Low Volume Waste Settling Ponds
Initial Periodic Hazard Potential Classification

Mount Storm Power Station
Mount Storm, West Virginia

October 2016

Low Volume Waste Settling Ponds
Initial Periodic Hazard Potential Classification

Mount Storm Power Station
Mount Storm, West Virginia

October 2016

Prepared For
Virginia Electric and Power Company

Jonathan Hotstream
Senior Scientist

R. Kent Nilsson, P.E.
Senior Engineer

30 Patewood Drive, Suite 300, Greenville, SC 29615, ● 864.281.0030 Phone ● 864.281.0288 Fax ● www.TRCsolutions.com

Table of Contents

List of Tables

List of Figures

List of Appendices

Revision History

REVISION NUMBER	REVISION DATE	SECTION REVISED	SUMMARY OF REVISIONS

Section 1
Background

Virginia Electric and Power Company d/b/a Dominion Virginia Power (Dominion) owns and operates the Mount Storm Power Station (Station). The Station manages coal combustion residuals (CCR) in five existing low volume waste settling ponds (LVWSP) (Pyrite Pond and Ponds A, B, C, and D). The purpose of this report is to determine the hazard potential classification (Classification) for the five existing LVWSP, the proposed retrofit of the Pyrite Pond and the reconstruction of Ponds A and B at the Station as required by the United States Environmental Protection Agency's (USEPA) final coal combustion residuals (CCR) rule (Title 40 Code of Federal Regulations (40 CFR) Parts 257 and 261) Subpart D-"Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments" (40 CFR 257.73 and 40 CFR 257.74). The LVWSP are considered existing CCR surface impoundments according to the CCR rule (40 CFR 257.53).

1.1 Existing Conditions

The Station is located in Union District, Grant County, West Virginia (refer to Figure 1). There are currently five LVWSP at the Station (refer to Figure 2.) The area including the LVWSP is approximately nine acres, with the surrounding terrain sloping down toward Mount Storm Lake to the east and south from the topographic high on the northwest side of the LVWSP. The normal water elevation for Mount Storm Lake is approximately 3245 feet NAVD88 with a maximum elevation of 3248.3 feet NAVD88. The water levels of Mount Storm Lake are controlled by the Mount Storm Lake Dam which is operated by Dominion. The Flood Insurance Rate Map for the Station (National Flood Insurance Program 2009) shows that the LVWSP are located in an area determined to be outside the 0.2% annual chance flood.

The LVWSP receive influent water from dewatering bin overflows and area sumps, along with water from plant drain systems, the oily water separator system, storm water, and other Station drains. The water flows to a pH neutralizing system before flowing to the primary LVWSP (Ponds A and B) for settling. After the primary ponds, water flows into secondary ponds (Ponds C and D) for additional settling. From the secondary LVWSP, water is discharged into Mount Storm Lake via a National Pollutant Discharge Elimination System (NPDES) permitted outfall. The four-pond configuration allows one pond to be dredged and cleaned while maintaining the other LVWSP in service to process wastewaters.

The Pyrite Pond receives primarily storm water inflows from sources upstream of Ponds A through D. The Pyrite Pond discharges to the pH neutralizing system prior to flowing into the primary LVWSP.

The wastewater flows through several outlet structures in a circuit through the LVWSP. The water flow is driven by gravity. Station personnel can control flow to and from a pond by operating gates on the outlet structures.

The LVWSP are located on the south side of the station and were constructed in partial cut with an earthen berm constructed on the southern perimeter berm of Pond D and the eastern and western berms of Ponds C and D. The dividing berms between Ponds A and B and Ponds C and D were constructed of fill after the original excavation of the LVWSP. The geometry of each pond varies. The maximum depth of water is currently maintained in Pond A with an approximate bottom elevation of 3244 feet NAVD88 and a top of berm elevation of 3260 feet NAVD88. Appendix A provides the existing conditions for the LVWSP.

The existing cumulative maximum surcharge pool capacity for all of the LVWSP is approximately 70.1 acre-feet, refer to Table 1. Dominion plans to retrofit the Pyrite Pond, close Ponds A through D, and reconstruct Ponds A and B to comply with the USEPA final CCR rule. The future cumulative storage capacity for the LVWSP is approximately 38.1 acre-feet, refer to Table 1. Note that the storage capacities are based on each of the LVWSP being filled to its lowest berm elevation.

The basins have been operating and performing as designed since the 1960's. The constructed berms have not shown signs of weakening, poor performance, or differential settlement. The stability of the berms was evaluated with the design of the retrofit and reconstruction with resulting factors of safety exceeding design standards. This Classification considers potential berm failures to identify possible downstream impacts. A berm failure is highly unlikely based on the previous performance, the design evaluations, and construction quality assurance activities planned for the future retrofit and reconstruction of the LVWSP.

Section 2 Existing Configuration Hazard Potential Evaluation

The critical impounding berm, located between Pond B and C, has a maximum hydraulic height of 14 feet. The maximum estimated amount of water discharged into Mount Storm Lake would be less than 50 acre-feet assuming that all the berms for the LVWSP failed at the same time, refer to Table 2. That volume of water would have a minimal effect on the water surface elevation of the 1,200 acre Mount Storm Lake.

Discharge out of the LVWSP due to a berm failure will flow directly into Mount Storm Lake, refer to Figures 1 and 2. The figures contain arrows which reflect the likely flow paths of the water to and from the LVWSP. The directions are based on topographic surveys performed at the site in the immediate vicinity of the LVWSP and United States Geologic Survey topographic maps in areas beyond the extent of the site survey. Based on this evaluation, there are no habitable structures currently at risk in the event of a failure.

It is also noted that the property at risk should a failure occur is owned by Dominion, the owner of the Station.

From an environmental impact standpoint, the water from a berm failure would enter Mount Storm Lake with little buffer area. Due to the volume of potential discharge in comparison to the volume of Mount Storm Lake, water quality impacts are not anticipated downstream of the Mount Storm Lake Dam. Dissolved constituents, if any, are not considered a significant impact due to the permitted outfall from the LVWSP. It is anticipated that solids released with a breach would remain adjacent to the Station shoreline based on the location of the bay south of the LVWSP.

The volume of solids released in the event of a berm failure is a worst-case approximately 9,000 cubic yards conservatively assuming that multiple berms fail at the same time and all solids are transported out of the LVWSP to the assumed breach elevation. This volume is estimated based on a geophysical survey of the top of solids performed in June of 2015, (refer to Appendix B), and the lowest toe elevation for a potential berm failure, refer to Table 2. Consider that the volumes presented for water and solids in Table 2 are not concurrent; i.e., if 9,000 cubic yards of solids are present in the LVWSP, it would displace a corresponding volume available for water storage. In the unlikely event of a berm failure, the environmental impacts would be contained within Mount Storm Lake, which is owned by Dominion. Dominion would address any releases from the LVWSP.

Based on this evaluation of the existing LVWSP:

- There is no apparent risk of loss of life associated with a potential failure of an LVWSP berm.
- There will not be interruption or impact to critical infrastructure due to a potential failure of an LVWSP berm.
- Environmental impacts will be limited to property owned and operated by Dominion and Mount Storm Lake which is owned and operated by Dominion.

Therefore, the existing LVWSP are classified as low hazard.

Section 3
Retrofitted and Reconstructed Hazard Potential Evaluation

3.1 Proposed LVWSP Retrofit, Closure, and Reconstruction

Dominion plans to retrofit the Pyrite Pond, close Ponds A through D, and reconstruct Ponds A and B in accordance with 40 CFR 257.102 between 2016 and 2018 by removing CCR, and installing a composite liner system compliant with 40 CFR 257.72. Refer to Appendix A for engineering drawings presenting the proposed retrofit, closure, and reconstruction.

The retrofitted/reconstructed LVWSP will provide a reduced storage capacity of approximately 38.1 acre-feet within a smaller footprint as compared to existing conditions. The maximum hydraulic height for the retrofitted Pyrite Pond will be 8 feet. The maximum hydraulic height for reconstructed Ponds A and B will be 11 feet (Table 2).

3.2 Retrofitted and Reconstructed Ponds Hazard Potential Evaluation

The proposed design will completely backfill Pond D (the southernmost LVWSP); therefore, there will be more buffer area between Mount Storm Lake and the final LVWSP configuration. Because the retrofitted and reconstructed LVWSP are situated within the existing footprint, the anticipated flow patterns from a potential berm failure would flow toward the Mount Storm Lake as described for the existing LVWSP. There are no habitable structures currently at risk in the event of a failure.

The retrofit and reconstruction will be performed under the observation and direction of a professional engineer licensed in the State of West Virginia. Construction will be performed following specifications with field quality assurance and quality control activities to confirm that the LVWSP construction was performed in compliance with the specifications.

Based on the proposed geometry, at worst case it is estimated that a maximum of 31.7 acre-ft of water and 7.3 acre-feet of solids could be released in the event of a failure of the new LVWSP berms at the same time, refer to Table 2. These volumes conservatively assume that the three LVWSP are full to capacity with water and solids, which is not the anticipated operational conditions. In addition, the volumes presented in Table 2 are not concurrent; i.e., if the max volume of solids is achieved, it would displace a corresponding volume available for water storage. The new LVWSP will have access areas for heavy equipment to remove solids and dewatering facilities to assist in maintenance. These features will result in less solids retained in the LVWSP at any one time and therefore reduce the potential volume of solids that are available for release in the event of a berm failure.

In addition to lower storage volume, the Station will perform system upgrades to the bottom ash handling systems. The effect of these upgrades will be to reduce the volume of CCR managed in the LVWSP, thereby lowering risk.

Based on this evaluation of the retrofitted/reconstructed LVWSP:

- There is no apparent risk of loss of life associated with a potential failure of an LVWSP berm.
- There will not be interruption or impact to critical infrastructure due to a potential failure of an LVWSP berm.
- Environmental impacts will be limited to property owned and operated by Dominion and Mount Storm Lake which is owned and operated by Dominion.

Therefore, the retrofitted Pyrite Pond, and reconstructed Ponds A and B, are classified as low hazard.

Section 4
Conclusions

Based upon these evaluations, the existing, retrofitted, and reconstructed LVWSP at the Station are classified as low hazard potential surface impoundments. The WV DEP will be notified once this document has been placed in the operating record and posted to the publically accessible website. A periodic hazard potential classification assessment must be conducted every 5 years from the completion date of this Classification.

The Classification shall be amended whenever the periodic review period is reached or if changes in site conditions occur that will change the current Classification.

Section 5
Certification

I, the undersigned West Virginia Professional Engineer, hereby certify that I am familiar with the technical requirements of 40 CFR 257 Subpart D. I also certify that it is my professional opinion that, to the best of my knowledge, information, and belief, that the information in this demonstration is in accordance with current good and accepted engineering practice(s) and standard(s) and meets the requirements of paragraph (a) in 40 CFR 257.73 and 40 CFR 257.74.

For the purpose of this document, "certify" and "certification" shall be interpreted and construed to be a "statement of professional opinion." The certification is understood and intended to be an expression of my professional opinion as a West Virginia Licensed Professional Engineer, based upon knowledge, information, and belief. The statement(s) of professional opinion are not and shall not be interpreted or construed to be a guarantee or a warranty of the analysis herein.

R. Kent Nilsson, P.E.	21543
Printed Name of Professional Engineer	State of West Virginia License Number
	October 3, 2016
Signature of Professional Engineer	Date

Section 6
References

GeoView, Inc. 2015. Ash Pond Survey Mount Storm Power Station. June 2015. GeoView Project Number 22456.

National Flood Insurance Program. 2009. Flood Insurance Rate Map: Grant County West Virginia, and Incorporated Areas Panel 135 of 425. Map Number 54023C0135F. Effective Date September 2, 2009. Federal Emergency Management Agency. Washington, D. C.

Table 1
Low Volume Waste Settling Pond Capacity Summary
Mount Storm Power Station – Low Volume Waste Settling Ponds
Initial Hazard Potential Classification

LVWSP	EXISTING CAPACITY (acre-feet)	POST RETROFIT AND RECONSTRUCTION CAPACITY (acre-feet)
Pyrite	6.2	1.8
Pond A	12.8	18.2
Pond B	17.4	18.1
Pond C	16.4	--
Pond D	17.3	--

Created By: J. Hotstream, 8/17/2016, 10/3/2016
Checked By: S. Sellner, 8/19/2016

Table 2
Low Volume Waste Settling Pond Quantity Estimates
Mount Storm Power Station – Low Volume Waste Settling Ponds
Initial Hazard Potential Classification

LVWSP	EXISTING CONDITIONS		POST RETROFIT AND RECONSTRUCTION	
	ELEVATIONS (feet NAVD88)	VOLUMES[3] (acre-feet)	ELEVATIONS (feet NAVD88)	VOLUMES (acre-feet)
Pyrite	Closed in August 2016		Top of Berm: 3270.7 Top of Solids: 3266 Bottom of Breach: 3263	Max Water: 1.8 Max Solids[4]: 0.1
Pond A	Top of Berm: 3260 Top of Solids[1]: 3250 Bottom of Breach[2]: 3246	Max Water: 12.3 Max Solids: 2.4	Top of Berm: 3260.7 Top of Solids: 3253 Bottom of Breach: 3250	Max Water: 15 Max Solids[4]: 3.6
Pond B	Top of Berm: 3260 Top of Solids[1]: 3250 Bottom of Breach[2]: 3246	Max Water: 14.4 Max Solids: 3.2	Top of Berm: 3260.7 Top of Solids: 3253 Bottom of Breach: 3250	Max Water: 14.9 Max Solids[4]: 3.6
Pond C	Top of Berm: 3254 Top of Solids[1]: 3245 Bottom of Breach[2]: 3246	Max Water: 9.8 Max Solids: 0	Scheduled for Closure in 2017	
Pond D	Top of Berm: 3254 Top of Solids[1]: 3246 Bottom of Breach[2]: 3246	Max Water: 10.6 Max Solids: 0	Scheduled for Closure in 2018	

Footnotes:

(1) The elevations for the top of solids is based on a geophysical survey performed in Ponds A through D in June 2015 (GeoView, Inc. 2015).

(2) Assumed bottom of breach elevation based on surrounding topography. The lowest breach elevation is based on a breach of the Pond D berm at the southeast corner, with all ponds being hydraulically connected.

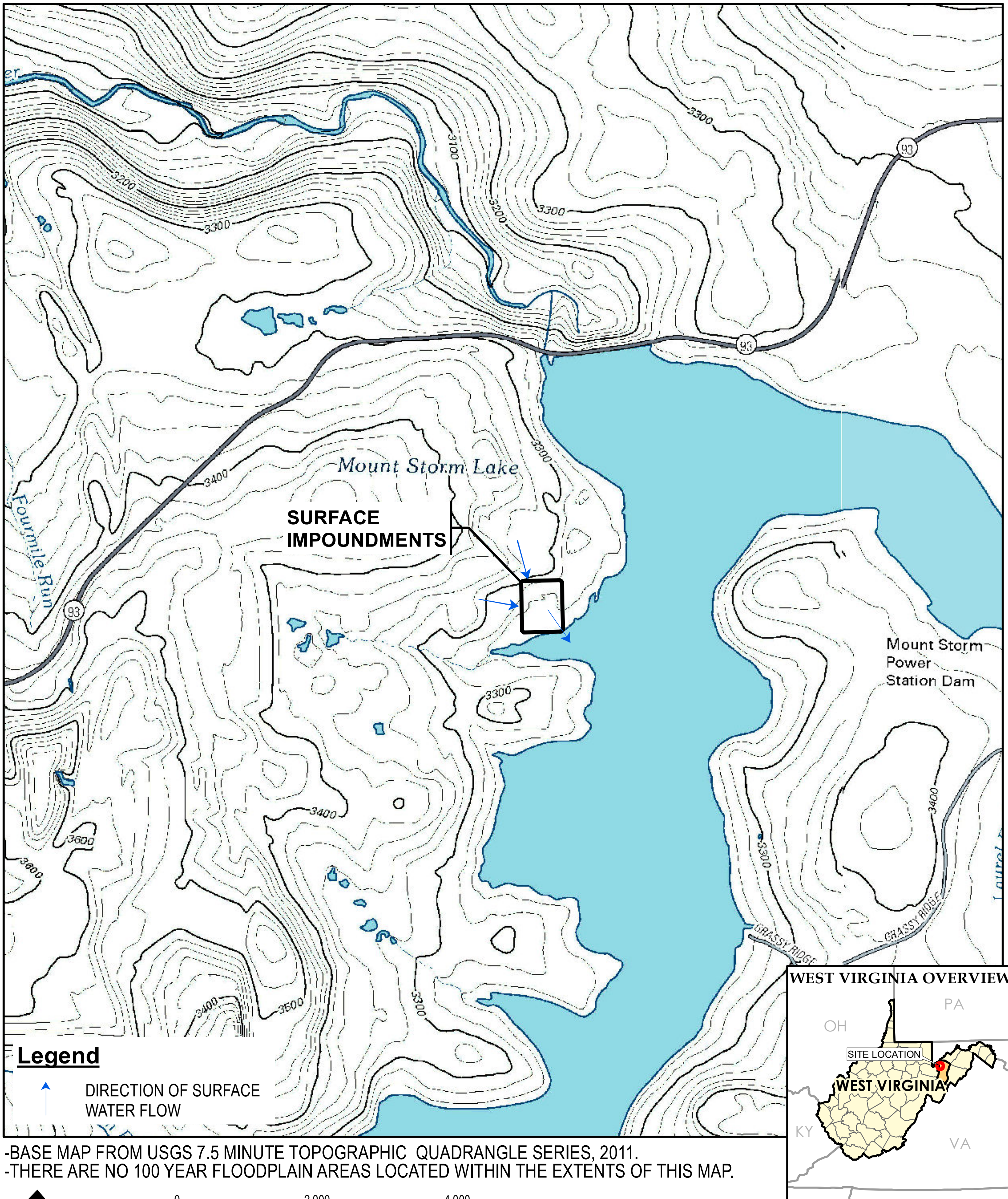
(3) Volumes are based on the volume of water or solids above the assumed breach elevation. The volumes for water and solids are not representative of concurrent conditions; i.e., if the max solids volume is achieved, the max water volume is reduced by an equal amount.

(4) Maximum volume of solids determined assuming solids accumulating to elevation 3266 feet NAVD 88 for the Pyrite Pond and 3253 feet NAVD 88 for Ponds A and B (two feet below the maximum design operating water level).

Created By: J. Hotstream, 8/17/2016, 10/3/2017

Checked By: S. Sellner, 8/19/2016

TRC - GIS



-BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES, 2011.
-THERE ARE NO 100 YEAR FLOODPLAIN AREAS LOCATED WITHIN THE EXTENTS OF THIS MAP.

N

1 " = 2,000 '
1:24,000

0 2,000 4,000 FEET

TRC

Patewood Plaza One, Suite 300
30 Patewood Drive
Greenville, SC 29615
Phone: 864.281.0030

DOMINION RESOURCES SERVICES, INC.
MOUNT STORM POWER STATION
MOUNT STORM, GRANT COUNTY, WEST VIRGINIA

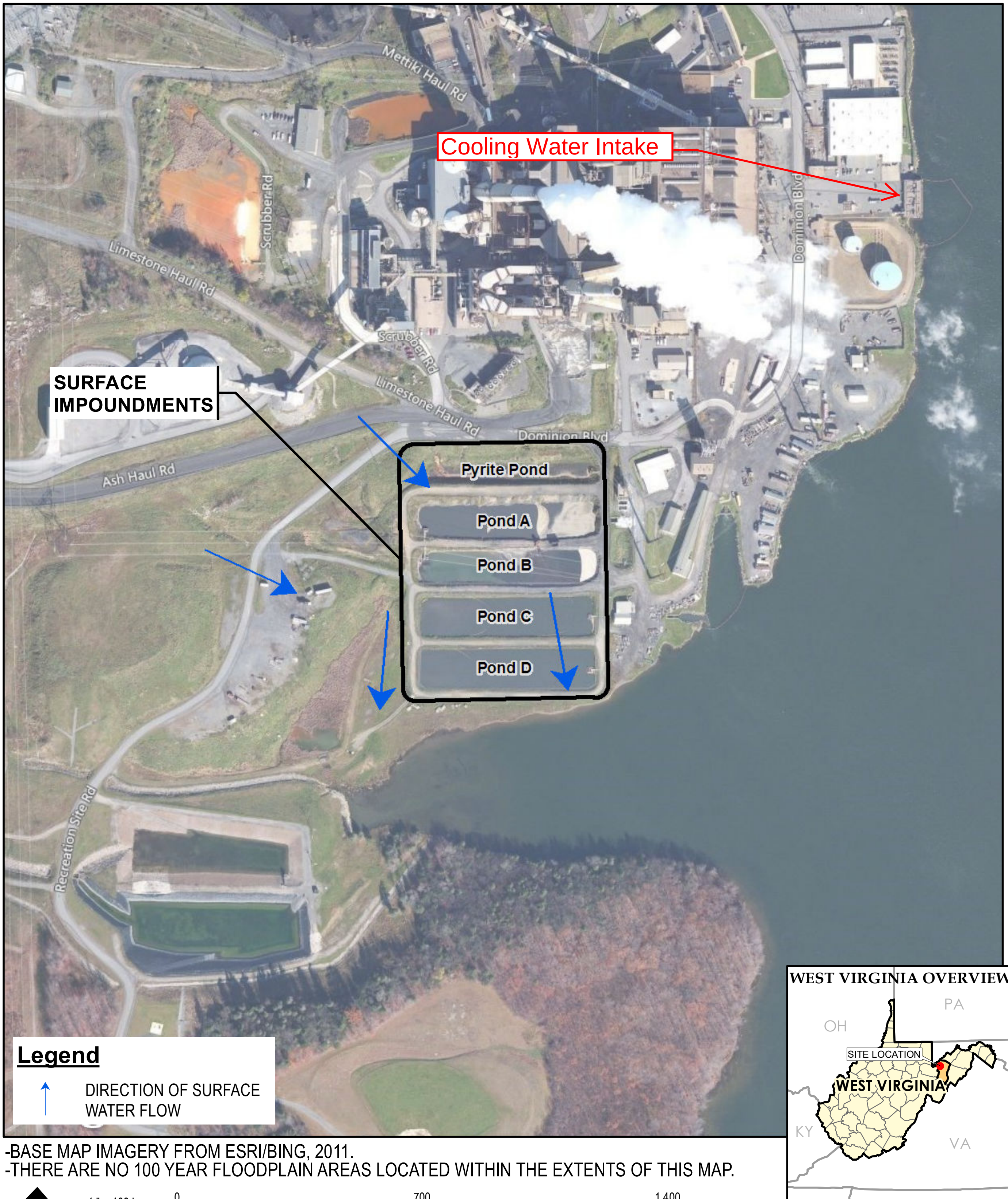
INITIAL HAZARD POTENTIAL CLASSIFICATION
SITE LOCATION MAP

DRAWN BY:	R SUEMNICHT
APPROVED BY:	R. K. NILSSON
PROJECT NO:	230765
FILE NO.	230765-004slm.mxd
DATE:	AUGUST 2016

FIGURE 1

Saved By: RSUEMNICHT on 8/17/2016, 15:29:51 PM

TRC - GIS



-BASE MAP IMAGERY FROM ESRI/BING, 2011.
-THERE ARE NO 100 YEAR FLOODPLAIN AREAS LOCATED WITHIN THE EXTENTS OF THIS MAP.

N

1 " = 400 '
1:4,800

0 700 1,400 FEET

TRC

Patewood Plaza One, Suite 300
30 Patewood Drive
Greenville, SC 29615
Phone: 864.281.0030

DOMINION RESOURCES SERVICES, INC.
MOUNT STORM POWER STATION
MOUNT STORM, GRANT COUNTY, WEST VIRGINIA

INITIAL HAZARD POTENTIAL CLASSIFICATION
SITE OVERVIEW MAP

DRAWN BY:	R SUEMNICHT
APPROVED BY:	R. K. NILSSON
PROJECT NO:	230765
FILE NO.	230765-005slm.mxd
DATE:	AUGUST 2016

FIGURE 2

E:\DominionMountStormWV\2015_230765\230765-005slm.mxd

Appendix A
Select Engineering Drawings

MOUNT STORM POWER STATION

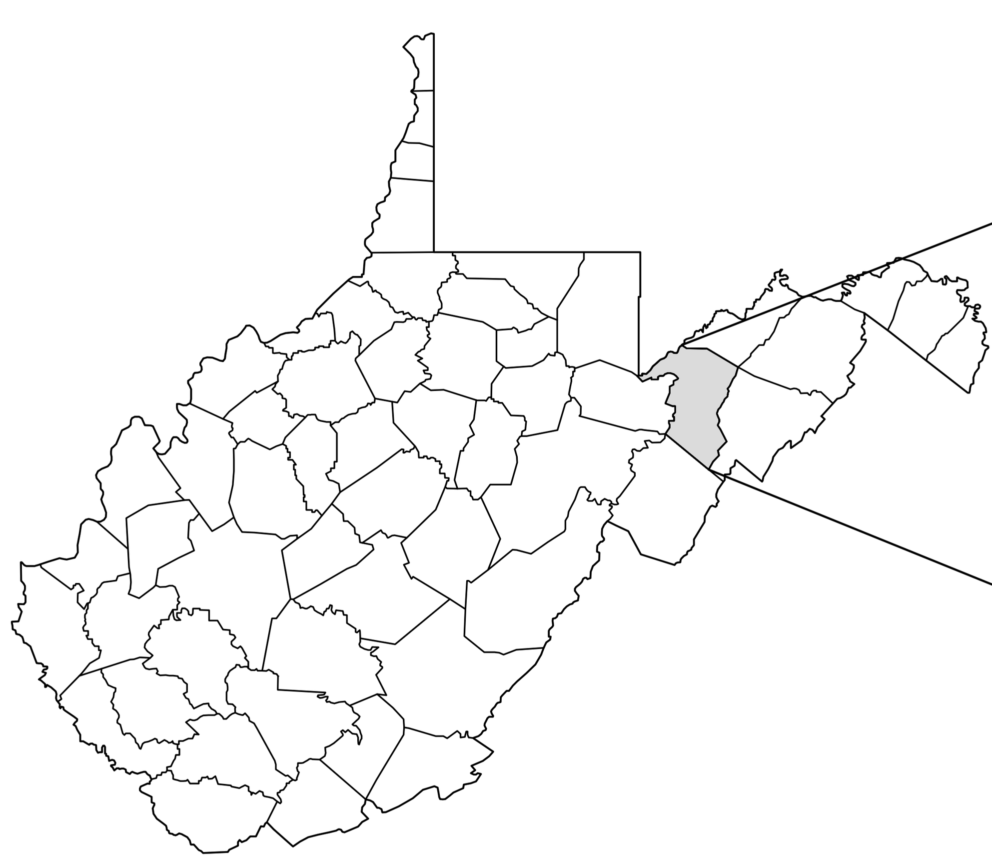
CLOSURE AND RECONSTRUCTION LOW VOLUME WASTE SETTLING PONDS (LVWSP)

PHASE 1 - 2016 CONSTRUCTION

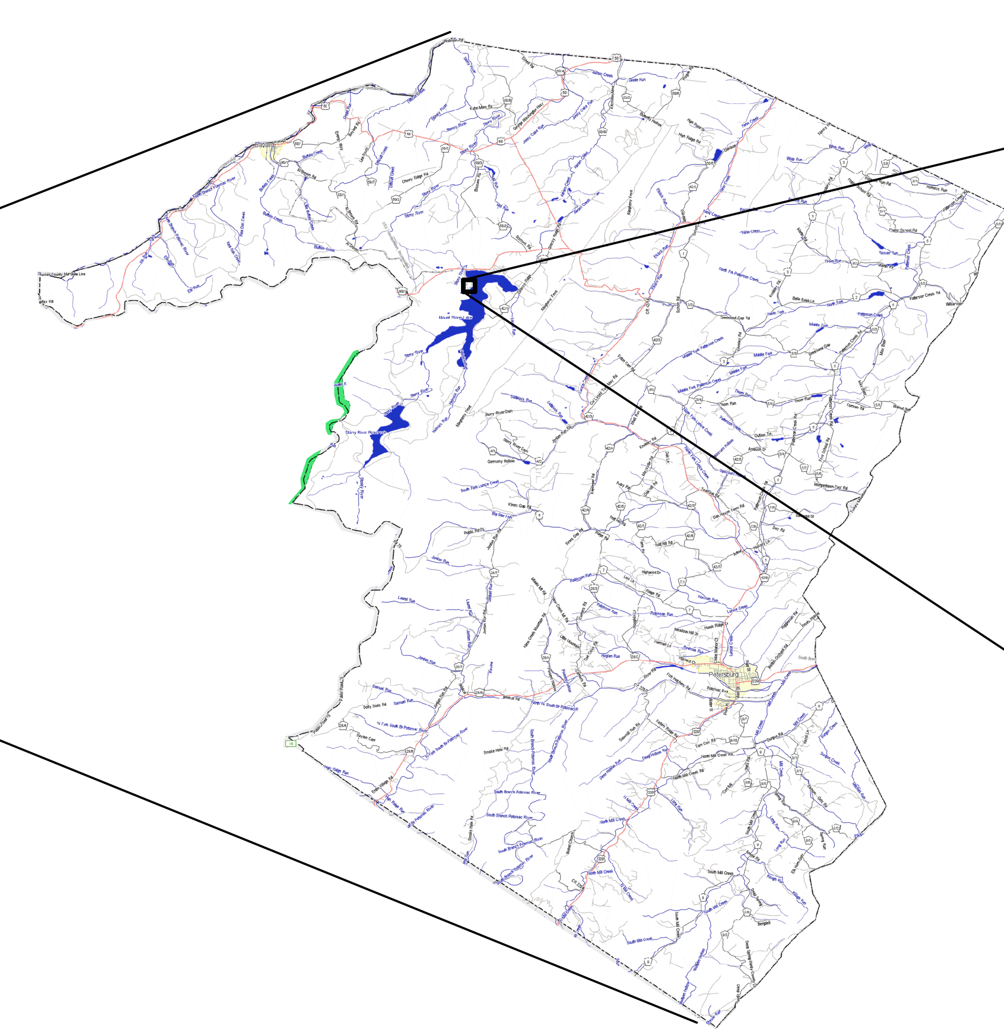
PREPARED FOR: DOMINION RESOURCES SERVICES, INC.
MOUNT STORM POWER STATION
MOUNT STORM, WEST VIRGINIA

PREPARED BY: TRC ENGINEERS INC.
GREENVILLE, SOUTH CAROLINA

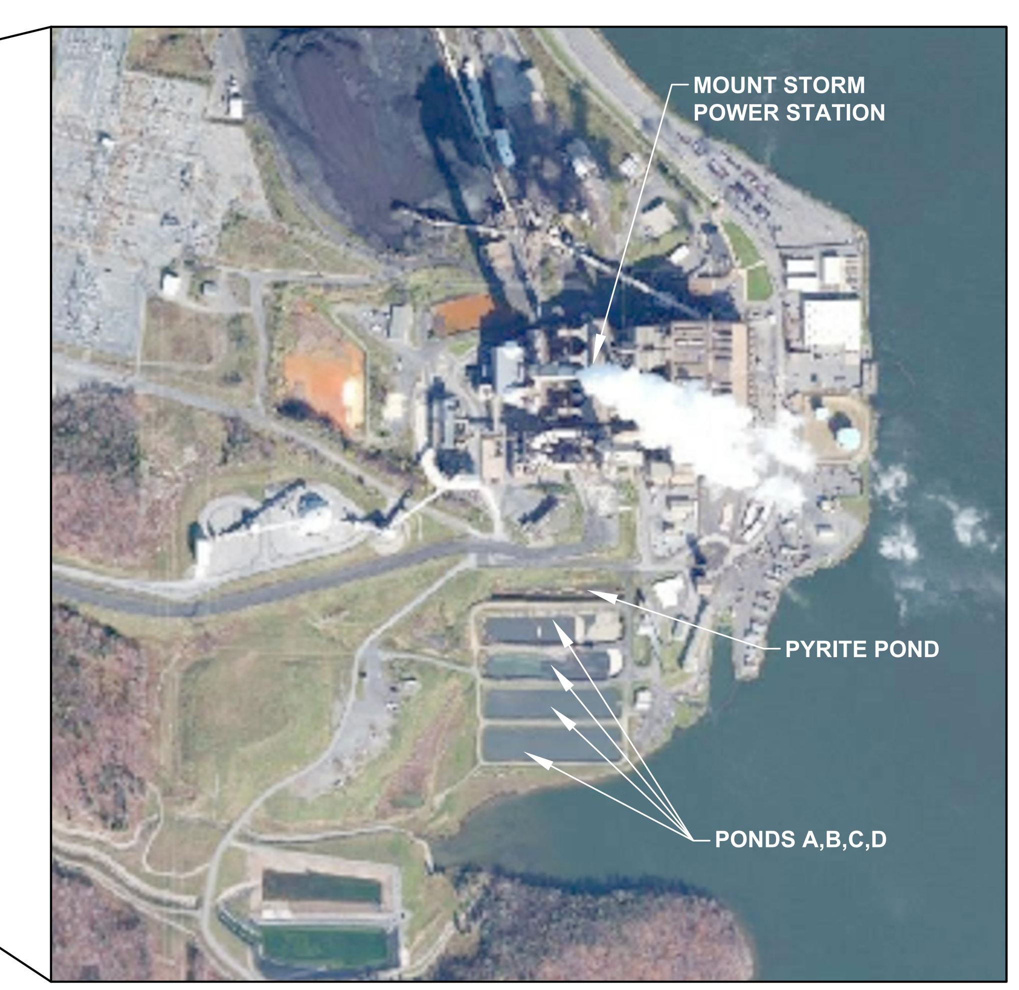
DATE: JUNE 2016



WEST VIRGINIA



GRANT COUNTY



SITE LOCATION
1" = 600'

SHEET INDEX

DRAWING NUMBER	SHEET TITLE
66703-1	TITLE SHEET
66703-2	GENERAL NOTES - CIVIL, MECHANICAL, STRUCTURAL
66703-3	GENERAL NOTES - CIVIL, MECHANICAL, STRUCTURAL
66703-4	GENERAL NOTES - STRUCTURAL
66703-5	GENERAL NOTES - STRUCTURAL
66703-C1	CIVIL STANDARD LEGEND
66703-C2	EXISTING CONDITIONS AND DEMOLITION PLAN
66703-C3	PROPOSED HYDRAULIC PROFILE
66703-C4	CONSTRUCTION EROSION AND SEDIMENTATION CONTROL PLAN
66703-C5	PYRITE POND SUBBASE PLAN
66703-C6	PYRITE POND BASE AND PIPING PLAN
66703-C7	CROSS SECTIONS PYRITE POND
66703-C8	PYRITE POND INFLUENT DIVERSION PIPE PLAN VIEW AND DETAILS
66703-C9	PYRITE POND INFLUENT DIVERSION PIPE PROFILE AND DETAILS
66703-C10	PROPOSED YARD PIPING SITE PLAN
66703-C11	GRADIENT CONTROL FORCE MAIN PLAN
66703-C12	WATER LINE & FORCE MAINS PLAN & DETAILS
66703-C13	BACKWASH PUMP FORCE MAIN PLAN & PROFILE
66703-C14	GRAVITY LINES PLAN & PROFILE
66703-C15	FILTER BUILDING CONNECTION PLAN & PROFILE
66703-C16	POND A & B EFFLUENT STA 0+00 - 1+50
66703-C17	POND A & B EFFLUENT STA 1+50 - END
66703-C18	CIVIL DETAILS
66703-C19	CIVIL DETAILS
66703-C20	CIVIL DETAILS
66703-C21	CIVIL DETAILS
66703-C22	CIVIL DETAILS
66703-C23	CIVIL DETAILS
66703-M1	GENERAL MECHANICAL NOTES
66703-MS-0-FL-WWT-120	PROCESS FLOW DIAGRAM I
66703-MS-0-FL-WWT-121	PROCESS FLOW DIAGRAM II
66703-M4	FILTER BUILDING EQUIPMENT PLAN VIEW @ 3253.00
66703-M5	FILTER BUILDING EQUIPMENT SECTIONS I
66703-M6	FILTER BUILDING EQUIPMENT SECTIONS II
66703-M7	FILTER BUILDING PIPING PLAN VIEW @ 3253.00
66703-M8	FILTER PIPING SECTIONS I
66703-M9	FILTER PIPING SECTIONS II
66703-M10	OUTLET STRUCTURE - PYRITE POND
66703-M11	JUNCTION BOX DETAILS
66703-M12	MISCELLANEOUS DETAILS 1
66703-M13	MISCELLANEOUS DETAILS 2
66703-M14	MISCELLANEOUS DETAILS 3
66703-M15	MISCELLANEOUS DETAILS 4
66703-SA1	STRUCTURAL/ARCHITECTURAL FILTER STRUCTURE
66703-SA2	STRUCTURAL/ARCHITECTURAL FILTER STRUCTURE
66703-SA3	STRUCTURAL/ARCHITECTURAL FILTER STRUCTURE
66703-SA4	STRUCTURAL/ARCHITECTURAL FILTER STRUCTURE
66703-SA5	STRUCTURAL/ARCHITECTURAL FILTER STRUCTURE
66703-SA6	STRUCTURAL/ARCHITECTURAL FILTER STRUCTURE
66703-SA7	STRUCTURAL/ARCHITECTURAL SECTIONS AND DETAILS
66703-SA8	STRUCTURAL/ARCHITECTURAL SECTIONS AND DETAILS
66703-S1	STRUCTURAL FILTER STRUCTURE
66703-S2	STRUCTURAL FILTER STRUCTURE
66703-S3	STRUCTURAL FILTER STRUCTURE
66703-S4	STRUCTURAL FILTER STRUCTURE
66703-S5	STRUCTURAL PYRITE POND OUTFALL
66703-S6	STRUCTURAL PYRITE POND OUTFALL
66703-S7	STRUCTURAL JUNCTION BOX A
66703-S8	STRUCTURAL JUNCTION BOX B
66703-S9	STRUCTURAL JUNCTION BOX C
66703-S10	STRUCTURAL JUNCTION BOX C
66703-S11	STRUCTURAL TYPICAL SECTIONS & DETAILS
66703-S12	STRUCTURAL TYPICAL SECTIONS & DETAILS
66703-S13	STRUCTURAL TYPICAL SECTIONS & DETAILS
66703-S14	STRUCTURAL PEDESTRIAN BRIDGE SECTIONS & DETAILS
66703-E-001	ELECTRICAL SYMBOLS AND ABBREVIATIONS
66703-E-4500	ELECTRICAL SITE PLAN
66703-E-4800	ENLARGED ELECTRICAL PLANS #1
66703-E-4801	ENLARGED ELECTRICAL PLANS #2
66703-E-0300	EXISTING PYRITE BLDG. ENLARGED ELECTRICAL PLAN
66703-E-0900	ELECTRICAL DUCT BANK AND RACEWAY ROUTING INTERIOR ELEVATIONS AT FILTER BUILDING
66703-E-4803	ELECTRICAL ONELINE DIAGRAM AND DETAILS
66703-E-1400	PYRITE BLDG. RTU MODIFICATIONS
66703-E-1401	ELECTRICAL PANEL SCHEDULES
66703-E-4805	LIGHTING AND MECHANICAL SCHEDULES
66703-E-6000	ELECTRICAL DUCT BANK SECTIONS
66703-E-4501	ELECTRICAL DETAILS
66703-E13	RACEWAY SCHEDULE
66703-E14	CABLE SCHEDULE

R. KENT NILSSON
REGISTERED
6/16/16
21543
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER

RE-ISSUED FOR BID

TRC
30 Patewood Drive
Patewood Plaza One, Suite 300
Greenville, SC 29615
Phone: 864.281.0030

NOTES

1. REFER TO PLAN SHEET 66703-2 AND C1 OF THIS PLAN SET FOR GENERAL NOTES AND CIVIL STANDARD LEGEND.
2. * - INDICATES THAT INFORMATION IS BASED ON REVIEW OF DOMINION DESIGN DRAWINGS AND INFORMATION PROVIDED BY DOMINION PERSONNEL DURING THE SURVEY. THIS INFORMATION SHOULD BE CONSIDERED APPROXIMATE.
3. SOIL BORING SYMBOLS REPRESENT LOCATIONS WHERE BORINGS TAKEN.
4. CONTRACTOR SHALL RELOCATE EXISTING CONTAINERS ON-SITE AS DIRECTED BY OWNER. CONTRACTOR SHALL PROVIDE THREE (3) REPLACEMENT CONTAINERS (WITH ROOFS) OF THE SAME SIZE AS EXISTING AND LOCATE ON SITE AS DIRECTED BY THE OWNER.
5. ITEMS TO BE ABANDONED/REMOVED SHALL BE DONE IN ACCORDANCE WITH THE OVERALL PROJECT SCHEDULE.
6. ABANDONED STRUCTURES SHALL BE FILLED WITH NON-SHRINK GROUT. STRUCTURES AND PIPES TO BE ABANDONED MAY BE REMOVED AS NEEDED TO FACILITATE NEW CONSTRUCTION.
7. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SUPERINTENDENCE TO PROVIDE THE DEMOLITION WORK.
8. THE OWNER ASSUMES NO RESPONSIBILITY FOR THE ACTUAL CONDITION OF THE STRUCTURES TO BE DEMOLISHED OR MODIFIED.
9. ALL REMOVED CONCRETE/STRUCTURES SHALL BE BACKFILLED TO MATCH FINISHED GRADE AS SHOWN IN THE PLANS.
10. THE LOCATION OF THE LEACHATE TRANSFER PIPING IS BASED ON THE DESIGN LAYOUT PROVIDED IN DRAWING 896 2X-C-002 REV. 1 AND PLANT PERSONNEL DESCRIPTION OF CONSTRUCTION. LOCATION IS APPROXIMATE.

REV	DESCRIPTION	DATE	DSGN	DRWN	CHKD	DSGN SUPV	PROJ ENGR	CIVIL ENGR	ELEC ENGR	MECH ENGR	ARCH	E.M. ENGR	I&C ENGR
1	RE-ISSUED FOR BID	6 16 2016	DM	LLS	JNH		NA	RKN	CBS	SM			
0	ISSUED FOR BID	4 29 2016	DM	LLS	JNH	NA		RKN	CBS	CB			

R. KENT NILSSON REGISTERED 21543 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 6/16/16

Dominion

TRC

POWER GENERATION ENGINEERING
RICHMOND, VIRGINIA

EXISTING CONDITIONS AND DEMOLITION PLAN

LVWSP CLOSURE & RECONSTRUCTION – PHASE 1
MOUNT STORM POWER STATION, WEST VIRGINIA

DSGN D.MARSHALL	DSGN SUPV	DATE JUNE 2016 DGNSPEC FOR FILE VERIFICATION
DRWN L. STORMER	ENGR SUPV	DRAWING NO. 66703–C2 — REV. 1
CHKD JHN	PROJ ENGR	
DISPL ENGR RKN	SCALE: AS NOTED UNLESS OTHERWISE NOTED	SH C2 OF 23

WATER SURFACE ELEVATIONS

LOCATION	DESCRIPTION	WEIR ELEVATION	WATER SURFACE ELEVATIONS MIN. (10.6 MGD)	DESIGN (20 MGD)	MAX (26 MGD)
1	PYRITE POND	–	3237.68	3267.77	3267.85
2	PYRITE POND OUTLET STRUCTURE WEIR	VARIABLE	3267.62	3267.68	3267.74
3	PYRITE POND OUTLET STRUCTURE		3267.12	3267.18	3267.24
4	POND A/B DISTRIBUTION BOX OVERFLOW	–	3257.05	3257.25	3257.36
5	POND A/B DISTRIBUTION BOX	–	3254.03	3255.06	3256.38
6	POND A/B	–	3253.79	3254.24	3255.11
7	POND A/B OUTLET STRUCTURE WEIR	VARIABLE	3253.50	3253.80	3254.57
8	POND A/B OUTLET STRUCTURE	–	3252.37	3253.30	3254.09
9	JUNCTION BOX D	–	3252.32	3253.13	3253.97
10	JUNCTION BOX A		3252.24	3252.87	3253.78
11	JUNCTION BOX C	–	3252.20	3252.74	3253.69
12	FILTER INLET WEIR OVERFLOW	–	3252.07	3252.28	3252.81
13	FILTER INLET WEIR	3251.08 (FIXED)	–	–	–
14	FILTER BACKWASH INITIATE	FIXED	3252.54	3252.54	3252.54
15	FILTER OUTLET WEIR OVERFLOW	–	3250.07	3250.28	3250.20
16	FILTER OUTLET WEIR	3249.68 (FIXED)	–	–	–
17	FILTER OUTLET BOX	–	3248.41	3248.69	3248.95
18	JUNCTION BOX B	–	3248.33	3248.40	3248.54
19	MT STORM LAKE	MAX WSE	3248.30	3248.30	3248.30

NOTES:

1. ELEVATIONS OF EXISTING LIME BUILDING ARE APPROXIMATE.
2. MIN. FLOW = 10.6 MGD
   DES. FLOW = 20 MGD
   MAX. FLOW = 26 MGD

PLAN LEGEND

- PROPOSED STRUCTURES
- EXISTING STRUCTURES
- FUTURE STRUCTURES

STEPHEN J. MOBLEY REGISTERED 21631 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

6/16/2016

Dominion

TRC

POWER GENERATION ENGINEERING
RICHMOND, VIRGINIA

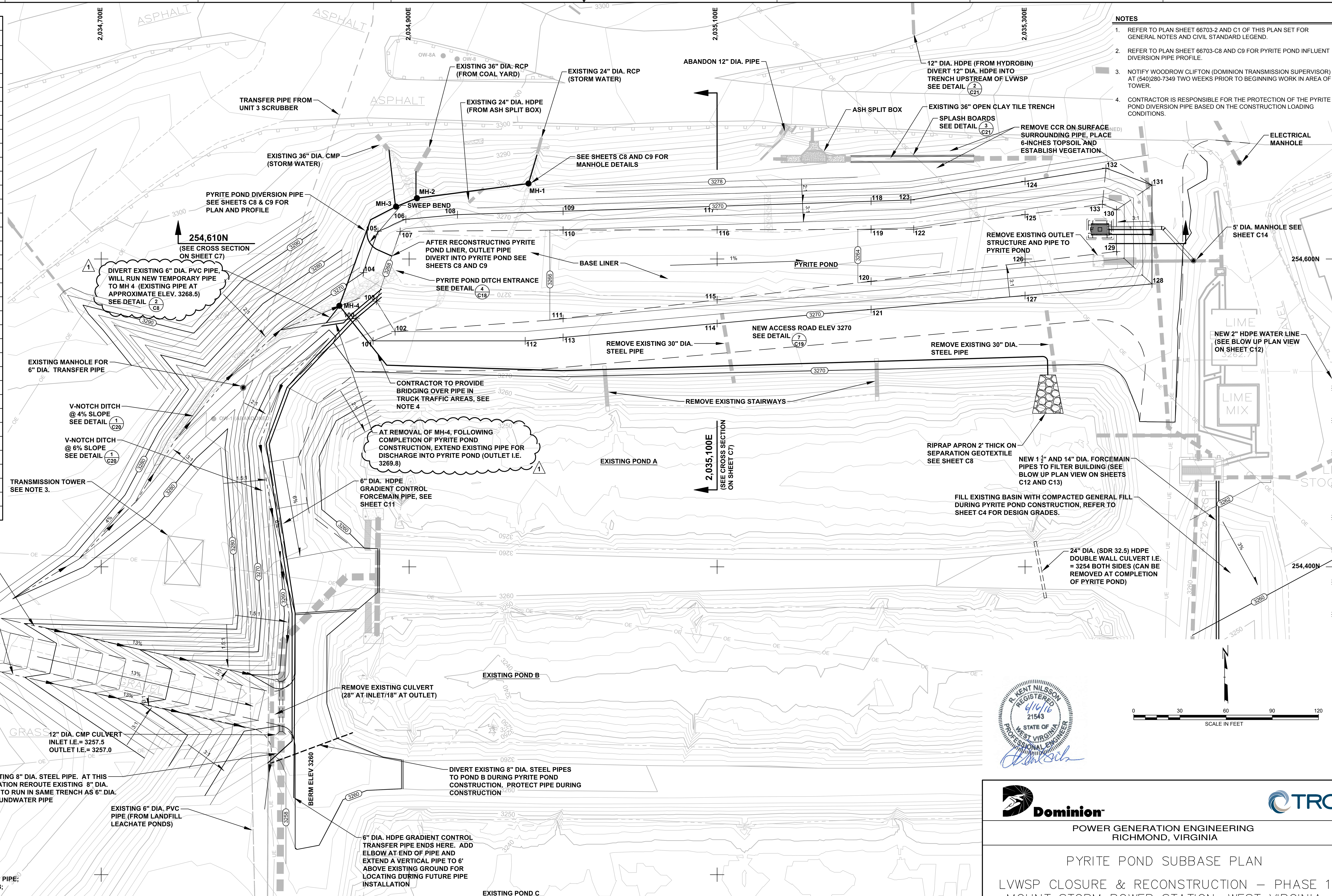
PROPOSED HYDRAULIC PROFILE

LVWSP CLOSURE & RECONSTRUCTION – PHASE 1
MOUNT STORM POWER STATION, WEST VIRGINIA

REV	DESCRIPTION	DATE	DSGN	DRWN	CHKD	DSGN SUPV	PROJ ENGR	CIVIL ENGR	ELEC ENGR	MECH ENGR	ARCH	E.M. ENGR	I&C ENGR
1	RE-ISSUED FOR BID	6 16 2016	SJM	DRM	HCB		NA	RKN	CBS	SM	CA		
0	ISSUE FOR BID	04 29 2016	SJM	DRM	HCB		NA	RKN	CS	HCB	CA		

DSGN SMOBLEY	DSGN SUPV	DATE JUNE 2016 DGNSPEC FOR FILE VERIFICATION	
DRWN AREYES	ENGR SUPV	DRAWING NO. 66703–C3	REV. 1
CHKD CBELL	PROJ ENGR		
DISPL ENGR	SCALE: NONE	UNLESS OTHERWISE NOTED	SH C3 OF 23

NAD83 CONSTRUCTION COORDINATES			
Point #	Northing	Easting	Elevation
100	254561.52	2034865.50	3270.00
101	254546.78	2034876.56	3270.00
102	254552.78	2034890.90	3268.00
103	254572.59	2034878.72	3268.00
104	254591.20	2034870.27	3270.00
105	254617.91	2034879.71	3270.00
106	254625.74	2034897.87	3270.00
107	254617.91	2034894.19	3268.00
108	254628.78	2034931.37	3270.00
109	254631.00	2035000.00	3270.00
110	254618.74	2035000.00	3265.91
111	254561.33	2035000.00	3265.91
112	254546.78	2034975.40	3270.00
113	254549.02	2035000.00	3270.00
114	254558.11	2035100.00	3270.00
115	254573.43	2035100.00	3264.91
116	254618.97	2035100.00	3264.91
117	254634.24	2035100.00	3270.00
118	254637.47	2035200.00	3270.00
119	254619.21	2035200.00	3263.91
120	254585.53	2035200.00	3263.91
121	254567.20	2035200.00	3270.00
122	254619.35	2035227.72	3263.64
123	254638.31	2035225.87	3270.00
124	254650.42	2035300.00	3270.00
125	254628.88	2035300.00	3262.91
126	254597.64	2035300.00	3262.91
127	254576.29	2035300.00	3270.00
128	254583.79	2035382.47	3270.00
129	254604.83	2035359.43	3262.32
130	254631.88	2035359.43	3262.32
131	254647.93	2035382.47	3270.00
132	254658.99	2035352.54	3270.00
133	254635.56	2035350.28	3262.41



NOTES

1. REFER TO PLAN SHEET 66703-2 AND C1 OF THIS PLAN SET FOR GENERAL NOTES AND CIVIL STANDARD LEGEND.
2. REFER TO PLAN SHEET 66703-C8 AND C9 FOR PYRITE POND INFLUENT DIVERSION PIPE PROFILE.
3. NOTIFY WOODROW CLIFTON (DOMINION TRANSMISSION SUPERVISOR) AT (540)280-7349 TWO WEEKS PRIOR TO BEGINNING WORK IN AREA OF TOWER.
4. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF THE PYRITE POND DIVERSION PIPE BASED ON THE CONSTRUCTION LOADING CONDITIONS.

1 REVISED REFERENCE TO TEMPORARY 6" PIPE; REMOVED REFERENCE TO SEE SHEET C8; REVISED OUTLET STRUCTURE.

R. KENT NILSSON REGISTERED 21543 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 6/16/16

Dominion

TRC

POWER GENERATION ENGINEERING
RICHMOND, VIRGINIA

PYRITE POND SUBBASE PLAN

LVWSP CLOSURE & RECONSTRUCTION – PHASE 1
MOUNT STORM POWER STATION, WEST VIRGINIA

REV	DATE	DSGN	DRWN	CHKD	DSGN SUPV	PROJ ENGR	CIVIL ENGR	ELEC ENGR	MECH ENGR	ARCH	E.M. ENGR	I&C ENGR	
1	6 16 2016	DM	LLS	JNH		NA	RKN	CBS	SM				RE-ISSUED FOR BID
0	4 29 2016	DM	LLS	JNH	NA		RKN	CBS	CB				ISSUED FOR BID

DSGN D.MARSHALL	DSGN SUPV	DATE JUNE 2016 DGNSPEC FOR FILE VERIFICATION	
DRWN L. STORMER	ENGR SUPV	DRAWING NO. 66703-C5	REV. 1
CHKD JHN	PROJ ENGR		
DISPL ENGR RKN	SCALE: AS NOTED	UNLESS OTHERWISE NOTED	SH C5 OF 23

NOTES

1. REFER TO PLAN SHEET 66703-2 AND C1 OF THIS PLAN SET FOR GENERAL NOTES AND CIVIL STANDARD LEGEND.

R. KENT NILSSON
REGISTERED
6/16/16
21543
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER

1 REVISED REFERENCE TO TEMPORARY 6" PIPE; REMOVED REFERENCE TO SEE SHEET C8; ADD TEMPORARY PIPE AT MH-4; REVISED OUTLET STRUCTURE; REMOVED DITCH CONTOUR.

STAGE VS STORAGE MATRIX

ELEVATION	PYRITE POND CAPACITY (GAL)	PYRITE POND CAPACITY (AC FT)
3,265	2,300	0.0
3,266	29,200	0.1
3,267	89,200	0.3
3,268	195,100	0.6
3,269	360,200	1.1
3,270	577,200	1.8

Dominion

TRC

POWER GENERATION ENGINEERING
RICHMOND, VIRGINIA

PYRITE POND BASE AND PIPING PLAN

LVWSP CLOSURE & RECONSTRUCTION – PHASE 1
MOUNT STORM POWER STATION, WEST VIRGINIA

REV	DATE	DSGN	DRWN	CHKD	DSGN SUPV	PROJ ENGR	CIVIL ENGR	ELEC ENGR	MECH ENGR	ARCH	E.M. ENGR	I&C ENGR
1 RE-ISSUED FOR BID	6 16 2016	DM	LLS	JNH		NA	RKN	CBS	SM			
0 ISSUED FOR BID	4 29 2016	DM	LLS	JNH	NA		RKN	CBS	CB			

DSGN D.MARSHALL	DSGN SUPV	DATE JUNE 2016 DGNSPEC FOR FILE VERIFICATION	
DRWN L. STORMER	ENGR SUPV	DRAWING NO.	REV.
CHKD JHN	PROJ ENGR	66703-C6	1
DISPL ENGR RKN	SCALE: AS NOTED	UNLESS OTHERWISE NOTED	SH C6 OF 23

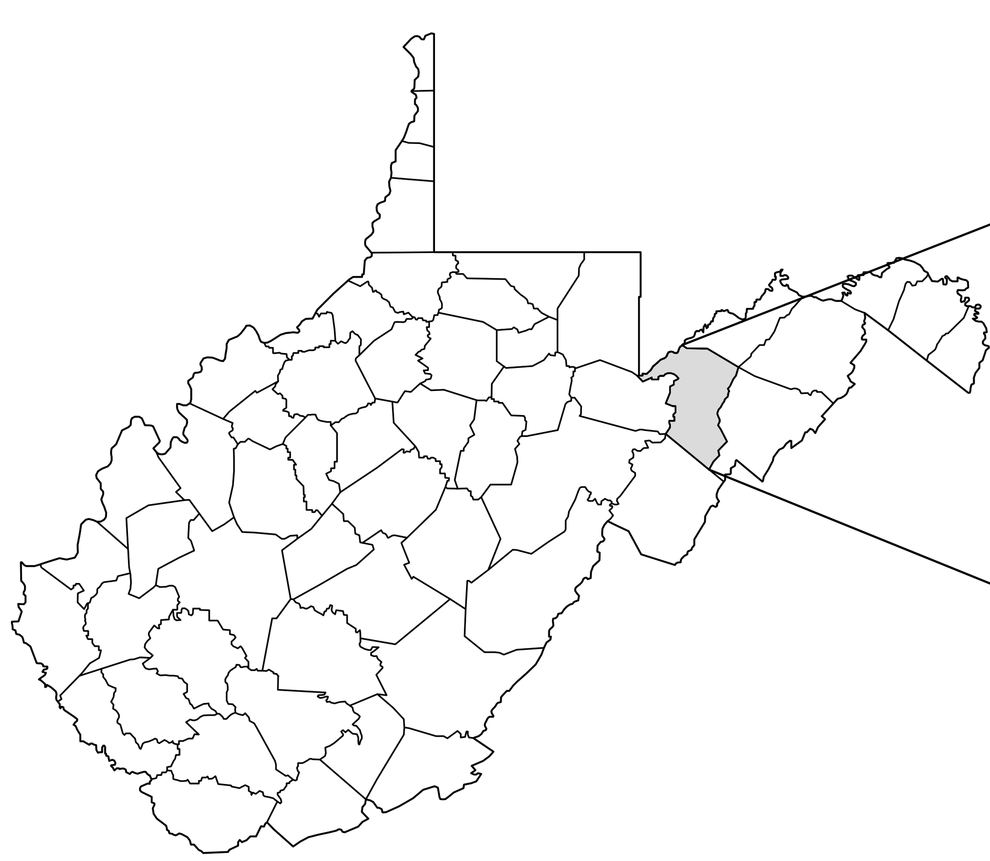
MOUNT STORM POWER STATION

CLOSURE AND RECONSTRUCTION
LOW VOLUME WASTE
SETTLING PONDS
PHASE 2 - 2017/2018 CONSTRUCTION

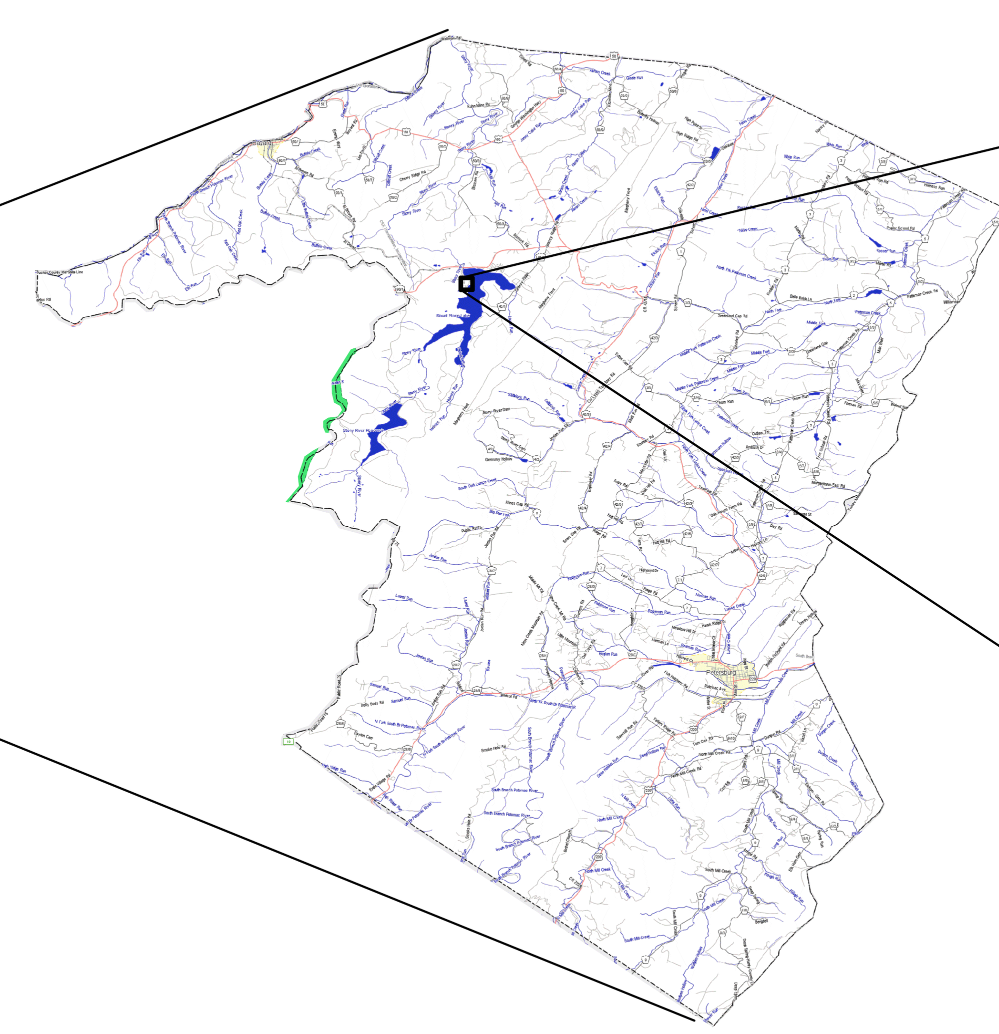
PREPARED FOR: DOMINION RESOURCES SERVICES, INC.
MOUNT STORM POWER STATION
MOUNT STORM, WEST VIRGINIA

PREPARED BY: TRC ENGINEERS INC.
GREENVILLE, SOUTH CAROLINA

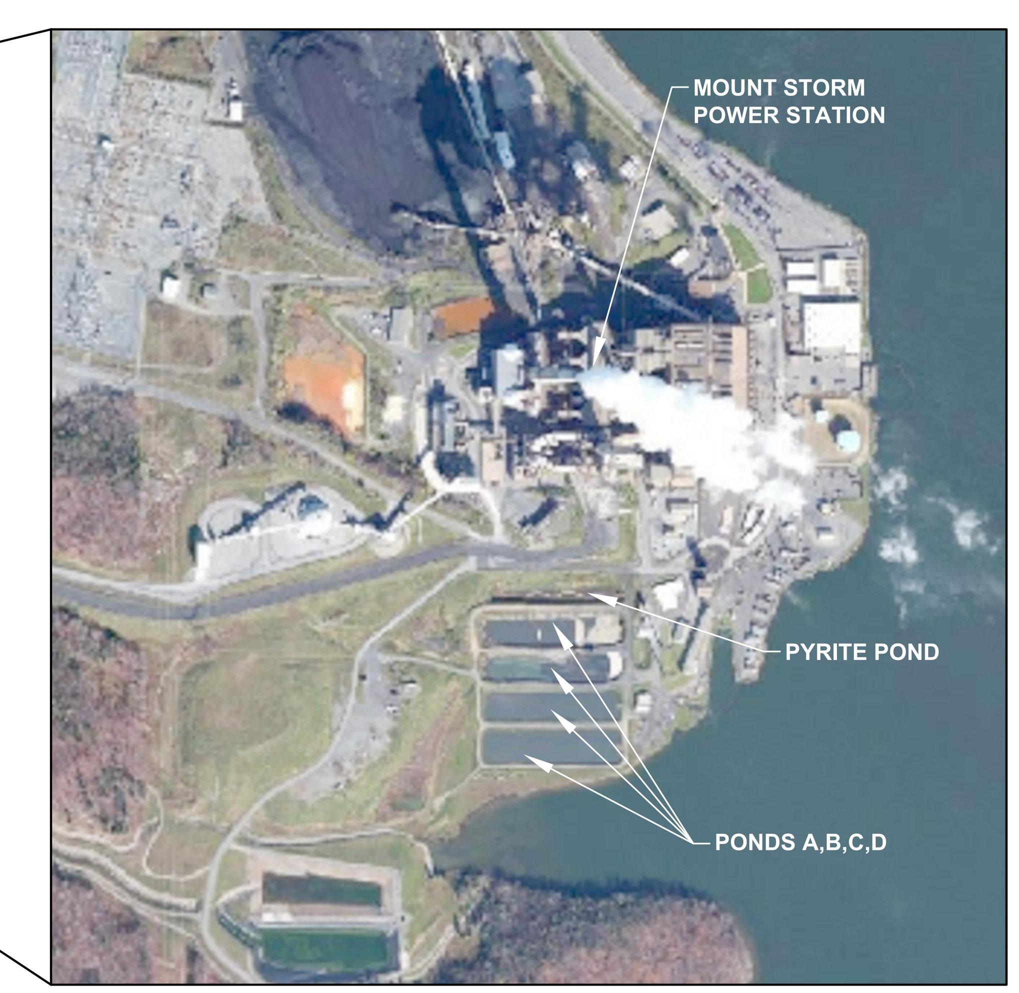
DATE: JUNE 2016



WEST VIRGINIA



GRANT COUNTY



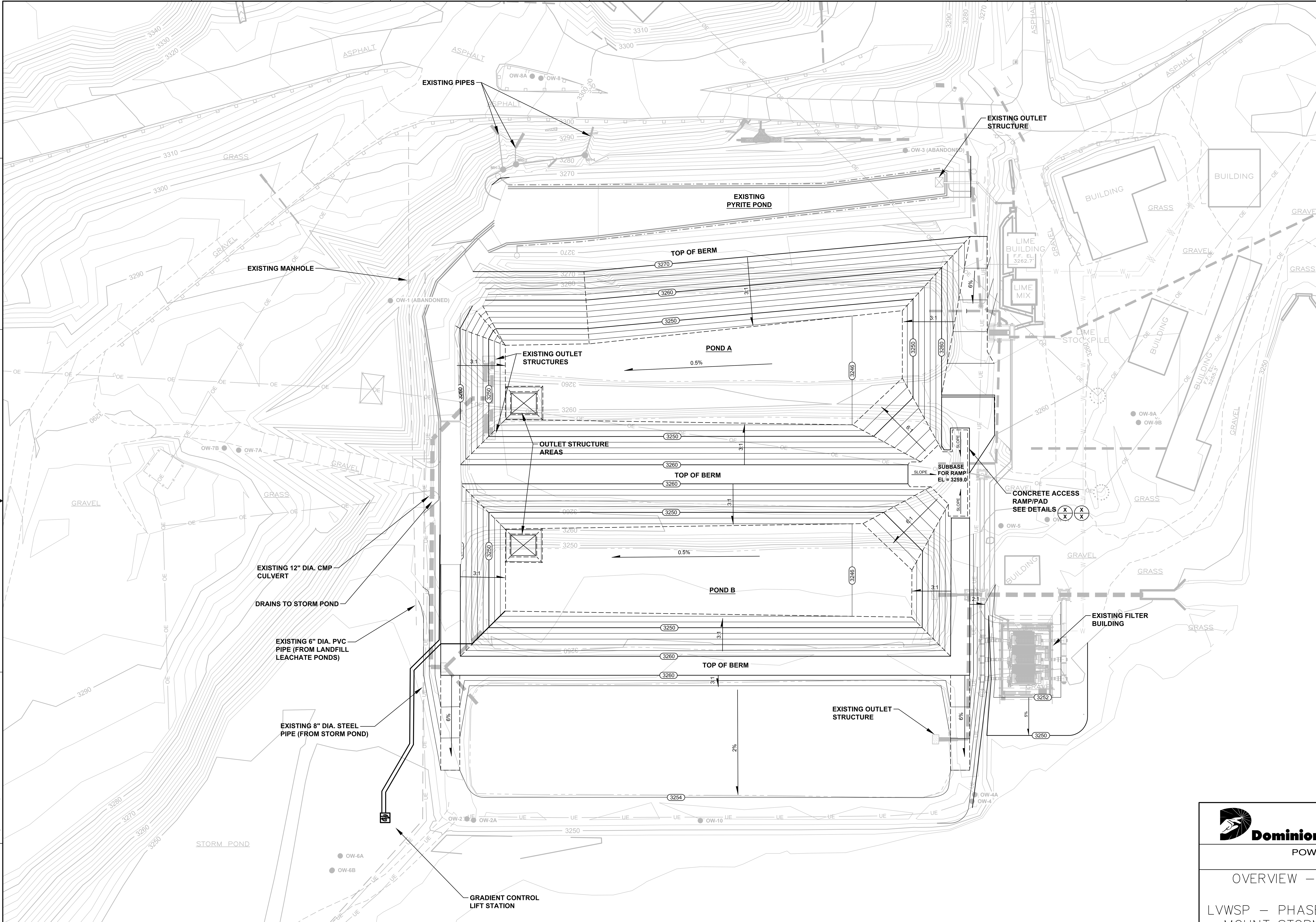
SITE LOCATION
1" = 600'

SHEET INDEX

DRAWING NUMBER	SHEET TITLE
66703-1	TITLE SHEET
66703-2	GENERAL NOTES - CIVIL, MECHANICAL, STRUCTURAL
66703-3	GENERAL NOTES - CIVIL, MECHANICAL, STRUCTURAL
66703-4	GENERAL NOTES - STRUCTURAL
66703-5	GENERAL NOTES - STRUCTURAL
66703-C1	CIVIL STANDARD LEGEND
66703-C2	EXISTING CONDITIONS AND DEMOLITION PLAN
66703-C3	PROPOSED HYDRAULIC PROFILE
66703-C4	CONSTRUCTION EROSION AND SEDIMENTATION CONTROL PLAN
66703-C5	PYRITE POND SUBBASE PLAN
66703-C6	PYRITE POND BASE AND PIPING PLAN
66703-C7	CROSS SECTIONS PYRITE POND
66703-C8	PYRITE POND INFLUENT DIVERSION PIPE PLAN VIEW AND DETAILS
66703-C9	PYRITE POND INFLUENT DIVERSION PIPE PROFILE AND DETAILS
66703-C10	PROPOSED YARD PIPING SITE PLAN
66703-C11	GRADIENT CONTROL FORCE MAIN PLAN
66703-C12	WATER LINE & FORCE MAINS PLAN & DETAILS
66703-C13	BACKWASH PUMP FORCE MAIN PLAN & PROFILE
66703-C14	GRAVITY LINES PLAN & PROFILE
66703-C15	FILTER BUILDING CONNECTION PLAN & PROFILE
66703-C16	POND A & B EFFLUENT STA 0+00 - 1+50
66703-C17	POND A & B EFFLUENT STA 1+50 - END
66703-C18	CIVIL DETAILS
66703-C19	CIVIL DETAILS
66703-C20	CIVIL DETAILS
66703-C21	CIVIL DETAILS
66703-C22	CIVIL DETAILS
66703-C23	CIVIL DETAILS
66703-M1	GENERAL MECHANICAL NOTES
66703-MS-0-FL-WWT-120	PROCESS FLOW DIAGRAM I
66703-MS-0-FL-WWT-121	PROCESS FLOW DIAGRAM II
66703-M4	FILTER BUILDING EQUIPMENT PLAN VIEW @ 3253.00
66703-M5	FILTER BUILDING EQUIPMENT SECTIONS I
66703-M6	FILTER BUILDING EQUIPMENT SECTIONS II
66703-M7	FILTER BUILDING PIPING PLAN VIEW @ 3253.00
66703-M8	FILTER PIPING SECTIONS I
66703-M9	FILTER PIPING SECTIONS II
66703-M10	OUTLET STRUCTURE - PYRITE POND
66703-M11	JUNCTION BOX DETAILS
66703-M12	MISCELLANEOUS DETAILS 1
66703-M13	MISCELLANEOUS DETAILS 2
66703-M14	MISCELLANEOUS DETAILS 3
66703-M15	MISCELLANEOUS DETAILS 4
66703-SA1	STRUCTURAL/ARCHITECTURAL FILTER STRUCTURE
66703-SA2	STRUCTURAL/ARCHITECTURAL FILTER STRUCTURE
66703-SA3	STRUCTURAL/ARCHITECTURAL FILTER STRUCTURE
66703-SA4	STRUCTURAL/ARCHITECTURAL FILTER STRUCTURE
66703-SA5	STRUCTURAL/ARCHITECTURAL FILTER STRUCTURE
66703-SA6	STRUCTURAL/ARCHITECTURAL FILTER STRUCTURE
66703-SA7	STRUCTURAL/ARCHITECTURAL SECTIONS AND DETAILS
66703-SA8	STRUCTURAL/ARCHITECTURAL SECTIONS AND DETAILS
66703-S1	STRUCTURAL FILTER STRUCTURE
66703-S2	STRUCTURAL FILTER STRUCTURE
66703-S3	STRUCTURAL FILTER STRUCTURE
66703-S4	STRUCTURAL FILTER STRUCTURE
66703-S5	STRUCTURAL PYRITE POND OUTFALL
66703-S6	STRUCTURAL PYRITE POND OUTFALL
66703-S7	STRUCTURAL JUNCTION BOX A
66703-S8	STRUCTURAL JUNCTION BOX B
66703-S9	STRUCTURAL JUNCTION BOX C
66703-S10	STRUCTURAL JUNCTION BOX C
66703-S11	STRUCTURAL TYPICAL SECTIONS & DETAILS
66703-S12	STRUCTURAL TYPICAL SECTIONS & DETAILS
66703-S13	STRUCTURAL TYPICAL SECTIONS & DETAILS
66703-S14	STRUCTURAL PEDESTRIAN BRIDGE SECTIONS & DETAILS
66703-E-001	ELECTRICAL SYMBOLS AND ABBREVIATIONS
66703-E-4500	ELECTRICAL SITE PLAN
66703-E-4800	ENLARGED ELECTRICAL PLANS #1
66703-E-4801	ENLARGED ELECTRICAL PLANS #2
66703-E-0300	EXISTING PYRITE BLDG. ENLARGED ELECTRICAL PLAN
66703-E-0900	ELECTRICAL DUCT BANK AND RACEWAY ROUTING INTERIOR ELEVATIONS AT FILTER BUILDING
66703-E-4803	ELECTRICAL ONELINE DIAGRAM AND DETAILS
66703-E-1400	PYRITE BLDG. RTU MODIFICATIONS
66703-E-1401	ELECTRICAL PANEL SCHEDULES
66703-E-4805	LIGHTING AND MECHANICAL SCHEDULES
66703-E-6000	ELECTRICAL DUCT BANK SECTIONS
66703-E-4501	ELECTRICAL DETAILS
66703-E13	RACEWAY SCHEDULE
66703-E14	CABLE SCHEDULE

ISSUED FOR BID

TRC
Patewood Plaza One, Suite 300
Greenville, SC 29615
Phone: 864.281.0030



NOTES

1. REFER TO PLAN SHEET 66703-2 AND C1 OF THIS PLAN SET FOR GENERAL NOTES AND CIVIL STANDARD LEGEND.
2. REFER TO PLAN SHEET 66703-C21 FOR NEW PIPING LAYOUTS.

STAGE VS STORAGE MATRIX

ELEVATION	POND A CAPACITY (GAL)	POND A CAPACITY (AC FT)
3,247	40,400	0.1
3,248	198,500	0.6
3,249	502,500	1.5
3,250	844,000	2.6
3,251	1,211,100	3.7
3,252	1,604,100	4.9
3,253	2,023,700	6.2
3,254	2,470,200	7.6
3,255	2,944,000	9.0
3,256	3,445,500	10.6
3,257	3,975,300	12.2

STAGE VS STORAGE MATRIX

ELEVATION	POND B CAPACITY (GAL)	POND B CAPACITY (AC FT)
3,247	43,100	0.1
3,248	207,300	0.6
3,249	507,800	1.6
3,250	846,400	2.6
3,251	1,210,400	3.7
3,252	1,600,400	4.9
3,253	2,016,700	6.2
3,254	2,460,000	7.5
3,255	2,930,600	9.0
3,256	3,429,200	10.5
3,257	3,956,100	12.1

Dominion

TRC

POWER GENERATION ENGINEERING
RICHMOND, VIRGINIA

OVERVIEW – PYRITE POND, PONDS A AND B SUBGRADE PLAN
LVWSP – PHASE 2 – 2017 & 2018 CONSTRUCTION
MOUNT STORM POWER STATION, WEST VIRGINIA

REV	DATE	DSGN	DRWN	CHKD	DSGN SUPV	PROJ ENGR	CIVIL ENGR	ELEC ENGR	MECH ENGR	ARCH	E.M. ENGR	I&C ENGR
0 ISSUED FOR BID	06 06 2016	DM	LLS	JNH	NA		RKN	CBS	SM	BCA		

DSGN D.MARSHALL	DSGN SUPV	DATE JUNE 2016 DGNSPEC FOR FILE VERIFICATION
DRWN L. STORMER	ENGR SUPV	DRAWING NO. 66703–C6 — REV. 0
CHKD JNH	PROJ ENGR	
DISPL ENGR RKN	SCALE: AS NOTED UNLESS OTHERWISE NOTED	SH C6 OF 71

Appendix B
Geophysical Survey

FINAL REPORT
ASH POND SURVEY
MOUNT STORM POWER STATION
DOMINION RESOURCES
MOUNT STORM, WEST VIRGINIA

Prepared for TRC
Greenville, South Carolina

Prepared by GeoView, Inc.
St. Petersburg, Florida

June 23, 2015

Mr. Alex McCune, PE
TRC
30 Patewood Drive, Suite 300
Greenville, SC 29615

Subject: Transmittal of Final Report for Geophysical Survey
Mount Storm Power Station – Ash Pond Survey
Mount Storm, West Virginia
GeoView Project Number 22456

Dear Mr. McCune,

GeoView, Inc. (GeoView) is pleased to submit the final report which summarizes and presents the results of the geophysical survey conducted at the above referenced site. Sub-bottom profiling was used to map the top and bottom of the of the ash sediment within four ash settling ponds. GeoView appreciates the opportunity to have assisted you on this project. If you have any questions or comments about the report, please contact us.

Sincerely,
GEOVIEW, INC.

Chris Taylor, P.G.
Vice President
Florida Professional Geologist
Number 2256

Merritt McLean
Geophysicist

4610 Central Avenue
St. Petersburg, FL 33711
Tel.: (727) 209-2334
Fax: (727) 328-2477

1.0 Introduction

A marine geophysical survey was conducted on four ash ponds located at the Mount Storm Power Station in Mount Storm, West Virginia. The survey was conducted within Ash Ponds A, B, C and D. The purpose of the study was to map both the top of the ash layer and the bottom of the ash/pond bottom interface. The survey was conducted on June 9 and 10 2015. The locations of the geophysical survey area are provided on Figures 1 and 2.

2.0 Description of Geophysical Investigation

The geophysical survey was conducted using a sub-bottom profiling towfish. The sub-bottom data was collected using an Edgetech 3100 system with a 216 towfish. The Edgetech system is a full Spectrum CHIRP imaging system. A frequency range of 2-16 kHz was used. During the survey, the towfish was situated 1.5 feet below the surface of the water. The high-power, low-frequency system was chosen to map the top of the ash and also penetrate deep into the ash the goal of mapping the original pond bottom. The equipment was mounted to an unmanned, portable pontoon boat. The boat was pulled using ropes along each transect line. Photographs showing the equipment configuration are provided in Appendix 2.

Within each pond, five east/west transects were collected and four to six north/south transects were collected. The five east/west transects were spaced approximately 20 feet apart. The first line collected in each of the ponds was positioned approximately 10 feet south of the northern bank. The subsequent lines were collected relative to the first position. The positions of the geophysical transect lines were recorded using a differential Trimble GeoXH Global Positioning System (GPS). Real time differential corrections were applied to the GPS positions.

The data was processed using Edgetech Discover software. The two way travel time distances to the top of ash and the ash/pond bottom interface were digitized and depths/elevations were calculated using a velocity of 4,870 feet per second.

The digitized elevations were exported into an Excel spreadsheet and converted for use in Surfer. The coordinates were converted to West Virginia North State Plane, NAD83 (feet) using Trimble Pathfinder and the elevations were converted to State Plane NAVD88 using a site survey conducted by Civil Tech Engineering, Inc.

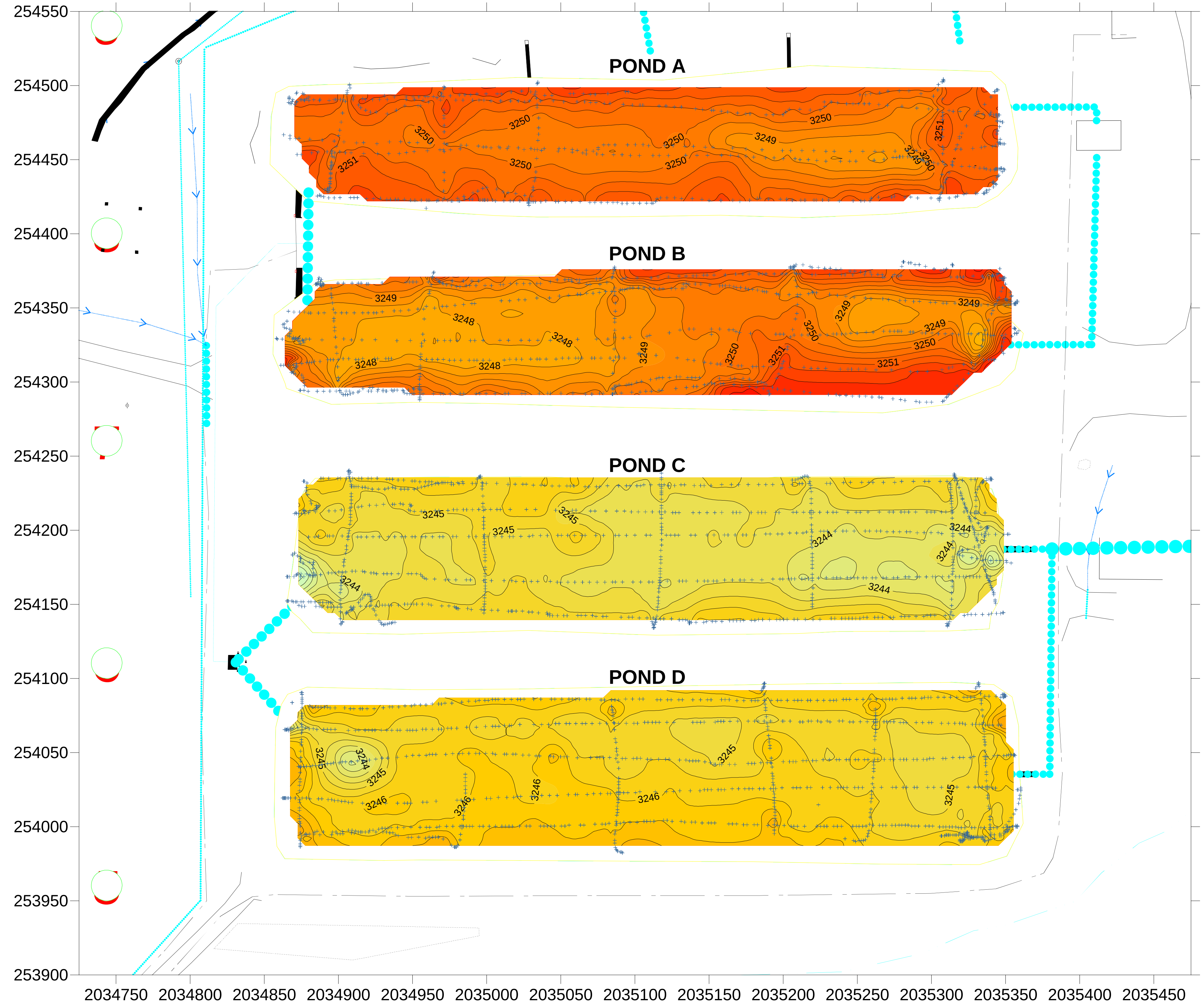
3.0 Survey Results

Results of the survey were able to provide accurate sub-bottom information for both the top of ash and the bottom of the ash/pond bottom interface. Contour maps showing the elevation of top of the ash sediment are shown on Figure 1. Contour maps showing the elevation of bottom of the ash sediment/pond bottom interface are shown on Figure 2.

Individual contour maps showing the calculated elevation to the top of ash and the bottom of ash/pond bottom interface are presented as Figures 3 through 6 for Ponds A through D, respectively. In general, the bottom of the ash in the middle of Pond A was approximately 3242 to 3245 feet. The bottom of the ash within Ponds B, C and D was slightly deeper, ranging from 3236 to 3240 feet. The thickness of the ash throughout the ponds varied from approximately 0 to 1 feet near the pond edges to approximately 8 to 12 feet near the centers of the ponds.

Examples of the sub-bottom data collected at the project site are provided in Appendix 3. A discussion of the limitations of the geophysical methods used in this investigation is provided in Appendix 2.5.

APPENDIX 1
FIGURES



NORTH

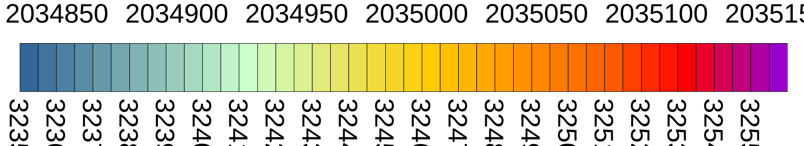
0 40 80

SCALE: 1"= 80'

EXPLANATION

ELEVATION CONTOUR OF TOP OF ASH (FEET)

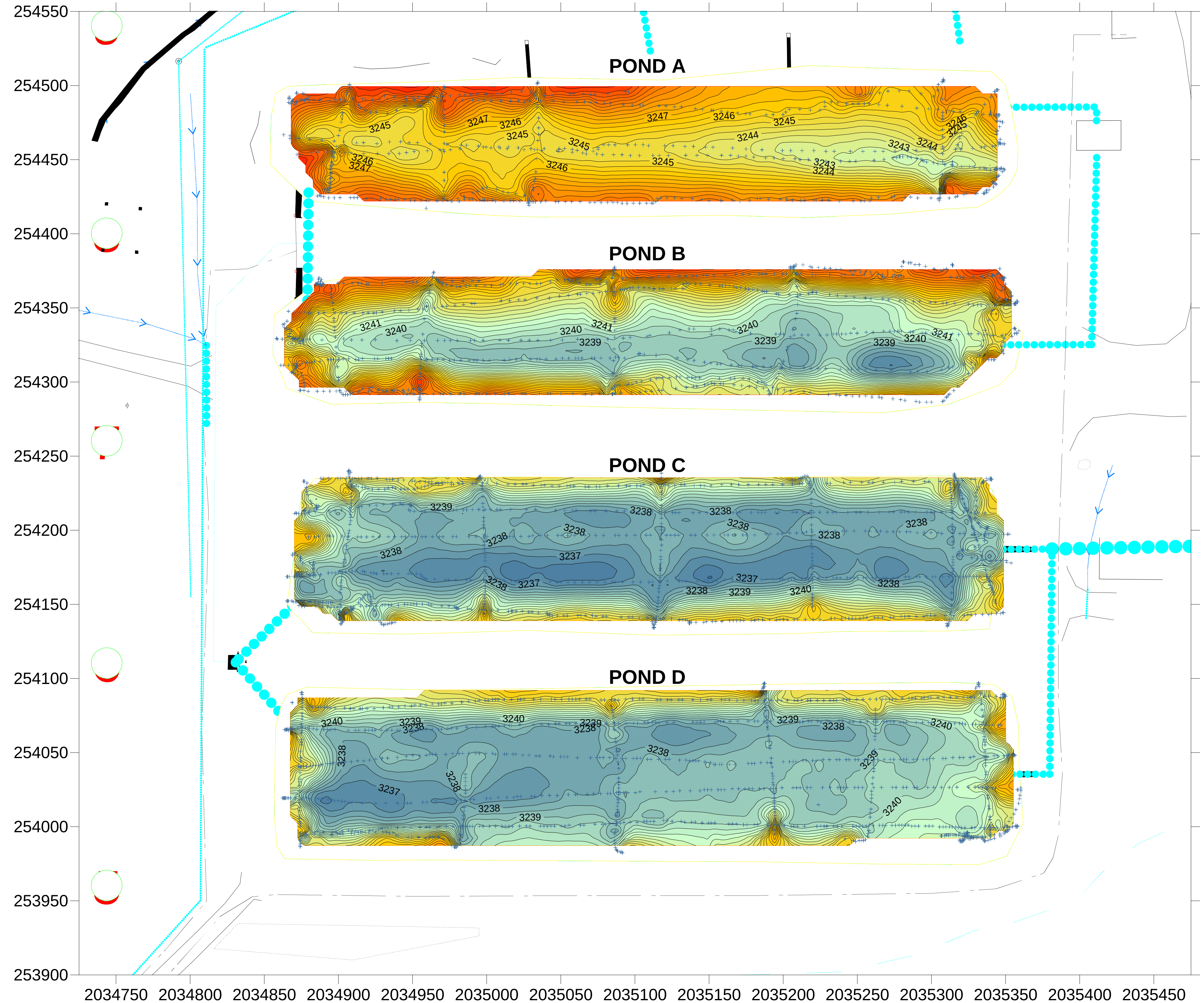
SUB-BOTTOM TRANECT LINES



ELEVATION
(US STATE PLANE, WEST VIRGINIA NORTH, NAVD88, FEET)

NOTES:
1. COORDINATE SYSTEM: US STATE PLANE, WEST VIRGINIA NORTH, NAD83 (CONUS), FEET
2. ELEVATION OF WATER AT TIME OF SURVEY: 3251.6 FEET

FIGURE 1	MOUNT STORM POWER STATION MOUNT STORM, WEST VIRGINIA	
FIGURE SHOWING ELEVATION OF TOP OF ASH (PONDS A, B, C AND D)	TRC GREENVILLE, SOUTH CAROLINA	PROJECT: 22529 DATE: 06/24/15



NORTH

0 40 80

SCALE: 1"= 80'

EXPLANATION

ELEVATION CONTOUR OF BOTTOM OF ASH (FEET)

+ + + + + SUB-BOTTOM TRANECT LINES

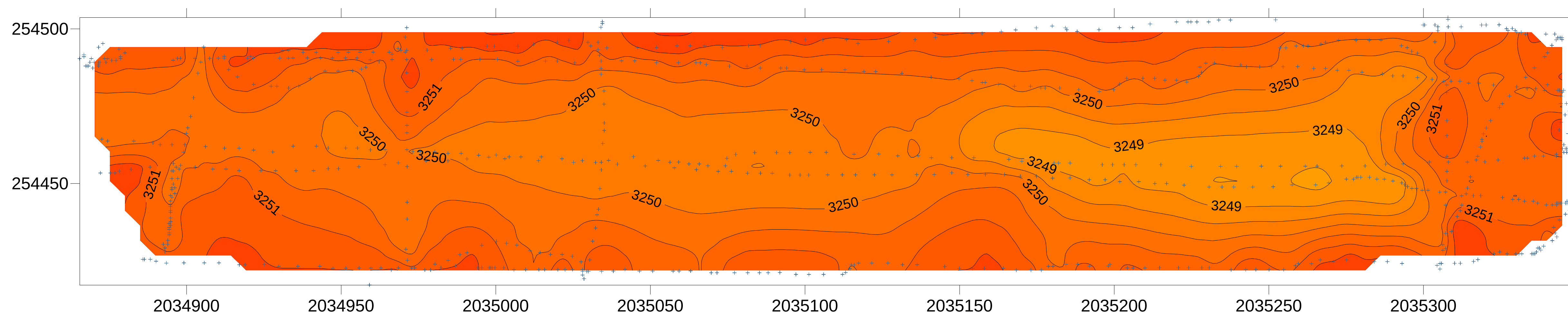
3235 3236 3237 3238 3239 3240 3241 3242 3243 3244 3245 3246 3247 3248 3249 3250 3251 3252 3253 3254 3255

ELEVATION
(US STATE PLANE, WEST VIRGINIA NORTH, NAVD88, FEET)

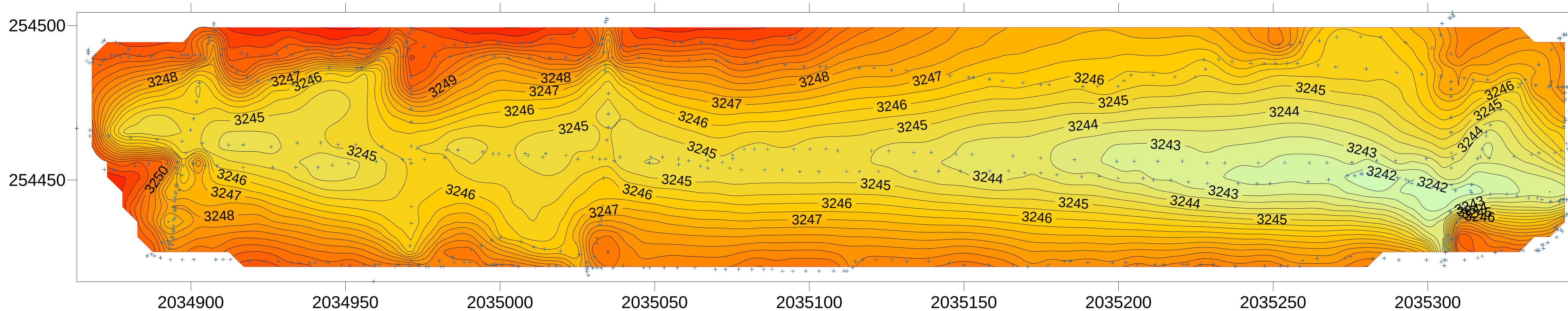
NOTES:
1. COORDINATE SYSTEM: US STATE PLANE, WEST VIRGINIA NORTH, NAD83 (CONUS), FEET
2. ELEVATION OF WATER AT TIME OF SURVEY: 3251.6 FEET

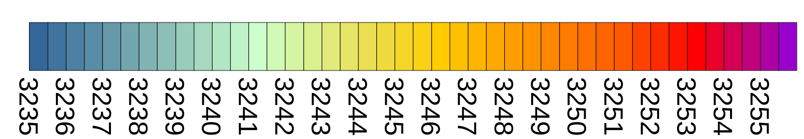
GeoView A geophysical services company	FIGURE 2	MOUNT STORM POWER STATION MOUNT STORM, WEST VIRGINIA	
	FIGURE SHOWING ELEVATION OF BOTTOM OF ASH (PONDS A, B, C AND D)	TRC GREENVILLE, SOUTH CAROLINA	PROJECT: 22529 DATE: 06/24/15

CONTOUR OF TOP OF ASH ELEVATION (POND A)

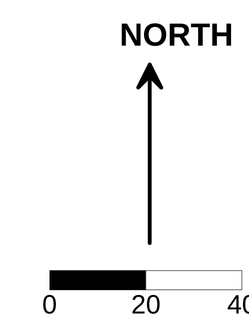


CONTOUR OF BOTTOM OF ASH ELEVATION (POND A)





ELEVATION
(US STATE PLANE, WEST VIRGINIA NORTH, NAVD88, FEET)



SCALE: 1"= 40'

EXPLANATION

ELEVATION CONTOUR (FEET)

SUB-BOTTOM TRANECT LINES

NOTES:
1. COORDINATE SYSTEM: US STATE PLANE, WEST VIRGINIA NORTH, NAD83 (CONUS), FEET
2. ELEVATION OF WATER AT TIME OF SURVEY: 3254.3 FEET

GeoView A geophysical services company

FIGURE 3

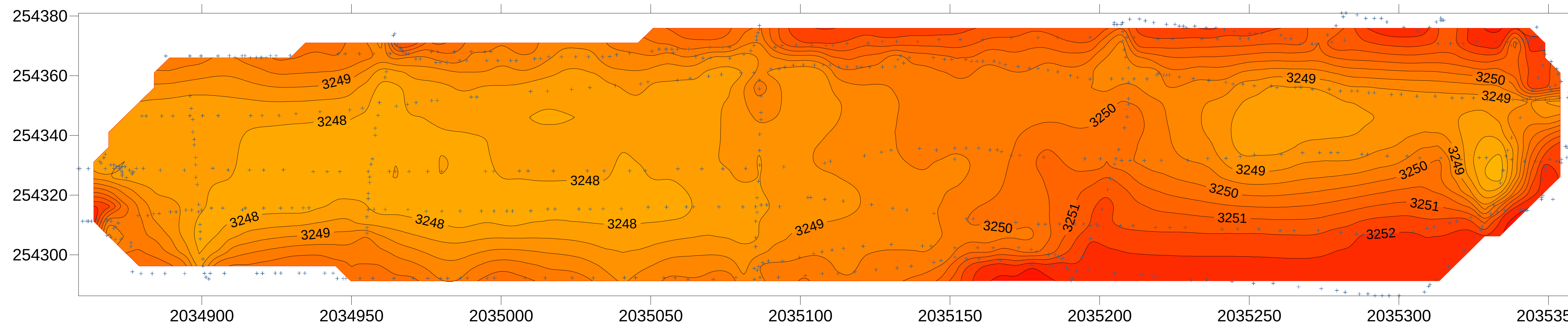
ASH POND A

MOUNT STORM POWER STATION
MOUNT STORM, WEST VIRGINIA

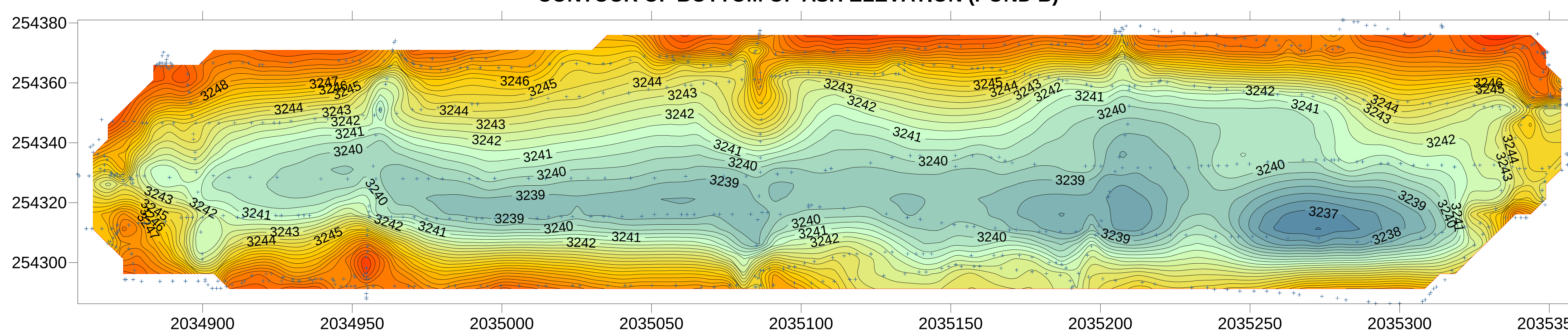
TRC
GREENVILLE, SOUTH CAROLINA

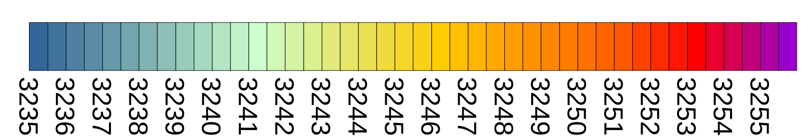
PROJECT: 22529
DATE: 06/24/15

CONTOUR OF TOP OF ASH ELEVATION (POND B)

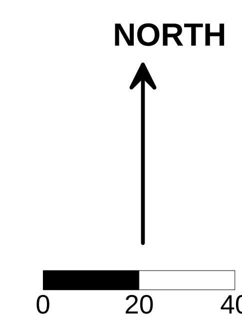


CONTOUR OF BOTTOM OF ASH ELEVATION (POND B)



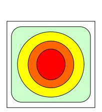


ELEVATION
(US STATE PLANE, WEST VIRGINIA NORTH, NAVD88, FEET)



SCALE: 1"= 40'

EXPLANATION



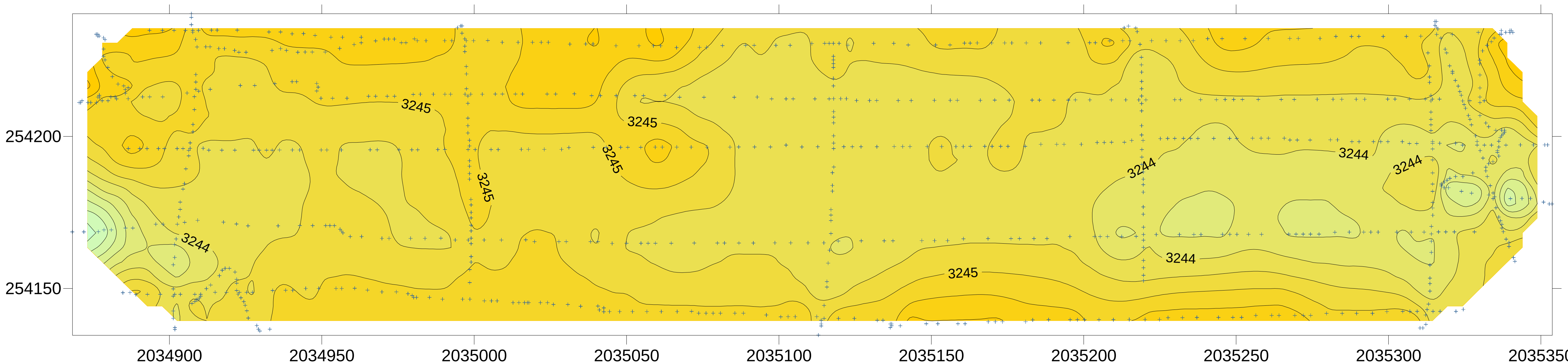
ELEVATION CONTOUR (FEET)

+ + + + + SUB-BOTTOM TRANECT LINES

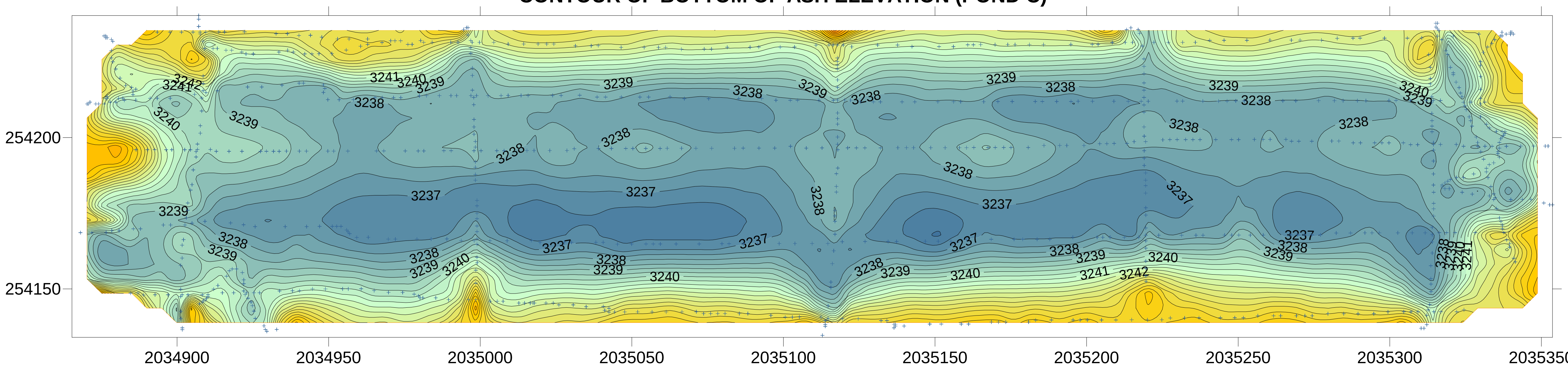
NOTES:
1. COORDINATE SYSTEM: US STATE PLANE, WEST VIRGINIA NORTH, NAD83 (CONUS), FEET
2. ELEVATION OF WATER AT TIME OF SURVEY: 3255.2 FEET

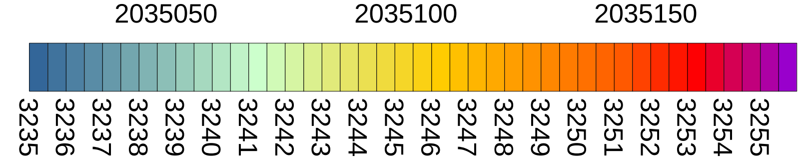
GeoView A geophysical services company	**FIGURE 4**	**MOUNT STORM POWER STATION MOUNT STORM, WEST VIRGINIA**	
	ASH POND B	**TRC GREENVILLE, SOUTH CAROLINA**	**PROJECT: 22529 DATE: 06/24/15**

CONTOUR OF TOP OF ASH ELEVATION (POND C)



CONTOUR OF BOTTOM OF ASH ELEVATION (POND C)





ELEVATION
(US STATE PLANE, WEST VIRGINIA NORTH, NAVD88, FEET)

NORTH

0 20 40

SCALE: 1"= 40'

EXPLANATION

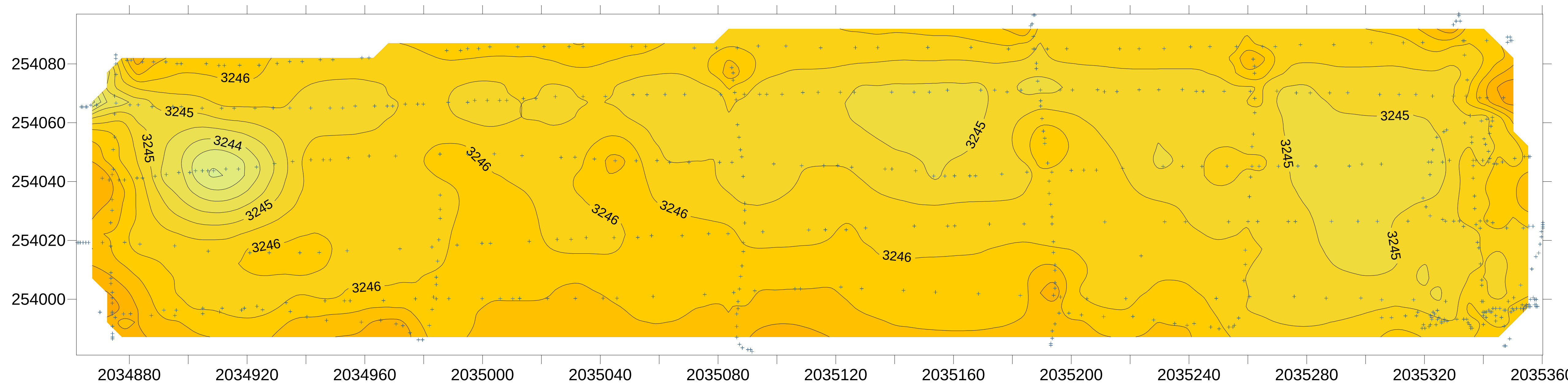
ELEVATION CONTOUR (FEET)

SUB-BOTTOM TRANECT LINES

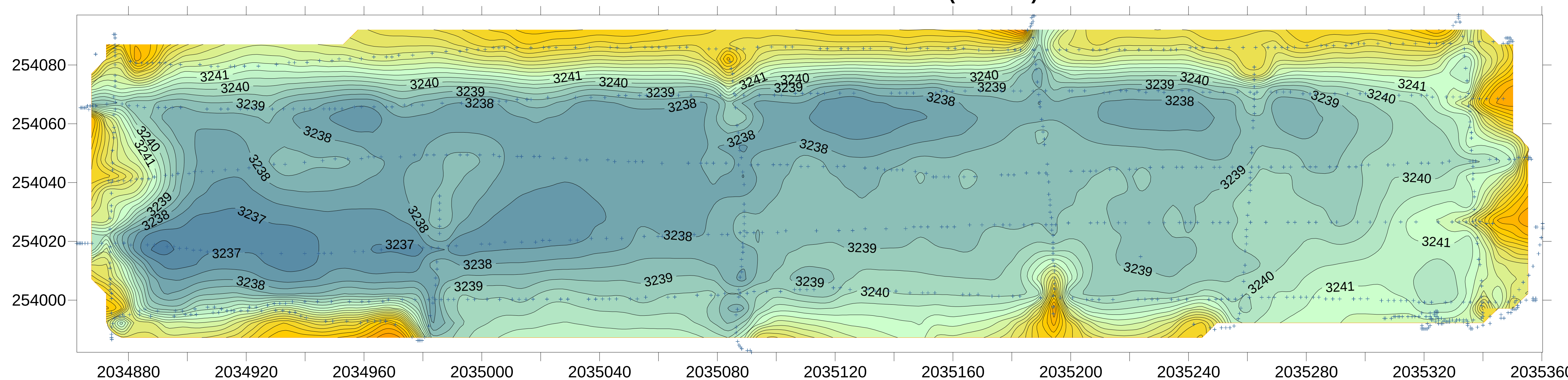
NOTES:
1. COORDINATE SYSTEM: US STATE PLANE, WEST VIRGINIA NORTH, NAD83 (CONUS), FEET
2. ELEVATION OF WATER AT TIME OF SURVEY: 3251.5 FEET

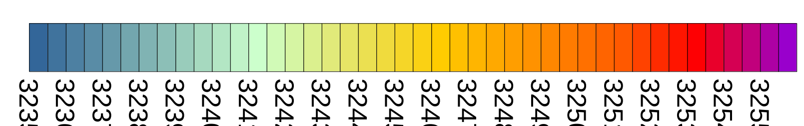
GeoView A geophysical services company	FIGURE 5	MOUNT STORM POWER STATION MOUNT STORM, WEST VIRGINIA	
	ASH POND C	TRC GREENVILLE, SOUTH CAROLINA	PROJECT: 22529 DATE: 06/24/15

CONTOUR OF TOP OF ASH ELEVATION (POND D)

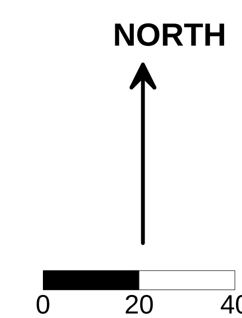


CONTOUR OF BOTTOM OF ASH ELEVATION (POND D)



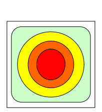


ELEVATION
(US STATE PLANE, WEST VIRGINIA NORTH, NAVD88, FEET)



SCALE: 1"= 40'

EXPLANATION

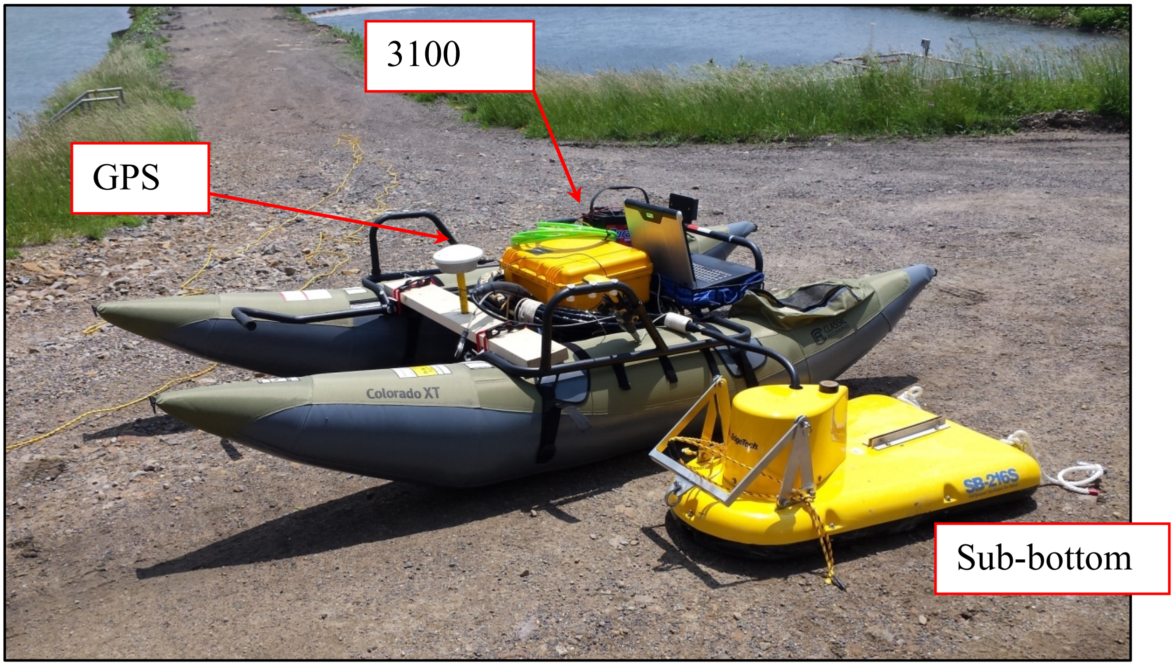

ELEVATION CONTOUR (FEET)

+ + + + + SUB-BOTTOM TRANECT LINES

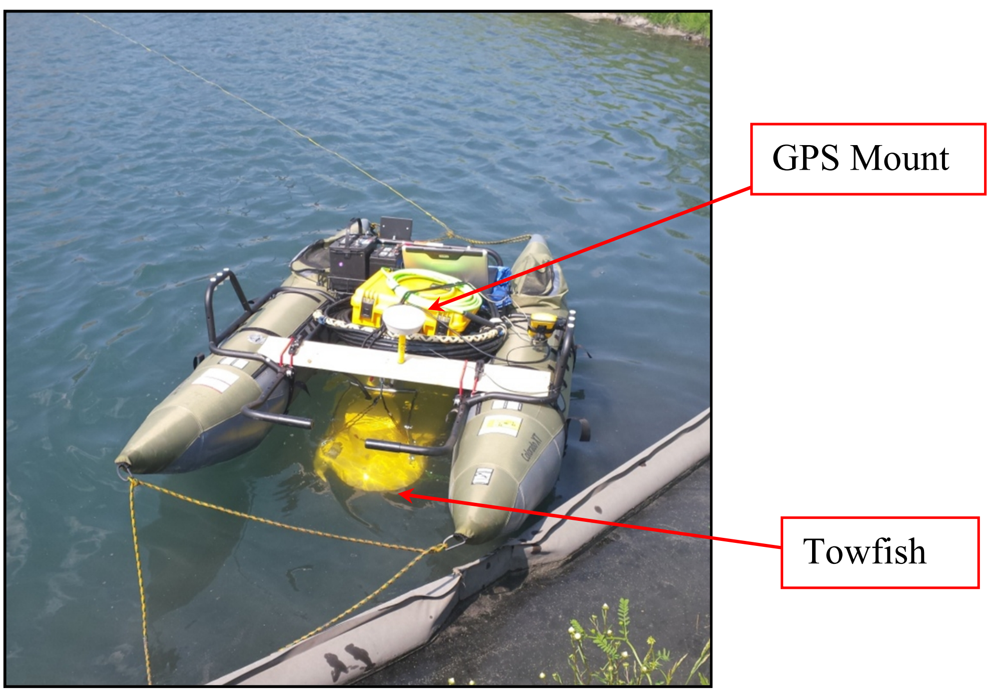
NOTES:
1. COORDINATE SYSTEM: US STATE PLANE, WEST VIRGINIA NORTH, NAD83 (CONUS), FEET
2. ELEVATION OF WATER AT TIME OF SURVEY: 3251.6 FEET

GeoView A geophysical services company	FIGURE 6	MOUNT STORM POWER STATION MOUNT STORM, WEST VIRGINIA
	ASH POND D	TRC GREENVILLE, SOUTH CAROLINA — PROJECT: 22529 DATE: 06/24/15

APPENDIX 2
PHOTOGRAPHS



Towfish and Tow Vessel Prior To Launch. Notice GPS, 3100 Topside Unit and 216 Sub-bottom Unit

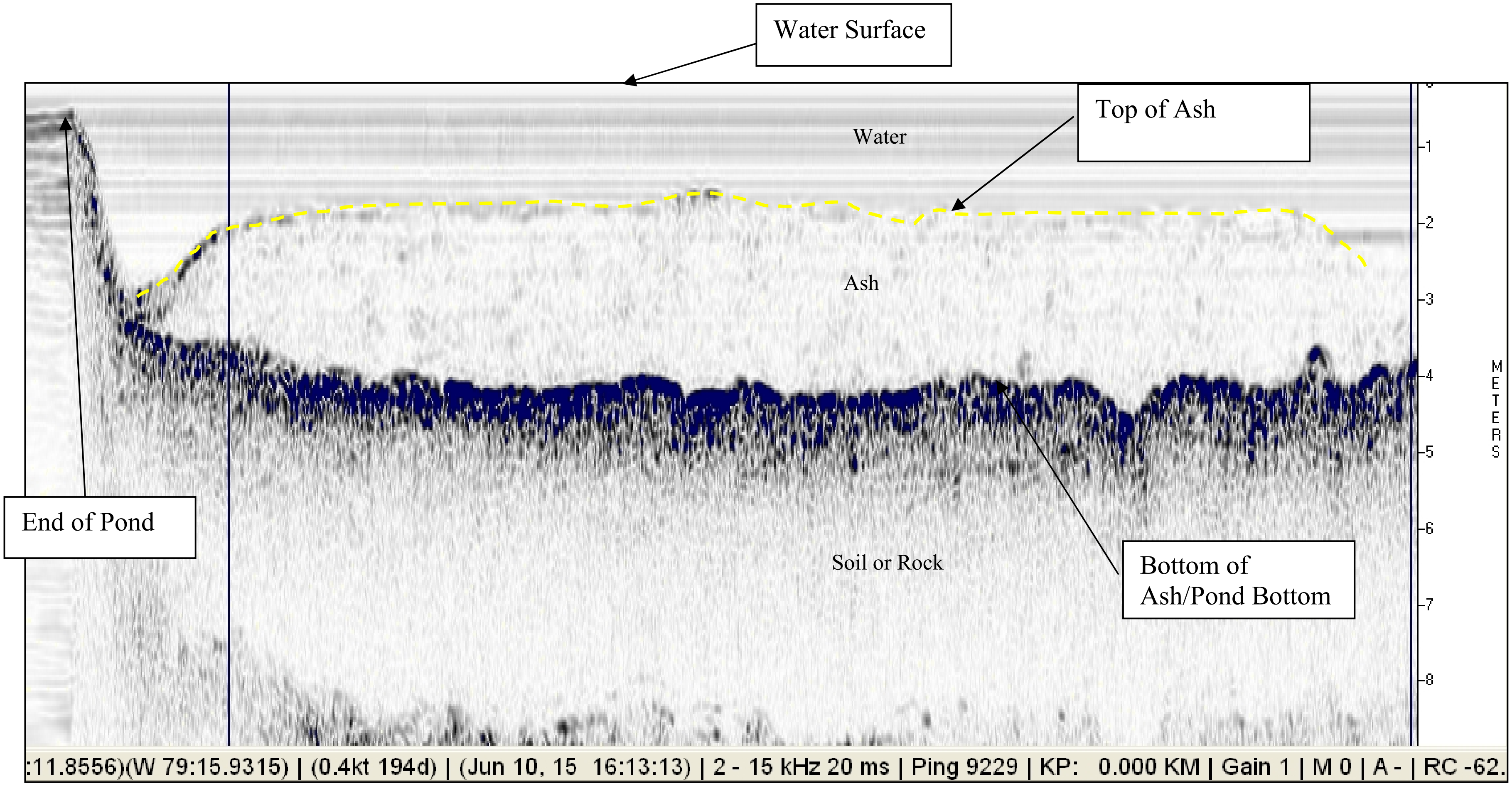


Edgetech 216 Towfish at Project Site

Pull Ropes

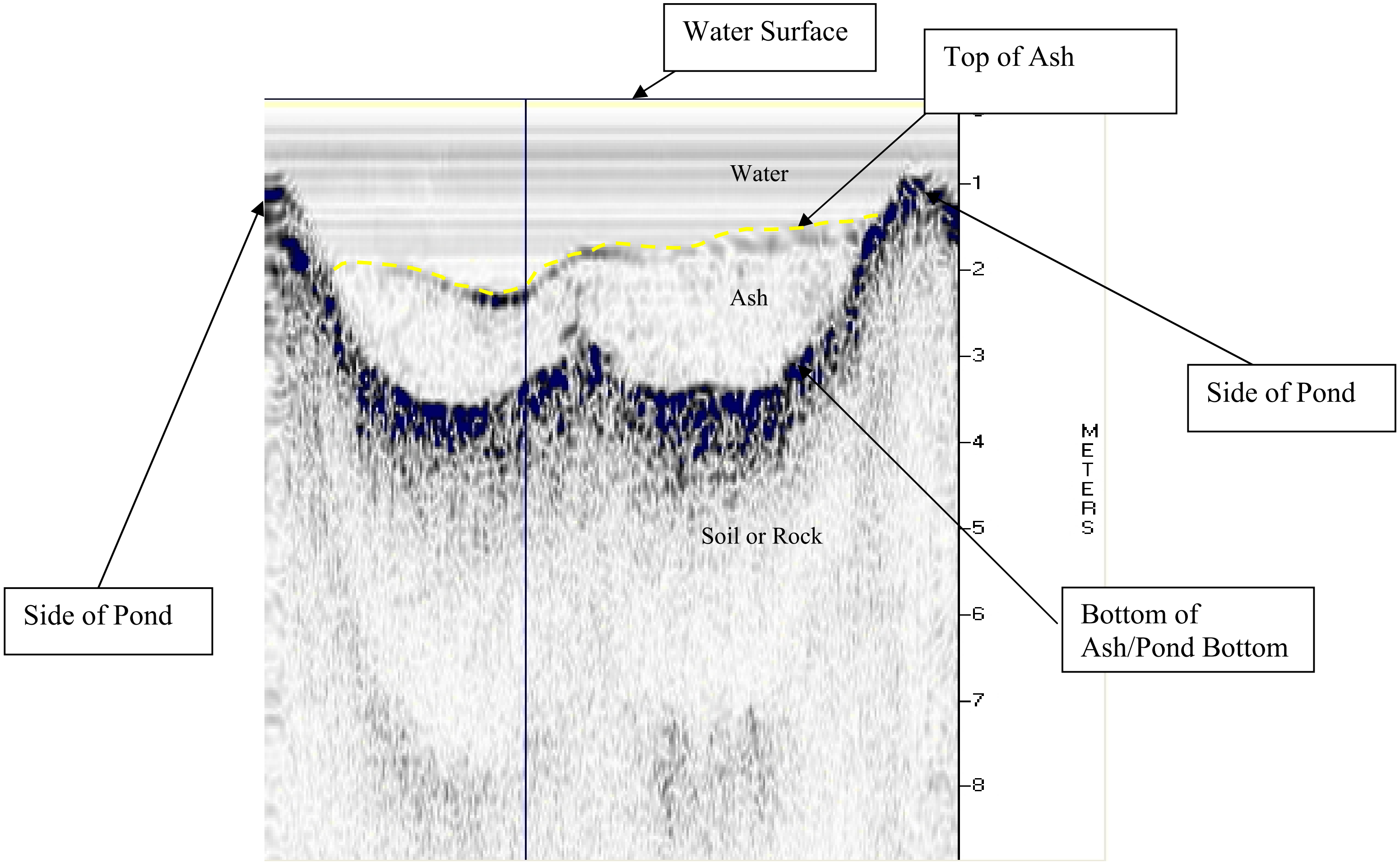
Data Collection

APPENDIX 3
EXAMPLES OF GEOPHYSICAL DATA



Example of Sub-bottom Data Collected East to West across Pond C

GeoView



Example of Sub-bottom Data Collected North to South across Pond C

GeoView

APPENDIX 4
LIMITATIONS

Edgetech 3100 XS system

The 3100- Sub-bottom Profiling System is a Full Spectrum CHIRP imaging system. It was used with a SB-216S towfish. The 3100- system uses specially designed transmitters with low Q wideband characteristics best suited for CHIRP transmissions. Two hydrophones are installed in the tow vehicle to reduce acoustic scattering from the sides. This results in a narrower across track beam pattern, enabling the 3100 to have both high resolution and ample depth of penetration. For this survey, GeoView mounted the fish directly under the center of the tow raft. A GPS antenna was mounted directly over the transducer.

Limitations of geophysical data

The marine environment, together with its boundaries, forms a remarkably complex medium for the propagation of sound. Both signal loss and interference result from interactions with boundaries and components within the water column, causing the source to be delayed, distorted and weakened. The main components affecting sound propagation are spreading loss and attenuation loss.

The ability of geophysical to collect interpretable information at a project site is limited by the attenuation (absorption) of the geophysical signal by underlying earth materials. Once the geophysical signal has been attenuated at a particular depth, information regarding deeper geological conditions will not be obtained. Geophysical data can only resolve subsurface features that have a sufficient density contrast between the feature in question and surrounding earth materials. If an insufficient contrast is present, the subsurface feature will not be identified.

GeoView can make no warranties or representations of geological conditions that may be present beyond the depth of investigation or resolving capability of the geophysical equipment or in areas that were not accessible to the geophysical investigation.