Prepared for

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HISTORY OF CONSTRUCTION REPORT – SLURRY POND 3&4

WINYAH GENERATING STATION

Prepared by

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Project Number: GSC5242

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EXECUTIVE SUMMARY

Winyah Generating Station (WGS) is a 1,260 megawatts coal-fired steam electric generating facility owned and operated by the South Carolina Public Service Authority (Santee Cooper). The Site is situated between Pennyroyal and Turkey Creeks and is located at 661 Steam Plant Drive in Georgetown, South Carolina. Coal combustion residuals (CCR) generated at WGS have been historically managed in existing CCR surface impoundments.

On April 17, 2015 the United States Environment Protection Agency (EPA) published the Final Rule for the Disposal of Coal Combustion Residuals (CCR) from Electric Utilities (CCR Rule). CCR Rule Section §257.73(c)(1) requires the owner of existing CCR surface impoundments to compile a history of construction containing information pertaining to the location, purpose, design, construction, and maintenance of the unit.

The purpose of this report is to provide a detailed history of construction record for Slurry Pond 3&4 (Slurry Pond) at WGS. Slurry Pond 3&4 is a 106 acre unlined CCR surface impoundment and is located within the Sampit River watershed. The Slurry Pond was designed in 1978. The unit receives flue gas desulfurization (FGD) residuals/wastewater, coal pile runoff, and stormwater. The Slurry Pond provides treatment for solids removal by gravitational settling.

Foundation soils encountered beneath the Slurry Pond were observed to be typically brown to gray, clayey sands, silty sands, and poorly graded fine to medium sands with varying amounts of shells. Dike fill soils were observed to be loose to medium dense, brown to gray, silty/clayey fine to medium sands, and stiff, sandy clays to low/medium plasticity clays. Original drawings depict the design geometry of the Slurry Pond dikes and appurtenances. Construction records describe improvements to the pond dikes including the construction of slurry walls in 1998 and 2008. A topographic survey conducted in 2011 shows the height of Slurry Pond perimeter dikes range from 15 to 36 ft. A Staff gauge installed in the Slurry Pond provides information on the water surface elevation. Facility personnel use the perimeter and finger dikes for periodic pond surveillance and maintenance.

Geosyntec consultants

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1. INTRODUCTION

In response to the recently published Coal Combustion Residual (CCR) Rule (40 Code of Federal Regulations (CFR) Part 257), Santee Cooper retained Geosyntec Consultants, Inc. (Geosyntec) to prepare documentation for existing surface impoundments (SI) at Winyah Generating Station (WGS or the Site), located southwest of Georgetown, South Carolina (SC). Four coal-fired generating units are operated at WGS with a total generating capacity of 1,260 megawatts.

Section §257.73(c)(1) of the CCR Rule states that *"No later than October 17, 2016, the owner or operator of the CCR unit must compile a history of construction, which shall contain, to the extent feasible, the information specified in paragraphs (c)(1)(i) through (xii) of this section."*

This History of Construction Report (Report) is intended to meet the requirements of Part 257.73(c)(1)(i–xii) of the CCR Rule for the Slurry Pond 3&4 (Slurry Pond) at WGS. The Report documents the dike geometry, engineering properties, material parameters, instrumentation, and other required information. The remaining sections of this Report are organized to satisfy specific requirements of the CCR Rule as follows:

Report Section	Regulatory Citation
Section 2 - provides owner and unit information	*40 CFR §257.73(c)(1)(i)*
Section 3 - provides the location of the unit	*40 CFR §257.73(c)(1)(ii)*
Section 4 - describes the purpose of the CCR unit	*40 CFR §257.73(c)(1)(iii)*
Section 5 - describes the contributing watersheds	*40 CFR §257.73(c)(1)(iv)*
Section 6 - describes the physical and engineering properties of foundation materials	*40 CFR §257.73)(c)(1)(v)*
Section 7 - presents construction methods and dates, and physical and engineering properties of materials used	*40 CFR §257.73(c)(1)(vi)*
Section 8 - provides dimensional drawings	*40 CFR §257.73(c)(1)(vii)*
Section 9 - describes the existing instrumentation	*40 CFR §257.73(c)(1)(viii)*
Section 10 - presents the area-capacity curves	*40 CFR §257.73(c)(1)(ix)*
Section 11 - describes spillway and diversion features	*40 CFR §257.73(c)(1)(x)*
Section 12 - discusses surveillance, maintenance and repair provisions	*40 CFR §257.73(c)(1)(xi)*
Section 13 - discusses any record or knowledge of instability	*40 CFR §257.73(c)(1)(xii)*
Section 14 - provides the sources referenced within this Report	

2. OWNER AND CCR UNIT INFORMATION

Section §257.73(c)(1)(i) of the CCR Rule requires *"The name and address of the person(s) owning or operating the CCR unit; the name associated with the CCR unit; and identification number of the CCR unit if one has been assigned by the state."*

WGS is a coal-fired steam electric generating facility owned and operated by Santee Cooper. Santee Cooper's corporate offices are located at One Riverwood Drive, Moncks Corner, SC 29461. The Site is situated between Pennyroyal and Turkey Creeks and is located approximately four miles southwest of Georgetown, SC. WGS is located at 661 Steam Plant Drive in Georgetown, SC 29440.

The Slurry Pond at WGS is a 106 acre surface impoundment (SI) which is regulated as a wastewater impoundment by the South Carolina Department of Health and Environmental Control (SCDHEC) Bureau of Water. The Slurry Pond is exempt from the state's dam program and has not been assigned an identification number.

3. UNIT LOCATION

Section §257.73(c)(1)(ii) of the CCR Rule requires *"The location of the CCR unit identified on the most recent U.S. Geological Survey (USGS) 7 ½ minute or 15 minute topographic quadrangle map, or a topographic map of equivalent scale if a USGS map is not available."*

A map depicting the location of the Slurry Pond identified on a United States Geologic Survey (USGS) 7 ½ minute topographic quadrangle map (USGS, 2014) is presented as **Figure 1.** CCR SI boundaries at WGS are provided in **Figure 2**.

The Slurry Pond, is located in the northwest corner of the Site. It is bounded on the west by Pennyroyal Creek, on the east by cooling towers, on the south by the West Ash Pond, and on the north by a transmission line alignment.

4. PURPOSE

Section §257.73(c)(1)(iii) of the CCR Rule states *"A statement of purpose for which the CCR unit is being used."*

The Slurry Pond historically received flue gas desulfurization (FGD) residuals from the original inhibited oxidation scrubbers as well as other plant (non-ash) process flows. The scrubbers were upgraded to forced oxidation scrubbers and the Slurry Pond has since received this FGD wastewater. A gypsum Dewatering Plant was constructed around 2005. Currently, synthetic gypsum, which does not meet specifications for use as wallboard-grade gypsum, is discharged to the Slurry Pond. The Slurry Pond also receives FGD hydroclone overflow, filtrate from the Dewater Plant, and process and stormwater from the Limestone Slurry/Ball Mill area. The purpose of the Slurry Pond is to contain CCR and remove solids within wastewater by gravity settling. Decanted water is conveyed by a floating pump station to either the Pump Station No. 1 sump on the east side of the Slurry Pond or directly to the Discharge Canal to the Cooling Pond.

5. WATERSHED DESCRIPTIONS

Section §257.73(c)(1)(iv) of the CCR Rule states *"The name and size in acres of the watershed within which the CCR unit is located."*

The Slurry Pond is located in the Sampit River Watershed (ID: 03040207-01). The Sampit River Watershed encompasses 105,260 acres (ac) in the Lower Coastal Plain and Coastal Zone regions of South Carolina and consists primarily of the Sampit River and its tributaries (SCDHEC, 2015).

6. FOUNDATION MATERIALS

Section §257.73(c)(1)(v) of the CCR Rule states *"A description of the physical and engineering properties of the foundation and abutment materials on which the CCR unit is constructed."*

6.1 Regional Geology

Georgetown County is located in the Atlantic Coastal Plain physiographic province, which is characterized by Quaternary terrace deposits produced by fluctuating sea levels. Coastal plain sediments are underlain by Tertiary and late Cretaceous sediments to a depth of approximately 2,200 ft below ground surface (bgs) in the Georgetown area. Descriptions of geologic units of interest in the area were provided in a paper by Campbell and Coes, 2010. The thickness of each unit was estimated based on information from several borings referenced in Campbell and Coes (2010). Specifically, these borings include: 1) CHN-0820, which is located approximately 12 miles to the south of WGS, 2) GEO-0088, which is located approximately 7 miles to the southeast of WGS, and 3) GEO-0185, which is located less than 1.5 miles to the northwest of WGS. General information about the regional geologic units is summarized below, from the top unit to the bottom unit:

- Undifferentiated Quaternary Sediments: this geologic unit consists of yellowish-brown and reddish-orange poorly sorted, very fine to very coarse, clayey sand and gravel. Accessory minerals include opaque heavy minerals, mica, and feldspar. The Undifferentiated Quaternary sediments thickness ranges between 20 and 42 ft in the area.

- The Williamsburg Formation (Williamsburg): this geologic unit consists of gray to black interbedded clay and coarse quartz sand overlying shelly clay and calcareous clay. The Williamsburg can include sandy shale, fuller's earth, fossiliferous clayey sand (Lower Bridge Member), and fossiliferous clayey sand and mollusk-rich, bioclastic limestones (Chicora Member). The thickness of the Williamsburg in the vicinity of the site ranges between 30 and 90 ft.

- The Lang Syne Formation: As described in the literature by Muthig and Colquhoun (1988), this geologic unit consists of red and yellow (where weathered) or white, gray, and black (where freshly exposed) interbedded sand, silt, and clay and thin beds of silicified shell debris. Opaline clay stone is the most characteristic lithology of the Lang Syne Formation.

- The Rhems Formation: This geologic unit consists of light-gray to black shale interlaminated with thin seams of fine-grained sand and mica.
- The Peedee Formation: this geologic unit consists of a dark-green to gray, fossiliferous, glauconitic clayey sand and silt. The combined thickness of the Lang Syne, Rhems, and Peedee Formations ranges between 185 and 378 ft in the vicinity of the WGS.

Additional late Cretaceous Formations are present to a depth of approximately 2,200 ft bgs in the area. These formations, in descending order, include: Donoho Creek, Bladen, Coachman, Cane Acre, Caddin, Sheppard Grove, Pleasant Creek, Cape Fear, and undifferentiated Cretaceous sediments.

6.2 Foundation Materials

Geosyntec reviewed and evaluated historical soil borings (S&ME, 1978; and PCRA, 1999) and Cone Penetrometer Test (CPT) soundings (Geosyntec, 2016) advanced within the vicinity of the Slurry Pond perimeter dikes.

Foundation soils encountered beneath the Slurry Pond were observed to be typically brown to gray, clayey sands, silty sands, and poorly graded fine to medium sands with varying amounts of shells. Several clay lenses or thin layers of clay were occasionally encountered in more sandy foundation soils. The relative density of the foundation soils ranged from very loose to medium dense and were generally found to be 10 to 30 ft thick (Geosyntec, 2016). In the majority of borings, the lower 5 to 10 ft of foundation soils were observed to consist heavily of shell fragments or sand with shells. Soil borings typically described the material immediately above Chicora Member as loose to medium dense, clayey fine sand with interbedded shells (Geosyntec, 2016). Foundation materials were typically 60% to 90% sand sized material. The clayey sands and clays were found to be low to medium plasticity with plasticity indices between 10 and 25. The total unit weight of foundation soils was found to have an average unit weight of 128 pounds per cubic foot (pcf) (Geosyntec, 2016).

7. PHYSICAL AND ENGINEERING MATERIAL PROPERTIES AND CONSTRUCTION METHODS AND DATES

Section §257.73(c)(1)(vi) of the CCR Rule requires *"A statement of the type, size, range, and physical and engineering properties of the materials used in constructing each zone or stage of the CCR unit; the method of site preparation and construction of each zone of the CCR unit; and the approximate dates of construction of each successive stage of construction of the CCR unit."*

This section provides a description of the construction materials, site preparation, and construction methods, and dates for the Slurry Pond. Burns and Roe prepared the original design, while Lockwood-Greene prepared the civil construction drawings. All available drawings are included in **Appendix A**.

The Slurry Pond was designed by Burns and Roe in 1978. Soils from the interior of the pond were excavated for material to construct the perimeter dikes. Drainage trenches were excavated to drawdown, dewater, and route water through a 30-in diameter Bituminous Coated Corrugate Metal Pipe (BCCMP) located in the northwest corner of the Slurry Pond during construction of the perimeter dikes.

Between 16 December 1998 and 11 January 1999 Geo-Con installed a 150-ft long by 2-ft wide cement-bentonite slurry wall in the southeast corner of the Slurry Pond, to mitigate observed seepage through the section of the dike (Geo-Con, 1999). The cement-bentonite slurry wall was installed to backhoe refusal defined as the top of the cemented Chicora stratum typically found between 45 and 48 ft bgs in the area of the Slurry Pond. A high shear "lightening mixer" was utilized to mix Wyoming bentonite at a 0.055 bentonite to water ratio. After hydration, the bentonite slurry was mixed with sulfate resistant, Type V Portland cement mixed with cement to water ratio of 0.30. Due to excavation and access difficulties, Geo-Con installed a wider slurry wall (up to 4 ft wide) than the planned 2-ft wide wall during the final 50 feet of alignment. Construction was completed on 11 January 1999, and a quality control/quality assurance report was prepared on 5 March 1999 (Geo-Con, 1999).

Between 2004 and 2006, Santee Cooper – Civil Projects department designed drainage improvements at the outer toe of the Slurry Pond perimeter dikes to manage peak stormwater runoff for a 25-year (yr), 24-hour (hr) rainfall event. The drainage improvements included Detention Pond No. 1 located at the base of the eastern corner of the Slurry Pond. Pump Station No. 1 is designed to convey stormwater (as well as Cooling Tower blowdown) to the Discharge Canal through a 22-in diameter HDPE pipe. Detention Pond No. 1 is constructed with a spillway outlet to Detention Pond No. 2. Detention Pond No. 2 is essentially an elongated ditch with a 3 ft minimum width and 3H:1V side slopes which is located adjacent to the outer toe of the Slurry Pond along the northern and western boundaries. Pump Station No. 2 located near the northwest corner of the Slurry Pond conveys stormwater back into the Slurry Pond. There is an emergency spillway from Detention Pond No. 2 to Pennyroyal Creek which is designed to be activated only during storm events greater than the 25-yr, 24-hr storm. As part of the project, portions of the Slurry Pond dike interior side slope were lined with riprap for erosion control protection and energy dissipation (Santee Cooper, 2006).

In 2008, Santee Cooper constructed cement-bentonite slurry cutoff walls through the Slurry Pond perimeter dikes at the locations of abandoned construction drains utilized to dewater the pond footprint during construction. Each slurry wall was constructed to a depth of 45 ft bgs and was embedded approximately 1-ft into the underlying cemented Chicora stratum. A construction completion report was not prepared at completion of the maintenance project.

In 2013, geotechnical investigations were conducted at 66 locations within the Slurry Pond and West Ash Pond (Geosyntec, 2014). Three investigation campaigns were completed from February to December 2013, which included soil borings and CPT soundings (Geosyntec, 2016) advanced within the vicinity of the Slurry Pond. Collected data and historical soil borings (S&ME, 1978, and PCRA, 1999) were used to develop a triangular-irregular-network (TIN) surface of the pond bottom in AutoCAD® Civil 3D based on interpolation between available data points.

In 2016, approximately 1,300 ft. of the perimeter ditch on the north side of the Slurry pond was willed with a 1 ft. layer of rip-rap ((South Carolina Department of Transportation (SCDOT) Class A). An excavation (widening) of the existing perimeter ditch was performed for approximately 800 ft. immediately upstream of the rip-rap fill to compensate for volume lost due to the rip-rap fill. As built drawings were placed in the Slurry Pond operating record.

Soils encountered within the dike fill were observed to be loose to medium dense, brown to gray, silty/clayey fine to medium sands, and stiff, sandy clays to low to medium plasticity clays. Uncorrected SPT blow counts ranged from 2 to 20 blows per foot within Slurry Pond dike fill soils (Geosyntec, 2016). Grain size distribution testing indicated that dike fill materials in the vicinity of the Slurry Pond typically consist of 50% to 60% sand sized (smaller than No. 4 sieve but greater than No. 200 sieve) and 40% to 50% silt and clay sized material (Geosyntec, 2016). The clayey sands (observed in dike fill) were found to be low to medium plasticity with plasticity indices between 10 and 25. Based on laboratory testing, the unit weight of dike fill materials was found to range from 120 to 132 pcf (Geosyntec, 2016). From consolidated undrained (CU) tests at two locations within the Slurry Pond perimeter dikes and one location within the perimeter dike of the West Ash Pond (an inactive landfill adjacent to the Slurry Pond), the effective friction angle (ϕ') was found to be 33° with an effective cohesion intercept (c') ranging from 100 pounds per square foot (psf) to 200 psf (Geosyntec, 2016). Based on the estimated pond bottom, the volume of material in the Slurry Pond is 1,598 acre ft. (Geosyntec, 2014a, and Thomas and Hutton, 2011).

In 2015, a Floating Pump Station was installed in the Slurry Pond to lower the operating water level to below 26.0 ft National Geodetic Vertical Datum of 1929 (NGVD 29) to improve the global stability of the perimeter dikes during the design seismic event (Geosyntec, 2013). The Floating Pump Station pumps decanted water to Pump Station No. 1 through a 14-in diameter HDPE pipe. Valves can be adjusted to bypass Pump Station No. 1 so the Floating Pump Station pumps directly to the Discharge Canal (through a 22-in diameter HDPE pipe from the discharge end of the Pump Station No. 1 piping to the Discharge Canal. The station is equipped with two (2) Tsurumi GSZ 4-45-4 pumps to provide 3,340 gpm at 100 ft. of head (Geosyntec, 2014b).

Subsequently in 2015, the West Ash Pond was regraded to drain to the Slurry Pond. Two (2) 36-in diameter corrugated HDPE pipes with a design inlet invert elevation at 26.0 ft NGVD 29 were installed in the southwest corner of the Slurry Pond to route stormwater from the inactive West Ash Pond to the Slurry Pond. The existing culverts (installed in 2012 consisting of four (4) 22-in diameter corrugated HDPE pipes) which also hydraulically connect the West Ash Pond with the Slurry Pond through the divider dike were left in place. The normal operating level for surface water within the Slurry Pond was lowered to 19.6 ft NGVD 29 to allow for the management of the 25-yr, 24-hr rainfall event from both the West Ash Pond and Slurry Pond (Geosyntec, 2016).

8. DIMENSIONAL DRAWINGS

Section §257.73(c)(1)(vii) of the CCR Rule states *"At a scale that details engineering structures and appurtenances relevant to the design, construction, operation, and maintenance of the CCR unit, detailed dimensional drawings of the CCR unit, including a plan view and cross sections of the length and width of the CCR unit, showing all zones, foundation improvements, drainage provisions, spillways, diversion ditches, outlets, instrument locations, and slope protection, in addition to the normal operating pool surface elevation and the maximum pool surface elevation following peak discharge from the inflow design flood, the expected maximum depth of CCR within the CCR surface impoundment, and any identifiable natural or manmade features that could adversely affect operation of the CCR unit due to malfunction or mis-operation."*

The purpose of this section is to document information related to the design, construction, operation, and maintenance of the Slurry Pond on dimensional drawings, to the extent this information is available.

Available original design drawings referenced in this section are included in Appendix A. The design layout and geometry of the Slurry Pond is provided in Drawings 3-CV-541 through 3-CV-545. The north northwest perimeter dikes were constructed with 3:1 horizontal to vertical (H:V) upstream and 2H:1V downstream slopes (Drawing 3-CV-541). The western and, northeastern to eastern perimeter dikes were constructed with 2H:1V upstream and downstream side slopes (Drawing 3-CV-541 and 3-CV-542). The finger and divider dike side slopes were both constructed with 3H:1V side slopes (Drawing 3-CV-542). Design cross sections indicate that the bottom of the pond varies, but was specified not to be deeper than 10.0 ft within 200 ft of the upstream west to northwest perimeter dike toes (Drawing 3-CV-541). It was also specified that a 2-ft thick compacted clay layer be provided in this area. Drainage trenches were excavated to drawdown, dewater, and route water through a 30-in diameter BCCMP located in the northwest corner of the Slurry Pond during construction of the perimeter dikes (Drawings 3-CV-542 and 3-CV-555). The drawdown pipe discharged to Pennyroyal Creek prior to abandonment once the pond was brought into service (Lockwood-Greene, 1978).

The Slurry Pond perimeter dikes are approximately 30 ft in height in the north and east, 26 ft in height to the west, and 15 ft in height to the southeast (Thomas and Hutton, 2011). The upstream and downstream slopes of the perimeter dikes range from 2H:1V to 3H:1V, and the 12- to 15-ft wide dike crest is typically at elevation 37.0 ft NGVD 29 (Thomas and Hutton, 2011).

Based on available information, a dimensional plan delineating the SI layout and grading of the Slurry Pond is provided in **Figure 3**. Meanwhile, normal and maximum operating pool elevations, and depth of the CCR unit, among other information, is depicted in the cross sections provided in **Figure 4.** Maximum operating pool elevation shown on the figures is for the Probable Maximum Flood, 72-hr storm event. Location of instrumentation is provided in **Figure 5**.

9. EXISTING INSTRUMENTATION

Section §257.73(c)(1)(viii) of the rule states *"A description of the type, purpose, and location of existing instrumentation."*

Staff gauges have been installed at WGS to monitor the surface water in the vicinity of the CCR impoundments and the Cooling Pond.

As shown on **Figure 5**, one staff gauge has been installed in the Slurry Pond (W-SW-WSP) to monitor the water surface elevation.

10. AREA-CAPACITY CURVES

Section §257.73(c)(1)(ix) of the rule states *"Area-Capacity curves for the CCR unit."*

Topographic (2-ft contour interval) and bathymetric data was utilized to create an existing conditions TIN surface in AutoCAD® to represent the top of ash (Thomas and Hutton, 2011). The surface area of each contour within the Slurry Pond was measured and tabulated. The storage capacity in each depth increment was calculated by averaging the surface area of the upper and lower contour and multiplying by the change in elevation between each contour. Surface area and pond capacity by elevation is presented in **Table 1**. The area-capacity curve is provided in **Figure 6**.

11. SPILLWAY AND DIVERSION FEATURES

Section §257.73(c)(1)(x) of the rule states *"A description of each spillway and diversion design features and capacities and calculations used in their determination."*

An emergency spillway hydraulically connects the West Ash Pond to the Slurry Pond. The Slurry Pond is not overtopped by the PMF (Geosyntec, 2016).

12. SURVEILLANCE, MAINTENANCE, AND REPAIR PROVISIONS

Section §257.73(c)(1)(xi) of the rule states *"The construction specifications and provisions for surveillance, maintenance, and repair of the CCR unit."*

During initial construction, a finger dike was constructed into the center of the Slurry Pond to lengthen the flow path to allow material to settle before the decant liquid was recirculated to the scrubbers. This finger dike also allows for access, maintenance, and observation of the pond interior. Santee Cooper conducts periodic surveillance and maintenance of the Slurry Pond. Santee Cooper engineers inspect the Slurry Pond dikes in accordance with dike inspection procedures that are presented in **Appendix B**. Site personnel conduct weekly and annual inspections of the ash pond embankments. Personnel performing inspections are required to undergo an initial inspector training as well as refresher training every 3 years. Qualified dam safety engineers accompanied by Site personnel conduct annual inspections. Daily observations and routine inspections are documented on Inspection Checklists (**Appendix B**).

Maintenance of dikes and the outlet structure at the South Ash Pond are conducted as needed, as determined by routine observations conducted by facility personnel. Vegetation on the dike slopes and crest is inspected every day by Site personnel, and cut using a long reach excavator with a 60" rotary cutter head and a flat tractor with a 15' batwing mower.

13. RECORD OF STRUCTURAL INSTABILITY

Section §257.73(c)(1)(xii) of the rule states *"Any record of knowledge of structural instability of the CCR unit."*

There are no records or knowledge of structural instability associated with the Slurry Pond.

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TABLES

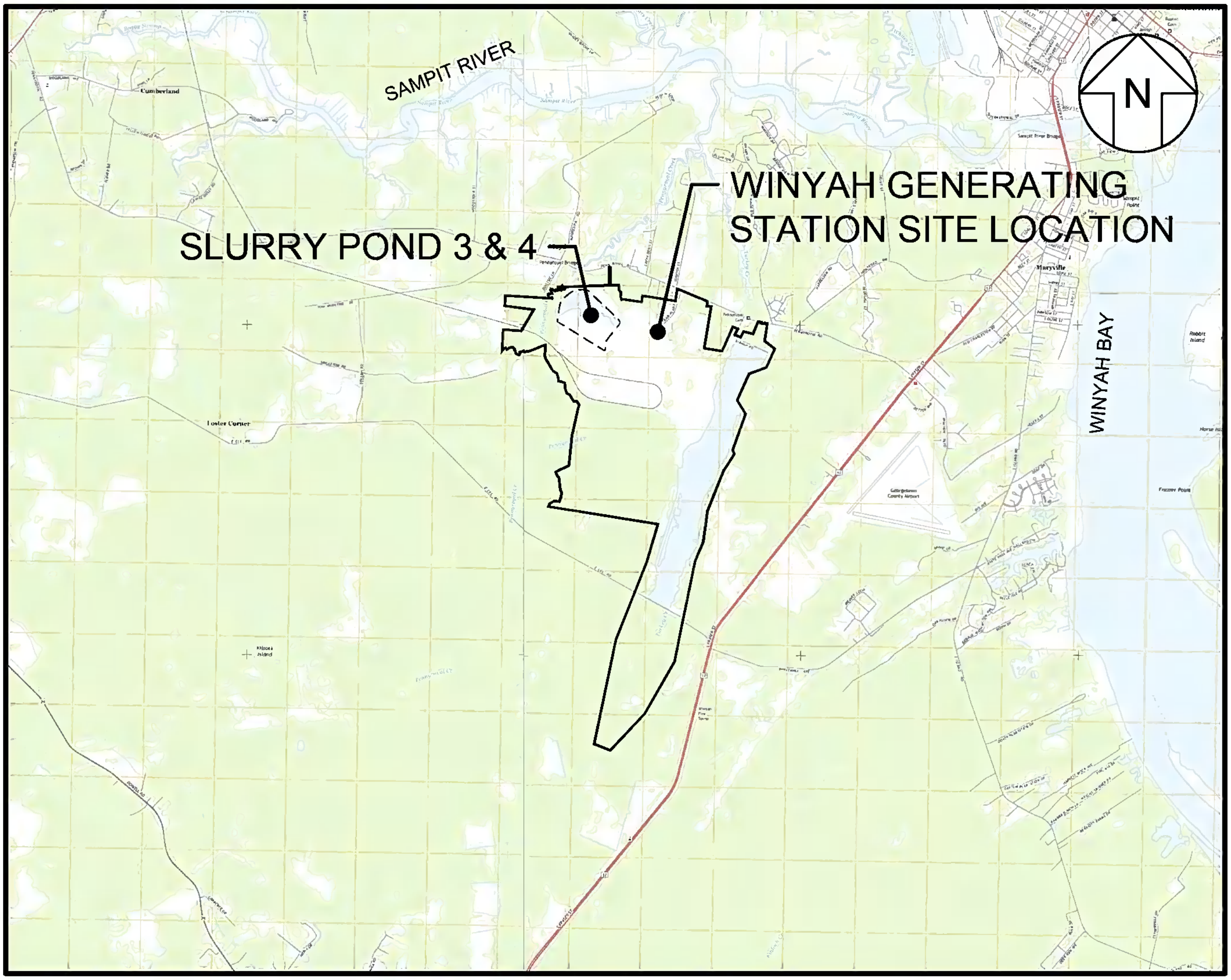
Table 1. Area-Capacity Table for Slurry Pond 3&4

Slurry Pond			West Ash Pond		
Elevation	**Area (ac)**	**ΔVolume (ac-ft)**	**Elevation**	**Area (ac)**	**ΔVolume (ac-ft)**
35.67	77.2	510.2	37	36.6	98.9
34	47.2	406.3	36	27.4	66.9
32	36.4	322.7	35	19.4	43.5
30	31.0	255.3	34	13.4	27.1
28	26.5	197.7	33	8.9	16.0
26	22.5	148.7	32	5.4	8.9
24	18.8	107.5	31	3.0	4.7
22	15.5	73.2	30	1.6	2.4
20	12.6	45.2	29	0.9	1.1
18	9.6	23.0	28	0.5	0.4
16	5.0	8.3	27	0.2	0.1
14	1.6	1.7	26	0.0	0.0
12	0.0	0.0			

Notes:

1. Area-Capacity table and curve was developed considering both the Slurry Pond and West Ash Pond, as the two ponds are hydraulically connected. The surface area and volume for the West Ash Pond was computed considering the pond as an inactive landfill and undergoing closure.
2. Elevations are provided in ft NGVD 29.
3. Δ Volume (ac-ft) computed as the average surface area × the difference in elevation (ft)

FIGURES



LEGEND

APPROXIMATE PROPERTY LINE

APPROXIMATE LIMIT OF POND

NOTES:

1. SOURCE OF USGS TOPOGRAPHIC MAP: https//store.usgs.gov, PUBLISHED BY THE US GEOLOGICAL SURVEY, GEORGETOWN SOUTH QUADRANGLE, DATE 2014, AND KILSOCK ISLAND QUADRANGLE, DATE 2014, 7.5 MINUTE SERIES.

2. THE WGS INCLUDES 2,527.47 ACRES ZONED AS HEAVY INDUSTRIAL.

3. WGS BOUNDARY SHOWN PROVIDED BY THOMAS & HUTTON DATED 10 JANUARY 2014.

0 8,000'

SCALE IN FEET

SLURRY POND 3 & 4 LOCATION MAP
SANTEE COOPER
WINYAH GENERATING STATION

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FIGURE 1

PROJECT NO: GSC5242

JULY 2016

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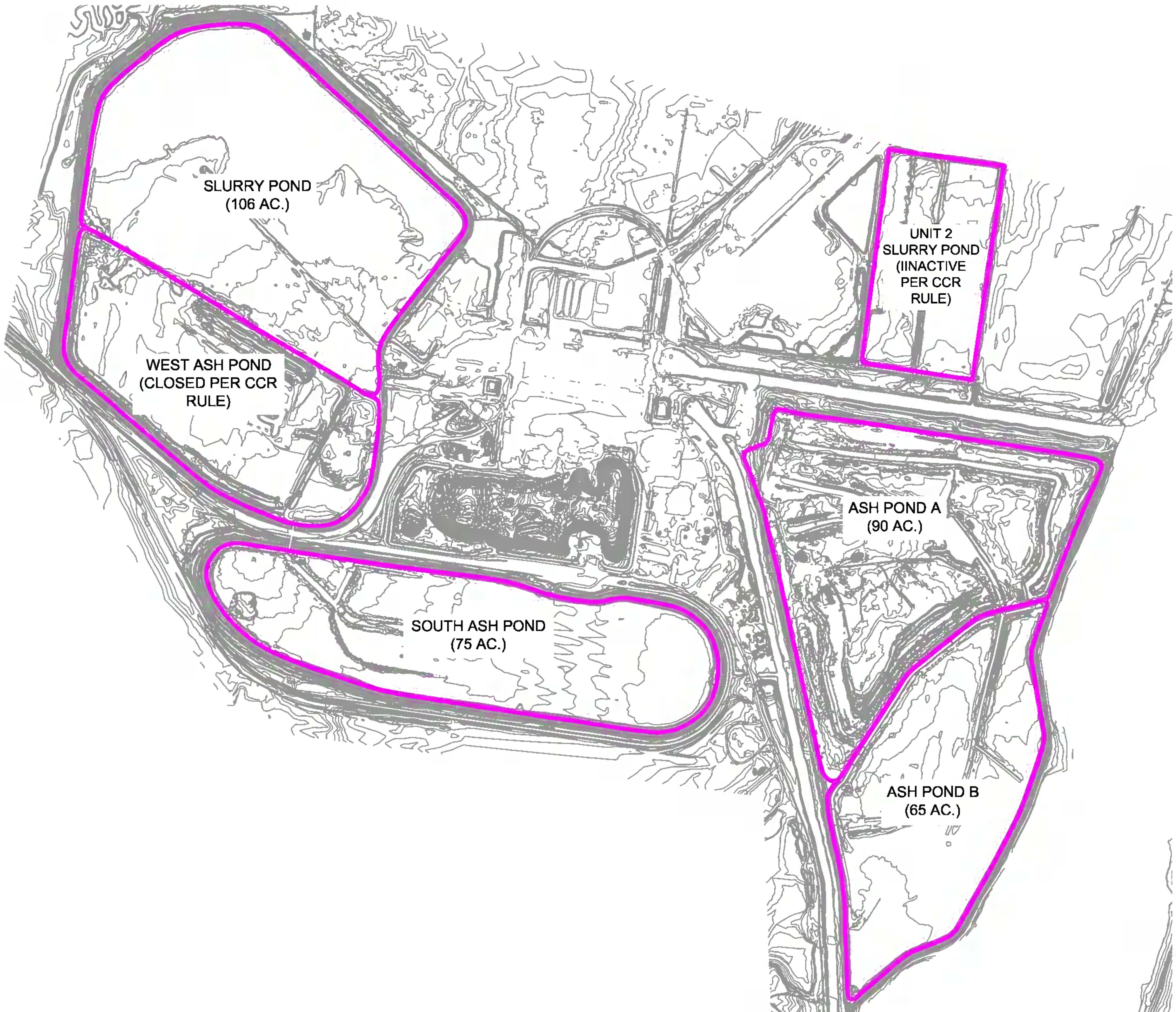


LEGEND

SURFACE IMPOUNDMENT DRAINAGE AREA BOUNDARY

NOTES:

1. TOPOGRAPHIC SURVEY PROVIDED BY THOMAS AND HUTTON (2011).
2. SURFACE IMPOUNDMENT AREAS ESTIMATED BY GEOSYNTEC (2015).

N

0 800'

SCALE IN FEET

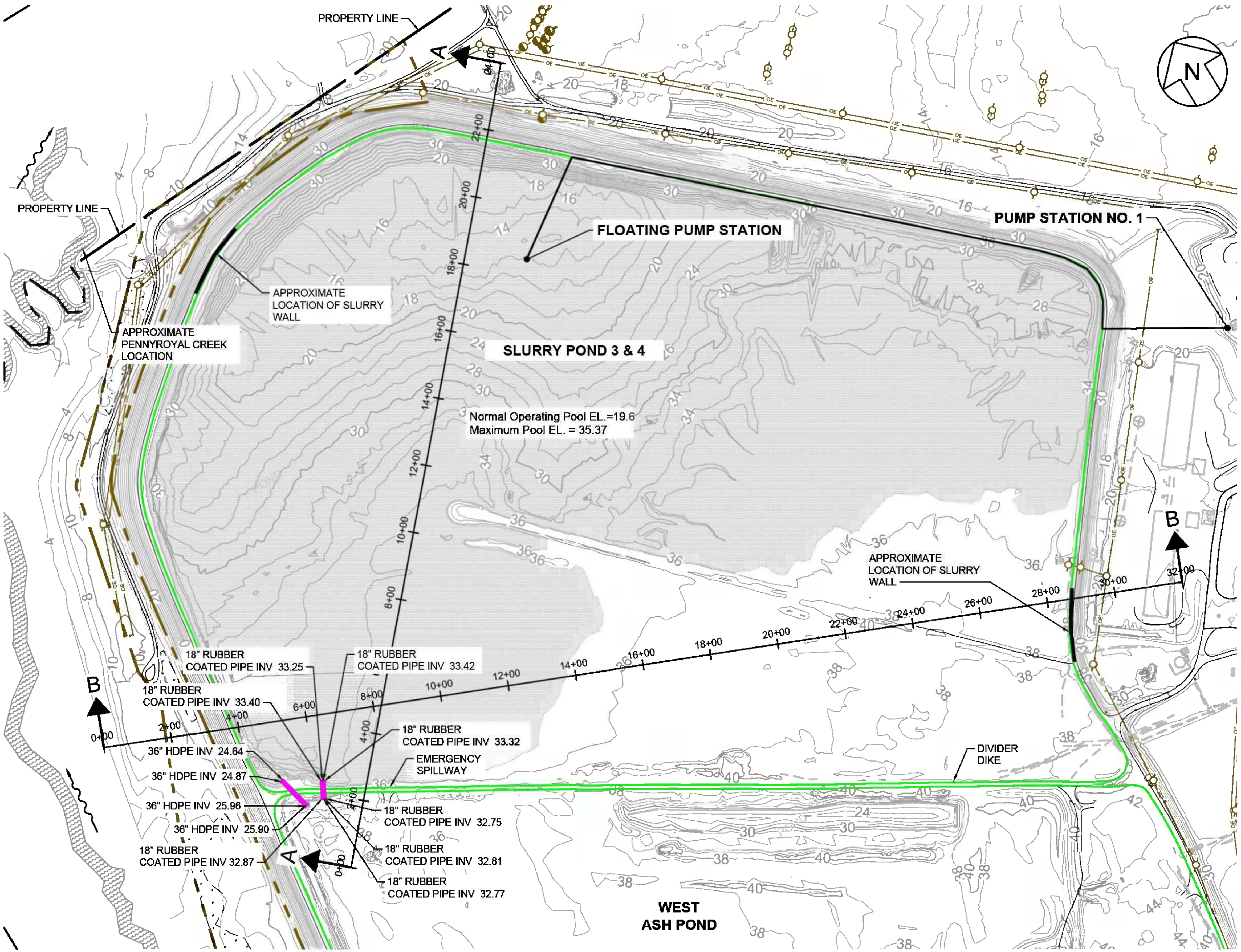
SURFACE IMPOUNDMENT BOUNDARIES

Geosyntec consultants

PROJECT NO: GSC5242 | JULY 2016

FIGURE 2

M:\S\SANTEE COOPER\SANTEE COOPER-WINYAH\0029-CONSTRUCTION HISTORY REPORT\FIGURES\W-0-SC-585-00-F0029-007



LEGEND

- APPROXIMATE LIMIT OF ASH PONDS
- PROPERTY LINE
- DIRT/GRAVEL ROAD
- EXISTING GRADES
- OUTFALL PIPE AND STRUCTURE
- OVERHEAD ELECTRIC LINE
- ROADWAY
- WETLAND SURVEY
- JURISDICTIONAL WETLANDS
- PENNYROYAL CREEK
- WATER
- FLOW ARROW

NOTES:

1. TOPOGRAPHIC SURVEY PROVIDED BY THOMAS & HUTTON DATED 06/29/11 AND REVISED ON 01/14/12.
2. DIKE CREST ELEVATIONS, OUTFALL STRUCTURES, AND PIPES SOURCE: THOMAS AND HUTTON SURVEY, RECEIVED FILE ON 2/5/2016. FILE NAME: 23021T12_DikeCrests.dwg.
3. PROPERTY BOUNDARY LINE PROVIDED BY THOMAS & HUTTON, DRAWING TITLED "PLAT OF THE BOUNDARY AND COMBINATION OF VARIOUS PARCELS CONTAINING 2527.47 ACRES TOTAL COMPRISING WINYAH GENERATING STATION AND THE SUBDIVISION TO CREATE TRACT A AND TRACT B", PLAT DATE 11/25/13.
4. COORDINATES AND DIRECTIONS SHOWN ON THIS DRAWING ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83) (CORS) (INT'L FT). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
5. ELEVATIONS ON THIS SURVEY ARE REFERENCED TO NGVD 1929 DATUM AS DERIVED FROM NGS MONUMENT PID#DD1957.
6. SECTIONS WERE CUT TO PASS THROUGH LOWEST POINT ON DIKE CREST.
7. MAXIMUM POOL EL. ESTIMATED BASED ON A PMF, 72-HR STORM EVENT.

0 300'
SCALE IN FEET

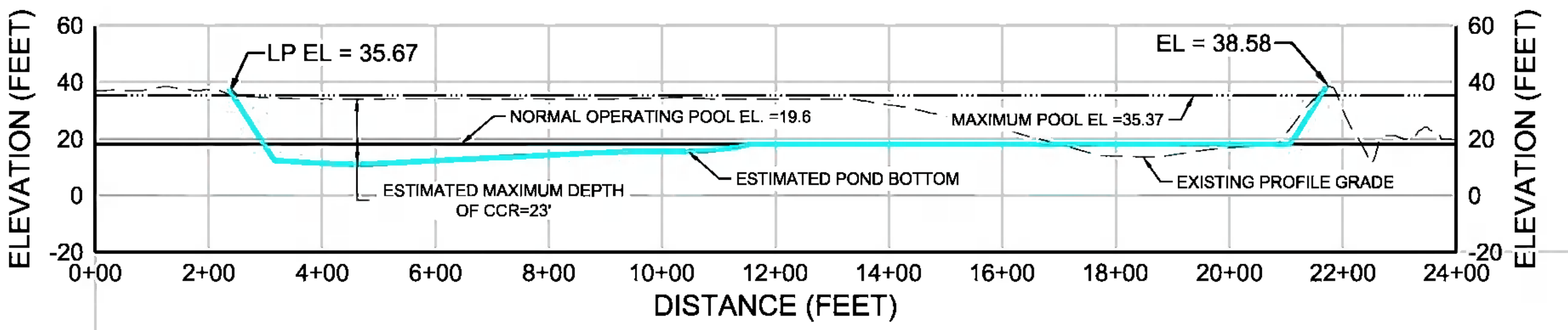
SANTEE COOPER
WINYAH GENERATING STATION
SLURRY POND 3 & 4 SITE PLAN

Geosyntec consultants

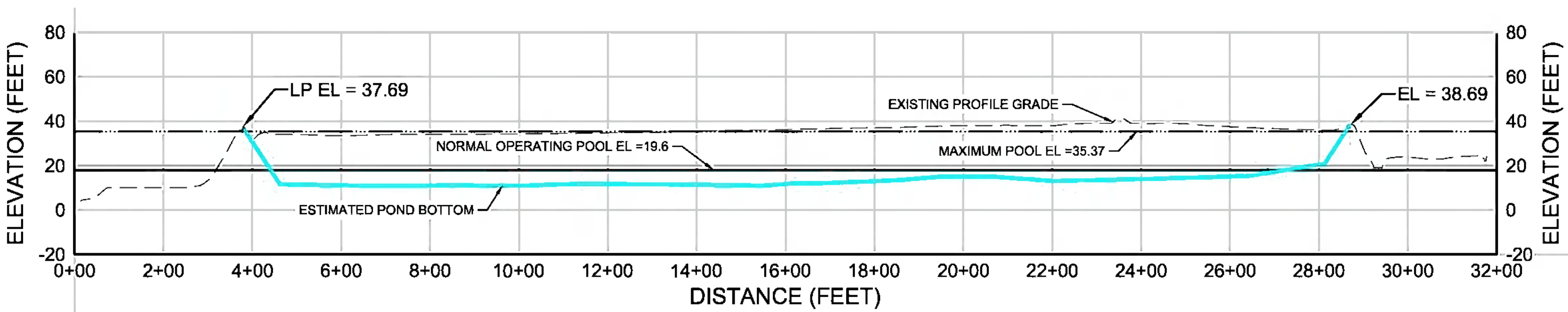
FIGURE 3

PROJECT NO: GSC5242 | JULY 2016

M:\S\SANTEE COOPER\SANTEE COOPER-WINYAH\0029-CONSTRUCTION HISTORY REPORT\FIGURES\W-0-SC-585-00-F0029-003



A
3
PROFILE
SECTION AT DIKE CREST LOW POINT
SCALE: 1"=300' (HORIZONTAL); 1"=60' (VERTICAL)



B
3
PROFILE
SECTION AT DIKE CREST LOW POINT
SCALE: 1"=300' (HORIZONTAL); 1"=60' (VERTICAL)

LEGEND

- ESTIMATED POND BOTTOM
- EXISTING PROFILE GRADE
- MAXIMUM POOL ELEVATION
- NORMAL OPERATING POOL ELEVATION

NOTE:

1. POND BOTTOM WAS ESTIMATED FROM HISTORICAL BORINGS AND FIELD INVESTIGATIONS PERFORMED BY GEOSYNTEC IN 2013 AND 2014.

0 300'
HORIZONTAL
SCALE IN FEET

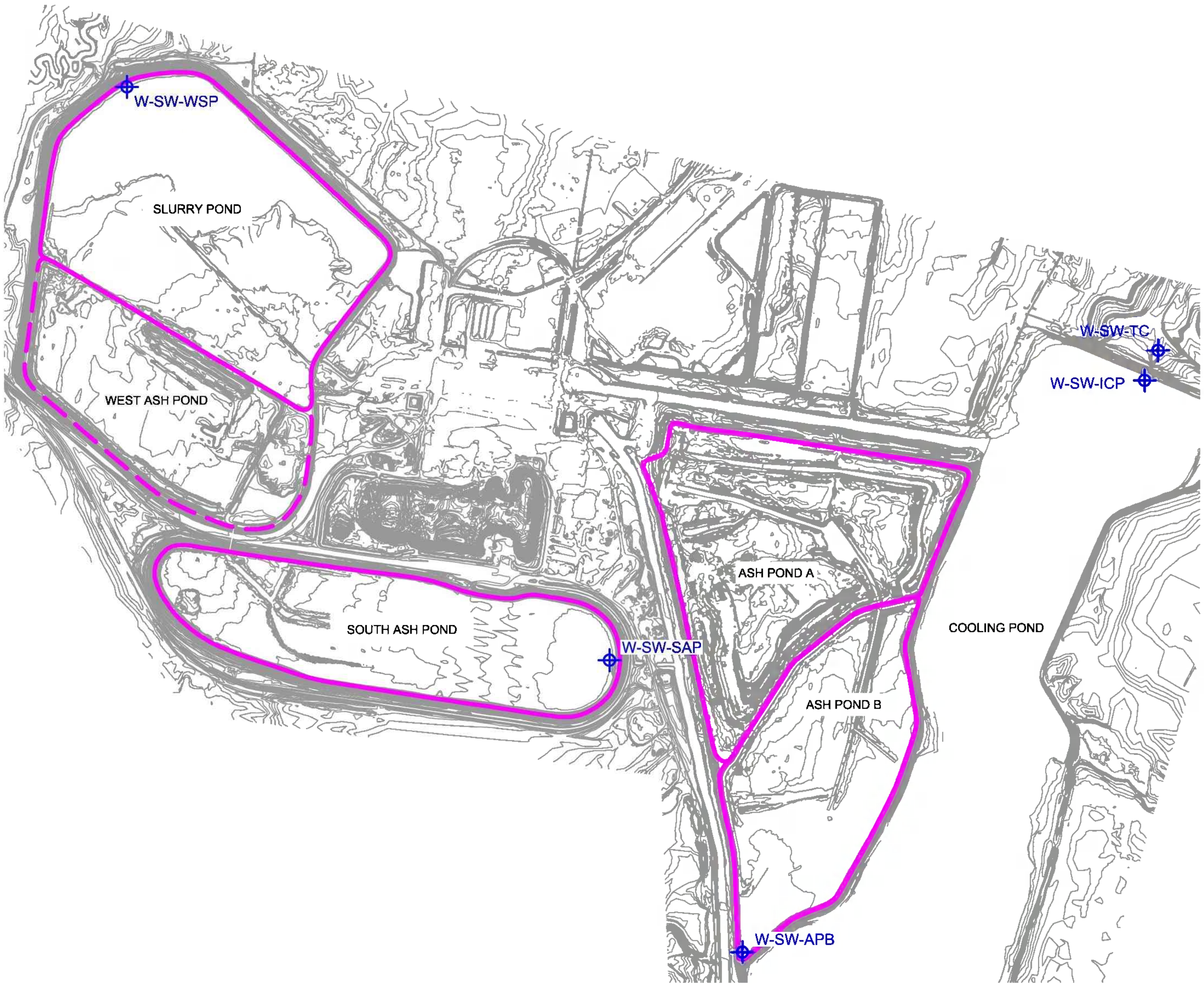
0 300'
VERTICAL
SCALE IN FEET

SANTEE COOPER
WINYAH GENERATING STATION
SLURRY POND 3 & 4
DIKE LOW POINT SECTIONS

Geosyntec consultants

PROJECT NO: GSC5242	JULY 2016	FIGURE 4

M:\S\SANTEE COOPER\SANTEE COOPER-WINYAH\0029-CONSTRUCTION HISTORY REPORT\FIGURES\W-0-SC-585-00-F0029-003



LEGEND

SURFACE IMPOUNDMENT DRAINAGE AREA BOUNDARY

CCR EXEMPT SURFACE IMPOUNDMENT WITH AREA DRAINAGE TO EXISTING SURFACE IMPOUNDMENT

NOTE:

1. TOPOGRAPHIC SURVEY PROVIDED BY THOMAS AND HUTTON (2011).

STAFF GAUGE LOCATIONS

Geosyntec consultants

PROJECT NO: GSC5242

JULY 2016

FIGURE 5

M:\S\SANTEE COOPER\SANTEE COOPER-WINYAH\0029-CONSTRUCTION HISTORY REPORT\FIGURES\W-0-SC-585-00-F0029-008

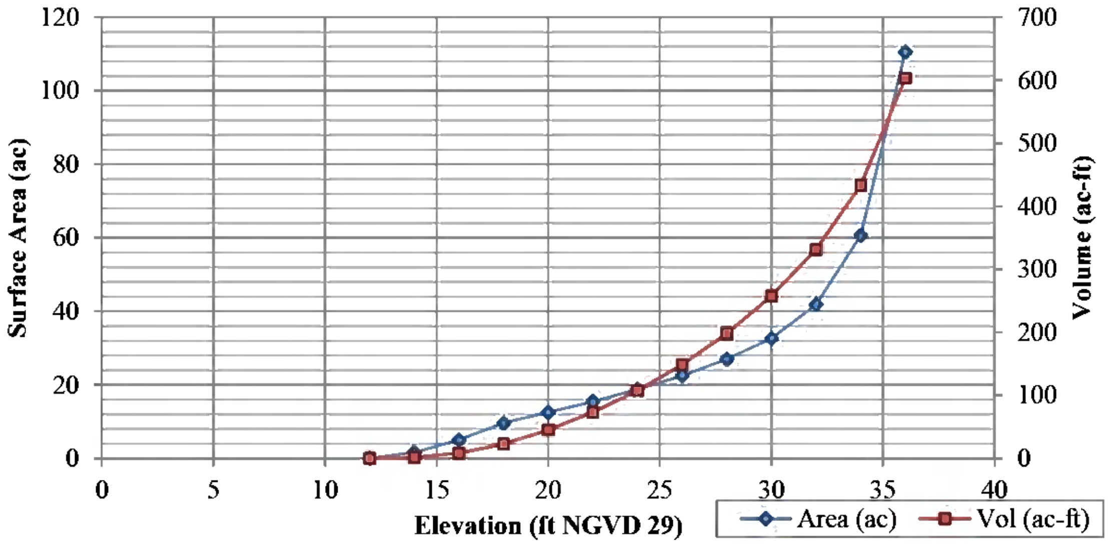


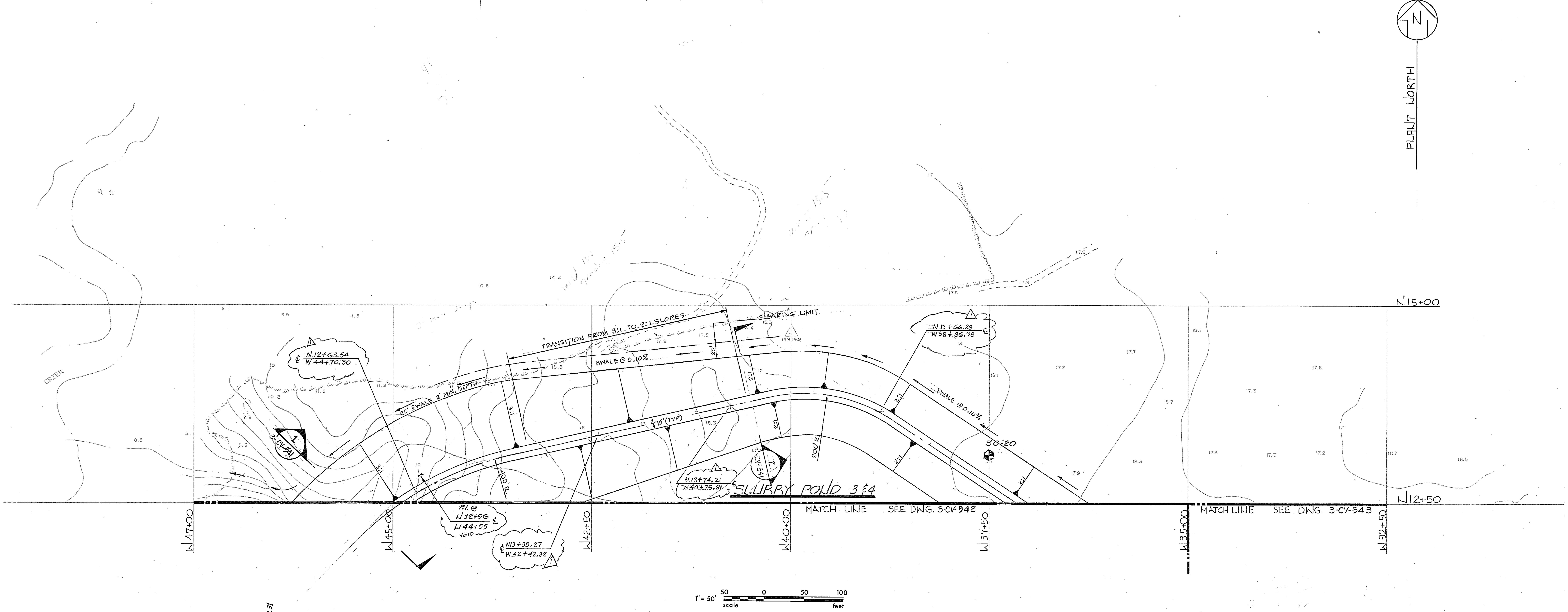
Figure 6. Area-Capacity Curve for the Slurry Pond 3&4

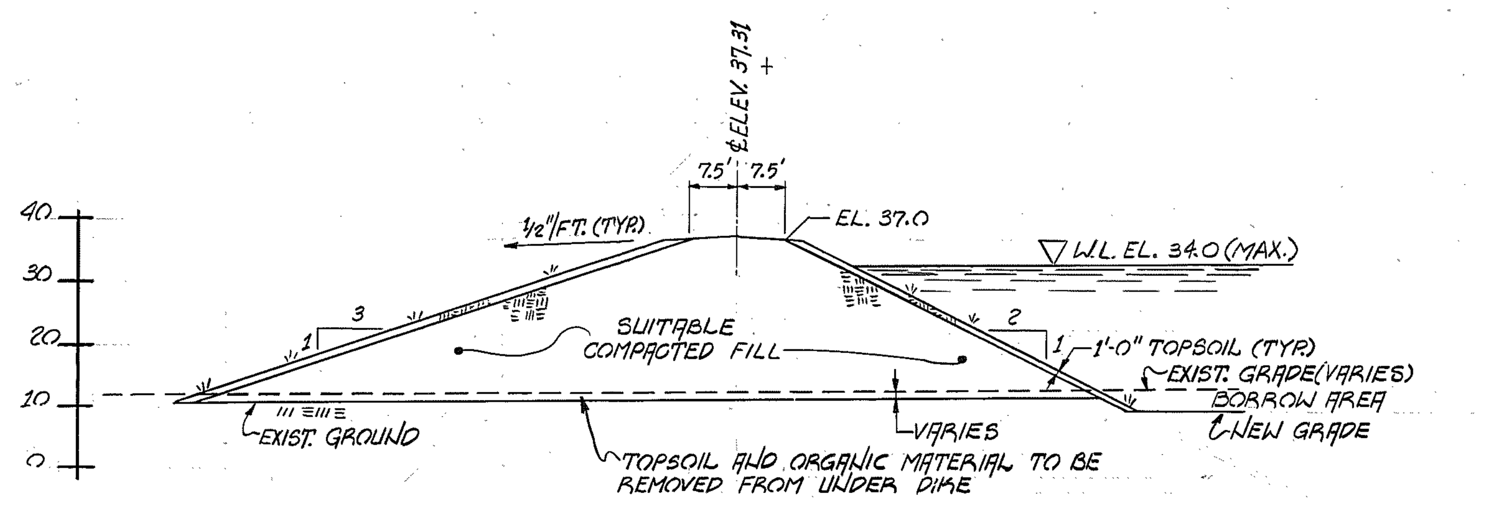
Notes:

1. Area-Capacity table and curve was developed considering both the Slurry Pond and West Ash Pond, as the two ponds are hydraulically connected. The surface area and volume for the West Ash Pond was computed considering the pond as an inactive, closed unit.
2. Slurry Pond water surface elevation is typically maintained at 18.0 ft NGVD 29.

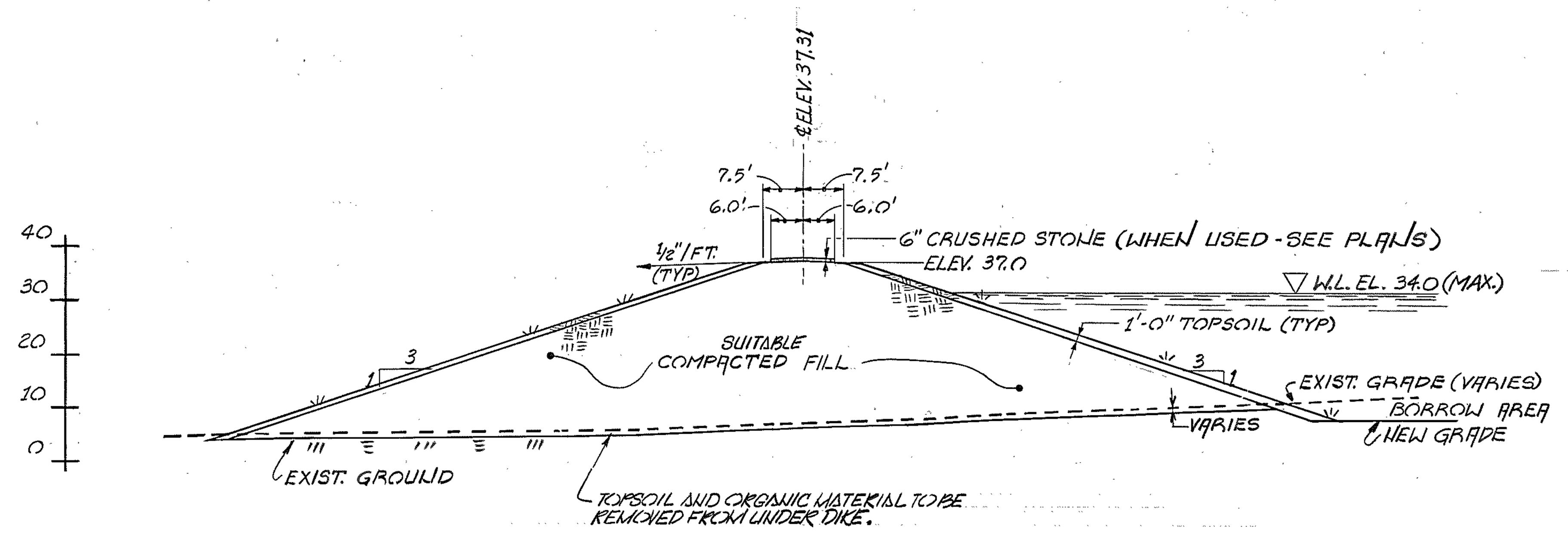
APPENDIX A

Lockwood-Greene Design Drawings



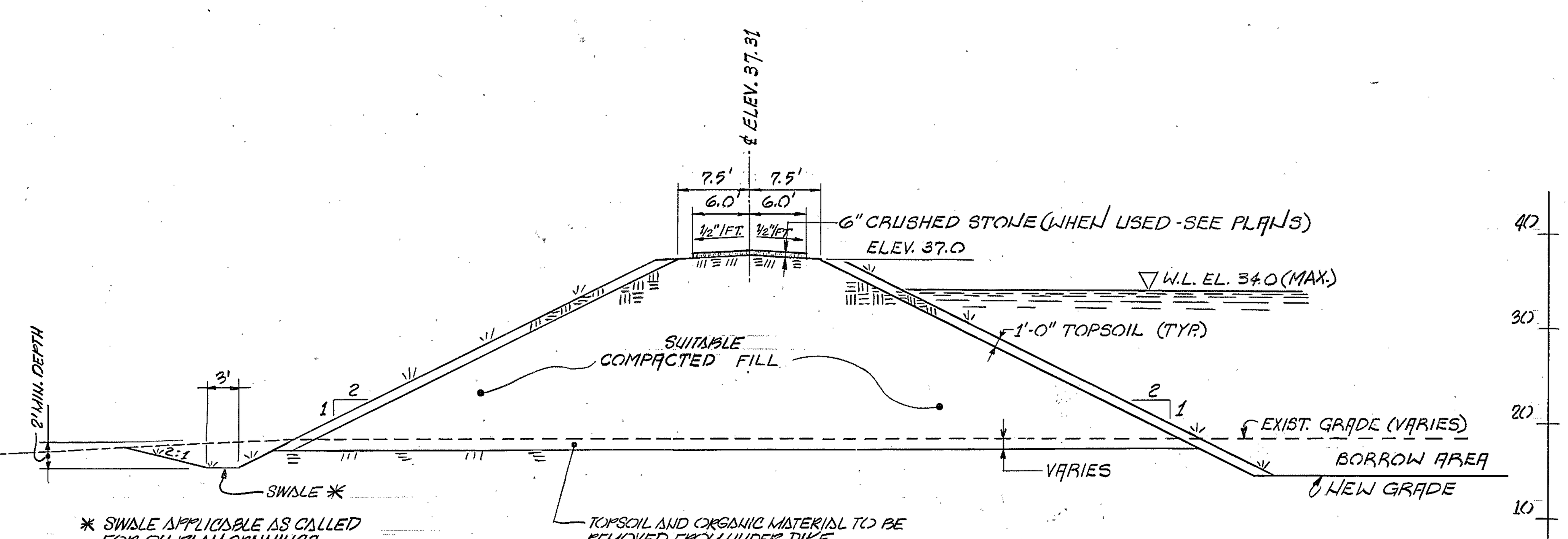


SECTION 3 3-CV-542
SCALE: 1" = 20'-0" 3-CV-541



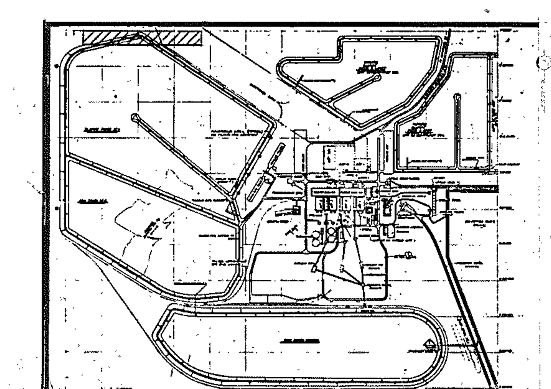
SECTION 1 3-CV-542, 544
SCALE: 1" = 20'-0" 3-CV-541

TYPICAL FOR DIKES WITH 3:1 SLOPES



SECTION 2 3-CV-542, 543, 545
SCALE: 1" = 10'-0" 3-CV-541

TYPICAL FOR DIKES WITH 2:1 SLOPES



KEY PLAN

DATUM NOTE:
ALL ELEVATIONS SHOWN ON THIS DRAWING ARE RELATIVE TO UNITS 3 AND 4 CONSTRUCTION BENCH MARKS ESTABLISHED BY ASSOCIATED SURVEYORS, INC. UNDER CONTRACT 3389-366.
TO DETERMINE TRUE ELEVATION RELATIVE TO MEAN SEA LEVEL UNIT 1 AND UNIT 2 VERTICAL ALIGNMENT, ADD 0.42' TO THE ELEVATION SHOWN.

SOUTH CAROLINA REGISTERED 5444 ENGINEER P. R. DURALIA

W3-300-00-0126

PKG	ISSUE	DATE	REV
386	Const	2-7-79	0
386	BID	10-6-78	0

no	date	REVISION	by	ck.	appr.
1	12-14-79	REVISED AS PER AS BUILT DRAWINGS	BKB		
0	10-6-78	ISSUED FOR BIDS-CONTR. 386	G	PRD	
B	6-23-78	ISSUED FOR OWNER'S REVIEW	G		
Δ	5-5-78	B&R REVIEW			

drawn by Calais
dept. ck. P.R. Duralia
dept. appr. Mel Glen
coord. ck.
p.m. appr. WJ
B&R appr. M. J. Peri 1/29/80

BURNS AND ROE, INC.
ENGINEERS AND CONSTRUCTORS
ORADELL, N. J. HEMPSTEAD, N. Y. LOS ANGELES, CALIF.

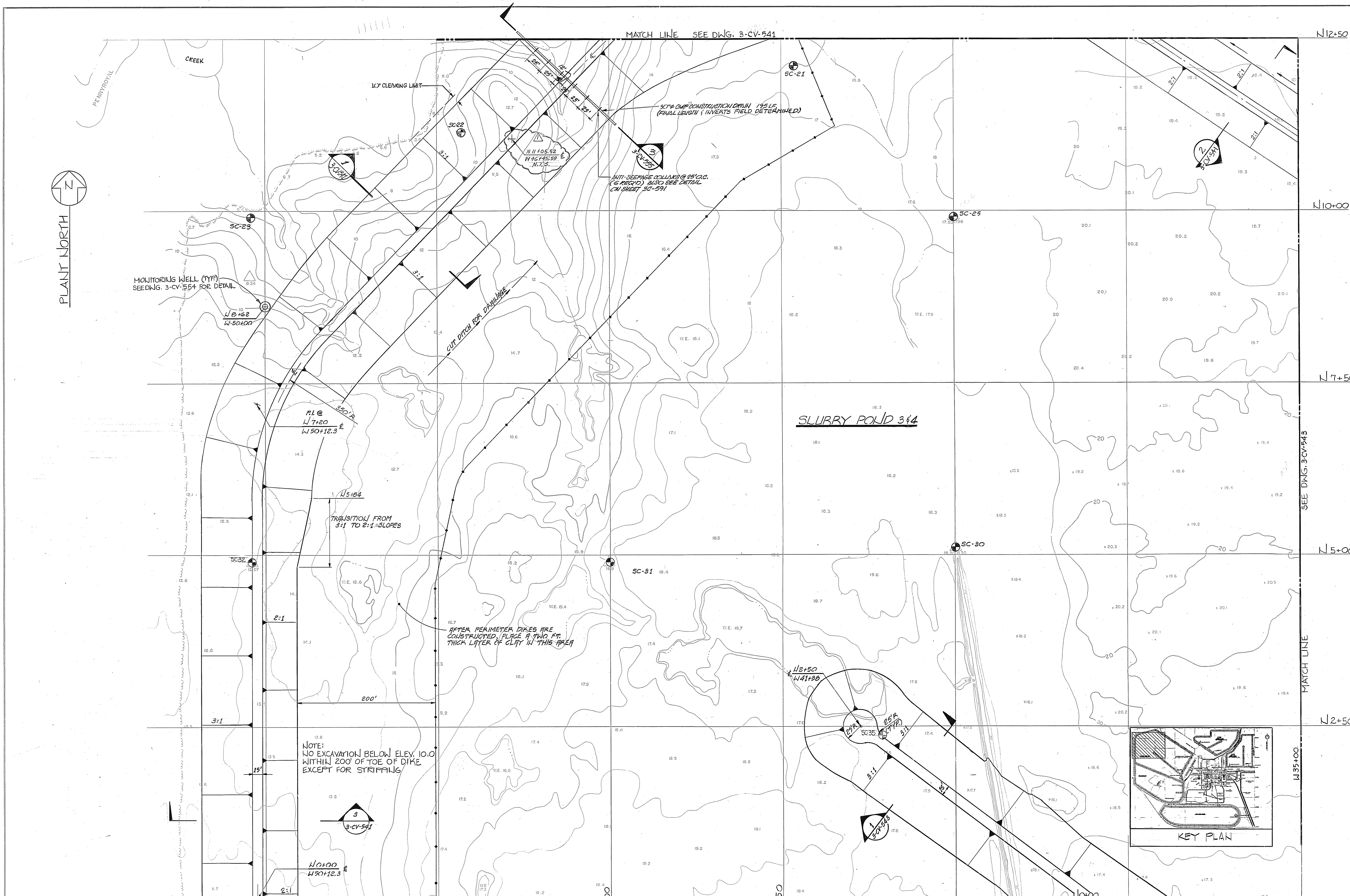
ATLANTA DALLAS NEW YORK
LOCKWOOD GREENE
ARCHITECTS · ENGINEERS
SPARTANBURG, S.C.

job name: SANTEE COOPER
WINYAH GENERATING STATION UNIT 3
GEORGETOWN, SOUTH CAROLINA

sheet title: PLAN - SLURRY POND 3 & 4
SHEET 1

scale: AS NOTED
date: 5-1-78
L-G JOB NO. 77043.01
B&R W.O. NO. 3389
dwg. no. 3-CV-541
rev. no. 1

POLYTRACE 033



DATUM NOTE:
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TO DETERMINE TRUE ELEVATION RELATIVE TO MEAN SEA LEVEL UNIT 1 AND UNIT 2 VERTICAL ALIGNMENT, ADD 0.42' TO THE ELEVATION SHOWN.

no	date	REVISION	by	ck.	appr.	no	date	REVISION	by	ck.	appr.
1	12-12-79	ADDED AS BUILT COORDINATES TO ℄ DIKE	BKB								
0	10-6-78	ISSUED FOR BIDS - CONTR 386	G	PRD							
B	6-23-78	ISSUED FOR OWNER'S REVIEW	CW/Cg								
A	5-5-78	B&R REVIEW									

drawn by G
dept. ck. P.R. DURALIA
dept. appr. Fred Glen
coord. ck.
p.m. appr. WS
B&R appr. M.J. Peri 1/29/80

BURNS AND ROE, INC.
ENGINEERS AND CONSTRUCTORS
ORADELL, N. J. HEMPSTEAD, N. Y. LOS ANGELES, CALIF.

1" = 50' scale 50 0 50 100 feet

ATLANTA DALLAS NEW YORK
LOCKWOOD GREENE
ARCHITECTS · ENGINEERS
SPARTANBURG, S.C.

job name: SANTEE COOPER
WINYAH GENERATING STATION UNIT 3
GEORGETOWN, SOUTH CAROLINA

sheet title: PLAN - SLURRY POND 3 & 4
SHEET 2

scale: AS NOTED
date: 5-1-78
L-G JOB NO. 77043.01
B&R W.O. NO. 3389
dwg. no. 3-CV-542
rev. 1

SOUTH CAROLINA REGISTERED 5444 ENGINEER P. R. DURALIA

W3-300-00-0127

PKG	ISSUE	DATE	REV
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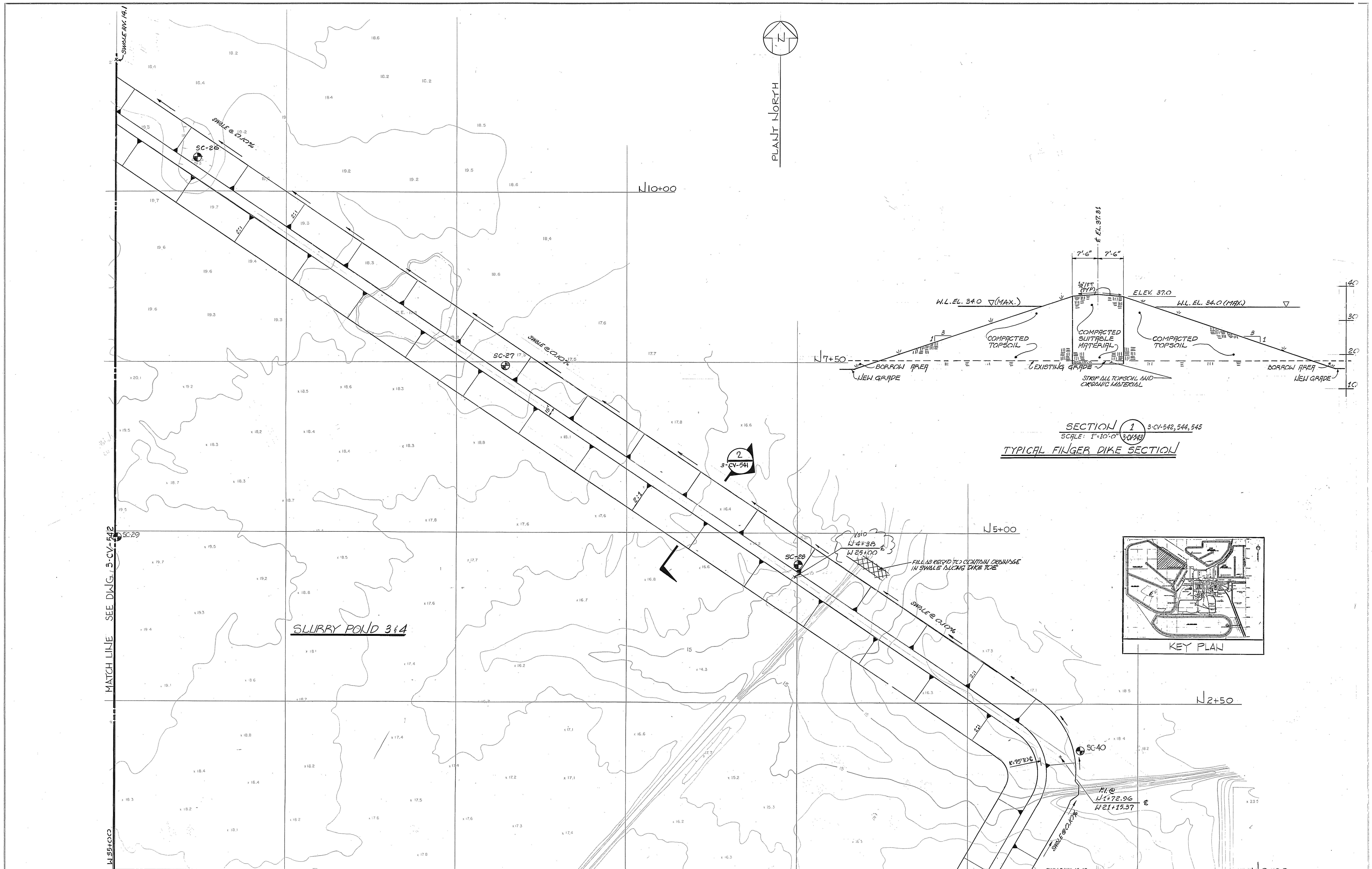
386	BID	10-6-78	0

POLYTRACE 033



DATUM NOTE:
ALL ELEVATIONS SHOWN ON THIS DRAWING ARE RELATIVE TO UNITS 3 AND 4 CONSTRUCTION BENCH MARKS ESTABLISHED BY ASSOCIATED SURVEYORS, INC. UNDER CONTRACT 3389-366.
TO DETERMINE TRUE ELEVATION RELATIVE TO MEAN SEA LEVEL UNIT 1 AND UNIT 2 VERTICAL ALIGNMENT, ADD 0.42' TO THE ELEVATION SHOWN.

1" = 50' — scale 50 0 50 100 feet

SOUTH CAROLINA REGISTERED 5444 ENGINEER P. R. DURALIA

W3-300-00-0128

386	Const	2-7-79	C
386	BID	10-6-78	C
PKG.	ISSUE	DATE	REV

no	date	REVISION	by	ck.	appr.
1	12-14-79	REVISED AS PER AS BUILT DRAWINGS	BKB		
0	10-6-78	ISSUED FOR BIDS - CONTR. 386	Co	PRD	
B	6-23-78	ISSUED FOR OWNER'S REVIEW	CW/Co		
A	5-5-78	B&R REVIEW			

drawn by Co
dept. ck. P.R. Duralia
dept. appr. Fred Glen
coord. ck.
p.m. appr. WY
B&R appr. M. J. Pen 1/29/80

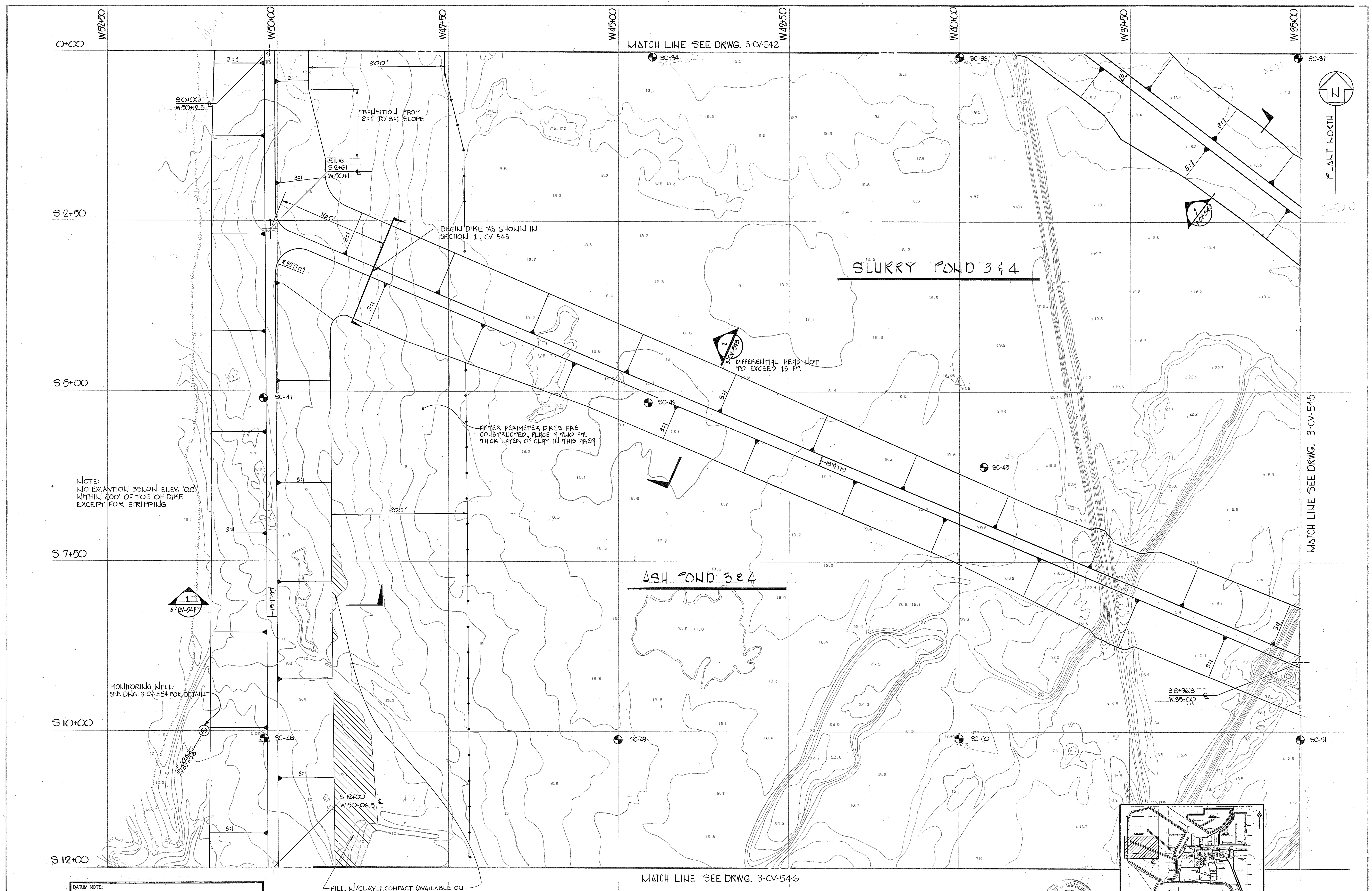
BURNS AND ROE, INC.
ENGINEERS AND CONSTRUCTORS
ORADELL, N. J. HEMPSTEAD, N. Y. LOS ANGELES, CALIF.

ATLANTA DALLAS NEW YORK
LOCKWOOD GREENE
ARCHITECTS · ENGINEERS
SPARTANBURG, S.C.

job name: SANTEE COOPER
WINYAH GENERATING STATION UNIT 3
GEORGETOWN, SOUTH CAROLINA

sheet title: PLAN - SLURRY POND 3 & 4
SHEET 3

scale: AS NOTED
date: 5-1-78
L-G JOB NO. 77043.01
B&R W.O. NO. 3389
dwg. no. 3-CV-543
rev no 1



DATUM NOTE:
ALL ELEVATIONS SHOWN ON THIS DRAWING ARE RELATIVE TO UNITS 3 AND 4 CONSTRUCTION BENCH MARKS ESTABLISHED BY ASSOCIATED SURVEYORS, INC. UNDER CONTRACT 3389-366.
TO DETERMINE TRUE ELEVATION RELATIVE TO MEAN SEA LEVEL UNIT 1 AND UNIT 2 VERTICAL ALIGNMENT, ADD 0.42' TO THE ELEVATION SHOWN.

SOUTH CAROLINA REGISTERED 5444 ENGINEER P. R. DURALIA

W3-300-00-0129

PKG	ISSUE	DATE	REV
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386	BID	10-6-78	0

BURNS AND ROE, INC.
ENGINEERS AND CONSTRUCTORS
ORADELL, N. J. HEMPSTEAD, N. Y. LOS ANGELES, CALIF.

1" = 50' — 50 0 50 100 scale feet

no	date	REVISION	by	ck.	appr.
0	10-6-78	ISSUED FOR BIDS - CONTR 386	G CW	PRD	
B	6-23-78	ISSUED FOR OWNER'S REVIEW			
A	5-5-78	B&R REVIEW			

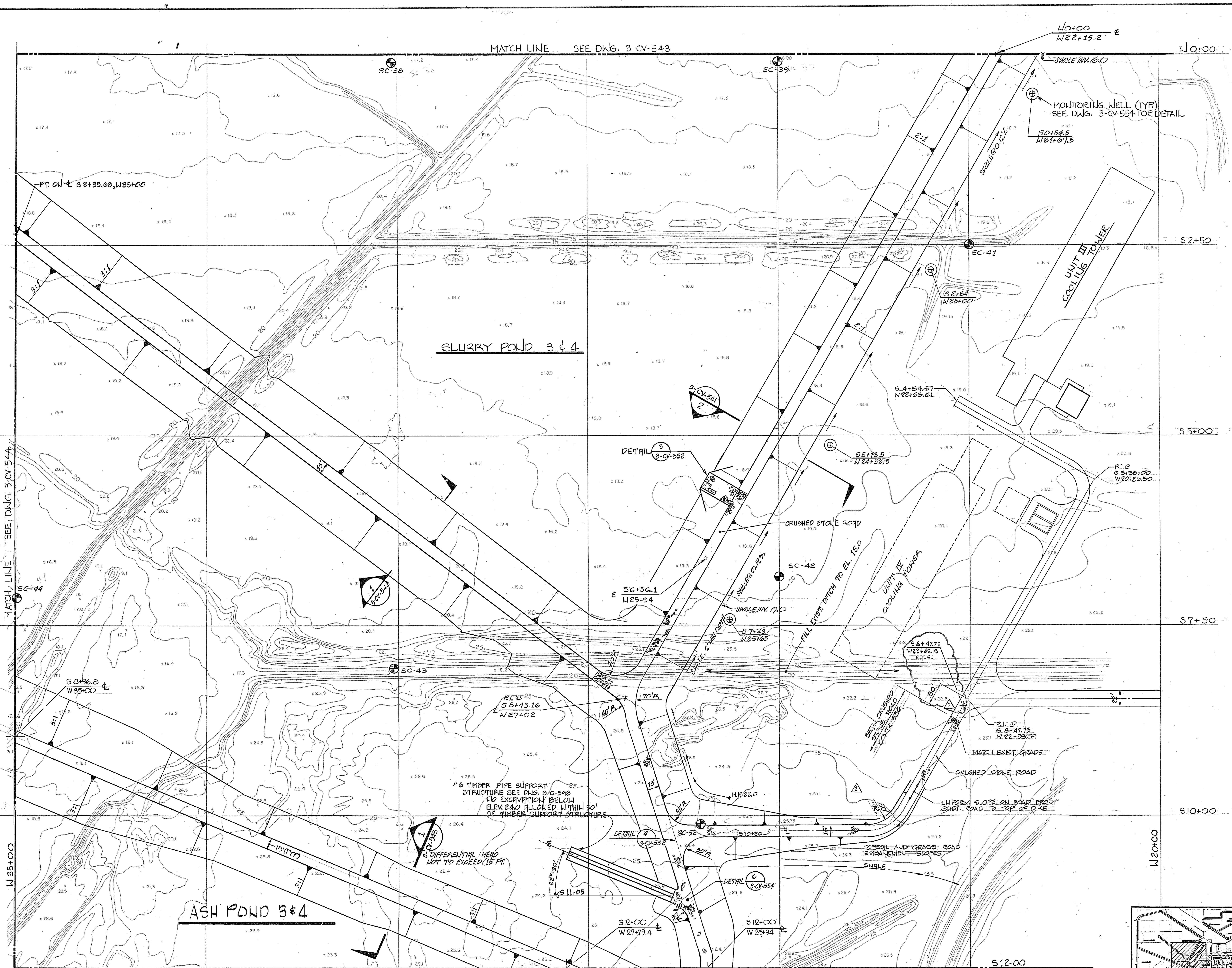
drawn by B TURNER III
dept. ck. P.R. Duralia
dept. appr. Fred Klew
coord. ck.
p.m. appr.
B&R appr. M. J. Bin 1/29/80

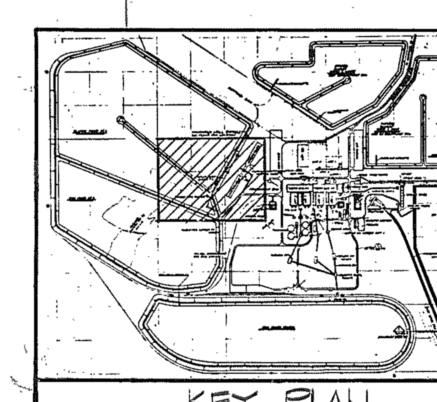
ATLANTA DALLAS NEW YORK
LOCKWOOD GREENE
ARCHITECTS · ENGINEERS
SPARTANBURG, S.C.

job name: SANTEE COOPER
WINYAH GENERATING STATION UNIT 3
GEORGETOWN, SOUTH CAROLINA

sheet title: PLAN - ASH POND 3 & 4
SHEET 1

scale: AS NOTED
L-G JOB NO. 77043.01
B&R W.O. NO. 3389
date: 5-1-78
dwg. no. 3-CV-544
rev. 0





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TO DETERMINE TRUE ELEVATION RELATIVE TO MEAN SEA LEVEL UNIT 1 AND UNIT 2 VERTICAL ALIGNMENT, ADD 0.42' TO THE ELEVATION SHOWN.

no	date	REVISION	by	ck.	appr.
2	12-12-79	ADDED AS BUILT COORDINATE	BKB		
1	2-7-79	Revised road - issued for Const. Contr. 386	G	PRD	
0	10-6-78	ISSUED FOR BIDS - CONTR 386	G	PRD	
B	6-23-78	ISSUED FOR OWNER'S REVIEW			
A	5-5-78	B&R REVIEW			

W3-300-00-0130			
386	Const	2-7-79	1
386	BID	10-6-78	0
PKG	ISSUE	DATE	REV

drawn by TURNER, WALKER, CALDIS
dept. ck. P.R. DURALIA
dept. appr.
coord. ck.
p.m. appr.
B&R appr. 1/29/80

BURNS AND ROE, INC.
ENGINEERS AND CONSTRUCTORS
ORADELL, N. J. HEMPSTEAD, N. Y. LOS ANGELES, CALIF.

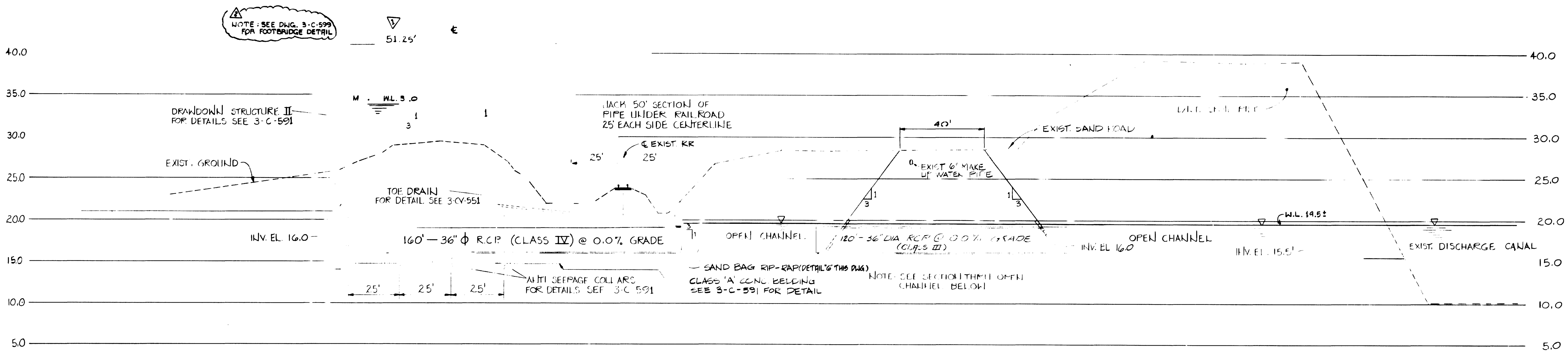
ATLANTA DALLAS NEW YORK
LOCKWOOD GREENE
ARCHITECTS · ENGINEERS
SPARTANBURG, S.C.

1" = 50' scale 50 0 50 100 feet

job name: SANTEE COOPER
WINYAH GENERATING STATION UNIT 3
GEORGETOWN, SOUTH CAROLINA

sheet title: PLAN - ASH POND 3 & 4
SHEET 2

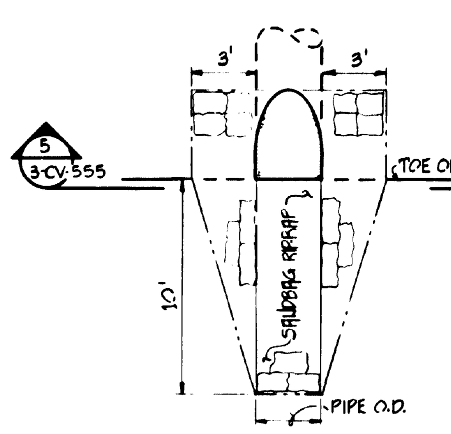
scale: AS NOTED
date: 5-1-78
L-G JOB NO. 77043.01
B&R W.O. NO. 3389
dwg. no. 3-CV-545
rev no 2



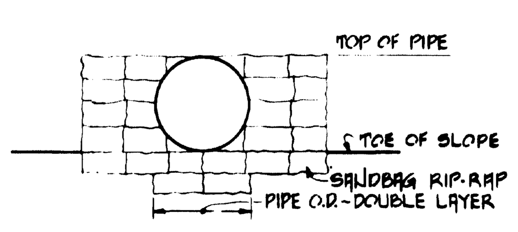
3-CV-550 (1) SECTION
3-CV-555 SCALE HORIZ. 1" = 20' VERT. 1" = 5'

NOTE:
1. "O" RING JOINTS PER SPECIFICATION SECTION 02510 ARE REQUIRED ON CLASS IV CONCRETE PIPE.
2. SEE DETAIL 6, DWG. 3-CV-551 FOR PIPE INSTALLATION UNDER DIKES.

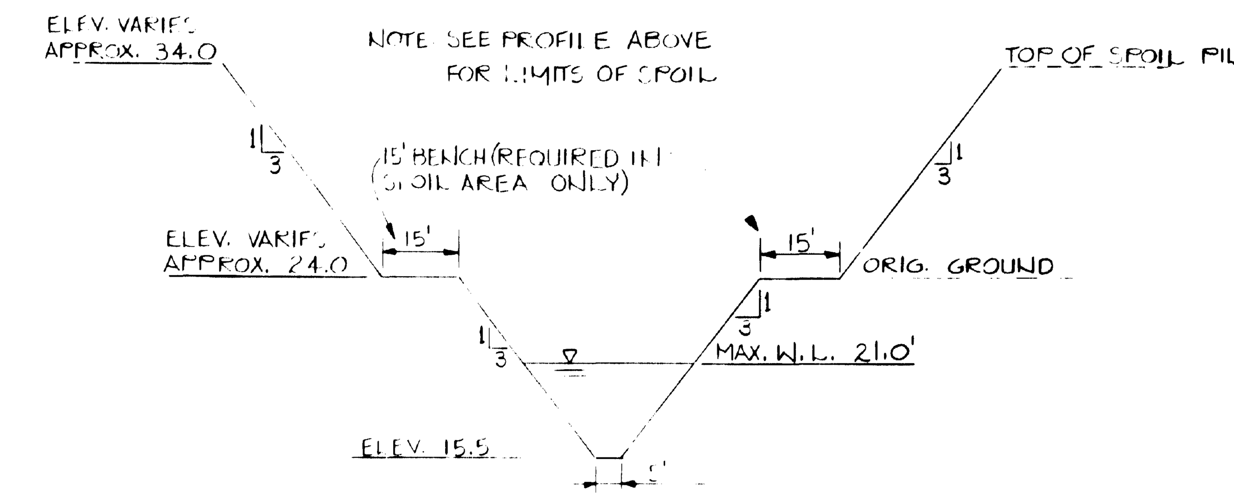
NOTE:
SANDBAGS SHALL BE FILLED WITH A MIXTURE OF 5 PARTS SAND AND 1 PART CEMENT BY WEIGHT.



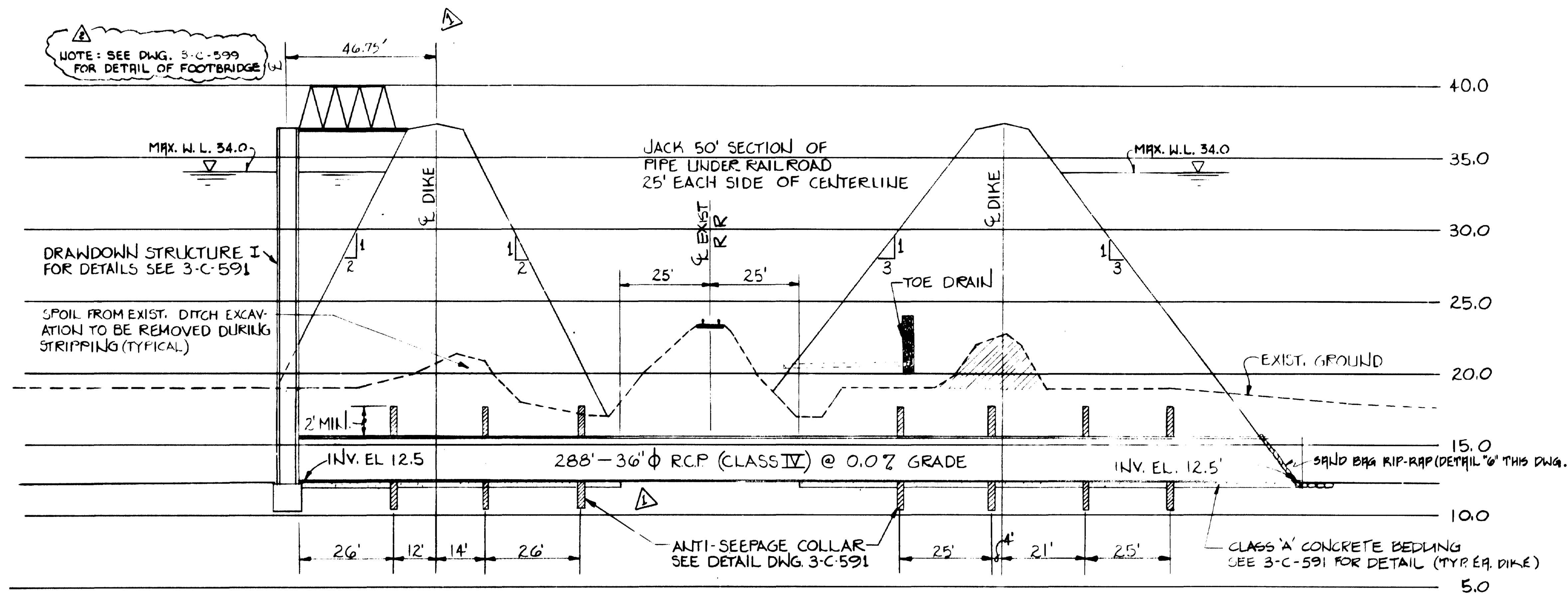
DETAIL (6) N.T.S. 3-CV-555



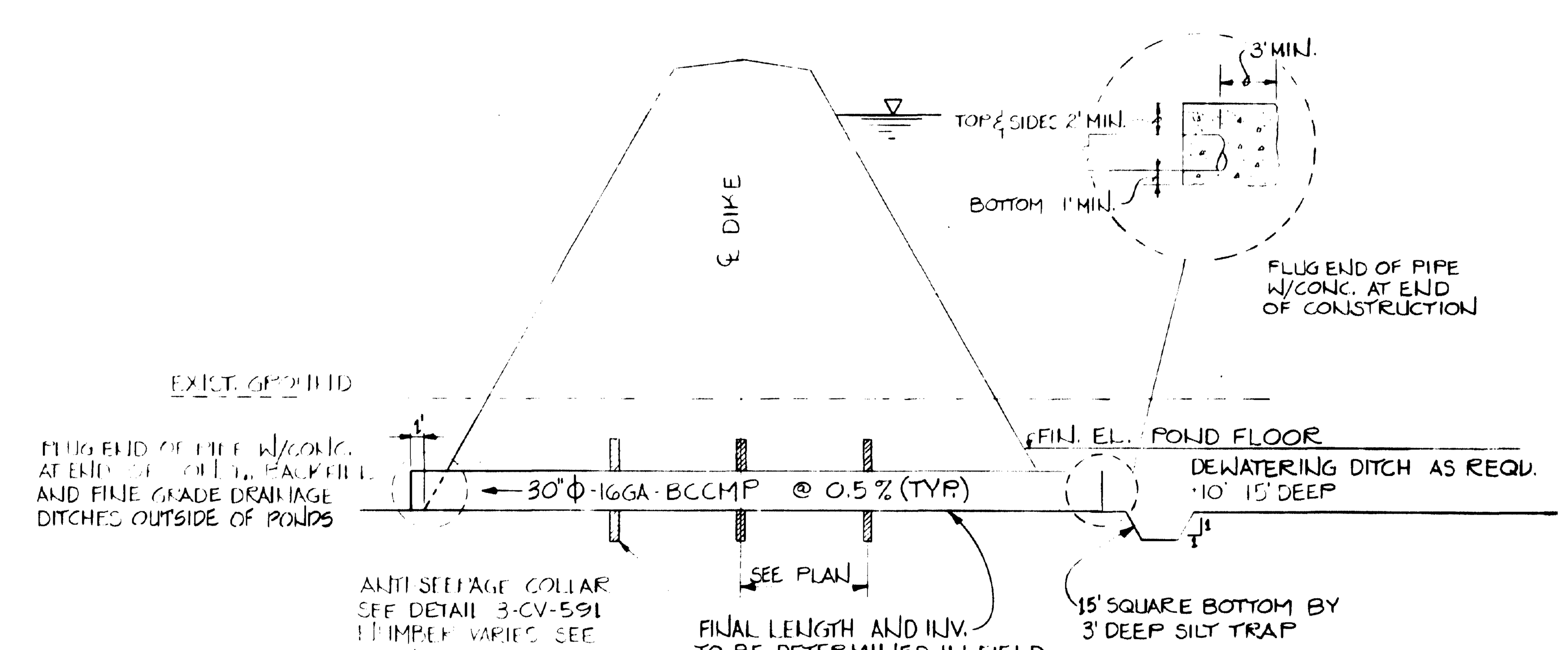
SECTION (5) N.T.S. 3-CV-555



(4) TYPICAL SECTION THRU OPEN CHANNEL
3-CV-555 SCALE HORIZ. 1" = 20', VERT. 1" = 5'



3-CV-547, 3-CV-549 (2) SECTION
3-CV-555 SCALE: HORIZ. 1" = 20' VERT. 1" = 5'



3-CV-542
3-CV-546
3-CV-549
(3) TYPICAL CONSTRUCTION DRAINAGE OUTLET PIPE
3-CV-555 NO SCALE

DATUM NOTE:
ALL ELEVATIONS SHOWN ON THIS DRAWING ARE RELATIVE TO UNITS 3 AND 4 CONSTRUCTION BENCH MARKS ESTABLISHED BY ASSOCIATED SURVEYORS, INC. UNDER CONTRACT 3389-366.
TO DETERMINE TRUE ELEVATION RELATIVE TO MEAN SEA LEVEL UNIT 1 ADD 0.42' TO THE ELEVATION SHOWN.

BURNS AND ROE, INC.
ENGINEERS AND CONSTRUCTORS
ORADELL, N. J. HEMPSTEAD, N. Y. LOS ANGELES, CALIF.

no.	date	REVISION	by	ck.	appr.	no.	date	REVISION	by	ck.

drawn by / dept. ck. / dept. appr. / coord. ck. / p.m. appr. / B&R appr.

ATLANTA DALLAS NEW YORK
LOCKWOOD GREENE
ARCHITECTS · ENGINEERS
SPARTANBURG, S.C.

job name: SANTEE COOPER, WINYAH GENERATING STATION UNIT 3, GEORGETOWN, SOUTH CAROLINA

sheet title: MISCELLANEOUS SECTIONS SHEET 2

386	CON T 8-7-	
386	BID 10-6-78	0
PKG.	ISSUE	DATE

scale: AS NOTED
L-G JOB NO. 77043.01
B&R W.O. NO. 3389
date: 5-1-78
dwg. no.: 3-CV-555
rev. 2

APPENDIX B

Dike Inspection Procedures and Inspection Checklist

4.10.2. The individual inspecting the dike(s) should inspect the crest, the slopes, and the area downstream, and complete the form, noting issues as follows:

Leaks

Any leaks on the dry side of the dike should be described such as the approximate quantity of flow, whether the water is discolored and the exact location of the leak. If a leak is found, Generation Technical Services should be notified immediately so that the appropriate steps to control the situation, and notify agencies if necessary, can be taken.

Seepage

Seepage on the dry side of the dike can be an indication of changes or shifts in the dike structure and possible future leaks. Any seepage should be described in the report.

Wet Spots

The dikes should be inspected when it has been dry for a period of time. Any areas on the dikes where the soil appears damp compared to the surrounding soil should be noted. This could be evidence of seepage.

Aquatic Weed Growth

Any aquatic weeds or wetland weeds, such as cattails, mosses, and algae, seen around the dry side of dikes could signify seepage from the ponds. If wetlands are downstream of the toe on the dry side of the dike, then the aquatic weed growth will not necessarily be a sign of dike seepage and does not need to be included in the report.

Trees and Woody Vegetation

Trees and woody vegetation can obscure problems, provide habitat for burrowing animals, and prevent growth of a protective grass cover. Trees growing along the downstream slope and near the toe of the downstream slope are a special concern and should be noted so maintenance or repair can be made.

Erosion

Any signs of erosion should be included in the report.

Depressions or Ruts

Depressions and ruts can hold water and make maintenance mowing more difficult or can weaken the soil and cause localized sloughing of the slope. These should be filled and graded to drain. Re-establish vegetation if needed.

Water Level in the Pond
Pond levels should be inspected and recorded to be sure freeboard is adequate and the dikes will not be overtopped.

Overall Condition
The overall condition of the dike should be described. The back of the report form can be used to continue any comments or descriptions.

Excessive Sediment Buildup
Stormwater ponds shall be inspected for excessive sediment buildup. Buildup shall be periodically cleaned out of stormwater ponds and properly disposed of.

Discharges and Pipe Crossings
All outlets of hydraulic structures which pass through a dike or abutment or underneath the base of a surface impoundment should be inspected for abnormal discoloration, flow, or discharge of debris or sediment which could indicate a leak. In addition, all pipe crossings, whether through, under, or over a dike, should be inspected.

4.10.3. Driving Inspections should involve a view of both sides of the dike and around the toe of the dike exterior looking up whenever possible. The inspector should walk to evaluate pipe crossings, the area around discharge structures, wet areas, or areas demonstrating erosion.

4.10.4. Inspections by Qualified Dam Safety Engineer shall include participation by station personnel. Documentation shall be as appropriate and shall be provided for station files. When noted, inspections should include internal inspections of principal outlet structures. Consideration should be given to performing the annual walking inspection coincidentally with the Dam Safety Engineer's inspection when required annually.

4.10.5. If any issues are noted, a map or drawing of the dike/pond(s) inspected should be attached to the report form. Sketches of the ponds at each station are available in Appendix E, FORMS. Significant issues shall be immediately communicated to supervision.

4.10.6. Work orders should be written to address any problems noted on the reports. The person performing the inspections is responsible for the writing and follow-up on the work request.

4.10.7. The completed report forms should be reviewed by management, and reviewed and approved by the Station Manager. Copies should be kept in the station's files and sent to Generation Technical Services.

GENERATION - TECHNICAL SERVICES
IMPOUNDMENT INSPECTION REPORT: CCR
WINYAH STATION

SLURRY POND (Unit 3 & 4)

DATE: ____________
INSPECTOR: ____________ **SIGNATURE:** ____________
REVIEWED BY: Station Manager **SIGNATURE:** ____________

FEATURE	OK √	LOCATION & COMMENTS
1. Crest		
Alignment (H)		
Settlement (V)		
Cracks (Measure Dimensions)		
Excessive Vegetation		
Burrows or Ruts		
2. Slopes		
Seepage (Flow, lush grass, clarity)		
Erosion gullies		
Slides (cracks, bulges, scarps)		
Vegetation (trees present, no grass)		Vegetated slopes not to exceed 6 inches
Animal burrows		
Rip-rap displacement		
Freeboard Adequate		
Settlement/Depression		
3. Area Downstream		
Seepage (Flow, lush grass, clarity)		
Boils		
Drainage Ditches		
Drainage Pipes		
Vegetation (trees present, no grass)		
4. Outlet Works		
Inspect Plastic, Concrete, Metal, and Wood		
Flowing as expected from outlet?		
No abnormal flow, discoloration, debris, or sediment?		
5. Crossings		
No flow, settlement, erosion, voids, or sediment loss visible at pipe crossings (Both sides of dike and crest)		View stormwater pump crossing (northern corner). View temporary pump structure (northern corner), and line to stormwater area (perimeter of pond and crossing on eastern corner). View stormwater pumps by cooling tower to ensure water from temporary pump structure is reaching this point. View two major crossings on eastern boundary north of finger dike and route along perimeter of pond. View two major crossings on eastern boundary south of finger dike and route along perimeter of pond.
6. Overall Condition		
Note any other issues		New pipes?
7. Instrumentation		
Staff gauge reading as expected?		Record reading if applicable

NOTE: SHOW LOCATION OF PROBLEM AREAS ON AN ATTACHED DRAWING and DESCRIBE DEFICIENCY
S I M P L E - Sketch, Inspect, Measure, Photograph, Locate, Engage a Qualified Engineer if necessary

Copies: Station Files (original)
Operating Record - ECM
Generation Technical Services - Tim Swicord