

INITIAL STRUCTURAL STABILITY ASSESSMENT

40 CFR 257.73 (d)

Ash Pond

Kammer Site

Moundsville, West Virginia

May, 2026

Prepared for: Franklin Realty

Prepared by: American Electric Power Service Corporation

1 Riverside Plaza

Columbus, OH 43215



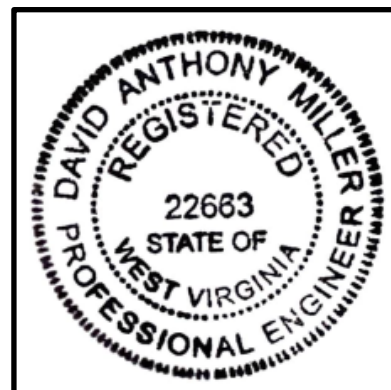
Kammer Ash Pond

Initial Structural Stability Assessment

PREPARED BY _____ DATE _____
Dan Murphy, P.E.

REVIEWED BY _____ DATE _____
Blake Arthur, P.E.

APPROVED BY David Anthony Miller DATE 04.23.2026
David Anthony Miller, P.E.
Director- Ash Management Services



I certify to the best of my knowledge, information, and belief that the information contained in this structural stability assessment meets the requirements of 40 CFR § 257.73(d)

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1.0 OBJECTIVE

The “Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Legacy CCR Surface Impoundments”, 89 Fed. Reg. 38950 (May 8, 2024) (amending 40 C.F.R. §257) requires owners and operators of facilities with a legacy coal combustion residual (CCR) surface impoundment to prepare an initial structural stability assessment document for each legacy CCR surface impoundment at the facility.

The Ash Pond at the Kammer Site is subjected to this rule.

2.0 DESCRIPTION OF THE CCR UNIT

The Former Kammer Site is located at 7897 Energy Road, Moundsville West Virginia. The latitude/longitude of the facility is: 39°50'25"N / 80°49'22" W. The Ash Pond is approximately 20 acres. The Kammer Power Plant was placed in service in 1958 and subsequently retired in May of 2015.

The Ash Pond is located near the Ohio River on the south side of the plant property. The Ash Pond is created by dikes on three sides of the impoundment. The Ash Pond abuts a 345 kV substation on the northern side. The exterior slopes are generally 2 horizontal: 1 vertical or flatter while the interior slopes are generally 1.75 horizontal on 1 vertical or flatter. The crest of the dike is at elevation 640 ft-msl and the bottom of the pond is noted as elevation 612.5 ft-msl on record drawings. Original grades varied across the Ash Pond site between 625 and 638 ft-msl.

In its current configuration, the Ash Pond is separated into a northern portion and a southern portion by a splitter dike for controlling flow and to create a working surface for excavation equipment. The splitter dike has a concrete flume at the eastern end of the dike which allows water to pass to the southern portion of the pond.

The discharge structure is a pipe and riser type structure located at the southern end of the Ash Pond. The riser structure is made of reinforced concrete and sloped to match the interior slope of the dike. The outlet pipe is a 36” concrete pipe that outlets 10 feet below the navigational pool of Hanibal Lock and Dam. The pond water surface elevation is controlled by stop logs that are inserted into groove on the riser structure. The main inflow into the Ash Pond would have come from the north when the plant was operational.

3.0 STRUCTURAL STABILITY ASSESSMENT 257.73(d)

The Initial Structural Stability Assessment was prepared by Civil and Environmental Consultants, Inc. and is included as Attachment A.

Based on the findings and general assessment in the Initial Structural Stability Assessment, the Kammer Ash Pond meets the requirements of 40 CFR 257.73 (d).

ATTACHMENT A

Initial Structural Stability Assessment Report



February 27, 2026

Mr. Dan Murphy – Engineering Principal
American Electric Power
8500 Smiths Mill Road
New Albany, OH 43054
dsmurphy1@aep.com

Dear Mr. Murphy:

Subject: Initial Structural Stability Assessment Report
AEP Kammer Plant
Moundsville, West Virginia
CEC Project 345-817-0100

Civil & Environmental Consultants, Inc. (CEC), presents our Initial Structural Stability (ISS) Assessment Report for the Ash Pond located within American Electric Power (AEP) Kammer Plant (Kammer) in Moundsville, West Virginia. This report presents a summary of our site reconnaissance and general assessment of the Ash Pond in accordance with the requirements set forth for legacy Coal Combustion Residual (CCR) impoundments as stated in the Code of Federal Regulations (CFR) §257.73(d).

The preparation of this report was performed in general accordance with the Consulting Contract 20007918 Blanket Contract 296070x103 between American Electric Power and CEC dated 11/3/2009, and AEP's authorized Change Order with CEC's Confirming Proposal for Professional Services dated September 5, 2025 under AEP's Purchase Order No. 81411574.

CEC appreciates this opportunity to provide continued services to AEP for Kammer. We look forward to serving as your geotechnical and environmental engineering consultant for the Kammer Ash Pond. Please contact us if you have any questions regarding the information presented in this report.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.,

John B. Gronnett IV, P.E.
Project Manager

Anthony P. Amicon, P.E.
Vice President

Attachments: Initial Structural Stability Assessment Report

INITIAL STRUCTURAL STABILITY ASSESSMENT REPORT

**AEP KAMMER PLANT
MOUNDSVILLE, WEST VIRGINIA**

Prepared for:

**AMERICAN ELECTRIC POWER
1 RIVERSIDE PLAZA
COLUMBUS, OHIO 43215**

Prepared by:

**CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
CINCINNATI, OHIO**

CEC Project 345-817-0100

February 27, 2026



Civil & Environmental Consultants, Inc.

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ENGINEER'S VERIFICATION STATEMENT

I hereby certify that the Initial Structural Stability Assessment has been performed in accordance with the requirements outlined in the Code of Federal Regulations (CFR) §257.73(d).



Anthony P. Amicon, P.E.
Civil & Environmental Consultants, Inc.

1.0 PURPOSE

The purpose of this report is to evaluate the American Electric Power (AEP) Kammer Plant legacy Ash Pond in accordance with the requirements of CFR §257.73(d).

In specific, CFR §257.73(d) states that:

(1) The owner or operator of the CCR unit must conduct initial and periodic structural stability assessments and document whether the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices for the maximum volume of CCR and CCR wastewater which can be impounded therein. The assessment must, at a minimum, document whether the CCR unit has been designed, constructed, operated, and maintained with:

(i) Stable foundations and abutments;

(ii) Adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown;

(iii) Dikes mechanically compacted to a density sufficient to withstand the range of loading conditions in the CCR unit;

(iv) Vegetated slopes of dikes and surrounding areas not to exceed a height of six inches above the slope of the dike, except for slopes which have an alternate form or forms of slope protection;

(v) A single spillway or a combination of spillways configured as specified in [paragraph \(d\)\(1\)\(v\)\(A\)](#) of this section. The combined capacity of all spillways must be designed, constructed, operated, and maintained to adequately manage flow during and following the peak discharge from the event specified in [paragraph \(d\)\(1\)\(v\)\(B\)](#) of this section.

(A) All spillways must be either:

(1) Of non-erodible construction and designed to carry sustained flows; or

(2) Earth- or grass-lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.

(B) The combined capacity of all spillways must adequately manage flow during and following the peak discharge from a:

(1) Probable maximum flood (PMF) for a high hazard potential CCR surface impoundment; or

(2) 1000-year flood for a significant hazard potential CCR surface impoundment; or

(3) 100-year flood for a low hazard potential CCR surface impoundment.

(vi) Hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit that maintain structural integrity and are free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris which may negatively affect the operation of the hydraulic structure; and

(vii) For CCR units with downstream slopes which can be inundated by the pool of an adjacent water body, such as a river, stream or lake, downstream slopes that maintain structural stability during low pool of the adjacent water body or sudden drawdown of the adjacent water body.

(2) The periodic assessment described in [paragraph \(d\)\(1\)](#) of this section must identify any structural stability deficiencies associated with the CCR unit in addition to recommending corrective measures. If a deficiency or a release is identified during the periodic assessment, the owner or operator unit must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.

(3) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment was conducted in accordance with the requirements of this section.

2.0 PROJECT INFORMATION

The former AEP Kammer Plant (Kammer) is located near Moundsville, West Virginia and bordered to the east by West Virginia State Highway 2 and to the west by the Ohio River. The Ash Pond is situated in the approximate southwestern quadrant of Kammer between the Ohio River and the Baltimore and Ohio Railroad. The approximate location of Kammer is depicted on the enclosed Site Location Map (Figure 1). The approximate limits of the Ash Pond are depicted on the enclosed Site Layout and Photograph Plan (Figure 2). Also included on Figure 2 are the photograph location and direction presented in the Photograph Log in Appendix I, the approximate location of the hydraulic structures passing through the Ash Pond perimeter dikes, and the approximate limits of the rip rap slope protection that has been installed along a portion of the west dike exterior slope.

Kammer was operated by AEP beginning in 1958 and ceased operations in 2015. At the time of construction, the perimeter dikes of Ash Pond were constructed to an elevation of about 640 above mean sea level (amsl) with the Ohio River normal pool elevation at the site at approximately 610 feet amsl. In 1965, the Pike Island Lock and Dam was completed upstream of Kammer and in 1975 the Hannibal Lock and Dam was completed downstream of Kammer. The addition of these locks and dams raised the Ohio River normal pool to the current normal pool elevation of about 623 feet amsl in the vicinity of Kammer.

CEC prepared the Initial Inflow Design Flood Assessment and Initial Safety Factor Assessment Reports (IDF and ISF Reports) for the Ash Pond under separate cover. Information contained in these reports is referenced herein.

3.0 SITE RECONNAISSANCE

An engineering reconnaissance of the Ash Pond was conducted on November 6, 2025. Observations were made and recorded regarding the condition of Ash Pond exterior dike slopes and the hydraulic structures passing through the Ash Pond exterior dikes. The site observations were limited to the areas of the site and structures that could be visually observed at the ground surface, and did not include invasive inspection, investigation or exploration of the site, structures or equipment. A summary of general observations noted for the dike perimeter slopes and hydraulic structures passing through the exterior dikes are described in subsections 3.3.1 and 3.3.2 below. The approximate photograph location and direction are depicted on Figure 2 with the photograph log included as Appendix I.

3.3.1 DIKE PERIMETER SLOPES

- The slopes were primarily covered with vegetation in excess of 6 inches in height (refer to Photograph Nos. 1 through 11 in Appendix I for visual depictions). It should be noted that the vegetation height limited the visibility for our slope observations.
- In general, the slopes appeared stable with no obvious signs of scarps, tension cracks, subsidence, sloughs, or seeps observed.
- Based on historical photographs and design/construction documents (refer to Section 4.0 item ii) rip rap was assumed to have been installed atop an approximately 785 feet long section of the southwest, exterior dike slope adjacent to the Ohio River (refer to Figure No. 2 for approximate extents of rip rap). Rip rap at the ground surface was confirmed based on our observations (refer to Photograph Nos. 1 and 14 in Appendix I).
- The Ohio River appears to be eroding the exterior dike slope such that portions of the slope are relatively steep. In specific, the approximate northern two thirds of the exterior dike slope adjacent to the Ohio River (section of dike without rip rap) appears to have experienced more erosion than the southern third with rip rap (refer to Photograph No. 4 and 7 in Appendix I).

3.3.2 HYDRAULIC STRUCTURES

- The spillway structure outlet located at the southwest corner of the Ash Pond appeared to be in relatively good condition and functioning as designed (refer to Photograph No. 13 in Appendix I). During the site visit, impounded water was overtopping the weir notches that have been set at about elevation 630 feet amsl and entering the concrete structure (refer to

Photograph No. 12 in Appendix I). There did not appear to be clogging or debris, such that the water appeared to be entering the 36-inch diameter reinforced concrete pipe (RCP) and discharging into the Ohio River without restriction.

- The outlet of the 36-inch diameter RCP that discharges to the Ohio River at the southwest corner of the Ash Pond is below the normal pool level of the Ohio River and was not visible. As discussed in Section 2.0, the addition of the locks and dams raised the Ohio River normal pool to the current normal pool elevation of about 623 feet amsl in the vicinity of Kammer, which is about 10 feet above the design invert elevation at the outlet of 613 feet amsl.
- The Ash Pond inflow outlet of the approximately 60-inch diameter corrugated steel pipe (CSP) located at the northeast corner of the Ash Pond was visible and did not appear to be crushed, deformed, etc. (refer to Photograph No. 8 in Appendix I). There did not appear to be water coming out of the CSP and into the Ash Pond at the time of our visit.

4.0 CCR RULE §257.73(d) ASSESSMENT

Each of the items to be assessed as specified in CFR §257.73(d) is presented in **bold** print, followed by our interpretation as to if the item was designed, constructed, operated, and maintained in accordance with good engineering practice.

(i) Stable foundations and abutments;

Based on historical photographs provided by AEP and a historical design plan titled “Excavation Plan” prepared by Ohio Power Company and dated March 16, 1966 (Historical Plans as shown in Appendix II), a single ‘triangular’ shaped pond was excavated to an elevation of about 612.5 feet amsl and the material excavated was re-used to construct a perimeter dike. Between May and August of 2025, CEC gathered geotechnical data from borings extended through the perimeter dikes. The developed subsurface soil data and associated slope stability analyses were presented in the ISF Report. In general and as reported in the reference report, the dikes were constructed atop of natural alluvial soil deposits. Based on variations in the alluvial material types, the alluvial deposits supporting the dikes can be separated into two distinct layers defined as Upper and Lower Alluvium. The Upper Alluvium generally consists of weaker cohesive soils to a depth of about 33.5 to 48.5 feet below ground surface (bgs) or elevations of about 591 to 629 feet amsl and the Lower Alluvium (underlying the Upper Alluvium) was generally comprised of medium dense granular soils that extend to the bedrock surface at a depth of about 63 to 84 feet bgs or between elevation 569 and 619 feet amsl.

As part of the ISF Report, geotechnical engineering analyses and calculations were performed to evaluate the factor of safety (FS) associated with the exterior dikes in accordance with the requirements of CFR §257.73(e). These geotechnical engineering analyses included both slope stability and liquefaction components. In summary, these analyses indicated that the dikes had an acceptable FS against a dike breach that would expose the CCR material contained in the Ash Pond to the Ohio River under the loading conditions required by CFR §257.73(e) (i.e., Maximum Storage Pool, Maximum Surcharge Pool and Seismic), such that the dikes are considered stable.

(ii) Adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown;

Based on Historical Plans, the interior slope of the perimeter dikes were designed to be constructed at a uniform slope of 1.75 Horizontal to 1 Vertical (1.75H:1V). Further, the exterior slope of the perimeter dike adjacent to the Ohio River was to be constructed at a slope of 2.5H:1V. The Historical Plans do not appear to specify engineered slope protection (i.e., rip rap, geotextile, etc.) for the interior or exterior slopes.

Based on our site reconnaissance (Section 3.0), review of historical photographs, and information contained in a letter from United States Army Corps of Engineers (USACE) dated September 23, 2002, rip rap had been installed atop an approximately 785 feet long section of the southwest, exterior dike slope adjacent to the Ohio River (refer to Figure 2 for approximate location). However, based on our observations, the remainder of the exterior dike slope adjacent to the Ohio River (approximately 1,600 feet long northern two thirds) is covered by vegetation but does not appear to have engineered controls in place to protect against erosion. It is our opinion that erosion has and will continue to occur along this section of the exterior dike slope as it is directly exposed to flowing water from the Ohio River. While it is our opinion that the exterior dike will continue to erode, the erosion will likely occur slowly over many years as the current performance over decades has shown. Based on our slope stability analyses included in the ISF Report, the erosion does not appear to have significantly affected the FS against a dike breach exposing CCR material to the Ohio River under the loading conditions required by CFR §257.73(e).

Refer to item vii for assessments related to sudden or ‘rapid’ drawdown.

(iii) Dikes mechanically compacted to a density sufficient to withstand the range of loading conditions in the CCR unit;

As assessed and concluded in the ISF Report, the dikes have been constructed with on-site materials comprised of soils described as lean clay, sandy lean clay, gravelly lean clay, silt, sandy silt, clayey sand, well-graded sand, poorly-graded sand, well-graded gravel, and poorly-graded gravel in accordance with the Unified Soil Classification System (USCS). With regard to

consistency, the cohesive dike soils were generally described as stiff to very stiff with unconfined compressive strength values (estimated by means of a Hand Penetrometer) ranging from about 1.0 to 2.5 tons per square foot (tsf) with an average of about 1.5 tsf and N values (Standard Penetration Test value per ASTM D 1586) generally ranging from about 4 to 15 blows per foot (bpf) with an average of about 9 bpf. Triaxial Compressive Strength tests performed on relatively undisturbed samples of the dike fill soils yielded moist unit weights of 118.9 to 130.2 pounds per cubic foot (pcf) and an undrained shear strength of 1,785 pounds per square foot (psf).

The compaction of the perimeter dike fill soils was assessed by comparing Standard Proctor and One-Point Proctor maximum density values to the in-place unit weight data obtained from the undisturbed sampling. Overall, the data suggests that the dike fill materials were compacted to between about 86 and 107 percent of the maximum density values with a moisture content variation of 6 percent below to about 5 percent above the optimum moisture content. This range of compaction is consistent with the N values and Hand Penetrometer values obtained from the boring logs. Overall, it is our opinion that the dike fill was placed using typical earthwork compaction effort for structural purposes such that it is compacted to a density sufficient to withstand the range of loading conditions.

As discuss in item ii, our slope stability analyses indicated that the dikes had an acceptable FS against a dike breach that would expose the CCR material contained in the Ash Pond to the Ohio River under the range of loading conditions required by CFR §257.73(e).

(iv) Vegetated slopes of dikes and surrounding areas not to exceed a height of six inches above the slope of the dike, except for slopes which have an alternate form or forms of slope protection;

The United States Environmental Protection Agency (US EPA) has vacated the requirement that vegetated cover on slopes of the dikes and surrounding areas be maintained at no more than six inches in response to the August 21, 2018 ruling by the U.S. Court of Appeals in *Utility Solid Waste Activities Group v. US EPA*. However, maintenance is required to facilitate monitoring and inspection of the slopes.

(v) A single spillway or a combination of spillways configured as specified in [paragraph \(d\)\(1\)\(v\)\(A\)](#) of this section. The combined capacity of all spillways must be designed, constructed, operated, and maintained to adequately manage flow during and following the peak discharge from the event specified in [paragraph \(d\)\(1\)\(v\)\(B\)](#) of this section.

(A) All spillways must be either:

(1) Of non-erodible construction and designed to carry sustained flows; or

(2) Earth- or grass-lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.

Based on Historical Plans, the Ash Pond outlet spillway design consists of a concrete inlet structure and shaft (i.e., non-erodible) with a combination of weirs that allow the impounded water to enter a 36-inch diameter RCP that discharges to the Ohio River at the southwest corner of the Ash Pond. Based on our observations during the site reconnaissance (refer to Section 3.0), the spillway structure appeared to be in relatively good condition and functioning as designed such that the structure can carry sustained flows from inside the Ash Pond to the Ohio River.

(B) The combined capacity of all spillways must adequately manage flow during and following the peak discharge from a:

(1) Probable maximum flood (PMF) for a high hazard potential CCR surface impoundment; or

(2) 1000-year flood for a significant hazard potential CCR surface impoundment; or

(3) 100-year flood for a low hazard potential CCR surface impoundment.

Per rule CFR §257.82(A)(3)(ii), the Ash Pond is classified as a significant hazard potential; and thus, the design storm consists of a 1000-year flood. A hydraulic study of the Ash Pond indicated that the 1000-year rainfall event in 24 hours, modeled assuming the Ohio River is at normal pool (i.e., 623 feet amsl), results in a maximum water level in the Ash Pond of about 633.8 feet amsl. This PMF level is lower than the crest of the dike by about 7 feet (assuming a crest elevation of

about 641 feet amsl). On this basis, the capacity of the spillway adequately manages the flow during and following the peak discharge from a 1000-year rainfall event.

A worst-case slope stability condition was analyzed where the maximum surcharge pool was elevated above the PMF to match the crest of the interior slope while the Ohio River is maintained at the normal pool. This condition had an acceptable FS against a dike breach that would expose the CCR material contained in the Ash Pond to the Ohio River.

(vi) Hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit that maintain structural integrity and are free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris which may negatively affect the operation of the hydraulic structure;

The known hydraulic structure passing through the perimeter dikes consists of a 36-inch diameter RCP (discussed in item v). Information related to the deterioration, deformation, distortion, bedding, sedimentation and debris were not able to be visually observed or assessed for the 36-inch diameter spillway RCP. However, as discussed in Section 3.0, it appears that the RCP is functioning as designed such that impounded water was able to discharge through the RCP during our site visit.

(vii) For CCR units with downstream slopes which can be inundated by the pool of an adjacent water body, such as a river, stream or lake, downstream slopes that maintain structural stability during low pool of the adjacent water body or sudden drawdown of the adjacent water body.

Given the proximity of the exterior perimeter dikes to the Ohio River, geotechnical engineering analyses were performed as part of the ISF Report to evaluate the FS associated with the exterior dikes under a ‘rapid’ drawdown condition. Based on minimum guidance for typical dam type structures outlined in USACE’s EM 1110-2-1902 dated October 31, 2003, a minimum FS of 1.1 for the rapid drawdown condition was established as the approval criteria. The slope stability analyses indicated that the critical section of the perimeter dike (defined as the section with the lowest computed FS that could result in a dike breach exposing the CCR material to the Ohio

River) meets the required minimum FS value of 1.1. While a failure resulting in exposure of CCR material had a FS of at least 1.1, the sections of the dike with relatively steep exterior slopes (i.e., steeper than about 2.5H:1V) adjacent to the Ohio River could experience a relatively shallow slope failure under a rapid drawdown condition (i.e., $FS < 1.1$).

5.0 RECOMMENDED REMEDIAL ACTIONS

Based on our observations described in Section 3.0 and assessment of the CCR rules in Section 4.0, no remedial actions and/or activities are recommended. Annual inspections of the Ash Pond should continue in accordance with CFR §257.83(b).

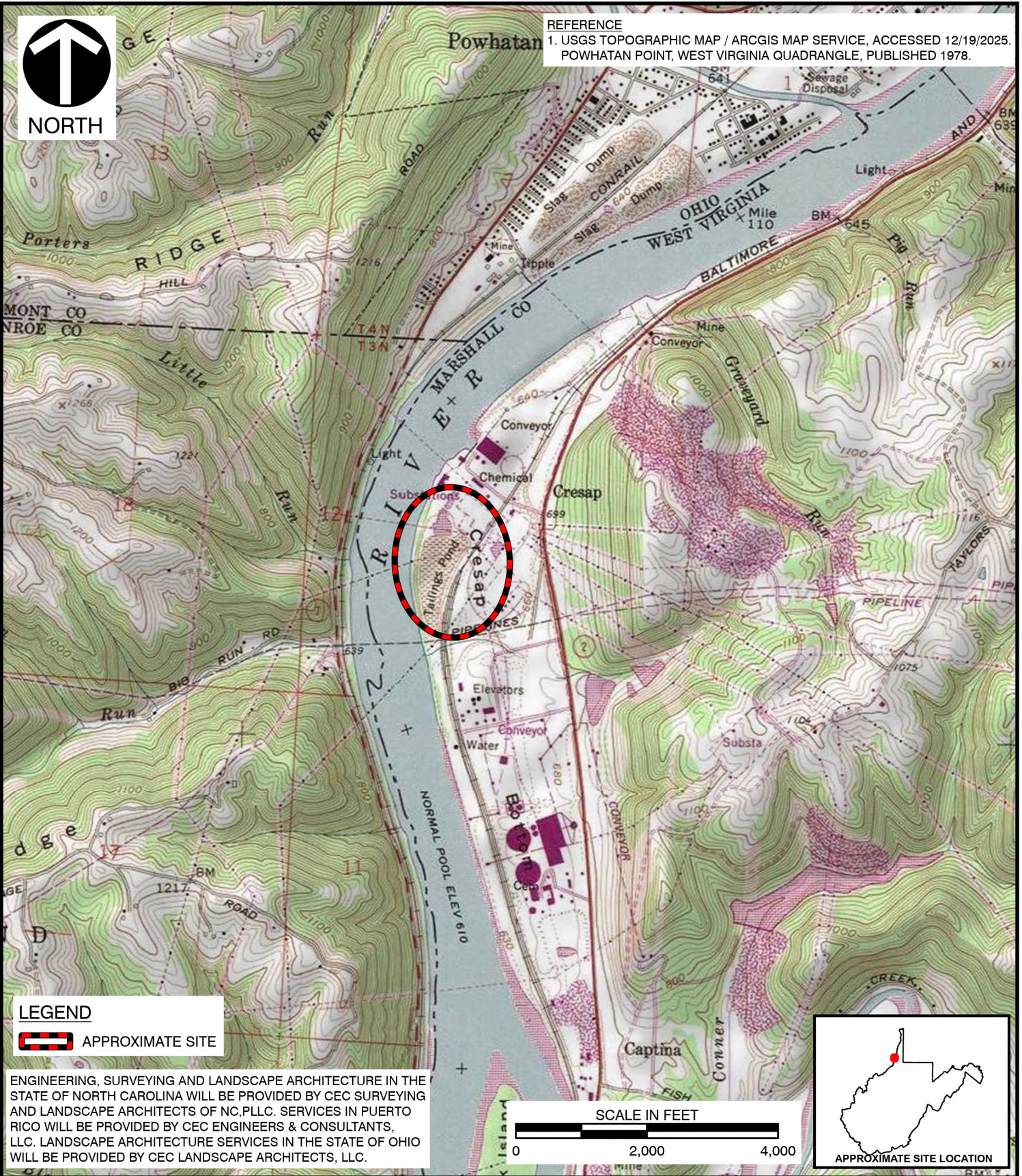
6.0 STANDARD OF CARE

The services provided for this project were performed with the care and skill ordinarily exercised by reputable members of the profession practicing under similar conditions at the same time and the same or similar locality. No warranty, expressed or implied, is made or intended by rendition of these consulting services or by furnishing oral or written reports of the findings made. This report has been prepared for exclusive use by AEP.

FIGURES



REFERENCE
 1. USGS TOPOGRAPHIC MAP / ARCGIS MAP SERVICE, ACCESSED 12/19/2025.
 POWHATAN POINT, WEST VIRGINIA QUADRANGLE, PUBLISHED 1978.

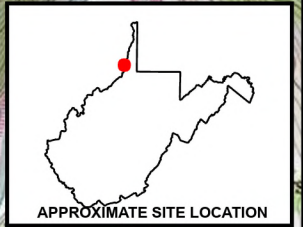
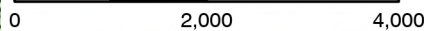


LEGEND

 APPROXIMATE SITE

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. SERVICES IN PUERTO RICO WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF OHIO WILL BE PROVIDED BY CEC LANDSCAPE ARCHITECTS, LLC.

SCALE IN FEET



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AMERICAN ELECTRIC POWER
 INITIAL STRUCTURAL STABILITY ASSESSMENT
 AEP KAMMER PLANT
 MOUNDSVILLE, WEST VIRGINIA

SITE LOCATION MAP

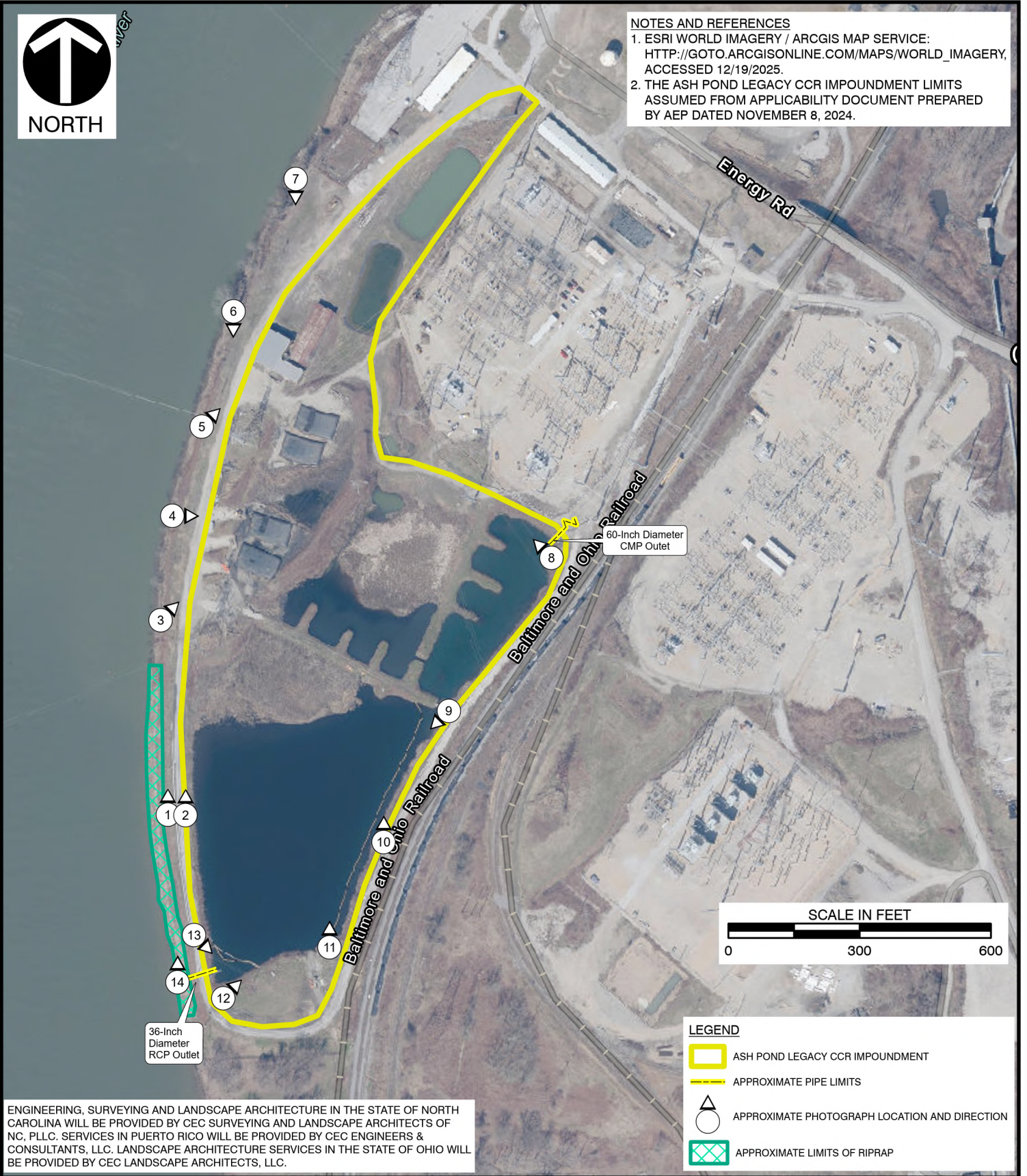
DRAWN BY:	ERC	CHECKED BY:	JBG	APPROVED BY:	APA*	FIGURE NO:	1
DATE:	12/19/2025	SCALE:	1"=2,000'	PROJECT NO:	345-817-0004		

*Hand Signature on file



NOTES AND REFERENCES
 1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE:
 HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_IMAGERY,
 ACCESSED 12/19/2025.
 2. THE ASH POND LEGACY CCR IMPOUNDMENT LIMITS
 ASSUMED FROM APPLICABILITY DOCUMENT PREPARED
 BY AEP DATED NOVEMBER 8, 2024.

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LEGEND

- ASH POND LEGACY CCR IMPOUNDMENT
- APPROXIMATE PIPE LIMITS
- APPROXIMATE PHOTOGRAPH LOCATION AND DIRECTION
- APPROXIMATE LIMITS OF RIPRAP



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**AMERICAN ELECTRIC POWER
 INITIAL STRUCTURAL STABILITY ASSESSMENT
 AEP KAMMER PLANT
 MOUNDSVILLE, WEST VIRGINIA**

SITE LAYOUT AND PHOTOGRAPH PLAN

DRAWN BY:	ERC	CHECKED BY:	JBG	APPROVED BY:	APA*	FIGURE NO:	2
DATE:	12/19/2025	SCALE:	1"=300'	PROJECT NO:	345-817-0100		

*Hand Signature on file

APPENDIX I

PHOTOGRAPH LOG



Photograph 1: View of the exterior dike slope looking north. Note rip rap observed along slope.



Photograph 2: View of the interior dike slope looking north.

AEP
Kammer Plant
CEC Project 345-817 Task 0100
Photographs Taken on 11/6/2025



Photograph 3: View of the exterior dike slope looking north.



Photograph 4: View of the exterior dike slope looking north. Note surface erosion.



Photograph 5: View of the exterior dike slope looking north.



Photograph 6: View of the exterior dike slope looking south.

AEP
Kammer Plant
CEC Project 345-817 Task 0100
Photographs Taken on 11/6/2025



Photograph 7: View of the exterior dike slope looking south. Note surface erosion.



Photograph 8: View of 60-inch diameter CMP outlet at northeast corner of Ash Pond.



Photograph 9: View of the interior dike slope looking south.



Photograph 10: View of the interior dike slope looking north.

AEP
Kammer Plant
CEC Project 345-817 Task 0100
Photographs Taken on 11/6/2025



Photograph 11: View of the interior dike slope looking north. Note concrete debris.



Photograph 12: View of the spillway concrete weir notches looking east.



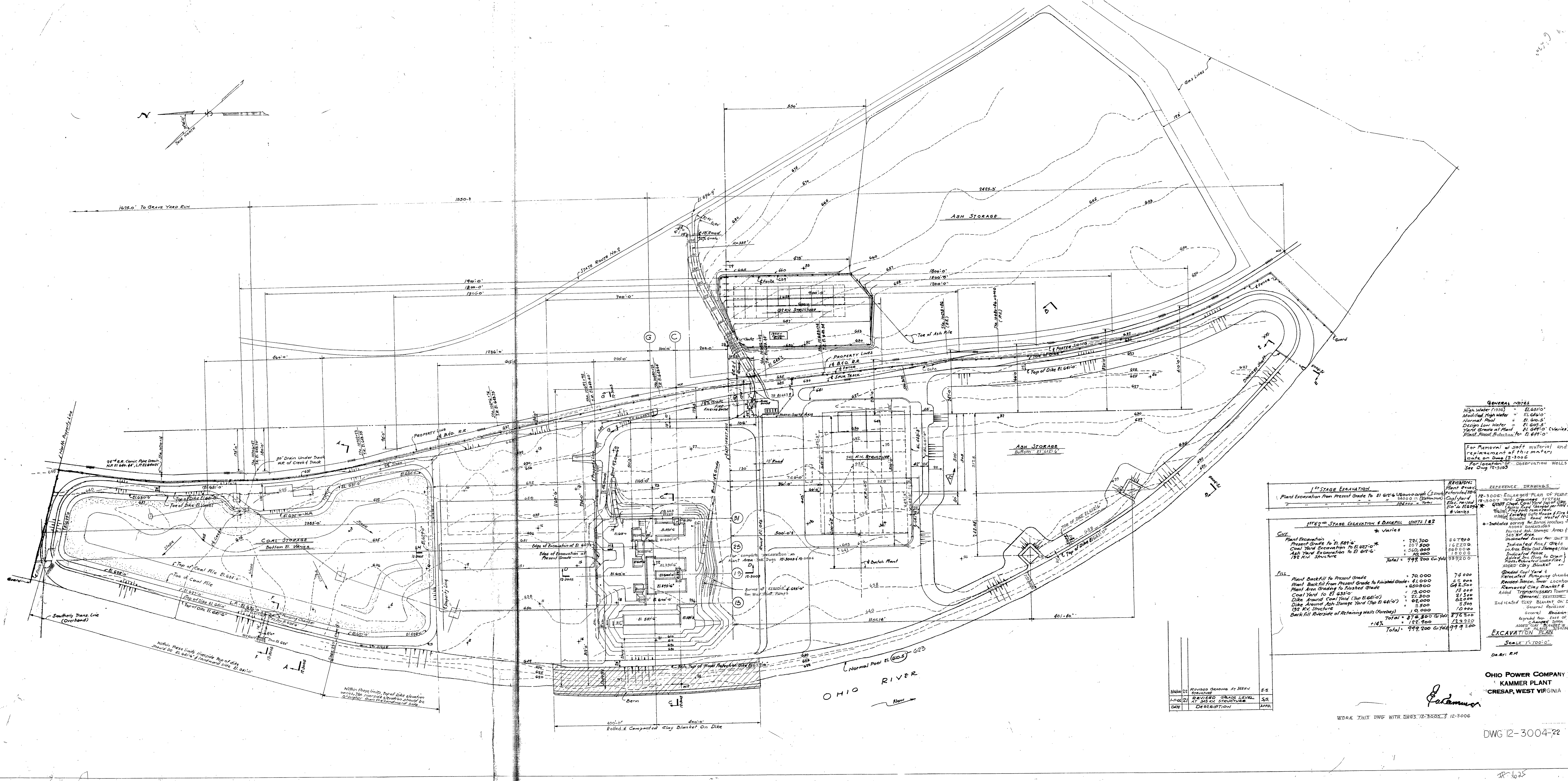
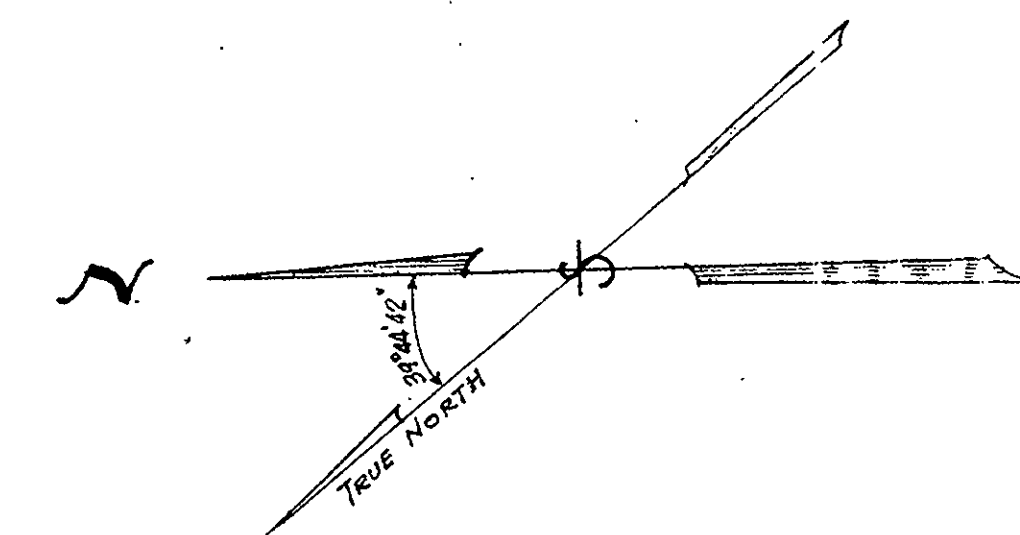
Photograph 13: View of the spillway structure looking northeast.



Photograph 14: View of rip rap along exterior dike slope.

APPENDIX II

RELEVANT HISTORICAL PLANS



GENERAL NOTES
 High Water (1936) = EL 651.0
 Modified High Water = EL 646.0
 Normal Pool = EL 600.0
 Design Low Water = EL 607.5
 Tidal Grade at Flood = EL 609.0 (Varies)
 Flood Road Elevation for EL 699.0
 For Removal of soft material and replacement of this material, locate on Dwg 12-3005
 For location of OBSERVATION WELLS, see Dwg 12-3005

1 ST STAGE EXCAVATION		REVISIONS	REFERENCE DRAWINGS
Plant Excavation from Present Grade to El 612.0 (60000 cu yd)	281,700	162,200	12-3005: ENLARGED PLAN OF PLANT EXCAVATION
Present Grade to El 627.0*	307,500	162,200	12-3007: DRAINAGE SYSTEM
Ash Yard Excavation to El 607.0	10,000	10,000	12-3008: COAL YARD TO BE RAISED TO EL 612.0
132 KV STRUCTURE	10,000	10,000	12-3009: COAL YARD TO BE RAISED TO EL 612.0
Total	709,200 cu yd	353,500	12-3010: COAL YARD TO BE RAISED TO EL 612.0
FILL		75,000	12-3011: COAL YARD TO BE RAISED TO EL 612.0
Plant Backfill to Present Grade	70,000	75,000	12-3012: COAL YARD TO BE RAISED TO EL 612.0
Plant Backfill from Present Grade to Finished Grade	650,000	45,000	12-3013: COAL YARD TO BE RAISED TO EL 612.0
Plant Area Grading to Finished Grade	15,000	64,250	12-3014: COAL YARD TO BE RAISED TO EL 612.0
Coal Yard to El 635.0	21,300	12,500	12-3015: COAL YARD TO BE RAISED TO EL 612.0
Dike Around Coal Yard (Top El 641.0)	66,000	66,000	12-3016: COAL YARD TO BE RAISED TO EL 612.0
Dike Around Ash Storage Yard (Top El 641.0)	2,500	8,500	12-3017: COAL YARD TO BE RAISED TO EL 612.0
132 KV Structure	10,000	10,000	12-3018: COAL YARD TO BE RAISED TO EL 612.0
Backfill Riverside of Retaining Walls (Forebay)	10,000	10,000	12-3019: COAL YARD TO BE RAISED TO EL 612.0
Total	876,800 cu yd	876,800	12-3020: COAL YARD TO BE RAISED TO EL 612.0
Total	1,586,000 cu yd	1,230,300	12-3021: COAL YARD TO BE RAISED TO EL 612.0
	+14%	999,200 cu yd	12-3022: COAL YARD TO BE RAISED TO EL 612.0

OHIO POWER COMPANY
 KAMMER PLANT
 CRESAP, WEST VIRGINIA

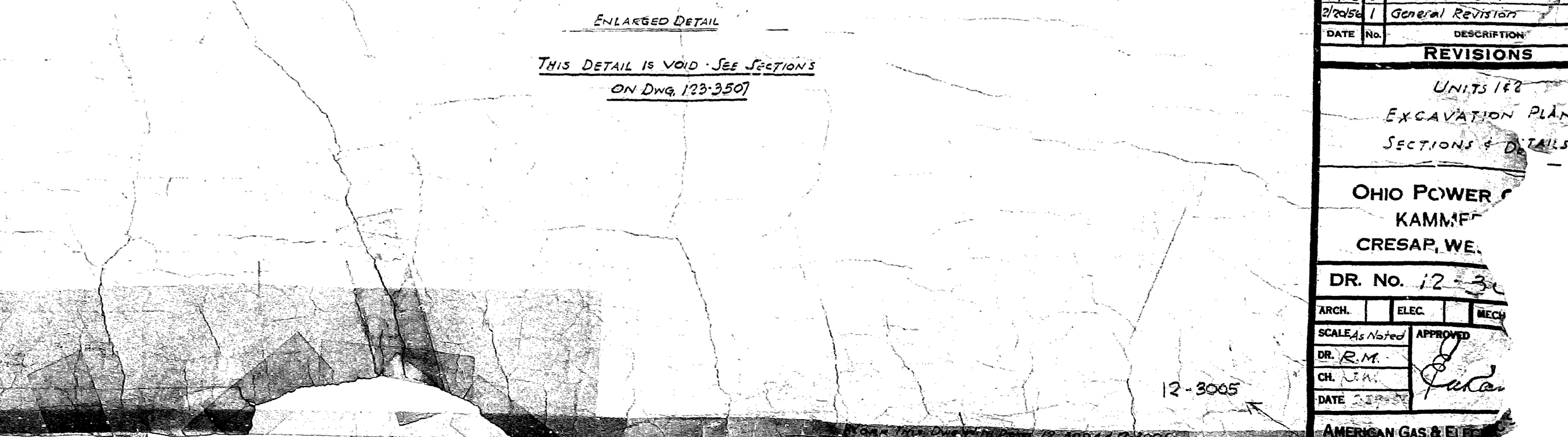
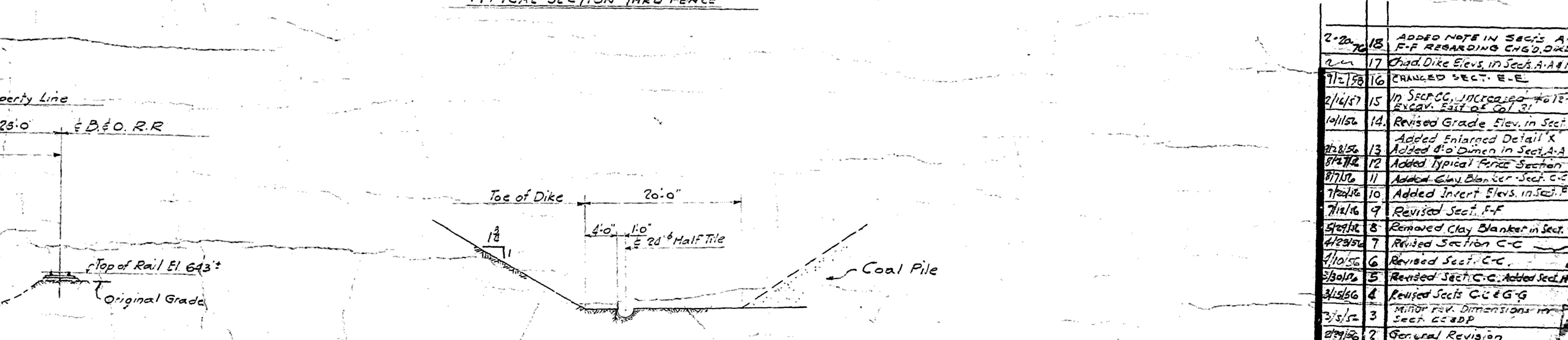
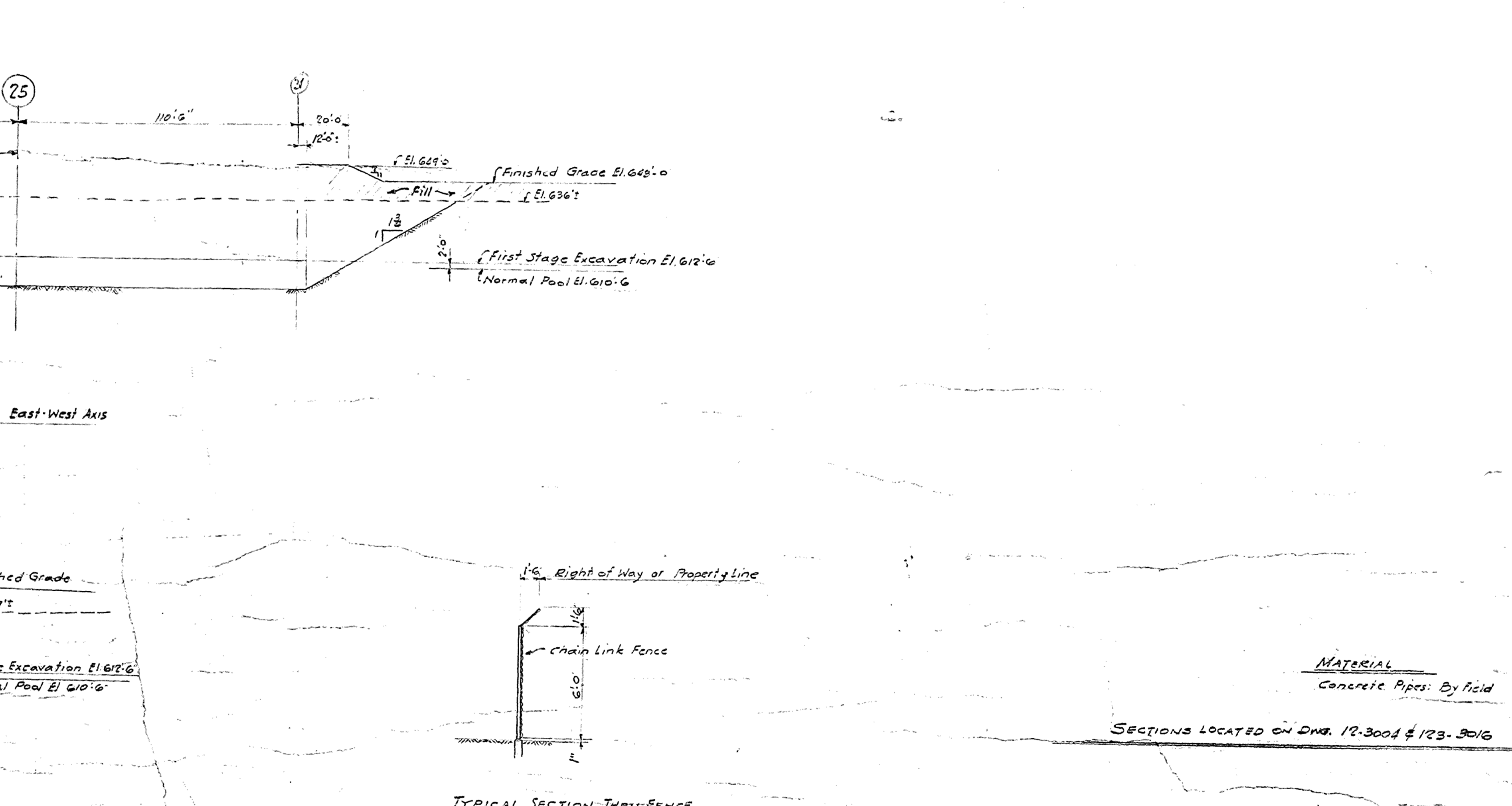
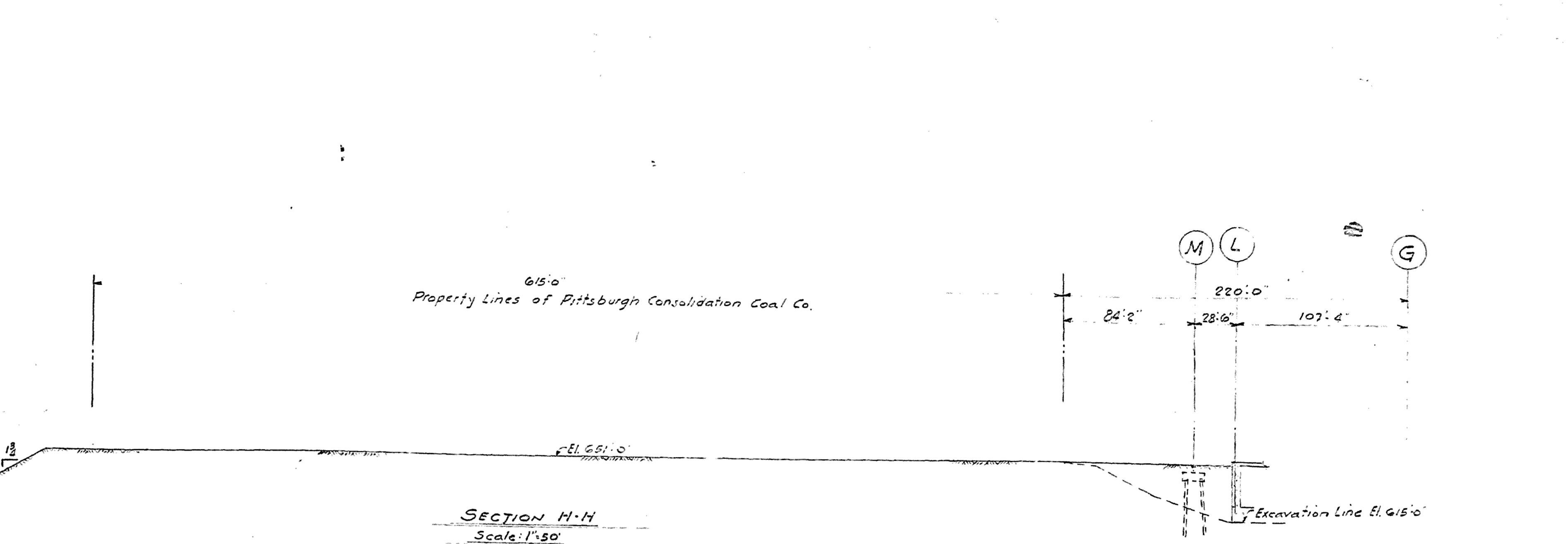
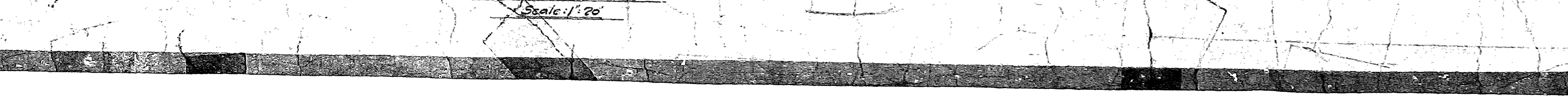
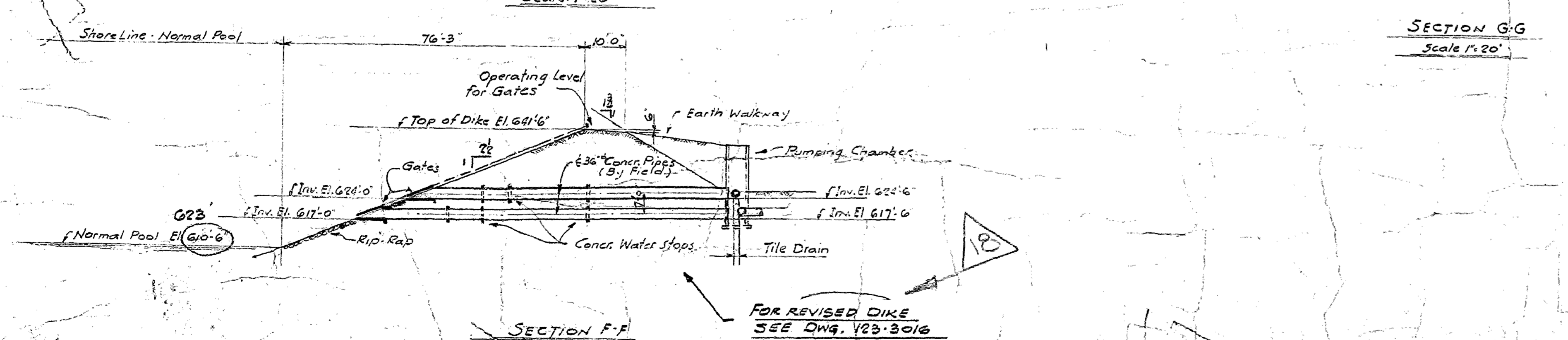
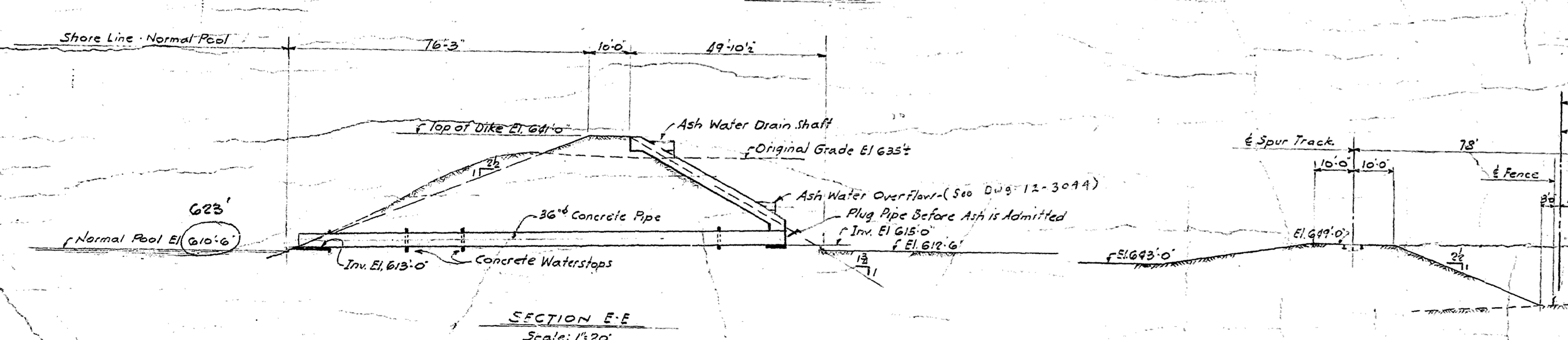
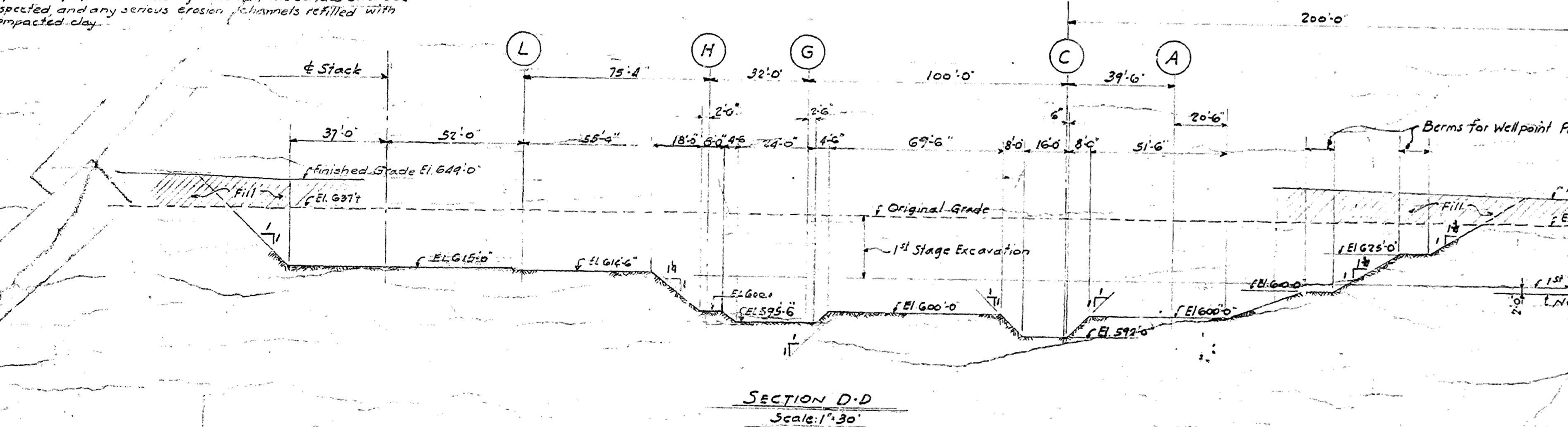
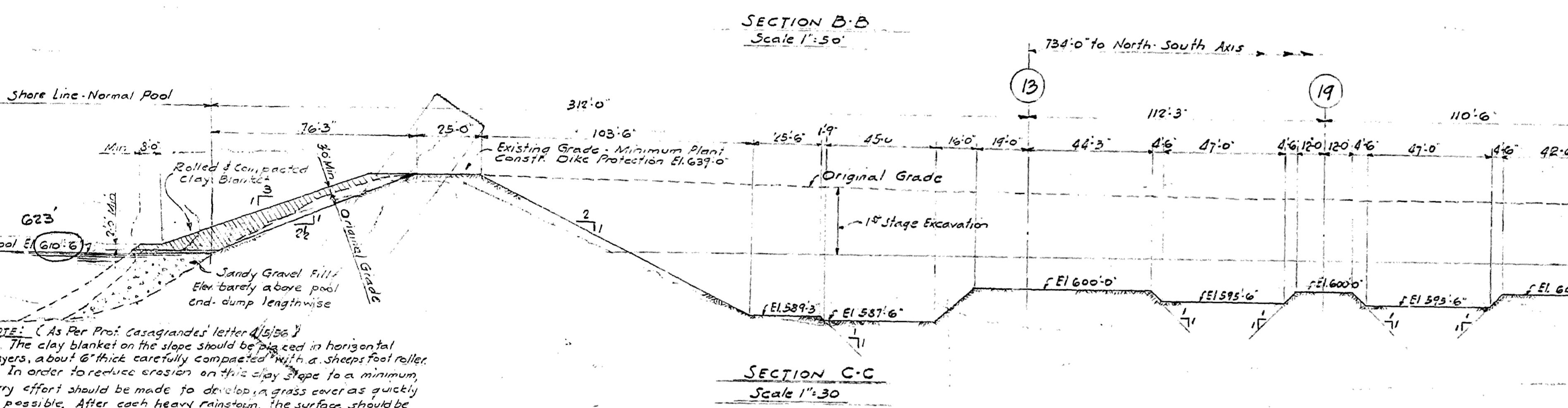
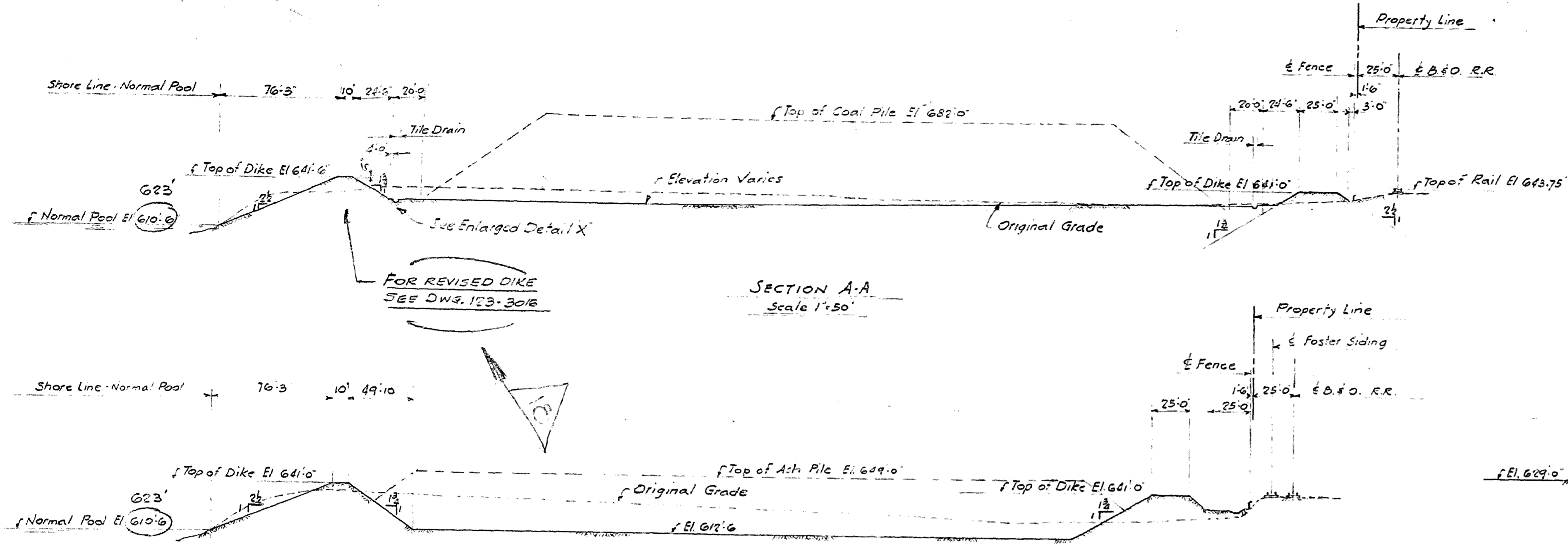
Calamander

DWG 12-3004-22

NO.	REVISIONS	DATE	DESCRIPTION	APP'D.
1	REVISED GRADE LEVEL AT 345 KV STRUCTURE			
2	REVISED GRADE LEVEL AT 345 KV STRUCTURE			

WORK THIS DWG WITH DINGS 12-3005, 12-3006

12-6025



NOTE: (As Per Prof. Casagrande's letter 4/25/35)
The clay blanket on the slope should be placed in horizontal layers, about 6" thick, carefully compacted with a sheep foot roller. In order to reduce erosion on this clay slope to a minimum, every effort should be made to develop a grass cover as quickly as possible. After each heavy rainstorm, the surface should be inspected and any serious erosion channels refilled with compacted clay.

NO.	DATE	DESCRIPTION	APPROVED
1	12-30-35	General Revision	
2	1-10-36	General Revision	
3	1-10-36	Added Intersect Elev. in Sect. C-C	
4	1-10-36	Revised Sect. C-C	
5	1-10-36	Revised Sect. C-C	
6	1-10-36	Revised Sect. C-C	
7	1-10-36	Revised Section C-C	
8	1-10-36	Removed Clay Blanket in Sect. C-C	
9	1-10-36	Revised Sect. F-F	
10	1-10-36	Added Intersect Elev. in Sect. F-F	
11	1-10-36	Added Typical Fence Section	
12	1-10-36	Revised Grade Elev. in Sect. H-H	
13	1-10-36	Added 6" Dia. Drain in Sect. A-A	
14	1-10-36	Added Enlarged Detail K	
15	1-10-36	1/2" Slope, Increase to 1/4"	
16	1-10-36	Changed Sect. H-H	
17	1-10-36	Added Dike Elev. in Sect. A-A	
18	1-10-36	Added Note in Sect. A-A	

UNITS 1/2"
EXCAVATION PLAN
SECTIONS & DETAILS

OHIO POWER & LIGHT
KAMMFF
CRESAF, WE.

DR. No. 12-3005

ARCH. [] ELEC. [] MECH. []

SCALE: As Shown APPROVED

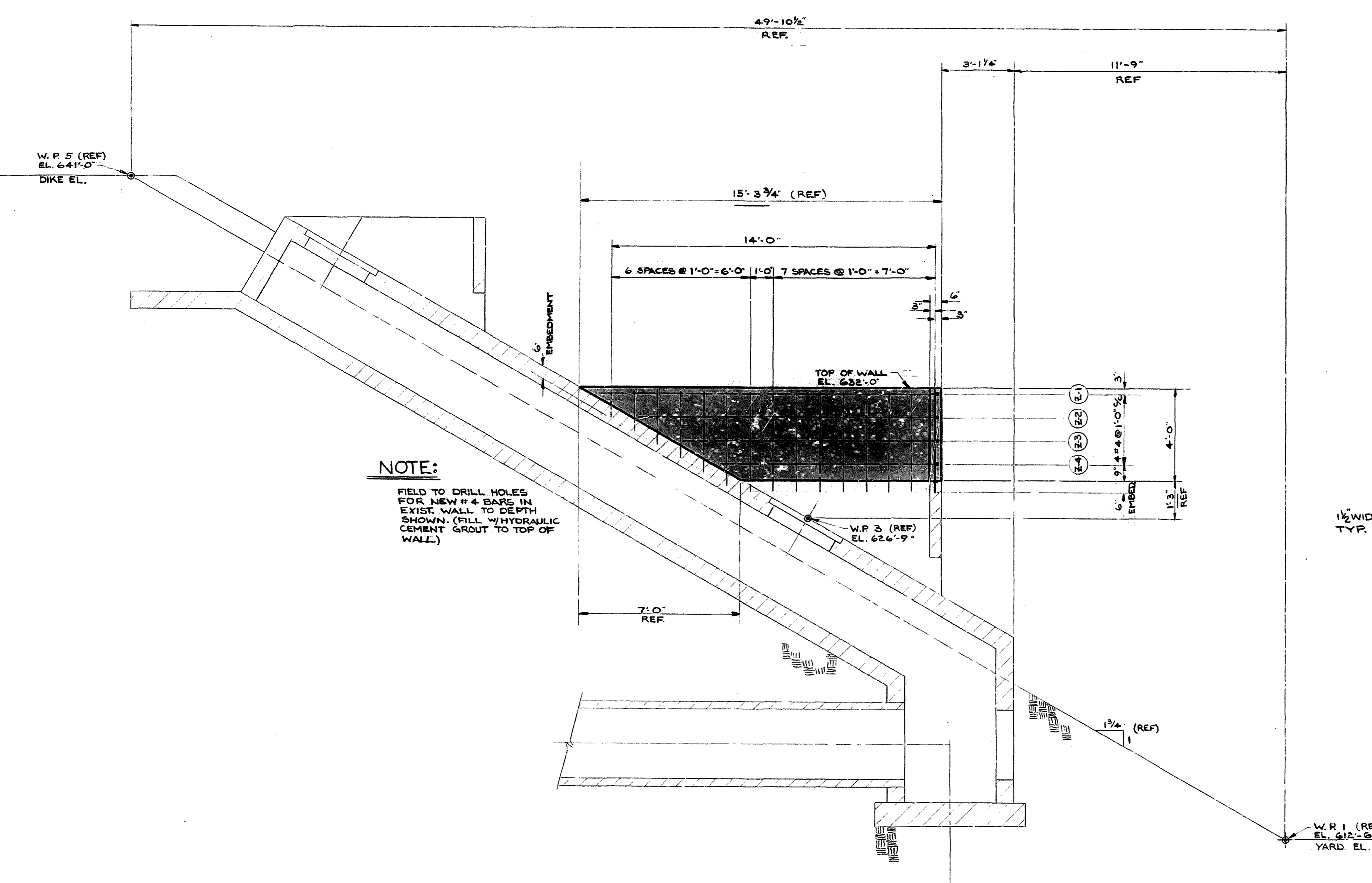
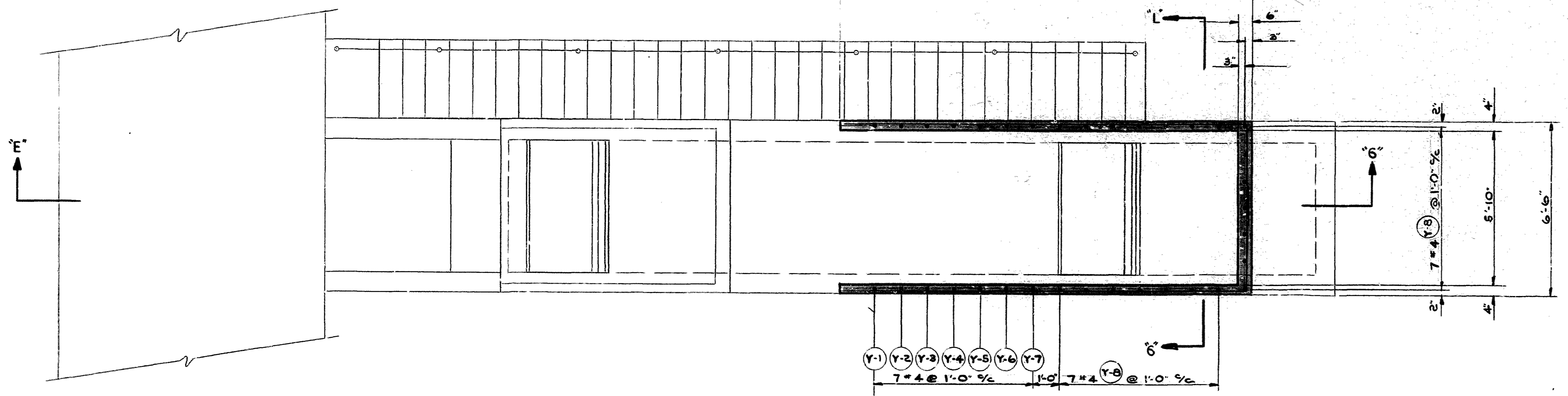
DR. R. M. [Signature]

CH. [Signature]

DATE 12-30-35

AMERICAN GAS & ELECTRIC

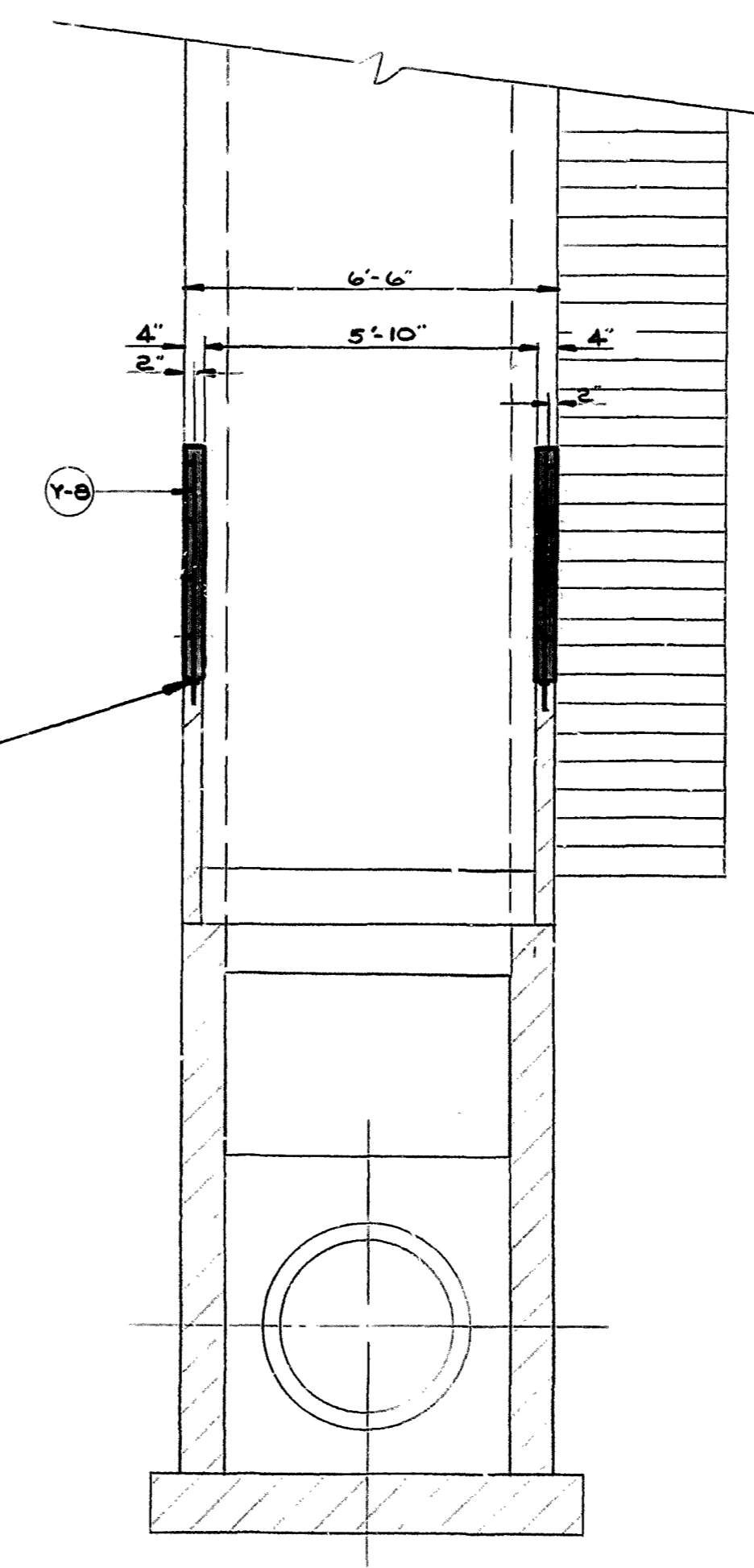
DR. No. 13-3490



NOTE:
FIELD TO DRILL HOLES FOR NEW #4 BARS IN EXIST WALL TO DEPTH SHOWN. (FILL W/ HYDRAULIC CEMENT GROUT TO TOP OF WALL.)

SECTION "E-6"
SCALE: 3/8" = 1'-0"

1 1/2" WIDE x 1" DEEP NOM. KEY TYP. ALL AROUND



SECTION "L-6"
SCALE: 3/8" = 1'-0"

GENERAL NOTES

ALL REINFORCING TO BE NEW 100% SPEC. A-615/616/617 OF THE ASTM GRADE 60.
REINFORCING TO BE PLACED LAPPED & WELDED IN ACCORDANCE WITH THE ACI MANUAL 318-73.
PROVIDE A MIN. COVER OF 2" UNLESS NOTED OTHERWISE.
FOR IDENTIFICATION, SEE REBAR LIST.
ALL NEW CEMENT TO BE 3000 P.S.I. @ 28 DAYS.
REBARS = 172.91 LBS.
D.G. UNDERWATER CEMENT = 1482 CUBIC

REFERENCE DRAWINGS

- 12-3044 FLYASH DRAINAGE SHAFT MASONRY
- 12-3045 FLY ASH DRAINAGE SHAFT REINFORCING

CIA 80466
WFO 703 8010

REVISIONS

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OHIO POWER COMPANY
KAMMER PLANT
CRESAP, WEST VIRGINIA

MODIFICATION OF
ASH POND SKIMMER
CONCRETE REINFORCING

DR. NO. 13-3490-0

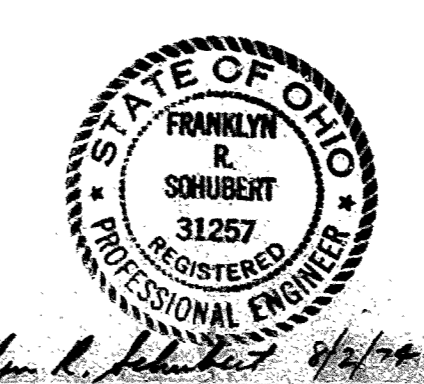
ARCH.	ELEC.	MECH.	STR.

SCALE: 3/8" = 1'-0"
DR. DANIELS
CH. J. ENG. REG. NO. 25789
DATE: 8/2/74
DWG. NO.

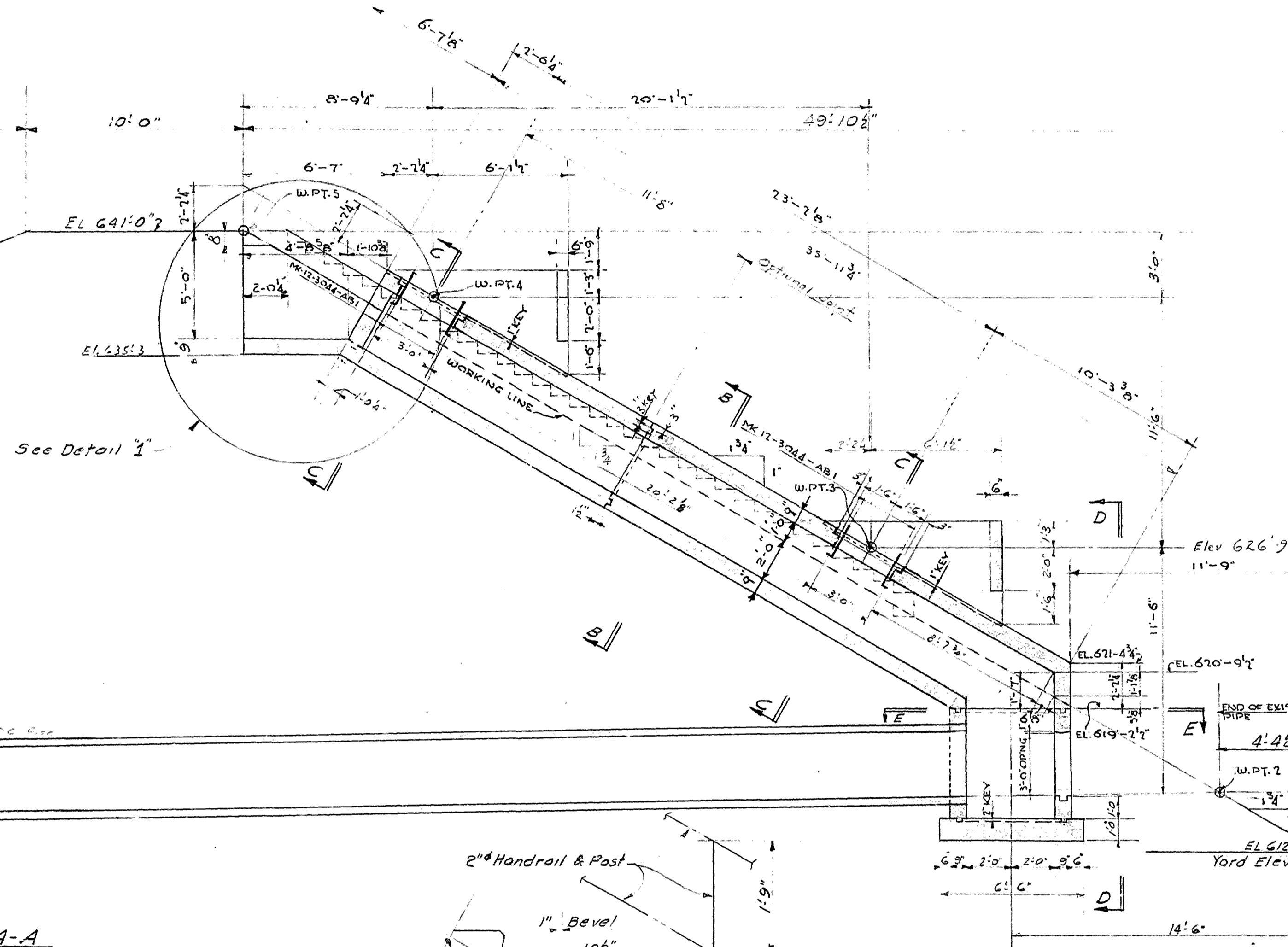
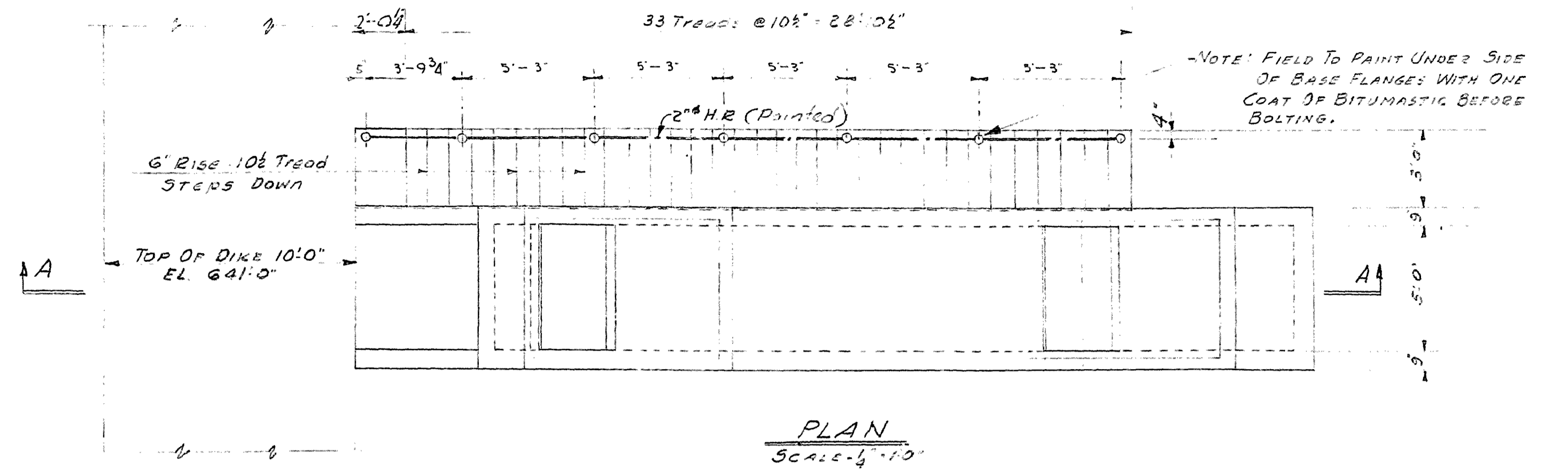
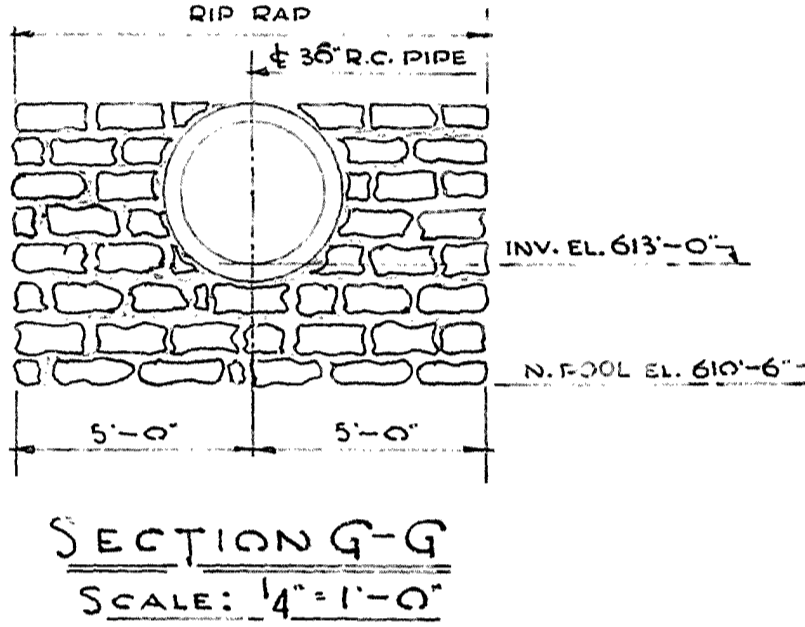
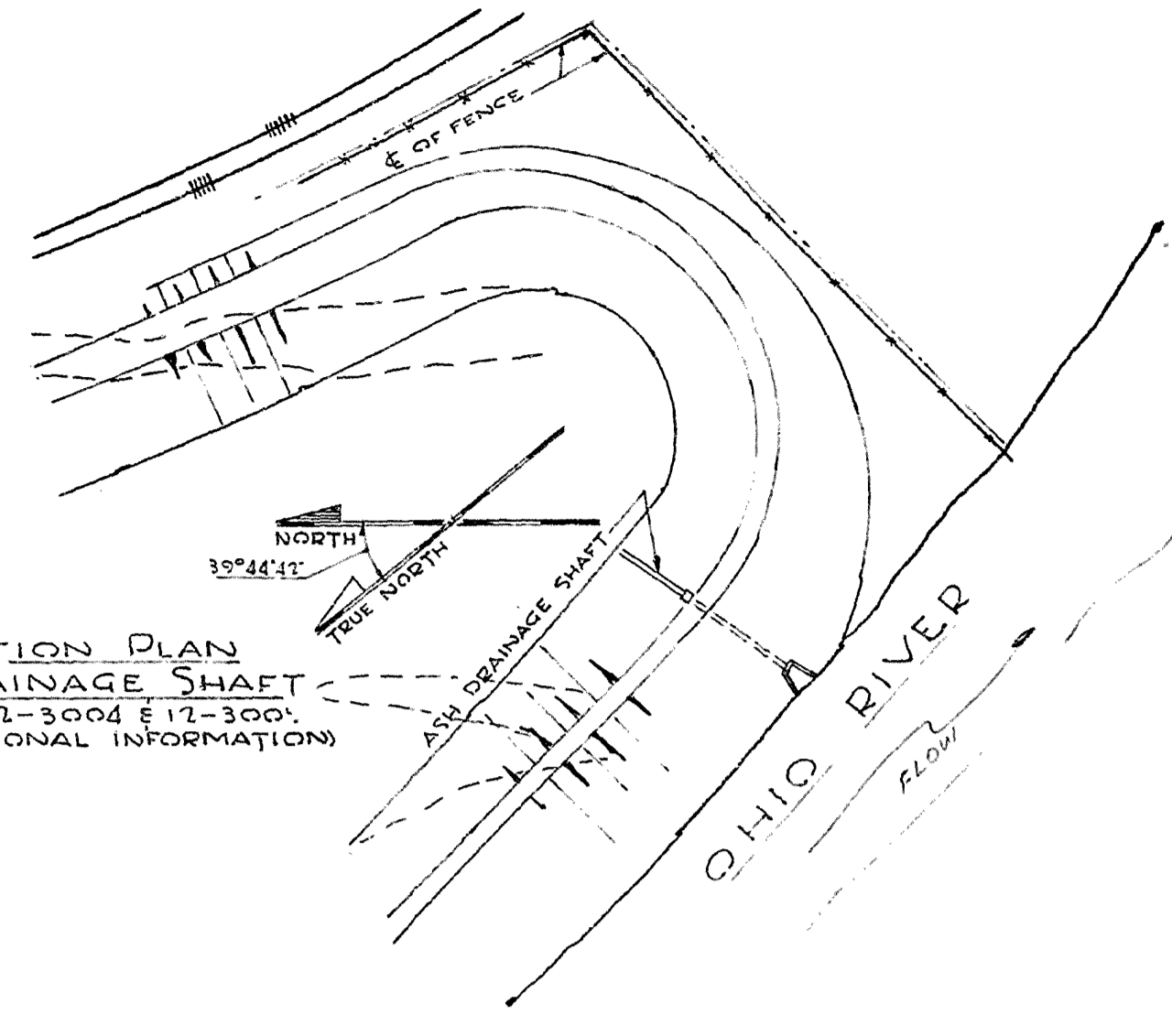
ENGINEERED BY
C. P. Lugin
DESIGN DIV.
AMERICAN ELECTRIC POWER SERVICE CORP.

APPROVED
Maier and Associates, Inc.
North Canton, Ohio

Date: AUG. 2, 1974. By: *[Signature]*
M. MA & ASSOCIATES INC.
NORTH CANTON, OHIO
OHIO ENG. REG. NO. 25789
JOB ORDER NO. J-1704
DWG. NO.

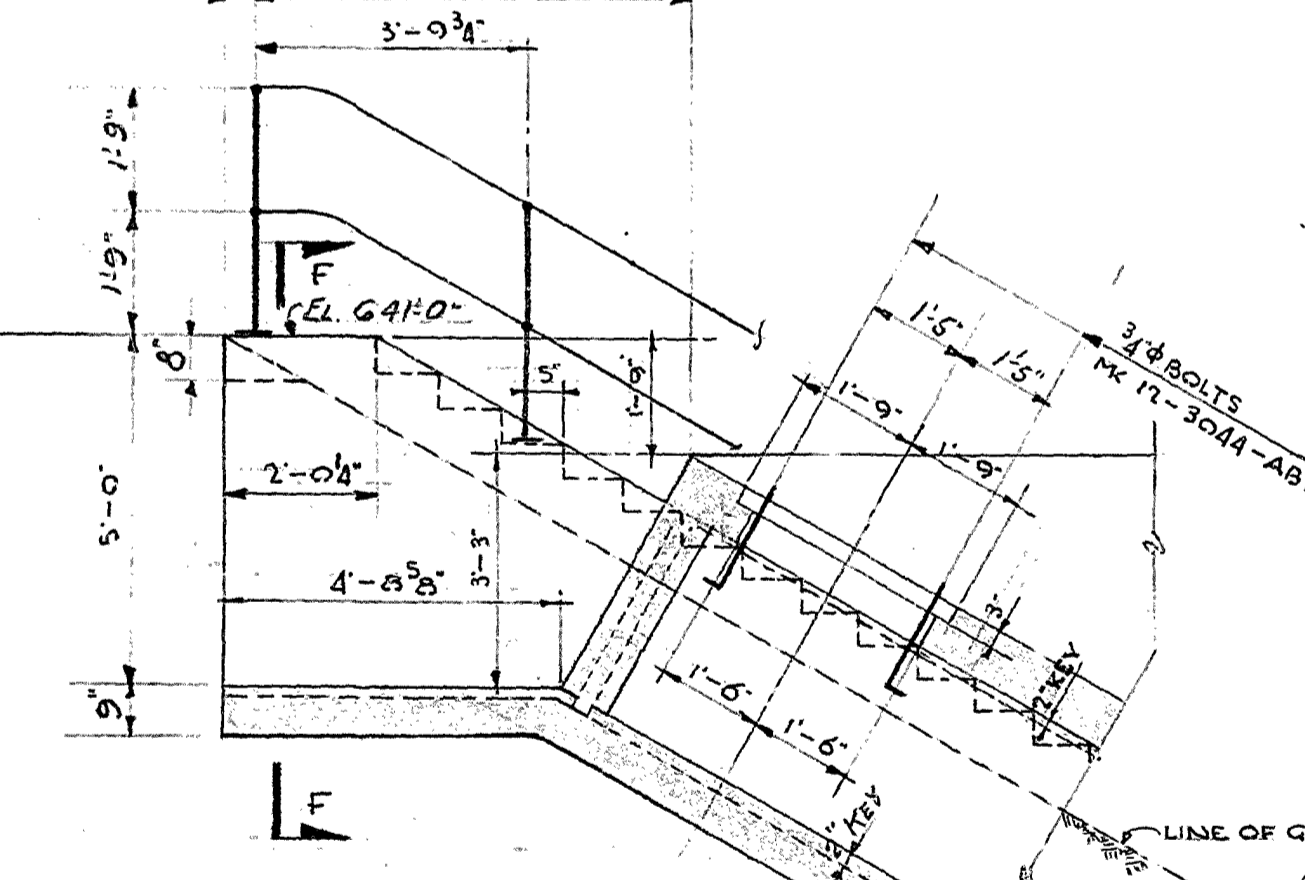


LOCATION PLAN
ASH DRAINAGE SHAFT
(SEE DWGS. 12-3044 & 12-3045
FOR ADDITIONAL INFORMATION)

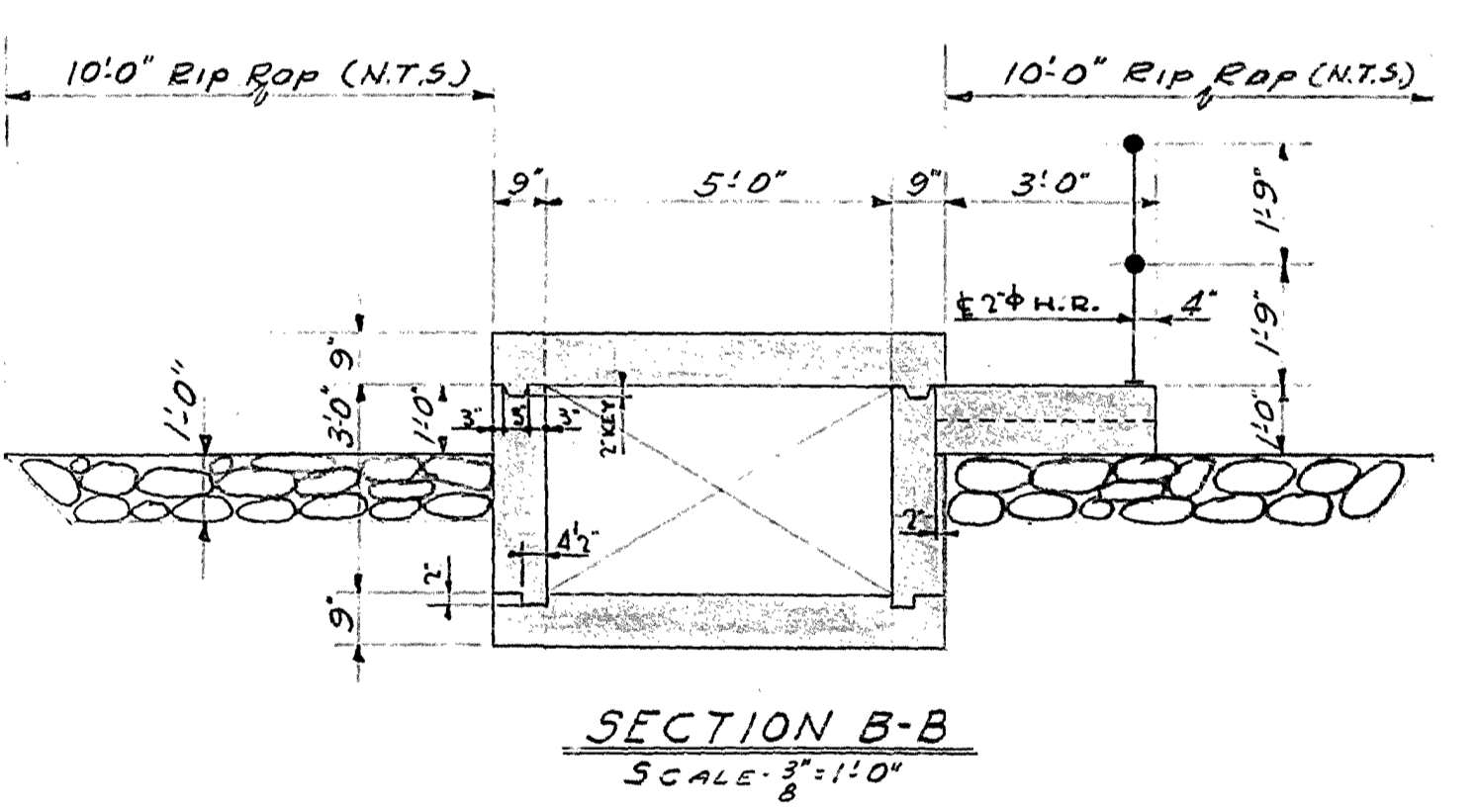


SECTION A-A
SEE SECTION E-E DWG. 12-3045
SCALE: 1/4"=1'-0"

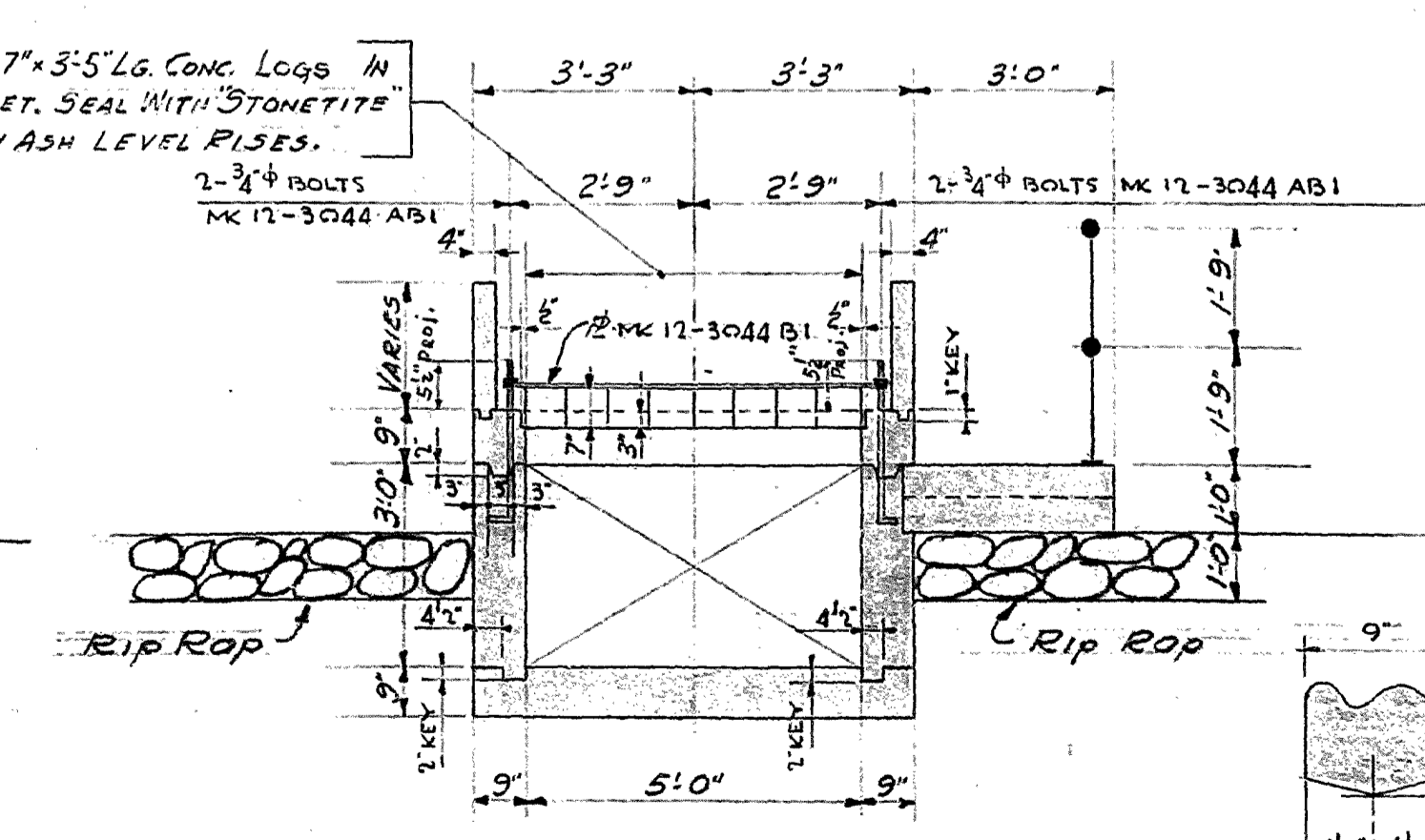
NOTE:
LOCALIZE RIP RAP AROUND ALL INLETS
TO DRAINAGE SHAFT FOR A DISTANCE
OF 10'-0" ON EACH SIDE OF STRUCTURE



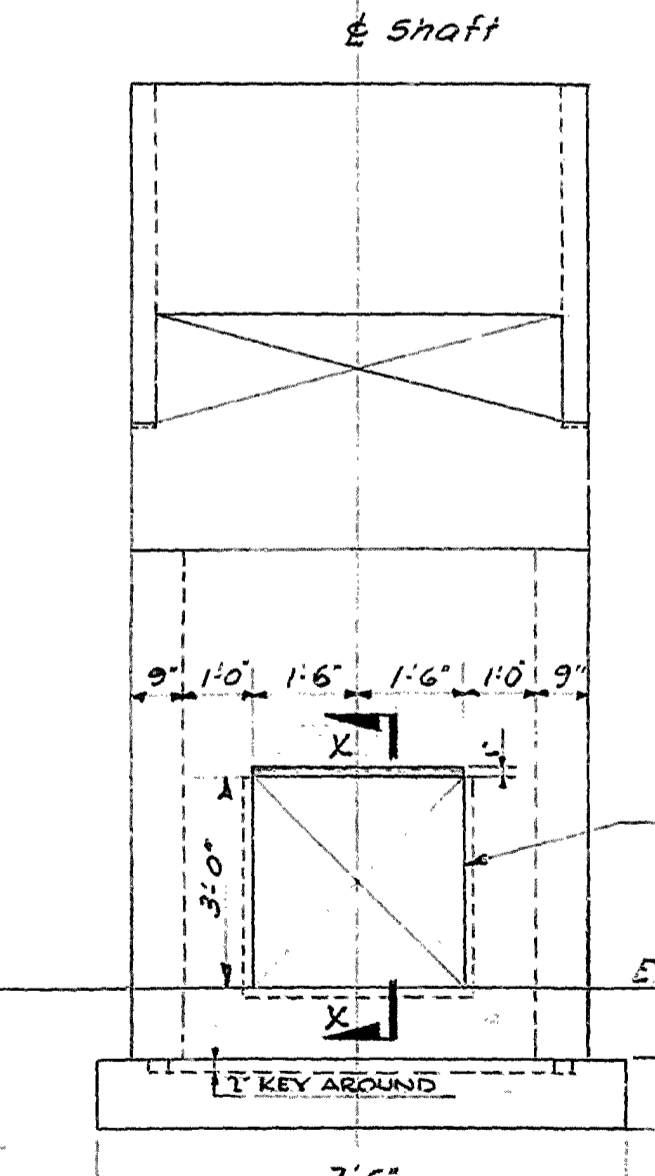
DETAIL I
SCALE: 3/4"=1'-0"



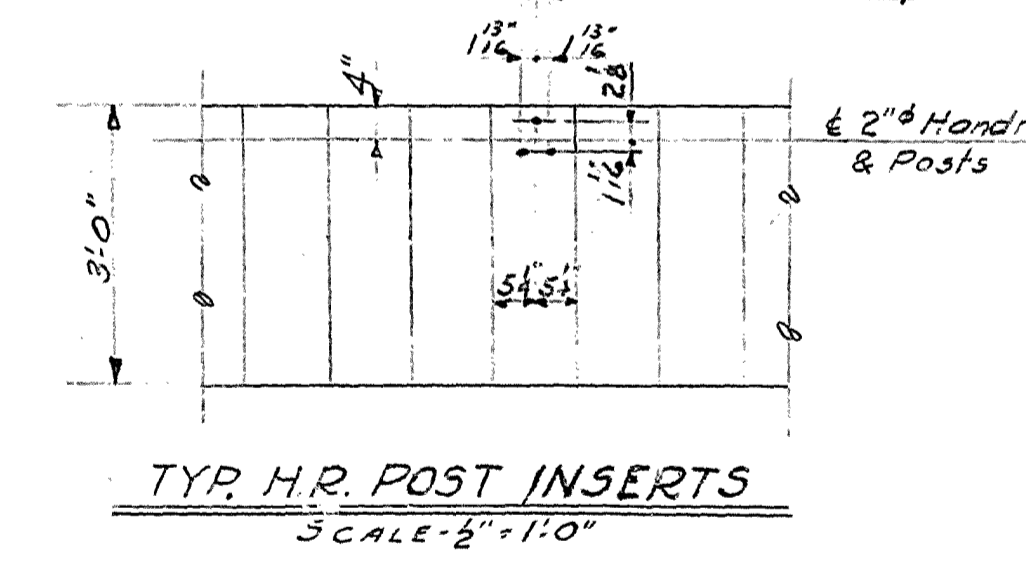
SECTION B-B
SCALE: 3/8"=1'-0"



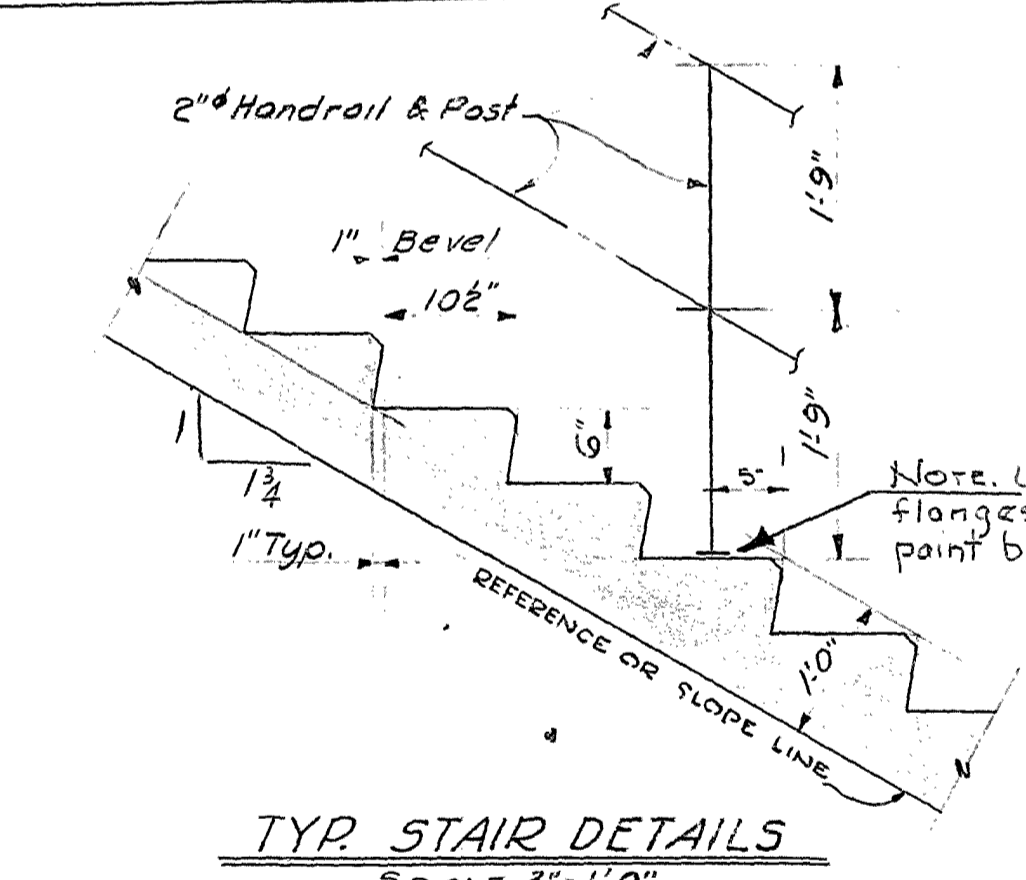
SECTION C-C
SCALE: 3/8"=1'-0"



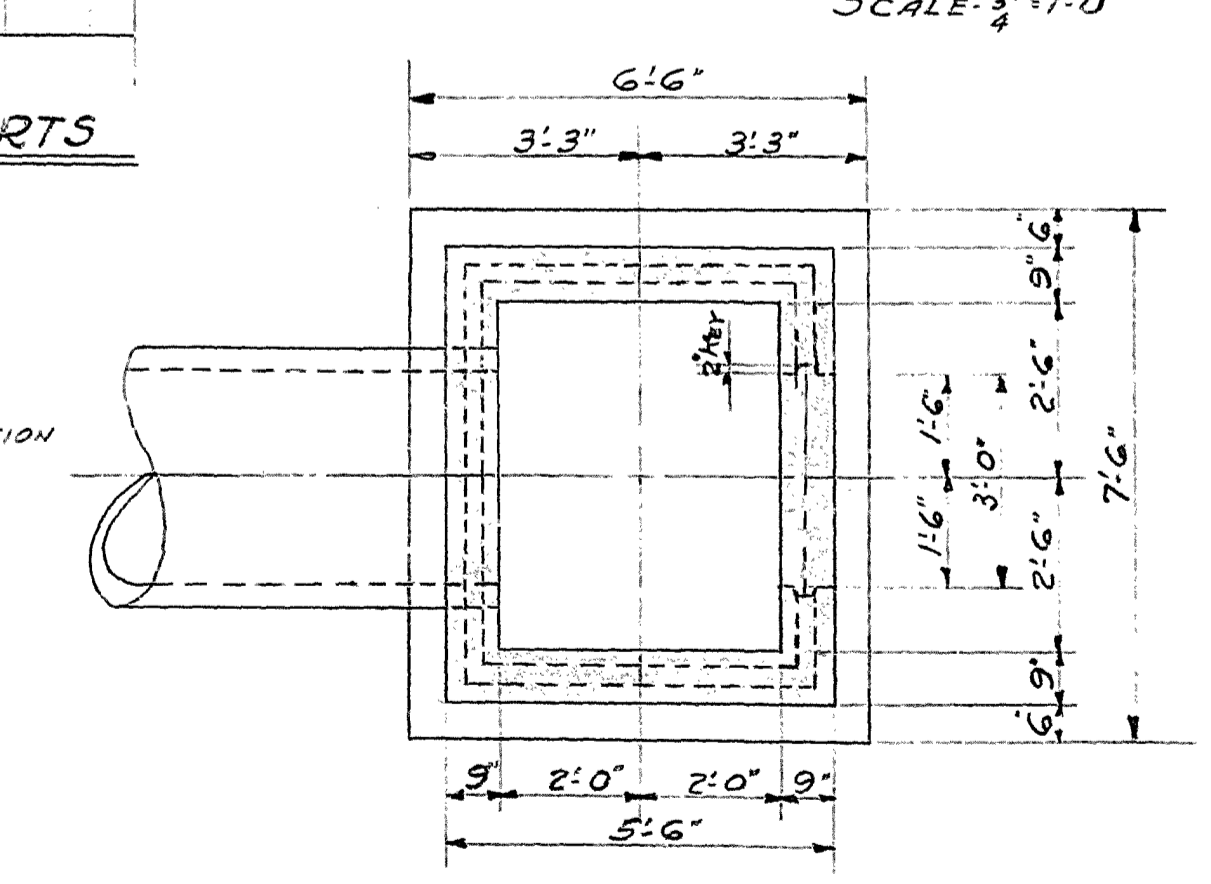
ELEVATION D-D
SCALE: 3/8"=1'-0"



TYR H.P. POST INSERTS
SCALE: 3/8"=1'-0"



TYR STAIR DETAILS
SCALE: 3/8"=1'-0"



SECTION E-E
SCALE: 3/8"=1'-0"

SECTION X-X
NO SCALE

CONC. LOGS-16 REQ'D
SCALE: 3/8"=1'-0"

ANCHOR BOLT
MK 12-3044 AB1
3 REQ'D

PLATE
MK 12-3044 B1
4 REQ'D

WORK THIS DWG. WITH DWG. 12-3045 (REINFORCING)

GENERAL NOTES

ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL
CONFORM TO THE A.C.I. & C.E.P. SPECIFICATIONS & FOOT
DIMENSIONS GIVEN FOR REINFORCING STEEL ARE TO
CENTER LINE OF BARS.
CONSTRUCTION JOINTS MAY BE OMITTED WITH THE
APPROVAL OF THE SUPERVISING ENGINEER. PROVA-
MENT IS PROPERLY RIGID SO THAT NO COULD JOINTS
WILL RESULT IN THE CONCRETE.
CONSTRUCTION JOINTS SHALL NOT BE PERMITTED
UNLESS PERMISSION IS GRANTED BY THE SUPERVISING
ENGINEERING DEPARTMENT.
EXPANSION JOINTS MUST BE LOCATED AS FOLLOWS:
ALL EXPOSED EDGES SHALL HAVE
FLOOR FINISH SHALL CONFORM TO THE
COMP. SPEC. AND SHALL BE PLACED
ALL EXPOSED CONCRETE SURFACE

LIST OF MATERIALS

CONCRETE 27 CU. YDS
HANDRAIL BY LOGAN G. DPKX-2522
MISC STEEL BY ESCO 1000 263
GRATING BY 500 5L 500 52
DPKX-4522

REFERENCE DRAWINGS

EXCAV PLAN 12-3044
UNITS 1 & 2 12-3045
REINFORCING 12-3045
F.P. PIPE DISCONNECT
TABLE 1-344

REVISIONS

UNITS 1 & 2
FLY ASH DRAINAGE SHAFT
MASONRY

OHIO POWER COMPANY
KAMMER PLANT
CRESAP, WEST VIRGINIA

DR. No. 12-3044

ARCH.	ELEC.	MECH.	STR.

SCALE AS SHOWN APPROVED
DR. MK 12-3044
CH. 4-0
DATE 7-25-97

AMERICAN GAS & ELECTRIC SERVICE CORP.
30 CHURCH STREET
NEW YORK