



Submitted to
Southern Indiana
Gas & Electric Company
(SIGECO)
One Vectren Square
Evansville, IN 47708

Submitted by
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April, 2019

History of Construction
for the
West Ash Pond
at the
F.B. Culley Generating Station
Revision 0

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1. INTRODUCTION

The purpose of the History of Construction is to provide information requested by the Federal Coal Combustion Residuals (CCR) Rules in Federal Register Volume 80 No. 74 40 CFR Part 257.73(c)(1)(i.-xi.), which addresses the closure of CCR surface impoundments and specific information related to the history of construction. The History of Construction may be amended in accordance with the requirements of 40 CFR §257.73(c)(2).

2. FACILITY DESCRIPTION AND LOCATION MAP

Surface Impoundment Description

The surface impoundment comprises approximately 32 acres, containing an estimated 1,008,000 cubic yards (CY) of CCR, and is not equipped with an engineered bottom liner system. The current elevation of the top surface of the CCR material within the impoundment fluctuates from 380' to 390', and the retaining berms are at an elevation of approximately 394'. The Culley West Ash Pond measures approximately 1400' by 1150' and is situated west of the FB Culley coal-fired electricity generating power plant.

The West Ash Pond was constructed in approximately 1950. At the time of construction, an embankment was constructed along the southern perimeter (as well as eastern and western portions) of the unit. The crest of the south embankment is approximately 40' wide and is covered with crushed stone that forms the existing gravel access road and is in good condition. The interior riprap lined slope (from crest to ash level) is sparsely vegetated with brush and weeds and is relatively steep. The exterior slope is mostly covered with riprap and concrete rubble, with brush and large trees encroaching upon the toe of the existing slope. Based upon topographic mapping provided, the exterior slope of the embankment varies between approximate slopes of 2.5H:1V to 1.9H:1V. The normal pool elevation in the West Ash Pond was previously maintained at an operating level of 390' by a pumping station. However, as of January 2016, SIGECO began passive dewatering measures in the West Ash Pond and maintained the water level at approximately 370' since the fall of 2017 by using a localized sump adjacent to the existing pumping station. At the current time, the water level is continually decreasing since the unit is in the process of closure and current activities generally involve dewatering, excavations, and regrading.

Location Map

See **Figure 1** for the CCR unit identified on a U.S. Geological Survey (USGS) topographic quadrangle map. Also see **Figure 2** for location of the West Ash Pond.

3. STATEMENT OF PURPOSE FOR CONSTRUCTION

As stated previously, the West Ash Pond is currently in the process of closure. As such, CCR materials are no longer sluiced to the West Ash Pond. During its active operation, it received a combination of fly ash and bottom ash that was generated at the F.B. Culley Generating Station. Current discharges to the West Ash Pond consist of stormwater runoff and contact stormwater flows. Stormwater runoff consists of runoff from the operating plant, parking areas and green spaces adjacent to the north area of the Culley Station. Contact stormwater flows consist of stormwater that has contacted non-CCR materials (e.g., coal pile) and associated areas. Following closure, contact stormwater will be directed to the East Ash Pond and/or discharge tunnel. Stormwater from the capped area will be managed through a new stormwater outfall constructed to the south of the unit.

4. IDENTIFICATION OF THE WATERSHED INCLUDING THE CCR UNIT

The current drainage area for the West Pond is 72.30 acres. Following construction, the drainage area associated with the closed ash pond will be approximately 55.45 acres for Outfall 001 and 22.01 acres for the stormwater pond. The pond is located within the Ohio River watershed.

5. FOUNDATION AND ABUTMENT PHYSICAL AND ENGINEERING PROPERTIES

According to the boring logs presented in the closure plan, the foundation soils consist of medium stiff to very stiff clay and fill.

6. CCR UNIT DESCRIPTION AND CONSTRUCTION DETAILS

The original construction information is limited and the available drawing did not specify fill source and compaction requirements. It is believed that local onsite soils were used for construction of the unit. Based on field investigations it was determined the embankment consists of medium stiff to very stiff clay and fill which would suggest mechanically compacted material. The original construction drawing is attached as **Figure 4**.

7. CCR UNIT INSTRUMENTS

Monitoring and Observation Wells

A total of 10 monitoring and observation wells are associated with the West Ash Pond. Table 7-1 shows the northing and easting locations of each of the wells.

Piezometers

A total of 10 piezometers are associated with the West Ash Pond.

Figure 3 shows the location of the monitoring wells and piezometers.

Table 7-1

Location	Easting	Northing	Top of Pad Elevation (ft msl)	Top of Casing Elevation (ft msl)
PIEZOMETERS				
PZ-N-1	2882733.2	971287.2	404.3	407.42
PZ-N-2	2882639.4	971316.7	403.3	406.36
PZ-N-3	2882446.6	971372.5	402.3	405.20
PZ-N-4	2882251.7	971421.6	394.8	398.31
PZ-N-5	2881915.5	971473.1	389.7	393.90
PZ-E-1	2882753.0	971139.7	403.4	406.26
PZ-E-2	2882682.3	971069.1	402.2	404.43
PZ-E-3	2882537.5	970928.9	401.6	404.54
PZ-E-4	2882506.9	970749.1	399.9	404.26
PZ-E-5	2882237.5	970565.8	399.0	401.75
MONITORING WELLS				
WAP-1	2882824.2	971214.2	403.8	403.39
WAP-2	2881507.0	971398.7	391.9	394.22
WAP-2R	2881511.7	971395.7	391.8	395.29
WAP-3	2881262.5	971000.0	393.6	393.10
WAP-4S	2881333.3	970405.1	395.3	397.08
WAP-4I	2881329.2	970409.0	395.3	397.23
WAP-4D	2881325.1	970412.7	395.3	397.03
WAP-5S	2881521.4	970235.9	394.4	396.41
WAP-5I	2881524.7	970232.6	394.4	396.35
WAP-5D	2881528.7	970229.9	394.4	396.35

8. AREA CAPACITY CURVE

A capacity curve does not appear on original construction drawings and has not otherwise been developed. As the unit no longer serves its original purpose and is in the process of closure, this item is not believed to be relevant to the current status West Ash Pond.

9. SPILLWAY AND DIVERSION FEATURES

The West Ash Pond does not have a traditional gravity outlet works configuration. The current means of drawdown is from the pump station located along the south bank of the pond. The pump station has a concrete intake structure and can pump water to the East Ash Pond via a 10-inch HDPE pipe.

10. CONSTRUCTION MAINTENANCE AND REPAIR METHODS OF THE CCR UNIT

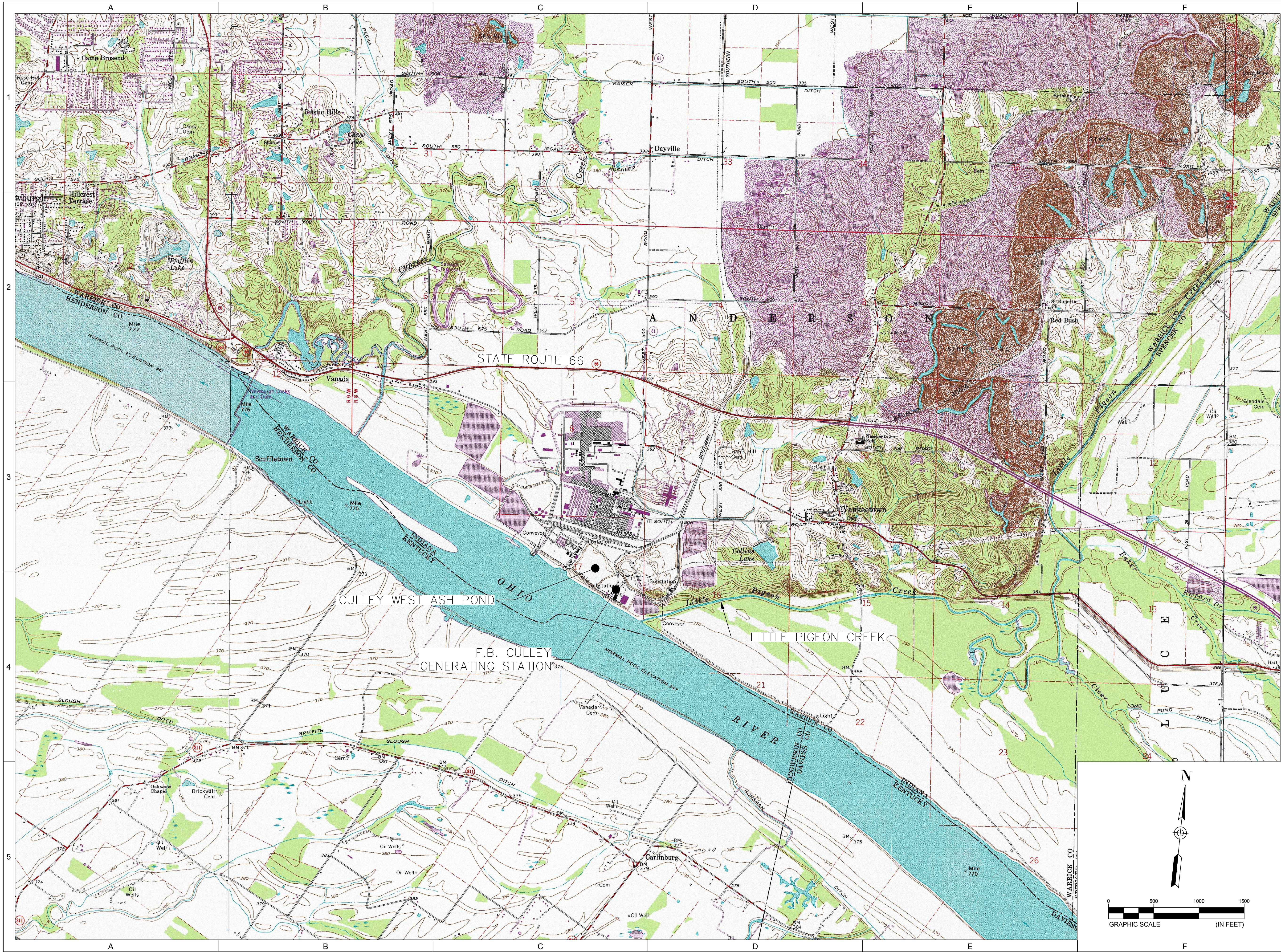
The unit is inspected weekly as required by the CCR regulation 40 CFR § 257.83(a)(i). Deficiencies are either identified as requiring additional observation or entered into a Work Order request to trigger repairs. Water surface elevation is remotely monitored through a level indicator which is set to alarm in the Control Room. The plant routinely monitors weather forecasts to prepare the pond for predicted high precipitation events.

11. KNOWN STRUCTURAL STABILITY

No known structural stability concerns are associated with the West Ash Pond. Post-closure stability scenarios have been evaluated as part of the closure plan development process and are summarized within the closure plan submitted to IDEM in April 2018.

12. CHANGE TO HISTORY OF CONSTRUCTION

The Federal CCR Rule contains provisions for modification of the History of Construction in response to additional available information. As stated in 40 CFR 257.73(c)(2), the owner or operator of a CCR unit is required to update the History of Construction Report in response to “a significant change to any information compiled in the history of construction.” Following revision, the History of Construction Report should be uploaded and maintained with other pertinent documents in the facility’s operating record as required by §257.105(f)(9).



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 1-800-227-1376 (phone)

**F. B. CULLEY
 GENERATING STATION
 NEWBURGH, IN**

**CCR CERTIFICATION
 WEST ASH POND**

**ISSUED FOR
 CERTIFICATION**

ISSUED FOR BIDDING _____ DATE BY _____

ISSUED FOR CONSTRUCTION _____ DATE BY _____

REVISIONS

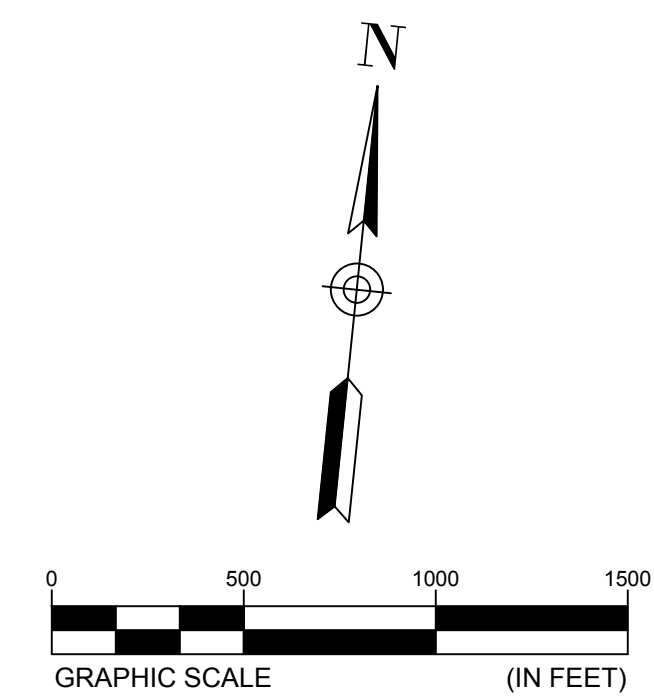
NO.	DESCRIPTION	DATE
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AECOM PROJECT NO:	60442676
DRAWN BY:	JMW
DESIGNED BY:	JMW
CHECKED BY:	RJB
DATE CREATED:	12/19/2018
PLOT DATE:	12/19/2018
SCALE:	AS SHOWN
ACAD VER:	CIVIL 3D 2018

SHEET TITLE

LOCATION MAP

FIGURE 1





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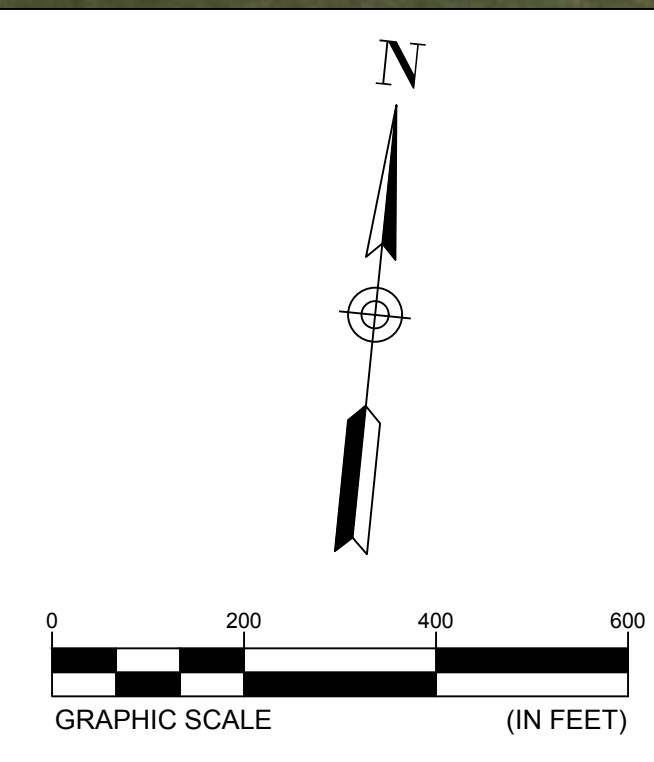
SCALE: AS SHOWN

ACAD VER: CIVIL 3D 2018

SHEET TITLE

SITE MAP

FIGURE 2



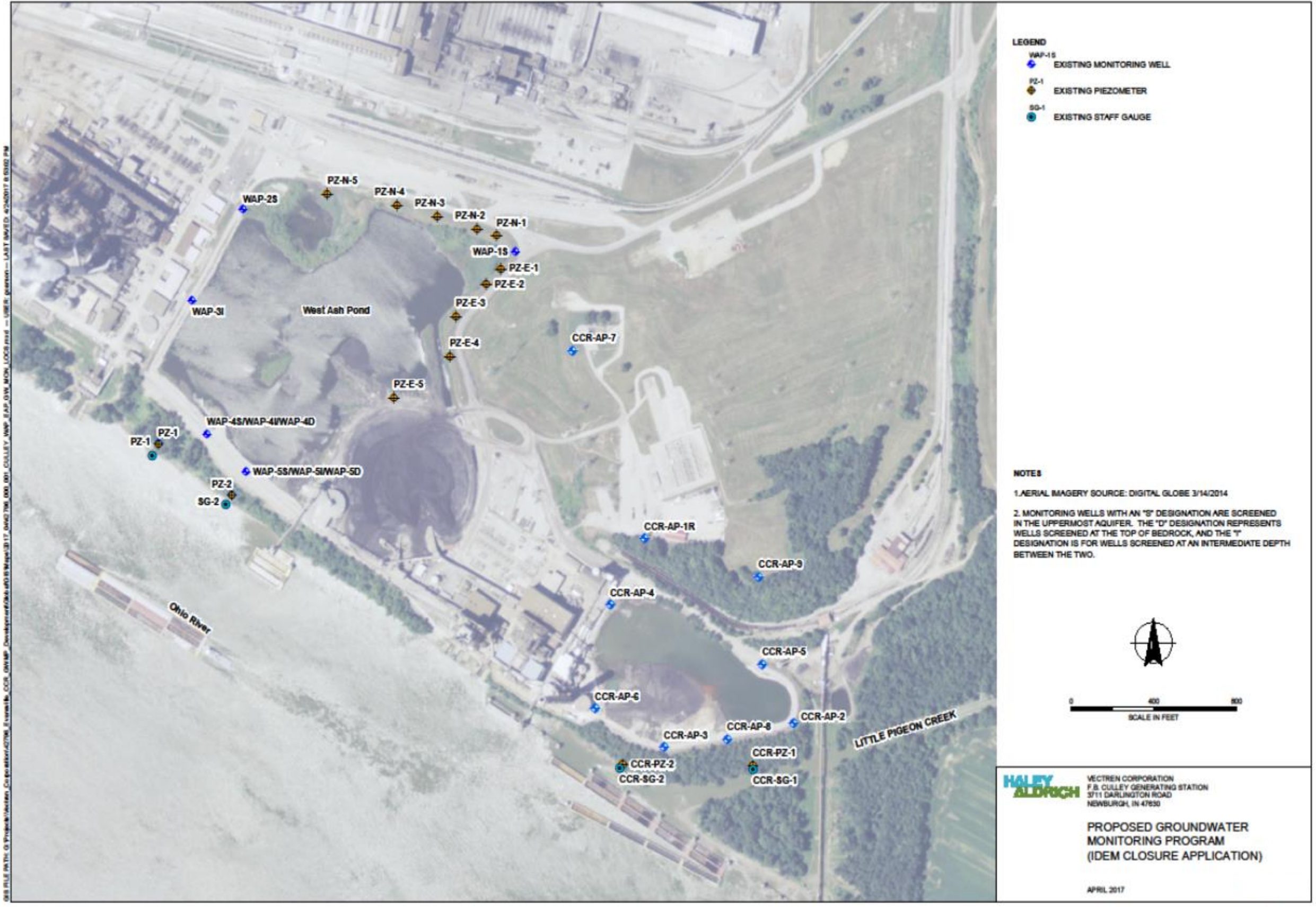
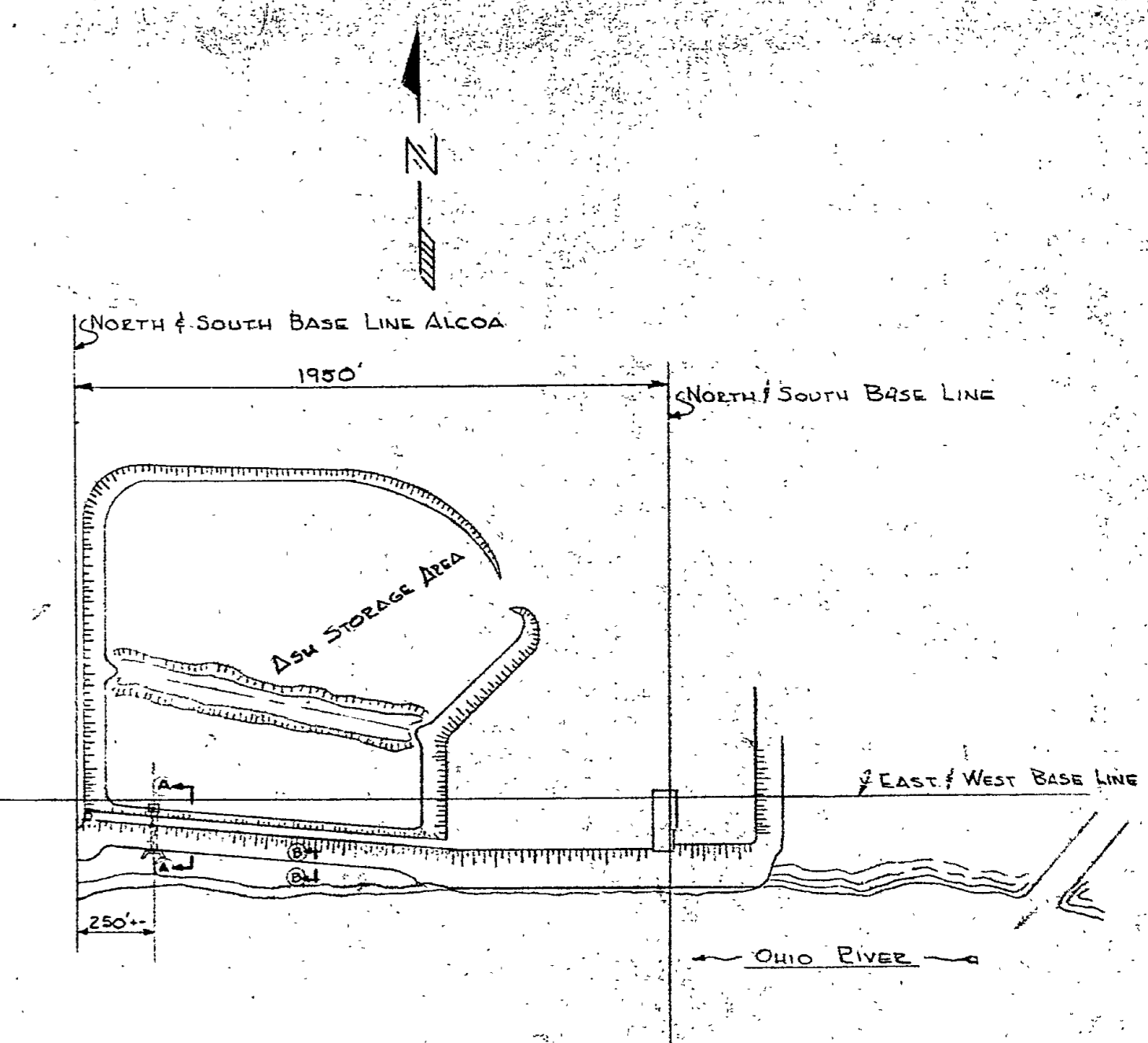
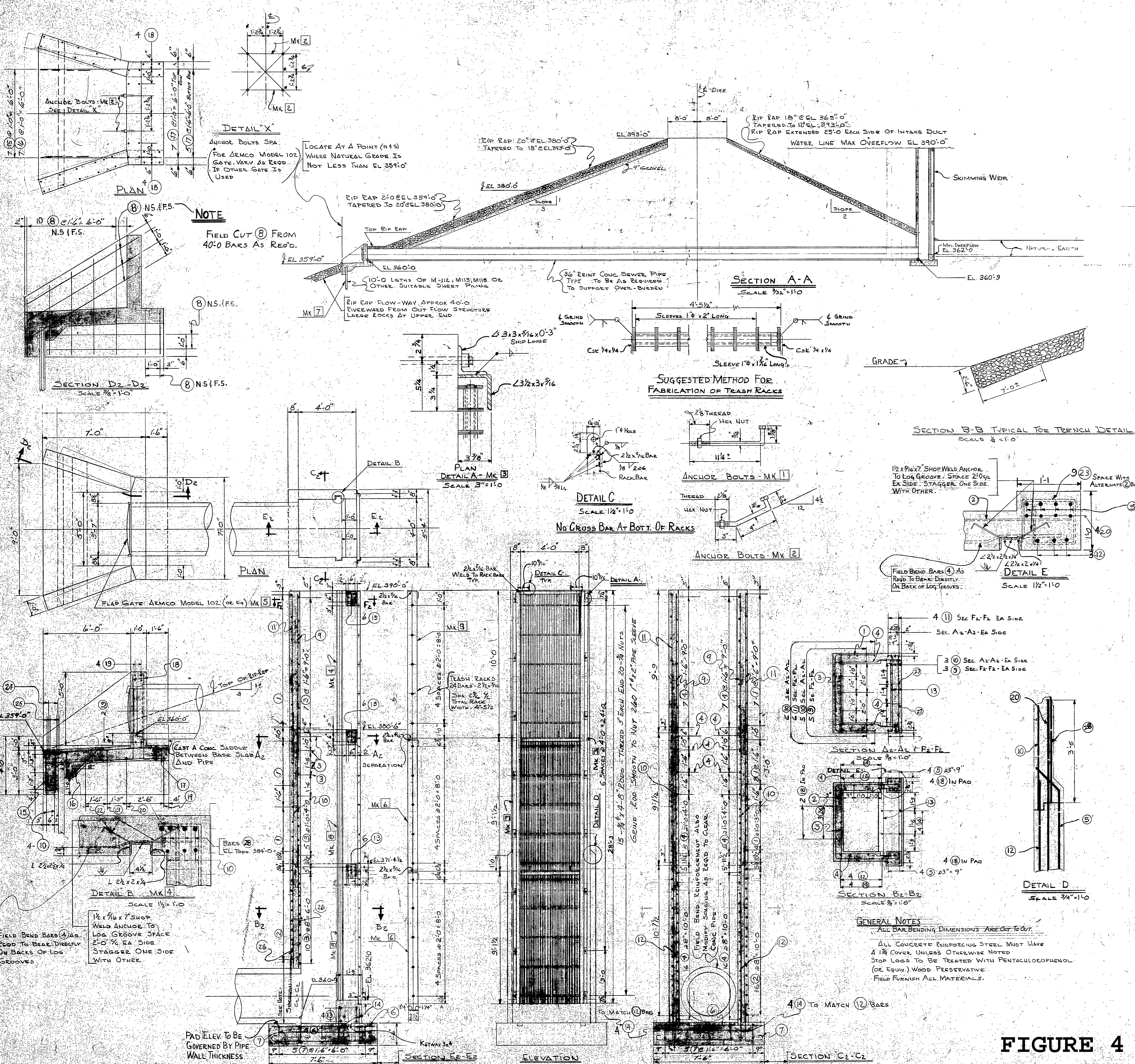


FIGURE 3



MARK	QTY	DESCRIPTION	REQ. NO.
1	10	ANCHOR BOLTS	
2	4	ANCHOR BOLTS	
3	2	RACK GUIDES & CLIP	
4	2	LOG GROOVES 9'-9" LONG SEE DETAIL B-B	
5	1	FLAP GATE ARMO MODEL 102 (OR EQ.)	
6	2	TRASH RACKS 3' 9 1/2" LG. AS SHOWN	
7	1	SHEET PILING AS SHOWN	
8	4	LOG GROOVES 9'-1 1/2" LONG SEE DETAIL B-B	
9	1	TRASH RACK 10'-0" LG. AS SHOWN	

BAR SUMMARY			
NO.	STRAIGHT	BENT	TOTAL
4	1198	749	1947

BAR LIST						BENDING DIAGRAMS	
MARK NO.	NO. REQ'D	SIZE	SHAPE	LENGTH	WEIGHT		
G14222	1	14	1/2	10'-6 1/2"	98		
"	2	16	3/4	13'-8 1/2"	146		
"	3	25	1	5'-0"	84		
"	4	22	1	4'-9"	179		
"	5	3	1	12'-2"	65		
"	6	10	1/2	7'-2"	48		
"	7	10	1/2	8'-2"	55		
"	8	11	1/2	40'-0"	294		
"	9	11	1/2	9'-7"	70		
"	10	21	1/2	10'-2"	143		
"	11	14	1/2	9'-4"	87		
"	12	14	1/2	12'-0"	112		
"	13	22	1/2	5'-8"	83		
"	14	12	1/2	2'-9"	22		
"	15	7	1/2	6'-3"	30		
"	16	7	1/2	5'-5"	25		
"	17	12	1/2	8'-8"	49		
"	18	1	1/2	6'-1"	73		
"	19	1	1/2	6'-8"	31		
"	20	9	1/2	7'-0"	42		
"	21	1	1/2	8'-0"	5		
"	22	1	1/2	8'-9"	6		
"	23	18	1/2	3'-9 1/2"	41		
"	24	2	1/2	9'-9 1/2"	13		
"	25	4	1/2	11'-0"	29		
"	26	3	1/2	8'-3"	17		
"	27	1	1/2	3'-3"	13		
"	28	8	1/2	12'-6"	67		

FIGURE 4

DESIGN AND DRAFTING GENE FLETCHER DATE 10-2-57 R.G. DUNN (H.S. FENWICK) DATE 1-16-57				PREPARED UNDER RESPONSIBLE SUPERVISION OF H.S. FENWICK, P.E. MICHIGAN PROFESSIONAL REGISTRATION NO. 20536 INDIANA PROFESSIONAL REGISTRATION NO. 6255 AT OFFICE OF COMMONWEALTH ASSOCIATES INC. 209 E. WASHINGTON AVE., JACKSON, MICH.				OWNER AND LOCATION F. BAYARD CULVERT STATION SOUTHERN INDIANA GAS & ELECTRIC COMPANY MARIETTA, MISSISSIPPI				TITLE ASH DISPOSAL DIKE & SKIMMING WEIR INSTALLATION							
APPROVED R.G. DUNN DATE 1-16-57				APPROVED H.S. FENWICK DATE 1-16-57				DATE 3-20-18-4				NO. SHEETS 3100-1922							
DESCRIPTION Lowered Inlet from 370' D to 362' D												BY R.G. DUNN				REV. DATE			

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