits associated with and posted on any public roads used by the Contractor to access the project. The Contractor will be required to keep West Virginia Route 93 and other existing access roads used during construction of the project free of fugitive dust and clean of mud and other debris from the job site deposited by construction and other vehicles entering or leaving the project area.

11. REGULATIONS

All appropriate Township, County, State, and Federal Regulations shall apply to this Contract. It shall be the Contractor's sole responsibility to be aware of these regulations and to comply with them. WVDEP shall not be liable for any citations received by the Contractor.

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12. LAWS TO BE OBSERVED

The Contractor shall at all times, observe, comply with, and post as required all Federal, State, and local laws, ordinances, and regulations in any manner affecting the conduct of the work or applying to employees on the project as well as all orders or decrees which have been or may be promulgated or enacted by any legal bodies or tribunals having authority or jurisdiction over the work, materials, employees, or Contract. The Contractor shall protect and indemnify WVDEP and its representatives against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree whether by the Contractor or by the Contractor's employees.

13. PERMITS, LICENSES AND FEES

If required, the Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work. Permits required for this project may include but are not limited to: National Pollution Drainage Elimination System (NPDES) Permit from WVDEP if an unpermitted waste/borrow site is used for the project; burning permits from local and state governmental agencies including the West Virginia Division of Air Quality (North Central Regional Office, 2031 Pleasant Valley Road, Suite #1, Fairmont, WV 26554-9295, 304-368-3910) and West Virginia Division of Forestry (required during forest fire season – March 1 to May 31 and October 1 to December 31) contact John Anderson, West Virginia Division of Forestry, Fire Forester, P.O. Box 578 Petersburg, WV 26847 – 304-538-2397 or 304-380-7632 (Cell) – John.L.Anderson@wv.gov. A copy of the permits as procured shall be furnished to the Owner prior to initiation of the work under this Contract.

14. ELECTRICITY, WATER SUPPLY AND SANITARY FACILITIES

There are no available supplies at the site of electricity and water and, additionally, there are no sanitary facilities. Arrangements for electric service, water supply and sanitary facilities shall be made by the Contractor, and all costs for such arrangements shall be borne by the Contractor at no additional cost to the Department.

15. UTILITIES AND OTHER OBSTRUCTIONS

Utility conflicts are not anticipated for the project, however, the Contractor shall be solely responsible to correctly locate all existing active underground and overhead utilities at the project sites and take precautions to avoid damage to them. Any existing utility lines damaged by the Contractor shall be replaced by the Contractor or repaired at no cost to the Owner. The Contractor shall notify the utility companies likely to be affected well in advance and before beginning any work within the project sites. In the event of damage to the existing utilities or other facilities, the Contractor shall notify the affected utility Owner(s) and the Engineer immediately and make, or have made, all necessary repairs and bear the expense thereof and resulting damaged caused thereby. It shall be the responsibility of the Contractor to arrange for relocating the utility lines, where required and as directed by the Engineer, in accordance with the guidelines set

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forth by the utility company, prior to beginning construction. The Contractor will be reimbursed for actual charges invoiced by the Utility Company, except for utilities that are subject to regulation by the Public Service Commission, in which case, payment will be made directly to the affected utility by the WVDEP. Prior to any utility relocation work, the Contractor shall submit a cost estimate of work to be accomplished to WVDEP for approval. The utility companies and MISS Utility of West Virginia (1-800-245-4848) must be contacted by the Contractor at least one week prior to commencement of construction activities for the purpose of field locating and marking utility owned facilities within the project area.

16. SITE CLEANUP

Before the project shall be considered as having been satisfactorily completed, the Contractor shall clean and remove, from the project site, all surplus and discarded materials, and equipment and shall further remove all debris and objectionable materials of any kind from areas used or disturbed by the construction operations within or within sight of the project area.

17. ROCK BLASTING

All blasting operations shall be conducted in strict accordance with applicable State and Federal laws relating to rock blasting and the storage and use of explosives. The contractor shall maintain and keep in full force and effect blasting insurance to protect and indemnify the Owner and/or his agents or representative from claims for damages and shall defend all suits at law. The Contractor shall submit to the Owner a request for permission to blast rock, a reclamation plan for the area to be disturbed, and proof of blasting insurance coverage prior to initiating blasting operations. Failure to obtain approval for blasting prior to initiating the work will result in no payment for items utilizing this rock. No blasting is anticipated on this project.

18. TEMPORARY ACCESS ROADS

The Contractor shall construct and maintain temporary access roads for convenient access to the various parts of the work, and for other necessary purposes incidental to the performance of this Contract. The location of access roads shall be approved by the Engineer prior to construction. No separate payment for construction and maintenance of such roads will be made. The Contractor shall erect such temporary fences or guards as may be necessary to keep unauthorized persons away from the work. Grading and surfacing of temporary access roads, excavations, fills and embankments for purposes of construction, or for convenience, beyond the limits of ordered excavations and all temporary fences and guards, shall be provided by the Contractor and shall be maintained in good condition. The Contractor shall be required to maintain all roads used by the hauling equipment in a dust controlled condition. Upon completion, the Contractor shall return the disturbed areas to the approximate original condition, as approved by the Engineer, and reestablish vegetation in accordance with Section 6.0 of these specifications.

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The contractor shall be required to obtain a right of entry agreement from any property owner(s) prior to the utilization or construction of any access outside of the construction limits shown on the plans. Such agreement shall require the property owner(s) to indemnify and hold WVDEP harmless from any and all injuries or damages, whatsoever, resulting from the Contractor's use of the property.

Should the Contractor decide to utilize any access off county roads other than those shown on the plans, he shall obtain necessary permits from the West Virginia Department of Highways to work in their right-of-way all at his own expense.

19. TRAFFIC CONTROL

At the discretion of the Engineer, the Contractor may be required to develop and implement a traffic control plan to direct traffic on West Virginia Route 93 while hauling equipment and materials from the roadway. If a traffic control plan becomes warranted for West Virginia Route 93, the Contractor shall submit the traffic control plan to the West Virginia Division of Highways District Eight Permit Supervisor (Mr. Jack Isner), U.S. Route 219 North, Elkins, West Virginia 26241-1516, (304) 637-0220, for approval prior to submitting a copy of the operational plan to the WVDEP for approval prior to its implementation. All materials used for traffic control shall be in accordance with the WVDOT "Manual on Traffic Control for Streets and Highway" 2006 edition, dated March 2006. All traffic control and/or materials required for traffic control during the work shall be considered incidental to the project.

20. SITE CONDITIONS AND ENVIRONMENTAL PROTECTION

Conditions at the site shall be examined by the Contractor, and the Contractor shall assume responsibility as to the contours and the character of the earth, rock, water and other items that may be encountered during the excavation and filling operations.

The Contractor shall be responsible for controlling and handling water encountered during construction, including pit dewatering, by providing equipment and labor to insure safe and proper construction. The Contractor shall submit a plan to the WVDEP at the pre-construction meeting for approval. The WVDEP's approval of this plan does not relieve the Contractor of his responsibility for controlling water.

The Contractor shall be responsible for the operation and maintenance of any required diversion or pumping facilities for removing surface and/or ground water from work areas during the progress of the work under this Contract.

The Contractor shall be responsible for furnishing all materials, equipment, labor and incidentals necessary for the installation of sediment barriers as designated in the drawings. Erosion and sediment control structures shall be placed on regraded areas concurrent with construction and prior to revegetation.

Erosion and sediment control measures shall be in-place and operational prior to any disturbance occurring in the project area. The WVDEP's approval of this plan does not

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relieve the Contractor of his responsibility to be in compliance with any laws and/or permits.

The Contractor shall take any necessary steps to prevent erosion or silting problems from occurring and to minimize pollution or sedimentation of the receiving streams. If any such problems develop, the Contractor shall be responsible to take immediate corrective action.

The Contractor shall be responsible for the repair or replacement of streets or driveways (blacktop, gravel & concrete), trees, shrubs, fences, and any other physical features that are disturbed by construction which were not included in the proposed scope of work for the project to original condition or better at his own expense. The Contractor will be required to regrade, maintain, and repair access roads in and near the project area and at the discretion of the Engineer, top existing roadway surfaces after construction operations are complete, but before demobilization operations, with compatible materials that existed upon mobilization operations. All existing access roads shall be maintained with materials compatible with those existing, repaired with compatible material as exists, and left in a condition equal to or better than existed at the time of mobilization activities. At a minimum, constructed access roads and existing access roads used for construction shall be upgraded and maintained to provide all-weather access to construct the project as specified and shown on the plans.

The Contractor shall be responsible for the replacement of any existing boundary or corner markers disturbed by construction activities.

21. CONTROL AND REVIEW OF WORK BY THE ENGINEER

All services rendered by the Engineer consist of professional opinions and recommendations made in accordance with generally accepted engineering practice. Under no circumstances is it the intent of the Engineer to directly control the physical activities of the Contractor or the Contractor's workmen's accomplishment of work on this project.

The presence of the Department's Field Representative and/or Engineer at the site is to provide the Department a continuing source of professional advice, opinions and recommendations based upon the Field Representative's and/or Engineer's observations of the Contractor's work and does not include any superintending, supervision or direction of the actual work of the Contractor or the Contractor's workmen.

Any construction review of the Contractor's performance conducted by the Engineer is not intended to include review of the adequacy of the Contractor's safety measures, in, or near the construction site.

22. CITATION OF OTHER SPECIFICATIONS

Whenever the Specifications for this Contract refer to the specifications of any society, institute, association or government organization, then such specifications cited shall

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become a part of this Contract as if written in full. Commonly used abbreviations have the following meanings:

ASTM - American Society for Testing Materials

ASA - American Standards Association

AWWA - American Water Works Association

AASHTO - American Association of State Highway and Transportation Officials

ACI - American Concrete Institute

WVDOT - West Virginia Department of Transportation

WVDOH - West Virginia Division of Highways

Where reference is made to a specification, it shall be the latest revision at the time called for bids, except as noted on the Plans or elsewhere herein.

23. EROSION AND SEDIMENT CONTROL GUIDELINES

VEGETATIVE PRACTICES

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 (7) days after the construction activity in that portion of the site has permanently ceased.

- Where the initiation of stabilization measures by the fourth day after construction activity temporarily or permanently ceases or 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 21 days from when activities ceased, (e.g., the total time period that construction activity is temporarily halted is less than 21 days) then stabilization measures do not have to be initiated on that portion of the site by the seventh day after construction activities have temporarily ceased.

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.

Diversions must be stabilized prior to becoming functional.

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At a minimum, all erosion and sediment controls on the site will be inspected at least once every seven (7) calendar days and within 24 hours after any storm event of greater than 0.5 inches of rain per 24-hour period.

All controls should be cleaned out when sediment reaches one half the sediment capacity of that control.

Inspection and maintenance records must be kept onsite.

EROSION & SEDIMENT CONTROL CONSTRUCTION SEQUENCE

1. Install perimeter sediment control devices as shown on the project plans.
2. Clear and grub site.
3. Provide sediment control for any topsoil stockpiles.
4. Install additional erosion and sediment controls as shown on project plans.
5. Commence rough grading of site. Continue to maintain and inspect all erosion and sediment controls.
6. Fine grade site.
7. Install additional erosion and sediment controls (straw wattles/silt fence) as shown on site plans.
8. Permanently seed and mulch all disturbed areas within seven (7) days of reaching final grade.
9. Upon completion of the project, including adequate stabilization, remove all erosion and sediment controls as shown on the plans and designated for removal by the Engineer.

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II. TECHNICAL SPECIFICATIONS

1.0 MOBILIZATION AND DEMOBILIZATION

1.1 DESCRIPTION

This work shall consist of the performance of construction preparatory operations for the construction project, including the movement of personnel and equipment to the project site(s) and for the establishment of the Contractor's offices, buildings and other facilities. The location of Contractor's office (if established) shall be approved by the Owner. It shall also include all demobilization activities involving the removal from the sites of all plant, equipment, supplies, and personnel after completion of the work including cleanup of all rubbish and waste materials generated during the construction of this project; and restoration of any damage to existing site improvements resulting from the Contractor's activities at the site; and installation of the project sign.

1.2 METHOD OF CONSTRUCTION

The Contractor shall comply with **Special Provision 5, Schedule of Work**. The Contractor shall provide adequate supervision, labor, tools, equipment, and materials to prosecute the work energetically and complete the work within the time specified.

The Contractor's work hours for this project shall be from 7:00 a.m. to 7:00 p.m. Monday through Saturday. Work on Sunday and major holidays, as defined by the Engineer, will not be allowed on this project.

The Contractor shall maintain and protect traffic, protect the work in progress, protect adjacent property from excess dust resulting from the construction and maintain traffic through, around, or adjacent to the construction area. The Contractor shall comply with **OSHA Regulation 29CFR1926 Subpart P** for excavation of trenches associated with pipe, culvert, subsurface drains, and similar constructions. The Contractor shall also protect pedestrian and vehicular traffic around excavations and trenches in compliance with the **U.S. Federal Highway Administration Manual of Uniform Traffic Control Devices** and the **WVDOT "Manual on Traffic Control for Streets and Highway"** 2006 edition, dated March 2006. In addition, the Contractor will be required to comply with all WVDOT rules, regulations, weight limits, and speed limits associated with and posted on West Virginia Route 93 as well as other public roads used by the Contractor to access the project. The Contractor will be required to coordinate his operations with landowners and provide unrestricted access to them at all times. At the discretion of the Engineer, the Contractor may be required to develop and implement a traffic control plan to direct traffic on West Virginia Route 93 while hauling equipment and materials from the roadway. The Contractor will also be required to keep West Virginia Route 93 and existing access roads used during construction of the project free of fugitive dust and clean of mud and other debris from the job site deposited by construction and other vehicles entering or leaving the project area.

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1.3 METHOD OF MEASUREMENT

The method of measurement for Mobilization and Demobilization shall include all costs associated with mobilization and demobilization for the construction project as shown on the plans and herein specified.

1.4 BASIS OF PAYMENT

The bid for Mobilization and Demobilization shall be a lump sum, and cannot be more than 10% of the "TOTAL AMOUNT BID" for the project. After completion of project, the Contractor will not be paid until he has submitted and received approval for paper (hard copies) and two (2) copies of a cd-rom with all "as-built" plans, in accordance with **Specification Section 2.3.6**.

Partial payments for Mobilization and Demobilization will be as follows:

- (a) One-half of the amount bid will be released to the Contractor with the first estimate payable, not less than 15 days after the start of work at the project site.
- (b) The final one-half of the amount bid shall be released with the estimate payable after the work is accepted by the WVDEP and the Contractor has submitted and received approval for paper (hard copies) and two (2) copies of a cd-rom with all "as-built" plans, in accordance with **Specification Section 2.3.6**.

Nothing herein shall be construed to limit or preclude partial payments otherwise provided for by the Contract. No deduction will be made nor will any increase be made, in the lump sum mobilization and demobilization item amount regardless of decreases or increases in the final total contract amount or for any other cause.

1.5 PAY ITEM

Item 1.0, "Mobilization and Demobilization" per lump sum. Cannot be more than 10% of the TOTAL AMOUNT BID for the project.

2.0 CONSTRUCTION LAYOUT STAKES

2.1 DESCRIPTION

This item consists of furnishing, placing, and maintaining construction layout stakes necessary for the proper performance of the work under this contract, including borrow areas. It shall further consist of determining the exact units of measure for payment. It also consists of checking and making any field adjustment to the plan alignment, grades and elevations as considered necessary by the Owner or dictated by planned excavations. Additionally, this item shall also include the preparation of "As-Built" Plans including the (Borrow/Disposal Area) Reclamation Plan and any others specifically requested by the Owner. All "As-Built" Plans shall be provided prior to the Final Inspection Meeting. Upon receipt and approval of the "As-Built" Plans by the Owner, the final one-half of the amount bid for Item 1.0, "Mobilization and Demobilization" will be released.

2.2 MATERIALS

Conventional survey stakes, hubs, batter boards, flagging, templates, straightedges and other devices necessary for laying out all parts of the work. Paper and computer media required for various submittals.

2.3 METHOD OF CONSTRUCTION

- 2.3.1 The Contractor shall be responsible for the proper layout of the work. The Owner will provide the Contractor with survey information regarding the baselines and the existing surface features shown on the construction drawings. The Contractor shall make all calculations involved and shall furnish and place all layout stakes.
- 2.3.2 The Contractor shall provide field forces and shall set all additional stakes as needed, such as offset stakes, reference point stakes, slope stakes, grade stakes, stakes for drainage, or other structures, supplementary bench marks, and any other horizontal or vertical controls necessary to secure a correct layout of the work including the re-establishment of the survey and construction baselines (as necessary), and shown on the construction drawings. The Contractor shall also perform any necessary cross-section surveying of the existing ground surface at the intervals shown within the construction drawings, provide an overlay of the surveyed cross-sections plotted atop the cross-sections shown on the construction drawings, and submit the same to the Owner for comparison prior to initiating earthwork operations. The original grade line and proposed final grade line shall be included on all sections. Incomplete cross-sections will be returned to the Contractor for necessary additions. Cross-sections, which do not encompass all areas of both earthwork excavation (including borrow excavation) and fill placement shall be considered incomplete without exception.
- 2.3.3 The Contractor shall be responsible for assuring the layout staking work is in conformance to the lines, grades, elevations, dimensions, and locations shown on the construction drawings or as required by the Owner. The Contractor shall

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furnish a copy of his/her survey records for checking by the Owner and for the Owner's permanent file. These records shall be furnished as they are completed during the progress of the work.

- 2.3.4 Any inspection or checking of the Contractor's layout by the Owner and the acceptance of all or any part of it shall not relieve the Contractor of his/her responsibility to secure the proper dimensions, grades, and elevations of the several parts of the work.
- 2.3.5 The Contractor shall exercise care in the preservation of stakes and benchmarks, including existing property corners and property line markers, and shall have them reset at his/her expense when any are damaged, lost, displaced or removed. The Contractor shall use competent personnel and suitable equipment for the layout work required and shall provide that it be done under the supervision of, or directed by, a Registered Professional Civil Engineer or Registered Professional Surveyor licensed in the State of West Virginia.
- 2.3.6 **"As-Built"** Plans shall be provided to the Owner at the Final Inspection Meeting.
 - 2.3.6.1 Hard (paper) copies of all **"As-Built"** Plans shall be submitted to the Owner at this meeting. Hard copies shall be the same size, scale, and clarity as the sections contained in the Plans.
 - 2.3.6.2 Two (2) copies of a cd-rom with all **"As-Built"** Plans shall also be submitted to the Owner at this meeting. The electronic versions of all **"As-Built"** Plans shall be in AutoCad Release 2010 format.
 - 2.3.6.3 The final one-half of the amount bid for **Item 1.0 Mobilization and Demobilization** will not be made until all **"As-Built"** plans, as specified, have been submitted and approved.
 - 2.3.6.4 **"As-Built"** plans shall include the horizontal and vertical location of all buried components depicted on the plans and herein specified.
 - 2.3.6.4.1 **"As-Built"** plans shall include the vertical and horizontal locations of all installed pipes, including the sludge line and associated tees/elbows, and the siphon/distribution box lines and tie-ins to existing buried lines, and all other buried appurtenances.
 - 2.3.6.4.2 In addition, **"As-Built"** plans shall show the vertical and horizontal location of subsurface drains, including bottom of subsurface drains, pipe inverts, and top of buried subsurface drains installed for this project.
- 2.3.7 The contractor will be responsible for field surveying the areal extent of revegetation efforts to determine the "plan view" acreage.

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2.3.7.1 The revegetation boundary shall be reviewed in the field and approved by the Engineer prior to survey operations. The surveyed boundary shall be plotted onto the construction plan view sheet with an area calculation provided and submitted to the Engineer for approval and payment.

2.3.7.2 The Contractor will be responsible for maintaining as small a disturbance footprint as possible during construction operations. If in the opinion of the Engineer, the Contractor disturbs more area than required for the construction operations, the disputed excess area shall be eliminated from the survey and shall not be submitted for payment.

2.4 METHOD OF MEASUREMENT

The Method of Measurement for furnishing, setting, maintaining, and resetting stakes when necessary, and for furnishing all engineering personnel, equipment, materials, and all incidentals thereto, shall be by the lump sum bid for "Item 2.0, Construction Layout Stakes". The lump sum payment also shall include the cost for providing the Owner with the areal extent of revegetation, pre-, post-, and during-construction ground line cross-sections for all disturbed or regraded areas, as detailed in these specifications, including borrow areas and "As-Built" Plans as described herein. The lump sum price shall also include surveying and resetting property corners and property line markers. Said lump sum bid cannot be more than 5% of the "TOTAL AMOUNT BID" for the project.

2.5 BASIS OF PAYMENT

The quantity of surveying, sectioning, and layout work done will be paid at the contract lump sum price bid for this item. Said lump sum bid cannot be more than 5% of the "TOTAL AMOUNT BID" for the project. No deduction will be made nor will any increase be made in the lump sum "Item 2.0, Construction Layout Stakes" amount regardless of decreases or increases in the final total contract amount or for any other cause.

2.6 PAY ITEM

Item 2.0, "Construction Layout Stakes", per lump sum. Cannot be more than 5% of the "TOTAL AMOUNT BID" for the project.

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3.0 QUALITY CONTROL

3.1 DESCRIPTION

This work shall consist of testing for verification that the materials supplied and the work performed are in accordance with these specifications.

3.2 MATERIALS

3.2.1 The Contractor shall submit a minimum of two (2) copies of shop drawings, catalog cuts and material certifications (as applicable) to the Owner of all off-site materials to be incorporated into the work. Two (2) shop drawings will be required for the pre-fabricated Siphon Box and the pre-fabricated Distribution Box. Written approval from the Owner will be required prior to incorporation of these items into the work.

3.2.2 The Contractor shall submit at least two (2) copies of the results of all tests conducted on in-situ material, on-site materials used in construction, as well as commercially purchased materials including concrete and grout. At a minimum, these tests will include moisture content & density tests of the soil in accordance with the provisions of ASTM D698 (Standard Proctor); field density tests following compaction; soil tests, including acid base accounting, to determine the lime and nutrient requirements of the areas to be revegetated; gradation (size), durability (soundness), fizz, and acid base (calcium carbonate equivalency) requirements for purchased or onsite borrowed and commercially purchased riprap and aggregate; compressive strength test for grout in accordance with ASTM C109; and compressive strength test for concrete in accordance with ASTM C31 & C39. Three (3) specimens are required for each concrete or grout test. Five (5) in-field compaction tests comprise a "Lot".

3.3 METHOD OF CONSTRUCTION

3.3.1 The Contractor shall furnish the services of his own testing laboratory or select an independent testing laboratory, as long as the laboratory is AASHTO accredited (AAP) for physical properties testing of supplied materials. The laboratory for chemical testing of soils shall be a State approved laboratory. The Owner must approve all laboratories used.

3.3.2 Testing for compaction and soil classification; soil nutrient and lime requirements, including acid base accounting, for soil; and compressive strength tests for concrete and grout; shall be performed as required by these specifications and/or ordered by the Owner in writing. The Owner will determine the locations and time of any testing herein specified and the need and extent of any testing in addition to that herein specified.

3.3.2.1 The minimum lime requirements for this project shall be 12 tons per acre properly applied in accordance with Specification 6.2.1.

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- 3.3.2.2 Should the Contractor wish to modify the minimum lime requirements, soil nutrient and lime requirements along with acid base accounting of the tested material shall be supplied to the Contractor along with calculations showing the Contractor proposed lime amount will supply nutrients for seed growth and neutralize potential acid producing properties of the material tested. Neutralizing potential shall be based on achieving an excess minimum of +5 tons per 1,000 tons of material tested and adjusted for the calcium carbonate content of the agricultural lime being used.
- 3.3.3 The contractor shall be responsible for performing laboratory tests of the coal refuse, mine spoil, and any natural soil to identify the compaction requirements for use as fill and cover material, respectively. In addition, field density tests shall be performed in accordance with the construction specifications. Five (5) in-field compaction tests comprise a "Lot". All test results shall be submitted to the Owner for approval of compaction criteria prior to fill compacting, as well as after fill compaction to verify that the required compaction is obtained.
- 3.3.4 Rock riprap shall have a maximum weighted loss of thirty percent and aggregate shall have a maximum weighted loss of twelve percent when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – ASTM C88 (Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate), as modified by the American Association of State Highway and Transportation Officials (AASHTO) T-104.
- 3.3.5 Stone shall have a maximum weighted loss of twelve percent (12%) when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – ASTM C88 (Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate), as modified by the American Association of State Highway and Transportation Officials (AASHTO) T-104. Non-calcareous stone shall exhibit a fizz of 0 when subjected to dilute hydrochloric acid. A laboratory certification of soundness and fizz shall be submitted to the Owner prior to delivery of the stone to the project site.
- 3.3.6 Calcareous stone and riprap (limestone) used on this project shall be laboratory tested for calcium carbonate equivalency (acid-base accounting) by a State approved laboratory. Laboratory results from a commercial supplier will suffice; otherwise the Contractor will be required to perform the test prior to delivery of the stone or riprap to the project site. All calcareous stone or riprap (limestone) to be used on this project must exhibit a calcium carbonate equivalency of 70% or greater. The Contractor shall submit test results to the Engineer for approval prior to delivery of the stone or riprap to the site.
- 3.3.7 Grout to be used in the grouted riprap ditches shall consist of a mixture of one part Type II sulfate resistant Portland cement and three parts sand, using water to produce a workable consistency. The amount of water shall be as approved or as designated by the WVDEP. Admixtures and/or pozzolan may be used with the

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approval of the WVDEP. The grout shall exhibit a compressive strength of 2,000 pounds per square inch at 28 days with specimens made and tested according to the provisions of ASTM C 31 and C 39. Three (3) specimens are required for each concrete or grout test in accordance with **Section 601.4.4** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Grout mix designs to be used by the Contractor shall be submitted to the Owner for review and approval. The proposed design mix and sufficient test data using proposed sources of the mix components to verify strength parameters shall be supplied to the Owner for approval prior to use in the Project. All testing shall be the responsibility of the Contractor.

3.3.8 The Contractor must submit two (2) copies of shop drawings for the reinforcement in cast-in-place concrete structures for approval prior to placing any forms or pouring concrete.

3.3.8.1 The Contractor must submit two (2) copies of shop drawings and necessary engineering calculations for all pre-cast concrete structures for approval prior to delivery from the fabrication shop to the project site. The precast manufacturer is responsible for the design of the structural reinforcement.

3.3.8.2 At a minimum, engineering calculations shall show load calculations, reinforcing calculations, and drawings sufficient to show calculation and construction details.

3.3.8.3 Concrete used for all cast-in-place or precast structures shall exhibit strengths of 2,500 psi after 24 hours and 5,000 psi after 28 days, concrete formed, placed, and cured in accordance with the requirements of **Section 601** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 and **Supplemental Specifications** Dated January 1, 2012. Cement used in the mixture shall be Type II sulfate resistant Portland cement meeting the requirements of ASTM C150 (Type II cement not Type I cement). Deformed bars used for reinforcing concrete shall be epoxy coated meeting the requirements of **Section 709** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 and **Supplemental Specifications** Dated January 1, 2012.

3.3.8.4 The Contractor will be required to submit concrete test results that verify the strengths listed in **Specification 3.3.8.3** have been attained, certification that Type II sulfate resistant Portland cement was used in the concrete mix, and designed reinforcement was used.

3.3.9 Only new and first class materials, which conform to the requirements of these Specifications, shall be used unless specified otherwise. When requested by the Owner, the Contractor shall furnish a written statement of the origin, composition, and manufacturer of any or all materials (manufactured or produced) that are to be

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used in the work. The Owner shall approve the sources of supply of each material used before delivery is started. If, at any time, sources previously approved fail to produce materials acceptable to the Owner, the Contractor shall furnish materials from other approved sources.

3.3.10 Failure to submit required tests will result in non-payment of the items requiring testing.

3.4 METHOD OF MEASUREMENT

The method of measurement for determining the quantity of quality control work done as described above will be on a lump sum basis.

3.5 BASIS OF PAYMENT

The quantity of quality control work done will be paid at the contract lump sum price bid for this item. Said lump sum bid cannot be more than 5% of the "TOTAL AMOUNT BID" for the project. No deduction will be made nor will any increase be made in the lump sum "Quality Control" item amount regardless of decreases or increases in the final total contract amount or for any other cause.

3.6 PAY ITEM

Item 3.0, "Quality Control", per lump sum. Cannot be more than 5% of the TOTAL AMOUNT BID for the project.

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4.0 SITE PREPARATION

4.1 DESCRIPTION

4.1.1 Clearing & Grubbing

Work performed under this section shall include the removal and disposal of all trees, stumps and root balls, shrubs and any other vegetation, wood, debris, garbage of any nature from those areas specified below and/or shown on the plans and/or any other areas as approved or directed by the Owner.

This work shall also include the preservation from injury to all vegetation, utilities or other objects to remain, as well as all other ancillary work as described.

4.1.2 Gate Installation, Fence Replacement & New Fencing

Work performed under this section will include the construction of new fencing and new gates around the sludge cells created during regrading operations and around Pond Number One as indicated on the Plans.

In addition, work performed under this section will include maintenance and repair of existing fence surrounding the settlement ponds that receive treated acid mine drainage from the existing water-wheel treatment system. The Contractor shall inspect the existing fence prior to construction and repair any and all deficient areas. In the event that damage to the existing fence occurs during construction of the weir or installation of the sludge line, the Contractor shall repair the fence to a condition that is better than or equal to existing fence conditions. Existing fences outside the construction limits and near or adjacent to the project area are to remain undisturbed in place. Any fencing damaged outside the work limits shall be repaired or replaced at the expense of the Contractor, to a condition equal to, or better than, its original condition. All work associated with repairing and/or replacing existing fences and gates will be included in the lump sum Item 4.1, Site Preparation.

4.1.2.1 Posts for fence line construction/replacement or farm gate supports shall be pressure treated 8-foot long by 6-inches in diameter.

4.1.2.2 4" diameter pressure treated wooden braces of various lengths installed between posts as shown on the plans.

4.1.2.3 #9 gage wire meeting the requirements for the fencing fabric for diagonal bracing between posts as shown on the plans.

4.1.2.4 Fence material shall be 47 inch high, 12- ½ gage woven wire field fence.

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- 4.1.2.5 Wire for fence line construction/replacement or farm gate installations shall be 15-1/2 gage, 4 prong barbed wire.
- 4.1.2.6 Farm gates shall be 16 gage 12-foot wide tubular steel with tube braces and factory painted.
- 4.1.2.7 Accessories include 1-foot by 3/4" diameter threaded farm gate hinge bolts with 2" hinge clamps and nuts with washers; 1-1/2" number 9 staples; 16 penny galvanized nails; chains, suitable locking devices, and satisfactory provisions for padlocking; and other materials necessary for proper installation as shown on the plans.

4.1.3 Access Roads

The Contractor will be required to improve and maintain existing access roads into all-weather access roads for the duration of the project. Existing access road up-grading shall consist of minor regrading and capping the roadway surface with crushed stone and separation fabric (as directed by the Owner). All existing access roads shall be left in a condition equal to or better than existed at the time of mobilization, and shall be repaired and maintained during construction to the satisfaction of the Owner. All costs associated with access road repair and maintenance shall be included in **Bid Item 4.2 "Incidental Stone"**. All travel and upgrading operations performed on existing access roads shall be confined to the width of the existing road.

The Contractor shall protect pedestrian and vehicular traffic around excavations and trenches in compliance with the U.S. Federal Highway Administration **Manual of Uniform Traffic Control Devices** and the WVDOT **"Manual on Traffic Control for Streets and Highway"** 2006 edition, dated March 2006. In addition, the Contractor will be required to comply with all WVDOT rules, regulations, weight limits, and speed limits associated with and posted on West Virginia Route 93 as well as other public roads used by the Contractor to access the project. The Contractor will be required to coordinate his operations with landowners and provide unrestricted access to them at all times. The Contractor shall keep existing access roads used during construction of the project free of fugitive dust and clean of mud and other debris from the job site deposited by construction and other vehicles entering or leaving the project area.

In addition, the Contractor will be required to construct Access Road Number One to the lines and grades shown on the plans. All costs associated with Access Road One construction shall be included in **Bid Item 4.5 "Access Road Number One"**

Other access roads not shown on the construction plans built to gain access to, travel between, or otherwise required for equipment /vehicular site access shall be kept to a minimum and only constructed where necessary upon approval from the Owner. Contractor constructed travel routes not designated on the Plans, shall be

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reclaimed to approximate original contours and revegetated according to **Specification Section 6** and upon completion of the construction activities or as deemed necessary by the WVDEP, with associated costs being considered incidental to this project. Any additional access shall require the Contractor to obtain written permission from the respective landowner.

The amount and effectiveness of final grading of constructed access roads, designated to remain, will require the approval of the Owner. Water bars or earth dams may be required along final graded access roads to prevent erosion. The Owner shall determine the need for and amount of water bars or earthen dams that shall be installed (at a minimum) as follows:

TEMPORARY ACCESS ROAD WATER BAR SPACING	
Percentage of Road Grade	Water Bar Spacing (Ft.)
2	250
5	135
10	80
15	60
20	45
Above 20	25

- 4.1.3.1** Crushed stone for access road construction and existing access road and driveway maintenance, upgrading, and repair during construction activities shall be crusher run limestone. Crusher run stone shall be that commonly purchased from suppliers, calcareous, and shall meet the gradation and quality requirements in **Table 704.6.2A for Class 1 Aggregate in Section 704 of the WVDOH Standard Specifications Roads and Bridges, Adopted 2010**. Aggregate shall have a maximum weighted loss of twelve percent when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – ASTM C88 (Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate), as modified by the American Association of State Highway and Transportation Officials (AASHTO) T-104.
- 4.1.3.2** Separation fabric shall be placed on a prepared subgrade prior to placement of surfacing and resurfacing stone. Separation fabric shall be woven and meet the requirements of **Section 715.11.8 of the WVDOH Standard Specifications Roads and Bridges, Adopted 2010**, such as Geotex® 200ST manufactured by Advanced Drainage Systems, Inc. or approved equal.

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4.1.4 AMD Staging

This work shall consist of preparing existing Pond Number One area to accommodate the influent piping system that will supply raw water to the existing water-wheel treatment system. Work performed under this section will include the construction of two (2) embankments across existing Pond One discharge ditch, construction of a 110 foot long riprap lined temporary diversion channel, dewatering (pumping) of Pond One, and Pond One excavation and sediment removal. All tasks required for preparing Pond Number One area as described shall be included in and considered incidental to **Item 4.1 "Site Preparation"**.

4.2 METHOD OF CONSTRUCTION

- 4.2.1** The Contractor shall comply with all Special Provisions, with particular attention to **Special Provision V, Schedule of Work and Special Provision X, Safety**.
- 4.2.2** At the discretion of the Engineer, the Contractor may be required to develop and implement a traffic control plan to direct traffic on West Virginia Route 93 while hauling equipment and materials from the roadway. If a traffic control plan becomes warranted for West Virginia Route 93, the Contractor shall submit the traffic control plan to the West Virginia Division of Highways District Eight Permit Supervisor (Mr. Jack Isner), U.S. Route 219 North, Elkins, West Virginia 26241-1516, (304) 637-0220, for approval prior to submitting a copy of the operational plan to the WVDEP for approval prior to its implementation. All materials used for traffic control shall be in accordance with the **WVDOT "Manual on Traffic Control for Streets and Highway"** 2006 edition, dated March 2006. All traffic control and/or materials required for traffic control during the work shall be considered incidental to the project.
- 4.2.3** The Contractor's work hours for this project shall be from 7:00 a.m. to 7:00 p.m. Monday through Saturday. Work on Sunday and major holidays, as defined by the Engineer, will not be allowed on this project.
- 4.2.4** The specific areas to be cleared and grubbed are as shown on the contract drawings and are generally described as, but not limited to, those specific areas of excavation, backfill, soil borrow or drainage structure installation.
- 4.2.5** The Contractor shall clear the site within the limits of the areas to be regraded. The Owner shall exercise control over clearing and shall designate all trees, plants and other objects to be removed or to remain.
- 4.2.6** Clearing and grubbing shall be completed prior to initiation of earthwork operations only to the extent necessary to complete the work. The Contractor shall confine his operations strictly to required areas. If he clears and grubs beyond the required areas, whether knowingly or accidentally, he shall, at his expense, replant and otherwise restore all areas outside the limit lines to a condition equal to that existing prior to start of work.

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- 4.2.7 All timber eight (8) inches in diameter and larger at stump height shall be saw cut prior to grubbing operations. Timber shall be topped with the branches removed and stacked and stockpiled in an appropriate manner in an accessible location approved by the WVDEP on the property from which it was cut. Timber to be stockpiled shall not be pushed down by equipment prior to being cut nor can it be indiscriminately shoved into a stockpile.
- 4.2.8 All stumps, roots, buried logs and brush shall be removed. Grass, however, may be incorporated into the resoiling material. Taproots and other projections over 1-½ inches in diameter shall be grubbed out to a depth of at least ten (10) inches below the planned subgrade or slope elevation. All holes remaining after the grubbing operation shall have the sides broken down to flatten out the slopes, and shall be filled with suitable materials, moistened and properly compacted.
- 4.2.9 Cleared and grubbed areas shall be worked such that positive drainage is provided to prevent ponding of water except for the purpose of sediment control sumps as approved by the Owner.
- 4.2.10 All organic material resulting from clearing and grubbing operations shall be burned to ash in designated areas in accordance with **Special Provision 8 – Disposal of Unsuitable Material** and **Special Provision 13 – Permits, Licenses and Fees** or otherwise removed from the site and disposed in a manner approved by the Owner. The Contractor shall obtain all permits and licenses required prior to burning the material. Plans that show the location of materials to be burned and all fire control measures to be implemented, including copies of permits and licenses, shall be submitted to the Owner's representative at the site for approval. The Contractor's burning plan shall include measures to protect nearby homes and other landowner constructions and facilities, gas wells and gas lines, and nearby trees, nearby utilities, and other vegetation from smoke, heat, and airborne residue. Cleared and grubbed organic materials shall be burned completely to ash or otherwise removed from the site in accordance with **Section 4.2.11** of these specifications. Other debris, including stumps and tree root balls, shall also be removed from the site in accordance with **Section 4.2.11** of these Specifications. No burning will be allowed on or near exposed coal refuse or near coal seams. Burning operations should be confined to areas as distant from houses, gas wells and gas lines, other utilities, and constructions, and standing timber and other vegetation designated to remain as possible.
- 4.2.11 All other materials generated from required clearing and grubbing operations or designated for removal on the plans shall be removed and disposed of by the Contractor. Adjacent landowners have testified the mining company routinely buried garbage onsite. Garbage encountered during excavation operations shall also be removed and disposed of by the Contractor. All garbage, construction debris, mining debris, existing drainage structures designated for removal, etc., shall be disposed of in approved waste areas or landfills approved by the State to accept the type of waste or debris to be deposited. It shall be the responsibility of

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the Contractor to obtain, at no expense to the Owner, all necessary waste and borrow areas or landfills for the disposal of waste materials in accordance with any applicable local, state, and/or federal regulations including compliance with NEPA requirements (See **Section 7** for NEPA Compliance Schedule). All waste and borrow areas must be approved by the Owner and, the Contractor must provide a reclamation plan for approval. In addition, for all waste and borrow areas outside the construction limits, the Contractor must obtain from the property owner a right-of-entry agreement in which the property owner indemnifies and holds the WVDEP harmless from any injury or damages whatsoever resulting from the use of the property. The Contractor may be required to submit proof the landfill is indeed permitted to accept the type of debris or waste to be deposited. Burning of tires, treated lumber, mine belt, or anything that might create black smoke is prohibited. The Contractor is required to visit the site and decide for their self the nature and quantity of garbage to be removed prior to submitting his bid.

- 4.2.12** It shall be the sole responsibility of the Contractor to correctly locate and avoid all underground, on-ground, and overhead utilities, facilities and other structures and constructions, and for that purpose, shall employ all necessary precautions and methods to insure avoidance of and damage to such constructions. See "**Special Provisions**", **Section 15 "Utilities and Other Obstructions"** of these specifications for additional information.
- 4.2.13** Buildings, mining related structures, existing ruins and foundations, shall be removed. The removal operation shall extend 1-foot below finished grade, which operation shall include removal of concrete slabs or any other type of floors and/or walls resting upon the ground. Basement floors shall be shattered. Pits, trenches, holes or basements shall be backfilled. No buildings, foundations or mining related equipment was observed during initial investigations. However, buried ruins or other structures or debris, including abandoned mining equipment, may exist and be encountered during excavation operations. Abandoned mining equipment and all metal encountered shall be removed from the site to an off-site disposal area in accordance with **Special Provision 7** or to a landfill approved by the Owner to accept this type debris. The Owner shall be the sole judge as to what is to be buried and what is to be removed from the site. Areas where structures and buildings are removed shall be graded to provide positive drainage so surface runoff will not pool or impound as directed by the Owner.
- 4.2.14** Coal and/or refuse spillage, concrete, cinder blocks, and foundation ruins shall be excavated, specially handled in accordance with these Specifications, and/or removed from the site. Boulders, cut stone structures, concrete pads and blocks, and foundation ruins shall be broken and buried in the deepest portion of fill areas. Broken pieces shall be of size less than 2 feet in any dimension and not be consolidated in one area, but shall be dispersed throughout fill areas to ensure compaction requirements are achieved. Coal and/or refuse shall be buried beneath 12", minimum, of soil capable of supporting vegetation.

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- 4.2.15** Trash, garbage, tires, plastic, metal, automobile parts or debris, household appliances, treated lumber, and other unsuitable material resulting from demolition or existing on-site shall be disposed of by the Contractor at his/her own responsibility and expense outside the work limits in a landfill, as approved by the Owner, unless otherwise directed. Bricks, concrete blocks, cut stone, and concrete foundations shall be disposed as per **Section 4.2.14** of these specifications.
- 4.2.16** Should offsite borrow or disposal become necessary, the Contractor shall observe the NEPA Compliance Schedule as per **Section 7** of the **Special Provisions**.
- 4.2.17** The Contractor will be required to prepare existing Pond Number One area for pumping, pond excavation, and to accommodate the influent piping system that will supply raw water to the existing water-wheel treatment system.
- 4.2.17.1** The contractor will be required to construct the lower portion of Ditch Number Four to approximately elevation 3388.7. At this point, the Contractor will be required to construct a grout key as shown on the plans.
- 4.2.17.2** The Contractor will be required to construct a 110-foot long riprap lined temporary diversion ditch as shown on the plans that connects and conveys overflow water into Ditch Four.
- 4.2.17.3** The Contractor shall construct an 8-foot wide (top) embankment with 2 horizontal to 1 vertical sideslopes at elevation 3403 (top) to keep water from running over the hill and direct overflow to the constructed temporary diversion ditch.
- 4.2.17.4** The Contractor shall construct another 8-foot wide (top) embankment at elevation 3400 (top) with 2 horizontal to 1 vertical sideslopes to keep pumped water from back-flowing into Pond One during pumping operations.
- 4.2.17.5** After these constructions are complete, and with the approval of the Engineer, the Contractor may begin pumping water from Pond Number One until dry. The maximum pump rate shall be limited to 500 gallons per minute so the WVDEP can treat the AMD prior to release from the project area. The contractor shall keep water from accumulating in Pond One until excavation operations and the intake system and siphon/distribution box system is installed and approved by the Engineer.
- 4.2.17.6** Pond One has two apparent distinct bottom elevations. One at about elevation 3389 and one at about elevation 3380 with a small earthen cofferdam between. The Contractor will be required to remove sediment and unclassified material until Pond One bottom is at a

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consistent elevation of the lower pond bottom elevation (3380±) or as approved by the Engineer. Excavation operations shall be conducted at a 2 horizontal to 1 vertical slope down to the water level of 3395.5 and then at a 2.5 horizontal to 1 vertical slope to the newly established pond bottom. Excavated material from Pond One shall be buried onsite in Pond One drainage area and at a location approved by the Engineer. Buried material shall be covered with 12", minimum, of material capable of supporting vegetation.

- 4.2.17.7 While the water is out of Pond One, the Contractor shall construct the intake system and the siphon/distribution box system in accordance with **Specification 7.3.2**.
- 4.2.18 Any existing fence lines encountered during construction activities shall be removed, repaired or replaced to an "as good as" or "better than" its existing condition and shall be approved by the Owner. Where fencing is used to control or contain cattle or other livestock, the Contractor shall also be responsible for temporary fencing required to assure the safety and containment of the livestock.
- 4.2.19 The Contractor will be required to construct woven wire fence lines at locations shown on the plans. In addition, the Contractor will be required to repair fence damaged during the installation of the Sludge Line and Weir as shown on the plans.
 - 4.2.19.1 Corner and pull posts shall be braced in two directions, and end posts shall be braced in one direction. The braced post and adjacent post approach posts shall each be notched 1-inch deep at 8-inches from the top of the posts to the center of the notching to receive the horizontal brace. The horizontal wooden braces shall be set into the notches and dowelled to the posts with 5/8-inch diameter galvanized steel pins 5-inches long.
 - 4.2.19.2 Diagonal wire bracing shall consist of double strand #9 gage wire, installed as shown on the plans, and complying with the requirements of **Specification 4.1.2**. Two loops shall be made around each post at each point of attachment, the wires stapled to the posts, and the wires fastened back on themselves by means of at least three twists tightly wrapped. The strands of wire shall be twisted together until the wooden brace is in compression. The compression shall not be great enough to cause lateral springing on the brace. The placing and connecting of horizontal wooden braces and diagonal wire bracing for intermediate post assemblies shall be made similar.
 - 4.2.19.3 The bottom of the fence fabric shall be placed a normal distance of 3-inches above the ground line; however, over irregular ground a clearance of 2-inches and a maximum of 6-inches will be permitted for a distance not to exceed 8-feet. Any necessary excavation and

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backfilling required to comply these provisions shall be made and shall be considered incidental to the fence installation.

4.2.19.4 At all line and approach posts the fencing material shall be securely fastened to the post by means of 1-1/2-inch minimum #9 wire galvanized staples. At end, pull, corner, intermediate assembly, and gate posts the lateral wires of the fencing material shall be wrapped tightly around the posts and the wire fastened back on themselves by the means of at least three twists tightly wrapped. The fence and barbed wire shall be attached to all posts at the vertical spacing shown on the plans.

4.2.19.5 Fence fabric and barbed wire shall be fastened tightly to corner, pull, end, gate, and intermediate assembly posts for each straight run of fence, with each wire of the fabric being stapled to the posts before the fabric and barbed wire are fastened to the in-between line and approach posts. At the line and approach posts, the top and bottom wires and every other in-between wire of the fabric shall be stapled, alternating the stapling of the in-between wires on successive posts.

4.2.19.6 Tube gates shall be attached to gate posts, as shown on the plans, while maintaining the 3-inch ground clearance to the gate bottom.

4.2.19.6.1 Hinge locations shall be equally spaced along the gate with holes drilled through the gate post to maintain the spacing.

4.2.19.6.2 The 1-foot threaded gate hinge bolt shall be inserted through the hole and bolted on each side of the gate post ensuring the gate swings freely in all directions.

4.2.19.6.3 The middle gate hinge bolt shall be turned in the opposite direction of the other two bolts so the gates cannot be lifted off the hinges.

4.2.19.6.4 The Contractor will be required to supply a chain and locking mechanism meeting the approval of the Engineer.

4.2.20 Existing site access roads shall be upgraded to provide safe, all-weather access for construction and delivery operations. These existing site accesses shall be maintained during construction and left in a condition better than or equal to conditions at time of mobilization. The Contractor is responsible for locating and avoiding all underground and overhead utilities, including existing culverts and piping, and other constructions during access road grading, upgrading, and maintenance. Any existing utilities damaged by the Contractor shall be replaced by the Contractor or repaired at no cost to the Owner in accordance with **Special Provision 15**.

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- 4.2.20.1 During construction operations existing access roads utilized by the Contractor shall be graded to a smooth surface, maintained in a dust free condition, and upgraded as required, or directed by the Owner with crusher run stone meeting the requirements of **Specification Section 4.1.3**.
- 4.2.20.2 Existing access road upgrading will involve preparing existing profile grades through regrading, removing potholes and soft spots, as well as compaction of the regraded subgrade prior to placement of separation fabric and topping with crusher run stone meeting the requirements of **Specification 4.1.3**.
- 4.2.20.3 Two (2) locked gates are present along the access road leading to the project area.
 - 4.2.20.3.1 The Contractor will be given a key to the locks. It shall be the Contractor's responsibility to ensure the gates are secure to prevent unwanted access.
 - 4.2.20.3.2 Should the Contractor damage any of the gates, locking mechanism, or appurtenances, he shall notify the Engineer immediately and make necessary repairs, bear the expense thereof, and resulting damage caused thereby.
- 4.2.21 The Contractor shall construct Access Road Number One to the lines and grades shown on the plans. The road shall be built after all reclamation operations are complete and equipment utilizing the road has been removed.
 - 4.2.21.1 The Contractor shall prepare the proposed road alignment grades through regrading, removing holes and soft spots, as well as compaction of the regraded subgrade prior to placement of separation fabric and topping with crusher run. The upper portions of Access Road Number One shall be crowned in the middle and as Ditch Number Two is encountered transition to a 2% slope towards Ditch Two.
 - 4.2.21.2 Prior to separation fabric and stone placement, the Contractor shall proof roll the subgrade, to the satisfaction of the Engineer, to ensure compaction requirements have been achieved.
 - 4.2.21.3 Separation fabric meeting the requirements of **Specification 4.1.3** shall be placed to cover the width and length of the proposed access road. Separation fabric shall be overlapped 1.0 feet, minimum, at all joints.
 - 4.2.21.4 Crusher run stone meeting the requirements of **Specification 4.1.3** shall be placed to the depth, width, and full length of the proposed access road as shown on the plans.

4.3 METHOD OF MEASUREMENT

- 4.3.1 There is no method of measurement for Site Preparation as it is a lump sum bid limited to equal to or less than 10% of the total amount bid. All costs associated with Site Preparation operations, including; timber cutting and stockpiling; burning of organic materials; off-site disposal of garbage and items designated by the Owner to be removed from the site; and removing and repairing existing fence lines as required or directed by the Engineer; preparing Pond One Area including constructing a temporary diversion ditch, constructing two temporary embankments, pumping water, Pond One excavation and disposal, and water pumping while installing the intake system and siphon/distribution box system shall be included in and considered incidental to the lump sum bid for **Item 4.1 "Site Preparation"**.
- 4.3.2 There is no method of measurement for repair of public roads and leaving said roads in equal to or better than condition than existed upon mobilization operations. All costs associated with this work, including all regrading, crushed stone, concrete, asphalt, filling and compacting, and separation filter fabric, as directed and approved by the Owner shall be borne by the Contractor.
- 4.3.3 There is no method of measurement for upgrading existing haulroads to an all-weather construction access roads or maintaining the haulroads during construction operations. In addition, there is no method of measurement for leaving haulroads in an equal to or better than condition than existed upon mobilization operations after all reclamation operations are complete. All costs associated with road upgrading and maintenance including removing soft spots, re-compacting replacement material to surrounding grades, and purchase and placement of separation fabric prior to crushed stone placement shall be incidental to and included in the lump sum price bid for **Item 4.1 "Site Preparation"**.
- 4.3.4 The method of measurement for purchasing and placing crusher run stone shall be per ton for **Item 4.2 "Incidental Stone"** as determined by Engineer approved and certified truck weigh ticket for the unit price bid per ton. Procurement of crusher run stone requires the approval of the Engineer. Crusher run stone shall be used for upgrading and maintaining access roads as well as placement in other areas designated and approved by the Engineer. The unit price bid shall include all costs associated with purchasing, placement, and spreading of the crusher run stone to the satisfaction of and in areas designated and approved by the Engineer.
- 4.3.5 There is no method of measurement for constructing and reclaiming temporary access roads. All costs associated with this work, including all regrading and backfilling constructed roads to approximate original contours, crushed stone, filling and compacting, and separation filter fabric, as directed and approved by the Owner shall be considered incidental to and included in the unit price bid for **Item 8.0 "Unclassified Excavation"**.

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- 4.3.6 The method of measurement for constructing fence lines as shown on the Final Design Drawings in the construction plan set and herein specified shall be per linear foot bid, less any gate installation footage, for **Item 4.3 "Fence"**. All costs associated with this task including woven fence fabric, barbed wire, posts, treated wood braces, diagonal wire bracing, staples, and other incidentals including material, labor, and equipment costs necessary for proper fence construction as shown on the plans and herein specified shall be included in and considered incidental to the per linear foot bid for **Item 4.3 "Fence"**.
- 4.3.7 There shall be no measurement for existing fence repair or replacement and fence line removal and replacement outside of the work limits or not shown on the Plans. All materials and labor required for existing fence line removal and replacement shall be included in and considered incidental to the lump sum bid for **Item 4.1 "Site Preparation"**.
- 4.3.8 The method of measurement for installing Farm Gates as shown on the plans and herein specified shall be per each for **Item 4.4 "Farm Gate"**. Two (2) gates are required at each location shown on the plans. Each gate shall be measured separately and submitted for payment. All costs associated with this task including fence, posts, staples, tube gates, and other incidentals including material, labor, and equipment costs necessary for proper Farm Gate installation as shown on the plans and herein specified shall be included in and considered incidental to the per each bid for **Item 4.4 "Farm Gate"**. Any other gates not scheduled for replacement and disturbed, damaged or destroyed by the Contractor, as well as any collateral damage caused thereby, shall be replaced or repaired by the Contractor all at his expense and to the satisfaction of the Engineer.
- 4.3.9 The method of measurement for installing Access Road Number One including crushed stone and separation fabric as shown on the plans and herein specified shall be per linear foot bid for **Item 4.5 "Access Road Number One"**. All excavation work, including filling and compacting, shall be considered incidental to and included in the unit price bid for **Item 8.0 "Unclassified Excavation"**.
- 4.3.10 There is no method of measurement for the Burning Plan or Traffic Control Plan (if required) as all costs associated with these items shall be considered incidental to all items bid for this project.

4.4 **BASIS OF PAYMENT**

- 4.4.1 All costs associated with Site Preparation operations, including; timber cutting and stockpiling; burning of organic materials; off-site disposal of garbage and items designated by the Owner to be removed from the site; and removing and repairing existing fence lines as required or directed by the Engineer; upgrading and maintaining the existing (access) haulroad; preparing Pond One Area

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including constructing a temporary diversion ditch, constructing two temporary embankments, pumping water (limited to 500 GPM), Pond One excavation and disposal, and water pumping while installing the intake system and siphon/distribution box system shall be included in and considered incidental to the lump sum bid for **Item 4.1 "Site Preparation"**.

- 4.4.2 Item 4.1 "Site Preparation"** shall be paid at the lump sum price bid. The amount shall not exceed 10% of the "TOTAL AMOUNT BID". Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work as specified and shown on the plans.

No deduction will be made, nor will any increase be made, in the lump sum bid for **Item 4.1 "Site Preparation"** amount regardless of decreases or increases in the final total contract amount or for any other cause.

- 4.4.3** All costs associated with purchasing and placing crushed stone as approved by the Engineer and herein specified shall be paid at the unit price bid per ton for **Item 4.2 "Incidental Stone"**. Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work as designated and approved by the Engineer and herein specified.
- 4.4.4** All costs associated with constructing permanent fence lines as shown on the plans and herein specified shall be paid at the unit price bid per linear foot for **Item 4.3 "Fence"**. Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work as specified and shown on the plans.
- 4.4.5** All costs associated with installing Farm Gates as shown on the plans and herein specified shall be paid at the unit price bid per each for **Item 4.4 "Farm Gate"**. Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work as specified and shown on the plans.
- 4.3.6** All costs associated with constructing Access Road Number One to the lines and grades shown on the plans and herein specified shall be paid at the unit price bid per linear foot for **Item 4.5 "Access Road Number One"**. All excavation work, including filling and compacting, shall be considered incidental to and included in the unit price bid for **Item 8.0 "Unclassified Excavation"**. Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work as specified

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and shown on the plans.

4.4 PAY ITEMS

Item 4.1, "Site Preparation", per lump sum. Cannot be more than 10% of the "Total Amount Bid" for the project.

Item 4.2, "Incidental Stone", per ton.

Item 4.3, "Fence", per linear feet.

Item 4.4, "Farm Gate", per each.

Item 4.5, "Access Road Number One", per linear feet

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5.0 EROSION AND SEDIMENT CONTROL**5.1 DESCRIPTION**

This item shall consist of furnishing all materials, equipment, labor and incidentals necessary for the installation of Silt Fence, Super Silt Fence, Rock Check Dams, and Stone Construction Entrances for sediment and erosion control as shown on the Plans. Straw wattles shall also be placed on regraded outslope areas concurrent with construction and prior to revegetation in locations shown on the plans. Additional quantities may be added at the discretion of the Owner.

The Contractor shall submit an erosion and sediment control plan to the owner at the pre-construction meeting for approval. This plan shall include measures to be utilized for temporary and permanent erosion and sediment control. This plan shall also include the measures shown on the plans. The Owner's approval of this plan does not relieve the Contractor of his responsibility to be in compliance with any and all permits. All costs associated with meeting the Federal and/or State Regulations shall be the sole responsibility of the Contractor. The Contractor shall comply with the erosion and sediment controls shown on the plans and herein specified; train his personnel to be familiar with all permit requirements; and keep a copy of all records at the job site at all times.

5.2 MATERIALS

5.2.1 Silt Fence: Silt fence materials and installation shall meet all applicable requirements of **Section 715.11.5** and **Section 642.6** of the West Virginia Division of Highways **Standard Specifications for Roads and Bridges**, Adopted 2010.

5.2.1.1 Non-woven filter fabric shall be purchased in a continuous roll. Fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6-months construction life at temperatures ranging from 0 to 120 degrees Fahrenheit. Preferred fabrics are Mirafi 100X, Exxon GTF, or approved equal.

5.2.1.2 Stakes shall consist of 2" by 2" oak or 2" by 4" pine and a minimum length of five feet (5'). Fasteners shall be heavy duty one-inch (1") staples or tie wires.

5.2.1.3 If steel posts (standard "U" or "T" section) are used for silt fence construction they shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of five feet (5').

5.2.1.4 "Geofab", "Envirofence", or approved equal are preferred prefabricated units.

5.2.2 Super Silt Fence shall consist of fabric mounted against 48-inch high

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chain link fence meeting the requirements of **Section 712** of the West Virginia Division of Highways **Standard Specifications for Roads and Bridges**, Adopted 2010.

5.2.2.1 The fabric shall meet the requirements of **Section 5.2.1**.

5.2.2.2 The posts shall be 2½" diameter by 72" long and meet the requirements of **Section 709.46** of the West Virginia Division of Highways **Standard Specifications for Roads and Bridges**, Adopted 2010. 4" by 4" by 72" treated posts may be substituted for steel posts with the approval of the Engineer.

5.2.2.3 Wire ties or staples to connect the chain link fence to the posts and the fabric to the chain link fence shall be approved by the Engineer.

5.2.3 Straw Wattles, or approved equal, shall be installed at locations shown on the plans. Straw Waddles, also available from ACF Environmental (acfenvironmental.com) or approved equal, shall be a standard size of 9 inches diameter by 25 feet in length. Straw wattles shall consist of an internal fill material of straw and an exterior encasement of a heavy duty biodegradable knitted cylindrical tube.

5.2.4 Crushed stone used for Stone Construction Entrances shall be 3" to 6" limestone. 3" to 6" stone shall be that commonly purchased from suppliers and shall range in size from 3-inches minimum to 6-inches maximum diameter with no more than 10% by weight less than 3 inches and no more than 50% by weight greater than 4". Aggregate shall have a maximum weighted loss of twelve percent when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88 (Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate)**, as modified by the American Association of State Highway and Transportation Officials (AASHTO) T-104.

5.2.5 Separation fabric used for Stone Construction Entrances shall be placed on a prepared subgrade prior to placement of stone. Separation fabric shall be woven and meet the requirements of **Section 715.11.8** of the **WVDOH Standard Specifications Roads and Bridges**, Adopted 2010, such as Geotex® 200ST manufactured by Advanced Drainage Systems, Inc. or approved equal.

5.2.6 Pipes used for Stone Construction Entrances shall be 15" in diameter highway grade high-density polyethylene pipes (HDPE) with corrugated exterior and smooth interior walls such as N12 pipes manufactured by Advanced Drainage Systems, Inc., or approved equal. Pipe installations and backfilling shall comply with **Section 604** of the **WVDOH Standard Specifications Roads and Bridges**, Adopted 2010.

- 5.2.7 Rock Check Dams may be installed to assist in Erosion Control; however these dams may not replace any of the controls shown on the plans or herein specified. Stone for Rock Check Dams shall have a d_{50} of 4-inches. The d_{50} stone shall range in size from 3-inches minimum to 6-inches maximum diameter with no more than 10% by weight less than 3 inches and no more than 50% by weight greater than 4". Stone shall have a maximum weighted loss of twelve percent when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – ASTM C88 (Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate), as modified by the American Association of State Highway and Transportation Officials (AASHTO) T-104.
- 5.2.8 Straw or hay bales used for Erosion Control shall not replace any of the controls shown on the plans. Straw or hay bale dikes shall be placed on contour. The bales shall be standard size square bales consisting of hay or straw bound with a natural fiber twine. The bales shall meet all applicable requirements of **Section 715.27.1** of the West Virginia Division of Highways Standard Specifications for Roads and Bridges, Adopted 2010 pertaining to ingredients. Each bale shall weigh minimum of 50 pounds. Stakes: The stakes shall consist of 1" X 2" stakes, 36 inches in length made from suitable hardwoods. Other methods of anchoring may be used if specifically approved by the Owner.

5.3 Installation

- 5.3.1 Most of the project area drains to the settlement ponds receiving treated mine drainage from the existing water-wheel treatment system. These ponds have been maintained by the WVDEP and do not require any Contractor actions. However, construction of Ditch Number One and installation of Pipe Number One will divert water from the settlement ponds and directly into Stoney Run. Therefore, construction of Ditch Number One and installation of Pipe Number One shall be delayed until all portions of the project upgradient from Ditch Number One are complete and ready for vegetation. At that time, the Contractor will be required to install silt fence at locations shown on the plans and in accordance with these specifications above the alignment of Ditch Number One. After proper installation and with the approval of the Engineer, the Contractor may construct Ditch Number One and install Pipe Number One.
- 5.3.2 The Contractor shall comply with **Special Provisions Section 23. Erosion and Sediment Control Guidelines** for this project.
- 5.3.3 The height of silt fence above original ground shall be 16", minimum, and shall not exceed 36". Filter fabric shall be purchased in a continuous roll and cut to length to minimize joints. When joints are unavoidable, the silt

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fence shall be joined together at a support post by twisting the fence ends or last post of each run around each other and securely sealed. A trench 4" by 4" shall be excavated on the uphill side of the posts. The fabric shall be fastened securely to the uphill side of the posts and extend into the trench. Do not staple fabric to trees. The 4" by 4" trench shall be backfilled and compacted atop the fabric to eliminate under-piping. The end of fabric runs shall be turned slightly uphill to prevent runoff from going around. Silt fence shall be installed along the contour of the land with no section exceeding 5% slope in twenty feet (20').

- 5.3.4 Super Silt Fence shall be installed in a manner similar to Silt Fence. Chain link fence shall be installed securely to the posts with wire ties or staples. The fabric shall be attached to the chain link fence with ties spaced every 24" at the top and mid-section of the fence. A trench 12" by 12" shall be excavated on the uphill side of the posts. The fabric and fence shall be fastened securely to the uphill side of the posts and extend 12", minimum, into the trench. The 12" by 12" trench shall be backfilled and compacted against the fabric and fence to eliminate under-piping. Where two sections of fence join, they shall overlap 6", minimum, and the fabric folded.
- 5.3.5 Straw wattles shall be installed according to manufacturer's recommendations and placed end to end along the contour at the locations shown on the Plans or as directed and approved by Owner.
 - 5.3.5.1 Lines of straw wattles shall be overlapped a minimum of 10 feet (as measured from a line perpendicular to the land contour at each end of the line of wattles as shown on the Plans) where wattles are stepped up or down hill to better follow the contour of the land or provide coverage for regrade areas.
 - 5.3.5.2 Straw wattles shall be embedded into the soil 2" to 3", as shown on the plans, to prevent under-piping. Excavated soil shall be placed on the uphill side of the installation from the anchor trench and foot tamp-compacted against the wattle. Adjacent wattles should be tightly abutted.
 - 5.3.5.3 Straw wattles shall be anchored with 36" stakes spaced every 3 to 4 feet driven through the middle of the wattle. In addition, a stake shall be placed within 12" of each end of the wattle. The stakes shall be driven perpendicular to the ground line, and with a minimum of 18 inches of ground penetration. In areas where sediment control barriers cross existing drains, more than one row of wattles or installation of straw/hay bales may be required to adequately prevent downstream sediment pollution. Also, additional staking may be required to anchor the straw wattles against concentrated storm runoff. The number of straw wattles

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and anchoring required in concentrated flow areas shall be at the discretion and direction of the Owner.

5.3.5.4 Straw wattles shall not be removed but shall remain in place after all construction activities are complete.

5.3.6 Stone Construction Entrances shall be built to the lines and grades designated by the Engineer or as required by other permits/regulations.

5.3.6.1 Prior to fabric and stone installation, the subgrade shall be prepared by removing all objectionable material to the satisfaction of the Owner. In the event coal refuse is encountered such material will be undercut a minimum of 12" and replaced with onsite suitable compacted material prior to placing fabric and stone. The subgrade shall then be proof rolled to insure compaction has been achieved to the satisfaction of the Owner.

5.3.6.2 If in the opinion of the Owner the subgrade is unsuitable, the Contractor will be required to undercut the subgrade a minimum of 2.0 feet and place compacted suitable on-site fill material, as approved by the Owner, in 6" lifts back to subgrade elevations. In addition, some filling may be required after removing all objectionable material to bring the subgrade to proper elevations depicted on the Plans.

5.3.6.3 Subgrade fill material shall be compacted to at least 95% of Standard Proctor maximum dry density at a moisture content of not less than 2% below nor greater than 3% above optimum. Testing frequency and locations shall be directed and approved by the Owner.

5.3.6.4 Stone Construction Entrances will require excavating existing grades 3", minimum, as shown on the plans. Excavated material shall be taken to an onsite disposal area approved by the Engineer. Once excavation is complete to the satisfaction of the Owner, separation fabric meeting the requirements of **Specification Section 5.2.5** shall be placed in the excavation. Fabric shall be placed the full length and width of the excavation as shown on the plans.

5.3.6.5 Six inches (6") of 3" to 6" stone meeting the requirements of **Specification Section 5.2.4** shall be installed in the excavation atop the fabric. If in the opinion of the Owner, 3" to 6" stone placement has caused displacement or damage to the underlying separation fabric or sub-base, the Contractor shall remove the 3" to 6" stone and repair the displacement or damage and/or replace the fabric and 3" to 6" stone to the satisfaction of the Owner. All costs

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associated with the removal of 3" to 6" stone and necessary repair work shall be borne by the Contractor and at no cost to the Owner.

5.3.6.6 Either a pipe or berm mound shall be installed at each Stone Construction Entrance.

5.3.6.6.1 Berm mounds shall be 0.7 ft., minimum, above the placed 6" layer of 3" to 6" stone with a 3.0 foot, minimum, level top and 5 horizontal to 1 vertical slopes coming into and out of the berm mound as shown on the plans.

5.3.6.6.2 Pipes meeting the requirements of Specification 5.2.7 and as shown on the plans shall be excavated, installed, and backfilled in accordance with Section 604 of the WVDOH Standard Specifications Roads and Bridges, Adopted 2010.

5.4 Maintenance

5.4.1 During the course of the project, sediment and erosion control structures shall be maintained in sound condition and accumulations of silt that may threaten the effectiveness of the structure shall be removed. Silt removed from the sediment and erosion control structures shall be taken to a disposal area approved by the Engineer.

5.4.2 Erosion and sediment control facilities, including Sediment Ponds, silt fence, super silt fence, straw wattles, etc. shall be inspected at a minimum once every seven calendar days and within 24 hours after any storm event greater than 0.5 inches per 24 hour period. Check to see if water has flowed around the edges of the structure. Replace and repair erosion and sediment control devices as necessary to maintain the correct height and configuration. Sediment should be removed from behind the erosion and sediment control devices when it has accumulated to one half of the original height of the structure.

5.4.3 Check embankments, spillways, outlet structures, and receiving ditches for piping and settlement. Make all necessary repairs immediately. Remove all trash and debris from the riser and pool area. Sediment shall be removed when one-half of the sediment pond volume has been reached.

5.4.4 Close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting. If the fence is not installed on the contour (perpendicular to the flow of the water) both of these conditions can occur.

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- 5.4.5 Should the fabric on a silt fence decompose or become ineffective prior to the end of the project and the barrier still is necessary, the fabric shall be replaced promptly.
- 5.4.6 Sediment deposits should be removed after each storm event. Deposits must be removed when deposits reach approximately one-half the height of the barrier. If any section of a sediment control structure is knocked down during a rain event (because it was installed in an area of concentrated flow), then other measures such as Sediment Control Devices, a sediment trap and diversion, or super silt fence must be installed.
- 5.4.7 Stone Construction Entrances shall be maintained in a condition that will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
- 5.4.8 Stone Construction Entrance inspection and necessary maintenance should be provided daily but at a minimum every seven days and after every rain of 0.5 inches or greater.
- 5.4.9 Wheels on all vehicles shall be cleaned to remove sediment prior to entrance onto public rights-of-way. If washing is required, it shall be done on an area stabilized with stone and which drains into approved sediment trapping device. If the street is washed precautions must be taken to prevent muddy water from running into waterways or storm sewers.

5.5 REMOVAL

All sediment control facilities installed for this project, except for straw wattles and other installations designated to remain by the Engineer, shall be removed when 75% vegetative cover is achieved or as directed by the Engineer. Removed fabric, fencing, and posts shall be discarded in accordance with **Specification Section 4.2.16**. Accumulated sediment shall be deposited and revegetated in areas designated by the Engineer. Stone Construction Entrances shall be removed or left in place at the discretion of the Engineer.

- 5.5.1 Prior to demobilization operations, the Contractor will be required to regrade and repair all Stone Construction Entrances designated to remain, to the satisfaction of the Engineer. Topping of the 3" to 6" stone with crusher run stone, meeting the requirements of **Specification 4.1.3**, will be required to provide a smooth traveled way for the public or landowner.
- 5.5.2 The Contractor will be required to remove and discard all accumulated sediment, stone, and fabric from Stone Construction Entrances designated

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for removal by the Engineer. Installed pipes may or may not be removed and discarded at the direction of the Engineer. All disturbed areas shall be regraded to original contours and revegetated in accordance with **Section 6.0** of these specifications.

5.6 METHOD OF MEASUREMENT

- 5.6.1 The method of measurement for Straw Wattle installation and maintenance in conformance with the specifications and accepted by the Owner shall be a "one-time" basis per linear foot bid for **Item 5.1, "Straw Wattles"**. The linear foot bid shall include all straw wattles, stakes, construction, and maintenance including all necessary materials, supplies, labor and equipment for installation and maintenance including sediment removal and disposal.
- 5.6.2 Straw Wattles displaced, destroyed, or removed by the Contractor, accumulated sediment, or flowing water shall be reinstalled in their original location and effectiveness and at the expense of the Contractor. No measurement is required for these reinstalled components.
- 5.6.3 The method of measurement for Silt Fence installation and maintenance in conformance with the specifications and accepted by the Owner shall be a "one-time" basis per linear foot bid for **Item 5.2, "Silt Fence"**. The linear foot bid shall include all silt fence, stakes, construction, and maintenance including all necessary materials, supplies, labor and equipment for installation and maintenance including sediment removal and disposal.
- 5.6.4 Silt Fence that is displaced, destroyed, or removed by the Contractor, accumulated sediment, or flowing water shall be reinstalled in their original location and effectiveness and at the expense of the Contractor. No measurement is required for these reinstalled components.
- 5.6.5 Any additional sediment control, i.e. silt fence, super silt fence, straw wattles, stone check dams, sumps etc., installed by the contractor to meet any applicable State or Federal Law or Regulation shall be the Contractor's sole responsibility and all costs pursuant thereto shall be born fully by the Contractor.

5.7 BASIS OF PAYMENT

The quantity of work completed will be paid at the contract unit price bid, which price and payment shall be full compensation for all materials, labor, equipment, and incidentals necessary to perform the work. Additionally, payments shall constitute full compensation for any required maintenance, sediment or erosion control replacement, sediment removal, and disposal.

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5.8 PAY ITEM

Item 5.1, "Straw Wattles", per linear foot.

Item 5.2, "Silt Fence", per linear foot.

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6.0 REVEGETATION

6.1 DESCRIPTION

This work shall include all operations incidental to the establishment of vegetation cover within the limits of construction as shown on the plans and any other areas directed and approved by the Owner. This work also includes the furnishing and the application of fertilizer, agricultural limestone and mulch and the furnishing and sowing of seed, all in accordance with these specifications and as designated herein.

No areas outside the limits of construction shall be disturbed without prior approval from the Owner in order to ensure that right-of-entry has been obtained.

Any areas disturbed by the Contractor outside the limits of construction shall be revegetated with all costs attributed to the Contractor and at no expense to the Owner.

6.2 MATERIALS

6.2.1 Fertilizer

The commercial fertilizer to be used shall consist of 10-20-20 grade of uniform composition and furnished in standard containers. These containers, in accordance with applicable state and federal laws, must be clearly marked with the following information:

- a. Weight
- b. Name of Plant Nutrients
- c. Guaranteed Nutrients Percentages

Fertilizer shall be applied at a minimum rate of 1,000 lbs/acre. Fertilizer shall be applied immediately to all areas reaching final grade by one of the two following methods:

- a. Apply and incorporate fertilizer during seedbed preparation.
- b. Apply fertilizer in hydro seeding mixture following seedbed preparation.

6.2.2 Limestone

The lime to be used will be an agricultural grade pulverized limestone containing a minimum of 10% MgCO_3 and not less than 75% total carbonates. Fineness will be such that no less than 75% will pass through a #100 sieve and 100% will pass through a #10 sieve.

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Lime rate shall be formulated from soil test results. In the absence of soil testing, a rate of twelve (12) tons per acre will serve as a preferred minimum.

Lime shall be applied immediately to all areas requiring seeding and reaching final grade by one of the two methods listed in Section 6.2.1, "Fertilizer".

6.2.3 Seed Mixtures

The variety of grass and legume seed furnished for the project shall bear a tag, in accordance with applicable state and federal laws, with the following information listed:

1. Lot Number
2. Seed Producers Name
3. Percent Purity
4. Percent Germination
5. Date of Germination Testing
6. Weed Seed Content (should be <0.25% by weight)

All leguminous seed shall be inoculated with the specified strain of rhizobia that shall be a pure culture of bacteria selected for maximum vitality. No rhizobia shall be used which has passed the expiration date on each package. The inoculant shall be applied at five times the recommended rate except when used in a hydroseeding mixture when the rate will be ten times the recommended rate.

6.2.3.1 Temporary Seed Mixture:

All stockpiles or other disturbed areas which will require further disturbance in which the additional disturbance will be delayed for a period of three (3) weeks or longer shall be vegetated according to the following guidelines.

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TEMPORARY SEED MIXTURE				
	SPRING 3/15 – 5/15	SUMMER 5/15 – 8/15	FALL 8/15 – 10/15	WINTER 10/15 – 11/15
Variety of Seed	----- lbs. / acre -----			
	-			
Annual Ryegrass (<i>Lolium multiflorum</i>)	40		40	
German Millet * (<i>Setaria italica</i>)		40		
Cereal Rye (<i>Secale cereale</i>)				170
* Do not use Japanese Millet				

All areas to be temporarily seeded that are to be re-disturbed shall be fertilized with 500 lbs/acre of 10-20-10. All areas reaching final grade to be temporarily seeded shall be fertilized according to **Section 6.2.1**. Lime shall be applied according to **Section 6.2.2** and mulch applied according to **Section 6.2.4**. *Outside the designated seeding season, permanent seed mixture, meeting the requirements of **Section 6.2.3.3**, may be substituted for Temporary Seed Mixture on areas that have reached final grade and will not be disturbed again, but only with the approval of the Engineer. Provided that any area failing to establish vegetation, as determined by the Engineer, shall be re-seeded (with permanent seed mixture), re-limed, re-fertilized, and re-mulched at no additional cost to the WVDEP and approved by the Engineer.*

6.2.3.3 Permanent Seed Mixture:

Permanent vegetation shall be established on all areas reaching final grade or other areas not likely to be disturbed by further construction activities. Any areas that reach final grade between May 15 - August 15 or October 15 - November 15 shall be seeded with the appropriate temporary seed mixture according to **Section 6.2.3.1**. These areas shall then be reseeded with a permanent seed mixture, without Annual Ryegrass, during the next defined seeding period according to this section. The actual date of permanent seeding will require the Owner's approval.

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PERMANENT SEED MIXTURE		
	SPRING 3/15 – 5/15	FALL 8/15 – 10/15
Variety of Seed *	----- lbs. / acre -----	
Orchardgrass (<i>Dactylis glomerata</i>)	30	30
Birdsfoot Trefoil ¹ . (<i>Lotus corniculatus</i>)	15	15
Red Clover (<i>Trifolium pretense</i>)	10	10
Annual Ryegrass ² . (<i>Lolium multiflorum</i>)	25	25
Rye Grain	35	0
Or		
Winter Wheat	0	90
¹ . Herbaceous legumes must be treated with the appropriate bacterium before seeding. <i>On areas that are steeply sloping (steeper than 1.7:1), slide prone, swales, or drainage conveyance structures substitute Crownvetch (<i>Coronilla varia</i>) at 20 lbs./acre for Birdsfoot Trefoil.</i>		
² . Use Annual Ryegrass only in mixtures seeded after August 15 and before May 15.		
* Use only certified "blue tag" seed. Seed-rate suggested is for pure live seed (PLS) in lbs/acre.		

6.2.3.5 Lawn Seed Mixtures.

Lawn seed mixtures and hand raking may be required on this Project. Existing lawn or mowed areas shall be hand raked and reseeded using the following mix:

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LAWN SEED MIXTURE			
Rate of Application ---lbs. / 1,000 ft. ² ----	Seed Variety	Minimum Specifications	
		% Purity	% Total Germination
0.45	Red Fescue (Pennlawn)	98	98
0.90	Kentucky Bluegrass	85	75
0.70	Merion Bluegrass	90	75
0.20	Annual Ryegrass*	95	85
* Use Annual Ryegrass only in mixtures seeded after August 15 and May 15.			

6.2.4 Mulch Material

Mulching procedures shall take place immediately following seeding operations. Mulch material shall consist of baled straw mulch or wood cellulose fiber. However, wood cellulose fiber may be used only on slopes steeper than 2H:1V at a rate of 1,500 lbs/acre.

6.2.4.1 Straw

Straw mulch shall include baled wheat or oats straw to be used on lawn areas, with baled grass hay used elsewhere. Straw mulch shall be dry and reasonably free of weeds, seeds, sticks, or other foreign material. Straw mulch shall be applied at a rate of 2 tons/acre. The straw mulch shall be anchored with 100 gallons/acre asphalt emulsion or 750 lbs/acre wood cellulose fiber.

6.2.4.2 Wood Cellulose Fiber

Wood cellulose fiber may be used only on slopes steeper than 2H:1V at a rate of 1,500 lbs/acre. The appropriate mulch for use with the hydraulic application of seed, fertilizer, and lime shall consist of wood cellulose fiber. It shall be processed in such a manner that it will contain no growth or germination inhibiting factors and shall be dyed green. It shall be manufactured in such a manner that:

1. after addition and agitation in slurry tanks with fertilizers, lime seeds, and water, the fibers in the material will become uniformly suspended to form a homogeneous slurry, and
2. the material, when hydraulically sprayed on the ground, will form a blotter-like ground cover impregnated uniformly with seed and will allow

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rainfall to percolate to the underlying soil.

Wood cellulose shall only be used on areas that have been approved by Owner. The wood cellulose fiber shall be supplied in packages having a gross weight not to exceed 100 pounds. Weight specifications of this material from suppliers, and for all applications, shall refer only to air-dry weight of the fiber material. Air-dry weight is based on the normal weight standard of the Technical Association of the Pulp and Paper Industry for Wood Cellulose and is considered equivalent to 10 percent moisture. Each package of the cellulose fiber shall be marked by the manufacturer to show the air-dry weight content.

6.2.5 Water

Water shall be reasonably free of injurious and other toxic substances harmful to plant life. The source of water is subject to the approval of the Owner.

6.3 METHOD OF CONSTRUCTION

- 6.3.1 All revegetation activities shall be conducted immediately following completion of final grading so as to utilize the fine soil material as a seedbed before this material is lost via subsequent rainfall.
- 6.3.2 On sites where appropriate equipment can operate, the seedbed shall be prepared by breaking up surface crusts and loosening the soil material to a minimum of three (3) inches. Disking, harrowing, cultipacking, or other acceptable tillage operations may be used to prepare the seedbed. On sites where appropriate equipment cannot operate, the seedbed shall be prepared by "tracking in" with a dozer or scarifying by other approved methods. Rocks larger than six (6) inches in diameter, weeds, and other debris that will interfere with seeding or maintenance shall be removed or disposed of as directed and approved by the Owner. Seedbed preparation shall be suspended when soil moisture conditions are not suitable for the preparation of a satisfactory seedbed as determined by Owner.
- 6.3.3 Lawn areas or areas being mowed shall be hand raked. Rocks larger than two inches (2") in diameter, trash, weeds, and other debris that will interfere with seeding or maintenance shall be removed or disposed of as directed and approved by the Owner. After broadcasting or otherwise applying the seed mixture, the surface of the seedbed shall be raked, cultipacked, or very lightly brush dragged to insure seed contact with soil.

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Seedbed preparation shall be suspended when soil moisture conditions are not suitable for the preparation of a satisfactory seedbed as determined by Owner.

- 6.3.4 Seedbed preparation and seeding shall take place progressively as various regraded areas are brought to final grade.
- 6.3.5 All seeding operations shall be performed immediately following seedbed preparation in such a manner that the seed is applied in the specified quantities uniformly on the designated areas.
- 6.3.6 Seed Application shall consist of approved hydroseeding methods where feasible. Any seed left in hydroseeder overnight shall be re-inoculated before that seed shall be applied. Other methods of seed application may be utilized for site-specific reasons when approved by the Owner.
- 6.3.7 Any area failing to establish a vegetative cover stand due to weather or adverse soil conditions shall be reseeded, re-limed, re-fertilized and re-mulched as directed and approved by the Owner.
- 6.3.8 The Contractor shall maintain all seeded areas until final acceptance of the project. All areas shall be protected from any further equipment traffic and any damaged areas shall be repaired and reseeded. Maintaining seeded areas shall consist of watering, refilling, re-fertilizing, re-liming, reseeded, and re-mulching erosion gullies and all bare areas.
- 6.3.9 A second and third seeding will be applied as needed, or as directed and approved by the Owner.

6.3.9.1 Second Step Seeding

The second step seeding will take place during the first defined seeding period following the initial seeding. No payment shall be made for second step seeding, this work is part of the contract if completed before the final inspection or shall be considered warranty if completed after the final inspection. The following shall be used as a guide for second step application. All equipment, materials, and vehicles entering upon Forest Service property must meet the requirements of **Specification 6.3.4**.

- a. For areas with less than a 50 percent stand or subject to severe erosion, apply the complete amount of seed, fertilizer, lime, and mulch as specified.
- b. For areas with over 50 percent stand apply one half the original fertilizer, lime and seed. If erosion is a problem, apply one half of the original mulch specified in **Section 6.2.4**.

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6.3.9.2 Third Step Seeding

The third step seeding process shall consist of spot applications on areas not showing a satisfactory stand. The seeding shall take place at the next defined seeding period following the second step application. The quantity of material to be used shall be determined on the same basis as the second step application in Section 6.3.10.1.

6.4 METHOD OF MEASUREMENT

The method of measurement for Item 6.0 "Revegetation" shall be per "Plan View" acre calculated in accordance with Specification 2.3.7. The Engineer shall approve the areal extent of revegetation prior to field survey operations necessary to outline the area where vegetation, lime, fertilizer, and mulch were placed.

6.5 BASIS OF PAYMENT

6.5.1 Payment will be made at the Contract unit price bid for these items, which price and payment shall be full compensation for doing all the work herein described in a workmanlike and acceptable manner; including the furnishing of all labor, materials, tools, equipment, supplies and incidentals as necessary to complete the work. To include payment for all seeding (i.e. – temporary, first and second seeding). No additional payment will be made for second or third step seeding.

6.5.2 Temporary seeding, including temporary seeding of stockpiled material will be considered incidental to this Specification and no separate measurement or payment will be made for temporary seeding. There will be no separate payment for maintaining seeded areas. No payment will be made for seeding after the final inspection. All work performed after the final inspection will be done under warranty.

6.6 PAY ITEMS

Item 6.0, "Revegetation", per "plan view" acre.

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7.0 DRAINAGE STRUCTURES

7.1 DESCRIPTION

This work shall consist of furnishing all labor, equipment and materials necessary to construct drainage structures shown on the drawings. Drainage structures shown include but are not limited to drainage ditches, pipes, spillways, a siphon box, a distribution box, a weir, and an intake support system, and appurtenances.

7.2 MATERIALS

7.2.1 Rock for riprap shall consist of hard durable limestone as specified and shown on the Plans and shall have a d_{50} of 12-inches. The rock shall range in size from 3-inches minimum to 18-inches maximum diameter with no more than 10% by weight less than 2 inches and no more than 50% by weight greater than 12".

7.2.1.1 The Contractor should be aware that no provisions have been made to obtain rock on site. All rock riprap used throughout the project site shall consist of locally available, commercially purchased, calcareous stone (except as noted otherwise) meeting the following requirements. The rock riprap required for the drainage channels and at the culvert inlets and outlets shall have a calcium carbonate equivalency of 70%, or greater, such as limestone rock. The rock riprap shall have a maximum weighted loss of thirty percent (30%) when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – ASTM C88 (ASTM C88-99a Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate), as modified by the American Association of State Highway and Transportation Officials (AASHTO) T-104. The use of on-site rock materials for riprap may be permitted with prior approval from the WVDEP in special circumstances. In order to be considered for use as riprap, the rock shall be subjected to laboratory testing and is required to be certified by the testing laboratory as calcareous and non-acid producing. A certification on calcium carbonate equivalency and sodium sulfate soundness test shall be submitted to the WVDEP prior to use or delivery.

7.2.1.2 There are no provisions for obtaining riprap on-site. All borrow (disposal) areas for riprap must be approved by WVDEP and shall meet the quality requirements of **Specification 7.2.2.1**. Should the Contractor decide to obtain and utilize any borrow areas outside of construction

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limits, or move material from one property owner to another (unless designated), the Contractor shall be responsible to obtain (from the property owner(s) of the borrow areas) all necessary rights of entry, including rights of entry for the Owner and OSMRE for inspection purposes. The said rights of entry agreement must state that the property owner(s) indemnify and hold harmless the Owner and OSMRE for Contractor's action for any injury or damages whatsoever resulting from the use of the property. The Contractor also shall submit borrow or waste area reclamation plans for prior approval by the Owner. The Contractor shall observe the NEPA compliance schedule outlined in **Section 7** of the **Special Provisions** relative to selecting and utilizing any off site borrow areas and or any waste disposal areas.

- 7.2.2** Grout to be used in the grouted riprap ditches shall consist of a mixture of one part Type II sulfate resistant Portland cement and three parts sand, using water to produce a workable consistency. The amount of water shall be as approved or as designated by the WVDEP. Admixtures and/or pozzolan may be used with the approval of the WVDEP. The grout shall exhibit a compressive strength of 2,000 pounds per square inch at 28 days with specimens made and tested according to the provisions of ASTM C 31 and C 39 and **Section 3.0** of these Specifications. Three (3) specimens are required for each concrete or grout test in accordance with **Section 601.4.4** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Grout mix designs to be used by the Contractor shall be submitted to the Owner for review and approval. The proposed design mix and sufficient test data using proposed sources of the mix components to verify strength parameters shall be supplied to the Owner for approval prior to use in the Project. All testing shall be the responsibility of the Contractor.

7.2.2.1 Riprap used for construction of grouted riprap ditches shall comply with **Specification Section 7.2.1**.

7.2.2.2 Grouted Rock Riprap will be required in the construction and installation of Ditch Number One, Ditch Number Two, Ditch Number Three, Ditch Number Four, Spillway Number One, Spillway Number Two, Spillway Number Three, Spillway Number Four, and Spillway Number Five.

- 7.2.3** 24" diameter and 30" diameter pipes are required on this project and shall be highway grade high-density polyethylene pipe (HDPE) with corrugated exterior and smooth interior walls such as N12 pipes manufactured by Advanced Drainage Systems, Inc., or approved equal. Backfill for the pipes shall be 1 ½" crusher run stone or Class "B" bedding as shown on

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the plans and in accordance with **Specification Section 7.2.4**

- 7.2.4** Select aggregate for bedding and backfilling of pipes, headwalls, and concrete slabs shall be 1 ½" crusher run stone meeting the gradation and quality requirements of Class 1 Aggregate in Table 704.6.2A of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010; or Class "B" Bedding in accordance with **Section 604.5** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Class "B" Bedding shall consist of select random onsite material free from organic materials and particles larger than 3" in any dimension. Class "B" Bedding will require the approval of the Engineer prior to use in the backfilling of pipes. Backfilling operations shall comply with **Section 604.8** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010.
- 7.2.4.1** Class 1 Aggregate may be crushed limestone or sandstone.
- 7.2.4.2** All stone shall consist of particles of clean, hard, tough, durable rock and free from adherent coating and meet the requirements of **Section 703.1** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Stone shall have a maximum weighted loss of twelve percent (12%) when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – ASTM C88 (ASTM C88-99a Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate), as modified by the American Association of State Highway and Transportation Officials (AASHTO) T-104.
- 7.2.5** Filter Fabric used for drainage structures shall be non-woven and as specified in **Section 715.11.4** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 for subsurface drainage such as Geotex 401 manufactured by Advanced Drainage Systems, Inc. or approved equal.
- 7.2.6** **Class "B" Concrete.** Concrete used for the weir structure shall be 3,000 psi Class "B" concrete placed and cured in accordance with the requirements of **Section 601** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 and **Supplemental Specifications** Dated January 1, 2012. Cement used in the mixture shall be Type II sulfate resistant Portland cement meeting the requirements of ASTM C150 (Type II cement not Type I cement). Other materials include bulkhead materials such as plywood and all-thread connector rods with bolts and washers. The weir plate shall be fabricated from Type 304 stainless steel and shall have graduations stamped in ¼" increments adjacent to the V-notch to facilitate field measurements.

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- 7.2.7 Pre-Cast Concrete.** All concrete used in the Siphon Box and Distribution Box shall have a minimum compressive strength of 5,000 after 28 days and shall reach a minimum compressive strength of 2,500 psi after 24 hours. Concrete shall be placed and cured in accordance with the requirements of **Section 601 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 and **Supplemental Specifications** Dated January 1, 2012. Cement used in the mixture shall be Type II sulfate resistant Portland cement meeting the requirements of ASTM C150 (Type II cement not Type I cement). The Owner will require approved shop drawings for all pre-cast elements from the concrete pre-caster. The concrete pre-caster shall cast inserts or other means into the concrete to allow lifting and transporting without incurring cracking or spalling. Z-Lock flexible fittings sized as shown on the plans shall be cast in-place at locations shown on the plans. Steps, as shown on the drawing and approved by the Engineer, shall also be cast in-place.
- 7.2.8 Reinforcing Steel.** All steel reinforcement shall be in accordance with the requirements of **Section 602 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 and **Supplemental Specifications** Dated January 1, 2012. Reinforcement shall have a minimum yield strength of 60,000 psi and shall be epoxy coated. Lap splice lengths shall be at least 30 bar diameters. A minimum cover of 1 ½ inches shall be provided on all reinforcement. Detailing of reinforcement shall conform to the requirements of ACI 315, "Manual of Standard Practice for Detailing Reinforced Concrete Structures". Fabrication of reinforcement material shall conform to Concrete Reinforcing Steel Institute, "Manual of Standard Practice".
- 7.2.9 HDPE Pipe and Fittings.** 6-inch DR-17 HDPE pipe will be required for the sludge line. 4-inch DR-17 HDPE pipe will be required for the Distribution Box piping system. Necessary fittings, "tees" and "90° elbows" to complete the piping systems as designed.
- 7.2.9.1** Polyethylene pipe shall be made from HDPE material having a material designation code of PE3608 or higher. The material shall meet the requirements of ASTM D 3350 and shall have a minimum cell classification of PE345464C.
- 7.2.9.2** The pipe and fittings shall meet the requirements of AWWA C906.
- 7.2.9.3** HDPE pipe shall be rated for use at a pressure class of 100 psi (DR-17 Minimum). The outside diameter of the pipe shall be based upon the IPS or DIPS sizing system.

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7.2.9.4 An 8" SDR35 PCV 90° elbow to a 12" HDPE DR-17 pipe fitting will be required to connect the 8" SDR35 PVC pipe from the Distribution Box to the existing buried 12" HDPE DR-17 pipe.

7.2.9.5 A 90° 4" HDPE DR-17 elbow will be required to connect the 4" HDPE DR-17 pipe from the Distribution Box to the existing buried 4" HDPE DR-17 line.

7.2.9.6 Three (3) 6" HDPE DR-17 "tees" and one (1) 6" HDPE DR-17 90° elbow will be required to complete construction of the sludge line.

7.2.9.7 Four (4) each cam and grove with lockable cap, Dixon Brand or approved equal, four (4) each stainless steel NPT Male Thread adaptor, and Four (4) each stainless steel chains to connect the lockable cap to the male thread adaptor.

7.2.10 Intake Support System. The intake support system shall be constructed with the following:

- 5/8 inch braided polypropylene rope;
- Ronstan, or approved equal, welded stainless steel 1 ½ inch ring;
- 6-inch by 6-inch by 10-feet long pressure treated posts;
- ¼ inch braided stainless steel wire;
- 12" diameter (manufacture) perforated and solid heavy duty PE pipe;
- 12" heavy duty PE pipe to 8" SDR35 PVC pipe adaptor.

7.2.11 Fluid Dynamics Siphon Model 413, or approved equal, to be installed in the Siphon Box. The siphon shall be mounted level in a plastic bucket with a diameter of 16-inches, filled with concrete to a height of 12-inches with the excess bucket trimmed.

7.2.12 Components required for the Distribution Box include 3-inch by 3-inch by ¼" stainless steel angle iron, 4-foot long by 2.5-foot by ¼" stainless steel baffle, 4-foot long by 8-inch by 8-inch by 1/8" stainless steel trough, two (2) 4-foot long by 9" by 1/8" weir plates with 60° notches dimensioned as shown on the plans, and a 0.89-foot long by 0.49-foot by 0.63-foot by 1/8" stainless steel in trough baffle. All hardware shall be stainless steel. The angle iron shall be anchored to the concrete box with 3/8" by 1-9/16" concrete drop. The baffle and trough shall be bolted to the angle iron with 3/8" by 1" bolts with a washer on each side, lock washer, and nut. The weirs shall be attached to the trough with 3/8" by 1" bolts with a washer on each side, lock washer, and nut. The in-trough baffle shall be completely welded to the trough as shown on the plans. Industrial silicone shall be placed between the trough and concrete immediately prior to installing the trough. Once the weir plates are installed, the weir slot shall be sealed with industrial silicone to prevent leakage.

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- 7.2.13 The hatch atop the Siphon Box shall be a 30-inch by 30-inch aluminum hatch Bilco Brand SM Model or approved equal. The hatch atop the Distribution Box shall be 4.0-feet by 4.0-feet Bilco Brand JD-2AL Model or approved equal.
- 7.2.14 Solid 8-inch diameter SDR 35 PVC pipes and necessary 8 inch diameter connectors and bends as required to complete the installations, or as deemed necessary by the Owner.

7.3 METHOD OF CONSTRUCTION

- 7.3.1 The Contractor shall comply with **Special Provision 5, Schedule of Work**. The Contractor will be required to install erosion and sediment control structures as indicated on the plans and described herein prior to any major disturbance in the project area.

7.3.1.1 Most of the project area drains to the settlement ponds receiving treated mine drainage from the existing water-wheel treatment system. These ponds have been maintained by the WVDEP and do not require any Contractor actions. However, construction of Ditch Number One and installation of Pipe Number One will divert water from the settlement ponds and directly into Stoney Run. Therefore, construction of Ditch Number One and installation of Pipe Number One shall be delayed until all portions of the project upgradient from Ditch Number One are complete and ready for vegetation. At that time, the Contractor will be required to install silt fence at locations shown on the plans and in accordance with these specifications above the alignment of Ditch Number One. After proper installation and with the approval of the Engineer, the Contractor may construct Ditch Number One and install Pipe Number One.

7.3.1.2 Other sequence of operations shall be at the discretion of the Contractor. However, at a minimum, water shall not be allowed to enter into or pool in constructed ditches, installed pipes, or subsurface drains until all components have been installed and are operational, curing times have been achieved, and the constructions have been approved by the Owner. Work shall proceed downstream to upstream, bringing the site to grade and installing drainage control structures.

- 7.3.2 Pond One area shall be prepared in accordance with **Specifications 4.2.17**. After preparation and with the approval of the Engineer, the Contractor shall install the Intake Support System.

7.3.2.1 The Contractor shall install four (4) each treated 6-inch by 6-inch

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by 10-foot treated posts at the location shown on the plans.

- 7.3.2.2 Two (2) post installations shall be set on each side of Pond One for a total of four (4) posts. The post installation location shall be on each side of Pond Number One and allow the 12" heavy duty perforated PE intake pipe to be pulled to shore for cleaning and replacement, if required. At each installation, one (1) post will set at the top of the slope breaking over to the water level in Pond One. The other post shall be set 6-feet behind (away from Pond One) and in direct line with the other installation set across Pond One. The second post shall act as a dead-man for stabilization.
- 7.3.2.3 A hole 18-inches in diameter by 4-foot deep shall be excavated by hand or auger at each post location. The post shall be set in the center of the hole with the annulus filled with Ready-Mix concrete to the satisfaction of the Engineer. The posts shall be set inline and vertical and supported until the concrete has cured.
- 7.3.2.4 A ¼" stainless steel cable inserted through a 1 ½" stainless steel ring and through a hole drilled through the top of the set post. The cable shall be suspended from post top to post top and extended to the bottom of the dead-man post. The stainless steel cable shall be wrapped tightly around the bottom of the dead-man post and connected together with u-bolts to the satisfaction of the Engineer.
- 7.3.2.5 A 5/8" braided rope shall be inserted through the ring and connected to the end of the 12" heavy duty perforated PE pipe. The rope shall be long enough to stretch across Pond One plus 25-feet and shall be wrapped around and tied to the dead-man post. Another 5/8" braided rope shall installed in the same manner and attached to the opposite dead-man post.
- 7.3.2.6 The Contractor will be required to connect 12" diameter heavy duty PE pipe intake piping system to the Siphon Box. Solid 12" diameter heavy duty PE pipe (approximately 15-feet) will be connected from the 8" SDR 35 PCV pipe extending from the Siphon Box to the edge of water in Pond One. 12" diameter heavy duty PE perforated pipe will be connected with an inline coupler to the end of the solid 12" heavy duty PE pipe and extend approximately 35 feet to the intake support system as shown on the plans. Solid pipe will be required beneath fill and perforated pipe will be required in Pond One water.
- 7.3.3 The Contractor shall place the Siphon Box at the location and to the lines and grades shown on the plans.
- 7.3.3.1 The concrete Siphon Box shall be pre-cast to the dimensions

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shown on the plans. The pre-cast manufacturer is responsible for the design of the structural reinforcement. Shop drawings shall be submitted to the Engineer for approval prior to construction. Concrete shall conform to **Specification 7.2.7** and reinforcing steel shall conform to **Specification 7.2.8**. If the Contractor wishes to cast concrete structures in place instead of installing precast structures, the Contractor must submit a structure design certified by a Professional Engineer licensed in the State of WV. The Owner reserves the right to reject any proposed designs.

7.3.3.2 The subgrade for the Siphon Box shall be prepared in accordance with **Specification 7.3.5**. Two (2) 3-inch lifts of 1 ½" crusher run stone shall be placed under the base of the box and extend beyond the box footprint for 1.0-foot, minimum.

7.3.3.3 A siphon meeting the requirements of **Specification 7.2.11** shall be mounted level in a plastic bucket with a diameter of 16-inches, filled with concrete to a height of 12-inches with the excess bucket trimmed. The bucket shall be centered in the concrete box.

7.3.3.4 Elevations are critical to the proper operation of the Siphon. The Siphon Box must be set level on a solid foundation and at the elevation shown on the plans. The Contractor shall employ a Registered Professional Surveyor to set the box and components level and at the proper elevation. Survey notes shall be given to the Engineer for review and approval.

7.3.3.5 A hatch meeting the requirements of **Specification 7.2.13** shall be pre-cast into the top of the Siphon Box.

7.3.3.6 The Contractor will be required to connect and install 8" SDR35 PVC pipes into and out of the Siphon Box at the location and to the lines and grades shown on the plans. The upstream 8" SDR35 PVC pipe shall connect to the 12" heavy duty PE pipe suspended by the Intake Support System. The downstream 8" SDR35 PVC pipe shall connect to the Distribution Box as shown on the plans.

7.3.3.7 Trench excavation dimensions shall adhere to the details shown on the plans. 1 ½" crusher run stone shall be used to level the pipes. 1 ½" crusher run stone and Class "B" select backfill shall be used to backfill the pipes as shown on the plans. Trench excavation, subgrade preparation, and backfilling shall adhere to **Specification 7.3.7**.

7.3.3.8 The Siphon Box and associated lines shall be backfilled with Class "B" backfill in accordance with **Specification 7.2.4**.

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7.3.4 The Contractor shall place the Distribution Box at the location and to the lines and grades shown on the plans.

7.3.4.1 Prior to pre-casting and installing the distribution box, the Contractor will be required to uncover the existing buried 12" HDPE DR-17 and 4" HDPE DR-17 lines near the anticipated connection point with the lines from the Distribution Box. The order in which these lines are aligned will determine which side of the Distribution Box will have the 8" SDR35 PVC connection and which side will have the 4" HDPE DR-17 connection. The box shall be pre-cast and set accordingly.

7.3.4.2 The concrete Distribution Box shall be pre-cast to the dimensions shown on the plans. The pre-cast manufacturer is responsible for the design of the structural reinforcement. Shop drawings shall be submitted to the Engineer for approval prior to construction. Concrete shall conform to **Specification 7.2.7** and reinforcing steel shall conform to **Specification 7.2.8**. If the Contractor wishes to cast concrete structures in place instead of installing precast structures, the Contractor must submit a structure design certified by a Professional Engineer licensed in the State of WV. The Owner reserves the right to reject any proposed designs.

7.3.4.3 The subgrade for the Distribution Box shall be prepared in accordance with **Specification 7.3.5**. Two (2) 3-inch lifts of 1 1/2" crusher run stone shall be placed under the base of the box and extend beyond the box footprint for 1.0-foot, minimum.

7.3.4.4 Distribution Box components meeting the requirements of **Specification 7.2.12** including stainless steel weir plates, troughs, and baffles shall be installed in the Distribution Box to the lines and grades shown on the plans and approved by the Engineer.

7.3.4.5 Elevations are critical to the proper operation of the Distribution Box. The Distribution Box/baffles/troughs/weir plates must be set level on a solid foundation and at the elevation shown on the plans. The Contractor shall employ a Registered Professional Surveyor to set the box and components level and at the proper elevation. Survey notes shall be given to the Engineer for review and approval.

7.3.4.6 A hatch meeting the requirements of **Specification 7.2.13** shall be pre-cast into the top of the Distribution Box.

7.3.4.7 The Contractor will be required to connect and install an 8" SDR35 PVC pipe and 4" HDPE DR-17 pipe out of the Distribution Box at the location and to the lines and grades shown on the plans.

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The 8" SDR35 PVC pipe shall connect to the existing buried 12" HDPE DR-17 pipe leading to the water-wheel treatment system. An adaptor will be required for this connection. The 4" HDPE DR-17 pipe shall connect to the existing buried 4" HDPE DR-17 pipe leading to the water-wheel treatment system.

7.3.4.8 Trench excavation dimensions shall adhere to the details shown on the plans. 1 ½" crusher run stone shall be used to level the pipes. 1 ½" crusher run stone and Class "B" select backfill shall be used to backfill the pipes as shown on the plans. Trench excavation, subgrade preparation, and backfilling shall adhere to **Specification 7.3.7**.

7.3.4.9 The Distribution Box and associated lines shall be backfilled with Class "B" backfill in accordance with **Specification 7.2.4**

7.3.5 Prior to installing ditch and spillway linings, the sub-grade/sub-base of the drainage facility shall be inspected and approved by the Engineer.

7.3.5.1 Prior to grouted rock riprap installation, the subgrade shall be prepared by removing all objectionable material to the satisfaction of the Owner. In the event coal refuse is encountered such material will be undercut a minimum of 12" and replaced with onsite suitable compacted material, approved by the Owner, prior to installing the lining. The subgrade shall then be proof rolled to insure compaction has been achieved to the satisfaction of the Owner.

7.3.5.2 If in the opinion of the Owner the subgrade is unsuitable, the Contractor will be required to undercut the subgrade a minimum of 2.0 feet and place compacted suitable on-site fill material, as approved by the Owner, in 6" lifts back to subgrade elevations. In addition, some filling may be required after removing all objectionable material to bring the subgrade to proper elevations depicted on the Plans.

7.3.5.3 Subgrade fill material shall be compacted to at least 95% of Standard Proctor maximum dry density at a moisture content of not less than 2% below nor greater than 3% above optimum. Testing frequency and locations shall be directed and approved by the Owner.

7.3.6 The ditches and spillways shall be constructed to the lines, grades, and templates shown on the plans or as directed and approved by the Owner. Grouted Rock Riprap will be required in the construction and installation of Ditch Number One, Ditch Number Two, Ditch Number Three, Ditch Number Four, Spillway Number One, Spillway Number Two, Spillway

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Number Three, Spillway Number Four, and Spillway Number Five.

7.3.6.1 Grouted riprap shall be applied and comply with **Section 218.3 and Section 501.14** of the WVDOH Standard Specifications for Roads and Bridges, Adopted 2010.

- 7.3.6.1.1** Where drainage facilities are to receive grouted rock riprap, the subgrade shall be excavated so that the final grades, grouted riprap size and thickness, and dimensions will agree with those on the plans. Grouted riprap linings shall be placed so top of grouted riprap in drainage facilities blend to adjacent, final grades. Grouted riprap linings shall not be indiscriminately placed atop final grades. Grouted riprap drainage facilities subgrade shall be prepared in accordance with **Specification Section 7.3.5**.
- 7.3.6.1.2** Riprap shall be placed to its required thickness without damaging or displacing the underlying subgrade. Some hand placing of riprap may be required around pipes and other encountered obstructions.
- 7.3.6.1.3** Grouted riprap shall be installed at an elevation 1.0 foot, minimum, above the top of all pipes (either installed or existing) and on both the inlet (upstream) and outlet (downstream) ends of the pipes. The 1.0 foot, minimum, cover requirement shall transition to normal ditch depths ten feet (10') from the upstream and downstream ends of the pipe as shown on the plan profiles.
- 7.3.6.1.4** Prior to grout placement the riprap shall be free of trash, debris, dirt, sticks, limbs, leaves or other objectionable material as determined by the Engineer. The Engineer shall approve the riprap prior to grout application. Grout, where required to be placed on riprap, shall be applied as soon as possible after placement of riprap. The stone shall be thoroughly wet immediately before grout is applied. As soon as grout is deposited on the surface it shall be thoroughly worked into the joints to achieve 100 percent penetration. The stones shall then be brushed so that their top surfaces are exposed. The grout shall be protected from running water to prevent damage until sufficiently cured.
- 7.3.6.1.5** Curing shall be accomplished by one of two means. A liquid membrane-forming compound for curing

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concrete may be sprayed on the brushed grouted surface. Curing compounds shall conform to the requirements of **Section 707.9** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Alternately, the grouted surface may be covered with white polyethylene sheeting (film) for curing concrete immediately after the stones have been brushed. The sheeting shall conform to the requirements of **Section 707.10** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Grouting of drainage facilities shall not be initiated unless adequate materials for curing the grouted drainage facilities are available on-site. Curing by liquid membrane-forming compound shall be left for 72 hours prior to introduction of water. Likewise, grouted riprap shall remain covered for 72 hours prior to sheeting removal and introduction of water.

7.3.6.2 Grout keys will be required in some ditches/spillways as shown on the plans.

7.3.6.2.1 The grouted riprap key shall be as dimensioned on the Plans, and installed to the lines and grades and at the locations shown on the plans.

7.3.6.2.2 After excavating the Grout Key to the dimensions shown on the plans, place grout in the excavation to the channel subgrade prior to placing the riprap. Riprap shall then be placed into the grout to the lines and grades shown on the plans.

7.3.6.2.3 Grout keys excavated in coal refuse shall be undercut a minimum of 12" and replaced with 12" of onsite suitable compacted material, approved by the Owner, prior to installing the grout key components.

7.3.6.3 The Texas Crossings shall be constructed to the lines and grades shown on the plans with grouted riprap lining. The Texas Crossing will provide "drive-thru" crossing across existing or proposed streams or ditches to allow property owner access. A Texas Crossing shall be installed in Ditch Number Two and Ditch Number Three.

7.3.6.4 The Contractor shall prepare one set of cylinders for every twenty (20) cubic yards of grout applied to ditches for compressive testing in accordance with **Specification Section 7.2.4**. For ditches that receive less than twenty (20) cubic yards of grout, prepare one set

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of cylinders, minimum, per ditch. Three (3) specimens are considered one set of cylinders in accordance with **Section 601.4.4 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010.

7.3.6.5 Excess material from ditch excavation shall be disposed of on-site. Sections of ditches that are cut to rock shall not require rock riprap lining or grouted rock riprap lining.

7.3.6.6 Ditches that intercept existing drain pipes (existing road drains, subsurface drains, etc.) shall provide outlets for those intercepted drains. Outlets shall consist of compatible piping materials as exists and the Contractor shall ensure water emanating from these pipes safely and completely enters the constructed ditch and to the satisfaction of the Owner.

7.3.7 HDPE pipe assemblies shall be watertight and located and constructed to the lines and grades shown on the Drawings. The pipes shall be installed in accordance with **Section 604 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 and as detailed in these Specifications and on the construction plans. Trenches for pipes shall comply with dimensions depicted on the plans. Pipe Number One and Pipe Number Two installations consist of a 30" and 24" diameter (respectively) HDPE corrugated-exterior, smooth-interior walled pipe meeting the requirements of **Section 7.2.3**. Pipe Number One conveys Ditch Number One drainage beneath the haulroad. Pipe Number Two conveys seep drainage beneath Access Road Number One in Ditch Number Three to Pond Number One.

7.3.7.1 Trench excavation exceeding five (5) feet in depth shall be supported with suitable shoring or sides of the excavation shall be cut to stable slopes as recommended in the OSHA Publication "*Excavating and Trenching Operations*", OSHA 2226 and approved by the Engineer to prevent caving, slipping or cracking of the sides to protect workmen from any injury. Any shoring installed shall be removed with backfilling of the trench.

7.3.7.2 The subgrade shall be prepared by proof-rolling, and shall be satisfactory to the Engineer prior to placement of the bedding or pipe. Class 1 stone in accordance with **Specification 7.2.4** shall be used for leveling and bedding of the pipes. Class 1 stone and Class "B" bedding shall be placed to the depths shown on the Plans and placed under, around, or over pipes as shown on the Plans.

7.3.7.2.1 If in the opinion of the Engineer the subgrade is unsuitable, the Contractor will be required to undercut the subgrade a minimum of 2.0 feet and place

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compacted suitable fill material, as approved by the Engineer, in 6" lifts back to subgrade elevations.

7.3.7.2.2 Subgrade fill material shall be compacted to at least 95% of Standard Proctor maximum dry density at a moisture content of not less than 2% below nor greater than 3% above optimum. Testing frequency and locations shall be directed and approved by the Engineer.

7.3.7.2.3 Pipe backfill operations shall comply with **Section 604.8 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2000. Class "B" backfill material shall be the best select, suitable random material found on-site and free from particles larger than 3" and approved by the Engineer. Backfill material shall be placed in 4" loose lifts and compacted to at least 95% of Standard Proctor maximum dry density at a moisture content of not less than 2% below nor greater than 3% above optimum. Testing shall be at a frequency approved by the Engineer. At a minimum, one test per side of pipe will be required at a location designated by the Engineer.

7.3.7.3 During installation of Pipe Number One and Pipe Number Two, the Contractor will be required to provide unrestricted access to landowners and their assigns at all times. All pits, trenches, and other excavations shall be closed at the end of the day's work to allow traffic to flow as normal.

7.3.7.4 Pipe Number One and Pipe Number Two shall be positioned to the lines and grades shown on the plans. Crusher run stone meeting the requirements of **Specification Section 7.2.4** shall be placed on the trench bottom for leveling of the pipe to the grades shown on the plans.

7.3.7.5 The pipes shall be backfilled with crusher run stone, as shown on the plans and meeting the requirements of **Specification Section 7.2.4**, from existing or constructed road edge to existing or constructed road edge blending into surrounding or constructed road grades. The remainder of the pipe backfill shall be crusher run stone with suitable select backfill and soil material placed atop to support vigorous vegetative growth as shown on the plans.

7.3.8 The Contractor will be required to construct a weir for flow measurement across the existing spillway of the final discharge pond receiving treated

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AMD from the water-wheel treatment system to the lines and grades shown on the plans.

- 7.3.8.1 The Contractor will be required to develop a plan to "pump-around" water from the settlement pond while constructing the weir structure, including curing time for poured in-place concrete. The plan shall be submitted to the Engineer for approval prior to its implementation.
- 7.3.8.2 The elevation of the settlement pond is 3313.5 and shall be the final grade elevation of the bottom of the notch in the fabricated weir plate.
- 7.3.8.3 The Contractor will be required to remove existing riprap from the spillway covering the footprint of the weir structure. The riprap shall be temporarily stockpiled and used to backfill around completed weir structure. The subgrade of the weir structure shall be prepared in accordance with **Specification 7.3.7.2**.
- 7.3.8.4 The Contractor shall excavate the footprint of the weir structure plus sufficient room to construct and install necessary concrete forms. Excavation operations shall extend to elevation 3308.0 or at least four feet (4.0'), minimum, below the subgrade level of the riprap and into earthen material.
- 7.3.8.5 All poured in place concrete be placed, formed, finished, and cured in accordance with **Section 601 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Concrete shall be allowed to cure for a minimum of seven (7) days or until 70% of the specified strength for the concrete has been attained.
- 7.3.8.6 Two (2) grids of #4 reinforcing bars, meeting the requirements of **Specification 7.2.8**, tied on 12-inch centers shall be placed in the forms prior to pouring of concrete. One grid of bars shall be placed at the 2" cover line from the upstream side of the weir structure and the other placed at the 2" concrete cover line from the downstream concrete cover line.
- 7.3.8.7 ¾" PVC pipe sleeves shall be cast into the concrete pour to allow insertion of bolts to attach the pre-fabricated weir plate.
- 7.3.8.8 The Contractor will be required to fabricate a weir plate to the lines and dimensions shown on the plans.
 - 7.3.8.8.1 The weir plate shall be 4-feet by 1.5 feet by 1/8" stainless steel plate. A "vee" notch shall be cut in the

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top center of the plate. The notch shall be 6-inches deep and have a notch angle of 90°.

7.3.8.8.2 Proper operation of the weir is dependent upon proper cutting of the notch. The center of the notch shall be aligned with the vertical center of the plate. The notch cut shall be smooth along its length and cut with sharp edges perpendicular to the plate.

7.3.8.8.3 Holes shall be drilled near the outer edges of the sides and bottom of the plate for mounting against the upstream edge of the concrete weir structure. The Engineer shall approve the pre-fabricated weir plate prior to placement.

7.3.8.8.4 The Contractor shall apply industrial silicone waterproof membrane between the weir plate and the concrete. Sufficient silicone shall be applied so it oozes out when tightening the plate to the concrete. Excess silicone shall be removed to the satisfaction of the Engineer.

7.3.8.9 After proper curing time has elapsed, concrete test have been submitted and approved, and with the approval of the Engineer, forms may be removed and the weir structure backfilled.

7.3.8.9.1 The excavation around the weir structure shall be filled with Class "B" backfill to the elevation of the riprap subgrade. Filled material shall meet the compaction requirements of **Specification 7.3.7.2**.

7.3.8.9.2 Temporarily stockpiled riprap shall be placed atop the Class "B" backfill to an elevation of 6", minimum, below the bottom of the notch in the weir plate and to conform to surrounding existing riprap grades.

7.3.8.9.3 Proper operation of the weir is dependent on having the weir plate set on a solid foundation, level, at elevation 3313.5 (bottom of notch) and having 6" clearance, minimum, from the bottom of the notch in the weir plate to riprap or other fill material upstream to the pond water edge and downstream of the weir structure for 6-feet, or as approved by the Engineer.

7.3.8.9.4 The Contractor shall employ a Registered Professional Surveyor to set the weir plate level and at the proper

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notch elevation. Survey notes shall be given to the Engineer for review and approval.

7.3.8.9.5 If in the opinion of the Engineer, filling and compacting Class "B" backfill or installation of riprap has compromised the integrity or planned horizontal or vertical location of the weir structure, the Contractor shall remove the fill/riprap and repair or have repaired all damage or remove and replace the concrete structure at the discretion of the Engineer and at no cost to the WVDEP.

7.3.9 High density polyethylene pipe (HDPE) and fittings will be required in the installation of the 6" diameter sludge line and the 4" diameter. The Contractor shall furnish, install, and test HDPE pipe as indicated and specified in this section, and as referred to in related sections, and the Plans. The primary installation method is burial. The means and methods, including the testing for acceptance, shall conform to all applicable standards as noted herein with the intention of providing a leak-free system to the Owner.

7.3.9.1 The Contractor will be required to install a 6" diameter HDPE DR-17 sludge line from the end of the existing sludge line located near the settlement ponds receiving discharge from the water-wheel treatment system to the sludge cells created in the backfill as shown on the plans.

7.3.9.1.1 Trench excavation dimensions shall adhere to the details shown on the plans. 1 1/2" crusher run stone shall be used to level the pipes. 1 1/2" crusher run stone and Class "B" select backfill shall be used to backfill the pipes as shown on the plans. Trench excavation, subgrade preparation, and backfilling shall adhere to **Specification 7.3.7**.

7.3.9.1.2 The Contractor will be required to install end caps where the 6" HDPE DR-17 sludge line ends in each of the four (4) sludge cells constructed in the project regrade area. End caps shall be cam lock with associated 6" NPT male thread adaptors and stainless steel chains to connect the end cap to the male adaptor all in accordance with **Specification 7.2.9** and as shown on the plans.

7.3.9.2 The Contractor will be required to install a 4" diameter HDPE DR-17 line from the Distribution Box to the anticipated connection point with the existing 4" HDPE DR-17 line leading to the water-

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wheel treatment system. Trench excavation dimensions shall adhere to the details shown on the plans. 1 ½" crusher run stone shall be used to level the pipes. 1 ½" crusher run stone and Class "B" select backfill shall be used to backfill the pipes as shown on the plans. Trench excavation, subgrade preparation, and backfilling shall adhere to **Specification 7.3.7**

7.3.9.3 SYSTEM DESIGN PARAMETERS

7.3.9.3.1 The *polyethylene* system working pressure rating *accommodates* the normal operating pressure and the repetitive surges. The pressure rating applies at 80°F or less.

7.3.9.3.2 Per AWWA 901 and C906, the repetitive surge pressure allowance is one half the pressure class of the pipe, and the occasional surge over pressure allowance is equal to the pressure class of the pipe. Allowable Total Pressure during Recurring Surge conditions equals 1.5 times the pipe's pressure class. Allowable Total Pressure during Occasional Surge conditions equals 2.0 times the pipe's pressure class.

7.3.9.3.3 Table 1 gives the Pressure Class per AWWA C901, Pressure Rating and Allowable Total Pressure During Recurring and Occasional Surge for PE4710 pipe at 80°F or less. For PE 3608, refer to Table 2.

Table 1. Pressure Class per AWWA C901 for PE 4710 at 80°F or less

<i>Pipe Dimension Ratio (DR)</i>	<i>Pressure Class</i>	<i>Pressure Rating</i>	<i>Allowable Total Pressure During Recurring Surge</i>	<i>Allowable Total Pressure During Occasional Surge</i>
<i>DR 9</i>	<i>250 psi</i>	<i>250 psi</i>	<i>375 psi</i>	<i>500 psi</i>
<i>DR 11</i>	<i>200 psi</i>	<i>200 psi</i>	<i>300 psi</i>	<i>400 psi</i>
<i>DR 14.3</i>	<i>150 psi</i>	<i>150 psi</i>	<i>225 psi</i>	<i>300 psi</i>
<i>DR 17</i>	<i>125 psi</i>	<i>125 psi</i>	<i>185 psi</i>	<i>250 psi</i>
<i>DR 21</i>	<i>100 psi</i>	<i>100 psi</i>	<i>150 psi</i>	<i>200 psi</i>

7.3.9.3.4 Table 2 gives the Pressure Class per AWWA C901 and C906, Pressure Rating and Allowable Total Pressure

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During Recurring and Occasional Surge for PE3608 pipe at 80°F or less.

Table 2. Pressure Class per AWWA C901 and C906 for PE 3608 at 80°F or less

<i>Pipe Dimension Ratio (DR)</i>	<i>Pressure Class</i>	<i>Pressure Rating</i>	<i>Allowable Total Pressure During Recurring Surge</i>	<i>Allowable Total Pressure During Occasional Surge</i>
<i>DR 9</i>	<i>200 psi</i>	<i>200 psi</i>	<i>300 psi</i>	<i>400 psi</i>
<i>DR 11</i>	<i>160 psi</i>	<i>160 psi</i>	<i>240 psi</i>	<i>320 psi</i>
<i>DR 14.3</i>	<i>120 psi</i>	<i>120 psi</i>	<i>180 psi</i>	<i>240 psi</i>
<i>DR 17</i>	<i>100 psi</i>	<i>100 psi</i>	<i>150 psi</i>	<i>200 psi</i>
<i>DR 21</i>	<i>80 psi</i>	<i>80 psi</i>	<i>120 psi</i>	<i>160 psi</i>

7.3.9.4 SUBMITTALS

7.3.9.4.1 Affirmation that product shipped meets or exceeds the standards set forth in this specification. This shall be in the form of a written document from the manufacturer attesting to the manufacturing process meeting the standards.

7.3.9.4.2 Manufacturers recommended fusion procedures for the products.

7.3.9.5 DELIVERY – STORAGE – HANDLING

7.3.9.5.1 Handle the pipe in accordance with the PPI *Handbook of Polyethylene Pipe (2nd Edition)*, Chapter 2 using approved strapping and equipment rated for the loads encountered. Do not use chains, wire rope, forklifts or other methods or equipment that may gouge or damage the pipe or endanger persons or property. Field storage is to be in compliance with AWWA Manual of Practice M55 Chapter 7.

7.3.9.5.2 If any gouges, scrapes, or other damage to the pipe results in loss of 10% of the pipe wall thickness, cut out that section or do not use.

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7.3.9.6 FITTINGS

- 7.3.9.6.1** Butt Fusion Fittings - Fittings shall be made of HDPE material with a minimum material designation code of PE3608 and with a minimum Cell Classification as noted in 2B.01A. Butt Fusion Fittings shall meet the requirements of ASTM D3261. Molded and fabricated fittings shall have a pressure rating equal to the pipe unless otherwise specified on the plans. All fittings shall meet the requirements of AWWA C906.
- 7.3.9.6.2** Markings for molded fittings shall comply with the requirements of ASTM D 3261. Fabricated fittings shall be marked in accordance with ASTM F 2206. Socket fittings shall meet ASTM D 2683.
- 7.3.9.6.3** Electrofusion Fittings - Fittings shall be made of HDPE material with a minimum material designation code of PE 3608 and with a minimum Cell Classification as noted in 2B.01A. Electrofusion Fittings shall have a manufacturing standard of ASTM F1055. Fittings shall have a pressure rating equal to the pipe unless otherwise specified on the plans. All electrofusion fittings shall be suitable for use as pressure conduits, and have nominal burst values of four times the Working Pressure Rating (WPR) of the fitting. Markings shall be according to ASTM F 1055.
- 7.3.9.6.4** Flanges and Mechanical Joint Adapters (MJ Adapters) – Flanges and Mechanical Joint Adapters shall have a material designation code of PE3608 or higher and a minimum Cell Classification as noted in 2B.01A. Flanged and Mechanical Joint Adapters can be made to ASTM D 3261 or if machined, must meet the requirements of ASTM F 2206. Flanges and MJ Adapters shall have a pressure rating equal to the pipe unless otherwise specified on the plans. Markings for molded or machined flange adapters or MJ Adapters shall be per ASTM D 3261. Fabricated (including machined) flange adapters shall be per ASTM F 2206.
- 7.3.9.6.5** Van-Stone style, metallic (including stainless steel), convoluted or flat-plate, back-up rings and bolt materials shall follow the guidelines of Plastic Pipe Institute Technical Note # 38, and shall have the bolt-holes and bolt-circles conforming to one of these standards: ASME B-16.5 Class 150, ASME B-16.47

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Series A Class 150, ASME B-16.1 Class 125, or AWWA C207 Class 150 Series B, D, or E. The back-up ring shall provide a long-term pressure rating equal to or greater than the pressure-class of the pipe with which the flange adapter assembly will be used, and such pressure rating shall be marked on the back-up ring. The back-up ring, bolts, and nuts shall be protected from corrosion by a system such as paint, coal-tar epoxy, galvanization, polyether or polyester fusion bonded epoxy coatings, anodes, or cathodic protection, as approved by the WVDEP.

- 7.3.9.6.6 Service connections shall be electrofusion saddles with a brass or stainless steel threaded outlet, electrofusion saddles, sidewall fusion branch saddles, tapping tees, or mechanical saddles.
- 7.3.9.6.7 For electrofusion saddles with threaded outlet the size of the outlet shall be one inch IPS unless a larger size is shown on the plans. Electrofusion saddles shall be made from materials required in part B. Electrofusion Fittings.
- 7.3.9.6.8 For sidewall fusion saddles the size of the saddle shall be as indicated on the plans. The saddle can be made in accordance to ASTM D 3261 or ASTM F 2206. After installation, approximately $\frac{1}{4}$ " of the PE pipe shall be visible beyond the saddle to confirm that proper surface preparation occurred. Saddle faces that do not provided $\frac{1}{4}$ inch of area beyond the saddle are not acceptable.
- 7.3.9.6.9 Mechanical strap-on saddles can only be used where there use on PE pipe is approved by the mechanical saddle manufacturer. The body of the saddle shall be stainless steel, epoxy coated cast iron or brass. The gasket material and design must be acceptable for PE pipe. The outlet shall be threaded for one inch IPS unless a larger size is shown on the plans. Mechanical strap-on saddles will be installed per the manufacturer's instructions.

7.3.9.7 PIPE AND FITTING IDENTIFICATION

- 7.3.9.7.1 The pipe shall be marked in accordance with the standards to which it is manufactured.
- 7.3.9.7.2 Color identification by the use of stripes on pipe to identify pipe service shall be optional. If used, stripes

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or colored exterior pipe product shall be blue for potable water, or green for wastewater/sewage, or purple (lavender) for reclaimed water.

7.3.9.8 JOINING METHODS

7.3.9.8.1 Butt Fusion: The pipe shall be joined by the butt fusion procedure outlined in ASTM F 2620 or PPI TR-33. All fusion joints shall be made in compliance with the pipe or fitting manufacturer's recommendations. Fusion joints shall be made by qualified fusion technicians per PPI TN-42.

7.3.9.8.2 Saddle fusion: Saddle fusion shall be done in accordance with ASTM F 2620 or TR-41 or the fitting manufacturer's recommendations and PPI TR-41. Saddle fusion joints shall be made by qualified fusion technicians. Qualification of the fusion technician shall be demonstrated by evidence of fusion training within the past year on the equipment to be utilized on this project.

7.3.9.8.3 Socket Fusion: Molded socket fusion fittings are only to be used for joining of HDPE pipe from 1/2 inch to 2" in size. Socket fusion shall be done in accordance with ASTM F 2620 or the fitting manufacturer's recommendations. Socket fusion is the process of fusing pipe to pipe, or pipe to fitting by the use of a male and female end that are heated simultaneously, and pressed together so the outside wall of the male end is fused to the inside wall of the female end. Qualification of the fusion technician shall be demonstrated by evidence of socket fusion training within the past year on the equipment to be utilized on this project.

7.3.9.8.4 Electrofusion: Electrofusion joining shall be done in accordance with the manufacturers recommended procedure. Other sources of electrofusion joining information are ASTM F 1290 and PPI TN 34. The process of electrofusion requires an electric source, a transformer, commonly called an electrofusion box that has wire leads, a method to read electronically (by laser) or otherwise input the barcode of the fitting, and a fitting that is compatible with the type of electrofusion box used. The electrofusion box must be capable of reading and storing the input parameters and the fusion results for later download to a record file. Qualification

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of the fusion technician shall be demonstrated by evidence of electrofusion training within the past year on the equipment to be utilized for this project.

7.3.9.8.5 Mechanical:

7.3.9.8.5.1 Mechanical connection of HDPE to auxiliary equipment such as valves, pumps, and fittings shall use mechanical joint adapters and other devices in conformance with the PPI Handbook of Polyethylene Pipe, Chapter 9 and AWWA Manual of Practice M55, Chapter 6.

7.3.9.8.5.2 Mechanical connections on small pipe under 3" are available to connect HDPE pipe to other HDPE pipe, or a fittings, or to a transition to another material. The use of stab-fit style couplings is allowed, along with the use of metallic couplings of brass and other materials. All mechanical and compression fittings shall be recommended by the manufacturer for potable water use. When a compression type or mechanical type of coupling is used, the use of a rigid tubular insert stiffener inside the end of the pipe is recommended.

7.3.9.8.5.3 Mechanical couplings that wrap around the pipe and act as saddles are made by several manufacturers specifically for HDPE pipe. All such saddles, tapping saddles, couplings, clamps etc. shall be recommended by the manufacturer as being designed for use with HDPE pipe at the pressure class listed in this section.

7.3.9.8.5.4 Unless specified by the fitting manufacturer, a restraint harness or concrete anchor is recommended with mechanical couplings to prevent pullout.

7.3.9.8.5.5 Mechanical coupling shall be made by qualified technicians. Qualification of the field technician shall be demonstrated by evidence of mechanical coupling training within the past year. This training shall be

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on the equipment and pipe components to be utilized for this project.

7.3.9.9 INSTALLATION. Select material is to be used for backfilling. No rocks larger than 3" in size shall be placed in the select backfill material.

7.3.9.10 TESTING

7.3.9.10.1 Hydrostatic leakage testing is recommended and shall comply with ASTM F 2164, ASTM F 1412, AWWA Manual of Practice M55 Chapter 9, and PPI Handbook of Polyethylene Pipe Chapter 2 (2nd Edition). If the test section fails this test, the Contractor shall repair or replace all defective materials and/or workmanship at no additional cost to the Owner.

7.3.9.10.2 Pneumatic (compressed air) leakage testing of HDPE pressure piping is prohibited for safety reasons.

7.4 METHOD OF MEASUREMENT

7.4.1 The method of measurement for grouted riprap lined ditches shall be on a linear foot for **Item 7.1, 2.0 Ft. Deep "Vee" Shaped Grouted Riprap Ditch, Item 7.2, 2.5 Ft. Deep "Vee" Shaped Grouted Riprap Ditch, or Item 7.3, 3.0 Ft. Deep "Vee" Shaped Grouted Riprap Ditch** measured along the flowline of the ditch for the size of ditch constructed. Transition areas into and out of pipes to achieve 1.0 foot of grouted riprap cover over top of the pipe shall be paid at the unit rate bid for the ditch in which it is located. Where two ditches intersect, the lineal footage of the intersecting ditch shall end at the first top encountered edge of the intersected ditch to eliminate double measurements of installed components. The unit price bid shall include excavation of any and all nature including necessary sub-grade preparations, purchase and placement of rock riprap lining, grouted riprap lining, curing, and "pump-around" or other diversion to achieve curing times, and all equipment and labor necessary for satisfactory installation as shown on the plans and detailed in these specifications. Grout testing shall be included in and considered incidental to **Item 3.0 "Quality Control"**.

7.4.2 There is no method of measurement for grouted riprap keys. Grout key excavation and installation as shown on the plans and herein specified shall be considered incidental to the grouted portion of the ditch where it is located and constructed.

7.4.3 There is no method of measurement for Texas Crossings to be installed in Ditch Number Two and Ditch Number Three as shown on the plans. Rather all costs associated with Texas Crossing construction, including gentler

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sideslopes and sideslope transitions shall be paid at the unit rate bid for the linear footage of the ditch in which it is installed. The unit price shall include excavation of any and all nature, purchase and placement of grouted riprap lining, curing, and "pump-around" or other diversion to achieve curing times and all equipment and labor necessary for satisfactory installation as shown on the plans and detailed in these specifications.

- 7.4.4 The method of measurement for the construction of Spillways Number One thru Five shall be paid per lump sum bid for **Item 7.4, Spillway Number One, Item 7.5, Spillway Number Two, Item 7.6, Spillway Number Three, Item 7.7 Spillway Number Four, or Item 7.8, Spillway Number Five**. The lump sum price bid shall include excavation of any and all nature including necessary sub-grade preparations, purchase and placement of grouted riprap lining, curing, and "pump-around" or other diversion to achieve curing times, and all equipment and labor necessary for satisfactory installation as shown on the plans and detailed in these specifications.
- 7.4.5 The method of measurement for the installation of the Siphon Box and Distribution Box shall be paid per lump sum bid for **Item 7.9, Siphon Box and Item 7.10, Distribution Box**. The lump sum price shall include the pre-cast boxes, all components required to be cast in-place and all components required to be installed in each box as shown on the plans and herein specified. The lump sum price bid shall include excavation and backfilling of any and all nature including necessary sub-grade preparations and compaction, purchase and placement of 1 ½" crushed stone base, and all equipment and labor necessary for satisfactory installation as shown on the plans and detailed in these specifications. Shop drawing, concrete testing, and materials reporting costs shall be included in and considered incidental to **Item 3.0 "Quality Control"**.
- 7.4.6 The method of measurement for installation of solid 8" SDR35 PVC pipe in the Siphon/Distribution piping system shall be per linear foot bid for **Item 7.11 "8" SDR35 PVC Pipe"** as measured along the top of the pipe prior to backfilling and approved by the Engineer. The unit price bid shall include all necessary connectors, elbows, caps, adaptors (12" heavy duty PE pipe to 8" SDR35 adaptor and 8" SDR35 PVC pipe to 12" HDPE DR-17 pipe elbow/adaptor), and other components necessary for the construction of the pipes as shown on the plans and herein specified. The unit price bid shall also include preparation of the subgrade; excavation; purchase and placement of the pipe; purchase and placement of compacted 1½" crusher run stone and select backfill backfilling; including all testing, equipment, and labor necessary for the satisfactory installation as shown on the plans and detailed in these specifications.
- 7.4.7 The method of measurement for installation of solid 6" HDPE DR-17 pipe in the Sludge Line piping system shall be per linear foot bid for **Item 7.12 "6" HDPE DR-17 Pipe"** as measured along the top of the pipe prior to

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backfilling and approved by the Engineer. The unit price bid shall include all necessary joint connections, elbows, tees, cam lock caps, NPT male adaptors, stainless steel chain, and other components necessary for the construction of the pipes as shown on the plans and herein specified. The unit price bid shall also include preparation of the subgrade; excavation; purchase and placement of the pipe; purchase and placement of compacted 1½" crusher run stone and select backfill backfilling; including all testing, equipment, and labor necessary for the satisfactory installation as shown on the plans and detailed in these specifications.

7.4.8 The method of measurement for installation of solid 4" HDPE DR-17 pipe in the Siphon/Distribution piping system shall be per linear foot bid for **Item 7.13 "4" HDPE DR-17 Pipe"** as measured along the top of the pipe prior to backfilling and approved by the Engineer. The unit price bid shall include all necessary joint connections, elbows, caps, adaptors, and other components necessary for the construction of the pipes as shown on the plans and herein specified. The unit price bid shall also include preparation of the subgrade; excavation; purchase and placement of the pipe; purchase and placement of compacted 1½" crusher run stone and select backfill backfilling; including all testing, equipment, and labor necessary for the satisfactory installation as shown on the plans and detailed in these specifications

7.4.9 The method of measurement for the installation of the Pipe Number One and Pipe Number Two shall be on a linear foot basis measured along the top of the installed pipe at the unit price bid for **Item 7.14, "Pipe Number One"** and **Item 7.15, "Pipe Number Two"**, installed and approved. The unit price bid shall include all necessary connectors, elbows, caps, adaptors, beveled ends, and other components necessary for the construction of the pipes as shown on the plans and herein specified. The unit price bid shall also include preparation of the subgrade; excavation; purchase and placement of the pipe; purchase and placement of compacted 1½" crusher run stone and Class "B" backfills; including all testing, equipment, and labor necessary for the satisfactory installation as shown on the plans and detailed in these specifications.

7.4.10 The method of measurement for the construction of the weir shall be per lump sum bid for **Item 7.16, "Weir"**. The lump sum price bid shall include excavation of any and all nature including necessary sub-grade preparations; furnishing and placing steel reinforcement; pvc sleeves, bolts, nuts, and washers; forming, placement, and curing of concrete; and "pump-around" or other diversion to achieve curing times; furnishing and installing a stainless steel weir plate; silicone; backfilling; re-constructing the surrounding ditch and ditch lining; and all equipment and labor necessary for satisfactory installation as shown on the plans and detailed in these specifications.

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7.4.11 The method of measurement for the construction of the intake support system shall be paid per lump sum bid for Item 7.17, "Intake Support System". The lump sum price bid shall include necessary excavation and backfilling, treated posts, concrete, stainless steel ring, stainless steel cable, rope, 12" diameter heavy duty PE pipe, and other components necessary for the construction of the Intake Support System as shown on the plans and herein specified.

7.5 BASIS OF PAYMENT.

Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work as specified and shown on the plans.

7.6 PAY ITEMS

- Item 7.1 "2.0 Ft. Deep "Vee Shaped Grouted Riprap Ditch", per linear foot.
- Item 7.2 "2.5 Ft. Deep "Vee Shaped Grouted Riprap Ditch", per linear foot.
- Item 7.3 "3.0 Ft. Deep "Vee" Shaped Grouted Riprap Ditch", per linear foot.
- Item 7.4 "Spillway Number One", per lump sum.
- Item 7.5 "Spillway Number Two", per lump sum.
- Item 7.6 "Spillway Number Three", per lump sum.
- Item 7.7 "Spillway Number Four", per lump sum.
- Item 7.8 "Spillway Number Five", per lump sum.
- Item 7.9 "Siphon Box", per lump sum.
- Item 7.10 "Distribution Box", per lump sum.
- Item 7.11 "8" SDR35 PVC Pipe", per linear foot.
- Item 7.12 "6" HDPE DR-17 Pipe", per linear foot.
- Item 7.13 "4" HDPE DR-17 Pipe", per linear foot.
- Item 7.14 "Pipe Number One", per linear foot.
- Item 7.15 "Pipe Number Two", per linear foot.

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Item 7.16 "Weir", per lump sum

Item 7.17 "Intake Support System", per lump sum

8.0 UNCLASSIFIED EXCAVATION**8.1 DESCRIPTION**

This work shall consist of excavating, transporting, stockpiling, placing and compacting refuse, soil, rock or other materials encountered in the grading of the project area and any other indicated incidental work.

8.2 MATERIALS

Fill material for embankments shall be considered a mixture of soil or rock or soil and rock commingled with coal refuse encountered during excavation operations. For purposes of payment only, no distinction shall be made between soil, rock, refuse, or other material encountered, as all shall be deemed Unclassified Excavation. Top soil encountered during clearing and grubbing operations or in excavation operations shall be stockpiled and used as a final cover at final grades.

There is an existing stockpile of overburden material that shall be used as final cover material placed 12", minimum, thick over as much of the final regrade area as possible. The overburden material stockpile area is located at Baseline Station 8+75, 700 feet left. In addition, bottom ash appears to be stockpiled from Baseline Station 9+65, 75 feet right to Baseline Station 10+70, 105 feet left. The bottom ash shall be temporarily stockpiled and used as a soil amendment prior to revegetation.

8.3 Borrow/Disposal Area

There are no designated disposal areas shown on the plans. There are no designated soil borrow areas shown on the plans. Soil cover shall be obtained as detailed in Section 8.4 of this Specification. No separate payment or measurement shall be made for soil cover required unless off-site borrow areas become necessary, in which case payment shall be included in "Unclassified Excavation" quantities, otherwise, soil cover shall be considered incidental. It is anticipated that overburden material stockpiled (detailed in Specification 8.2) and material encountered during excavation operations shall produce sufficient suitable soil material for use as soil cover in the project area. However, if off-site borrow/disposal areas should be necessary to provide for material shortages or if excess material disposal is other than an approved landfill, then the Contractor is responsible for locating these areas and obtaining right-of-entry agreements in which the property owner indemnifies and holds the Owner and OSMRE harmless from any injury or damage whatsoever resulting from the Contractor's use of the property. All prospective Contractors and Bidders must obtain their own permission from the landowner for any subsurface tests, borings, or pits. The

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Contractor shall be held responsible for compliance with all NEPA requirements and shall provide proof of such compliance to the Owner. The Contractor shall submit a reclamation plan to the Owner and must obtain approval for said plan prior to any disturbance to the disposal/borrow site. The regrading depicted on the construction plans provides a balanced cut and fill earthwork construction project. In no instance is it necessary for the Contractor to move material from one balanced area to another balanced area without the express written consent of the Engineer.

8.4 Soil Cover

This work consists of covering all areas reaching final grade with a one foot (1') thick layer of suitable soil material capable of supporting vegetation. The soil cover material shall be obtained from the overburden stockpile area (detailed in **Specification 8.2**) and in conjunction with clearing and grubbing operations, regrading and/or drainage feature and other planned excavations, and as directed and approved by the Owner. Other final cover (soil) material on this project may be difficult to find. Therefore, it is imperative that topsoil encountered during excavation operations shall be stockpiled and used as a general cover of the site at final grade and a soil cover for encountered coal refuse, exposed coal seams, bedrock, and buried materials at final grade elevations. Areas reaching final grade in exposed coal or coal refuse shall be undercut a minimum of 12 inches with a minimum of 12" of soil material placed over the exposed coal or refuse to the lines and grades shown on the plans. It is anticipated, with the stockpiled overburden material, an adequate amount of soil cover will be available to cover the site. The Contractor is responsible for securing a borrow area outside the Contractor's Work Limits in the event that adequate soil material is not available on site and at no additional cost to Owner. If, during the course of construction, the need for off-site borrow areas becomes evident, the Contractor shall obtain prior approval from the Owner for such borrowing and the borrow area must comply with NEPA regulations and **Special Provision Number 7** of these specifications. The Contractor shall obtain Right-of-Entry Agreements for any soil, clay, or rock borrow areas outside the construction limits that also provide for entry by the Owner and OSM for inspection purposes, and with such agreements stating that the property owner(s) indemnifies and holds the Owner and OSM harmless from injury or damage whatsoever resulting from the use of the property.

8.5 METHOD OF CONSTRUCTION

8.5.1 The Contractor shall comply with all special provisions, with particular attention to **Special Provision 5, Schedule of Work** and **Special Provision 10, Safety**.

8.5.1.1 The Contractor shall maintain and protect traffic, protect the work in progress, protect adjacent property from excess dust resulting from the construction and maintain traffic through, around, or

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adjacent to the construction area. The Contractor shall comply with **OSHA Regulation 29CFR1926 Subpart P** for excavation of trenches associated with pipe, culvert, subsurface drains, wet mine seal constructions, and similar constructions. The Contractor shall also protect pedestrian and vehicular traffic around excavations and trenches in compliance with the **U.S. Federal Highway Administration Manual of Uniform Traffic Control Devices** and the **WVDOT "Manual on Traffic Control for Streets and Highway"** 2006 edition, dated March 2006. In addition, the Contractor will be required to comply with all WVDOT rules, regulations, weight limits, and speed limits associated with and posted on West Virginia Route 93 as well as other public roads used by the Contractor to access the project. The Contractor will be required to coordinate his operations with landowners and provide unrestricted access to them at all times. The Contractor will be required to keep West Virginia Route 93 and existing access roads used during construction of the project free of fugitive dust and clean of mud and other debris from the job site deposited by construction and other vehicles entering or leaving the project area.

8.5.1.2 The Contractor's work hours for this project shall be from 7:00 a.m. to 7:00 p.m. Monday through Saturday. Work on Sunday and major holidays, as defined by the Engineer, will not be allowed on this project.

8.5.1.3 The sequence of operations shall be at the discretion of the Contractor. However, at a minimum, water shall not be allowed to enter into or pool in constructed ditches, pipes, or subsurface drains until all components have been installed and are operational and the construction has been approved by the Owner. Work shall proceed downstream to upstream, bringing the site to grade and installing drainage control structures. The Contractor shall comply with sequence of operations outlined in **Special Provision 23, Erosion and Sediment Control Guidelines and Specification 5.3.1** in regards to controlling sediment and erosion from the project and to protect the local environment.

8.5.2 Excavation

8.5.2.1 Material excavation shall consist of the required removal of materials from areas shown and the sloping and finishing of the areas to the required lines and grades depicted on the construction drawings. The slopes may be varied only by permission of the Owner. Any excavation beyond planned grades will not be paid for unless prior authorization is obtained from the Owner. Slopes shall be trimmed neatly to present a uniform surface, free from hollows and protrusions and loose or

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overhanging rocks. The tops of all slopes shall be rounded to form a smooth, uniform transition to existing ground. Areas cut to grade in exposed coal refuse or coal shall be undercut one foot (1.0') below final grades shown on the reclamation plans with final grades achieved by placing one foot (1.0') of soil cover atop the undercut areas.

8.5.2.2 The regrading depicted on the construction plans provides a balanced cut and fill earthwork construction project. In no instance is it necessary for the Contractor to move material from one balanced area to another balanced area without prior authorization from and the express written consent of the Engineer.

8.5.2.3 The reclamation approach described in these construction specifications and shown on the plans is intended to provide a lasting, stable configuration. The Contractor is required to exercise care to avoid conditions which may result in unstable conditions during the construction process. The Contractor shall be responsible for protecting residences, businesses and their constructions from damage. The Contractor must utilize material removal techniques, which are generally considered to be conducive to retaining slope stability. Additionally, disturbed slopes shall be brought to the design template as soon as practical and shall be protected in accordance with **Specification Section 6.0, "Revegetation"**.

8.5.2.4 There is an existing stockpile of overburden material that shall be used as final cover material placed 12", minimum, thick over as much of the final regrade area as possible. The overburden material stockpile area is located at Baseline Station 8+75, 700 feet left. In addition, high alkaline ash appears to be stockpiled from Baseline Station 9+65, 75 feet right to Baseline Station 10+70, 105 feet left. The ash shall be excavated, temporarily stockpiled in an area approved by the Engineer, and used as a soil amendment prior to revegetation.

8.5.3 Material Placement

8.5.3.1 All excavated materials shall be moved and deposited as shown on the plans and detailed in these specifications. Off-site disposal areas (if necessary) shall comply with **Specification Section 8.3** and **Special Provision 7**. Every effort has been made to estimate quantities as accurately as possible, however, the amount of earthwork estimated is for information purposes only and the Owner in no way guarantees the quantities listed. Field

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adjustments to elevations, lines, and grades may be required to correctly construct this project as shown on the plans. Such adjustments shall be made by the Contractor at no additional costs to the Owner. The Owner reserves the right to increase or decrease any or all of the quantities of work or to omit any of them, as it may deem necessary.

- 8.5.3.2 Iron precipitate, coal or coal refuse, and black or dark gray shales, acidic materials, and other on-site potentially toxic materials shall be specially handled to the satisfaction of the Owner. Coal and coal refuse, black or dark gray shales, acidic material, and other on-site similar materials to be buried in-place shall not be placed within one foot (1'), minimum, vertically of any coal seam and shall be compacted and placed beneath a cap of twelve inches (12"), minimum, of soil cover (capable of supporting vegetation) and proposed final grades depicted on the plans.
- 8.5.3.3 Boulders are apparent on the surface of the Project area and may be encountered during excavation operations. Boulders to be incorporated into the fill shall be of size less than 2 feet in any dimension, segregated and not concentrated in any fill location, and shall be buried at least twelve inches (12") below finished grade.
- 8.5.3.4 Depositing and compacting fill in layers shall be started at the lowest point in the fill below grade, at the bottom of ravines and at the toe of the slope on side hill fills. Prior to fill placement, existing foundation for the embankment will be proof-rolled and approved by the Owner, with all unsuitable material, as determined by the Owner, removed.
- 8.5.3.5 Excavated material shall be placed in embankments in successive layers not to exceed one foot (1') in thickness before compaction. The layers shall be constructed approximately horizontal. Each layer, before starting the next, shall be leveled and smoothed by means of power driven graders, dozers, or other suitable equipment with adequate weight, capacity, and power to do the work. Layers shall be extended across the entire fill at the level of deposition unless otherwise authorized by the Owner. Each layer, before starting the next, shall be compacted.
- 8.5.3.6 Fill materials to be used in any area of embankment or fill placement shall be free from trash, debris, frozen soil, organic material or other foreign material. No burning refuse (defined as greater than 140° F) and/or combustible material shall be placed in fill areas. No burning refuse was observed during initial

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investigations.

- 8.5.3.7** Embankment fill and embankment subgrade materials shall be compacted to at least 90% of Standard Proctor maximum dry density at a moisture content of not less than 2% below nor greater than 3% above optimum. Testing shall be at a frequency of 1 lot per 5,000 cubic yards placed, with 1 lot per day per fill serving as a minimum. A lot consists of five (5) compaction tests in accordance with **Section 3.3.3**. Testing frequency and locations shall be directed and approved by the Owner.
- 8.5.3.8** Embankment fill material that does not contain sufficient moisture to be compacted to the requirements specified herein shall receive applications of water necessary for compaction. Water shall be applied with suitable sprinkling devices and shall be thoroughly incorporated into the material that is to be compacted. Embankment fill material that contains excess moisture shall be dried prior to compaction. Sufficient discing equipment shall be continuously available at the site and shall be used to add water or remove excess moisture from fill materials.
- 8.5.3.9** If in the opinion of the WVDEP the hauling equipment causes horizontal shears or slickensides, rutting, quaking, heaving, cracking, or excessive deformation where material is placed, the Contractor shall limit the type, load or travel speed of the hauling equipment on areas where the material is placed. During material placement, the Contractor shall remove from the areas of fill any material the Owner considers objectionable and shall dispose of such material and refill the area as directed and at no additional cost to the Owner. The Contractor shall select compaction equipment that will produce the specified density. Compaction equipment that produces a sealed, slick surface will not be allowed in fill areas. Should fill areas become sealed with a slick surface, the Contractor will be required to scarify the surface to a depth of four inches (4") prior to placement of the next lift.
- 8.5.3.10** At the close of each day's work, or when work is to be stopped for a period of time, the entire surface of the compacted fill shall be sealed by a method approved by the Owner. If, after a prolonged rainfall, the surface of embankments is too wet and plastic to work properly, the top material shall be removed to expose firm material. Ruts in the surface of any layer shall be suitably filled or eliminated by grading before compaction.
- 8.5.3.11** The regrading plan shall be conducted in a manner such that topsoil encountered and stockpiled shall be uniformly spread

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over the entire final graded area.

8.5.3.11.1 There is an existing stockpile of overburden material that shall be used as final cover material placed 12", minimum, thick over as much of the final regrade area as possible. The overburden material stockpile area is located at Baseline Station 8+75, 700 feet left. The final (soil) cover material shall not be compacted to the specifications stated for fill compaction, but shall be placed in a manner to allow for proper establishment of vegetation as described in the seedbed preparation, **Specification Section 6.0 "Revegetation"**, portion of these specifications.

8.5.3.11.2 The required soil amendments are to be incorporated into this top-dressing material while it is in a loose state, to facilitate proper mixing of these materials within the soil matrix.

8.5.3.11.3 Highly alkaline ash appears to be stockpiled from Baseline Station 9+65, 75 feet right to Baseline Station 10+70, 105 feet left. The ash shall be excavated, temporarily stockpiled in an area approved by the Engineer. Upon application of the required soil amendments detailed in **Specification 6.0**, the ash shall be added as an additional soil amendment. In no instance shall ash replace amendments detailed in **Specification 6.0**. The ash shall be spread as thinly as possible over as large an area as possible and to the satisfaction of the Engineer.

8.5.3.11.4 The soil cover shall then be prepared by tracking-in with a dozer perpendicular to the slope. The Owner may require that the soil cover be scarified prior to seeding if compaction is considered excessive or if rills develop. All disturbed areas will be revegetated according to **Specification Section 6.0, "Revegetation"**.

8.6 METHOD OF MEASUREMENT.

8.6.1 The method of measurement for unclassified excavation shall be per cubic yard of excavation (cut) defined by proposed final grades and cross sections shown on the plans and herein specified. The unit price bid for **Item 8.1 "Unclassified Excavation"** shall include excavating, stockpiling (including ash stockpiling), and placement of all topsoil, soil, and soil covering operations, ash spreading (unless specified otherwise) and

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excavated materials as shown on the plans, breaking of boulders and placing boulders in fill areas and special handling, burying, and entombing of coal, coal refuse, and black or dark gray shale.

- 8.6.2 Soil cover shall be obtained as detailed in **Specification Section 8.4**. No measurement shall be required unless off-site borrow areas become necessary, in which case payment shall be included in **Item 8.0 "Unclassified Excavation"**, otherwise, soil cover shall be considered incidental. It is anticipated that material encountered during excavation operations shall produce sufficient suitable soil material for use as soil cover.
- 8.6.3 There is no method of measurement for finding and developing an Owner approved off-site soil borrow area (if required) as all costs associated with this task including necessary reclamation plans, all permits and any delays occasioned by permit work and approvals, sediment and erosion control, backfilling, and revegetation shall be included in and considered incidental to **Item 8.0, "Unclassified Excavation"**.
- 8.6.4 Excavation of materials required to place and install ditch lining materials shall not be included for payment, but shall be considered incidental to the construction of the ditch.
- 8.6.5 Excavation and placement of materials for undercutting and placing compacted backfill beneath drainage ditches, pipes or inlets shall not be included for payment, but shall be included in **Section 7.0 Drainage Structures** in the unit price bid for the drainage ditch, pipe, or inlet.
- 8.6.6 Excavation and placement of materials to upgrade, repair, and maintain access roads and driveways shall not be included for payment, but shall be considered incidental to **Item 4.1 "Site Preparation"**.

8.7 BASIS OF PAYMENT

- 8.7.1 Payment for material excavated (cut) to achieve final grades will be paid by the unit price bid for **Item 8.0 "Unclassified Excavation"**, which shall include regrading and filling of excavated materials as well as off-site disposal (if required) as shown on the plans and herein specified.
- 8.7.2 Soil cover shall be obtained as detailed in **Specification Section 8.4** of these **Specifications**. No separate payment shall be required unless borrow areas become necessary, in which case payment shall be included in **Item 8.0 "Unclassified Excavation"**. It is anticipated that material encountered shall produce sufficient suitable soil material for use as soil cover.

8.8 PAY ITEM:

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Item 8.0, "Unclassified Excavation", per cubic yard.

10.0 SUBSURFACE DRAINS

10.1 DESCRIPTION

The Contractor may be required to construct and install Subsurface Drains as located by the Owner or as field conditions warrant. Materials shall conform to those listed below. The length of the 12-inch diameter pipes and associated clean-outs may vary based on the conditions encountered at the time of construction excavation and final grades that are achieved. The maximum run allowable of conveyance pipe from a subsurface drain without installation of a cleanout shall be 100 feet.

10.2 MATERIALS

10.2.1 Stone. Stone for subsurface drains shall have a d_{50} of 4-inches. The non-calcareous d_{50} stone shall be durable and range in size from 3-inches minimum to 6-inches maximum diameter with no more than 10% by weight less than 3 inches and no more than 50% by weight greater than 4". The stone shall consist of non-calcareous crushed sandstone. Crushed stone shall consist of particles of clean, hard, tough, durable rock, free from adherent coating and meeting the requirements of **Section 703.1 of the WVDOH Standard Specifications**. Stone shall have a maximum weighted loss of twelve percent (12%) when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88 (Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate)**, as modified by the American Association of State Highway and Transportation Officials (**AASHTO**) **T-104**. Non-calcareous stone shall exhibit a fizz of 0 when subjected to dilute hydrochloric acid. A laboratory certification of soundness and fizz shall be submitted to the Owner prior to delivery.

10.2.2 Subsurface drain pipes shall consist of custom perforated (as shown on the plans) and solid 12 inch diameter PVC SDR 35 pipes and necessary 12 inch diameter connectors as required to complete the installations or as deemed necessary by the Owner. Pipe located within the subsurface drain stone shall be included in and considered incidental to the drain installation. Solid 12 inch SDR35 PVC pipe required from the end of the drain stone to the receiving drainage conveyance shall be included in **Item 10.2 "Conveyance Pipe"**.

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10.2.2.1 Clean-outs, if required, shall be spaced every 100 feet along the alignment of the drain or as shown on the plans. Inline Cleanouts shall consist of a 12" by 12" by 8" 45° wye fitting, solid 8" diameter PVC SDR 35 grade pipe, 8" 45° bend, East Jordan Iron Works 1564 frame and cover and 3,000 psi concrete to be placed around the frame and cover as shown on the plans and extending from the conveyance pipe to final grades shown on the plans. 3,000 psi concrete shall meet the requirements of **Specification 7.2.6**.

10.2.2.2 Animal guards constructed of stainless steel bolts, nuts, and washers shall be constructed and installed on the downstream end of each conveyance pipe, as detailed on the plans, the same day as the pipe is installed.

10.2.3 Filter Fabric used for Subsurface Drains shall be non-woven and as specified in **Section** Filter Fabric used for drains shall be non-woven and as specified in **Section 715.11.4** of the WVDOH **Standard Specifications for Roads and Bridges**, Adopted 2010, for subsurface drainage such as Geotex® 401 manufactured by Advanced Drainage Systems, Inc. or approved equal.

10.3 **METHOD OF CONSTRUCTION**

10.3.1 The Contractor may be required to construct and install Subsurface Drains as conditions warrant during excavation operations to collect and divert encountered groundwater to constructed or existing drainage structures as directed and approved by the Owner.

10.3.1.1 Trench width for the subsurface drains shall be as indicated on the typical details provided in the plans. Trenching will involve excavation of in-place material including soil and rock.

10.3.1.2 Trench exceeding five (5) feet in depth shall be supported in compliance with OSHA requirements. The Contractor shall adhere to **OSHA Regulation 29 CFR Part 1926** during all excavation and trenching activities. Trench bottom shall be cleared of any loose debris and any standing water

10.3.1.3 Once the trench is excavated to the satisfaction of the Owner, filter fabric meeting the requirements of **Specification Section 10.2.3** shall be placed in the trench. Sufficient fabric shall be placed to fully cover the trench bottom width, trench sides, and trench top width to include overlap dimensions shown on the plans.

10.3.1.4 Four inches (4") of 3" to 6" stone meeting the requirements of

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Specification Section 10.2.1 shall be installed in the trench atop the fabric. Perforated pipes meeting the requirements of **Specification Section 10.2.2** shall be installed atop the 4" layer of 3" to 6" stone. A 12" diameter custom perforated end cap shall be installed on the upstream end of the piping system. If in the opinion of the Owner, 3" to 6" stone placement or pipe placement has caused displacement or damage to the underlying filter fabric or sub-base, the Contractor shall remove the pipe and 3" to 6" stone and repair the displacement or damage and/or replace the fabric and 3" to 6" stone or pipe to the satisfaction of the Owner. All costs associated with the removal of 3" to 6" stone and pipe and necessary repair work shall be borne by the Contractor and at no cost to the Owner.

10.3.1.5 Stone with a d_{50} of 4-inch Rock meeting **Specification Section 10.2.1** shall be installed in the trench atop the pipe to the dimensions shown on the Plans. If in the opinion of the Owner, rock placement has caused displacement or damage to the underlying sub-base, filter fabric or pipe, the Contractor shall remove the rock and repair the displacement or damage and/or replace the fabric, pipe, and rock to the satisfaction of the Owner. All costs associated with the removal of rock, pipe, and fabric and necessary repair work shall be borne by the Contractor and at no cost to the Owner.

10.3.1.6 After rock drain thickness has been achieved, the Contractor shall wrap the filter fabric completely around the rock drain with overlaps of 12", minimum, at every joint.

10.3.1.7 The Contractor will then place sufficient compacted fill material on top of the subsurface drain to elevations and grades shown on the Plans or as directed by the Owner. At a minimum, a 1.5 foot clearance shall be maintained between the top of the subsurface drain and revegetated final grades.

10.3.2 For subsurface drains longer than 100 feet, or at the direction of the Owner, the Contractor will be required to install a cleanout along the drain alignment. Cleanouts shall consist of 45° "wyes" extending from the perforated subsurface drain pipe to finished grade. The "wye" alignment shall project along the flow of the pipe so cleaning operations will be concentrated at the downstream end of any potential plug. Cleanouts shall be constructed of a solid 12" by 12" by 8" PVC SDR35 Wye, an 8" by 8" 45° elbow, and 8" solid SDR35 PVC pipes and connectors and shall project to finished grades and be capped with a 8" PVC SDR35 screw cap, frame, cover, and concrete as shown on the plans.

10.3.3 Perforated pipe shall end 5.0 feet, minimum, from the downstream end of

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3" to 6" stone placement. From this point to the drainage structure receiving the drain discharge, solid 12" PVC SDR35 pipe shall be installed and backfilled with the "best on-site clayey material" available. The outlet elevation of the pipe shall be 1.0 foot, minimum, above the flow line of the receiving drainage structure.

10.3.3.1 Pipe (perforated and solid) located within the stone placement shall be included in and considered incidental to the installation of the drain.

10.3.3.2 Solid pipe from the end of the stone placement to the receiving ditch receiving the drain discharge shall be included in Item 10.2 "Conveyance Pipe".

10.3.4 Animal guards shall be installed on the outlet pipe the same day as the pipe is placed and as shown on the Plans.

10.4 METHOD OF MEASUREMENT

10.4.1 The method of measurement for Subsurface Drains shall be per linear foot price bid for Item 10.0, "Subsurface Drain" measured along the top centerline of the installed drain for payment, which shall include all excavation and backfilling (with stone or soil), stone, filter fabric, piping necessary to complete the drain and cleanouts as shown on the plans or herein specified and directed by the Owner. Where two Subsurface Drains intersect, the lineal footage of the intersecting Subsurface Drain shall end at the first edge encountered of the intersected Subsurface Drain to eliminate double measurements of installed components. Trench excavation, furnishing and placement of the pipe and fittings, any necessary cleanouts, compacted on-site backfill, and minor grading, including all ancillary materials and operations required to construct the subsurface drains, will not be measured, but shall be considered incidental to this construction.

10.4.2 The method of measurement for conveyance pipes shall be per linear foot price bid for Item 10.2, "Conveyance Pipe" measured along the top centerline of the installed pipe for payment, which shall include all excavation and backfilling (with stone or soil), piping necessary to complete the drain and cleanouts as shown on the plans or herein specified and directed by the Owner, and animal guards. Trench excavation, furnishing and placement of the pipe and fittings, any necessary cleanouts, compacted on-site backfill, and minor grading, including all ancillary materials and operations required to construct the conveyance pipes, will not be measured, but shall be considered incidental to this construction.

10.4.3 The method of measurement for 12" Inline Cleanouts shall per each installed and approved by the Engineer. The unit price bid shall include

Buffalo Coal Company, Inc.**Permit S-52-80****DEP16308**

excavation, furnishing and placement of the pipe and fittings as detailed on the plans, placing and concreting the frame and cover, compacted on-site backfill, and minor grading, including all ancillary materials or operations required to construct the cleanouts as shown on the plans and herein specified.

10.5 BASIS OF PAYMENT

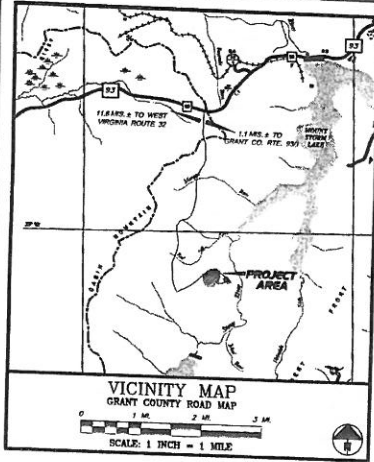
Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work as specified and shown on the plans.

10.6 PAY ITEM

Item 10.1 "Subsurface Drain", per linear foot.

Item 10.2 "Conveyance Pipe", per linear foot.

Item 10.3 "12" In Line Cleanout", per each.



RANDY HUFFMAN
CABINET SECRETARY



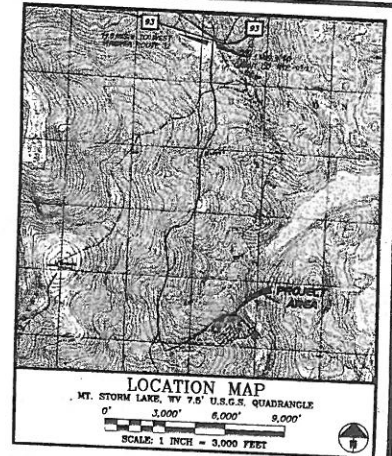
EARL RAY TOMBLIN
GOVERNOR

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECLAMATION

Buffalo Coal Company, Inc.

Permit S-52-80

NEAR MT. STORM, UNION DISTRICT,
GRANT COUNTY, WEST VIRGINIA



SCHEDULE OF ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY AND UNIT
1.0	MOBILIZATION AND DEMOBILIZATION (CANNOT BE MORE THAN 10% OF TOTAL AMOUNT BID)	LUMP SUM
2.0	CONSTRUCTION LAYOUT STAKES (CANNOT BE MORE THAN 5% OF TOTAL AMOUNT BID)	LUMP SUM
3.0	QUALITY CONTROL (CANNOT BE MORE THAN 5% OF TOTAL AMOUNT BID)	LUMP SUM
4.1	SITE PREPARATION (CANNOT BE MORE THAN 10% OF TOTAL AMOUNT BID)	LUMP SUM
4.2	INCIDENTAL STONE	LUMP SUM
4.3	FENCE	500 TN
4.4	FARM GATE	2,800 LF
4.5	ACCESS ROAD NUMBER ONE	6 EA
5.1	STRAW BATTLES	1,000 LF
5.2	SILT FENCE	8,200 LF
6.0	REVEGETATION (PLAN VIEW)	2,100 LF
7.1	2.0 FT. DEEP "V" SHAPED GROUTED RIPRAP DITCH	41.0 AC
7.2	2.5 FT. DEEP "V" SHAPED GROUTED RIPRAP DITCH	800 LF
7.3	3.0 FT. DEEP "V" SHAPED GROUTED RIPRAP DITCH	1,550 LF
7.4	SPILLWAY NUMBER ONE	500 LF
7.5	SPILLWAY NUMBER TWO	LUMP SUM
7.6	SPILLWAY NUMBER THREE	LUMP SUM
7.7	SPILLWAY NUMBER FOUR	LUMP SUM
7.8	SPILLWAY NUMBER FIVE	LUMP SUM
7.9	SIPHON BOX	LUMP SUM
7.10	DISTRIBUTION BOX	LUMP SUM
7.11	8" SDR35 PVC PIPE	LUMP SUM
7.12	8" HDPE DR-17 PIPE	400 LF
7.13	4" HDPE DR-17 PIPE	1,900 LF
		100 LF

SCHEDULE OF ESTIMATED QUANTITIES (CONT.)

ITEM	DESCRIPTION	QUANTITY AND UNIT
7.14	PIPE NUMBER ONE	70 LF
7.15	PIPE NUMBER TWO	56 LF
7.16	WEIR	LUMP SUM
7.17	INTAKE SUPPORT SYSTEM	LUMP SUM
8.0	UNCLASSIFIED EXCAVATION	LUMP SUM
10.1	12" SUBSURFACE DRAIN	90,000 CY
10.2	CONVEYANCE PIPE	500 LF
10.3	12" INLINE CLEANDOUT	50 LF
		5 EA

DRAWING INDEX

DESCRIPTION	SHEET NO.
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ENGINEER:
REGISTERED PROFESSIONAL ENGINEER
P.E. No. 15629

GREGORY S. LINDER

Date: APRIL 22, 2014

PROJECT: BUFFALO COAL COMPANY, PERMIT S-52-80



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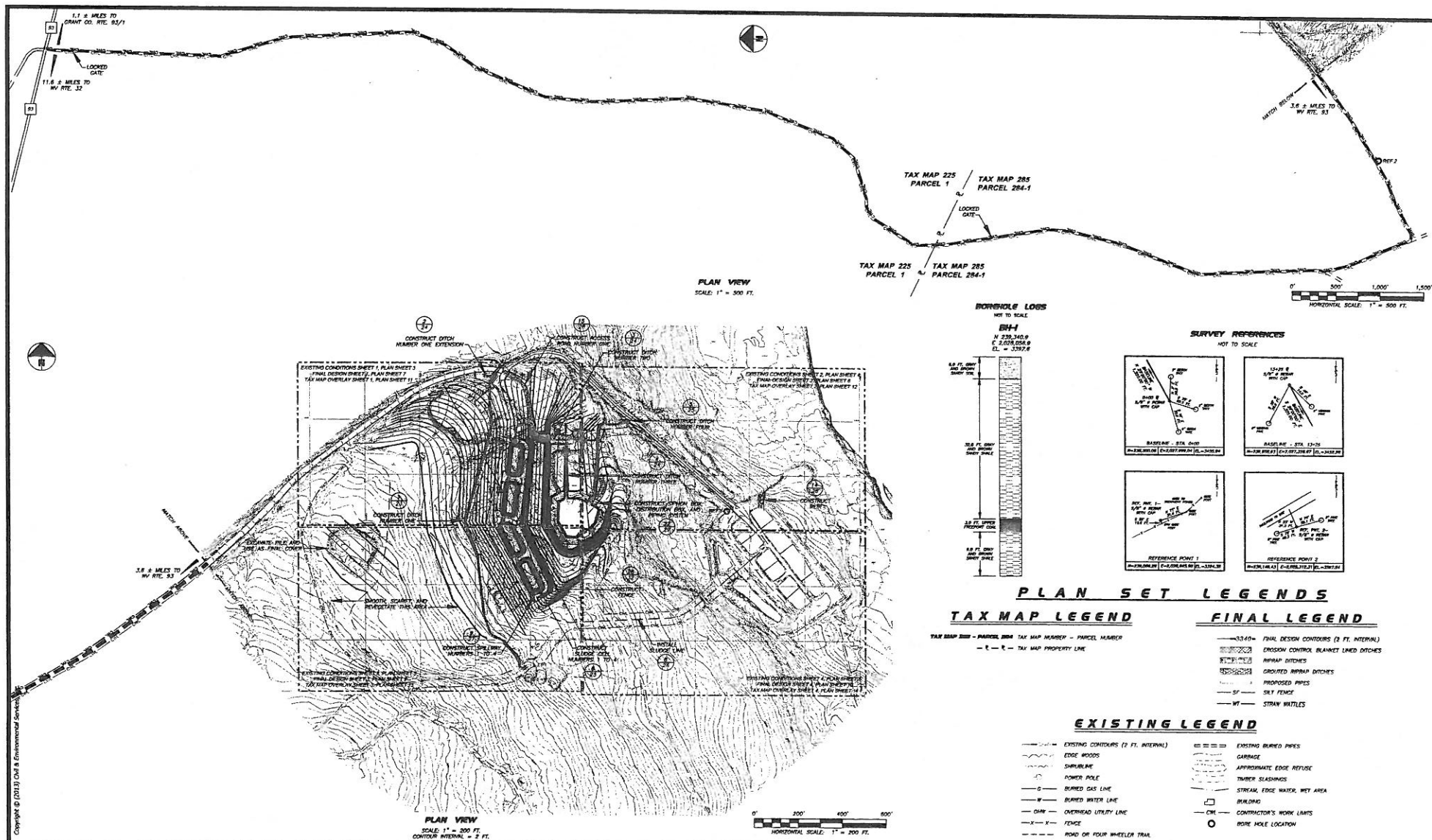
BUFFALO COAL COMPANY, INC
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TITLE SHEET

SCALE: AS NOTED

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1
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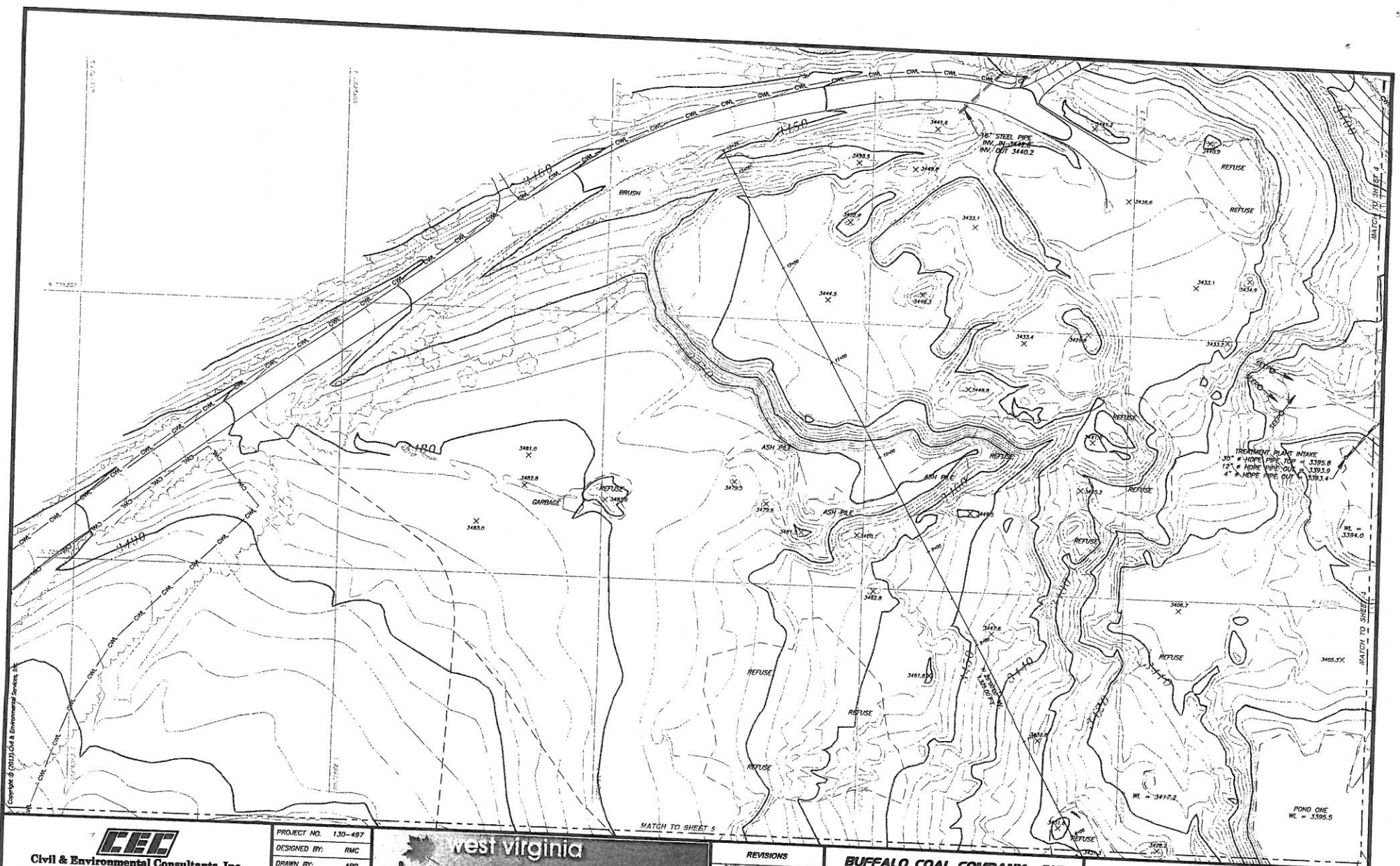
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COMPOSITE DRAWING

SCALE: AS NOTED

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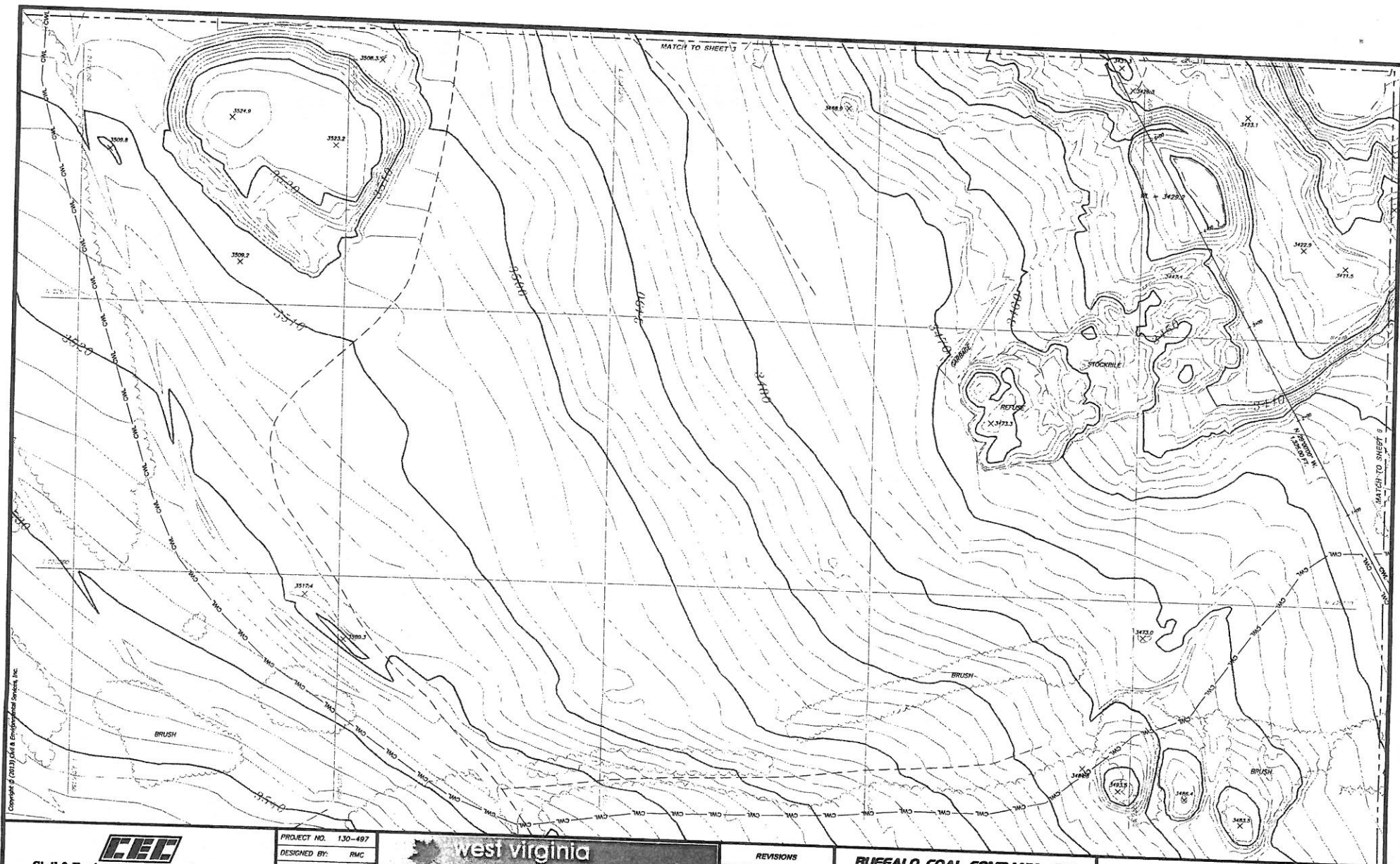
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EXISTING CONDITIONS
SHEET 1
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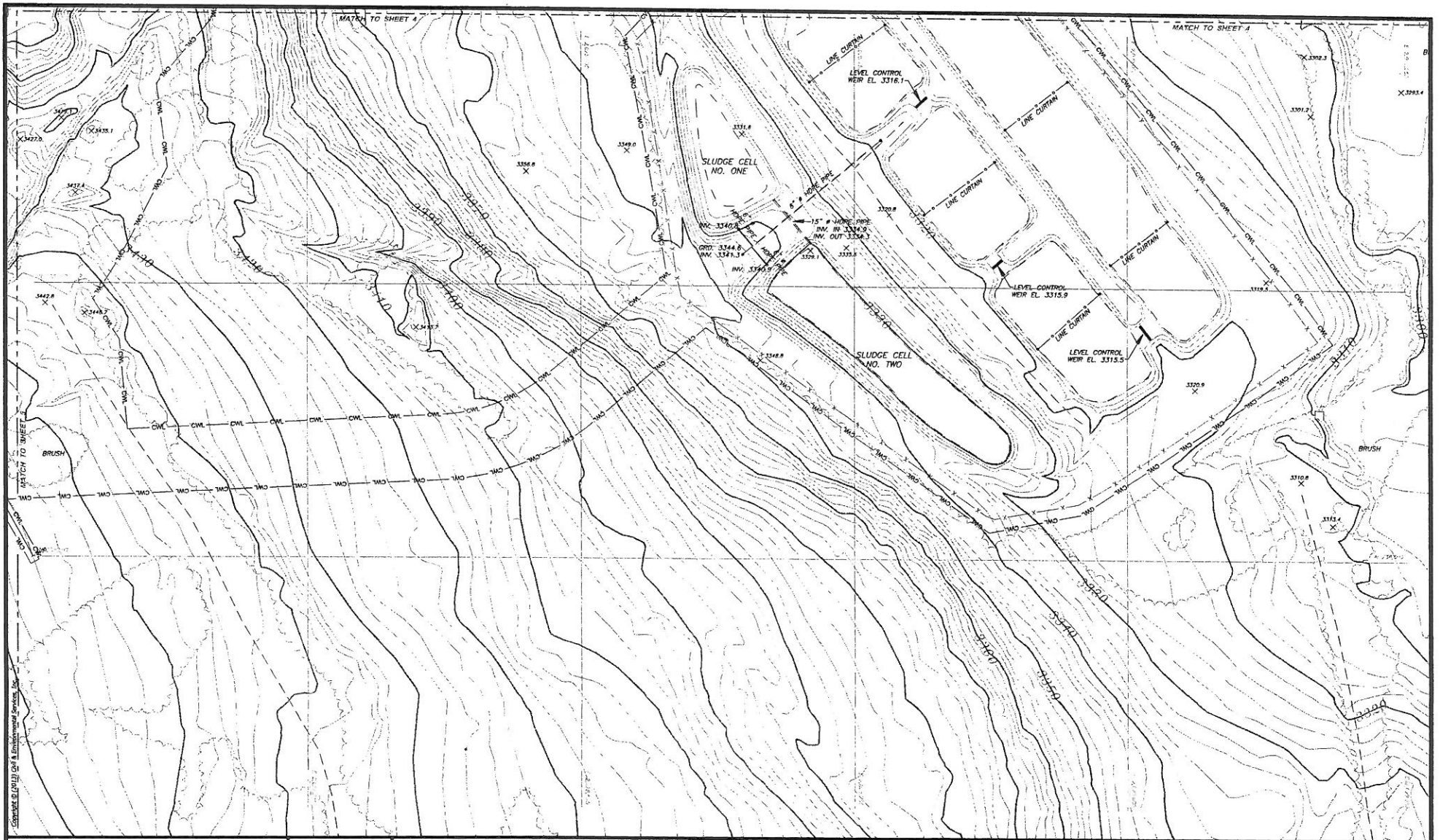
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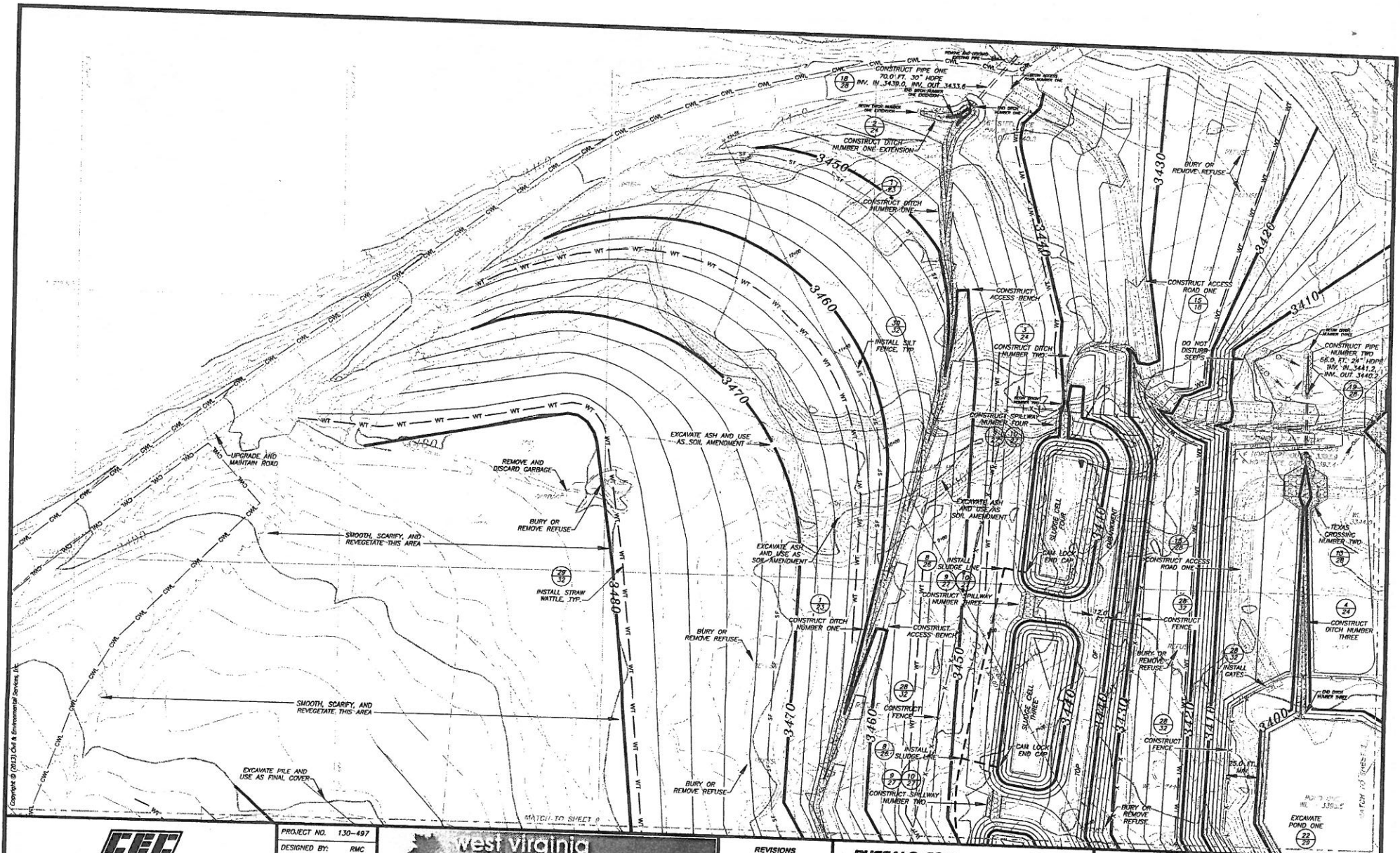
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EXISTING CONDITIONS
SHEET 4
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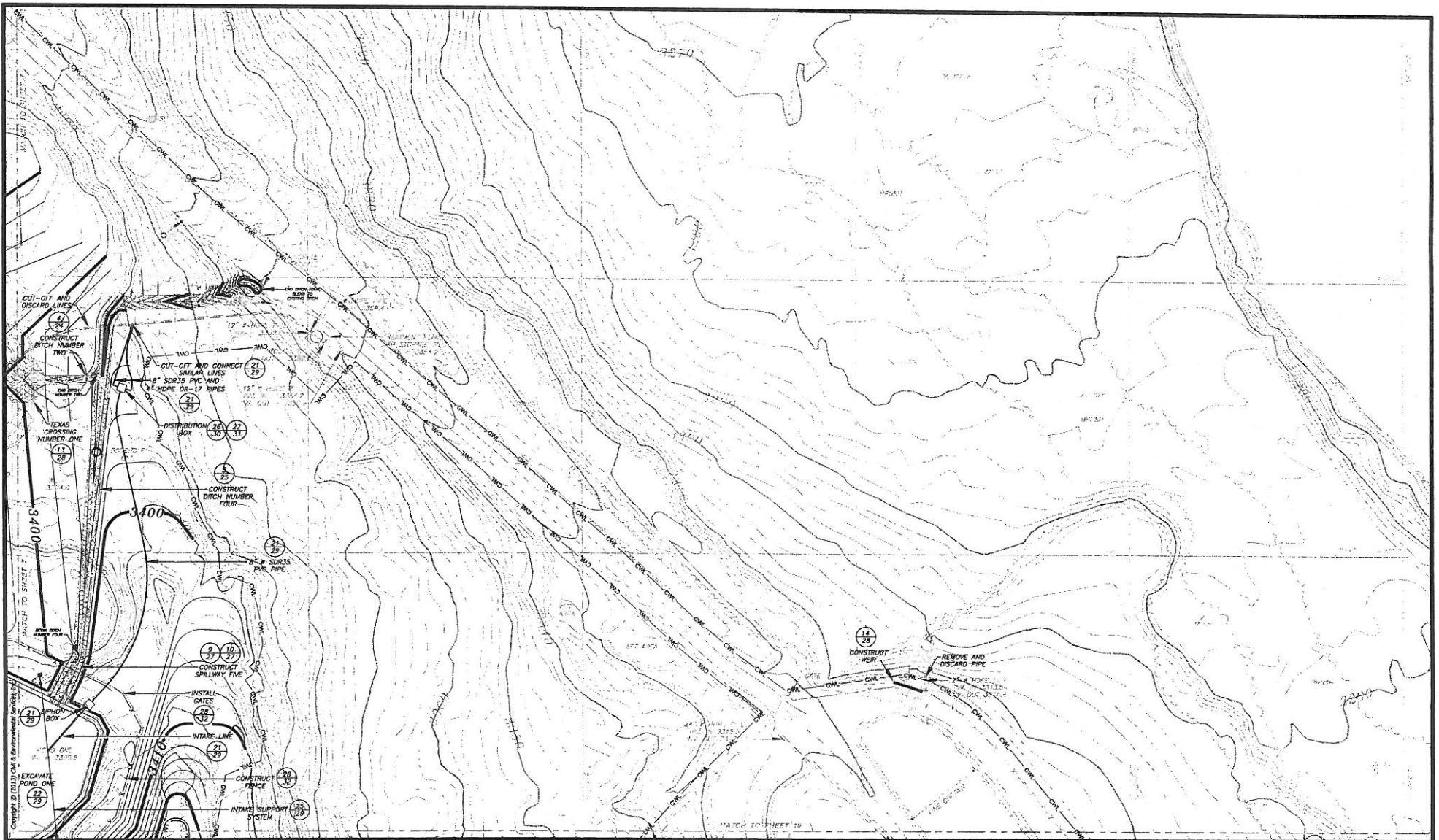
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FINAL DESIGN
SHEET 1
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 CONTOUR INTERVAL: 2 FEET
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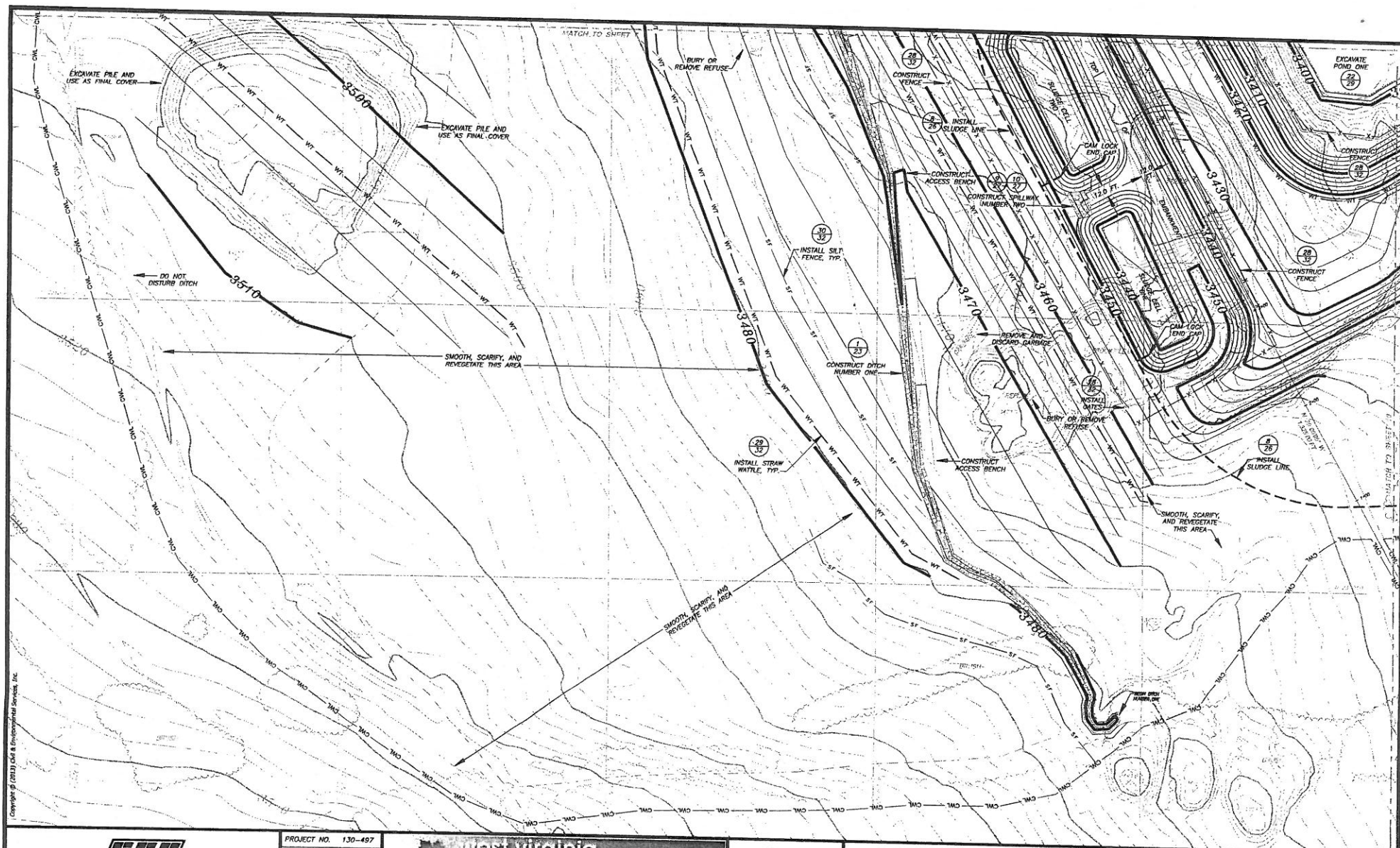
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FINAL DESIGN
SHEET 2
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 CONTOUR INTERVAL: 2 FEET
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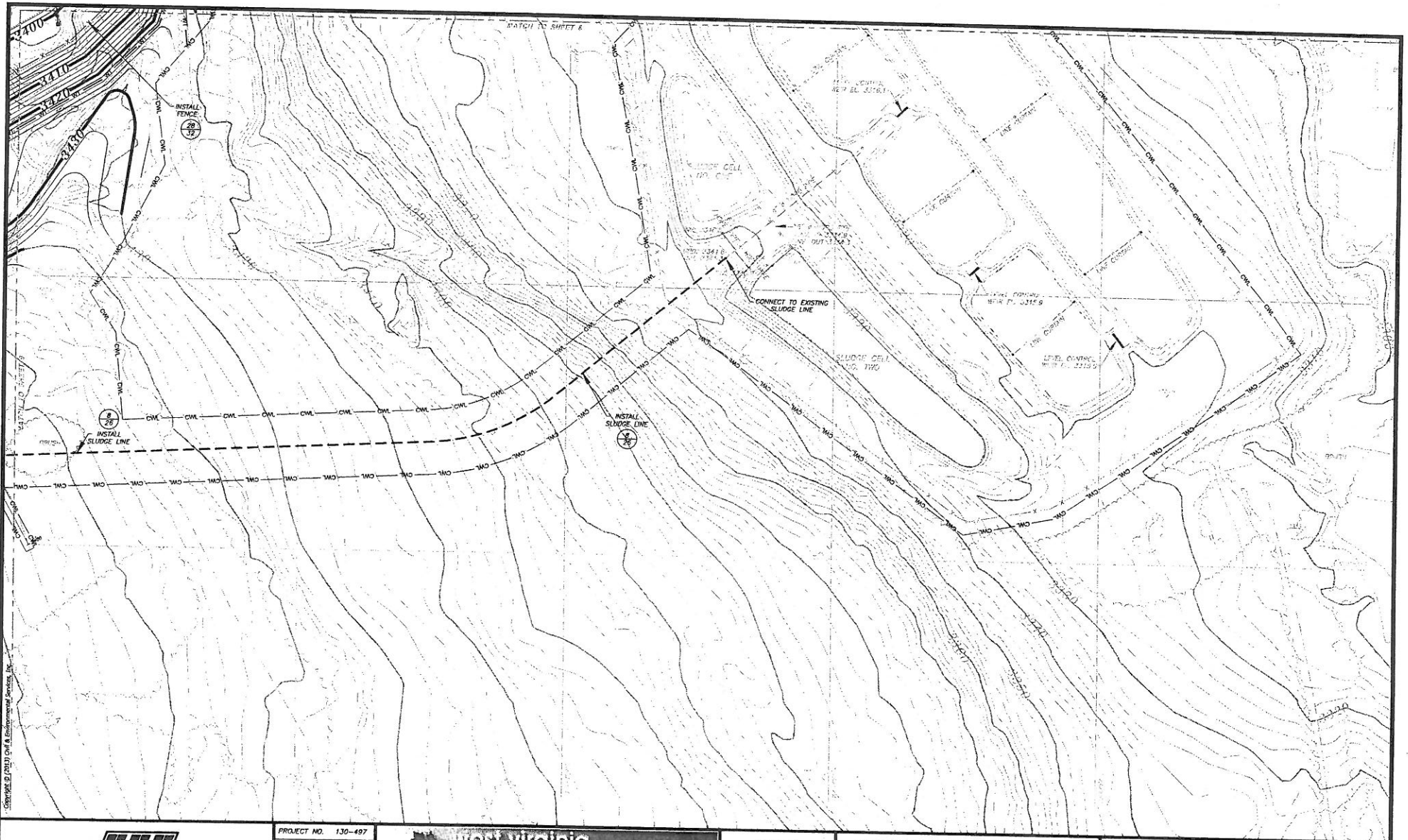
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**FINAL DESIGN
SHEET 3**

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CONTOUR INTERVAL: 2 FEET

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FINAL DESIGN
SHEET 4
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 CONTOUR INTERVAL: 2 FEET
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TAX MAP 285
PARCEL 284-1

TAX MAP 285
PARCEL 284-1

TAX MAP 285
PARCEL 284-1

TAX MAP 285
PARCEL 284-1

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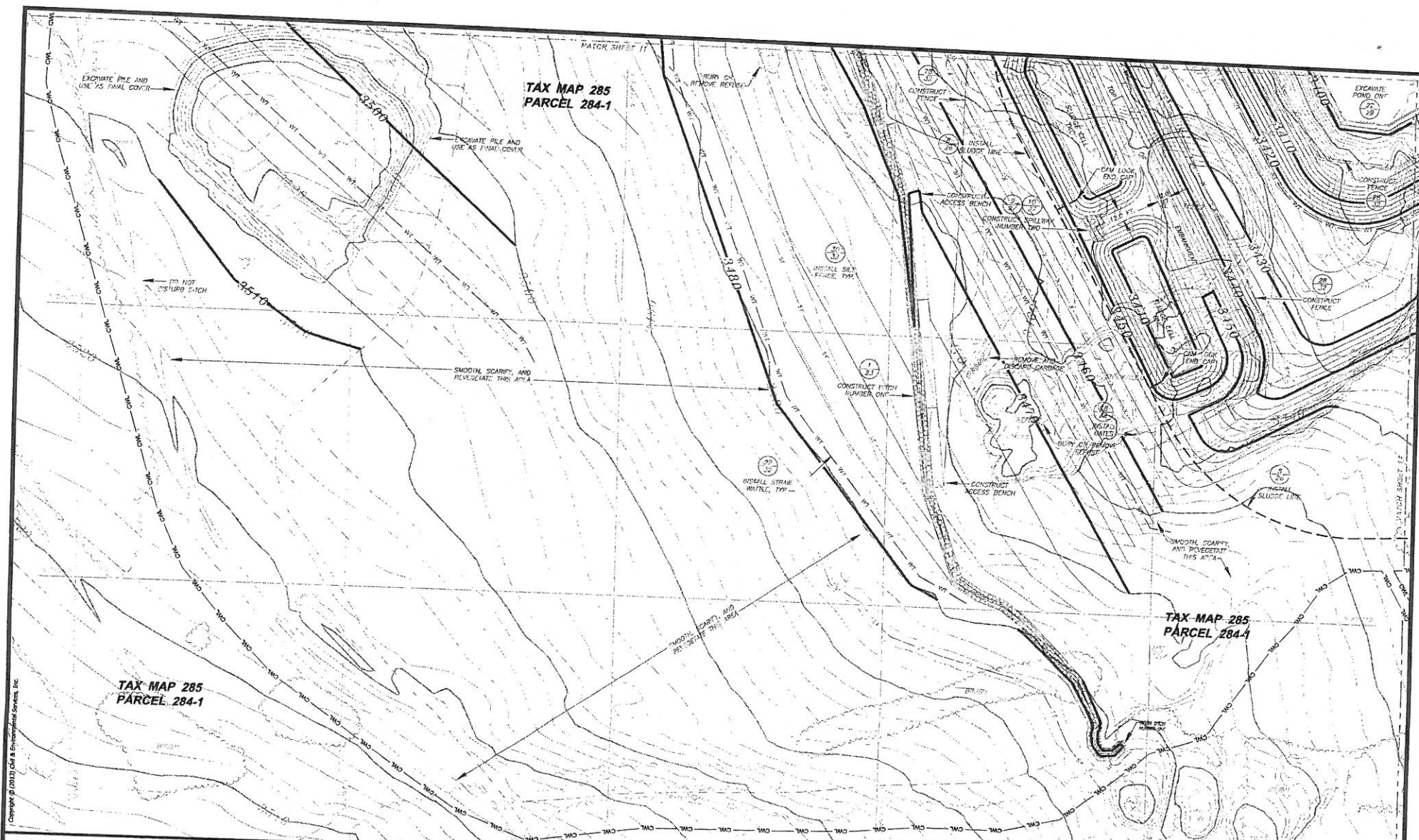
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**TAX MAP OVERLAY
SHEET 1**
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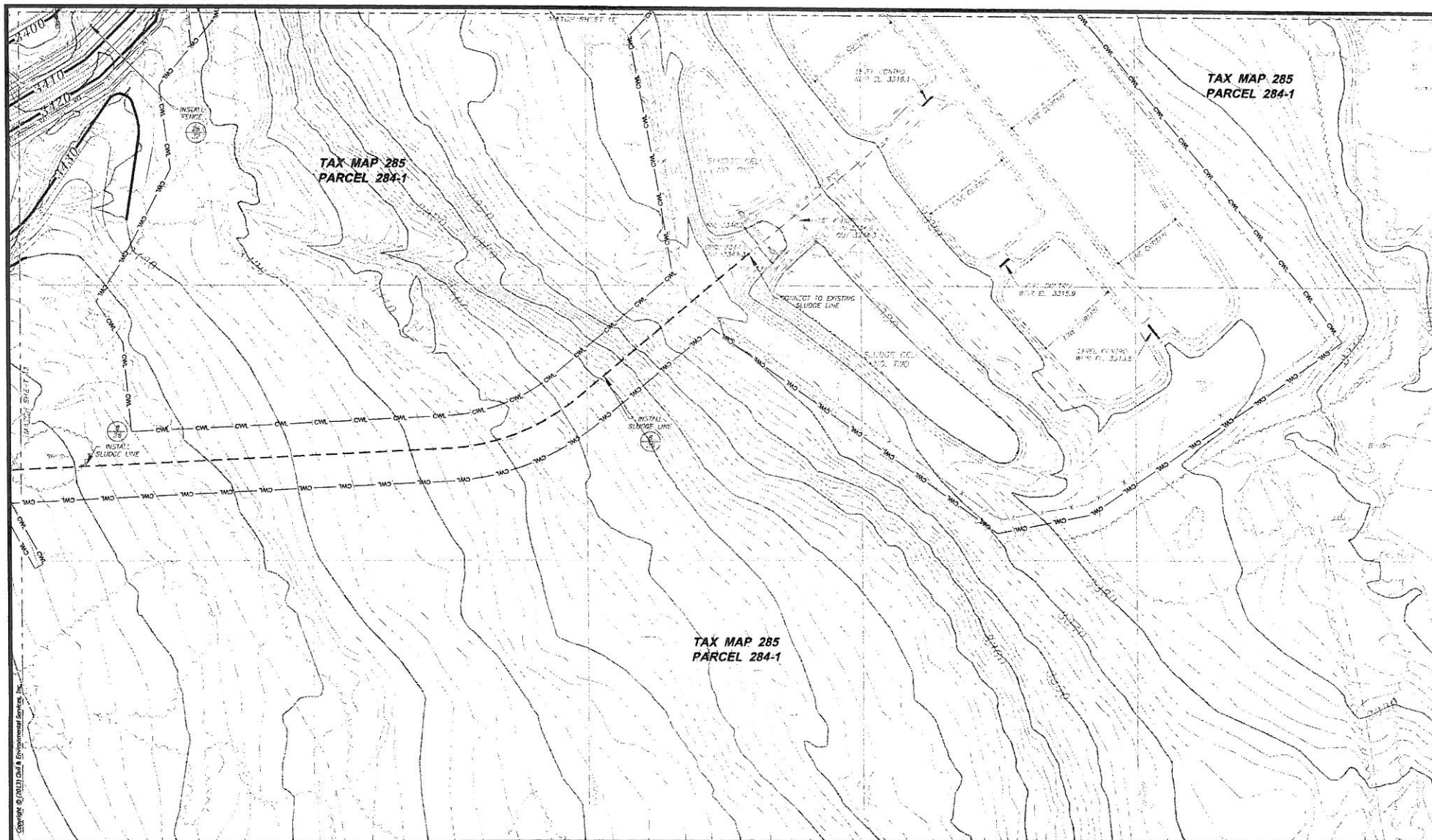
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TAX MAP OVERLAY
SHEET 3
 SCALE: 1" = 40 FT.
 CONTOUR INTERVAL: 2 FEET
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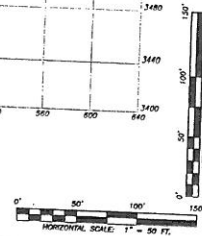
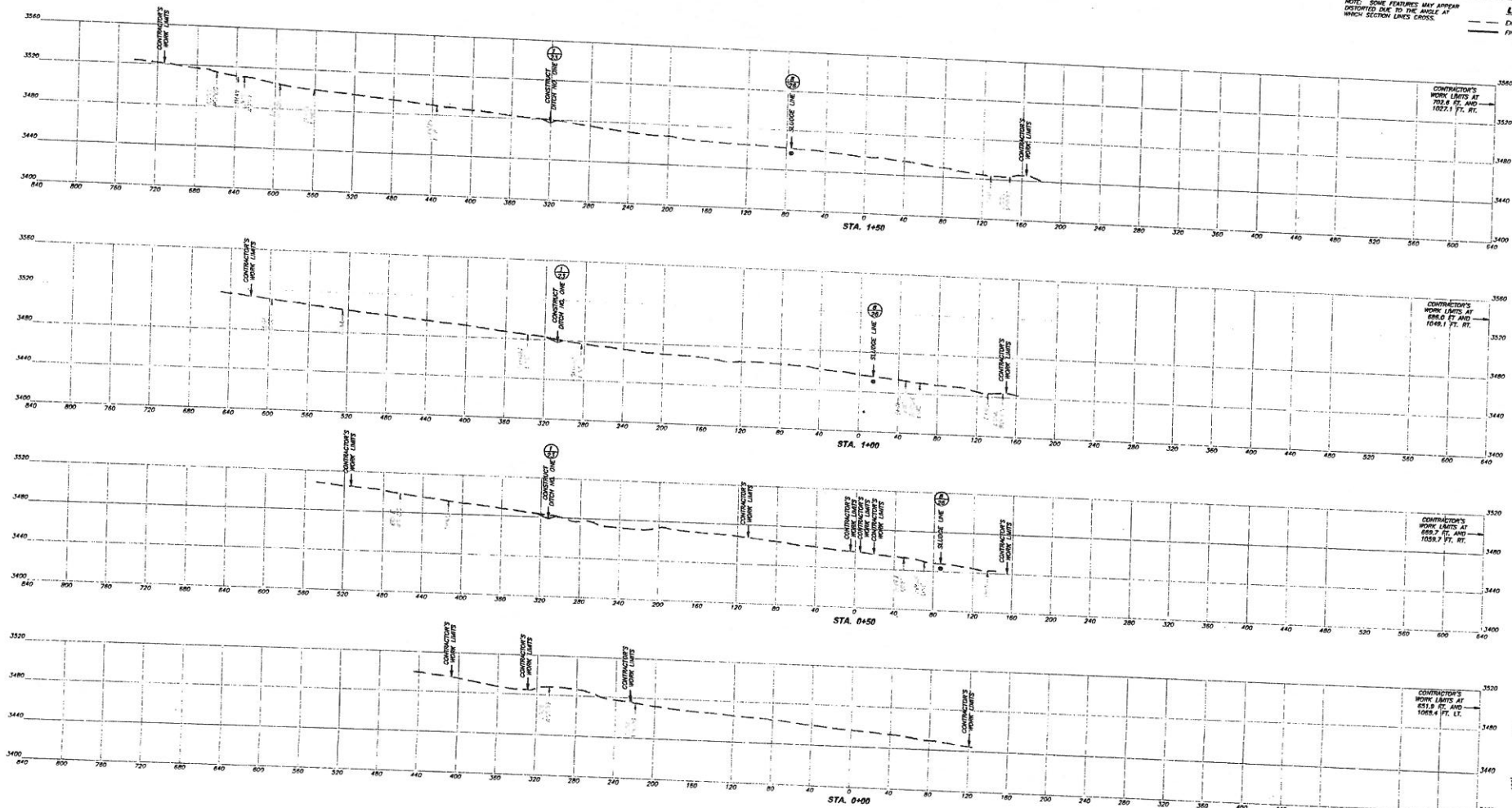
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TAX MAP OVERLAY
SHEET 4
 SCALE: 1" = 40 FT.
 CONTOUR INTERVAL: 2 FEET
 DATE: MARCH 2014

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NOTE: SOME FEATURES MAY APPEAR
DISTORTED DUE TO THE ANGLE AT
WHICH SECTION LINES CROSS.

LEGEND
--- EXISTING GROUND
— FINAL GRADE



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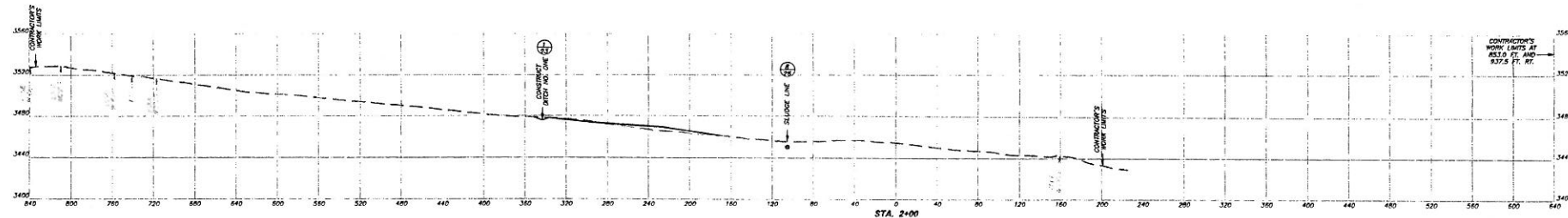
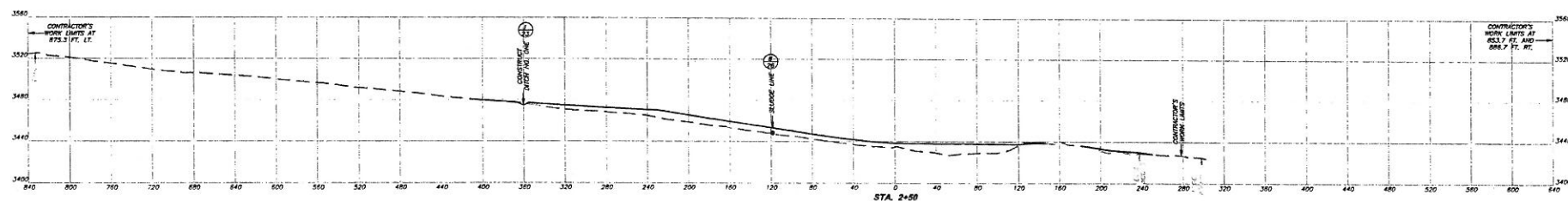
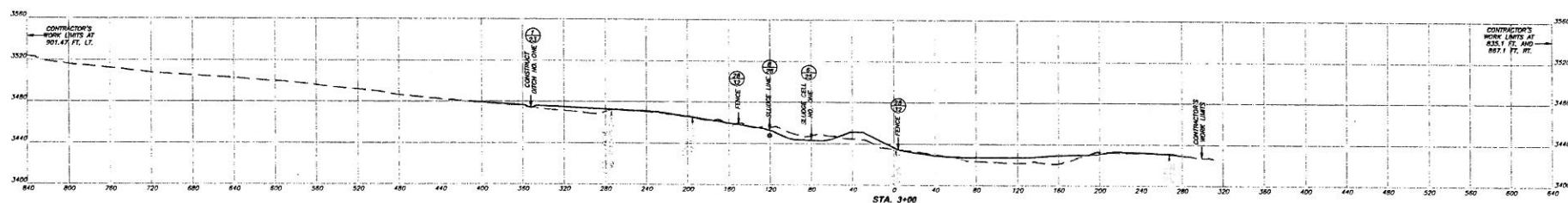
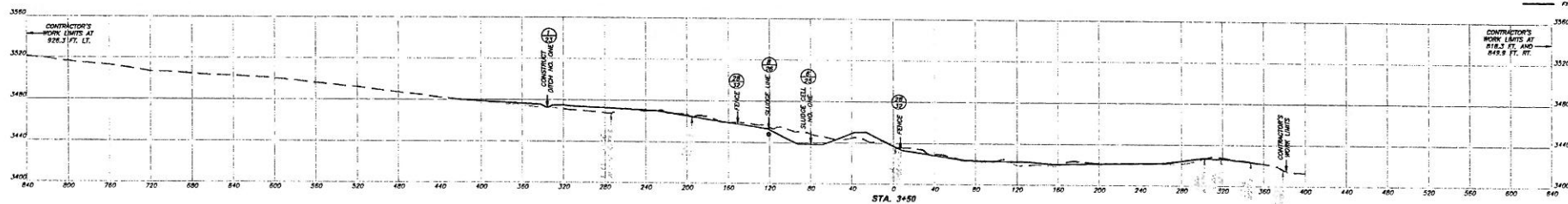
CROSS SECTIONS
STA. 0+00 TO STA. 1+50
SCALE: 1" = 50 FEET
HORIZONTALLY & VERTICALLY
DATE: MARCH 2014

15
33

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LEGEND

— EXISTING GROUND
--- PAUL GRADE



HORIZONTAL SCALE: 1" = 50 FT.
VERTICAL SCALE: 1" = 10 FT.

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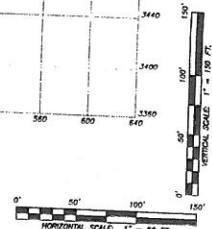
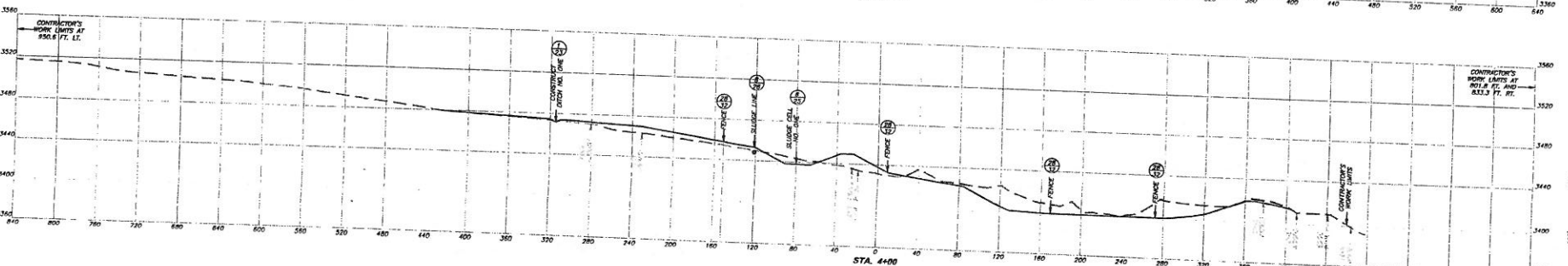
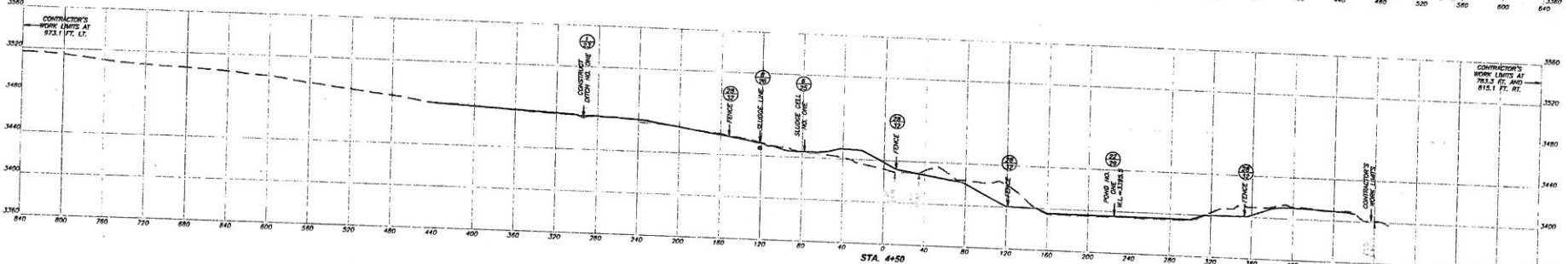
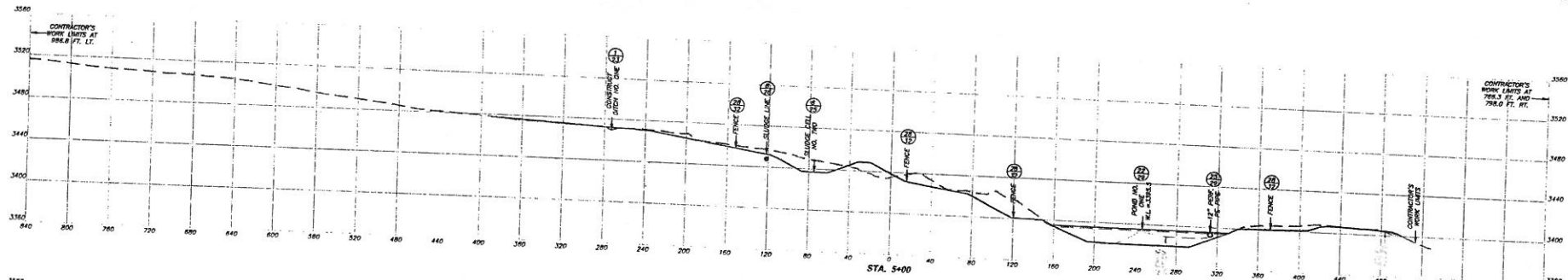
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CROSS SECTIONS
STA. 2+00 TO STA. 3+50
SCALE: 1" = 50 FEET
HORIZONTALLY & VERTICALLY
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LEGEND
 --- EXISTING GROUND
 --- FINAL GRADE



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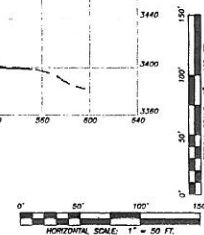
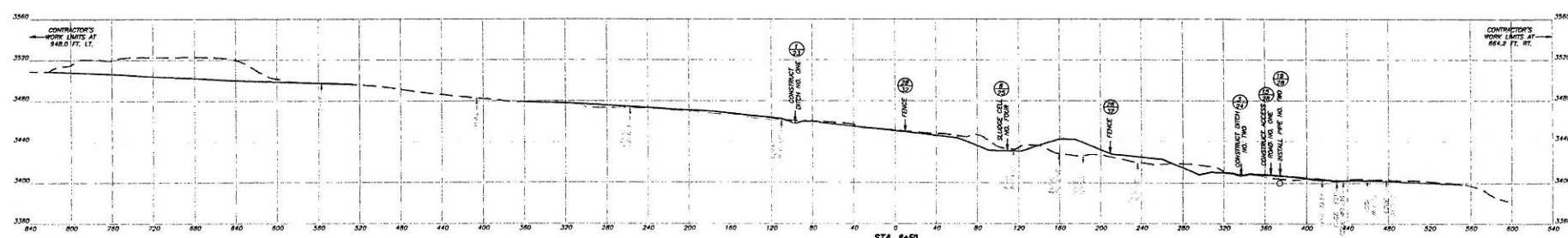
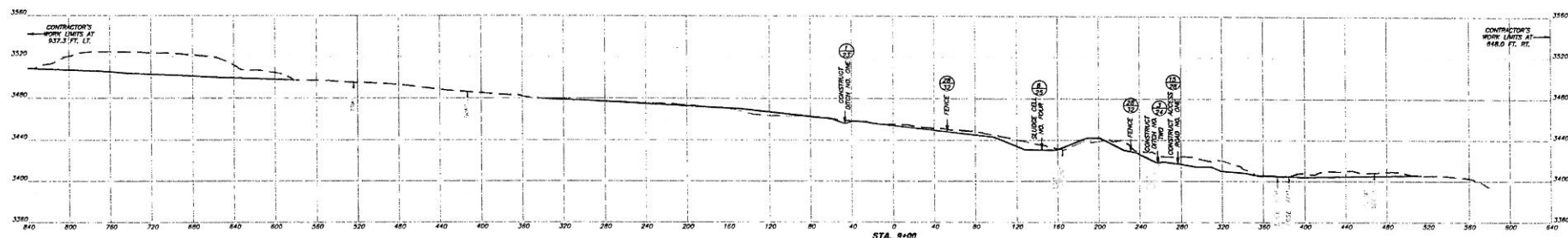
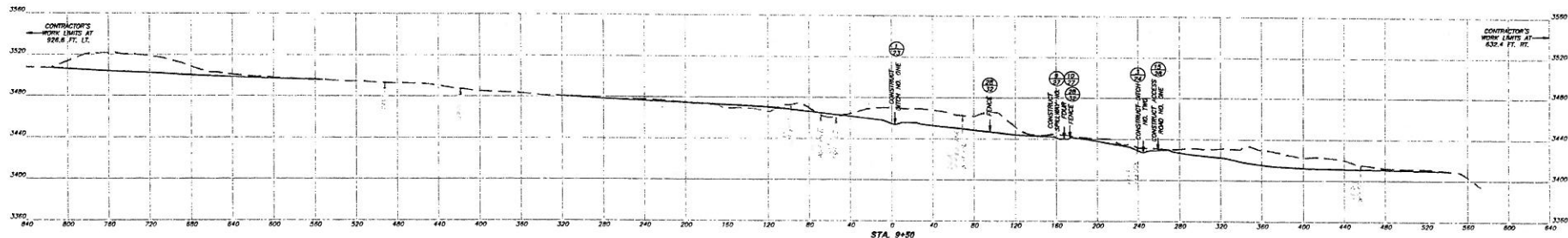
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Permit Number S-52-80
P.O. No. DEPI6308
 NEAR MT. STORN LAKE, UNION DISTRICT,
 GRANT COUNTY, WEST VIRGINIA

CROSS SECTIONS
STA. 4+00 TO STA. 5+00
 SCALE: 1" = 50 FEET
 HORIZONTALLY & VERTICALLY
 DATE: MARCH 2014

17
 33

NOTE: SOME FEATURES MAY APPEAR DISTORTED DUE TO THE ANGLE AT WHICH SECTION LINES CROSS.

LEGEND
 --- EXISTING GROUND
 --- FINAL GRADE



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 Ph: 304.933.3111 • 800.488.9339 • Fax: 304.933.3327
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PROJECT NO. 130-497
 DESIGNED BY: RMC
 DRAWN BY: APD
 CHECKED BY: RMC
 APPROVED BY: GSL

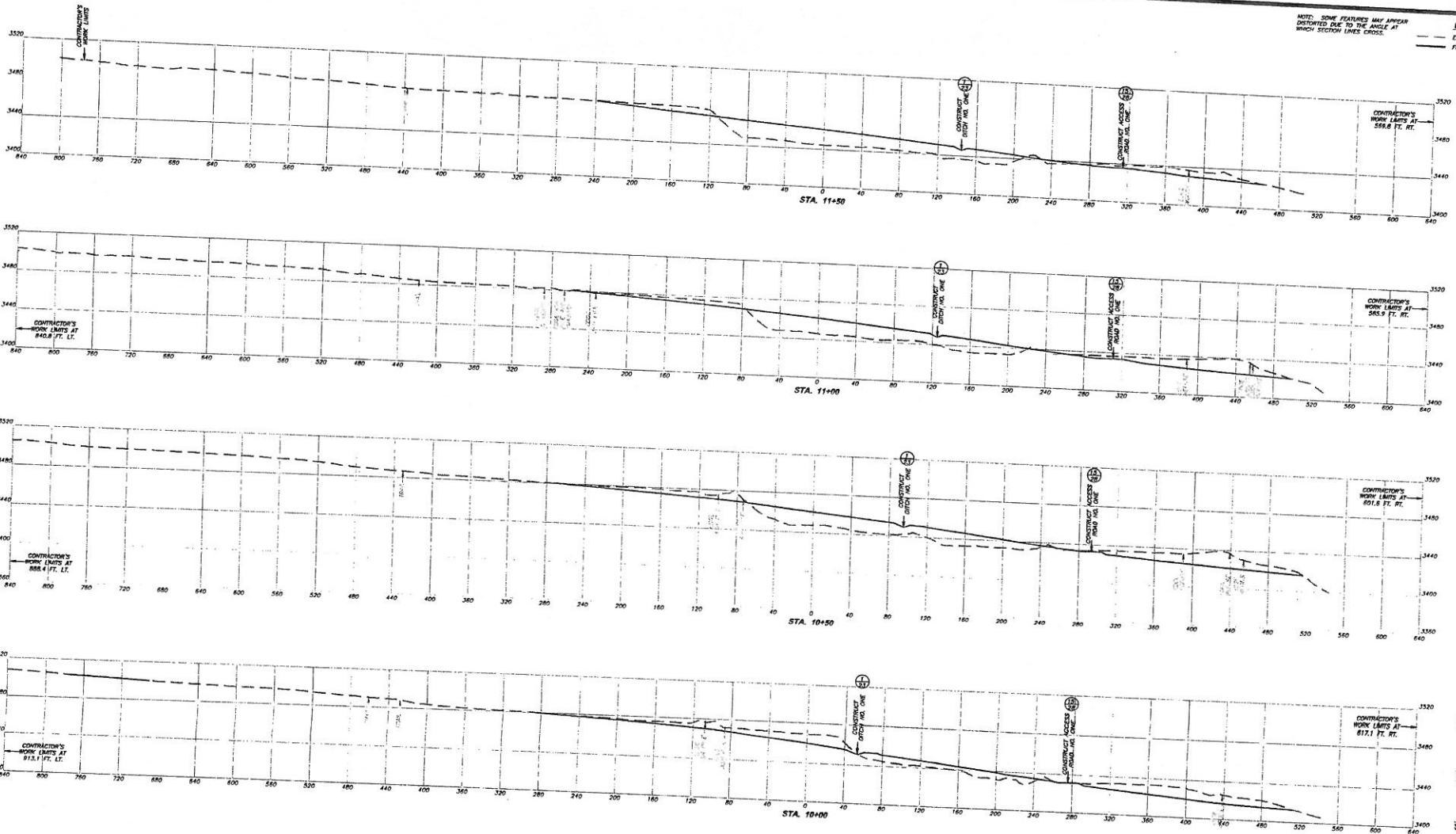
West Virginia
dep West Virginia Department of Environmental Protection
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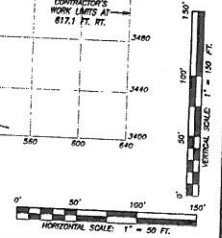
CROSS SECTIONS
 STA. 8+50 TO STA. 9+50
 SCALE: 1" = 50 FEET
 HORIZONTALLY & VERTICALLY
 DATE: MARCH 2014

20
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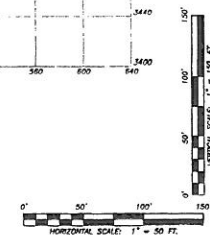
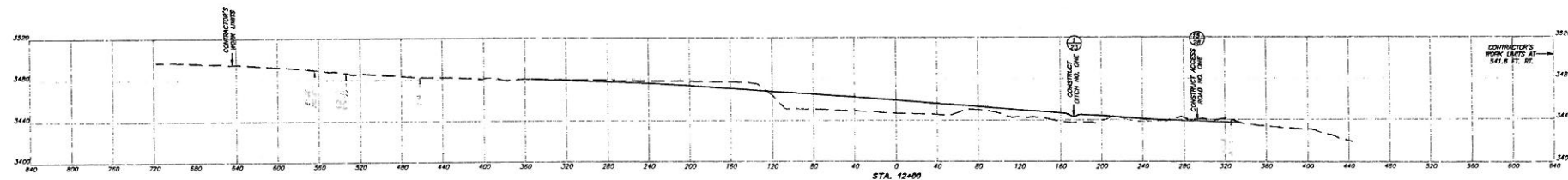
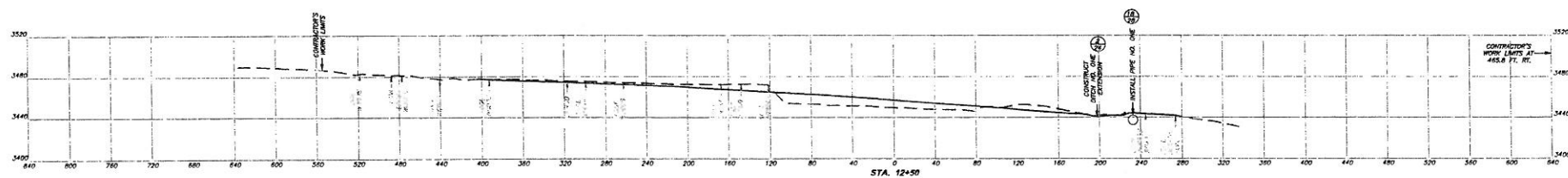
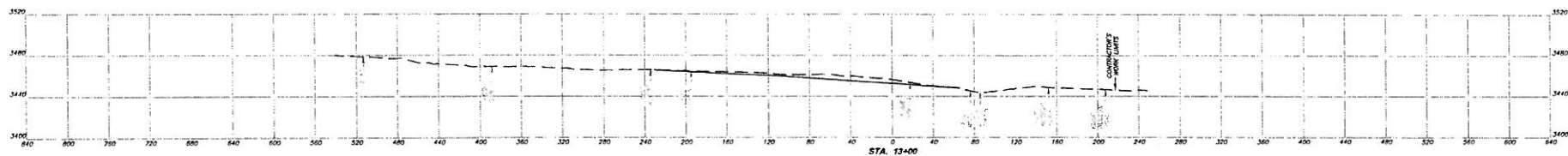
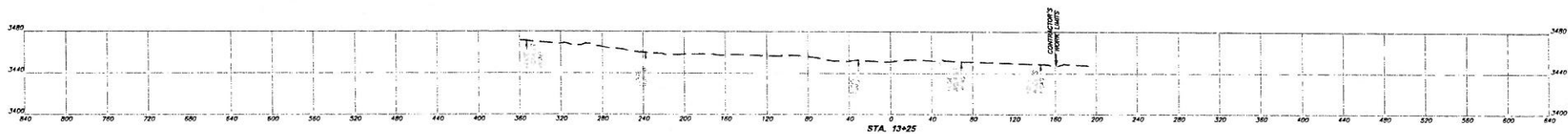
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CROSS SECTIONS
STA. 10+00 TO STA. 11+50
 SCALE: 1" = 50 FEET
 HORIZONTALLY & VERTICALLY
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21
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LEGEND
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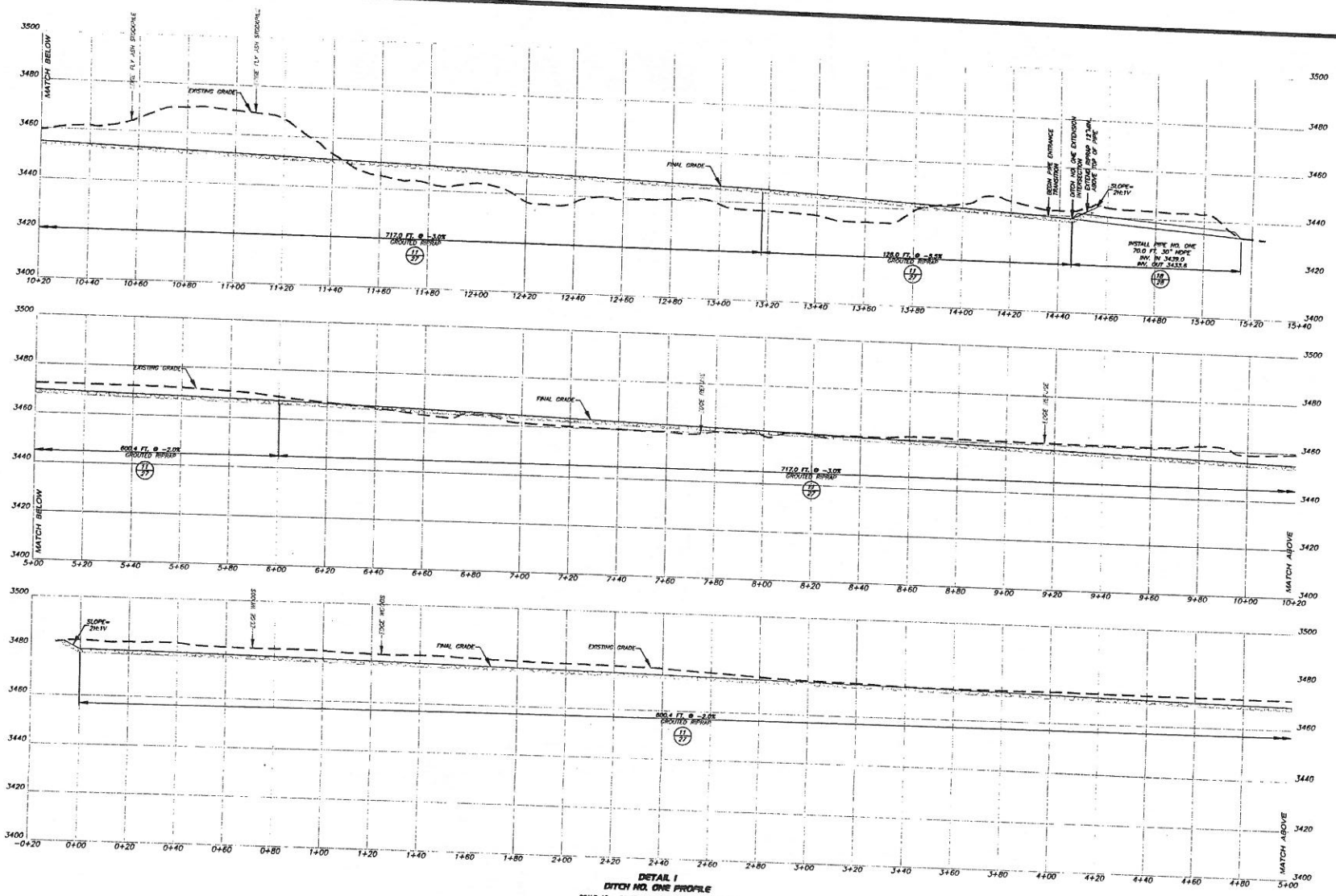
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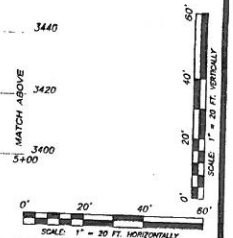
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CROSS SECTIONS
STA. 12+00 TO STA. 13+25
SCALE: 1" = 50 FEET
HORIZONTALLY & VERTICALLY
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22
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DETAIL I
DITCH NO. ONE PROFILE
SCALE 1" = 20 FT. HORIZONTALLY AND VERTICALLY



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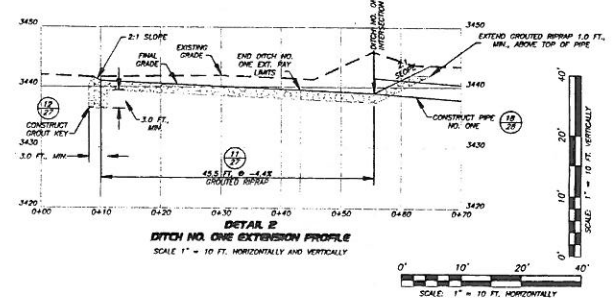
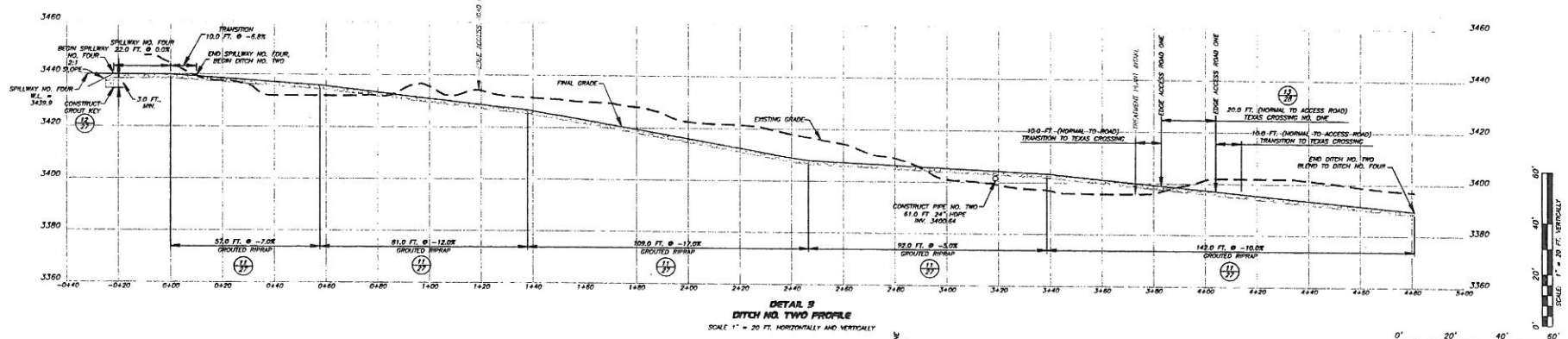
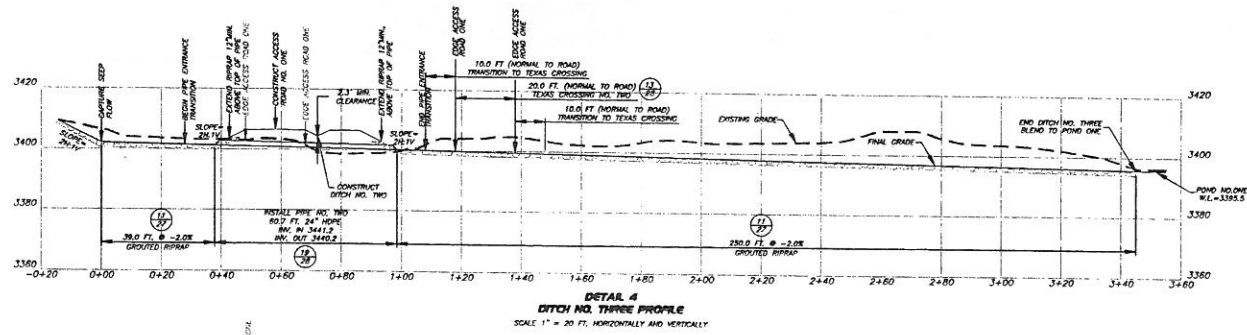
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**DITCH NUMBER ONE
PROFILE**
SCALE: 1" = 20 FT. DATE: MARCH 2014

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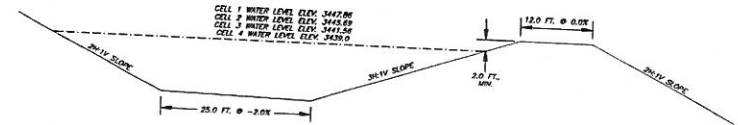
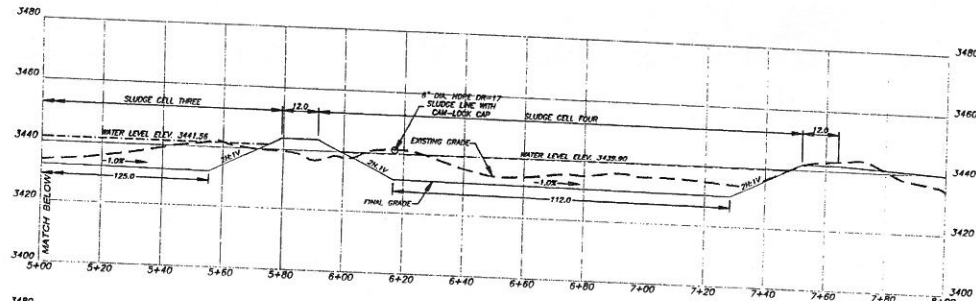
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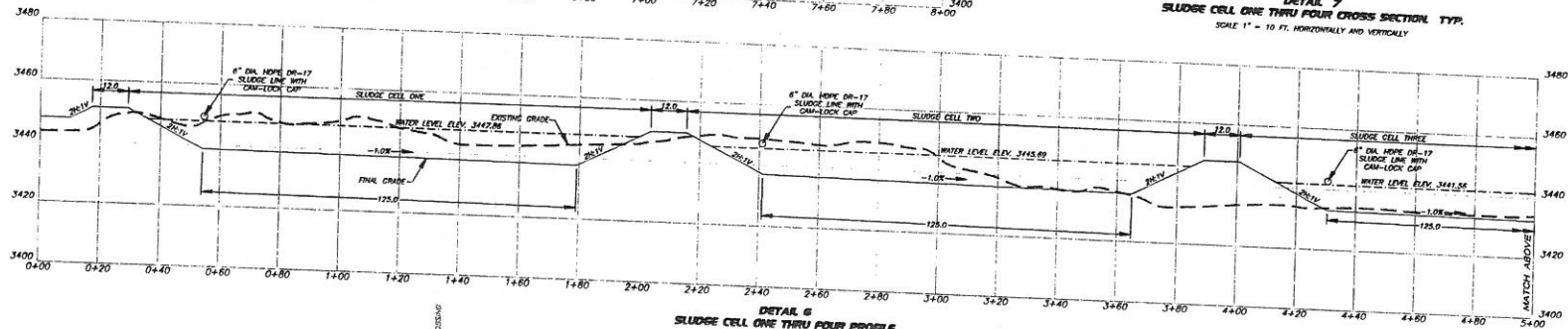
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**DITCH NUMBERS ONE EXTENSION,
TWO, AND THREE PROFILES**
SCALE: AS NOTED
DATE: MARCH 2014

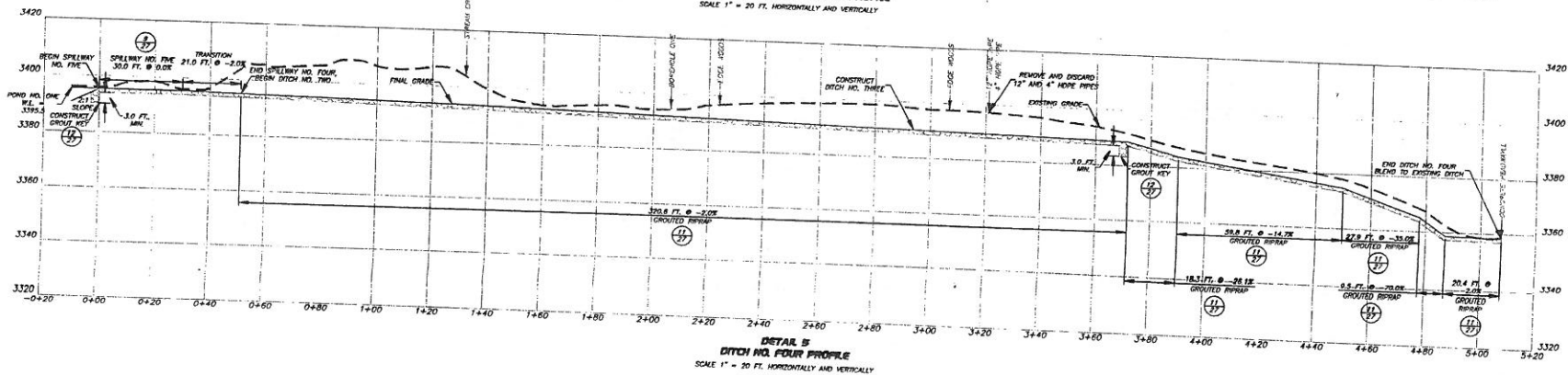
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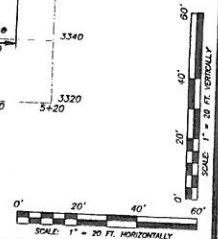
DETAIL 7
SLUDGE CELL ONE THRU FOUR CROSS SECTION. TYP.
SCALE 1" = 10 FT. HORIZONTALLY AND VERTICALLY



DETAIL 6
SLUDGE CELL ONE THRU FOUR PROFILE
SCALE 1" = 20 FT. HORIZONTALLY AND VERTICALLY



DETAIL 5
DITCH NO. FOUR PROFILE
SCALE 1" = 20 FT. HORIZONTALLY AND VERTICALLY



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4/22/2014	rnc	GSL	

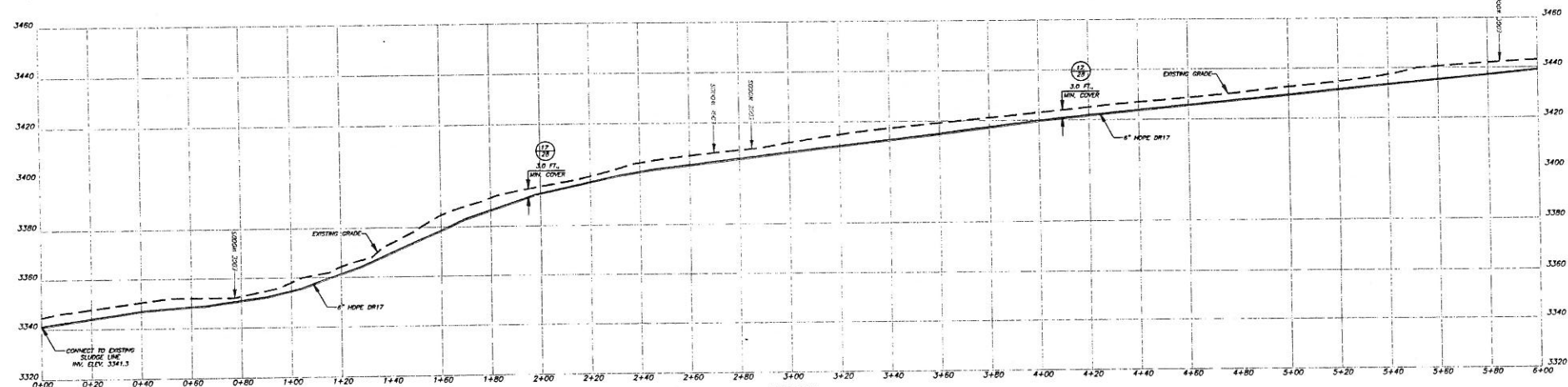
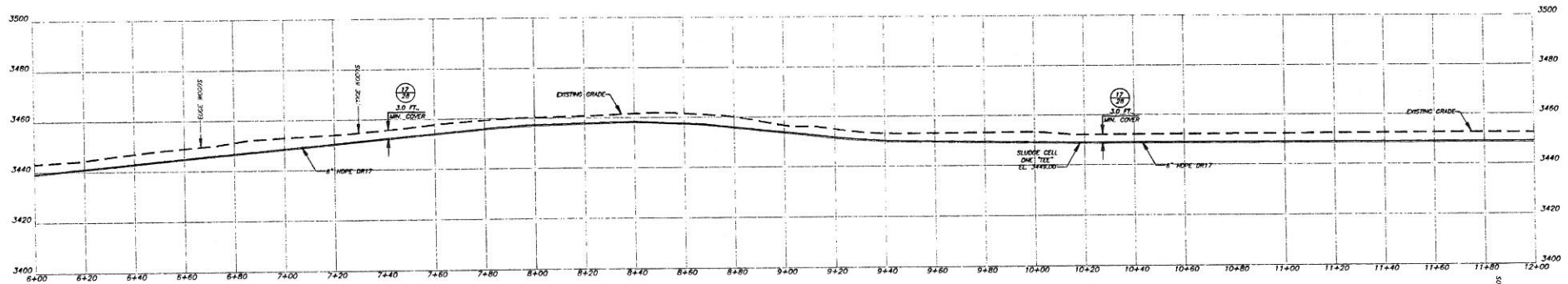
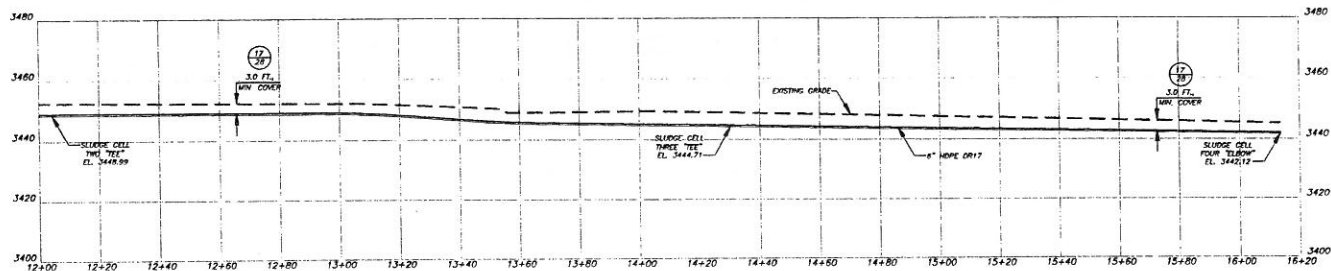
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**DITCH NUMBER FOUR AND
SLUDGE CELL PROFILES**

SCALE: 1" = 20 FT.

DATE: MARCH 2014

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DETAIL B
SLUDGE LINE PROFILE
SCALE 1" = 20 FT. HORIZONTALLY AND VERTICALLY

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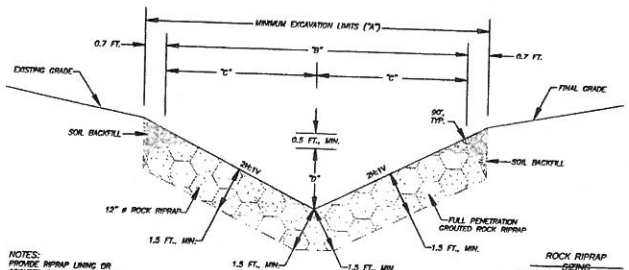
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SLUDGE LINE PROFILE
SCALE: 1" = 20 FEET
HORIZONTALLY AND VERTICALLY
DATE: MARCH 2014

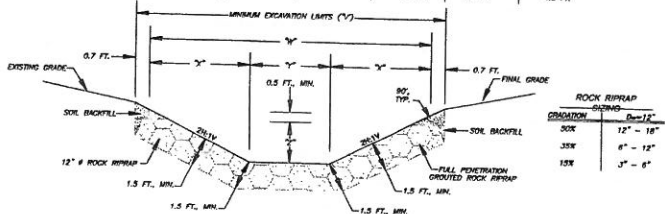
26
33

DITCH NUMBER	LINING	"V" SHAPED CHANNEL DIMENSIONS					TOTAL DEPTH
		DM "A"	DM "B"	DM "C"	DM "D"	DM "E"	
ONE	GRADED RIPRAP	11.4 FT.	10.0 FT.	8.0 FT.	8.0 FT.	2.0 FT.	2.5 FT.
TWO	GRADED RIPRAP	11.4 FT.	10.0 FT.	8.0 FT.	8.0 FT.	2.0 FT.	2.5 FT.
THREE	GRADED RIPRAP	8.4 FT.	8.0 FT.	4.0 FT.	4.0 FT.	1.5 FT.	2.0 FT.
FOUR	GRADED RIPRAP	8.4 FT.	8.0 FT.	4.0 FT.	4.0 FT.	1.5 FT.	2.0 FT.
FIVE	GRADED RIPRAP	12.4 FT.	12.0 FT.	8.0 FT.	8.0 FT.	2.5 FT.	3.0 FT.



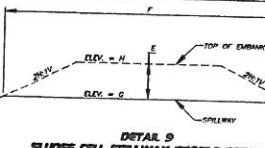
DETAIL 8
GROUDED RIPRAP SHV "V" CHANNEL
SCALE: 1" = 2 FEET

SPILLWAY NO.	LINING	"TRAPEZOIDAL" SHAPED DITCH DIMENSIONS					TOTAL DEPTH
		DM "A"	DM "B"	DM "C"	DM "D"	DM "E"	
ONE	GRADED RIPRAP	17.4 FT.	16.0 FT.	4.0 FT.	8.0 FT.	1.5 FT.	2.0 FT.
TWO	GRADED RIPRAP	17.4 FT.	16.0 FT.	4.0 FT.	8.0 FT.	1.5 FT.	2.0 FT.
THREE	GRADED RIPRAP	17.4 FT.	16.0 FT.	4.0 FT.	8.0 FT.	1.5 FT.	2.0 FT.
FOUR	GRADED RIPRAP	17.4 FT.	16.0 FT.	4.0 FT.	8.0 FT.	1.5 FT.	2.0 FT.
FIVE	GRADED RIPRAP	25.4 FT.	24.0 FT.	8.0 FT.	8.0 FT.	4.0 FT.	4.5 FT.



DETAIL 10
GROUDED RIPRAP SHV "TRAPEZOIDAL" CHANNEL
SCALE: 1" = 3 FEET

SPILLWAY DIMENSIONS				
SPILLWAY NO.	E	F	G	H
1	2.0	20.0	3447.88	3448.88
2	2.0	20.0	3445.89	3447.89
3	2.0	20.0	3441.88	3443.88
4	2.0	20.0	3438.89	3441.89
5	4.5	30.0	3395.50	3400.00

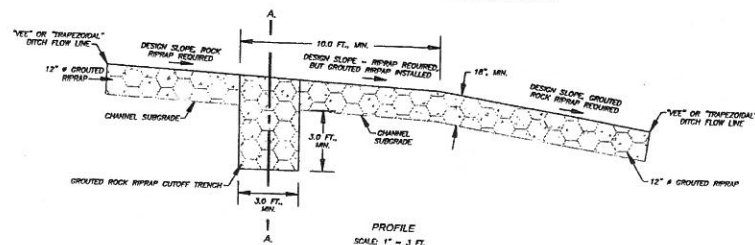


DETAIL 9
SLUDGE CURT SPILLWAY PROFILE DETAIL
NOT TO SCALE

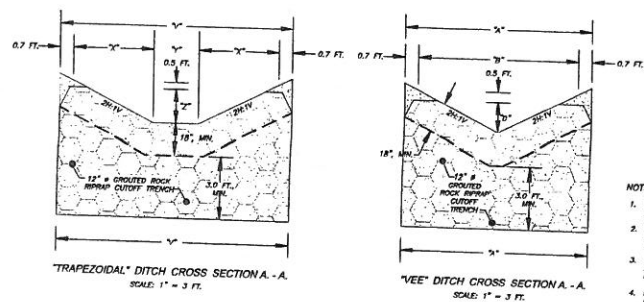
DITCH SUMMARY CHART											
DITCH NUMBER	REACH	HORIZONTAL DISTANCE (FT.)	SLOPE DISTANCE TO LEADING EDGE RECOVERY DITCH (FEET)	DEPTH MIN. (FT.)	BOTTOM WIDTH MIN. (FT.)	SIDE SLOPES LEFT	RIGHT	AVERAGE FLOW VELOCITY	DITCH LINING	DETAIL NUMBER	
DITCH NO. ONE	1	855.4		2.5	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. ONE	2	717.0		2.5	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. ONE	3	128.0		2.5	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. ONE	4	20.0		N/A	N/A	N/A	N/A	-2.78	30" HOPE PIPE NO. ONE	15/28	
TOTAL			1445.4								
DITCH NO. ONE EXT.	1	43.5		2.5	8.0	2H:1V	2H:1V	-4.48	12" GROUDED RIPRAP	11/27	
TOTAL			43.5								
DITCH NO. TWO	1	57.0		2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. TWO	2	87.0		2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. TWO	3	109.0		2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. TWO	4	12.0		2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. TWO	5	10.0		2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. TWO	6	20.0	SIDE SLOPE TRANSITION	2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. TWO	7	10.0	TEXAS CROSSING NO. ONE	2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. TWO	8	10.0	SIDE SLOPE TRANSITION	2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. TWO	9	10.0	TEXAS CROSSING NO. TWO	2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. TWO	10	10.0	SIDE SLOPE TRANSITION	2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
TOTAL			305.8								
DITCH NO. THREE	1	38.0		2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. THREE	2	80.0		2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. THREE	3	8.0	SIDE SLOPE TRANSITION	2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. THREE	4	20.0	TEXAS CROSSING NO. TWO	2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. THREE	5	10.0	SIDE SLOPE TRANSITION	2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. THREE	6	10.0	TEXAS CROSSING NO. TWO	2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
TOTAL			148.0								
DITCH NO. FOUR	1	35.0		2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. FOUR	2	10.0		2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. FOUR	3	10.0		2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. FOUR	4	10.0		2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
DITCH NO. FOUR	5	10.0		2.0	8.0	2H:1V	2H:1V	-2.08	12" GROUDED RIPRAP	11/27	
TOTAL			65.0								

NOTES:

- DITCH LENGTHS LISTED IN THE TABLE AND SHOWN ON THE PROFILE INCLUDE OVERLAPPED DIMENSIONS WHERE TWO DITCHES INTERSECT. TOTALS SHOWN IN THE TABLE DISCOUNT THE OVERLAP. DITCH TOTALS IN THE TABLE ARE SLOPE DISTANCES.
- GROUT KEYS SHALL BE PAID AT THE UNIT PRICE BID FOR THE DITCH IN WHICH THEY ARE LOCATED. FOR GROUT KEY LOCATIONS SEE DITCH PROFILES.



PROFILE
SCALE: 1" = 3 FEET



DETAIL 12
GROUT KEY
SCALE: AS NOTED

NOTES:

- EXTEND GROUT KEY LATERALLY THE FULL WIDTH OF THE CHANNEL AS SHOWN IN THE CROSS SECTION VIEWS.
- INSTALL GROUT KEY AT THE JUNCTION OF ROCK RIPRAP CHANNEL WITH GROUDED ROCK RIPRAP CHANNEL AS SHOWN IN THE PROFILE VIEW.
- AFTER EXCAVATING THE GROUT KEY TO THE DIMENSIONS SHOWN, PLACE GROUT IN THE EXCAVATION TO THE RIPRAP CHANNEL. SET GRADE PRIOR TO PLACING THE RIPRAP.
- FOR "A" TO "D" AND "E" TO "F" DIMENSIONS, SEE DETAILS 21 AND 22.

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Office of Special Reclamation

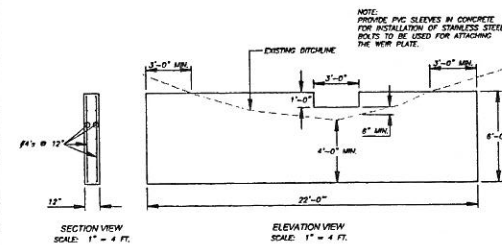
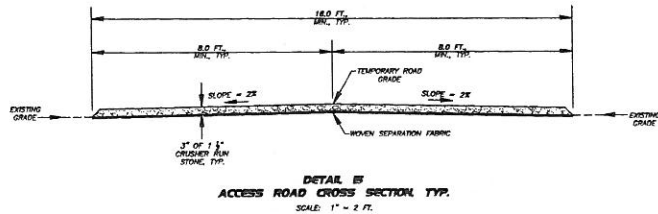
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DATE: 4/15/2014 BY: rmc
4/22/2014 rmc
DATE: 4/15/2014 BY: GSL
4/22/2014 rmc

BUFFALO COAL COMPANY, INC
Permit Number 5-52-80
P.O. No. DEPI6308
NEAR MT. STORM LAKE, UNION DISTRICT,
GRANT COUNTY, WEST VIRGINIA

MISCELLANEOUS DITCH
DETAILS
SCALE: AS SHOWN
DATE: MARCH 2014

27
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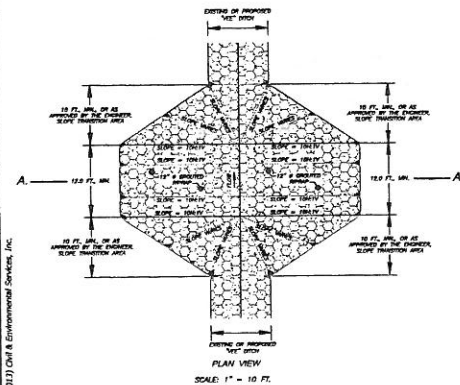
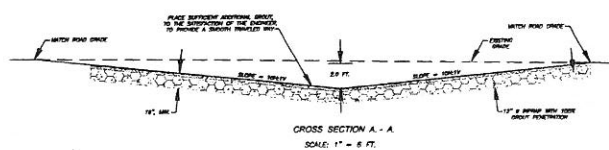
- NOTES:
- ACCESS ROADS SHALL BE CONSTRUCTED IN THE LOCATIONS DEPICTED ON THE FINAL DESIGN SHEETS.
 - ACCESS ROADS SHALL BE CONSTRUCTED BY LAYING SEPARATION FABRIC THE WIDTH OF THE PROPOSED ROAD AND ALONG ITS ENTIRE LENGTH. 3" OF 1 1/2" CRUSHER RUN STONE SHALL THEN BE PLACED AROUND THE FABRIC TO CREATE A DRAINING SURFACE.



DETAIL 14
WEIR DETAIL

CHANNEL ROAD CROSSING TABLE	
CROSSING NUMBER	LOCATION
1000	OPEN RD. 1
1001	OPEN RD. 2
1002	OPEN RD. 3

ROCK RIPRAP SIZING	
DESIGNATION	SIZE
100	12" - 18"
200	8" - 12"
150	3" - 6"



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Ph: 304.933.3119 • 855.688.9339 • Fax: 304.933.3327
www.cecinc.com

PROJECT NO. 130-497
DESIGNED BY: RMC
DRAWN BY: APD
CHECKED BY: RMC
APPROVED BY: GSL

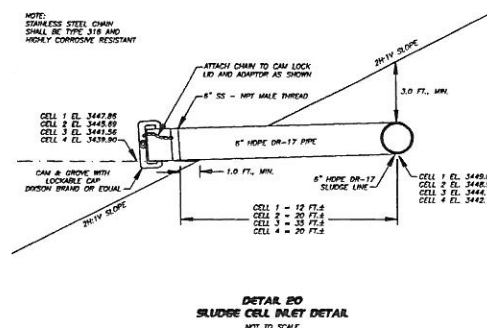
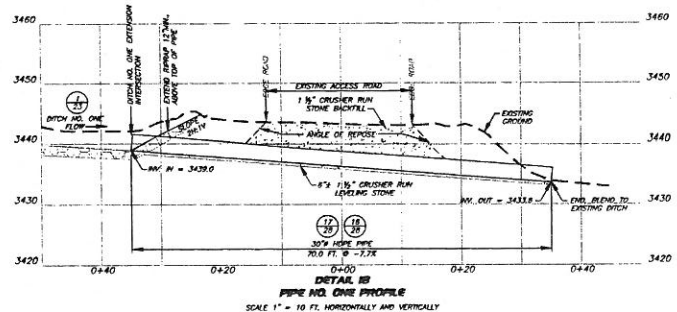
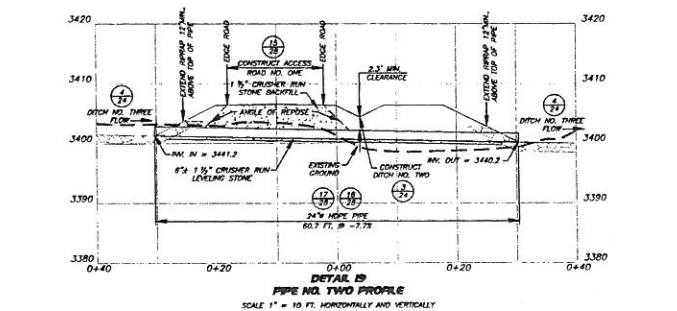
West Virginia
dep West Virginia Department of Environmental Protection
Office of Special Reclamation

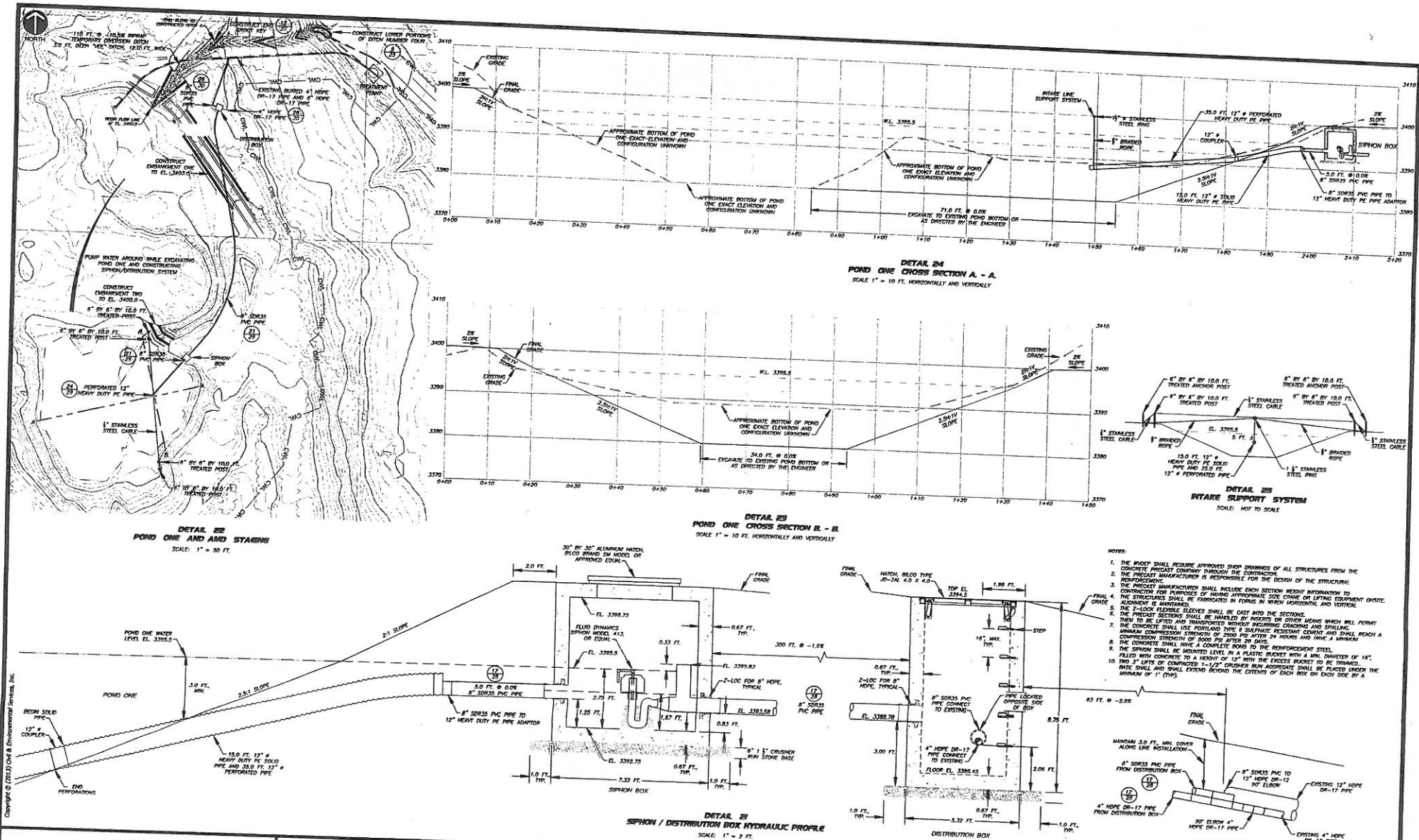
REVISIONS		
DATE	BY	CHK
4/15/2014	rnc	GSL
4/22/2014	rnc	GSL

BUFFALO COAL COMPANY, INC
Permit Number 5-52-80
P.O. No. DEP16308
NEAR MT. STORM LAKE, UNION DISTRICT,
GRANT COUNTY, WEST VIRGINIA

MISCELLANEOUS DETAILS
SHEET 1
SCALE: AS SHOWN
DATE: MARCH 2014

28
33





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99 Cambridge Place - 8th Floor, WV 26330
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APPROVED BY: GSL

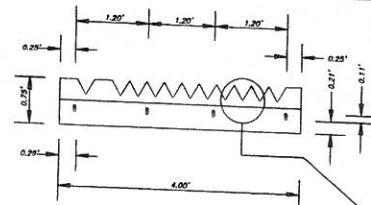
west virginia
dep West Virginia Department of Environmental Protection
Office of Special Reclamation

REVISIONS			
DATE	BY	CHKD	APPD
4/15/2014	rmc	GSL	
4/22/2014	rmc	GSL	

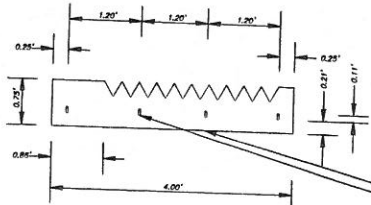
BUFFALO COAL COMPANY, INC.
Permit Number 5-52-80
P.O. No. DEP6308
NEAR MT. STORM LAKE, UNION DISTRICT,
GRANT COUNTY, WEST VIRGINIA

POND ONE AND AMD STAGING
SCALE: 1" = 40 FT.
CONTOUR INTERVAL: 2 FEET
DATE: MARCH 2014

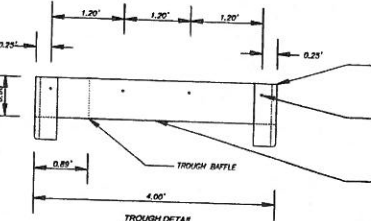
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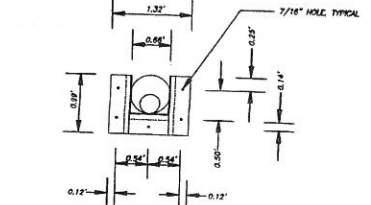
WEIR PLATE DETAIL
EFFLUENT SIDE - NTS



WEIR PLATE DETAIL
INFLUENT SIDE - NTS

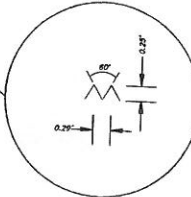


TROUGH DETAIL
BOTH ENDS - NTS



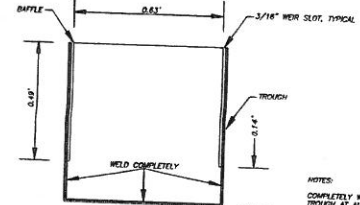
TROUGH DETAIL
BOTH ENDS - NTS

NOTES:
WEIR PLATE LOCATED ON THE EFFLUENT SIDE OF THE TROUGH SHALL HAVE 11 WEIRS. 1-WEIR FOR DRIVE WATER AND 10-WEIRS FOR AND TO BE TREATED.



NOTES:
WEIR PLATE LOCATED ON THE INFLUENT SIDE OF THE TROUGH SHALL HAVE 11 WEIRS.

NOTES:
ALL HARDWARE SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED.
ATTACH WEIRS TO TROUGH WITH 3/8" x 1" BOLTS WITH A WASHER ON BOTH SIDES, LOCK WASHER, AND NUT.
TROUGH SHALL BE ANCHORED TO THE CONCRETE WITH 5/8" x 1-3/4" CONCRETE DROP IN ANCHORS. THE BOLT SHALL HAVE A WASHER, LOCK WASHER, AND NUT.
INDUSTRIAL SILICONE SHALL BE PLACED BETWEEN THE TROUGH AND CONCRETE IMMEDIATELY PRIOR TO INSTALLING THE TROUGH.

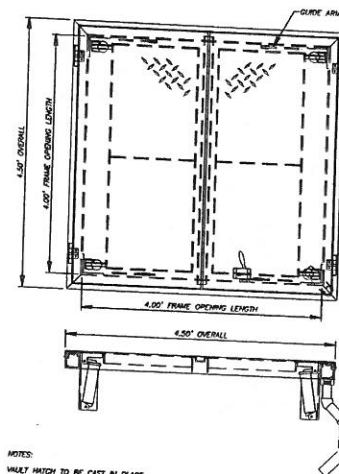


TROUGH DETAIL
BOTH ENDS - NTS

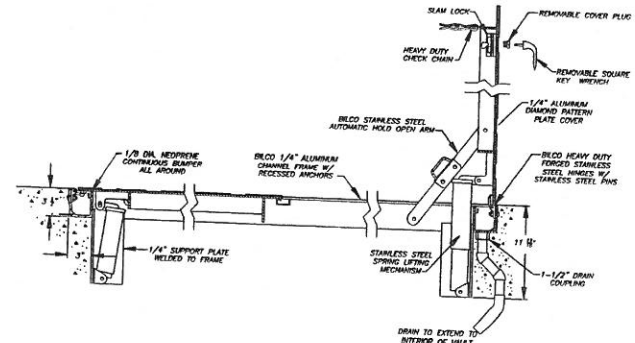
NOTES:
COMPLETELY WELD BUTTLE TO TROUGH AT ALL POINTS OF CONTACT.
BUTTLE SHALL BE MADE OF 1/8" 316 SS PLATE.
ONCE THE WEIR PLATES ARE INSTALLED, THE WEIR SLOT SHALL BE SEALED WITH INDUSTRIAL SILICONE TO ELIMINATE LEAKAGE.

INCHES	1-WEIR	20-WEIRS	TOTAL
0.1	0.01	0.19	0.20
0.2	0.04	0.76	0.79
0.3	0.09	1.78	1.87
0.4	0.17	3.38	3.53
0.5	0.28	5.62	5.90
0.6	0.43	8.54	8.97
0.7	0.61	12.24	12.85
0.8	0.84	16.82	17.66
0.9	1.11	22.22	23.33
1.0	1.43	28.55	29.98
1.1	1.80	35.95	37.75
1.2	2.21	44.29	46.51
1.3	2.68	53.68	56.36
1.4	3.22	64.34	67.55
1.5	3.80	76.90	79.90
1.6	4.44	90.88	93.30
1.7	5.16	103.11	108.27
1.8	5.92	118.48	124.39
1.9	6.74	135.10	141.88
2.0	7.66	153.20	160.94
2.1	8.63	172.88	181.25
2.2	9.67	193.42	203.09
2.3	10.79	215.88	226.67
2.4	11.98	239.54	251.83
2.5	13.23	264.88	277.23
2.6	14.58	291.70	306.28
2.7	16.00	319.94	335.94
2.8	17.49	349.77	367.26
2.9	19.05	381.88	400.86
3.0	20.73	414.88	435.41

BILCO TYPE JD-2AL 4.0' X 4.0' OR EQUIVALENT



NOTES:
HATCH MUST BE CAST IN PLACE DURING PRECAST FABRICATION.



DETAIL 27
DISTRIBUTION BOX DETAILS (CONT.)

C&E
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99 Cambridge Place - Bridgeport, WV 26330
Ph: 204.933.3119 - 855.468.9519 - Fax: 204.933.3327
www.candco.com

PROJECT NO. 130-497
DESIGNED BY: RMC
DRAWN BY: APD
CHECKED BY: RMC
APPROVED BY: GSL

west virginia
dep West Virginia Department of Environmental Protection
Office of Special Remediation

DATE	BY	CHK
4/15/2014	RMC	GSL
4/22/2014	RMC	GSL

BUFFALO COAL COMPANY, INC
Permit Number 5-52-80
P.O. No. DEP16308
NEAR MT. STORM LAKE, UNION DISTRICT,
GRANT COUNTY, WEST VIRGINIA

**DISTRIBUTION BOX DETAILS
SHEET 2**

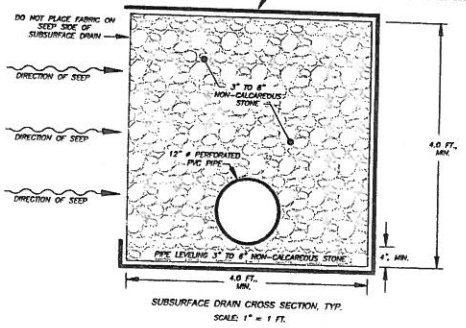
SCALE: 1" = 2 FT.

DATE: MARCH 2014

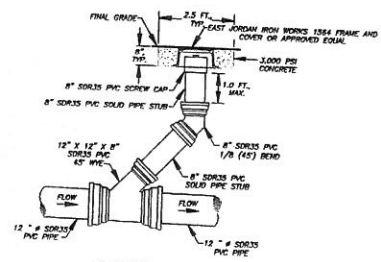
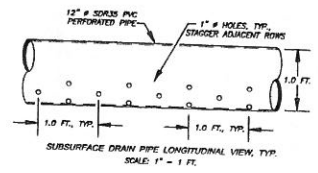
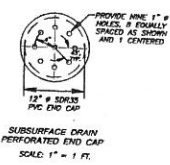
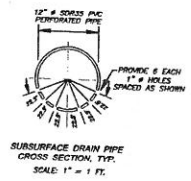
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NOTES:

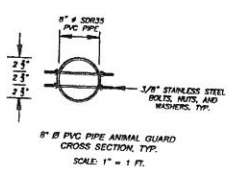
1. THE FILTER FABRIC SHALL BE OVERLAPPED 1.0 FOOT, MINIMUM, AT ALL JOINTS.



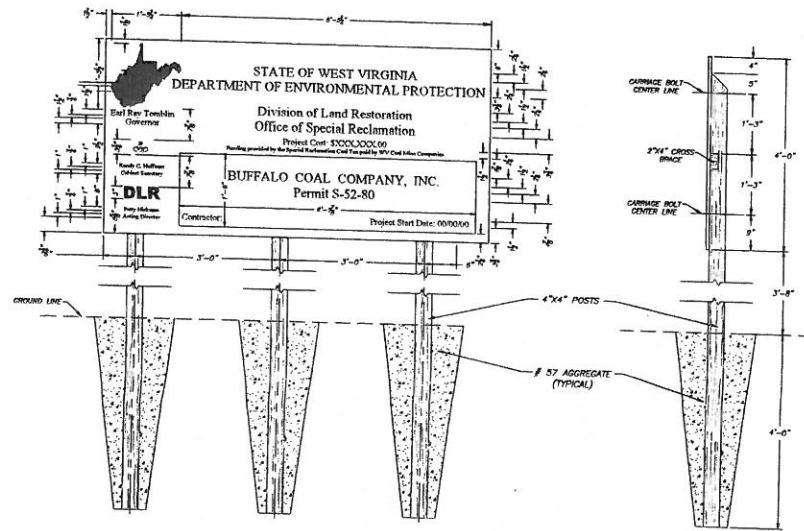
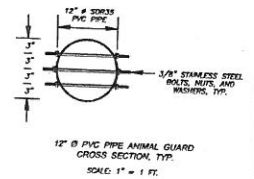
DETAIL 31
SUBSURFACE DRAIN DETAILS
SCALE: AS NOTED



DETAIL 32
12\"/>



DETAIL 33
ANIMAL GUARD DETAILS
SCALE: AS NOTED



DETAIL 34
PROJECT SLOPE
NOT TO SCALE

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REVISIONS		
DATE	BY	CHKD
4/15/2014	rnc	GSL
4/22/2014	rnc	GSL

BUFFALO COAL COMPANY, INC.
Permit Number S-52-80
P.O. No. DEPI6308
NEAR MT. STORM LAKE, UNION DISTRICT,
GRANT COUNTY, WEST VIRGINIA

MISCELLANEOUS DETAILS
SHEET 3
SCALE: AS SHOWN
DATE: MARCH 2014

33
33

Instructions for Completing AML Contractor Form OMB #1029-0119¹

Part A: General Information. Part A should be completed by the AML Contractor.

Part B: Legal Structure. Part B should be completed by the AML Contractor.

Part C: Certifying and updating information in the Applicant/Violator System (AVS). Part C should be completed by the AML Contractor, selecting the statement that best describes their situation.

If information is accurate, complete and up-to-date, then check the first statement and sign and date. Attach the Entity OFT printout to the OMB #1029-0119 form and submit the form and attachment to the AML Contracting Officer your business is working with.²

Upon reviewing an Entity OFT printout, if you discover the information contained in AVS is not accurate, complete and up-to-date, then check the second statement and complete Part D to provide missing or corrected information that needs reflected in AVS. Attach the Entity OFT printout to the OMB #1029-0119 form and submit the form and attachment to the AML Contracting Officer your business is working with.

If your business does not appear to have any information in AVS, then check the third statement and complete Part D. Submit the OMB #1029-0119 form to the AML Contracting Officer your business is working with.

Part D:

If current Entity OFT information for your business is incomplete, incorrect, or if you believe there is no information currently in the AVS for your business, you must complete Part D. Submit the OMB #1029-0119 form to the AML Contracting Officer your business is working with.

¹ If you need any assistance completing OMB #1029-0119, please contact the AVS Office at 800.643.9748.

² You may obtain your business' Entity OFT for certification purposes two ways. One way is to contact the AVS Office at 800.643.9748 and request the information. The second way is to access the AVS from your personal computer by visiting <https://avss.osmre.gov>. Click "Access AVS", and then Login as Guest. Place your cursor on the "Entity" Module and "Click". Type your business name in search box and press enter key. If more than one entity record appears, select your company and then "Click" on the "relationship" tab to display your Entity OFT information. Print the Entity OFT from AVS.