

HISTORY OF CONSTRUCTION
40 CFR 257.73(c)(1)(i)-(xii)
PLANT WANSLEY ASH POND (AP-1)
GEORGIA POWER COMPANY

(i) Site Name and Ownership Information:

Site Name: Plant Wansley

Site Location: Carrollton, Georgia

Site Address:
1371 Liberty Church Road
Carrollton, Georgia 30116

Owner: Georgia Power Company

Owner Address:
241 Ralph McGill Blvd
Atlanta, GA 30308

CCR Impoundment Name: Plant Wansley Ash Pond 1 (AP-1)

NID ID: GA05448 (Separator Dike)

EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Final Rule (40 C.F.R. Part 257 and Part 261), §257.73(c)(1), requires the owner or operator of an existing CCR surface impoundment to compile a history of construction. To the extent feasible, the following information is provided:

(ii) Ash Pond Location Map:

33°24'52"N, 85°03'00"W

See Location Map in the Appendix

(iii) Purpose of CCR Unit:

Plant Wansley is an electric generating facility with two coal fired units. The Plant Wansley Ash Pond (AP-1) is designed to receive and store coal combustion residuals and low volume waste streams produced during the coal burning electric generating process at Plant Wansley.

(iv) Watershed Description:

The Plant Wansley Ash Pond is located within the Yellowdirt Creek Watershed (HUC-12-031300020405). The Yellowdirt Creek Watershed has a total area of 16,470 acres. Based on the recent storm routing results for the Plant Wansley Ash Pond, the pond has approximately a 633-acre drainage basin including the area of AP-1.

(v) Description of physical and engineering properties of CCR impoundment foundation/abutments:

The Plant Wansley Ash Pond is formed by an engineered cross-valley embankment on the northeast side of the impoundment. This embankment is also referred to as the "Separator Dike", as it separates the ash pond on its west side from the Plant Wansley Service Water Reservoir (Storage Pond) on its east side. There is also a small embankment located at the west end of the impoundment.

The Separator Dike is located in the Piedmont Physiographic Province of Georgia. The Piedmont is underlain by igneous and metamorphic rocks. The residual soils in the Piedmont are a result of

weathering of the underlying bedrock. Between the residual soils and the underlying bedrock a transitional layer of partially weathered rock is present. The bedrock beneath the Separator Dike consists of gneiss, schists, and quartzite.

The Separator Dike foundation and abutments are supported primarily by Piedmont residual soils with consistencies ranging from firm to hard and generally described as sandy micaceous silt. A localized terrace deposit of weathered in-place ancient alluvium consisting mainly of stiff to very stiff sandy clayey silt and a deposit of firm to very stiff alluvial silt and clay provide foundation support in the north-central portion of the dike.

The Separator dike was constructed of residual soils from within and adjacent to the AP-1. Engineering design parameters were obtained from soil samples collected and tested during pre-construction geotechnical investigations and borrow studies. Soils used for embankment fill were put through a series of laboratory tests and results indicated that they were satisfactory with respect to the design parameters.

(vi) Summary of Site Preparation and Construction Activities:

The Separator Dike was constructed to a maximum height of 105 feet with a crest width and elevation of 30 feet and 805 ft msl, respectively. Two 25-ft wide benches were constructed along the upstream and downstream slopes, one at elevation 745 ft and one at elevation 775 ft. The slopes between the upstream and downstream toes and the benches are inclined at 3H:1V and the upstream and downstream slopes between elevation 775 ft and the crest are inclined at 2.5H:1V. Refer to drawing H-12364, H-12365 and H-12366 for Separator Dike construction. The Separator Dike has an overall length of approximately 2,950 feet.

Initial construction on the Separator Dike began on May 17, 1973 and AP-1 was commissioned in 1975. The Separator Dike was constructed in phases as shown on Drawings H-12364 and H-12366. All alluvial soils, sand, and gravel were removed from the core area; alluvial soils were also removed from the embankment area. As part of the initial construction, a 48-in diameter CMP was installed for temporary diversion of the existing creek. The pipe was later plugged with concrete on May 2, 1974 as completion of dike construction.

The upstream and downstream slopes of the Separator Dike are protected from scour by a riprap blanket as depicted on drawing H12365. On the downstream side (Storage Pond Side), the blanket extends from the toe to elevation 745 ft and consists of 3-ft of riprap over 1-ft of bedding; from elevation 745 ft to 780 ft, 2-ft of riprap; and from elevation 780 ft to the crest of the Separator Dike, 2-ft of riprap over 1-ft of bedding. On the upstream side (Ash Pond Side), the blanket extends from the crest to elevation 790 ft and consists of 2-ft of riprap over 1-ft of bedding; from elevation 790 ft to 775 ft, 2-ft of riprap; no rock protection exists from elevation 775 ft to the toe. The riprap was supplied by on-site excavation of bedrock. The bedding material was manufactured from a mixture of crushed on-site materials and off-site sand. An internal drainage system consisting of horizontal blanket drains was installed within the downstream section of the embankment. The drains consist of a 12-in thick layer of sand placed on a 2 percent downward slope toward the downstream face of the dam. A total of three blankets were installed at elevations 780 ft, 750 ft, and 725 ft. The blanket drains are also shown on drawing H-12365.

In 2007, two temporary gypsum dewatering cells were added to the existing ash pond footprint. These cells are not lined and were constructed on the ash delta on the eastern end of the Ash Pond. The

purpose of these cells was for temporary gypsum storage and dewatering before being hauled to the on-site landfill.

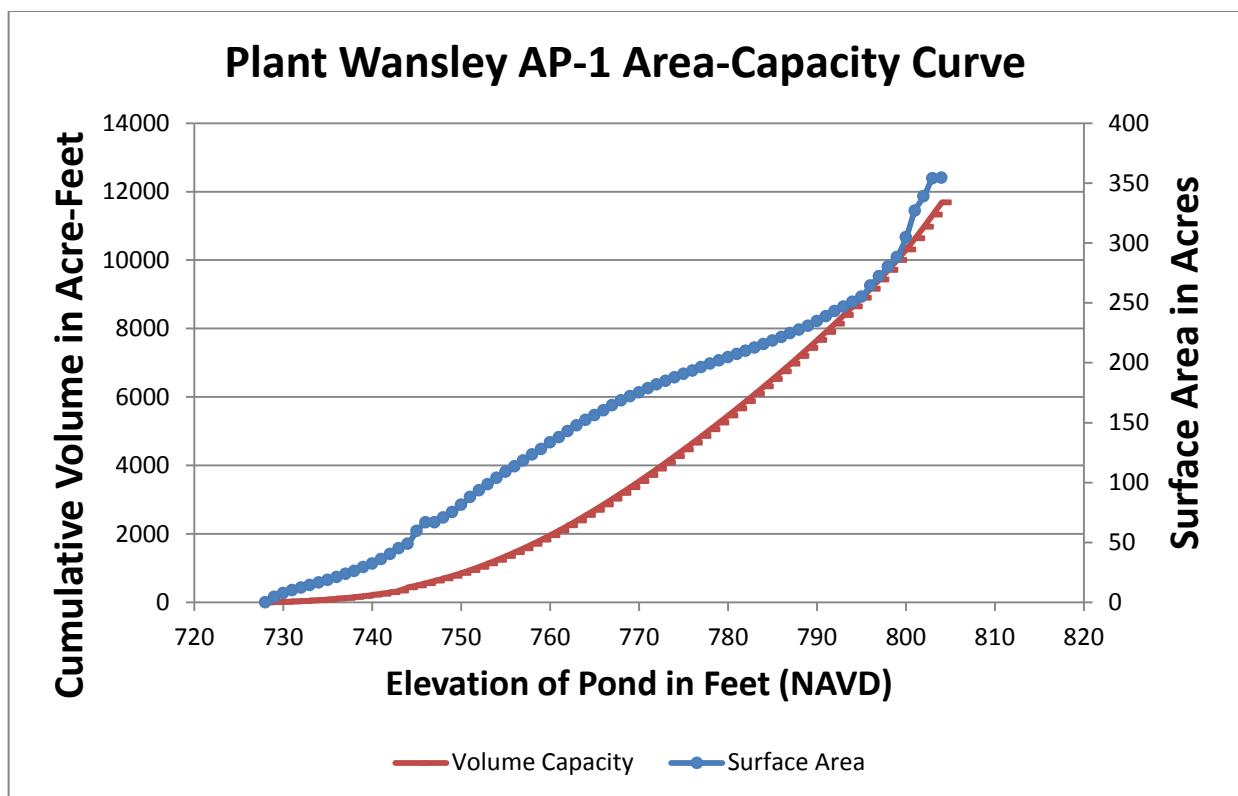
(vii) Engineering Diagram:

The following drawings reflecting the construction of AP-1 can be found in the Appendix:

- Aerial Topo Location Map
- E-10062 – Plant Wansley Surveillance Instrumentation Location
- H-10027 – Plant Wansley Project Location Map
- H-12363 – Ash Pond Discharge Structure General Arrangement
- H-12364 – Separation Dam Construction
- H-12365 – Separation Dam Section and Details
- H-12366 – Separation Dam Construction Diversion Scheme Stage DWGs
- H-12375 – Ash Pond Interceptor Channel Plan & Sections
- H-12396 – Separation Dike Stability Analysis
- H-12399 – Separation Dam-General Arrangement with Limits of Excavation
- H-12624 – Plant Wansley Unit 1 Outdoor Concrete Ash Pond Intake Structure

(viii) Description of Instrumentation: Three piezometers were installed along the Separator Dike for monitoring of the phreatic surface within the dike. The locations of the piezometers are shown on Drawing E10062. Piezometer CC is below the normal pool elevation of the Storage Pond and can only be measured during drought conditions.

(ix) Area-capacity curves:



(x) Spillway/Diversion design features and capacity calculations:

Stormwater is temporarily stored within the limits of the surface impoundment and discharged through a primary spillway located on the southwestern end of the pond that consists of a 42-in diameter corrugated metal pipe (CMP). The 42-in CMP splits downstream into two pipes: a 36-in diameter pipe which recycles water back to Plant Wansley, and the 10-in pipe which discharges water into a detention pond on the south end of the Plant. An auxiliary spillway system consisting of a 36-in diameter CMP and a 45-ft wide concrete broad crested weir is located on the west end of the impoundment on the western embankment. The Plant maintains the water surface elevation of AP-1 below the invert of the auxiliary spillway by the volume of water recycled back to the Plant. There is no record of the auxiliary spillway being engaged during a storm event at the Plant.

Stormwater inflows to the pond were developed by generating runoff volumes from the 100-year 24-hour storm event that falls on a watershed of approximately 633 acres. An interceptor channel is located on the northwest corner of AP-1 and diverts run-off from the watershed around AP-1. The combined flow to AP-1 developed from the design storm and plant process flows has been determined to be approximately 2,280 cfs. AP-1 is designed to safely pass this flow maintaining 5.4 feet of freeboard below the crest of the Separator Dike.

(xi) Provisions for surveillance, maintenance and repair:

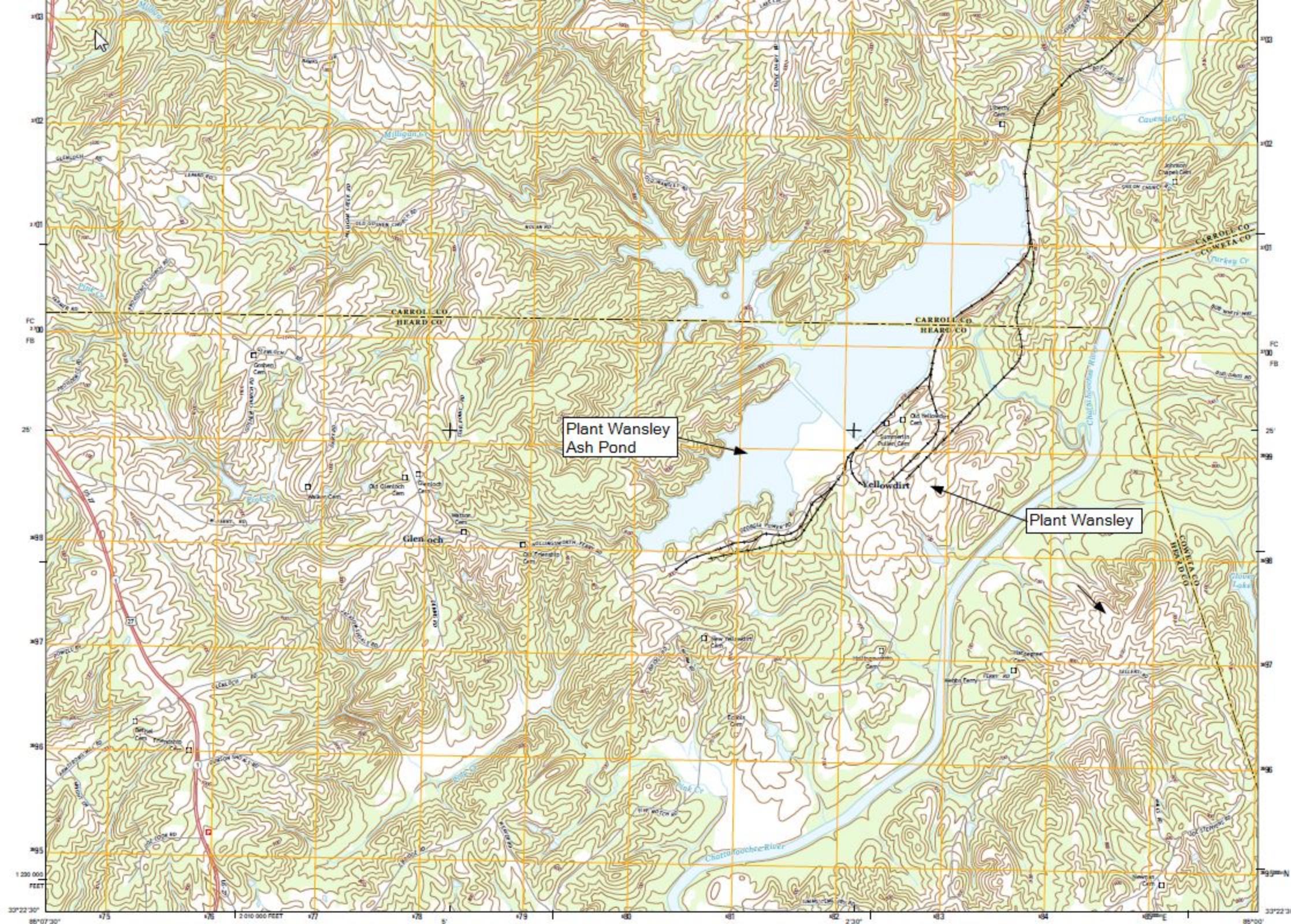
Inspections of dams and dikes are critical components and are conducted on a regular basis—at least annually by professional dam safety engineers and at least weekly by trained plant personnel. In addition, inspections are performed after unusual events such as severe storms. The inspections provide assurance that structures are sound. Action is taken, as needed, in the event that structural

deficiencies or other items/issues that may affect the integrity of the dam are discovered. Specific items vary from site to site but may include observations of such things as pond levels, weather conditions, rainfall since the prior inspection, instrument readings, conditions of slopes and drains, erosion, animal damage, ant hills, alignment of retaining structures and more. Dam safety engineers also assess instrument readings, inspect any maintenance or remediation performed since the previous inspection, check the status of work completed after prior inspections, ensure that the posting of emergency notification information is up to date, and evaluate any items noted during the weekly inspections.

(xii) Known record of structural instability:

There are no known instances of structural instability at the CCR unit.

Appendix



Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)

World Geodetic System of 1984 (WGS84). Projection and

1:200-meter grid: Universal Transverse Mercator, Zone 16S

10,000-foot ticks: Georgia Coordinate System of 1983 (west zone)

This map is not a legal document. Boundaries may be

generalized for this map scale. Private lands within government

reservations may not be shown. Obtain permission before

entering private lands.

Imagery.....NAIP, September 2010

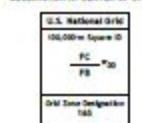
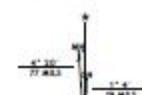
Roads.....GA Dept. of Transportation, 2013

Names.....USGS, GES, 2013

Hydrography.....National Hydrography Dataset, 2013

Contours.....National Elevation Dataset, 2008

Boundaries.....Multiple sources; see metadata file 1972 - 2013



SCALE 1:24,000



CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.16



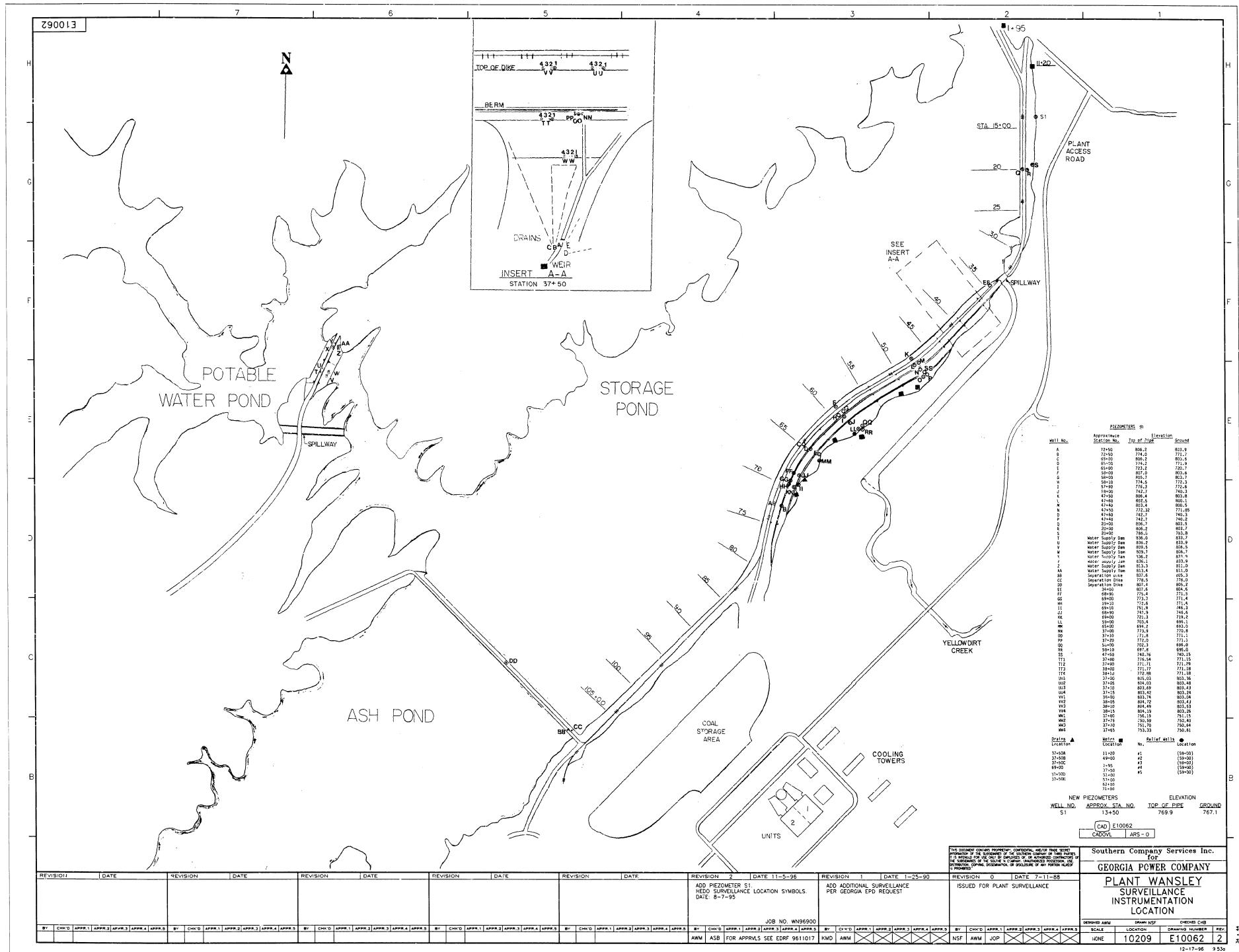
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
Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD
Interstate Route	US Route
State Route	

1 Bowdon East	2 Carrollton
3 Dallas	4 Roswell
5 Whitewater	6 Prolona
7 Franklin	8 Newnan SW
9	10

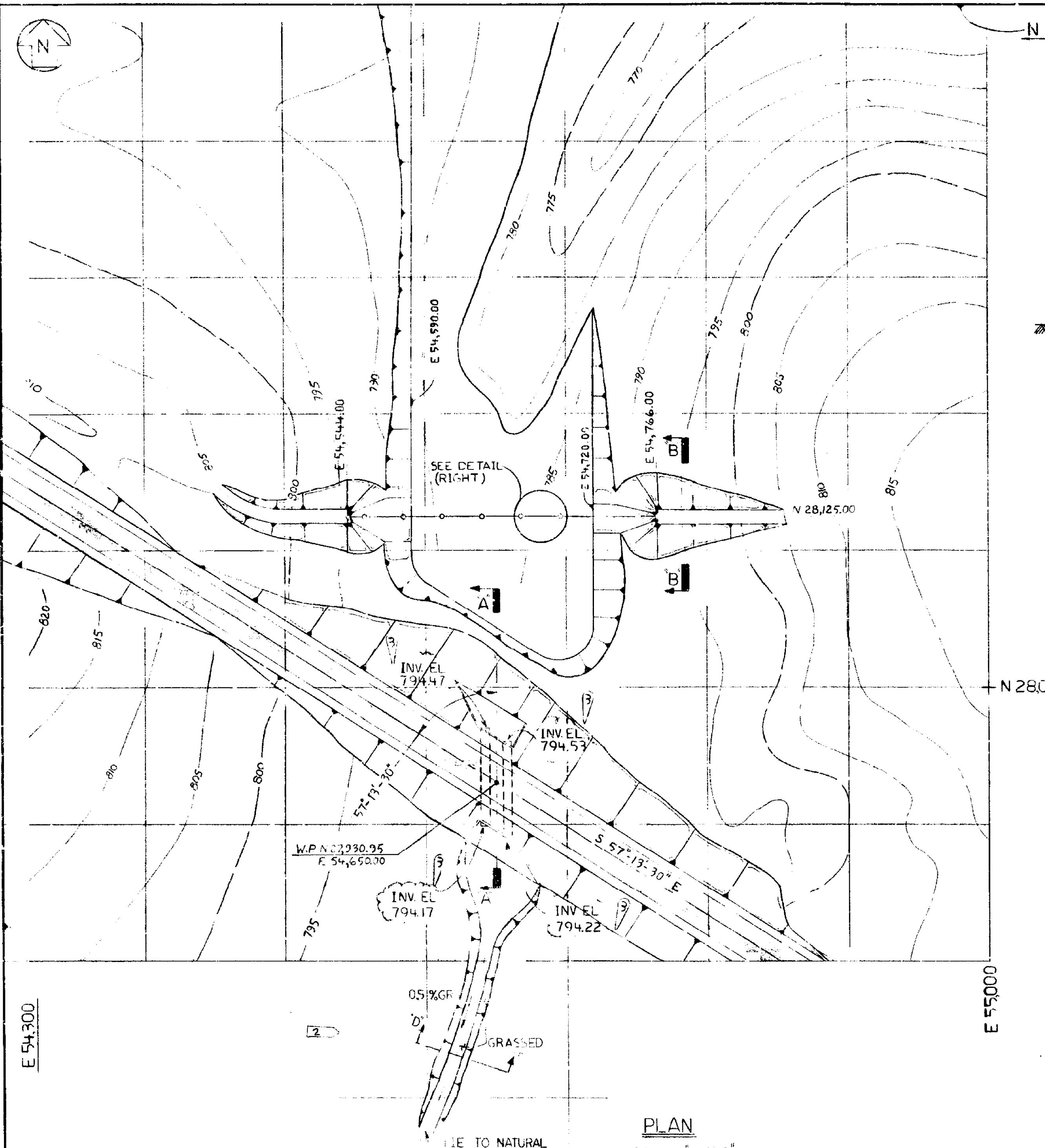
LOWELL, GA

2014



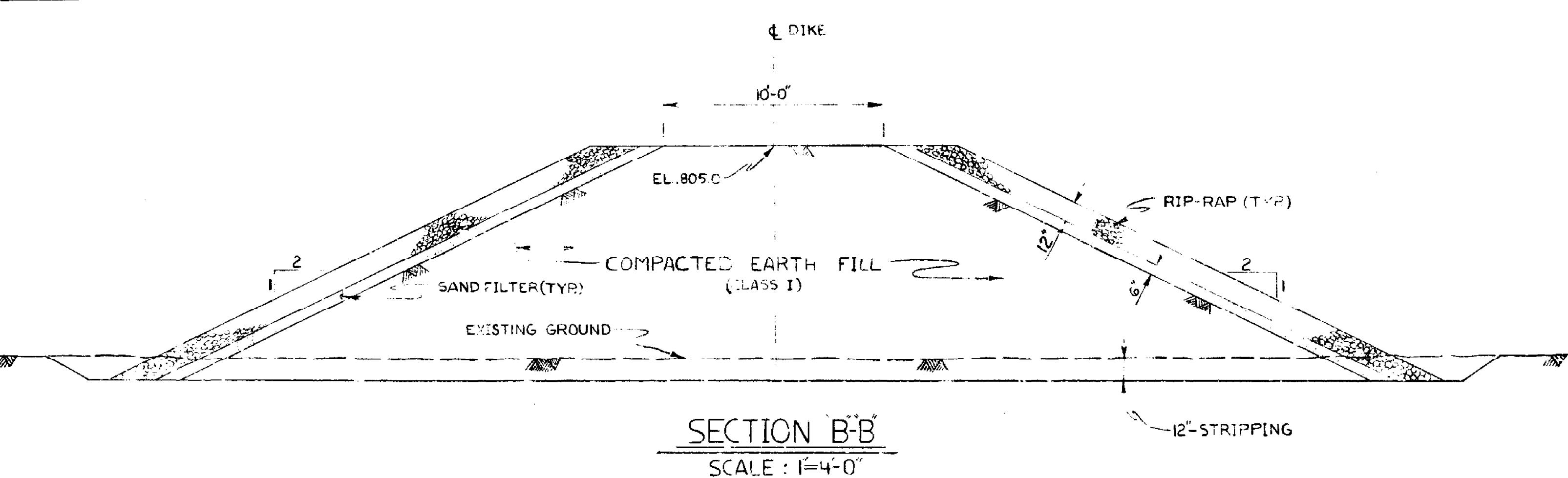


Prepared By Stereophotogrammetric Methods
ALSTER & ASSOCIATES INC., MADISON, WIS.



PLAN

SCALE : 1-50-0



SECTION B-B

SCALE : 1:4-0

A hand-drawn cross-section diagram of a dam panel. The vertical axis on the left shows elevation levels from 782.0 at the base to 805.0 at the top. A dashed horizontal line at elevation 795.0 is labeled "APPROXIMATE WATER LEVEL EL. 795.0". A solid horizontal line at the bottom is labeled "BOTTOM OF PANEL EL. 792.0". A horizontal arrow points to the right from the 795.0 level, labeled "MAX. V_{ave} = 0.2 F.P.S.". A small triangular area at the base is shaded.

TOP OF PANEL EL. 805.0

APPROXIMATE WATER LEVEL EL. 795.0

BOTTOM OF PANEL EL. 792.0

MAX. V_{ave} = 0.2 F.P.S.

EL. 782.0

This architectural drawing illustrates a building's exterior wall section. The total width of the wall is indicated as 28'-0" at the top center. A large rectangular opening, labeled "PRECAST CONCRETE PANEL", is positioned in the middle-left portion of the wall. To the left of this opening, a dimension of 26'-0" is shown. On the far right, a vertical height dimension of 2'-0" + CA is provided. Small arrows labeled 'C' point to specific features on the left side of the wall. The bottom of the wall is marked with three small triangular symbols.

SINK TO SOLID ROCK (TYP)

SECTION A-A

FOR CONTINUATION OF
DISCHARGE CHANNEL SEE
PLAN SECTION E-1

2-66" CONCRETE PIPE

EL. 805.00

EXISTING ROAD FILL

1.0% SLOPE

68'-0"

EL. 782.00

E ROAD

34'-0"

34'-0"

INV. EL. 794.50

NORMAL WATER SURFACE EL 795.00

1'-0" RIP RAP

FILTER

EXISTING GROUND

EL. 782.00

SCALE: 1" = 10'-0"

SECTION A

SECTION V

SECTION C-C

SCALE 1=4-0

DETAILS OF SKIMMER

DETAIL OF SKILL

NOTES:

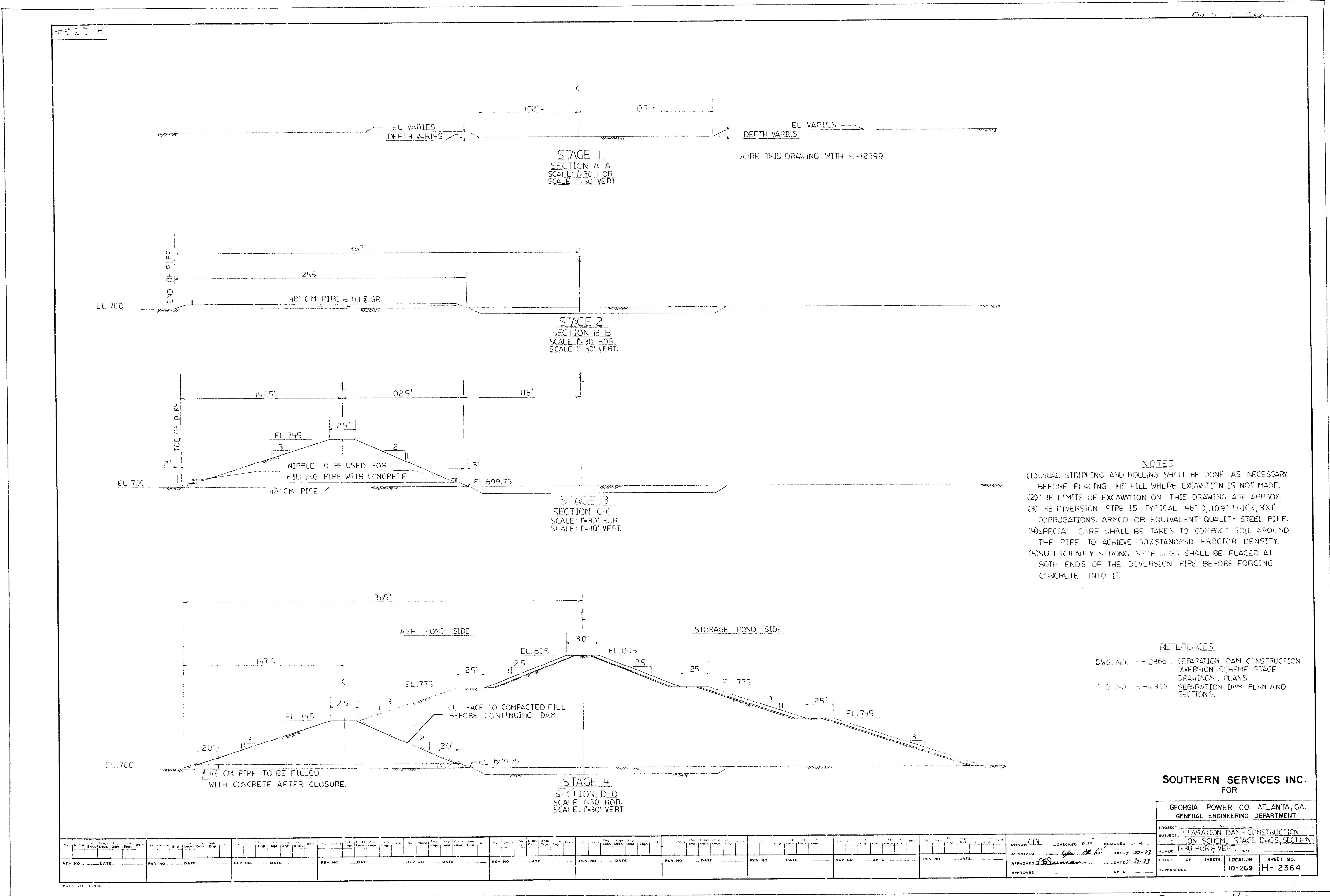
1. FOR CONCRETE DETAILS, SEE DWG. H-1212G.
2. DIMENSIONS SHOWN ARE CRITICAL TO HYDRAULIC DESIGN. OTHERS MAY VARY TO SUIT CONCRETE DESIGN.

SOUTHERN SERVICES, INC.

GEORGIA POWER COMPANY	
PROJECT	PLANT WANSLEY
SUBJECT	ASH POND DISCHARGE STRUCTURE GENERAL ARRANGEMENT
SCALE	AS SHOWN
LOCATION	B/M
10-209	H-12363

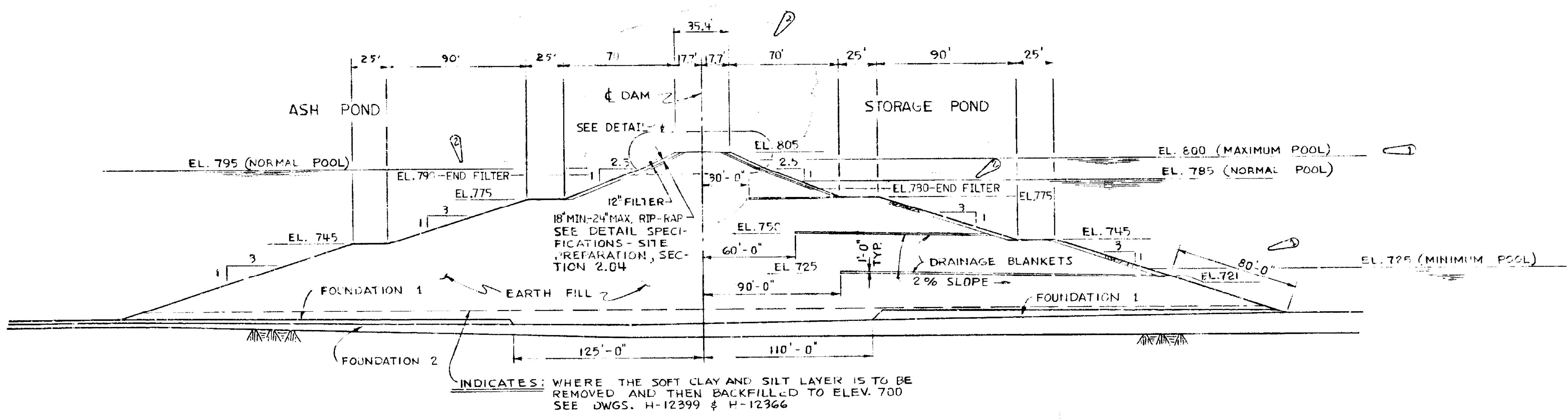
30X

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A ~~25~~ B F ~~1624~~ 24 30 24 30

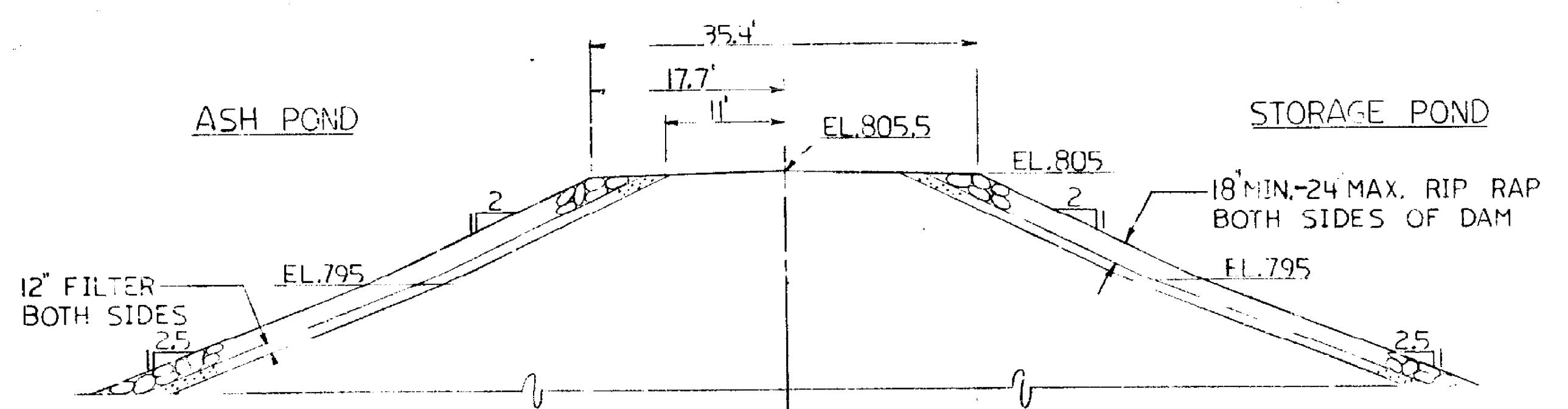


30X

3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
A **16** B **16** F **24** D **30**



SECTION G-G (H-12399)
1=40'-0"



TYPICAL TOP OF DAM DETAIL
SCALE: 1=10'-0"

REFERENCES: SEPARATION DAM

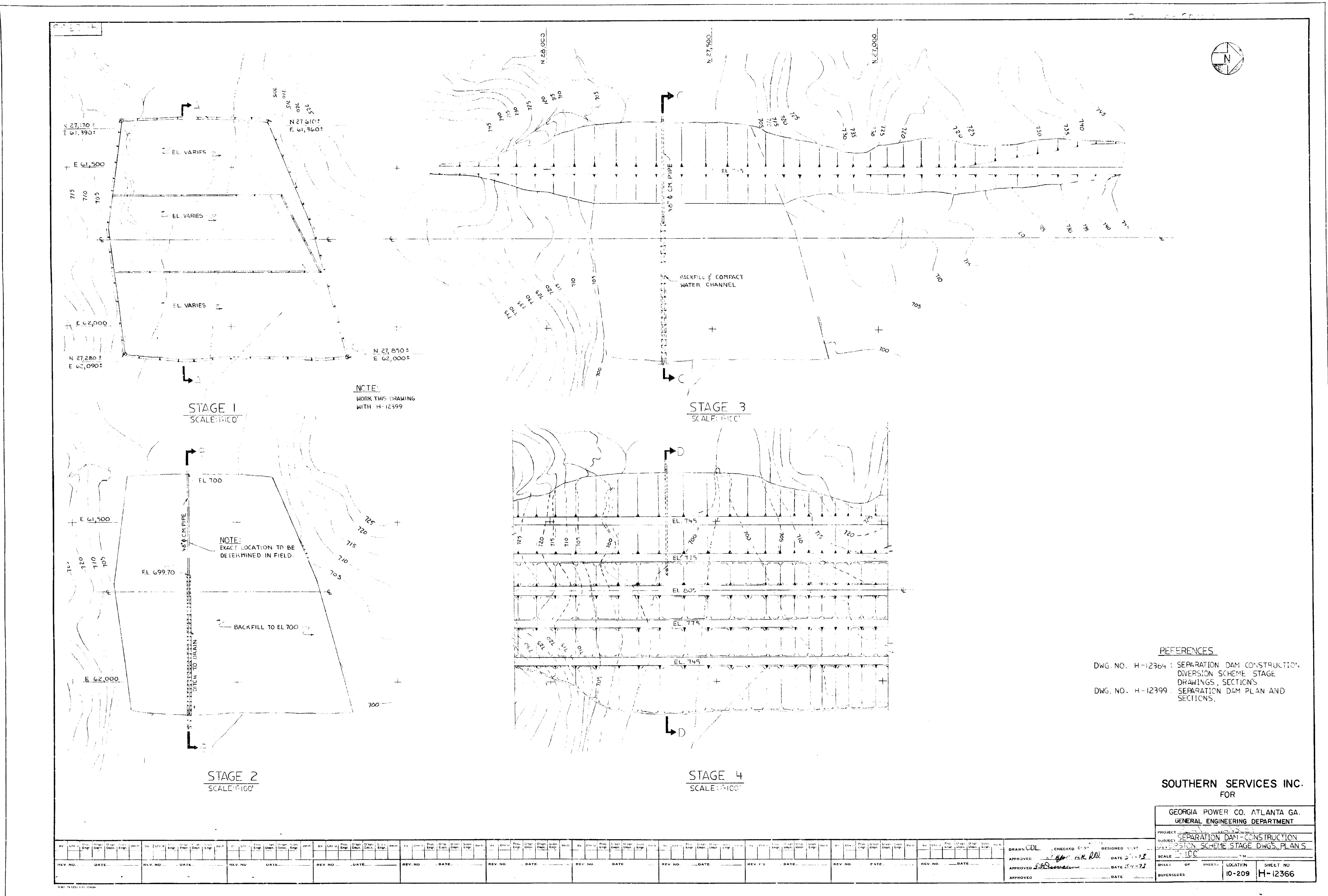
H-1236—DIVERSION SCHEME—STAGE DRAWINGS & SECTION
H-12366—CONSTRUCTION DIVERSION SCHEME—STAGE DRAWINGS & PLANS
H-12396—STABILITY ANALYSIS, SHEET 1 OF 3
H-12397—II II , SHEET 2 OF 3
H-12398—II II , SHEET 3 OF 3
H-12399—GENERAL ARRANGEMENT WITH EXCAVATION LIMITS

SOUTHERN SERVICES, INC.
FOR

GEORGIA POWER CO., ATLANTA, GA. GENERAL ENGINEERING DEPARTMENT	
PLANT WANSLEY SEPARATION DAM SECTION & DETAILS	
REVISIONS	DRAWING NUMBER LOCATION SHEET NO.
1. DATE BY	4-13-73
2. DATE BY	4-13-73
3. DATE BY	4-13-73
4. DATE BY	4-13-73
5. DATE BY	4-13-73
6. DATE BY	4-13-73
7. DATE BY	4-13-73
8. DATE BY	4-13-73
9. DATE BY	4-13-73
10. DATE BY	4-13-73
11. DATE BY	4-13-73
12. DATE BY	4-13-73
13. DATE BY	4-13-73
14. DATE BY	4-13-73
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22. DATE BY	4-13-73
23. DATE BY	4-13-73

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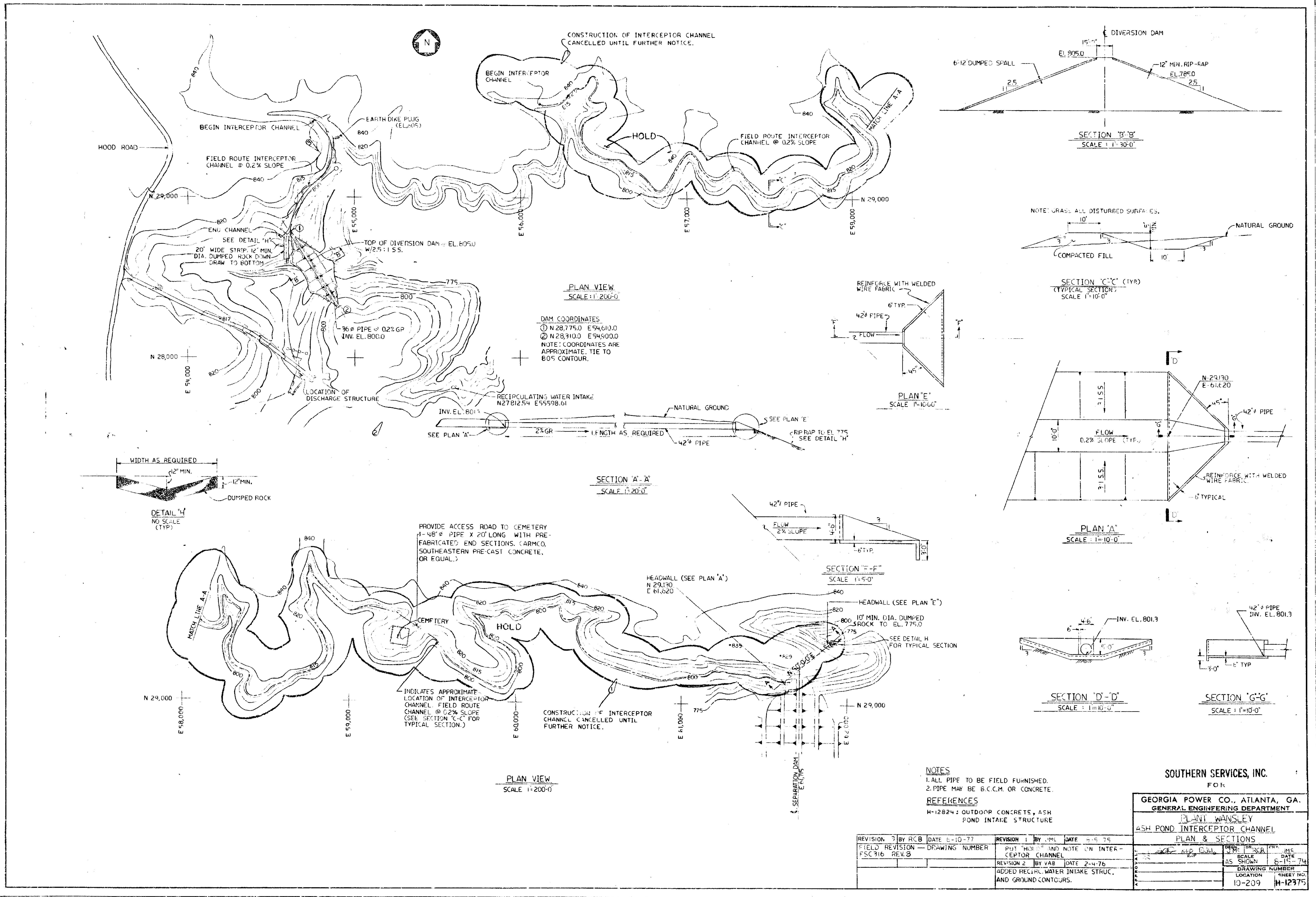
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A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

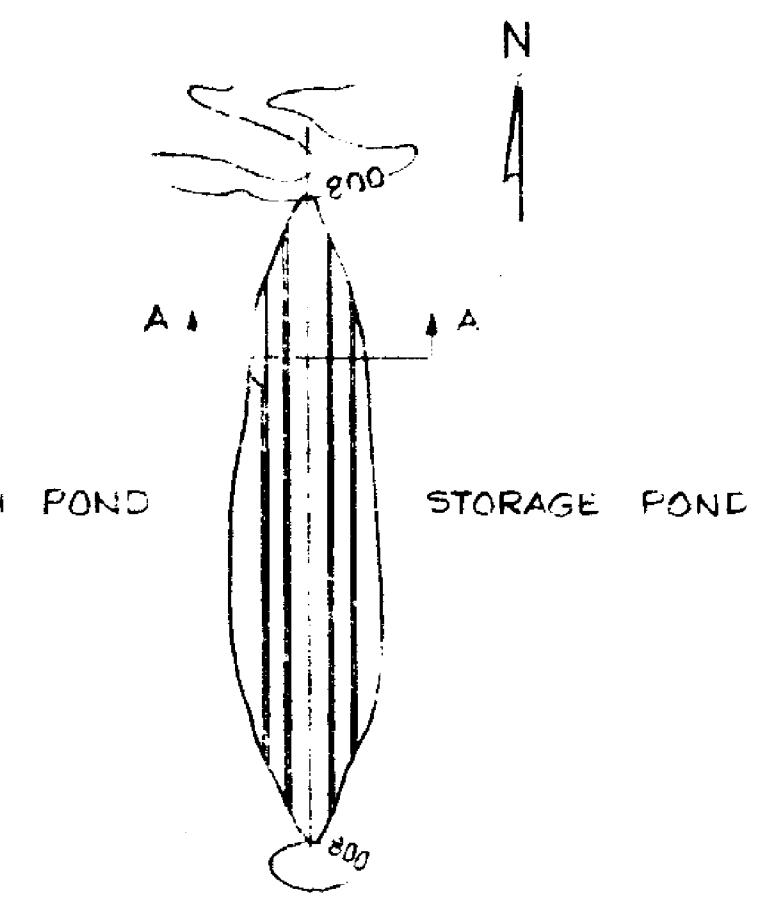
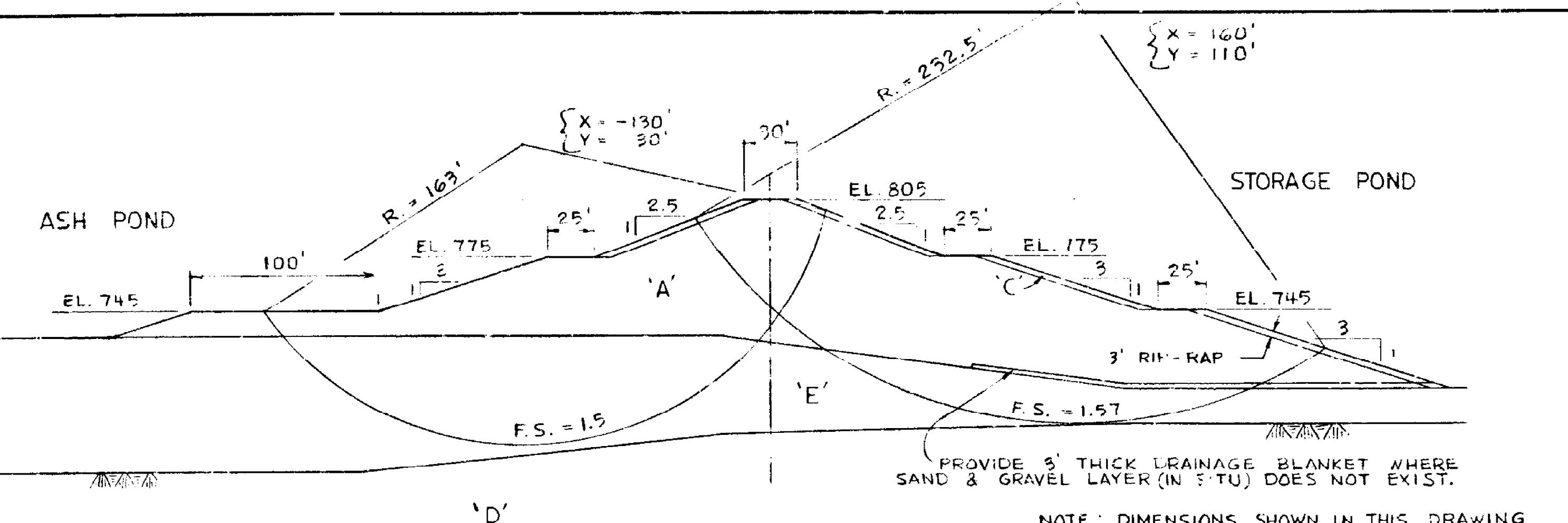


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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
A B F D

RETURN TO HYDRO

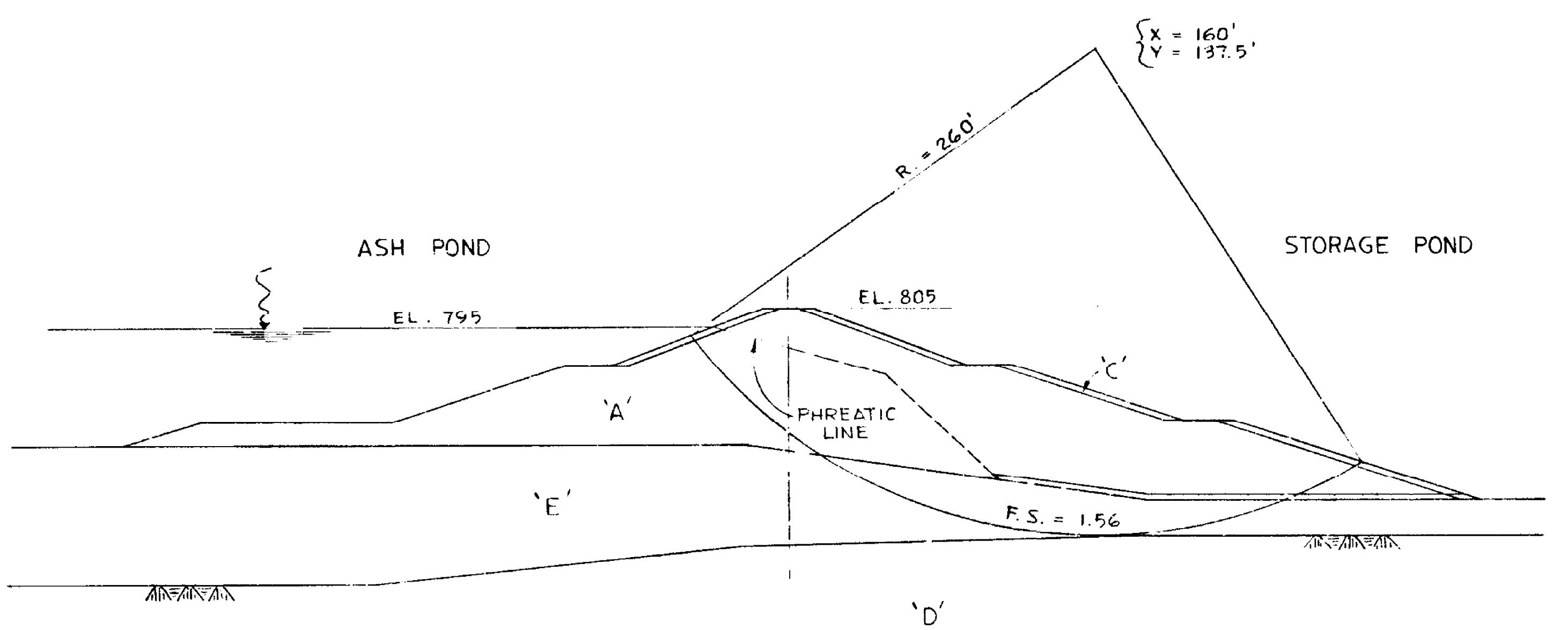




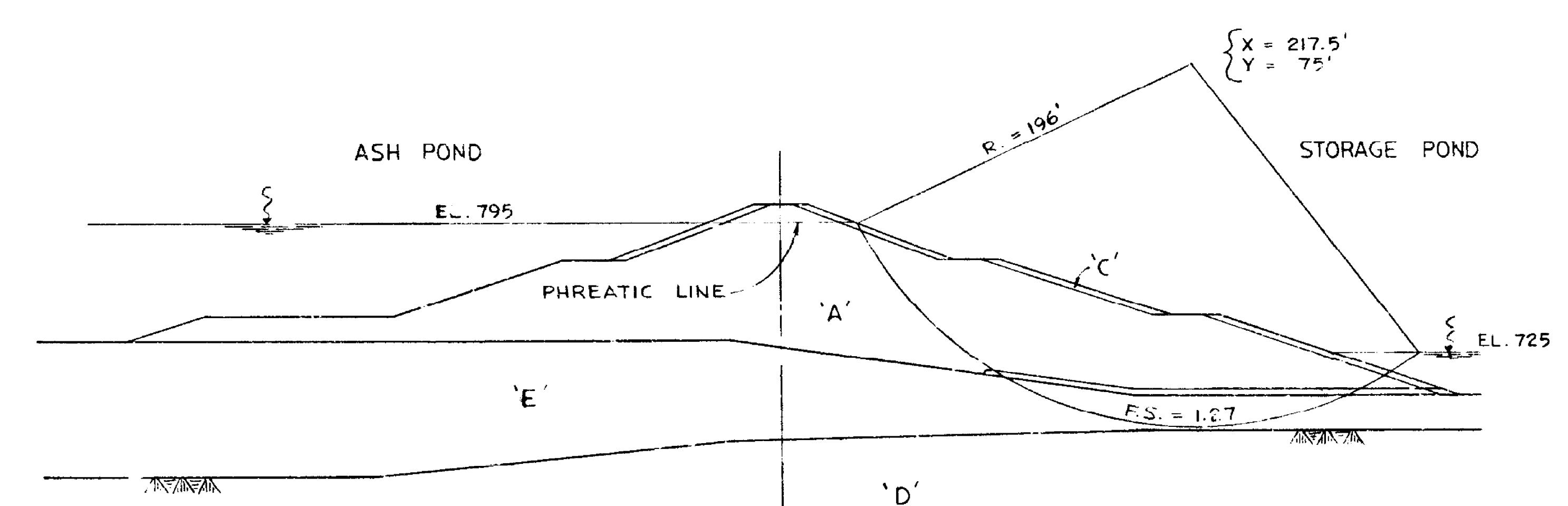
UNDER CONSTRUCTION

TOTAL STRESS
SOIL CHARACTERISTICS

TYPE SOIL	CONSTRUCT % SLOPES	STEADY SEEPAGE DRAWDOWN		
		LE ² /CUT FT. LE ² /CUT FT. LE ² /CUT FT. LE ² /CUT FT.	LE ² /CUT FT. LE ² /CUT FT. LE ² /CUT FT. LE ² /CUT FT.	LE ² /CUT FT. LE ² /CUT FT. LE ² /CUT FT. LE ² /CUT FT.
EMB. FILL (A)	12.4	26.5	1200	124 19 1400
FINE SILT (B)	130	40	0	130 40 0
RIP-RAP (C)	130	38	0	130 38 0
BEDROCK (D)	130	40	3000	150 40 3000
FR. S. 1 (E)	112	8	550	112 12 700



STEADY SEEPAGE



STORAGE POND DRAWDOWN EL. 795 - EL. 725

CIRCLE ANALYSIS

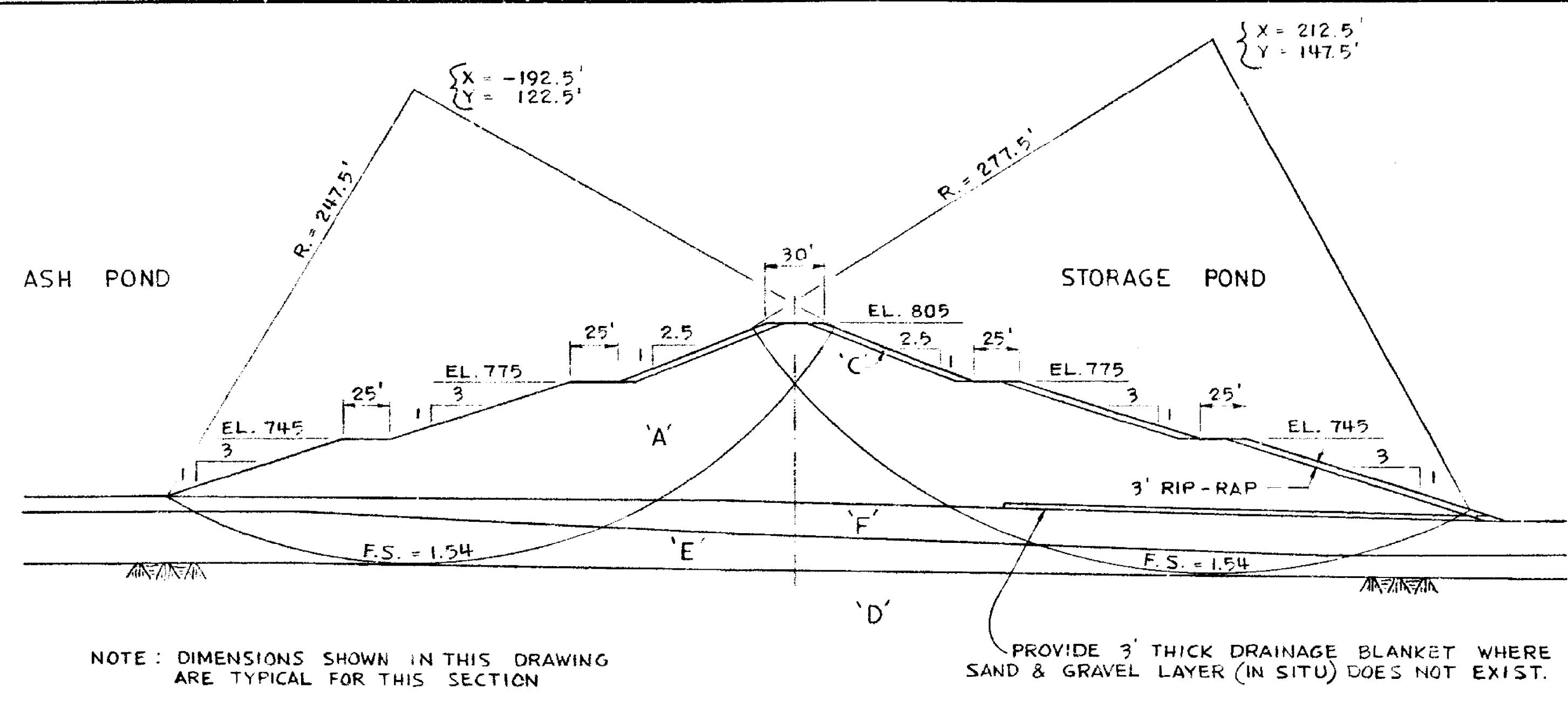
SECTION A-A

REVISONS	GEORGIA POWER CO., ATLANTA, GA. GENERAL ENGINEERING DEPARTMENT
BY	PLANT WANSLEY
DATE	SEP 27 1972
APPROVED	STABILITY ANALYSIS-SHEET 1 OF 3
BY	MR. J. M. HARRIS
DATE	10-209
SCALE	1:2000
APPROVED	DRAWING NUMBER
BY	10-209
DATE	LOCATION
APPROVED	SHEET NO.
BY	10-209
DATE	H 12396

RETURN TO HYDRO

30X

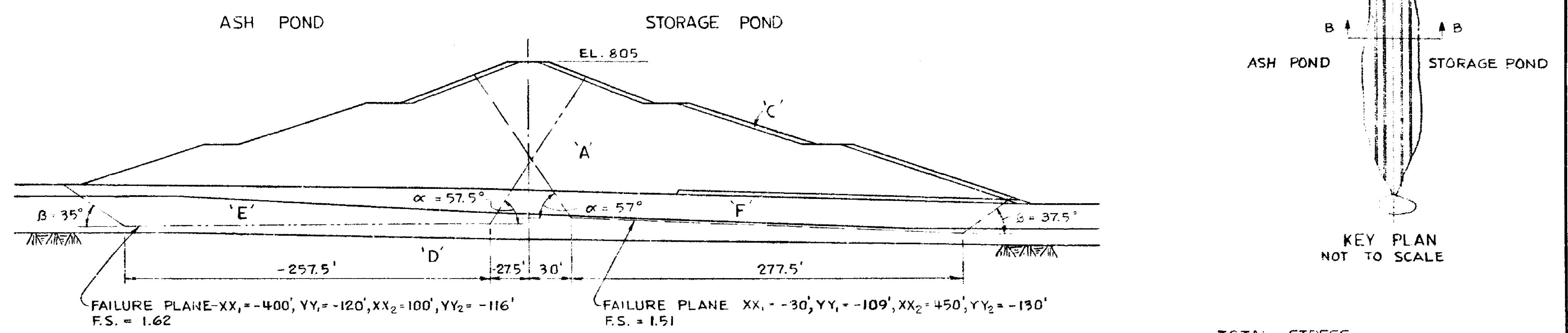
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A 16 B 24 C 24 D 30



NOTE : DIMENSIONS SHOWN IN THIS DRAWING
ARE TYPICAL FOR THIS SECTION

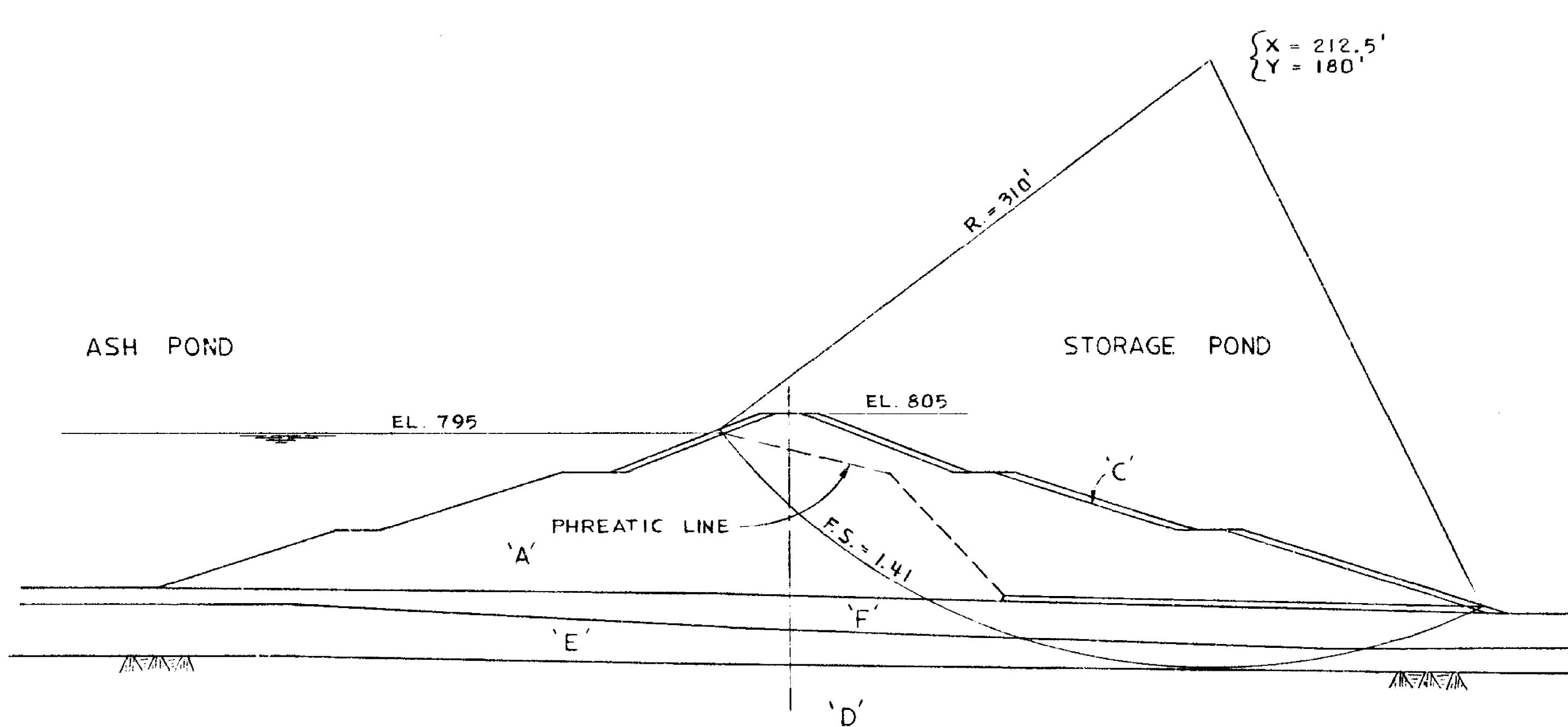
PROVIDE 3' THICK DRAINAGE BLANKET WHERE
SAND & GRAVEL LAYER (IN SITU) DOES NOT EXIST.

UNDER CONSTRUCTION

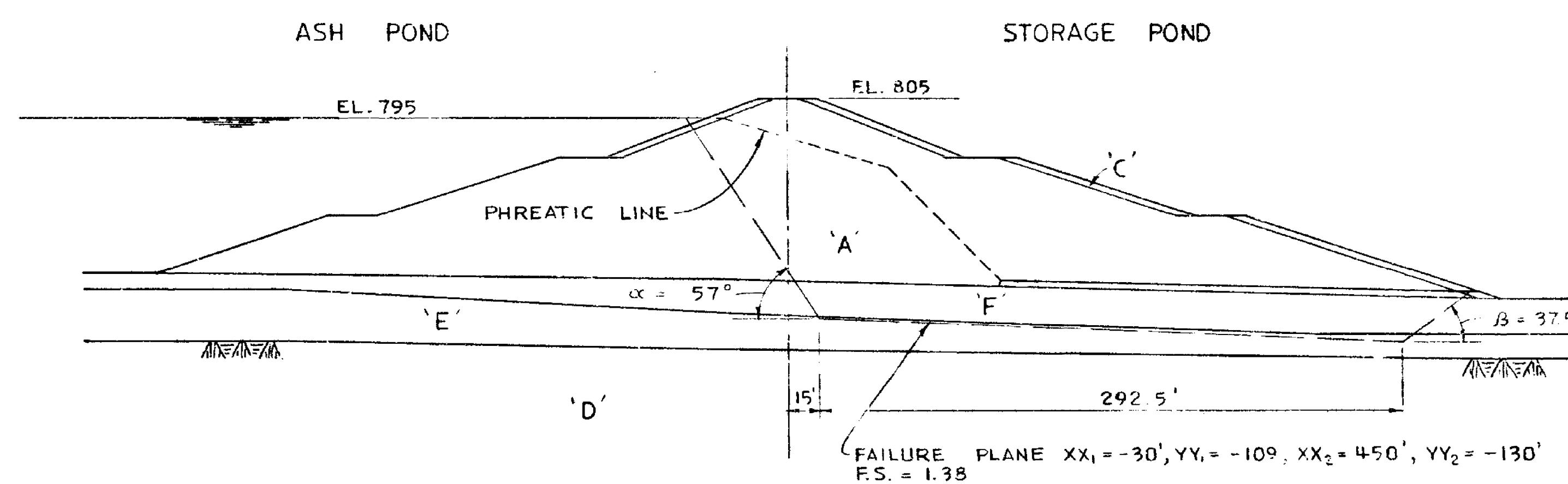


UNDER CONSTRUCTION

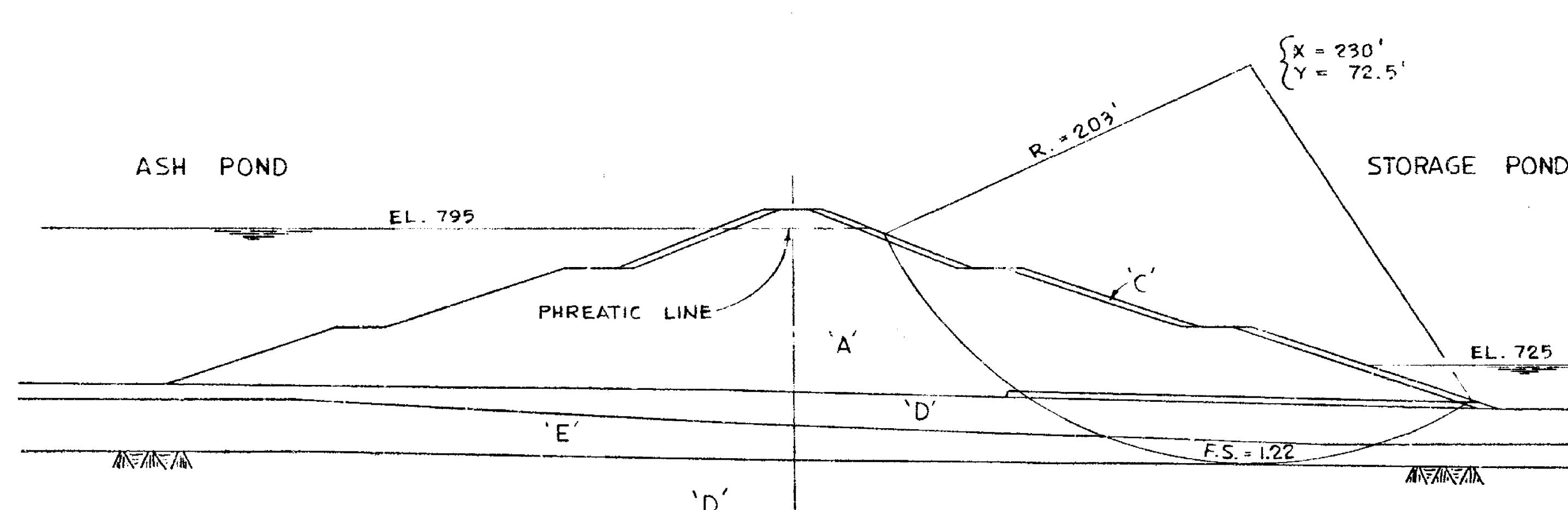
TOTAL STRESS SOIL CHARACTERISTICS						
TYPE SOIL	CONSTRUCTION			STEADY SEEPAGE & DRAWDOWN		
	γ_n LBS/CU.FT.	ϕ DEGREES	C LBS/SQ.FT.	γ_m LBS/CU.FT.	ϕ DEGREES	C LBS/SQ.FT.
EMB. FILL (A)	12.4	26.5	1200	124	19	1400
FILTER (B)	130	40	0	130	40	0
RIP-RAP (C)	130	30	8	130	30	8
BEDROCK (D)	150	40	3000	150	40	3000
FDN. 1 (E)	112	8	550	112	12	700
FDN. 2 (F)	120	12	1300	120	12	1300



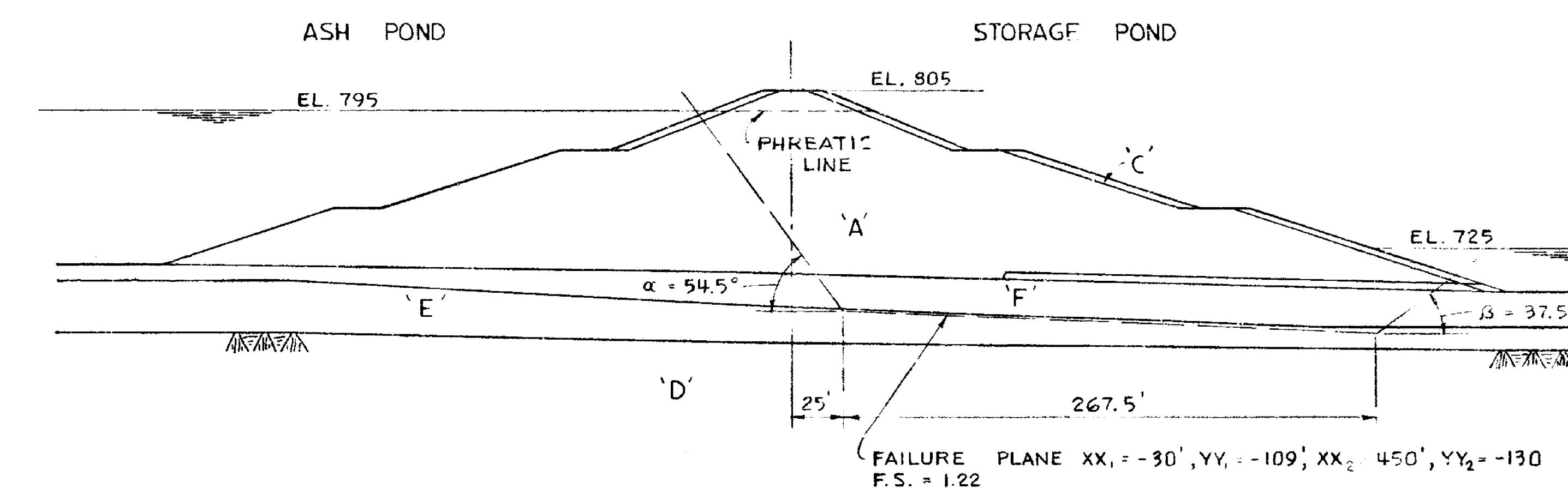
STEADY SEE PAGE



NOTE :
FOR GENERAL NOTES SEE DWG. H-12396.



STORAGE POND DRAWDOWN EL. 795 - EL. 725



STORAGE POND DRAWDOWN EL. 795 - EL. 725

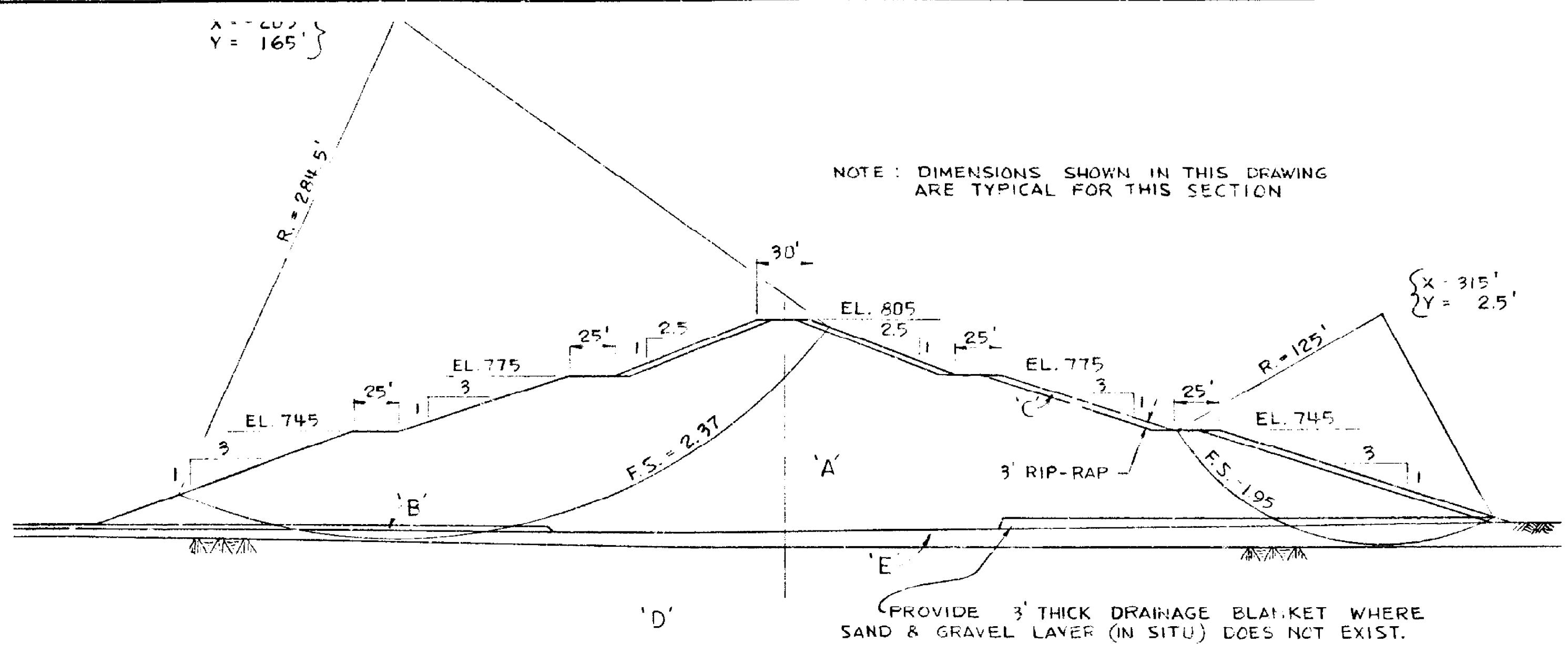
SECTION B-B

		GEORGIA POWER CO., ATLANTA, GA. GENERAL ENGINEERING DEPARTMENT		
REVISIONS		PLANT WANSLEY SEPARATION DIKE		
DATE BY		STABILITY ANALYSIS-SHEET 2 OF 3		
APPROVALS	10-209	DSGN. J.M. OF WDP	CHK. J.M.	
NO.	8-6-73	SCALE 1 - 10	DATE 6-7-73	
		DRAWING NUMBER H-12397		
		LOCATION 10-209	SHEET NO. H-12397	

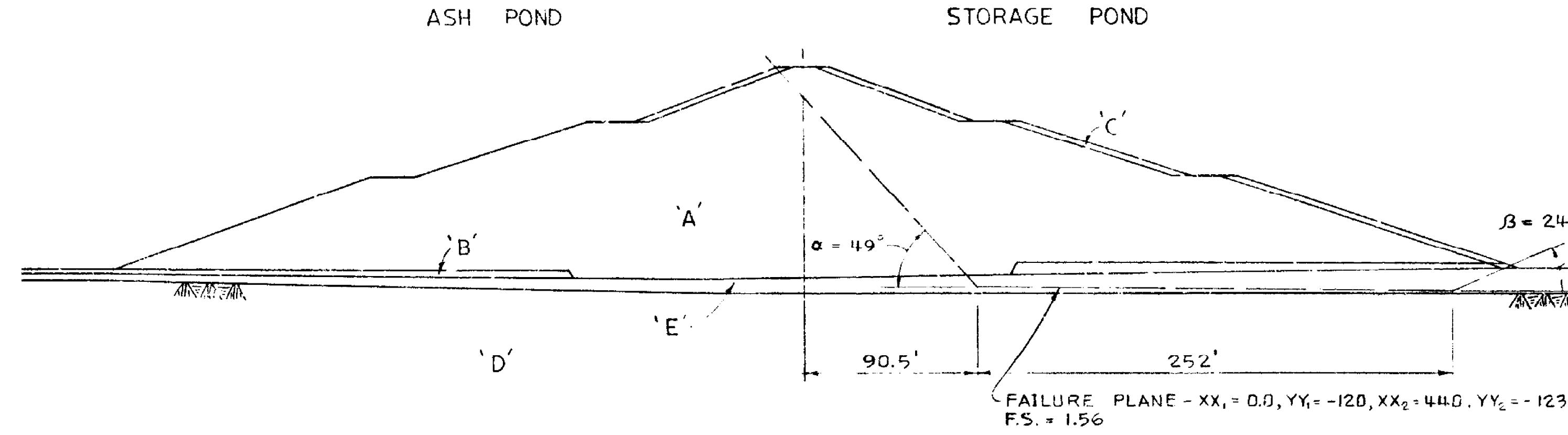
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30%

INCHES

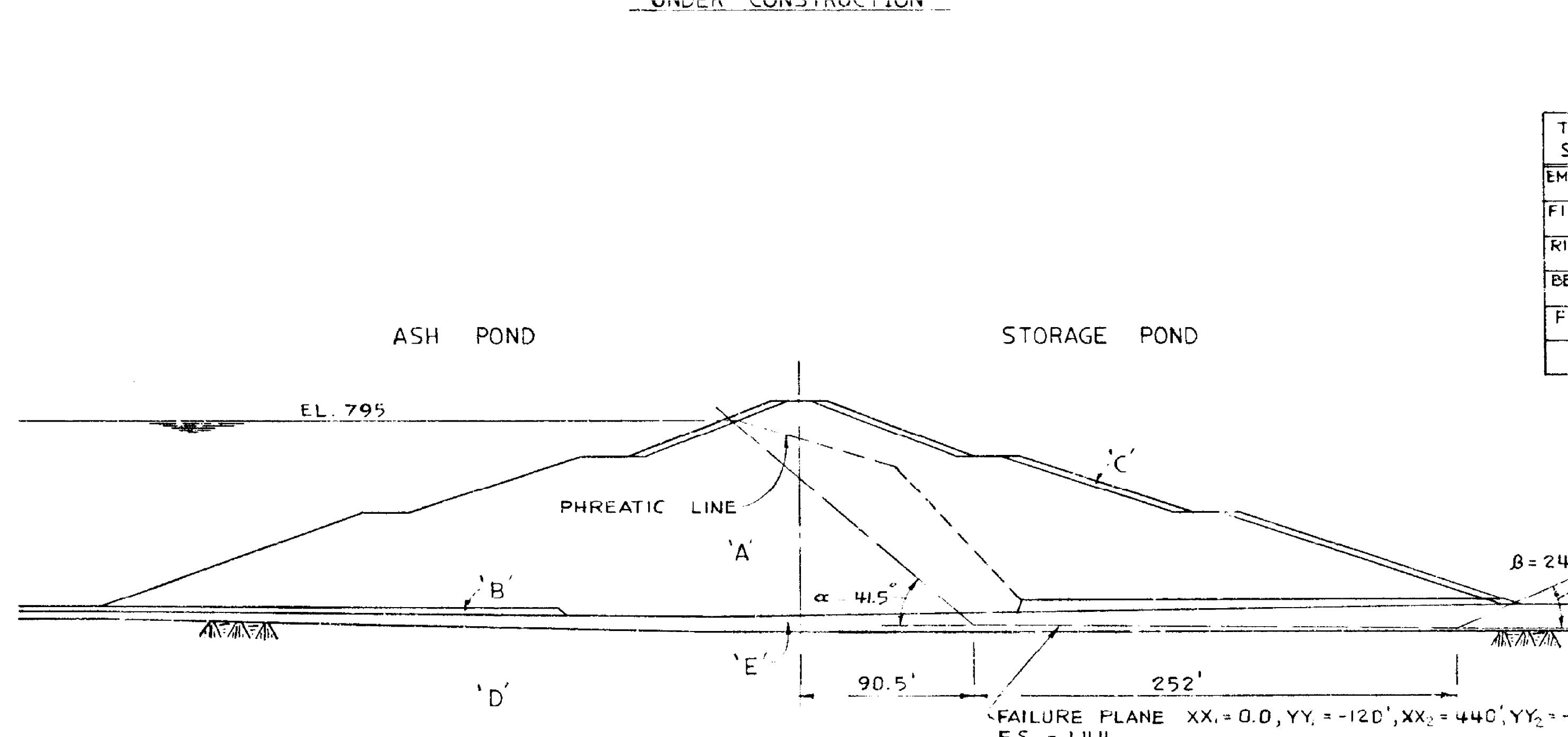
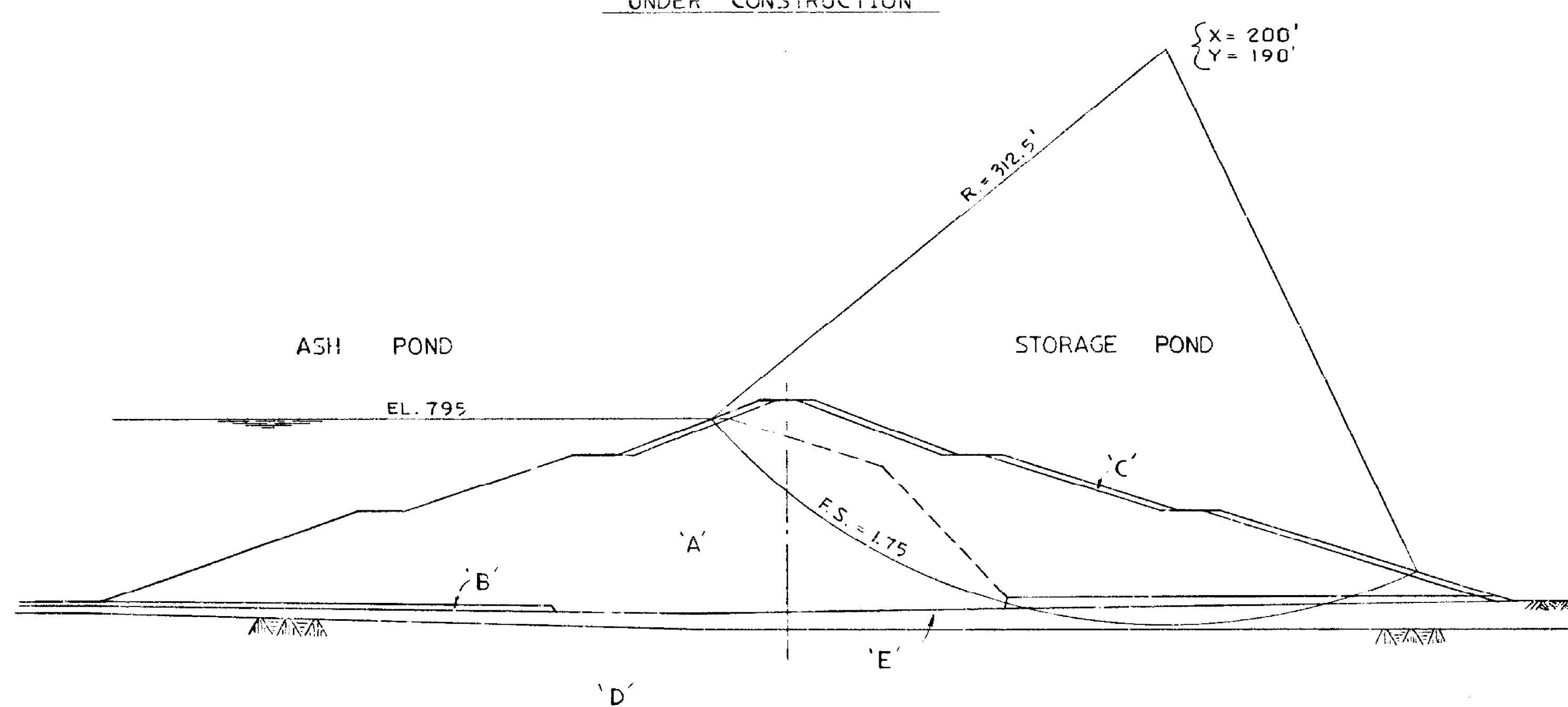


NOTE : DIMENSIONS SHOWN IN THIS DRAWIN
ARE TYPICAL FOR THIS SECTION



KEY PLAN
NOT TO SCALE

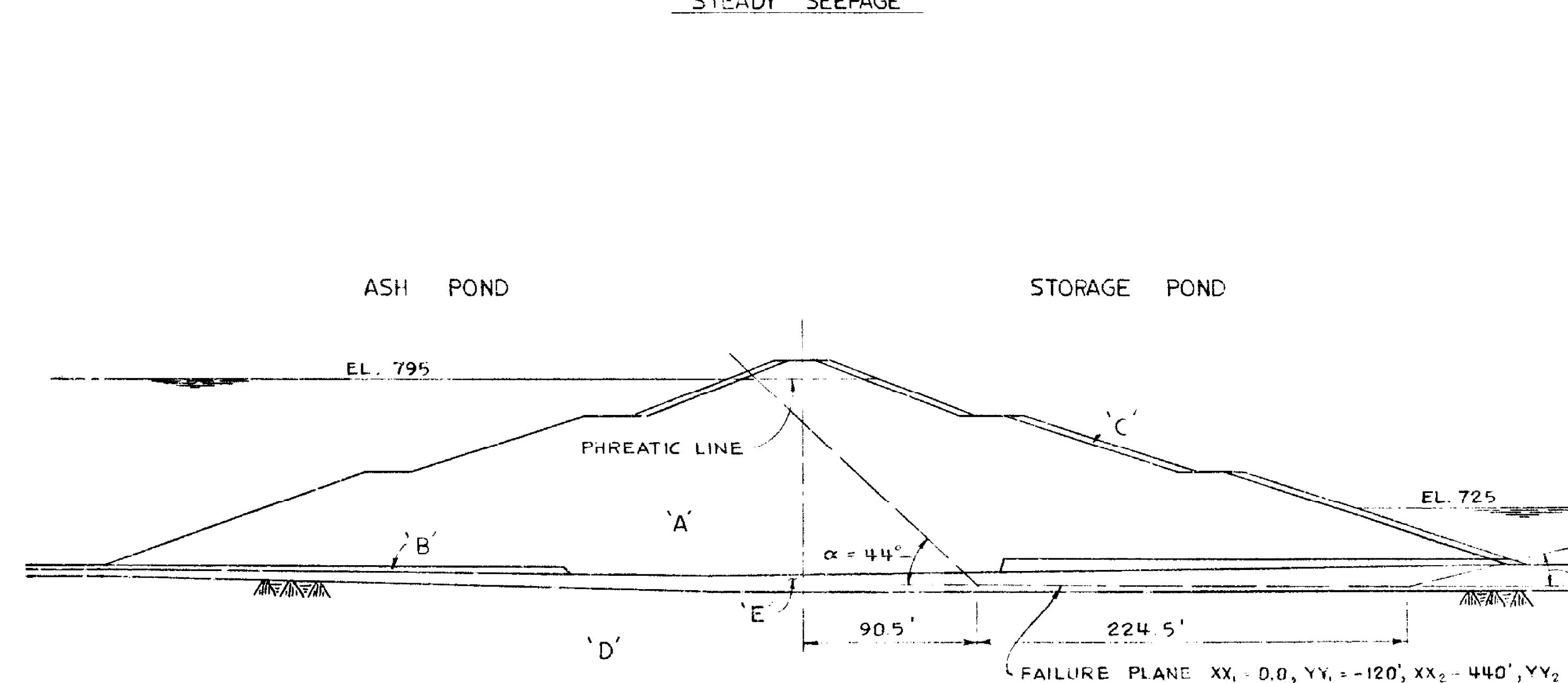
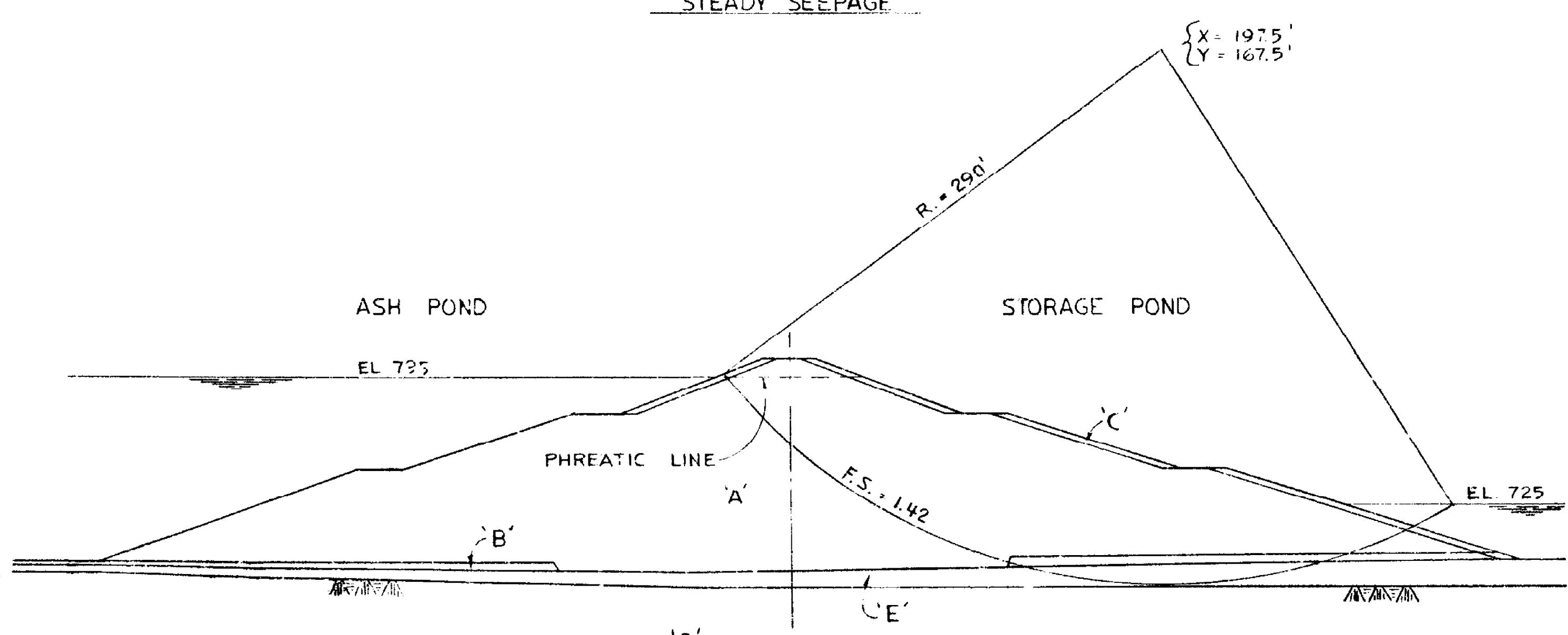
UNDER CONSTRUCTION



TOTAL STRESS SOIL CHARACTERISTICS

TYPE SOIL	CONSTRUCTION			STEADY SEEPAGE & DRAWDOWN		
	γ_m LBS/CU.FT	ϕ	C DEGREE	γ_m LBS/SQ.FT	ϕ	C DEGREES
EMB. FILL (A)	124	26.5	1200	124	19	1400
FILTER (B)	130	40	0	130	40	0
RIP-RAP (C)	130	38	0	130	38	0
BEDROCK (D)	150	40	3000	150	40	3000
FDN. 1 (E)	112	8	550	112	12	700

STEADY SEEPAGE



NOTE :

1. FOR SECTION C-C ONLY, MATERIAL "B" EXISTS IN SITU. PROPER CARE SHALL BE TAKEN TO COMPACT THIS MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS. FIELD INSPECTION MUST BE MADE TO INSURE EXISTENCE OF THIS MATERIAL AS SHOWN.
 2. FOR GENERAL NOTES SEE DWG. H-12396.
 3. FOR CONSTRUCTION DETAILS SEE DWG. H-12365.

STORAGE POND DRAWDOWN EL. 795 - EL. 725

STORAGE POND DRAWDOWN EL. 795 - EL. 725

CIRCLE ANALYSIS

SECTION C-C

WEDGE ANALYSIS

		GEORGIA POWER CO., ATLANTA, GA. GENERAL ENGINEERING DEPARTMENT			
		PLANT VALLEY SEPARATION DIKE STABILITY ANALYSIS-SHEET 3 OF 3			
REVISIONS		DESIGN DRWGS	CHK DRWGS		
DATE BY		M WDF	M		
APPROVALS	R.R. Rice	SCALE	DATE		
NO.	8-6-73	DRAWING NUMBER			
		LOCATION	SHEET NO.		
		10-20	H-12390		

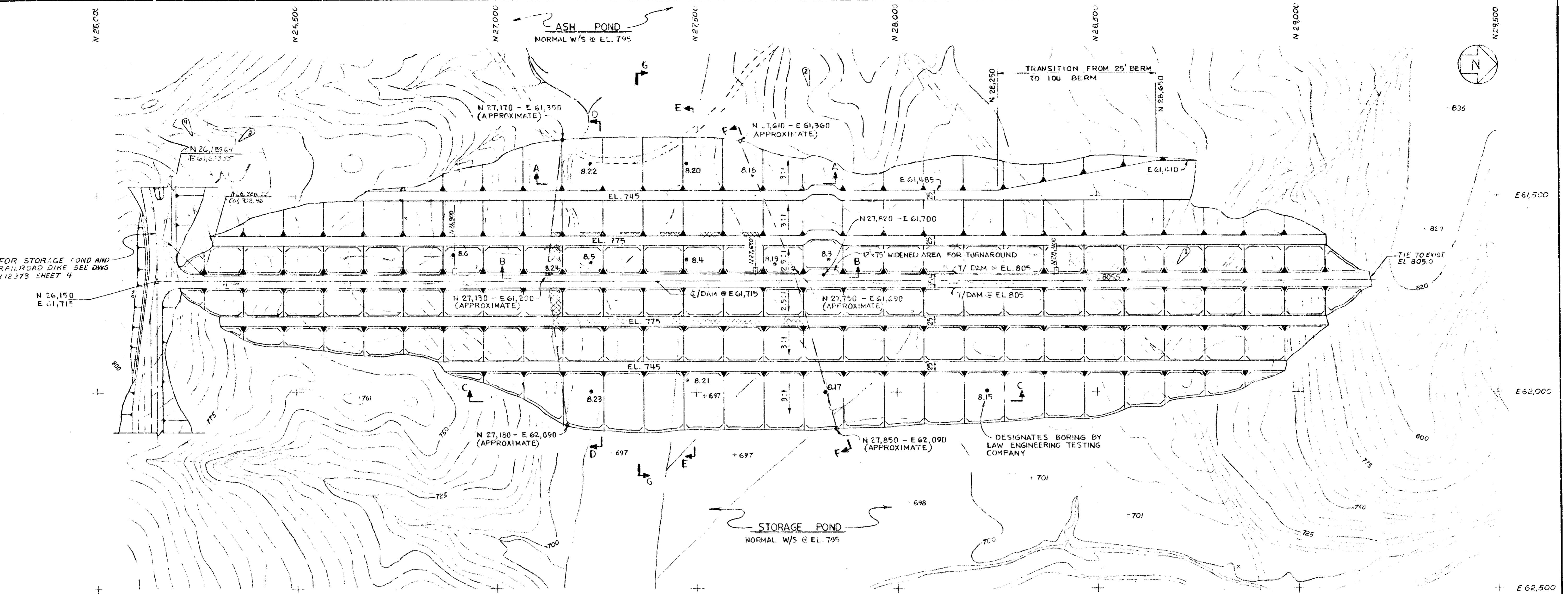
RETURN TO HYDRO

30X

RETURN TO LIBRARY

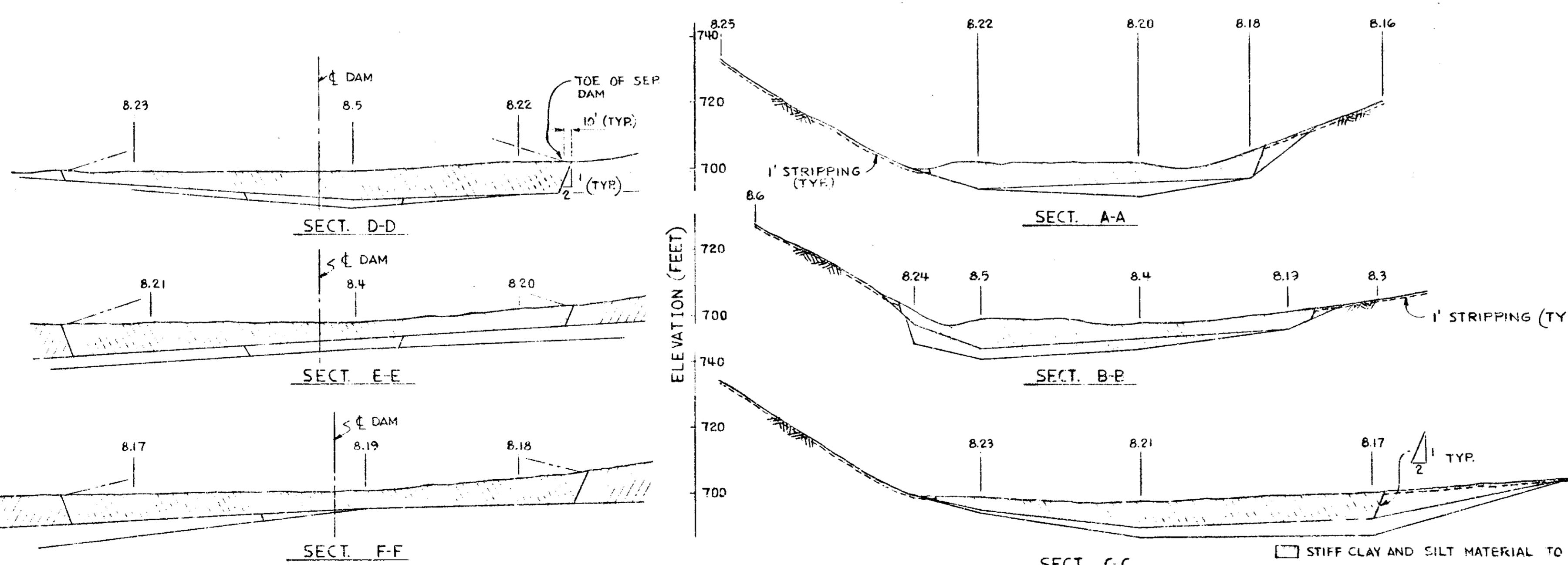
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

A 13 B 18 F 24 D 29



PLAN OF SEPARATION DAM

1" = 100'-0"



GEOLOGIC SECTIONS

HORIZ. SCALE: 1"=100'-0"
VERT. SCALE: 1"=20'-0"

- [] STIFF CLAY AND SILT MATERIAL TO REMAIN IN PLACE
- [x] SOFT CLAY AND SILT MATERIAL TO BE REMOVED
- [] SAND AND GRAVEL MATERIAL TO BE REMOVED
- [] SAND AND GRAVEL MATERIAL TO REMAIN IN PLACE

SOUTHERN SERVICES, INC.

FOR

GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT

PLANT WANSLEY

**SEPARATION DAM-GENERAL ARRANGEMENT
WITH LIMITS OF EXCAVATION**

REV'D BY	APPROVED BY	REMOVED BY		DATE
		100% REMOVED	100% REMOVED	
7-5-76 3-5-76 2-20-76 F. L. M.	J. W. WDP AS ST. W. 4-2-73 F. L. M. 4-2-73	4-2-73	4-2-73	
NO DATE	NO DATE			DRAWING NUMBER LOCATION SHEET NO.

10-209 H-12339

30 X

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

