

**US Army Corps
of Engineers®**
Rock Island District

OPERATION AND MAINTENANCE MANUAL

PLEASANT CREEK HABITAT REHABILITATION AND ENHANCEMENT

UPPER MISSISSIPPI RIVER SYSTEM ENVIRONMENTAL MANAGEMENT PROGRAM

POOL 13 MISSISSIPPI RIVER MILES 548.7 - 552.8 JACKSON COUNTY, IOWA

June 2006

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1. GENERAL

1.1 Introduction

1.1.1. Purpose and Scope

1.1.1.1. This manual serves as a guide for the operation and maintenance of the Pleasant Creek Habitat Rehabilitation and Enhancement (HREP) project. It provides operation and maintenance instructions for the major features of the environmental management project. The instructions are consistent with the general procedures presented in the September 2000 Definite Project Report (DPR). This document is written for the project and management personnel who are familiar with the project and does not contain detailed information which is common to site personnel or which is presented in other existing manuals or regulations.

1.1.1.2. The intent of the operating instructions is to provide information that allows orderly and efficient use of the constructed features to meet project goals and objectives.

1.1.1.3. The intent of the maintenance instructions is to present preventive maintenance information consisting of systematic inspections and subsequent corrective action which should ensure long-term utilization of equipment and features. A timely preventive maintenance program reduces breakdowns of equipment and prevents major damage to constructed features.

1.1.1.4. This manual provides the general standards of maintenance and establishes an initial frequency of maintenance inspections, which should ensure satisfactory project performance.

1.1.2. Use of the Manual

1.1.2.1. This manual is divided into the following sections:

Section 1	General
Section 2	Historical Summary
Section 3	Description of Project Features
Section 4	Inspections
Section 5	Operations and Maintenance of Project Features
Section 6	Project Rehabilitation or Abandonment
Section 7	Performance Monitoring and Assessment

Sections 2 and 3 present project history and descriptions of actual features constructed for this project. Section 4 includes project inspection procedures, and Section 5 presents operation and maintenance instructions for each project feature. Section 6 provides rehabilitation and abandonment instructions in case of project damage. Section 7 summarizes monitoring activities conducted through construction as well as an overview of continued monitoring actions. Performance monitoring is considered necessary to properly evaluate effects of the constructed project features.

1.1.2.2. This manual contains drawings to provide general project "as-built" plans and typical sections.

2. HISTORICAL SUMMARY

2.1. Authorization and Location

2.1.1. This project is authorized by Section 1103 of the Water Resources Development Act (WRDA) of 1986 (Public Law 99-662) as amended. The project was funded and constructed under this authorization by the U.S. Army Corps of Engineers, Rock Island District (Rock Island District), in cooperation with the U.S. Fish and Wildlife Service (USFWS) and the Iowa Department of Natural Resources (IADNR).

2.1.2. The Pleasant Creek Wildlife Unit is a 2,530-acre bottomland woods. The bottomland is intermixed with small lakes and sloughs on the Iowa side of the Mississippi River navigation channel. It is located in Pool 13 between approximate River Miles (RM) 548.7 and 552.8, which is approximately 4 miles southeast of Bellevue, Iowa.

2.2 Planning, Design, and Construction Activities

2.2.1. Summary. Table 2.1 provides a summary of planning, design, and construction activities.

2.2.2. Goals and Objectives. Table 2.2 provides a summary of project goals and objectives which were formulated during the design phase.

2.2.3. Project Design. The Rock Island District designed the project in cooperation with the USFWS and the IADNR. The Rock Island District funded 100 percent of the project. Design consideration and investigations are presented in the DPR dated September 2000.

2.2.4. Construction Contract. The construction contract (contract number DACW25-01-C-0014) was awarded to Connolly Construction Inc. on August 7, 2001 in the amount of \$703,304.50. The contract was supervised by the Rock Island District Construction Division.

2.2.5. Construction Issues. No major issues were encountered during construction.

2.3 Actual Project Costs. The actual project costs are presented in Table 2.3.

2.4. Project References. Table 2.4 summarizes related project references.

Table 2.1. Summary of Planning and Construction Activities

Project Phase	Purpose	Responsible Agency	Significant Events	Date	Remarks
Pre-project	Identify and define problems. Establish needs of project	USFWS/ Rock Island District	Fact sheet Submitted to ASA Approved by ASA	Jun 99 Aug 99	
Design	Quantify project objective, perform preliminary design, satisfy NEPA and permit requirements, develop performance evaluation plan, obtain project approval for construction.	Rock Island District	DPR Draft Reviewed by MVD Revised DPR Approved by MVD NEPA Compliance SHPO Concurrence Public Review FONSI for EA Permits Section 401 Section 404	Jun 00 Oct 00 Sep 00 Mar 01 Jan 00 Dec 00 Feb 01 Feb 01 Feb 01	
Construction	Finalize plans and specifications, obtain operation and maintenance agreement, advertise and award construction, construct project.	Rock Island District	Plans and Specifications Final Approved Real Estate O&M Agreement Construction Contract Awarded Substantially Complete	Mar 01 Mar 01 Apr 01 Aug 01 Sept 02	
Post-Construction	Operate and maintain project	USFWS			Sections 4, 5, & 6
	Perform evaluation monitoring	Rock Island District			Section 7

Table 2.2. Project Goals, Objectives, and Enhancement Potential

Goal	Objective	Potential Enhancement Features	Unit of Measure	Enhancement Potential	
				Previous	Completion
Enhance Wetland and Aquatic Habitat	Increase potential for reliable food producing areas	Construct Moist Soil Management Unit	Acres MSMU	0	49 Acres
	Increase reliable resting areas for migratory birds				
	Increase potential areas for fish spawning and nursing	Develop systemic water control improvements			
	Increase potential for overall vegetation diversity and abundance	Mast tree planting			
			Acres	0	1.7 Acres

Table 2.3. Actual Project Costs

Item	Description	Quantity	Unit of Measure	Unit Price	Amount
0001	Clearing and Grubbing	1	LS		\$47,500.00
0002	Embankment				
0002AA	First 39,500 CY	39,500	CY	\$6.35	\$250,825.00
0002AB	Over 39,500 CY	21,726.80	CY	\$6.35	\$137,965.18
0003	Stoplog Structure	1			\$79,840.00
0004	Bedding				
0004AA	First 210 TN	210	TN	\$16.05	\$3,370.50
0004AB	Over 210 TN	25.81	TN	\$18.00	\$464.58
0005	Riprap				
0005AA	First 710 TN	710	TN	\$22.25	\$15,797.50
0005AB	Over 710 TN	39.24	TN	\$27.00	\$1,059.48
0006	Water Well	1	LS		\$105,105.00
0007	Electrical Work	1	LS		\$65,817.00
0008	Seeding	14.26	AC	\$490.00	\$6,987.40
0009	Subgrade Stabilization Fabric	0	SY	\$2.14	\$0
0010	Granular Surfacing	4,599.69	TN	\$11.35	\$52,206.48
0011	Flood Damage Repair	1	LS		\$9,169.57
0012	Guardrail Credit	1	LS		-\$300.00
0013	New Electrical Enclosure	1	LS		\$1,572.84
	Mast-producing trees	200	trees	\$15.54	\$3,107.29
	Construction Total				\$780,487.82
	Real Estate				\$7,119.25
	DPR				\$242,189.23
	Plans and Specifications				\$174,900.20
	Engineering and Design				\$73,946.95
	Construction Management				\$81,435.09
	Total Project Cost				\$1,360,078.54

Table 2.4. Project References

Title	Date	Purpose
Upper Mississippi River System Environmental Management Program, DPR	Sep 00	Provides planning, engineering, and sufficient construction details of the selected plan for project approval purposes.
Environmental Assessment, Pleasant Creek HREP	Nov 00	
Specifications	July 01	
Construction As-Built Drawings	Mar 03	Provides as-built construction drawings.
Manufacturer's Data (Shop Drawings)	Oct 02	Provides detailed operation and maintenance instructions for specific pieces of equipment as recommended by the manufacturer.
Performance Evaluation Report	TBD	Provides summary of project performance based on project post-construction monitoring.

3. DESCRIPTION OF PROJECT FEATURES

3.1. General Description. The Pleasant Creek Wildlife Unit consists of both wetland and aquatic habitat enhancement. This enhancement includes the construction of a moist soil management unit (MSMU), which consisted of constructing a levee to form an enclosed area to be seasonally flooded. Construction of the MSMU consisted of borrowing material for the levee; clearing and grubbing trees; installing a well; installing electrical service to the well; and building a stoplog structure to restore wetland habitat. This project also includes shoreline stabilization along a 1,500-foot section of Mississippi River shoreline.

3.2 Moist Soil Management Unit (MSMU). The objective of moist soil management is to mimic the natural (historic) water regime by lowering water levels during summer to expose mudflats for germination of moist-soil vegetation. An MSMU provides additional feeding areas and still water for migratory birds. The MSMU will be inundated by high water during the spring and drained during the early summer months to facilitate vegetation growth. The MSMU will have an ideal water level during the fall of 18 inches with a maximum of 24 inches.

3.2.1. Perimeter Levee Restoration. The existing perimeter levee was raised to elevation 594 and strengthened by excavating from within the adjacent field. The borrow material was placed to achieve a uniform dimension of a 7 horizontal (H):1 vertical (V) slope and a 10-foot crown. Also, a 6-inch granular surfacing was placed on the 10-foot crown. See Plates 7 through 12 for perimeter levee plan, and Plate 17 for typical cross sections.

3.2.2. MSMU Levee. The levee was constructed from borrow taken from within the adjacent field with side slopes of 7H:1V and a 10-foot crown along an approximately 5,400-foot alignment. The levee top was raised to the 2.7-year flood elevation of 594 feet. This elevation provides for a 36 percent chance of over topping in a given year. Also, a 6-inch granular surfacing was placed on the 10-foot crown. During the construction of the dike, approximately 3 acres of bottomland forest vegetation—primarily second growth silver maple and cottonwoods—were removed. See Plates 13 through 16 for MSMU plan and profile, and Plate 17 for cross sections.

3.2.3. Shoreline Stabilization. The shoreline was repaired through the placement of riprap and bedding stone along the existing levee, which was along approximately 1,500 linear feet of the Mississippi River shoreline. The dredged material from the chronic upstream cut was used to dress and reclaim the eroded slope. The dredged material was placed on a 2.5H:1V slope. Approximately 9,600 tons of 400-pound size riprap was placed in a 2.0-foot thick layer that had slopes of 2:1 and approximately 5,000 tons of bedding stone was placed in a 9-inch thick layer beneath this riprap.

3.2.4. Stoplog Structure. One 60" stoplog structure approximately at station 17+09U is utilized within the project. The stoplog structure consists of a concrete sill with concrete abutments and a heavy-duty removable grating. The stoplog structure is used to control the water levels. See Plates 18 and 24 through 29 for stoplog details.

3.3. Well with Pump. A well with a submersible 10-horsepower electric pump was installed to provide water to the MSMU during the fall when river levels are not expected to inundate the area. The well and the pump are located along the existing upstream levee near station 65+00. The rated capacity of the pump is 600-gpm. The details of the well and the pump are shown on Plate 23.

3.4. Electrical Service. Electricity is provided by an electrical line entrenched along the centerline of the dike from Station 0+00 to Station 65+00. The electricity is provided by the nearest utility pole, on the west side of Highway 53, to a transformer positioned on a pole next to the pump at Station 65+00. See Plates 21 and 22 for the electrical details.

3.5. Riprap Apron. At the existing stoplog structure #1, existing riprap at the toe was removed to expose the existing bedding stone. New 6-inch bedding stone was placed along with 18 inch riprap. The riprap was placed up to existing riprap and extended 10 feet beyond the trench. See Plate 18 for more details.

3.6. Mast Tree Plantings. Mast-producing trees were manually planted by the Rock Island District and the USFWS in April 2003. The trees were planted in a 1.7-acre near Station 40+80 (0+00P), see Plate 3 for the tree planting area. The plantings consisted of 120 pin oak and 80 burr oak Root Production Method™ (RPM) trees at a density of approximately 60-70 trees per acre. The trees were 5/8 inch caliper or more and 4 to 6 feet in height. RPM trees are hardy containerized trees, grown from locally collected seed, able to survive the dynamic nature of the floodplain and herbaceous competition, and require much less maintenance than trees produced through traditional methods.

3.7. Project Data. Table 3.1 presents a summary of the project data

Table 3.1. Project Data Summary

Item	Quantity	Remarks
Perimeter Levee Restoration		
Length (Sta. 40+80 to 105+40)	6,460 feet	
Crown width	10 feet	
Elevation	594 feet	
Side slopes	7H:1V	
Level of protection (probability. of exceedance)	36%	2.7 year flood elevation
Granular Surfacing (thickness placed on crown)	6 inches	
MSMU Levee Construction		
Length (Sta. 46+50 to 50+34)	5,034 feet	
Crown width	10 feet	
Elevation	594 feet	
Side slopes	7H:1V	
Level of protection (prob. of exceedance)	36%	2.7 year flood elevation
Granular Surfacing (thickness placed on crown)	6 inches	
Shoreline Stabilization		
Riprap (400-pound)	24 inches	
Bedding Stone	9 inches	
Stoplog Structure		
Concrete Sill Elevation	589.25	
Heavy Duty Grating Elevation	594.0	
Stoplog Opening	60 inches	
Well		
Depth	84 feet	
Casing diameter	12" ID	
Stainless Steel well screen length	40 feet	
Stainless Steel well screen diameter	12" OD	
Submersible Pump		
Capacity	550 GPM	
Depth (Pumping level)	69 feet	below Ground Level
Discharge Pipe diameter (ASTM A53 Steel)	6 inches	
Electric Power Source		
Primary Source	230 volts	single phase
Power Rating	10 HP	
Riprap Apron		
Width	8 to 28 ft	
Length	40 feet	
Riprap	18 inches	
Bedding Stone	6 inches	
Mast Tree Plantings		
Area	1.7 acres	single phase
Plantings	200 trees	(120 pin oak, 80 burr oak)

4. INSPECTIONS

4.1. Purpose. An active preventive maintenance program reduces damage to constructed features. An effective preventive maintenance program requires regular thorough inspections. Project Inspections will aid the Site Manager in discovering deficiencies in the project. The Project Inspections will also provide the Rock Island District and the Site Manager with baseline condition data. This baseline data is necessary for considering repair options if damaged from a major storm or flood event.

There are two types of inspection for this project: (1) Project Inspection preformed by the Site Manager, and (2) Joint Inspections preformed by the Site Manager in conjunction with the Rock Island District.

4.1.1. Project Inspection by the Site Manager

4.1.1.1. On an annual basis the Site Manager or an appropriate representative shall perform an annual project inspection for the purpose of noting routine deficiencies and initiating corrective actions. This inspection shall be performed at periods not exceeding 12 months and should follow inspection guidance presented in subsequent sections of this manual. It is suggested that the inspection be conducted every May, which is representative of after-spring flood conditions.

4.1.1.2. Other inspections can, and should, occur as necessary after high water events or as scheduled by the Site Manager.

4.1.2. Joint Inspections by the Site Manager and the Rock Island District

4.1.2.1. Routine. A Joint Inspection by the Site Manager and Rock Island District shall be made in accordance with Engineering Regulation ER-1110-2-100 and the Memorandum of Agreement. The purpose of this inspection is to assure that adequate maintenance is being performed as presented in the DPR and this manual. For this purpose, the Rock Island District Engineer or Authorized Representative shall have access to all portions of the constructed project upon coordination with the Site Manager.

4.1.2.2. Catastrophic. A Joint Inspection shall be formally requested by the Site Manager immediately following a specific storm or flood event that causes damage in excess of annual operation and maintenance cost specified in this manual and the DPR. A comparison of pre- and post-event Project Inspection and the Joint Inspections will be the basis for determining maintenance responsibility and potential rehabilitation by the Rock Island District.

4.2. Checklist. A Project Inspection checklist can be found in Appendix B. The Site Manager shall furnish a copy of the completed checklist to the Rock Island District at the address below, immediately following each project inspection. The completion of the checklist, shall include a summary of the condition of the entire system, including any maintenance work done during the past year.

U.S. Army Corps of Engineers
Rock Island District
ATTN: CEMVR-PM (EMP Manager)
Clock Tower Building
P.O. Box 2004
Rock Island, Illinois, 61204-2004

5. OPERATIONS AND MAINTENANCE OF PROJECT FEATURES

5.1 General

5.1.1. This section presents operation and maintenance instructions for the major project features. These features were designed and constructed to minimize operation and maintenance requirements.

5.1.2. The Site Manager shall take action to correct conditions disclosed by the Project Inspection or the Joint Inspections. Regular maintenance repair measures will be accomplished during the appropriate season as scheduled by the Site Manager to insure serviceability of project features.

5.1.3. Project features shall be continuously operated and maintained to obtain maximum benefits. No encroachments or trespasses that adversely affect the efficient operation or maintenance of the project shall be permitted. No improvement shall be passed over, under, or through constructed features. Excavation or construction within these features is subject to prior approval by the Rock Island District. Such improvements or alterations that are desirable and permissible shall be constructed in accordance with standard engineering practice. Advice regarding the effect of proposed improvements or alterations on the functioning of the project and information concerning methods of construction acceptable under standard engineering practice shall be obtained from the District Engineer or, if otherwise obtained, shall be submitted for approval. Drawings or prints showing improvements or alterations as finally constructed shall be furnished to the District Engineer after completion of such work.

5.2 Perimeter Levee and MSMU Levee

5.2.1. Operation

5.2.1.1. During high water periods, the levees shall be inspected to be certain that:

- there are no indications of slides or sloughs developing;
- wave wash and scouring action is not occurring;
- all reaches of levee are at design grade, and are not being overtopped; and
- no other conditions exist which might endanger the levee.

5.2.1.2. Appropriate advance measures shall be taken to insure availability of adequate labor and materials to meet contingencies. Steps shall be taken to control any conditions which may endanger the levee and repairs performed on damaged sections.

5.2.1.3. Emergency Fill Procedure. Prior to a high-water event, measures must be taken to minimize damage to the MSMU levee from overtopping. The new stoplog structure connects the MSMU to Golden Lake, and Golden Lake is connected to the Mississippi River through existing culverts, spillways, and stoplog structures. Ideally the ascending stage of the Mississippi will inundate the interior refuge lakes, including Golden Lake, unrestricted through the aforementioned water control structures along the outer perimeter. The rising water levels of the interior refuge lakes will lead to the MSMU flooding through its stoplog structure. It is important that the stoplog structure be open to allow for flooding in order to minimize damage due to the MSMU levee being overtopped.

5.2.2. Maintenance

5.2.2.1. The Site Manager shall provide at all times such maintenance as may be necessary to ensure the serviceability of the levee in time of inundation. Measures shall be taken to promote the growth of sod, control burrowing animals, provide routine mowing on the levee extending 5 feet horizontally from the toe of the levee, remove wild growth and drift deposits, and repair damage caused by erosion or other forces.

5.2.2.2. Project inspection shall be made by the Site Manager to ensure that the above maintenance measures are being effectively carried out and to be certain that:

- no unusual settlement, sloughing, or material loss of grade or levee cross section has taken place;
- no caving has occurred on either the landside or the riverside of the levee which might affect the stability of the levee section;
- no seepage, saturated areas, or sand boils are occurring;
- no action is being taken, such as burning grass and weeds during inappropriate seasons, which will retard or destroy the growth of sods;
- the crown of the levee is shaped to drain readily;
- there is no unauthorized grazing or vehicular traffic on the levee; and
- encroachments are not being made on the levee which might endanger the structure or hinder its proper and efficient functioning during times of inundation.

5.2.2.3. Such inspections shall be conducted every May, which is representative of after-spring flood conditions and at intervals necessary to insure the best care of the levee as stated in Section 4. Steps shall be taken to correct conditions disclosed by such inspections. Regular maintenance repair measures shall be accomplished during the appropriate season as scheduled by the Site Manager.

5.3 Shoreline Stabilization

5.3.1. Operation. There are no specific operating requirements for shoreline protection feature.

5.3.2. Maintenance. The Site Manager shall periodically make project inspections of the shoreline feature. Any loss or displacement of rock and erosion shall be noted. Replacement of rock may be necessary to maintain the general state of the shoreline protection feature for the life of the project. Also, any adverse condition such as undesirable debris, waste materials, or unauthorized structures shall be recorded. Steps shall be taken to remedy adverse conditions disclosed by the inspections.

5.4 Stoplog Structure

5.4.1. Operation

5.4.1.1. A stoplog lifting hook was furnished with the project for the installation and removal of the stoplogs. This tool shall be stored in a secure place to allow ready use when needed.

5.4.1.2. The Site Manager shall add or remove the stoplogs as required to maintain desired water levels in the impoundment areas (MSMU). Prior to high water events, stoplogs shall be removed to allow water levels in all impoundment areas to equalize with the river stage. This will reduce the risk of levee damage in the event of overtopping.

5.4.2. Maintenance

5.4.2.1. The water control structures shall be inspected immediately following draining and after a high water event to determine whether seepage is taking place along the lines of its contact with the embankment. Corrective action shall be taken upon discovery of any adverse conditions at the structure.

5.4.2.2. Project inspections of the control structures shall be made by the Site Manager to be certain that:

- stoplogs, headwalls, staff gages, stoplog keepers, steel rails posts, grating, and riprap are in good operating condition;
- inlet and outlet channels are open;
- sediment buildup is not occurring;
- care is being exercised to prevent the accumulation of trash and debris near the structure; and
- erosion is not occurring adjacent to the structure, which might endanger its function.

5.4.3. Steps shall be taken to repair damage, replace missing or broken parts, or remedy adverse conditions disclosed by such inspections.

5.5 Well with Pump

5.5.1. Operation. To inundate the MSMU area, the pump must be activated manually. The pump must be deactivated manually once the desired interior water elevation is achieved. The pump is sized to perform and maintain the interior flooding gradually over a 2-month period. In addition, the pump is provided with a manual water valve for controlling the flow and maintaining water elevation within the MSMU. Therefore the water levels shall be monitored periodically to assure adequate water levels are maintained.

5.5.2. Maintenance. The Site Manager shall perform well inspections. Steps shall be taken to correct adverse conditions disclosed by such inspections. The well inspection shall include the following:

5.5.2.1. Well. The Site Manager shall visually inspect the protective casing, bollards, and the discharge apron to discover any adverse conditions. These conditions may affect the operation of the MSMU and shall be corrected as soon as practicable.

5.5.2.3. Controls. All electrical controls and associated wiring shall be examined closely and their overall condition assessed. Watertight connections shall be inspected for integrity. Any corroded, loose, or broken contacts shall be cleaned, tightened, and repaired as needed.

5.5.2.4. Pump

- The pump shall be exercised biannually to observe for indications of improper operation or damage. The pump will automatically shut down through the control panel located in the electrical panel if high stator winding temperature, stator casing leakage, or high lower bearing temperature are detected.
- The Site Manager shall have an authorized representative conduct pump inspections, maintenance, and repair work in accordance with the *Pump Manufacturers Installation, Care, and Maintenance Manual*. Ancillary equipment such as cables, level sensors, starter and monitoring equipment shall also be periodically inspected. Damaged components shall be repaired or replaced by a qualified technician.

5.6 Riprap Apron

5.6.1. Operation. There are no specific operating requirements for riprap apron.

5.6.2. Maintenance. The Site Manager shall periodically make project inspections of the riprap apron. Any loss or displacement of rock and erosion shall be noted. Replacement of rock may be necessary to maintain the general state of the riprap apron for the life of the project. Also, any adverse condition such as undesirable debris, waste materials, or unauthorized structures shall be recorded. Steps shall be taken to remedy adverse conditions disclosed by the inspections.

5.7 Mast Tree

5.7.1. Operation. There are no specific operating requirements for the tree plantings.

5.7.2. Maintenance. The trees were planted on Corps Fee Title land where the Corps retains forest management responsibility under the Cooperative Agreement of 1963. Forest management activities undertaken by the Corps are fully coordinated with the USFWS and IADNR. Rock Island District Natural Resource Management Section staff shall inspect the condition of the trees, as appropriate, such as after periods of inundation or drought. Inspections shall take note of the following items:

- tree condition
- any significant stress to the trees as visible by wilted leaves or damage to the trunk
- factors that may inhibit tree growth, such as disease, insects, or weeds and vines
- tree mortality

It may be necessary to perform vine treatment through mowing or hand clearing, and application of herbicide. It may also be necessary to plant additional trees to replenish those trees that did not survive the winter, high water events, or other environmental stresses. The USFWS is not financially responsible for the forestry component. However, it is requested that inspections by USFWS staff of the forest component be made whenever possible. Any questions regarding the trees can be made to the Rock Island District Natural Resource Management Section (OD-MN), Mississippi River Project Office.

6. PROJECT REHABILITATION OR ABANDONMENT

6.1. General. As stated in the Memorandum of Agreement (Appendix A) between the USFWS and the Department of Army (DOA), the DOA will be responsible for any mutually agreed upon repair and rehabilitation of the Pleasant Creek HREP project that exceeds the annual maintenance requirements and that may be needed as a result of a specific storm or flood. The project will be inspected as previously described, following flood events or specific storms.

6.2. Project Rehabilitation or Abandonment. Should inspection of the project area following a major flood or natural disaster disclose substantial damage to any of the major components of the project that appears to exceed the annual operation and maintenance as specified in this manual and the DPR, the Rock Island District and the USFWS shall meet and discuss the appropriate course of action with the District Engineer (as summarized in the submitted checklist), and the joint inspections with the Rock Island District will be the basis for determining maintenance responsibility by the USFWS versus potential rehabilitation by the Rock Island District. Repair of damage attributable to lack of maintenance is the responsibility of the USFWS.

The options of rehabilitation or abandonment of the project may be considered at this time. Any decision would be carried forth only upon written mutual agreement of the USFWS and the Rock Island District. Included within such agreement would be a description of the agreed-upon course of action and funding responsibilities, if any.

7. PERFORMANCE MONITORING AND ASSESSMENT

The purpose of this section is to summarize monitoring and data collection aspects for the project. Table 7.1 presents the annual post-construction field observation to be performed by the Site Manager. Table 7.1 likewise may be used by the Rock Island District to present the post-construction quantitative measurements performed. The monitoring parameters were developed to measure the effectiveness in achieving the stated goals. A more extensive checklist of items may be found in Appendix B. These annual field observations and quantitative monitoring parameters will form the basis of project evaluation. Changes to the monitoring plan shall be coordinated with the USFWS and the Rock Island District.

Table 7.1. Post Construction Evaluation Plan

Enhancement Features	Unit	Year 0 without Alternative	Year X with Alternative	Year 50 Target with Alternative	Feature Measurement	Annual Field Observation by Site Manager
Enhance Wetland and Aquatic Habitat						
Construct MSMU Objective - to increase: <ul style="list-style-type: none"> • potential areas for fish spawning and nursing • potential for reliable food producing areas • reliable resting areas for migratory birds • potential for overall vegetation diversity and abundance 	Lineal feet of existing (riverside) levee raised to 594 feet	0		6,460	Levee system transects and profiles	Describe any erosion outlined under Section 5(b)
	Lineal feet of constructed (landside) levee	0		5,034	Levee system transects and profiles	Describe any erosion outlined under Section 5(b)
	Acres of MSMU	0		49	Floodable acreage within MSMU	
Install Stoplog and Well	Number of pumps	0		1	Functional Operation	Describe any difficulty with pump under Section 5(c)
	Number of stoplog structures	0		1	Functional Operation	Describe any difficulty with stoplog under Section 5(d)

APPENDIX A

PROJECT COOPERATION AGREEMENT

PROJECT COOPERATION AGREEMENT
BETWEEN
THE DEPARTMENT OF THE ARMY
AND
THE STATE OF ILLINOIS
FOR CONSTRUCTION OF THE
BANNER MARSH STATE FISH AND WILDLIFE
HABITAT REHABILITATION AND ENHANCEMENT PROJECT
IN FULTON AND PEORIA COUNTIES, ILLINOIS . . .

THIS AGREEMENT is entered into this 29 day of JANUARY, 1998, by and between the DEPARTMENT OF THE ARMY (hereinafter the "Government"), represented by the District Engineer for the Rock Island District, and THE STATE OF ILLINOIS DEPARTMENT OF NATURAL RESOURCES (hereinafter the "State"), represented by the Director, Illinois Department of Natural Resources.

WITNESSETH, THAT:

WHEREAS, construction of the Habitat Rehabilitation and Enhancement Project, at Banner Marsh State Fish and Wildlife Area in Fulton and Peoria Counties, Illinois was approved under the terms of the Upper Mississippi River System Environmental Management Program, as authorized by Section 1103(e) of the Water Resources Development Act of 1986, Public Law 99-662, as amended;

WHEREAS, the Government and the State desire to enter into a Project Cooperation Agreement for construction of the Banner Marsh State Fish and Wildlife Area Habitat Rehabilitation and Enhancement Project (hereinafter the "Project", as defined in Article I.A. of this Agreement);

WHEREAS, Section 906(e) of Public Law 99-662 provides that the first costs for enhancement of fish and wildlife resources shall be a Federal cost when certain specified circumstances are present;

WHEREAS, Section 906(e) further provides that when such specified circumstances are not present, 25 percent of the first cost of enhancement of fish and wildlife resources shall be provided by the Non-Federal Interest;

WHEREAS, the Government and the State agree that the specified circumstances referred to in Subsection 906(e) of Public Law 99-662 are not present for the Project;

WHEREAS, Section 1103(e)(7)(a) of the Water Resources Development Act of 1986, Public Law 99-662, as amended by Section 107(b) of the Water Resources Development Act of 1992, Public Law 102-580, specifies the operation and maintenance responsibilities for the Project;

WHEREAS, Section 221 of the Flood Control Act of 1970, Public Law 91-511, as amended, provides that the Secretary of that Army shall not commence construction of any water resources project, or separable element thereof, until each non-federal sponsor has entered into a written agreement to furnish its required cooperation for the project or separable element;

WHEREAS, Section 1103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, establishes the maximum amount of costs for the habitat rehabilitation and enhancement component of the Upper Mississippi River System Environmental Management Program;

WHEREAS, the State proposes to perform certain work, hereinafter referred to as the "Section 215 Work" which is a part of the Project;

WHEREAS, timely performance of the Section 215 Work by the State will repair sections of the authorized project to prevent additional damages by fluctuating water levels and advance the completion of the Project;

WHEREAS, Section 215 of Public Law 90-483, as amended, provides that the Secretary of the Army may enter into an agreement to credit or reimburse the costs of certain work accomplished by states or political subdivisions thereof, which later is incorporated into an authorized project when it is determined that such credit or reimbursement is in the public interest;

WHEREAS, the Secretary of the Army has determined that it is in the public interest to credit the State for that portion of the Section 215 Work, as defined in Article I.K. of this Agreement;

WHEREAS, Section 215 of Public Law 90-483, as amended, limits Federal credit for a single project to no more than \$5,000,000 or 1 percent of the total project costs, whichever is greater.

WHEREAS, pursuant to the Intergovernmental Cooperative Act, 5ILCS 220/1, Illinois Constitution Article 7, Section 10, and 20ILCS 805/63(B), the State has authority to enter into this agreement.

WHEREAS, the Government and the State have the full authority and capability to perform as hereinafter set forth and intend to cooperate in cost-sharing and financing of the construction of the Project in accordance with the terms of this Agreement.

NOW, THEREFORE, the Government and the State agree as follows:

ARTICLE I - DEFINITIONS AND GENERAL PROVISIONS

For purposes of this Agreement:

A. The term "Project" shall mean the improvement of the existing levee which is approximately 44,500 feet; relocation of an existing 14,000 gpm pump which includes constructing a permanent concrete building to house the diesel engine and supplies; contour grading of three selected sites for littoral zone development which will also be used for borrow; and planting of native grass on approximately 144 acres all as generally described in the Upper Mississippi River System Environmental Management Program Definite Project Report With Integrated Environmental Assessment (R-11F) Banner Marsh State Fish and Wildlife Area, LaGrange Pool, Illincis River, Miles 138.5 through 143.9, Fulton and Peoria County, Illinois, dated September 1995, and approved by the Assistant Secretary Of The Army-(Civil Works), on 20 March 1996.

B. The term "total project costs" shall mean all costs incurred by the State and the Government in accordance with the terms of this Agreement directly related to construction of the Project. Subject to the provisions of this Agreement, the term shall include, but is not necessarily limited to: continuing planning and engineering costs incurred after October 1, 1985; advanced engineering and design costs; preconstruction engineering and design costs;

engineering and design costs during construction; the costs of investigations to identify the existence and extent of hazardous substances in accordance with Article XV.A. of this Agreement; costs of historic preservation activities in accordance with Article XVIII.A. of this Agreement; actual construction costs including costs incurred for the Section 215 Work as defined in paragraph K. of this Article for which the Government affords credit in accordance with Article II.D.2. of this Agreement, to the extent that they do not duplicate costs otherwise included in this paragraph; supervision and administration costs; costs of participation in the Project Coordination Team in accordance with Article V of this Agreement; costs of contract dispute settlements or awards; the value of lands, easements, right-of-way, relocation, and suitable borrow and dredged or excavated material disposal areas for which the Government affords credit in accordance with Article IV of this Agreement; and costs of audit in accordance with Article X of this Agreement. The term does not include any costs for operation, maintenance, repair, replacement, or rehabilitation; any costs due to betterments; or any costs of dispute resolution under Article VII of this Agreement.

C. The term "financial obligation for construction" shall mean a financial obligation of the Government, other than an obligation pertaining to the provision of lands, easements, rights-of-way, relocations, and borrow and dredged or excavated material disposal areas, that results or would result in a cost that is or would be included in total project costs.

D. The term "non-Federal proportionate share" shall mean the ratio of the State's total cash contribution required in accordance with Article II.D.2. of this Agreement to total financial obligations for construction, as projected by the Government.

E. The term "period of construction" shall mean the time from the date the Government first notifies the State in writing, in accordance with Article VI.B. of this Agreement, of the scheduled date for issuance of the solicitation for the first construction contract to the date that the U.S. Army Engineer for the Rock Island District (hereinafter the "District Engineer") notifies the State in writing of the Government's determination that construction of the Project is complete.

F. The term "highway" shall mean any public highway, roadway, street, or way, including any bridge thereof.

G. The term "relocation" shall mean providing a functionally equivalent facility to the owner of an existing utility, cemetery, highway or other public facility, or railroad when such action is authorized in accordance with applicable legal principles of just compensation or as otherwise provided in the authorizing legislation for the Project or any report referenced therein. Providing a functionally equivalent facility may take the form of alteration, lowering, raising, or replacement and attendant removal of the affected facility or part thereof.

H. The term "fiscal year" shall mean one fiscal year of the Government. The Government fiscal year begins on October 1 and ends on September 30.

I. The term "functional portion of the Project" shall mean a portion of the Project that is suitable for tender to the State to operate and maintain in advance of completion of the entire Project. For a portion of the Project to be suitable for tender, the District Engineer must notify the State in writing of the Government's determination that the portion of the Project is complete and can function independently and for a useful purpose, although the balance of the Project is not complete.

J. The term "betterment" shall mean a change in the design and construction of an element of the Project resulting from the application of standards that the Government determines exceed those that the Government would otherwise apply for accomplishing the design and construction of that element.

K. The term "Section 215 Work" means Project work commencing after the execution of this Agreement and for which the Government will give credit pursuant to Section 215 of Public Law 90-483 and the Section 215 Agreement incorporated herein by reference, and shall include stripping and clearing vegetation from critical reaches of the riverward levee slope between Stations 258+00 to 277+00 and Stations 356+00 to 380+00, excavation of approximately 87,000 cubic yards of borrow material, from specified locations within the Banner Marsh site, placement and semicompaction of the borrow material to restore the riverward slope of the levee, and placement of approximately 5,000 tons of bedding rock and 16,000 tons of riprap on all restored areas. The Section 215 Work shall not include the value of lands, easements, rights-of-way, or relocations, including suitable borrow and dredged or excavated material disposal areas necessary solely for the Section 215 Work.

L. The terms "operation," "repair," and "replacement" shall mean those actions required by the annual operation and maintenance requirements identified in the Definite Project Report described in paragraph A. of this Article.

M. The term "rehabilitation" shall mean those actions in excess of the annual operation and maintenance requirements identified in the Definite Project Report described in paragraph A. of this Article.

ARTICLE II - OBLIGATIONS OF THE GOVERNMENT AND THE STATE

A. The Government, subject to receiving funds appropriated by the Congress of the United States (hereinafter, the "Congress") and using those funds and funds provided by the State, shall expeditiously construct the Project (with the exception of the Section 215 Work), applying those procedures usually applied to Federal projects, pursuant to Federal laws, regulations, and policies.

1. The Government shall afford the State the opportunity to review and comment on the solicitations for all contracts, including relevant plans and specifications, prior to the Government's issuance of such solicitations. The Government shall not issue the solicitation for the first construction contract until the State has confirmed in writing its willingness to proceed with the Project. To the extent possible, the Government shall afford the State the opportunity to review and comment on all contract modifications, including change orders, prior to the issuance to the contractor of a Notice to Proceed. In any instance where providing the State with notification of a contract modification or change order is not possible prior to issuance of the Notice to Proceed, the Government shall provide such notification in writing at the earliest date possible. To the extent possible, the Government also shall afford the State the opportunity to review and comment on all contract claims prior to resolution thereof. The Government shall consider in good faith the comments of the State, but the contents of solicitations, award of contracts, execution of contract modifications, issuance of change orders, resolution or contract claims, and performance of all work on the Project (with the exception of the Section 215 Work) (whether the work is performed under contract or by Government personnel), shall be exclusively within the control of the Government.

2. Throughout the period of construction, the District Engineer shall furnish the State with a copy of the Government's Written Notice of Acceptance of Completed Work for each contract for the Project.

3. For the Section 215 Work the Government shall be afforded the opportunity to review and comment on the solicitations for all contracts, including relevant plans and specifications, prior to the State's issuance of such solicitations. No construction shall commence under this Agreement until the designs, detailed plans and specifications, and arrangements for prosecution of the Section 215 Work have been approved in writing by the District Engineer, or his representative, all bids received and the proposed provisions of any contract shall be subject to review by the Government prior to contract award. In addition, all proposed changes in approved designs, plans, and specifications also must be reviewed and approved by the District Engineer or his representative in writing in advance of the related construction where practicable.

To the extent possible, the State also shall afford the Government the opportunity to review and comment on all contract claims prior to resolution thereof. The State shall consider in good faith the comments of the Government made as a result of its review, but the contents of solicitations, award of contracts, execution of contract modifications, issuance of change orders, resolution of contract claims, and performance of all Section 215 Work shall be exclusively within the control of the State. However, the failure of the State to comply with direction received from the District Engineer, with respect to the Section 215 Work, may result in the costs associated with such work being determined ineligible for credit towards the State's share of total project costs.

B. The State may request the Government to accomplish betterments. Such requests shall be in writing and shall describe the betterments requested to be accomplished. If the Government in its sole discretion elects to accomplish the requested betterments or any portion thereof, it shall so notify the State in a writing that sets forth any applicable terms and conditions, which must be consistent with this Agreement. In the event of conflict between such a writing and this Agreement, this Agreement shall control. The State shall be solely responsible for all costs due to the requested betterments and shall pay all such costs in accordance with Article VI.C. of this Agreement.

C. When the District Engineer determines that the entire Project is complete or that a portion of the Project has become a functional portion of the Project, the District Engineer shall so notify the State in writing and furnish the State with an Operation and Maintenance Manual (hereinafter the "O&M Manual") and with copies of all of the Government's Written Notices of Acceptance of Completed Work for all contracts for the Project or the functional portion of the Project that have not been provided previously. Upon such notification, the State shall operate and maintain the entire Project or the functional portion of the Project in accordance with Article VIII of this Agreement.

D. The State shall contribute 25 percent of total project costs in accordance with the provisions of this paragraph.

1. In accordance with Article III of this Agreement, the State shall provide all lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas that the Government determines the State must provide for the construction, operation, and maintenance of the Project and shall perform or ensure performance of all relocations that the Government determines to be necessary for the construction, operation, and maintenance of the Project.

2. If the Government projects that the value of the State's contributions under paragraph D.1 of this Article and Articles V, X, and XV.A. of this Agreement will be less than 25 percent of total project costs, the State shall provide an additional cash contribution, in accordance with Article VI.B. of this Agreement, in the amount necessary to make the State's total contribution equal to 25 percent of total project costs. As authorized by Section 215 of Public Law 90-483, as amended, the Government may afford credit for the Section 215 Work. Such credit may be afforded in increments as useful increments of the Section 215 Work are completed by the State. The affording of such credit shall be subject to a technical review by the Government to verify that the credited work was accomplished in a satisfactory manner and in accordance with the limitations contained in this Agreement. To afford any such credit, the Government, as further specified in Article VI.B. of this Agreement, shall apply the actual amount of credit toward the cash contribution required by this paragraph. The actual amount of credit shall not exceed the State's actual costs attributable to the Section 215 Work. The actual amount of credit shall be subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of costs.

If the actual amount of credit exceeds the cash contribution required by this paragraph, the Government, subject to the availability of funds, shall, on behalf of the State, provide Project lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas, or perform Project relocations, equal in value to such excess credit amount. As an alternative, and in its sole discretion, the Government may, subject to the availability of funds, reimburse the State in an amount equal to such excess credit amount.

3. If the Government determines that the value of the State's contributions provided under paragraphs D.1. and D.2. of this Article and Articles V, X, and XV.A. of this Agreement has exceeded 25 percent of total project costs, the Government, subject to the availability of funds, shall reimburse the State for any such value in excess of 25 percent of total project costs. After such a determination, the Government, in its sole discretion, may provide any remaining Project lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas and perform any remaining project relocations on behalf of the State.

E. The State may request the Government to provide lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas or perform relocations on behalf of the State. Such requests shall be in writing and shall describe the services requested to be performed. If in its sole discretion the Government elects to perform the requested services or any portion thereof, it shall so notify the State in a writing that sets forth any applicable terms and conditions, which must be consistent with this Agreement. In the event of conflict between such a writing and this Agreement, this Agreement shall control. The State shall be solely responsible for all costs of the requested services and shall pay all such costs in accordance with Article VI.C. of this Agreement. Notwithstanding the provision of lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas or performance of relocations by the Government, the State shall be responsible, as between the Government and the State, for the costs of cleanup and response in accordance with Article XV.C. of this Agreement.

F. The Government shall perform a final accounting in accordance with Article VI.D. of this Agreement to determine the contributions provided by the State in accordance with paragraphs B., D., and E. of this Article and Articles V, X, and XV.A. of this Agreement and to determine whether the State has met its obligations under paragraphs B., D., and E. of this Article.

G. In addition to any other limitations contained in this Agreement, the affording and the amount of credit is subject to the following additional limitations:

1. Any reimbursement for the Section 215 Work performed by the State shall be dependent upon the appropriation of funds applicable thereto or funds available therefor, and shall not take precedence over other pending work of higher priority at the same or other improvement projects.

2. Any work undertaken by the State prior to the effective date of this Agreement shall not be subject to credit or reimbursement pursuant to this Agreement.

3. No credit shall be given or reimbursement made unless and until the District Engineer, U. S. Army Engineer District, Rock Island, has certified that the Section 215 Work subject to credit or reimbursement pursuant to this Agreement has been performed in accordance with this Agreement.

4. This Agreement shall not be construed as either committing the Government to assume any responsibility placed upon the State or any other non-Federal entity by the conditions of project authorization or any other applicable statute or regulation, or as committing the Government to reimburse the State if the Authorized Project is not undertaken or is modified so as to make the Section 215 Work performed by the State no longer an integral part of the Authorized Project.

5. Credit or reimbursement shall not be made for any work which does not, in the judgment of the Government, conform to the description set forth in Article I.K. of this Agreement.

6. The amount of credit or reimbursement, or combination thereof, to be provided by the Government to the State shall not exceed the Government's estimate of what the cost of the Section 215 Work would be if it were to be accomplished by the Government as a component of the Authorized Project, or the State's actual auditable costs for the Section 215 Work, whichever is less. The Government's estimate is \$1,300,000 which may be increased at its sole discretion.

7. The amount of credit or reimbursement for which the State may be eligible pursuant to this Agreement is not subject to interest charges, nor is it subject to adjustment to reflect changes in price levels between the time the Section 215 Work is completed and the time that the credit or reimbursement is afforded.

8. The amount of credit or reimbursement provided by the Government to the State for the Section 215 Work described herein, in combination with any credit or reimbursement provided pursuant to any other Section 215 Agreement executed for the Authorized Project, shall not exceed the statutory limitation of five million dollars (\$5,000,000) or one (1) percent of total project costs, whichever is greater.

9. The State shall obtain all applicable Federal, State and local permits required for the performance of the Section 215 Work and for operation, maintenance, repair, rehabilitation and replacement of the Project.

10. Any contract awarded by the State for the Section 215 Work under this Agreement shall include provisions consistent with all applicable Federal laws and regulations.

H. The State shall not use Federal funds to meet the State's share of total project costs under this Agreement unless the Federal granting agency verifies in writing that the expenditure of such funds is expressly authorized by statute.

I. Prior to construction, the State shall satisfy the requirements of the National Environmental Policy Act and any other applicable environmental statutes and executive orders

ARTICLE III - LANDS, RELOCATIONS, DISPOSAL AREAS, AND PUBLIC LAW 91-646 COMPLIANCE

A. The Government, after consultation with the State, shall determine the lands, easements, and rights-of-way required for the construction, operation, and maintenance of the Project, including those required for relocations, borrow materials, and dredged or excavated material disposal. The Government in a timely manner shall provide the State with general written descriptions, including maps as appropriate, of the lands, easements, and rights-of-way that the Government determines the State must provide, in detail sufficient to enable the State to fulfill its obligations under this paragraph, and shall provide the State with a written notice to proceed with acquisition of such lands, easements, and rights-of-way. Prior to the end of the period of construction, the State shall acquire all lands, easements, and rights-of-way set forth in such descriptions. Furthermore, prior to issuance of the solicitation for each construction contract, the State shall provide the Government with authorization for entry to all lands, easements, and rights-of-way the Government determines the State must provide for that contract.

For so long as the Project remains authorized, the State shall ensure that lands, easements, and rights-of-way that the Government determines to be required for the operation and maintenance of the Project and that were provided by the State are retained in public ownership for uses compatible with the authorized purposes of the Project.

B. The Government, after consultation with the State, shall determine the improvements required on lands, easements, and rights-of-way to enable the proper disposal of dredged or excavated material associated with the construction, operation, and maintenance of the Project. Such improvements may include, but are not necessarily limited to, retaining dikes, wasteweirs, bulkheads, embankments, monitoring features, stilling basins, and de-watering pumps and pipes. The Government in a timely manner shall provide the State with general written descriptions of such improvements in detail sufficient to enable the State to fulfill its obligations under this paragraph, and shall provide the State with a written notice to proceed with construction of such improvements. Prior to the end of the period of construction, the State shall provide all improvements set forth in such descriptions. Furthermore, prior to issuance of the solicitation for each Government construction contract, the State shall prepare, or insure the preparation of, plans and specifications for all improvements the Government determines to be required for the proper disposal of dredged or excavated material under that contract, submit such plans and specifications to the Government for approval, and provide such improvements in accordance with the approved plans and specifications.

C. The Government, after consultation with the State, shall determine the relocations necessary for the construction, operation, and maintenance of the Project, including those necessary to enable the removal of borrow materials and the proper disposal of dredged or excavated material. The Government in a timely manner shall provide the State with general written descriptions, including maps as appropriate, of such relocations in detail sufficient to enable the State to fulfill its obligations under this paragraph, and shall provide the State with a written notice to proceed with such relocations. Prior to the end of the period of construction, the State shall perform or ensure the performance of all relocations as set forth in such descriptions. Furthermore, prior to issuance of the solicitation for each Government construction contract, the State shall prepare or ensure the preparation of plans and specifications for, and perform or ensure the performance of, all relocations the Government determines to be necessary for that contract.

D. The State in a timely manner shall provide the Government with such documents as are sufficient to enable the Government to determine the value of any contribution provided pursuant to paragraphs A., B., or C. of this Article. Upon receipt of such documents the Government, in accordance with Article IV of this Agreement and in a timely manner, shall determine the value of such contribution, include such value in total project costs, and afford credit for such value toward the State's share of total project costs.

E. The State shall comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17), and the Uniform Regulations contained in 49 C.F.R. Part 24, in acquiring lands, easements, and rights-of-way required for the construction, operation, and maintenance of the Project, including those necessary for relocations, borrow materials, and dredged or excavated material disposal, and shall inform all affected persons of applicable benefits, policies, and procedures in connection with said Act.

ARTICLE IV - CREDIT FOR VALUE OF LANDS, RELOCATIONS, AND IMPROVEMENTS OF DISPOSAL AREAS

A. The State shall receive credit toward it's share of total project costs for the value of the lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas that the State must provide pursuant to Article III of this Agreement, for the value of the relocations, that the State must perform or for which it must ensure performance pursuant to Article III of this Agreement and for the value of all legally acquired lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas and relocations that the Government determines to be necessary for construction, operation and maintenance of the Section 215 work. However, the State shall not receive credit for the value of any lands, easements, rights-of-way, relocations, or borrow and dredged or excavated material disposal areas that have been provided previously as an item of cooperation for another Federal project, or that are owned by the State on the effective date of this agreement. The State also shall not receive credit for the value of lands, easements, rights-of-way, relocations, or borrow and dredged or excavated material disposal areas to the extent that such items are provided using Federal funds unless the Federal granting agency verifies in writing that such credit is expressly authorized by statute.

B. For the sole purpose of affording credit in accordance with this Agreement, the value of lands, easements, and rights-of-way, including those necessary for relocations, borrow materials, and dredged or excavated material disposal, shall be fair market value of the real property interests, plus certain incidental costs of acquiring those interests, as determined in accordance with the provisions of this paragraph.

1. Date of Valuation. The fair market value of lands, easements, or rights-of-way owned by the State on the effective date of this Agreement shall be fair market value of such real property interests as of the date the State provides the Government with authorization for entry thereto or, if the State performs the Section 215 Work, the date that the State begins construction of such work. However, for lands, easements, or rights-of-way owned by the State on the effective date of this agreement that are required for the construction of the Section 215 work, fair market value shall be the value of such real property interests as of the date the State awards the first construction contract for the Section 215 work, or, if the State performs the construction with its own labor, the date that the State begins construction of the Section 215 work. The fair market value of lands, easements, or rights-of-way acquired by the State after the effective date of this Agreement shall be the fair market value of such real property interests at the time the interests are acquired.

2. General Valuation Procedure. Except as provided in paragraph B.3. of this Article, the fair market value of lands, easements, or rights-of-way shall be determined in accordance with paragraph B.2.a. of this Article, unless thereafter a different amount is determined to represent fair market value in accordance with paragraph B.2.b. of this Article.

a. The State shall obtain, for each real property interest, an appraisal that is prepared by a qualified appraiser who is acceptable to the State and the Government. The appraisal must be prepared in accordance with the applicable rules of just compensation, as specified by the Government. The fair market value shall be the amount set forth in the State's appraisal, if such appraisal is approved by the Government. In the event the Government does not approve the State's appraisal, the State may obtain a second appraisal and the fair market value shall be the amount set forth in the State's second appraisal, if such appraisal is approved by the Government.

In the event the Government does not approve the State's second appraisal, or the State chooses not to obtain a second appraisal, the Government shall obtain an appraisal and the fair market value shall be the amount set forth in the Government's appraisal, if such appraisal is approved by the State. In the event the State does not approve the Government's appraisal, the Government, after consultation with the State shall consider the Government's and the State's appraisal and determine an amount based thereon, which shall be deemed to be the fair market value.

b. Where the amount paid or proposed to be paid by the State for the real property interest exceeds the amount determined pursuant to paragraph B.2.a. of this Article, the Government, at the request of the State, shall consider all factors relevant to determining fair market value and, in its sole discretion, after consultation with the State, may approve in writing an amount greater than the amount determined pursuant to paragraph B.2.a. Article, but not to exceed the amount actually paid or proposed to be paid. If the Government approves such an amount, the market value shall be the lesser of the approved amount or the amount paid by the State, but not less than the amount determined pursuant to paragraph B.2.a. of this Article.

3. Eminent Domain Valuation Procedure. For lands, easements, or rights-of-way acquired by eminent domain proceedings instituted after the effective date of this Agreement, the State shall, prior to instituting such proceedings, submit to the Government notification in writing of its intent to institute such proceedings and an appraisal of the specific real property interest to be acquired in such proceedings. The Government shall have 60 days after receipt of such notice and appraisal within which to review the appraisal, if not previously approved by the Government in writing.

a. If the Government previously has approved the appraisal in writing, or if the Government provides written approval of, or takes no action on, the appraisal within such 60-day period, the appraisal shall be considered approved and the State shall use the amount set forth in such appraisal as the estimate of just compensation for the purpose of instituting the eminent domain proceeding.

b. If the Government provides written disapproval of the appraisal, including the reasons for the disapproval, within such 60-day period, the Government and the State shall consult in good faith to promptly resolve the issues or areas of disagreement that are identified in the Government's written disapproval. If, after such good faith consultation; the Government and the State agree as to an appropriate amount, then the State shall use that amount as the estimate of just compensation for the purpose of instituting the eminent domain proceeding. If, after such good faith consultation, the Government and the State cannot agree as to an appropriate amount, then the State may use the amount set forth in its appraisal as the estimate of just compensation for the purpose of instituting the eminent domain proceeding.

c. For lands, easements, or rights-of-way acquired by eminent domain proceedings instituted in accordance with subparagraph B.3. of this Article, fair market value shall be either the amount of the court award for the real property interests taken, to the extent the Government determined such interests are required for the construction, operation, and maintenance of the Project, or the amount of any stipulated settlement or portion thereof that the Government approves in writing.

4. Incidental Costs. For lands, easements, or rights-of-way acquired by the State within a five-year period preceding the effective date of this Agreement, or at any time after the effective date of this Agreement, the value of the interest shall include the documented incidental costs of acquiring the interest as determined by the Government, subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of costs. Such incidental costs shall include, but not necessarily be limited to, closing and title costs, appraisal costs, survey costs, attorney's fees, plat maps, and mapping costs, as well as the actual amounts expended for payment of any Public Law 91-646 relocation assistance benefits provided in accordance with Article III.E. of this Agreement.

C. After consultation with the State, the Government shall determine the value of relocation in accordance with the provisions of this paragraph.

1. For a relocation other than a highway, the value shall be only that portion of relocation costs that the Government determines is necessary to provide a functionally equivalent facility, reduced by depreciation, as applicable and by the salvage value of any removed items.

2. For a relocation of a highway, the value shall be only that portion of relocation costs that would be necessary to accomplish the relocation in accordance with the design standard that the State of Illinois would apply under similar conditions of geography and traffic load, reduced by the salvage value of any removed items.

3. Relocation costs shall include, but not necessarily be limited to, actual costs of performing the relocation; planning, engineering and design costs; supervision and administration costs; and documented incidental costs associated with performance of the relocation, but shall not include costs due to betterments, as determined by the Government, nor any additional cost of using new material when suitable used material is available. Relocation costs shall be subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of costs.

D. The value of the improvements made to lands, easements, and rights-of-way for the proper disposal of dredged or excavated material shall be the costs of the improvements, as determined by the Government, subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of costs. Such costs shall include, but not necessarily be limited to, actual costs of providing the improvements; planning, engineering and design costs; supervision and administration costs; and documented incidental costs associated with providing the improvements, but shall not include any costs due to betterments, as determined by the Government.

ARTICLE V - PROJECT COORDINATION TEAM

A. To provide for consistent and effective communication, the State and the Government, not later than 30 days after the effective date of this Agreement, shall appoint named senior representatives to a Project Coordination Team. Thereafter, the Project Coordination Team shall meet regularly until the end of the period of construction. The Government's Project Manager and a counterpart named by the State shall co-chair the Project Coordination Team.

B. The Government's Project Manager and the State's counterpart shall keep the Project Coordination Team informed of the progress of construction and of significant pending issues and actions, and shall seek the views of the Project Coordination Team on matters that the Project Coordination Team generally oversees.

C. Until the end of the period of construction, the Project Coordination Team shall generally oversee the Project, including issues related to design; plans and specifications; scheduling; real property and relocation requirements; real property acquisition; contract awards and modifications; construction of the Section 215 Work; contract costs; the Government's cost projections; final inspection of the entire Project or functional portions of the Project; preparation of the proposed O&M Manual; anticipated requirements and needed capabilities for performance of operation, maintenance, repair, replacement, and rehabilitation of the Project; and other related matters. This oversight shall be consistent with a project management plan developed by the Government after consultation with the State.

D. The Project Coordination Team may make recommendations that it deems warranted to the District Engineer on matters that the Project Coordination Team generally oversees, including suggestions to avoid potential sources of dispute. The Government, in good faith, shall consider the recommendations of the Project Coordination Team. The Government, having the legal authority and responsibility for construction of the Project, has the discretion to accept, reject, or modify the Project Coordination Team's recommendations.

E. The costs of participation in the Project Coordination Team shall be included in total project costs and cost shared in accordance with the provisions of this Agreement.

ARTICLE VI - METHOD OF PAYMENT

A. The Government shall maintain current records of contributions provided by the parties and current projections of total project costs and costs due to betterments. By April 1 of each year and at least quarterly thereafter, the Government shall provide the State with a report setting forth all contributions provided to date and the current projections of total project costs, of total costs due to betterments, of the components of total project costs, of each party's share of total project costs, of the State's total cash contributions required in accordance with Articles II.B., II.D., and II.E. of this Agreement, of the non-Federal proportionate share, and of the funds the Government projects to be required from the State for the upcoming fiscal year. On the effective date of this Agreement, total project costs are projected to be \$4,910,728, and the State's cash contribution required under Article II.D. of this Agreement is projected to be \$1,179,115.

The amount of credit for the Section 215 Work to be afforded against the State's required contribution towards total project costs in accordance with Article II.D.2. of this Agreement is projected to be \$1,300,000. Such amounts are estimates subject to adjustment by the Government and are not to be construed as the total financial responsibilities of the Government and the State.

B. The State shall provide the cash contribution required under Article II.D.2. of this Agreement in accordance with the provisions of this paragraph.

1. Not less than 60 calendar days prior to the scheduled date for issuance of the solicitation for the first construction contract, the Government shall notify the State in writing of such scheduled date and the funds the Government determines to be required from the State to meet the non-Federal proportionate share of projected financial obligations for construction through the first fiscal year of construction, including the non-Federal proportionate share of financial obligations for construction incurred prior to the commencement of the period of construction. Not later than such scheduled date, the State shall provide the Government with the full amount of the required funds by delivering a check payable to "FAO, USAED, Rock Island" to the District Engineer.

2. For the second and subsequent fiscal years of construction, the Government shall notify the State in writing, no later than 60 calendar days prior to the beginning of that fiscal year, of the funds the Government determines to be required from the State to meet the non-Federal proportionate share of projected financial obligations for construction for that fiscal year. No later than 30 calendar days prior to the beginning of the fiscal year, the State shall make the full amount of the required funds for that fiscal year available to the Government through the funding mechanism specified in Article VI.B.1. of this Agreement.

3. The Government shall draw from the funds provided by the State such sums as the Government deems necessary to cover: (a) the non-Federal proportionate share of financial obligations for construction incurred prior to the commencement of the period of construction; and (b) the non-Federal proportionate share of financial obligations for construction as they are incurred during the period of construction.

4. If at any time during the period of construction the Government determines that additional funds will be needed from the State to cover the non-Federal proportionate share of projected financial obligations for construction for the current fiscal year, the Government shall notify the State in writing of the additional funds required, and the State, no later than 60 calendar days from receipt of such notice, shall make the additional required funds available through the payment mechanism specified in Article VI.B.1 of this Agreement.

C. In advance of the Government incurring any financial obligation associated with additional work under Article II.B. or II.E. of this Agreement, the State shall provide the Government with the full amount of the funds required to pay for such additional work by delivering a check payable to "FAO, USAED, Rock Island" to the District Engineer. The Government shall draw from the funds provided by the State such sums as the Government deems necessary to cover the Government's financial obligations for such additional work as they are incurred. In the event the Government determines that the State must provide additional funds to meet its cash contribution, the Government shall notify the State in writing of the additional funds required. Within 30 calendar days thereafter, the State shall provide the Government with a check for the full amount of the additional required funds.

D. Upon completion of the Project or termination of this Agreement, and upon resolution of all relevant claims and appeals, the Government shall conduct a final accounting and furnish the State with the results of the final accounting. The final accounting shall determine total project costs, each party's contribution provided thereto, and each party's required share thereof. The final accounting also shall determine costs due to betterments and the State's cash contribution provided pursuant to Article II.B. of this Agreement.

1. In the event the final accounting shows that the total contribution provided by the State is less than its required share of total project costs plus costs due to any betterments provided in accordance with Article II.B. of this Agreement, the State shall, no later than 90 calendar days after receipt of written notice, make a cash payment to the Government of whatever sum is required to meet the State's required share of total project costs plus costs due to any betterments provided in accordance with Article II.B. of this Agreement.

2. In the event the final accounting shows that the total contribution provided by the State exceeds its required share of total project costs plus costs due to any betterments provided in accordance with Article II.B. of this Agreement, the Government shall, subject to the availability of funds, refund the excess to the State no later than 90 calendar days after the final accounting is complete. In the event existing funds are not available to refund the excess to the State, the Government shall seek such appropriations as are necessary to make the refund.

ARTICLE VII - DISPUTE RESOLUTION

As a condition precedent to a party bringing any suit for breach of this Agreement, the party must first notify the other party in writing of the nature of the purported breach and seek in good faith to resolve the dispute through negotiation. If the parties cannot resolve the dispute through negotiation, they may agree to a mutually acceptable method of non-binding alternative dispute resolution with a qualified third party acceptable to both parties. The parties shall each pay 50 percent of any costs for the services provided by such a third party as such costs are incurred. The existence of a dispute shall not excuse the parties from performance pursuant to this Agreement.

ARTICLE VIII - OPERATION, MAINTENANCE, REPAIR, REPLACEMENT, AND REHABILITATION

A. Upon notification in accordance with Article II.C. of this Agreement and for so long as the Project remains authorized, the State, as required by Section 1103(c)(7)(A) of the Water Resources Development Act of 1986, as amended, shall operate, maintain, repair, and replace the entire Project or the functional portion of the Project, in a manner compatible with the Project's authorized purposes and in accordance with applicable Federal and State laws as provided in Article XI of this Agreement and specific directions prescribed by the Government in the O&M Manual and any subsequent amendments thereto. Operation, repair, and replacement costs shall be paid by the State at no cost to the Government. If any future rehabilitation of the Project is mutually agreed upon by the State and the Government, 75 percent of such costs shall be paid by the Government and 25 percent of such costs shall be paid by the State, in accordance with Section 906(e) of the Water Resources Development Act of 1986.

B. The State hereby gives the Government a right to enter, at reasonable times and in a reasonable manner, upon property that the State owns or controls for access to the Project for the purpose of inspection and, if necessary, for the purpose of completing, operating, maintaining, repairing, or replacing the Project. If an inspection shows that the State for any reason is failing to perform its obligations under this Agreement, the Government shall send a written notice describing the non-performance to the State. If, after 30 calendar days from receipt of notice, the State continues to fail to perform, then the Government shall have the right to enter, at reasonable times and in a reasonable manner, upon property that the State owns or controls for access to the Project for the purpose of completing, operating, maintaining, repairing, or replacing the Project. No completion, operation, maintenance, repair, or replacement by the Government shall operate to relieve the State of responsibility to meet the State's obligations as set forth in this Agreement, or to preclude the Government from pursuing any other remedy at law or equity to ensure faithful performance pursuant to this Agreement.

ARTICLE IX - INDEMNIFICATION

The State shall hold and save the Government free from all damages arising from the construction, operation, maintenance, repair, replacement, and rehabilitation of the Project and any Project-related betterments, or the Section 215 Work, except for damages due to the fault or negligence of the Government or its contractors.

ARTICLE X - MAINTENANCE OF RECORDS AND AUDIT

A. Not later than 60 calendar days after the effective date of this Agreement, the Government and the State shall develop procedures for keeping books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to this Agreement. These procedures shall incorporate, and apply as appropriate, the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments at 32 C.F.R. Section 33.20. The Government and the State shall maintain such books, records, documents, and other evidence in accordance with these procedures and for a minimum of three years after the period of construction and resolution of all relevant claims arising therefrom. To the extent permitted under applicable Federal laws and regulations, the Government and the State shall each allow the other to inspect such books, documents, records, and other evidence.

B. Pursuant to 32 C.F.R. Section 33.26, the State is responsible for complying with the Single Audit Act of 1984, 31 U.S.C. Sections 7501-7507, as implemented by Office of Management and Budget (OMB) Circular No. A-128 and Department of Defense Directive 7600.10. Upon request of the State and to the extent permitted under applicable Federal laws and regulations, the Government shall provide to the State and independent auditors any information necessary to enable an audit of the State's activities under this Agreement. The costs of any non-Federal audits performed in accordance with this paragraph shall be allocated in accordance with the provisions of OMB Circulars A-87 and A-128, and such costs as are allocated to the Project shall be included in total project costs and cost shared in accordance with the provisions of this Agreement.

C. In accordance with 31 U.S.C. Section 7503, the Government may conduct audits in addition to any audit that the State is required to conduct under the Single Audit Act. Any such Government audits shall be conducted in accordance with Government Auditing Standards and the cost principles in OMB Circular No. A-87 and other applicable cost principles and regulations. The costs of Government audits performed in accordance with this paragraph shall be included in total project costs and cost shared in accordance with the provisions of this Agreement.

ARTICLE XI - FEDERAL AND STATE LAWS

In the exercise of their respective rights and obligations under this Agreement, the State and the Government agree to comply with all applicable Federal and State laws and regulations, including, but not limited to, Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d), and Department of Defense Directive 5500.11 issued pursuant thereto, as well as Army Regulations 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army".

ARTICLE XII - RELATIONSHIP OF PARTIES

A. In the exercise of their respective rights and obligations under this Agreement, the Government and the State each act in an independent capacity, and neither is to be considered the officer, agent, or employee of the other.

B. In the exercise of its rights and obligations under this Agreement, neither party shall provide, without the consent of the other party, any contractor with a release that waives or purports to waive any rights such other party may have to seek relief or redress against such contractor either pursuant to any cause of action that such other party may have or for violation of any law.

ARTICLE XIII - OFFICIALS NOT TO BENEFIT

No member of or delegate to the Congress, nor any resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom.

ARTICLE XIV - TERMINATION OR SUSPENSION

A. If at any time the State fails to fulfill its obligations under Article II.B., II.D., II.E., VI, or XVIII.C. of this Agreement, the Assistant Secretary of the Army (Civil Works) shall terminate this Agreement or suspend future performance under this Agreement unless he determines that continuation of work on the Project is in the interest of the United States or is necessary in order to satisfy agreements with any other non-Federal interests in connection with the Project.

B. If the Government fails to receive annual appropriations in amounts sufficient to meet Project expenditures for the then-current or upcoming fiscal year, the Government shall so notify the State in writing, and 60 calendar days thereafter either party may elect without penalty to terminate this Agreement or to suspend future performance under this Agreement. In the event that either party elects to suspend future performance under this Agreement pursuant to this paragraph, such suspension shall remain in effect until such time as the Government receives sufficient appropriations or until either the Government or the State elects to terminate this Agreement.

C. In the event that either party elects to terminate this Agreement pursuant to this Article or Article XV of this Agreement, both parties shall conclude their activities relating to the Project and proceed to a final accounting in accordance with Article VI.D. of this Agreement.

D. Any termination of this Agreement or suspension of future performance under this Agreement in accordance with this Article or Article XV of this Agreement shall not relieve the parties of liability for any obligation previously incurred.

Any delinquent payment shall be charged interest at a rate, to be determined by the Secretary of the Treasury, equal to 150 per centum of the average bond equivalent rate of the 13-week Treasury bills auctioned immediately prior to the date on which such payment became delinquent, or auctioned immediately prior to the beginning of each additional 3-month period if the period of delinquency exceeds 3 months.

ARTICLE XV - HAZARDOUS SUBSTANCES

A. After execution of this Agreement and upon direction by the District Engineer, the State shall perform, or cause to be performed, any investigations for hazardous substances that the Government or the State determines to be necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (hereinafter "CERCLA"), 42 U.S.C. Sections 9601-9675, that may exist in, on, or under lands, easements, and rights-of-way that the Government determines, pursuant to Article III of this Agreement, to be required for the construction, operation, and maintenance of the Project. However, for lands that the Government determines to be subject to the navigation servitude, only the Government shall perform such investigations unless the District Engineer provides the State with prior specific written direction, in which case the State shall perform such investigations in accordance with such written direction. All actual costs incurred by the State for such investigations for hazardous substances shall be included in total project costs and cost shared in accordance with the provisions of this Agreement, subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of costs.

B. In the event it is discovered through any investigation for hazardous substances or other means that hazardous substances regulated under CERCLA exist in, on, or under any lands, easements, or rights-of-way that the Government determines, pursuant to Article III of this Agreement, to be required for the construction, operation, and maintenance of the Project, the State and the Government shall provide prompt written notice to each other, and the State shall not proceed with the acquisition of the real property interests until both parties agree that the State should proceed.

C. The Government and the State shall determine whether to initiate construction of the Project, or, if already in construction, whether to continue with work on the Project, suspend future performance under this Agreement, or terminate this Agreement for the convenience of the Government, in any case where hazardous substances regulated under CERCLA are found to exist in, on, or under any lands, easements, or rights-of-way that the Government determines, pursuant to Article III of this Agreement, to be required for the construction, operation, and maintenance of the Project. Should the Government and the State determine to initiate or continue with construction after considering any liability that may arise under CERCLA, the State shall be responsible, as between the Government and the State, for the costs of clean-up and response, to include the costs of any studies and investigations necessary to determine an appropriate response to the contamination. Such costs shall not be considered a part of total project costs. In the event the State fails to provide any funds necessary to pay for clean up and response costs or to otherwise discharge the State's responsibilities under this paragraph upon direction by the Government, the Government may, in its sole discretion, either terminate this Agreement for the convenience of the Government, suspend future performance under this Agreement, or continue work on the Project.

D. The State and the Government shall consult with each other in accordance with Article V of this Agreement in an effort to ensure that responsible parties bear any necessary clean up and response costs as defined in CERCLA. Any decision made pursuant to paragraph C. of this Article shall not relieve any third party from any liability that may arise under CERCLA.

E. As between the Government and the State, the State shall be considered the operator of the Project for purposes of CERCLA liability. To the maximum extent practicable, the State shall operate, maintain, repair, replace, and rehabilitate the Project in a manner that will not cause liability to arise under CERCLA.

ARTICLE XVI - NOTICES

a. Any notice, request, demand, or other communication required or permitted to be given under this Agreement shall be deemed to have been duly given if in writing and either delivered personally or by telegram or mailed by first-class, registered, or certified mail, as follows:

If to the State:

Director
Illinois Department of Natural Resources
Lincoln Tower Plaza
524 South 2nd Street
Springfield, Illinois 62701-1787

If to the Government:

District Engineer
U.S. Army Engineer District, Rock Island
Clock Tower Building, P.O. Box 2004
Rock Island, Illinois 61204-2004

B. A party may change the address to which such communications are to be directed by giving written notice to the other party in the manner provided in this Article.

C. Any notice, request, demand, or other communication made pursuant to this Article shall be deemed to have been received by the addressee at the earlier of such time as it is actually received or seven calendar days after it is mailed.

ARTICLE XVII - CONFIDENTIALITY

To the extent permitted by the laws governing each party, the parties agree to maintain the confidentiality of exchanged information when requested to do so by the providing party.

ARTICLE XVIII - HISTORIC PRESERVATION

A. The costs of identification, survey and evaluation of historic properties shall be included in total project costs and cost shared in accordance with the provisions of this Agreement.

B. As specified in Section 7(a) of Public Law 93-291 (16 U.S.C. Section 469c(a)), the costs of mitigation and data recovery activities associated with historic preservation shall be borne entirely by the Government and shall not be included in total project costs, up to the statutory limit of one percent of the total amount the Government is authorized to expend for the Project.

C. The Government shall not incur cost for mitigation and data recovery that exceed the statutory one percent limit specified in paragraph B. of this Article unless and until the Assistant Secretary of the Army (Civil Works) has waived that limit in accordance with Section 208(3) of Public Law 96-515 (16 U.S.C. Section 469c-2(3)). Any costs of mitigation and data recovery that exceed the one percent limit shall be included in total project costs and cost shared in accordance with the provisions of this Agreement.

ARTICLE XIX - SECTION 1103 PROJECT COST LIMITS

The State has reviewed the provisions set forth in Section 1103 of Public Law 99-662, as amended, and understands that Section 1103 establishes the maximum amount of costs for the habitat rehabilitation and enhancement component of the Upper Mississippi River System Environmental Management Program.

Notwithstanding any other provisions of this Agreement, the Government shall not make a new project expenditure, or afford credit toward total project costs for the value of any contribution provided by the State, if such obligation, expenditure, or credit would result in total project costs, plus the value of any obligations already made under the habitat rehabilitation and enhancement component of the Upper Mississippi River System Environmental Management Program, exceeding the maximum amount, unless otherwise authorized by law.

ARTICLE XX - OBLIGATION OF FUTURE APPROPRIATION

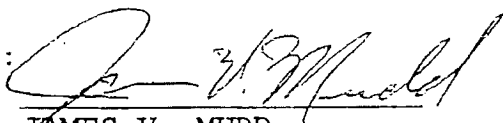
Nothing herein shall constitute, nor be deemed to constitute, an obligation of future appropriations by the Illinois General Assembly when such obligation would be inconsistent with the State's constitutional or statutory limitations.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, which shall become effective upon the date it is signed by the District Engineer.

THE DEPARTMENT OF THE ARMY

THE STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

BY:



JAMES V. MUDD
Colonel, U.S. Army
District Engineer

BY:



BRENT MANNING
Director

DATE:

1/29/98

DATE:

1/29/98

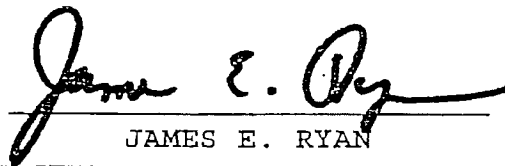
129.95



CERTIFICATE OF AUTHORITY

I, James E. Ryan, do hereby certify that I am the principal legal officer of the State of Illinois, that the State of Illinois is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the Department of the Army and the State of Illinois in connection with the Banner Marsh State Fish and Wildlife Area Habitat Rehabilitation and Enhancement Project, and to pay damages, in accordance with the terms of this agreement, if necessary, in the event of the failure to perform, as required by Section 221 of Public Law 91-611 (42 U.S.C. Section 1962d-5b), and that the persons who have executed this Agreement on behalf of the State of Illinois have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this 29th day of January, 1997.

A handwritten signature in cursive script, reading "James E. Ryan", is written over a horizontal line.

JAMES E. RYAN
ATTORNEY GENERAL OF THE STATE OF ILLINOIS

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrant, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.


Brent Manning
Director

DATE: 1/28/98

1.27.98

31

S. J. [unclear]

APPENDIX B

**SITE MANAGER'S
PROJECT INSPECTION AND MONITORING RESULTS**

**OPERATION AND MAINTENANCE MANUAL
BANNER MARSH HABITAT REHABILITATION AND ENHANCEMENT PROJECT**

**UPPER MISSISSIPPI RIVER
ENVIRONMENTAL MANAGEMENT PROGRAM
LA GRANGE POOL, RIVER MILES 138.5 THROUGH 143.9
FULTON AND PEORIA COUNTIES, ILLINOIS**

SITE MANAGER'S PROJECT INSPECTION AND MONITORING RESULTS

Inspected By _____ Date _____

Type of Inspection: () annual () emergency-disaster () other

1. PROJECT INSPECTION

<u>Item</u>	<u>Condition</u>
A. Levee	
() Settlement, sloughs or loss of section	_____
() Caving	_____
() Seepage, saturated areas, or sand boils	_____
() Burning grass or weeds at unusual times	_____
() Crown is not shaped for drainage	_____
() Unauthorized grazing or traffic	_____
() Encroachments	_____
() Other	_____
B. Pump Station	
() Building/hardware	_____
() Control panels	_____
() Pumps	_____
() Electrical - accessories, lighting	_____
() Sump (sediment, debris)	_____
() Trash rack	_____
() Inlet & outlet channels	_____
() Displaced/missing riprap	_____
() Erosion or seepage adjacent to structure	_____
() Other	_____

C. Water Control Structure 1

- ☐ Stoplogs, lifting hooks, stoplog slots
- ☐ Metal pipe condition
- ☐ Grating, fasteners, hinges
- ☐ Erosion adjacent to structure
- ☐ Sedimentation
- ☐ Other

D. Water Control Structure 2

- ☐ Stoplogs, lifting hooks, stoplog slots
- ☐ Metal pipe condition
- ☐ Grating, fasteners, hinges
- ☐ Erosion adjacent to structure
- ☐ Sedimentation
- ☐ Other

E. Service Road

- ☐ Sloughing
- ☐ Loss of granular surface
- ☐ Ruts and potholes
- ☐ Other

F. Prairie Plantings

- ☐ Native species
- ☐ Exotic species
- ☐ Disease, insects, other stress factors
- ☐ Other

G. Littoral Zone

- ☐ Presence and type of aquatic vegetation
- ☐ Other

2. COMMENTS

Site Manager

APPENDIX C

DISTRIBUTION LIST

Mr. Rick Nelson
U. S. Fish and Wildlife Service
4469 48th Avenue Court
Rock Island, Illinois 61201

Arthur Neal
Illinois Department of Natural Resources
524 S. Second Street
Springfield, Illinois 62706

Mr. Rick Mollahan
Illinois Department of Natural Resources
524 S. Second Street
Springfield, Illinois 62706

Mr. Scott Stuewe
Illinois Department of Natural Resources
524 S. Second Street
Springfield, Illinois 62706

Mr. Bill Douglass
Illinois DNR
R.R. 3 Box 91
Canton, Illinois 61520

Division Engineer
U.S. Army Engineer Division,
Mississippi Valley
ATTN: CEMVD-PD/CEMVD-CO (Greg Ruff)
1400 Walnut
Vicksburg, Mississippi 39180

INTERNAL

District Engineer
U.S. Army Engineer District, Rock Island
Clock Tower Building - P.O. Box 2004
Rock Island, Illinois 61204-2004
ATTN:

CEMVR-ED-DN
CEMVR-OD-T
CEMVR-OD-I
CEMVR-PM-A
CEMVR-PM-M
CEMVR-CD
CEMVR-ED
CEMVR-ED-D
CEMVR-ED-DG
CEMVR-ED-DM
CEMVR-ED-DS
CEMVR-ED-G
CEMVR-ED-H
CEMVR-ED-HH
CEMVR-ED-HQ
CEMVR-ED-S

US Army Corps
of Engineers
Rock Island
District

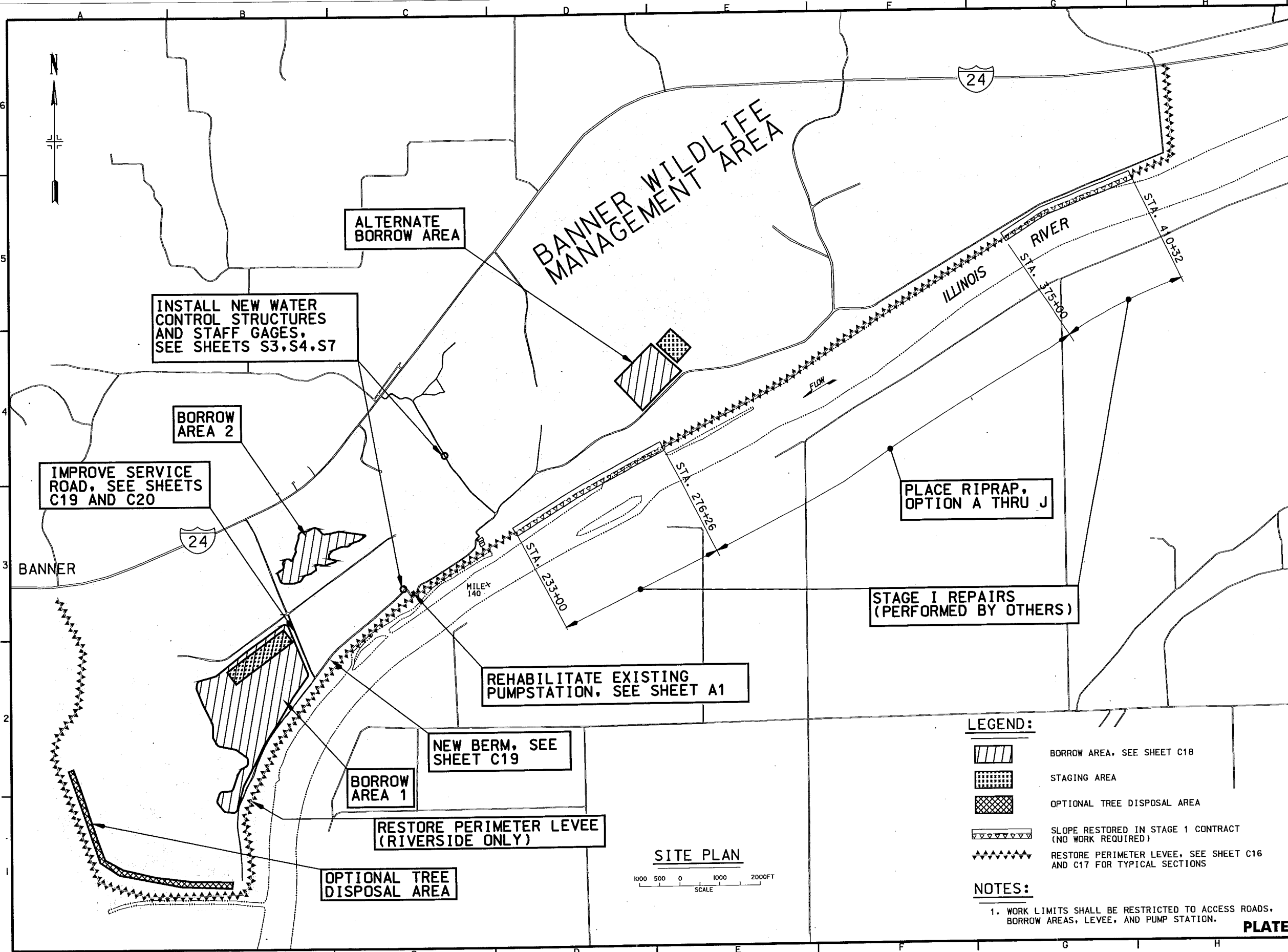
Symbol	Description	Revisions
A	REVISIONS AND COMMENTS	3/7/00 JLE/000

Designed By:	JTB	Date:	16 JUNE 1998
Drawn By:	JCO	Scale:	AS SHOWN
Checked By:	JTB	Drawing Code:	1-L-3-1/72
Reviewed By:	JWB	Set Location Number:	DAK22-18-001

ILLINOIS WATERWAY PROGRAM
EAGLE CREEK RIVER WILE 138-144
BANNER WILDLIFE MANAGEMENT AREA
FULTON AND PEORIA COUNTIES, IL.

SITE PLAN

Sheet
Reference
Number:
C1
Sheet 4 of 53

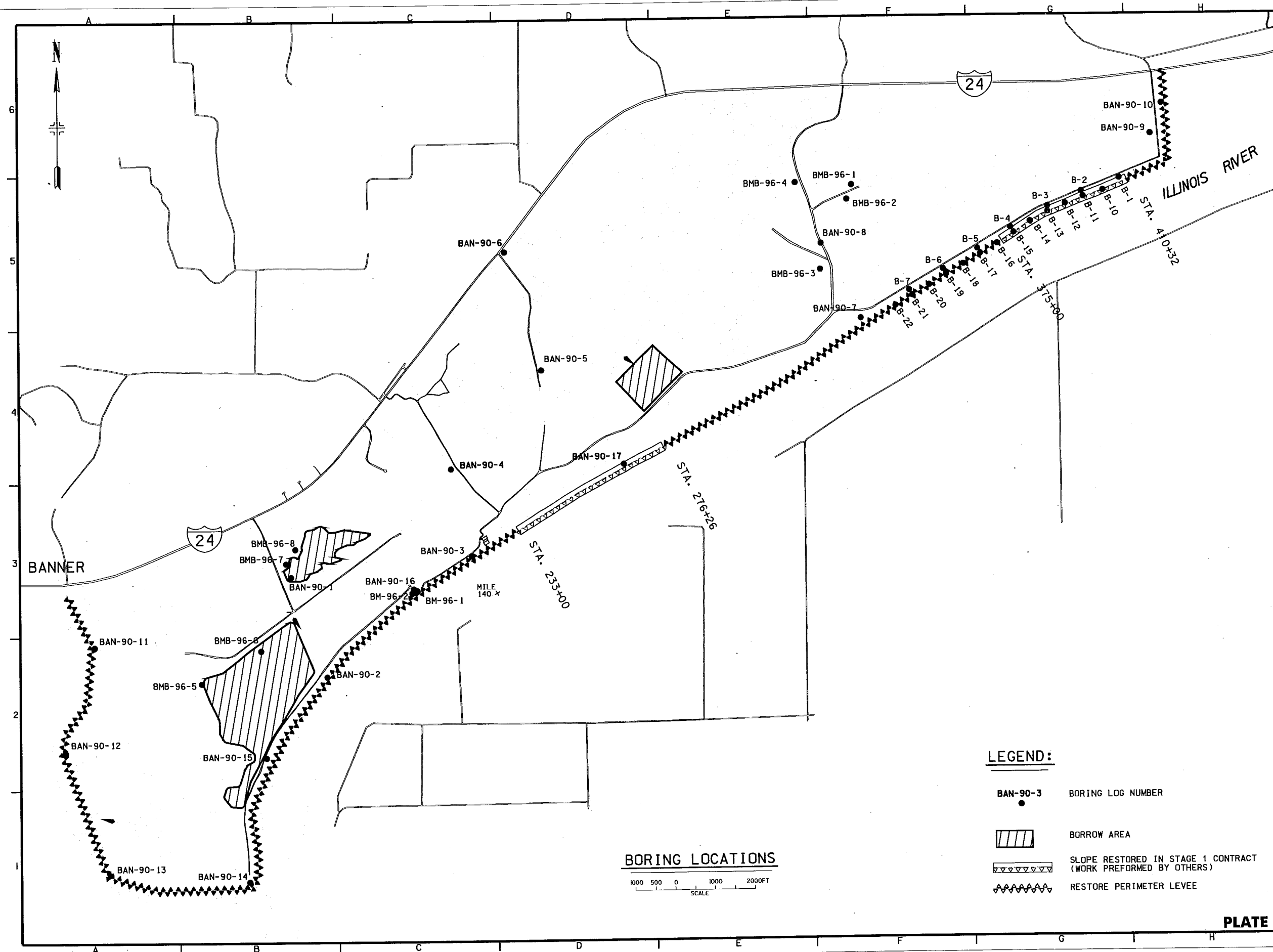


LEGEND:

- BORROW AREA, SEE SHEET C18
- STAGING AREA
- OPTIONAL TREE DISPOSAL AREA
- SLOPE RESTORED IN STAGE 1 CONTRACT (NO WORK REQUIRED)
- RESTORE PERIMETER LEVEE, SEE SHEET C16 AND C17 FOR TYPICAL SECTIONS

NOTES:

1. WORK LIMITS SHALL BE RESTRICTED TO ACCESS ROADS, BORROW AREAS, LEVEE, AND PUMP STATION.



LEGEND:

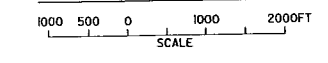
BAN-90-3 BORING LOG NUMBER

BORROW AREA

SLOPE RESTORED IN STAGE 1 CONTRACT (WORK PERFORMED BY OTHERS)

RESTORE PERIMETER LEVEE

BORING LOCATIONS



Symbol	Description	Revisions
A	REVISED AS CONSTRUCTED	
DATE	3/12/04	APPROVED

DESIGNED BY: RTN	DATE: 16 JUNE 1999
DRAWN BY: TPD/SDB	SCALE: AS SHOWN
CHECKED BY: KJB	DRAWING CODE: 1-L-3-1/72
REVIEWED BY: BLK	SOLICITATION NUMBER: DACK22-99-0-001

ILLINOIS WATERWAY PROGRAM
 ENVIRONMENTAL RESTORATION
 ENGINEERING DISTRICT
 ROCK ISLAND DISTRICT
 BANNER AND PEORIA COUNTIES, IL.

BORING LOCATIONS

Sheet
 Reference
 Number:
C2
 Sheet 5 of 53



DATE	3/2/04
BY	JULY 1990
APPROVED	
DESCRIPTION	AS CONSTRUCTED
REVISIONS	

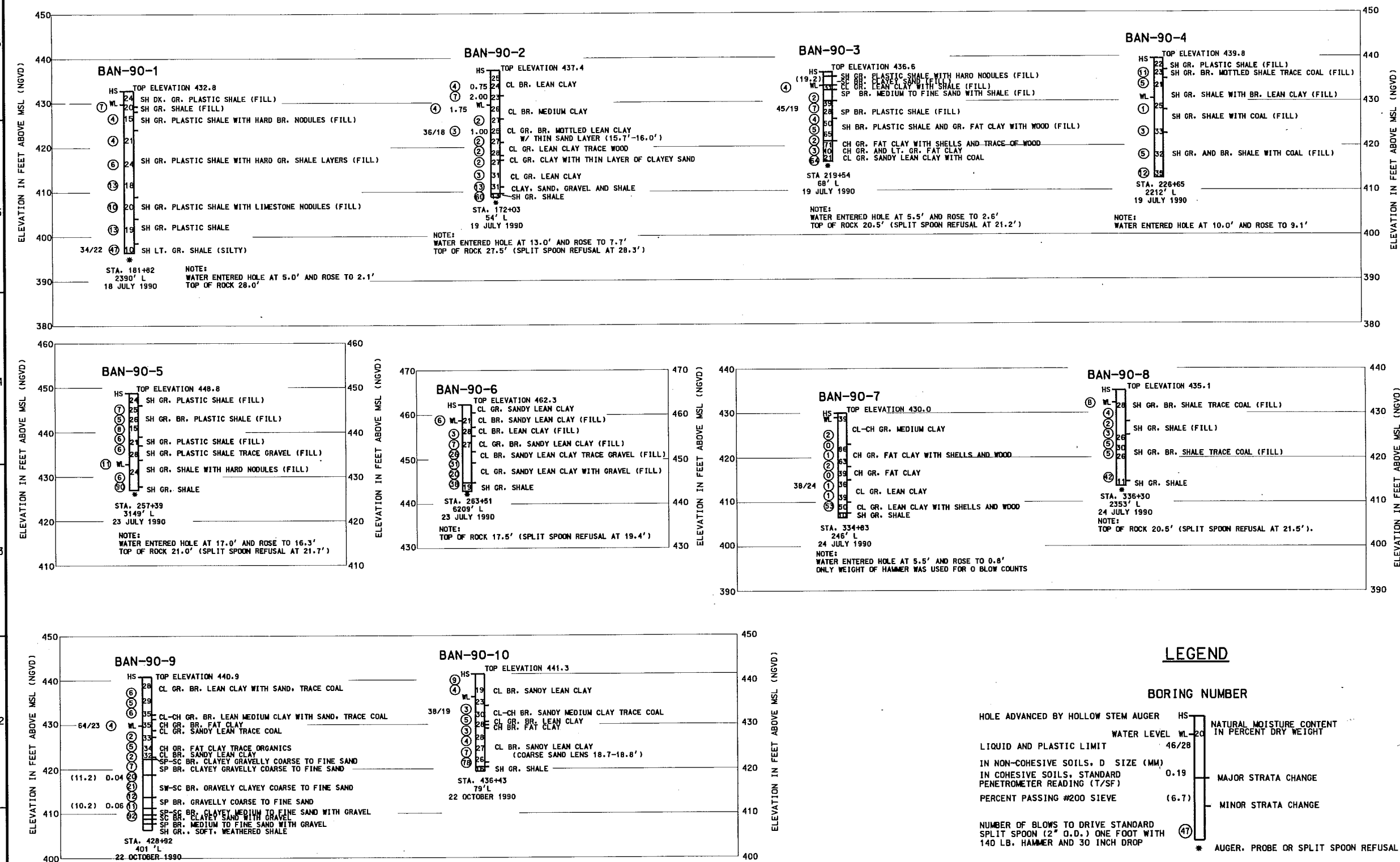
DESIGNED BY	RTN	DATE	16 JUNE 1999
DRAWN BY	TPD/SDB	SCALE	AS SHOWN
CHECKED BY	KJB	DRAWING CODE	1-L-1-3-1/72
REVIEWED BY	BLK	SOLICITATION NUMBER	DAE22-99-8-0021

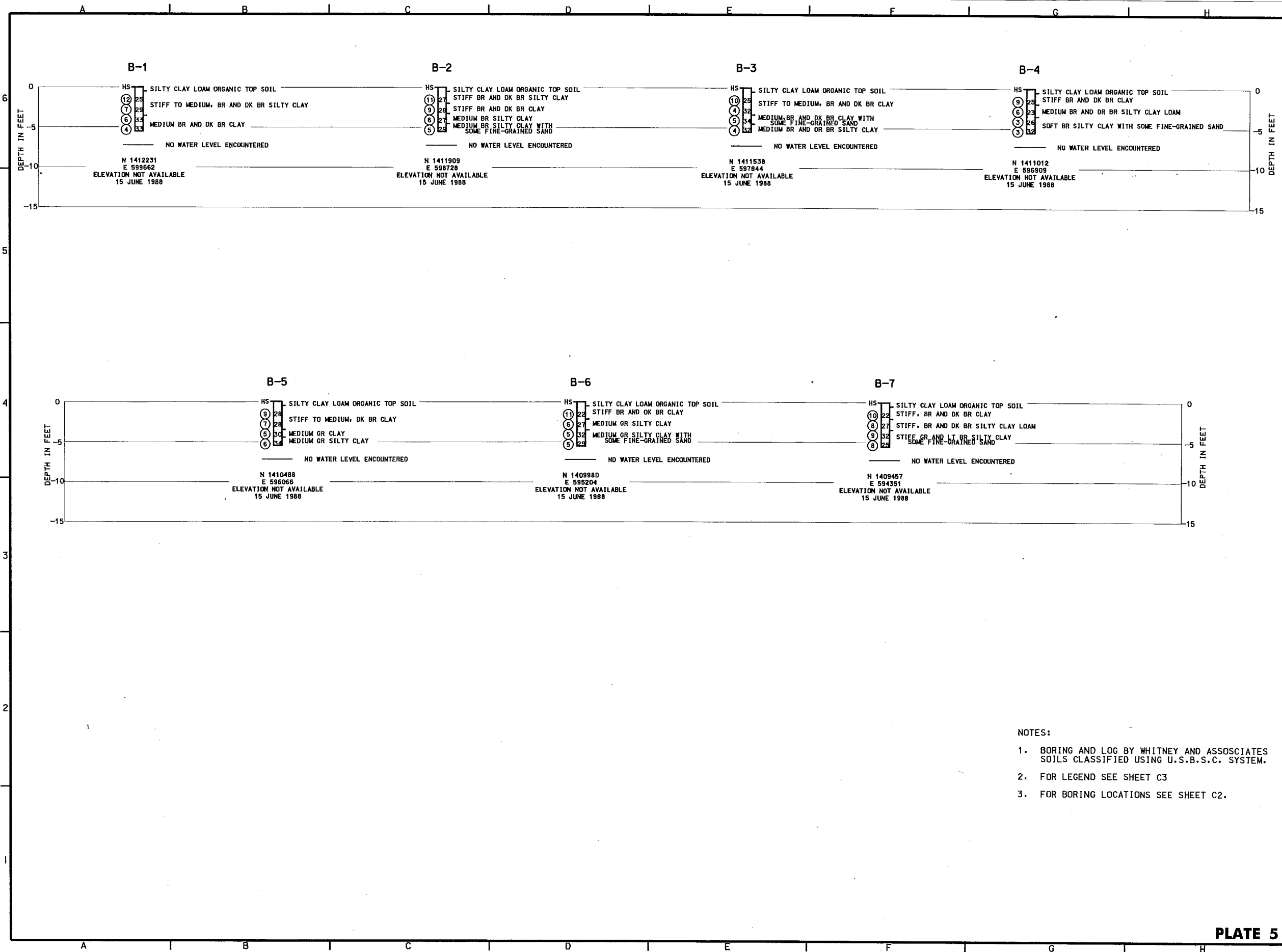
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ROCK ISLAND, ILLINOIS

ILLINOIS WATERWAY
ENVIRONMENTAL
MANAGEMENT
PROGRAM
LAGRANGE RIVER MILE
13.8-14.4
BANNER WILDLIFE MANAGEMENT
AREA
PULTON AND PULASKI COUNTIES, ILL.

BORING LOGS I

Sheet
Reference
Number:
C3
Sheet 6 of 53





- NOTES:
1. BORING AND LOG BY WHITNEY AND ASSOCIATES
SOILS CLASSIFIED USING U.S.B.S.C. SYSTEM.
 2. FOR LEGEND SEE SHEET C3
 3. FOR BORING LOCATIONS SEE SHEET C2.

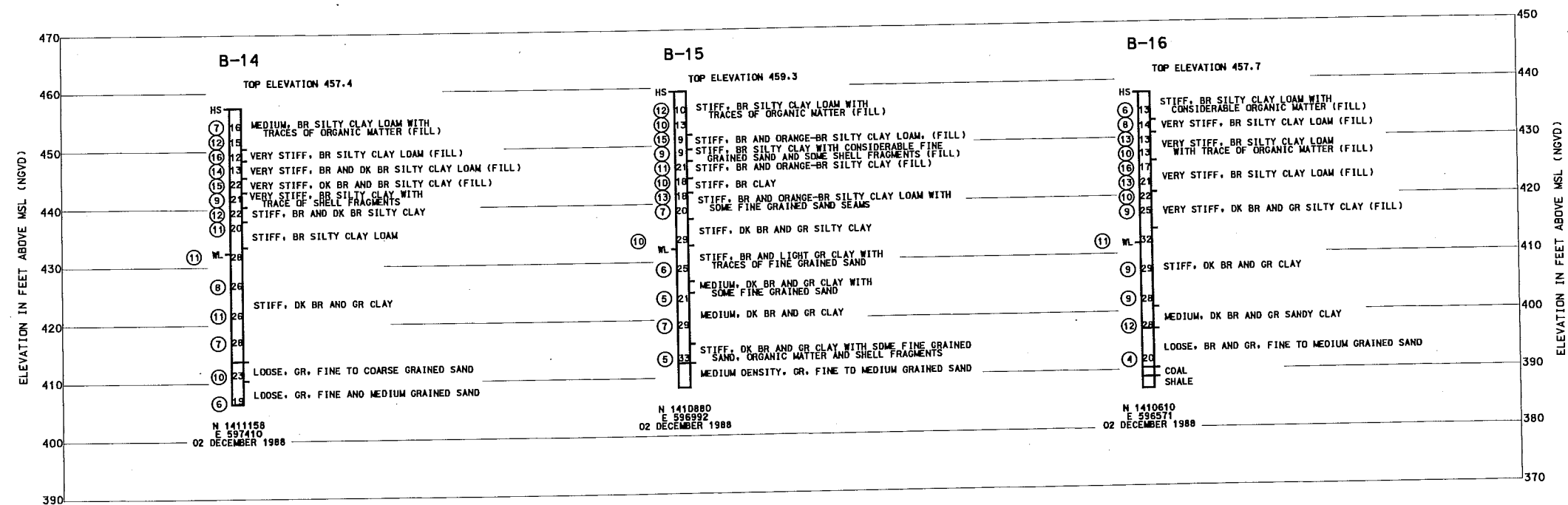
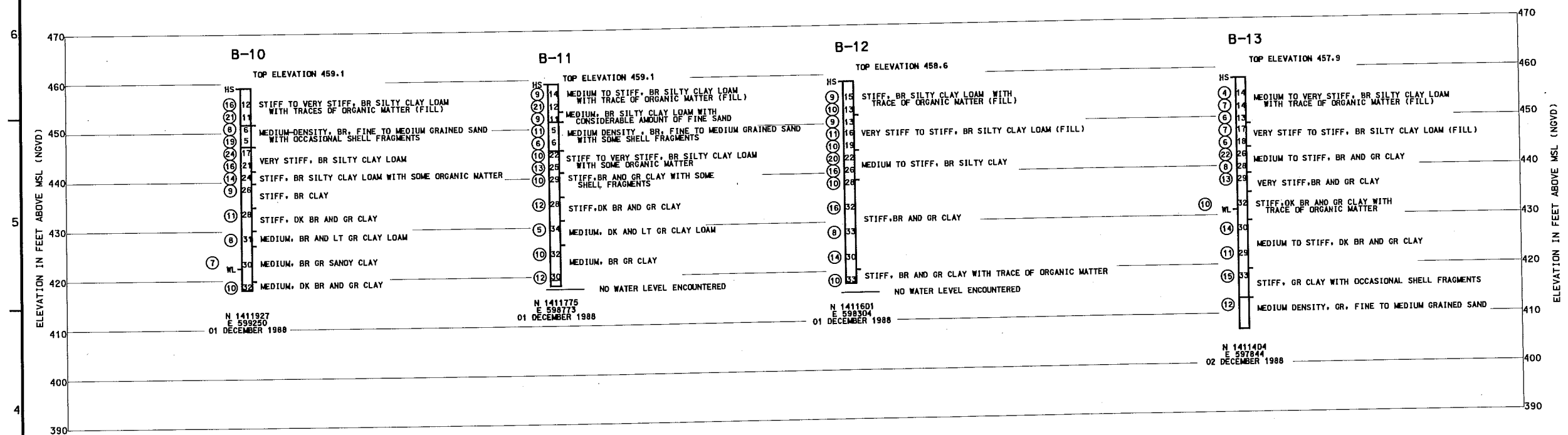


Symbol	Description	Revisions
AS	AS CONSTRUCTED	

Designed By:	RTN	Date:	16 JUNE 1999
Drawn By:	TPD/SDB	Scale:	AS SHOWN
Checked By:	KJB	Drawing Code:	1-L-3-1/72
Reviewed By:	BLK	Soil Classification Number:	DA022-99-P-0021

ILLINOIS WATERWAY PROGRAM
ENVIRONMENTAL ENGINEERING
BANNER PROJECT MANAGEMENT AREA
FULTON AND PEORIA COUNTIES, IL.

Sheet
Reference
Number:
C5
Sheet 8 of 53



- NOTES:

1. BORING AND LOG BY WHITNEY AND ASSOCIATES
SOILS CLASSIFIED USING U.S.B.S.C. SYSTEM
2. FOR LEGEND SEE SHEET C3
3. FOR BORING LOCATIONS SEE SHEET C2.

PLATE 6

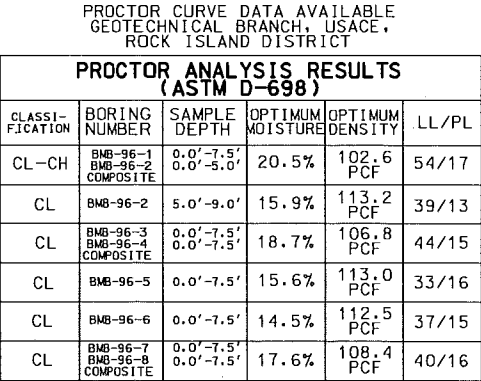
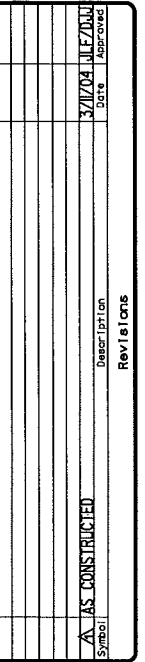
US Army Corps
of Engineers
Rook Island
District

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U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS	Desig/Qual By:	RTN	Date:	16 JUNE 1999
	Drawn By:	TPD/SDB	Scale:	AS SHOWN
	Checked By:	KJB	Drawing Code:	1-1-3-1/72
	Reviewed By:	BLK	Specification Number:	DAE23-92-B-0021

**ILLINOIS WATERWAY
ENVIRONMENTAL MANAGEMENT PROGRAM
LAGRANGE, POOL, RIVER MILE, AREA
BANNER WOOD, FULTON, PEORIA COUNTIES, IL.**

Sheet
Reference
Number:
C6
Sheet 9 of 53



PROCTOR ANALYSIS RESULTS (ASTM D-698)					
CLASSIFICATION	BORING NUMBER	SAMPLE DEPTH	OPTIMUM MOISTURE	OPTIMUM DENSITY	LL/PL
CL-CH	BMB-96-1 COMPOSITE	0.0'-7.5' 0.0'-5.0'	20.5 %	102.6 PCF	54/17
CL	BMB-96-2	5.0'-9.0'	15.9 %	113.2 PCF	39/13
CL	BMB-96-3 BMB-96-4 COMPOSITE	0.0'-7.5' 0.0'-7.5'	18.7 %	106.8 PCF	44/15
CL	BMB-96-5	0.0'-7.5'	15.6 %	113.0 PCF	33/16
CL	BMB-96-6	0.0'-7.5'	14.5 %	112.5 PCF	37/15
CL	BMB-96-7 BMB-96-8 COMPOSITE	0.0'-7.5' 0.0'-7.5'	17.6 %	108.4 PCF	40/16

BORING NUMBER

NOTE: BLOW COUNTS ARE FOR
ONE FOOT DRIVE UNLESS OTHERWISE
INDICATED BY / BLOW COUNT OF ZERO
INDICATES HOLE ADVANCED WITH WEIGHT
OF DRILLING TOOL ONLY

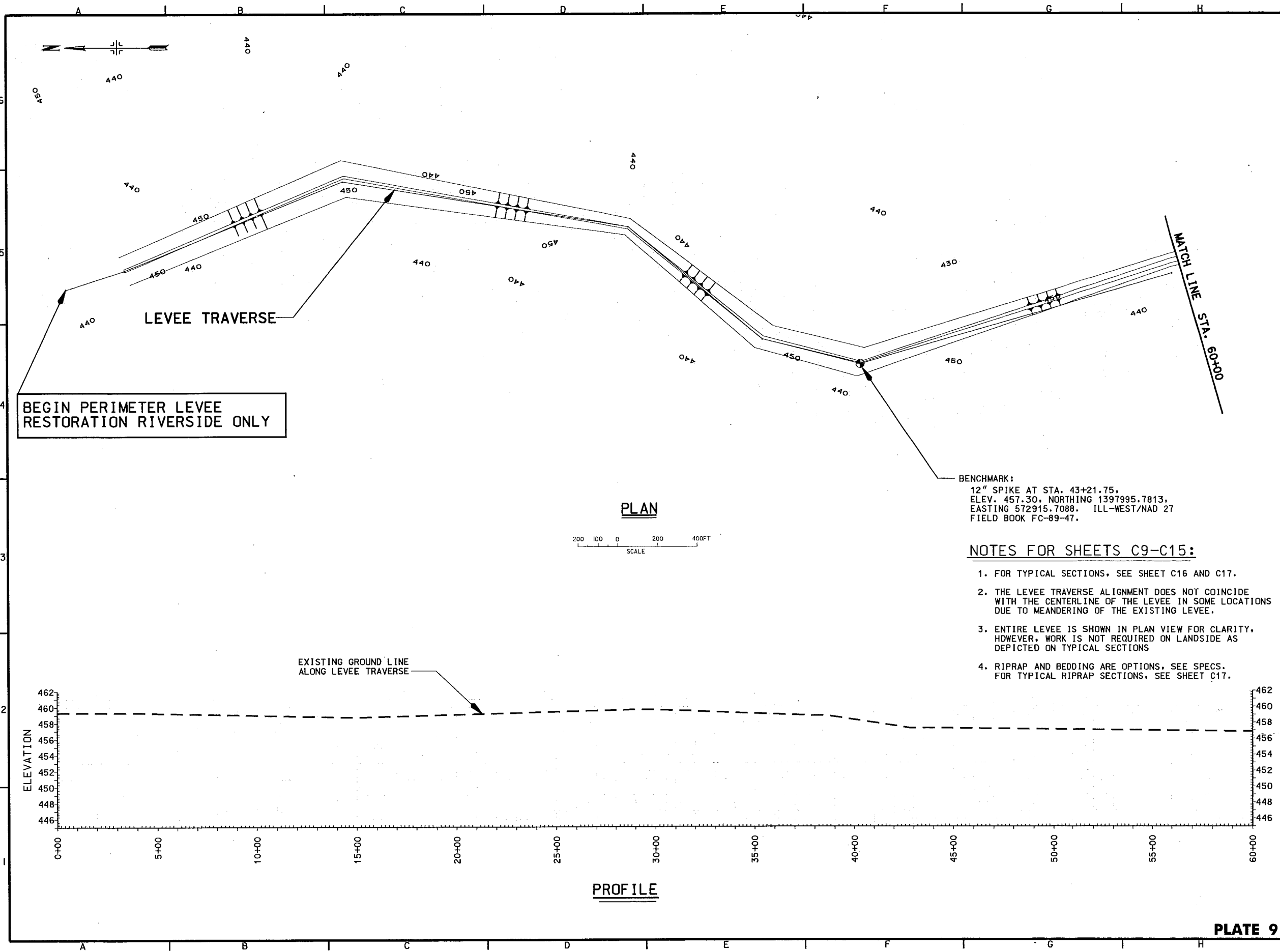
LOCATION OF BORING
4 JULY 1976

APPROXIMATE DATE OF DRILLING
ALSO, DATE WATER LEVEL NOTED

GRID COORDINATES TAKEN IN ILLINOIS
STATE PLANE SYSTEM, WEST ZONE
NAD 1927

BORING LOGS VI

Sheet
Reference
Number:
C8



AS CONSTRUCTED	3/17/04	DATE
Symbol	3/17/04	DATE
Revision	3/17/04	DATE

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS	Date: 15 JUNE 1999	Scale: AS SHOWN
Drawn By: TPD/SDB	Checked By: KJB	Reviewed By: BLK
Drawn By: TPD/SDB	Checked By: KJB	Reviewed By: BLK
Drawn By: TPD/SDB	Checked By: KJB	Reviewed By: BLK

ILLINOIS WATERWAY PROGRAM
ENVIRONMENTAL MANAGEMENT
BANKER WILSON MANAGEMENT AREA
FULLON AND PEGORIA COUNTIES, IL.
PERIMETER LEVEE
PLAN AND PROFILE
STA. 0+00 TO
STA. 60+00

Sheet
Reference
Number:
C9
Sheet 12 of 53

BENCHMARK:
12" SPIKE AT STA. 43+21.75,
ELEV. 457.30, NORTHING 1397995.7813,
EASTING 572915.7088. ILL-WEST/NAD 27
FIELD BOOK FC-89-47.

- NOTES FOR SHEETS C9-C15:**
1. FOR TYPICAL SECTIONS, SEE SHEET C16 AND C17.
 2. THE LEVEE TRAVERSE ALIGNMENT DOES NOT COINCIDE WITH THE CENTERLINE OF THE LEVEE IN SOME LOCATIONS DUE TO MEANDERING OF THE EXISTING LEVEE.
 3. ENTIRE LEVEE IS SHOWN IN PLAN VIEW FOR CLARITY, HOWEVER, WORK IS NOT REQUIRED ON LANDSIDE AS DEPICTED ON TYPICAL SECTIONS
 4. RIPRAP AND BEDDING ARE OPTIONS, SEE SPECS. FOR TYPICAL RIPRAP SECTIONS, SEE SHEET C17.

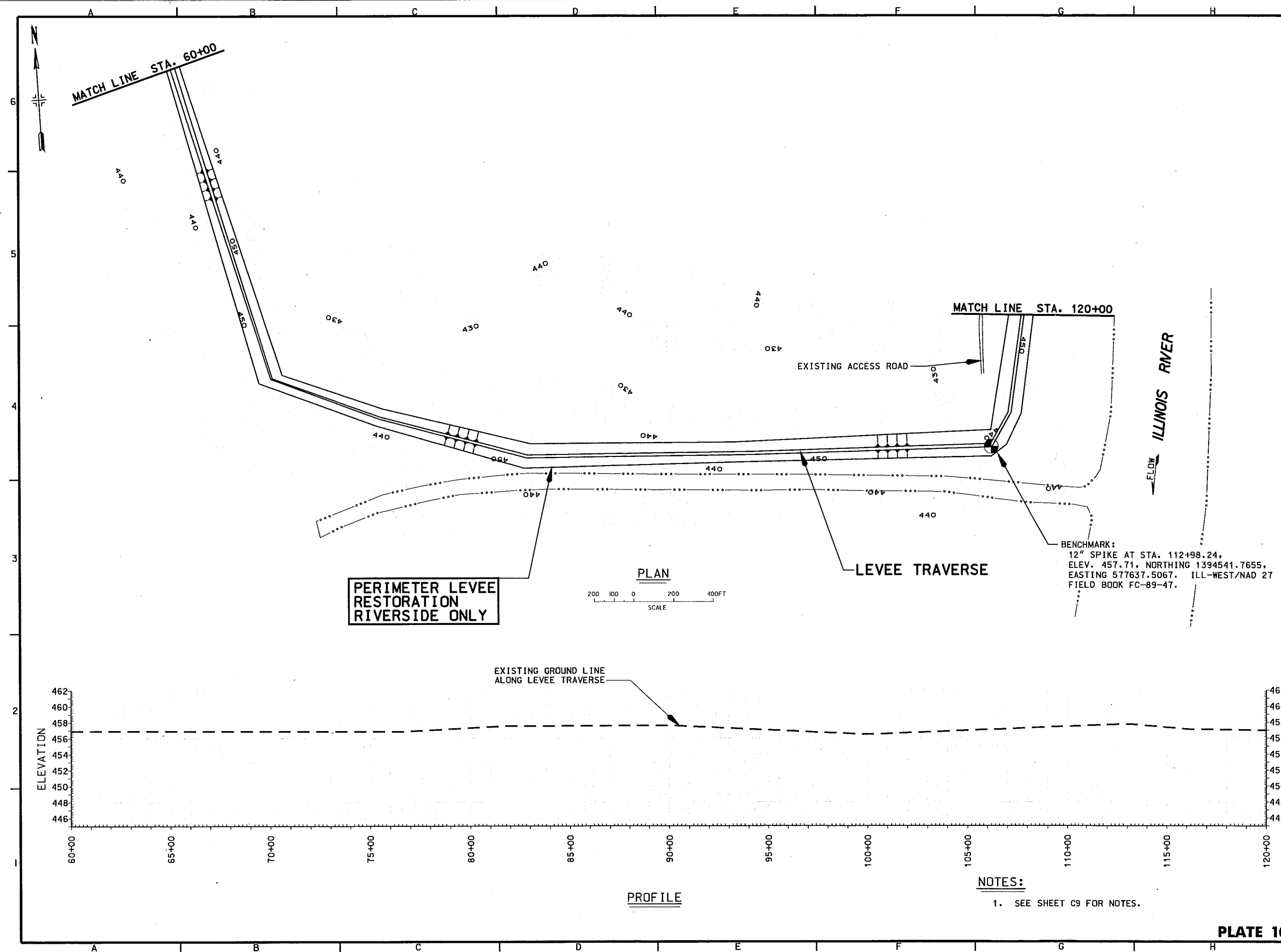


PLATE 10

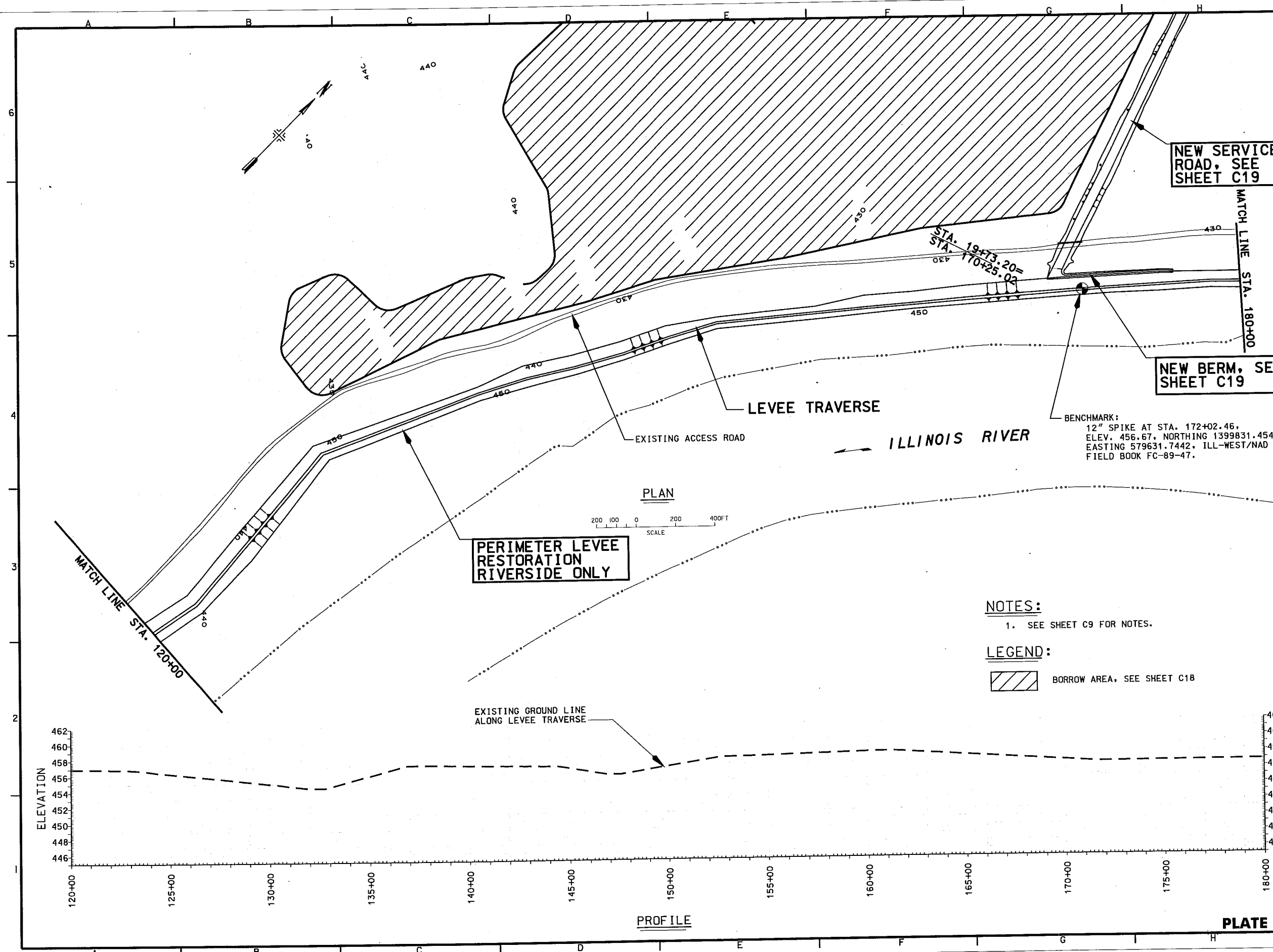
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U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS	Date: 16 JUNE 1999 Drawn By: RTN Checked By: TPD/SDB Drawing Code: AS SHOWN KJB 1-L13-1/72 Solicitation Number: BLK DAC-99-8-0021
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**ILLINOIS WATERWAY
ENVIRONMENTAL MANAGEMENT PROGRAM
LAGRANGE POOL, RIVER MILE 138-144
BANNER WILDLIFE MANAGEMENT AREA
FULTON AND PEEBLES COUNTIES, IL.**

Sheet
Reference
Number:
C10
Sheet 13 of 53

5-DEC-2004 14:23



US Army Corps of Engineers
Rock Island District

Revision	Description	Date	By	App'd
1	REVISED AS CONSTRUCTED	3/1/04	JLJ/2004	

Designated By:	Drawn By:	Checked By:	Reviewed By:
RTN	TPD/SDB	KJB	BLK

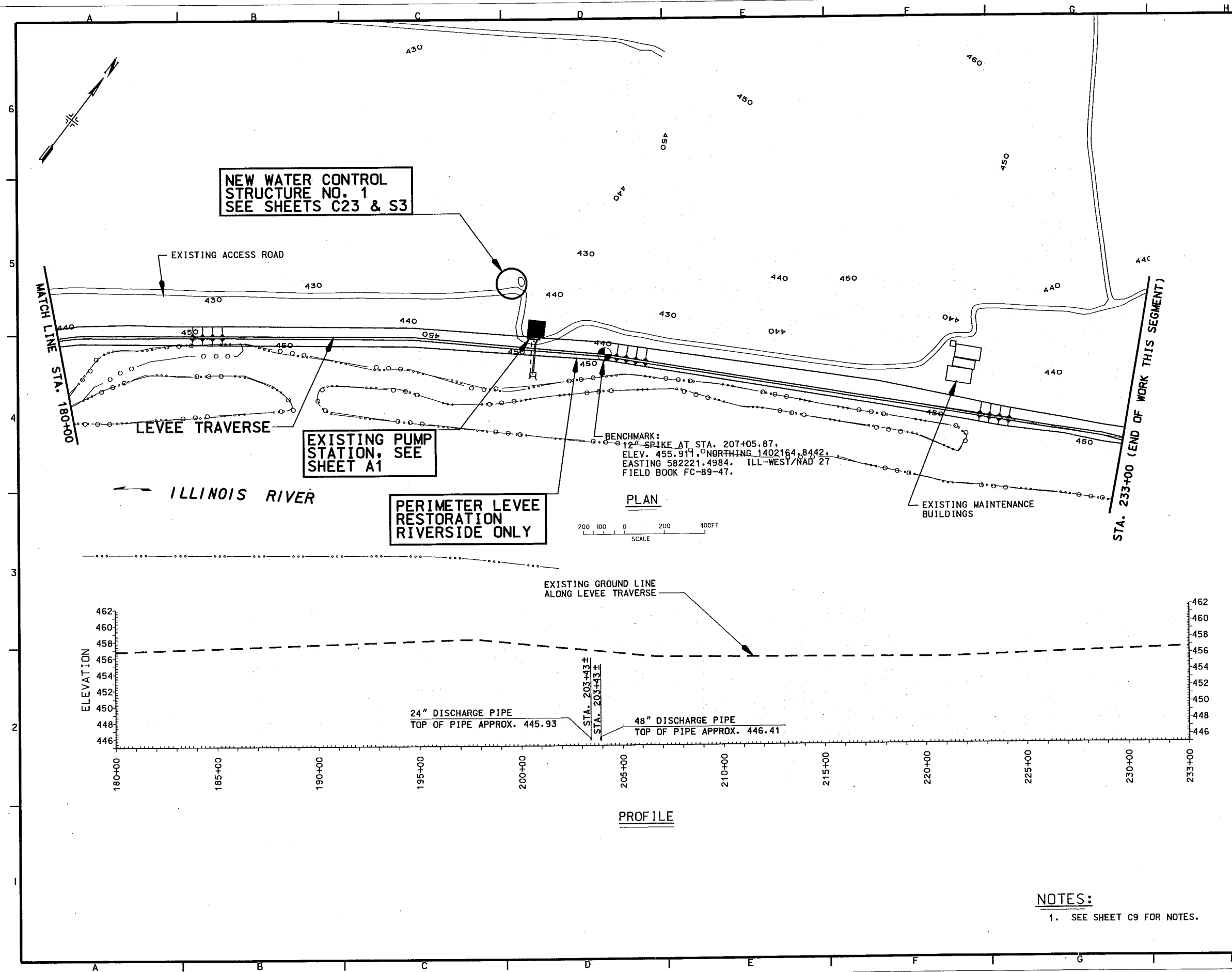
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ROCK ISLAND, ILLINOIS

ILLINOIS WATERWAY PROGRAM
ENVIRONMENTAL MANAGEMENT
LEVEE AND LIFE MANAGEMENT AREA
FULTON AND PEORIA COUNTIES, IL.

**PERIMETER LEVEE
PLAN AND PROFILE
STA 120+00
TO STA 180+00**

Sheet
Reference
Number:
C11
Sheet 14 of 53

15-DEC-2004 14:32
\\myrcas\csm\ar\proj\levee\p14\levee\p11.dgn



NOTES:
1. SEE SHEET C9 FOR NOTES.

US Army Corps of Engineers
Rock Island District

Revision	Description	Date
1	AS CONSTRUCTED	3/7/04

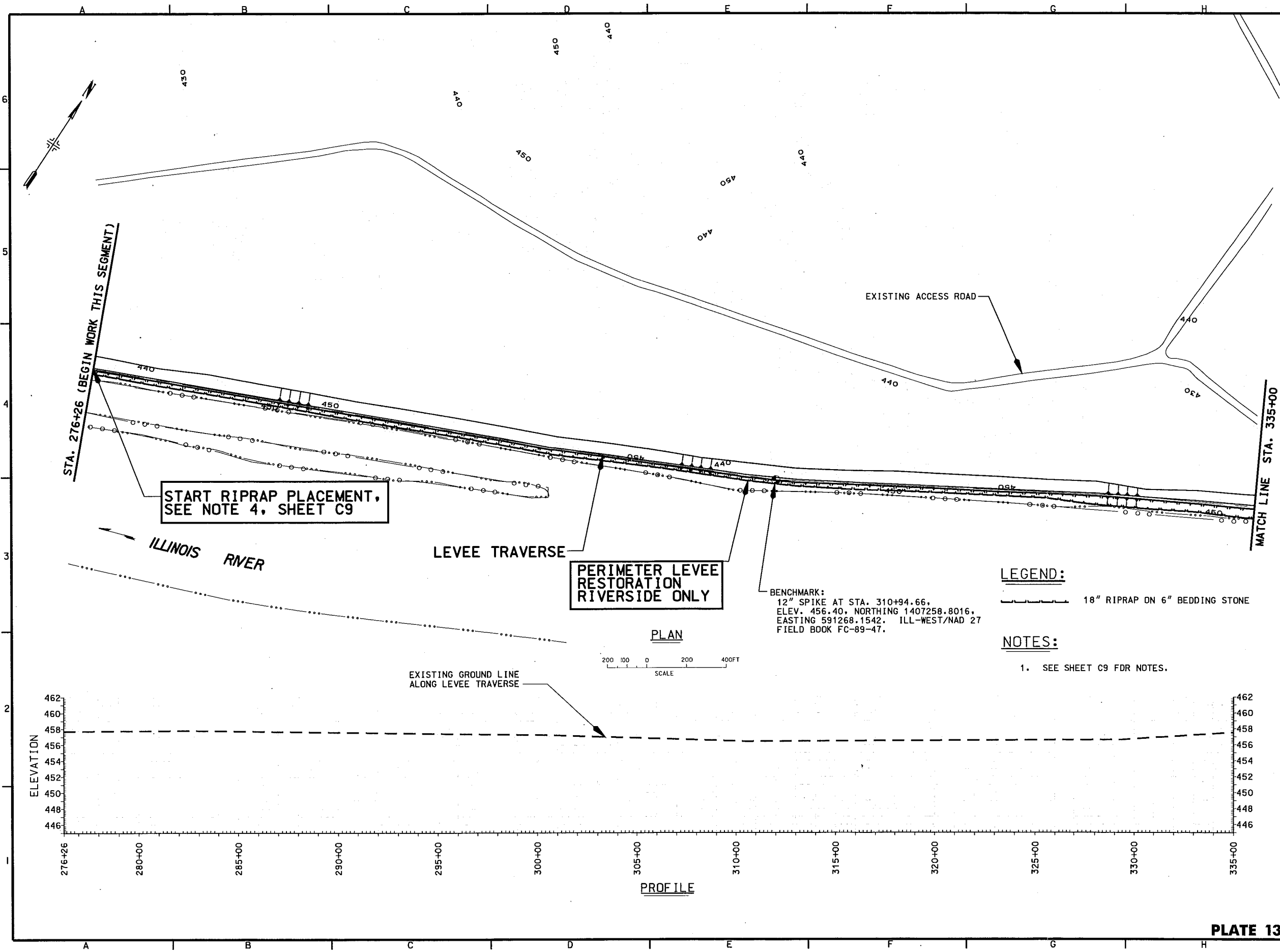
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ROCK ISLAND, ILLINOIS

Designed By: RTN
Drawn By: TPD/SDB
Checked By: KJB
Reviewed By: BLK

Date: 15 JUNE 1999
Scale: AS SHOWN
Drawing Code: 1-1-3-1/72
Specification Number: 16022-49-8-001

ILLINOIS WATERWAY
ENVIRONMENTAL MANAGEMENT PROGRAM
LAGRANGE, ILLINOIS
PERIMETER LEVEE
PLAN AND PROFILE
STA. 180+00 TO
STA. 233+00

Sheet
Reference
Number:
C12
Sheet 15 of 53

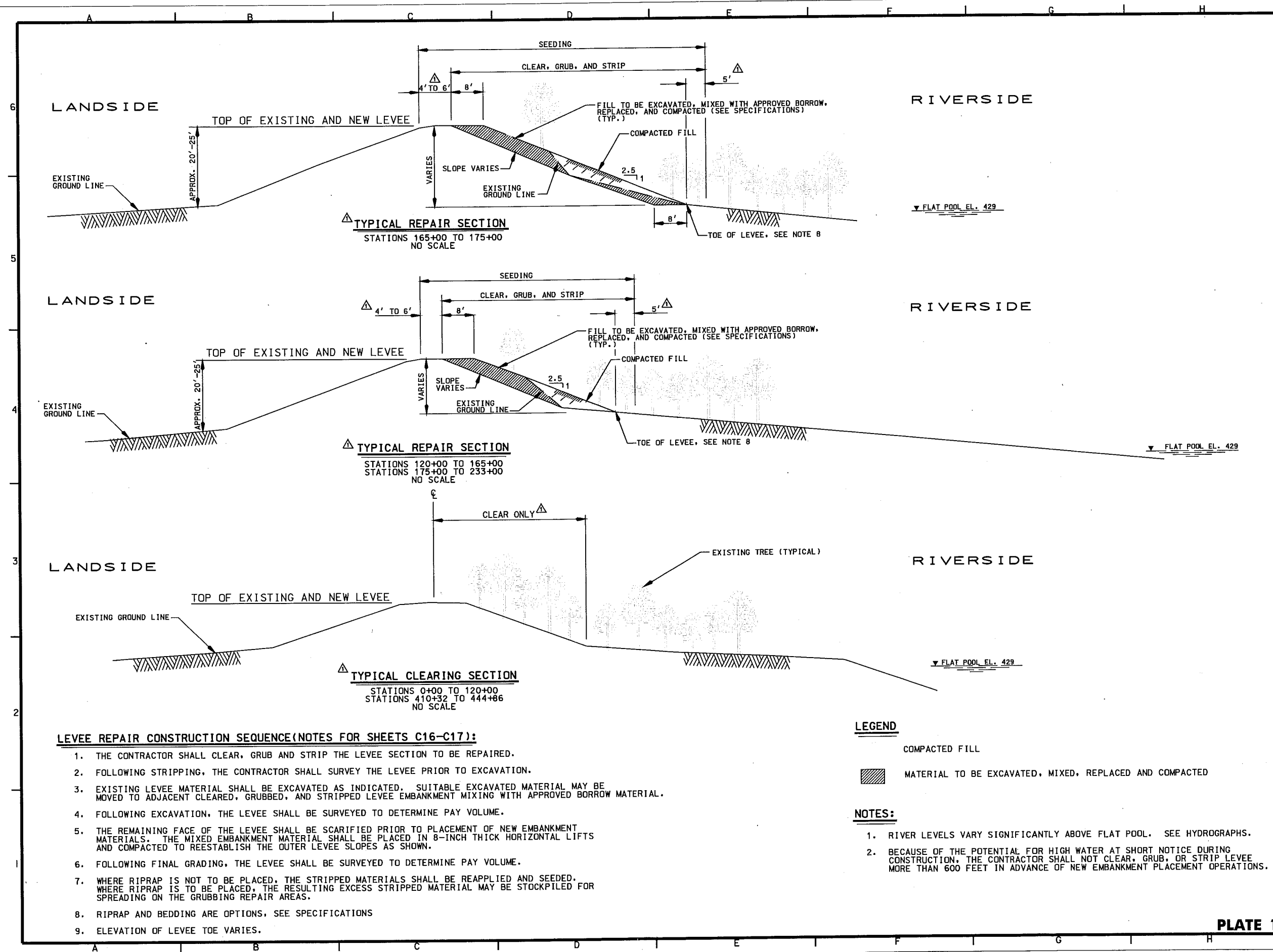


Revision	Description	Date
1	AS CONSTRUCTED	3/17/04

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS	Drawn By: RTN Checked By: KJB Reviewed By: BLK	Date: 16 JUNE 1999 Scale: AS SHOWN Drawing Code: T-1-3-1/72 Specification Number: DAC22-99-8-0001
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ILLINOIS WATERWAY
ENVIRONMENTAL MANAGEMENT PROGRAM
LAGRANGE, ILLINOIS
PERIMETER LEVEE
PLAN AND PROFILE
STA. 276+26 TO
STA. 335+00

Sheet
Reference
Number:
C13
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- LEVEE REPAIR CONSTRUCTION SEQUENCE(NOTES FOR SHEETS C16-C17):**
1. THE CONTRACTOR SHALL CLEAR, GRUB AND STRIP THE LEVEE SECTION TO BE REPAIRED.
 2. FOLLOWING STRIPPING, THE CONTRACTOR SHALL SURVEY THE LEVEE PRIOR TO EXCAVATION.
 3. EXISTING LEVEE MATERIAL SHALL BE EXCAVATED AS INDICATED. SUITABLE EXCAVATED MATERIAL MAY BE MOVED TO ADJACENT CLEARED, GRUBBED, AND STRIPPED LEVEE EMBANKMENT MIXING WITH APPROVED BORROW MATERIAL.
 4. FOLLOWING EXCAVATION, THE LEVEE SHALL BE SURVEYED TO DETERMINE PAY VOLUME.
 5. THE REMAINING FACE OF THE LEVEE SHALL BE SCARIFIED PRIOR TO PLACEMENT OF NEW EMBANKMENT MATERIALS. THE MIXED EMBANKMENT MATERIAL SHALL BE PLACED IN 8-INCH THICK HORIZONTAL LIFTS AND COMPACTED TO REESTABLISH THE OUTER LEVEE SLOPES AS SHOWN.
 6. FOLLOWING FINAL GRADING, THE LEVEE SHALL BE SURVEYED TO DETERMINE PAY VOLUME.
 7. WHERE RIPRAP IS NOT TO BE PLACED, THE STRIPPED MATERIALS SHALL BE REAPPLIED AND SEEDDED. WHERE RIPRAP IS TO BE PLACED, THE RESULTING EXCESS STRIPPED MATERIAL MAY BE STOCKPILED FOR SPREADING ON THE GRUBBING REPAIR AREAS.
 8. RIPRAP AND BEDDING ARE OPTIONS, SEE SPECIFICATIONS
 9. ELEVATION OF LEVEE TOE VARIES.

- LEGEND**
- COMPACTED FILL
- MATERIAL TO BE EXCAVATED, MIXED, REPLACED AND COMPACTED
- NOTES:**
1. RIVER LEVELS VARY SIGNIFICANTLY ABOVE FLAT POOL. SEE HYDROGRAPHS.
 2. BECAUSE OF THE POTENTIAL FOR HIGH WATER AT SHORT NOTICE DURING CONSTRUCTION, THE CONTRACTOR SHALL NOT CLEAR, GRUB, OR STRIP LEVEE MORE THAN 600 FEET IN ADVANCE OF NEW EMBANKMENT PLACEMENT OPERATIONS.

US Army Corps of Engineers
Rock Island District

Description	Revisions
REVISION AS CONSTRUCTED	3/7/04 JLT/BLK
MINOR REVISION	3/7/05 JLT/BLK

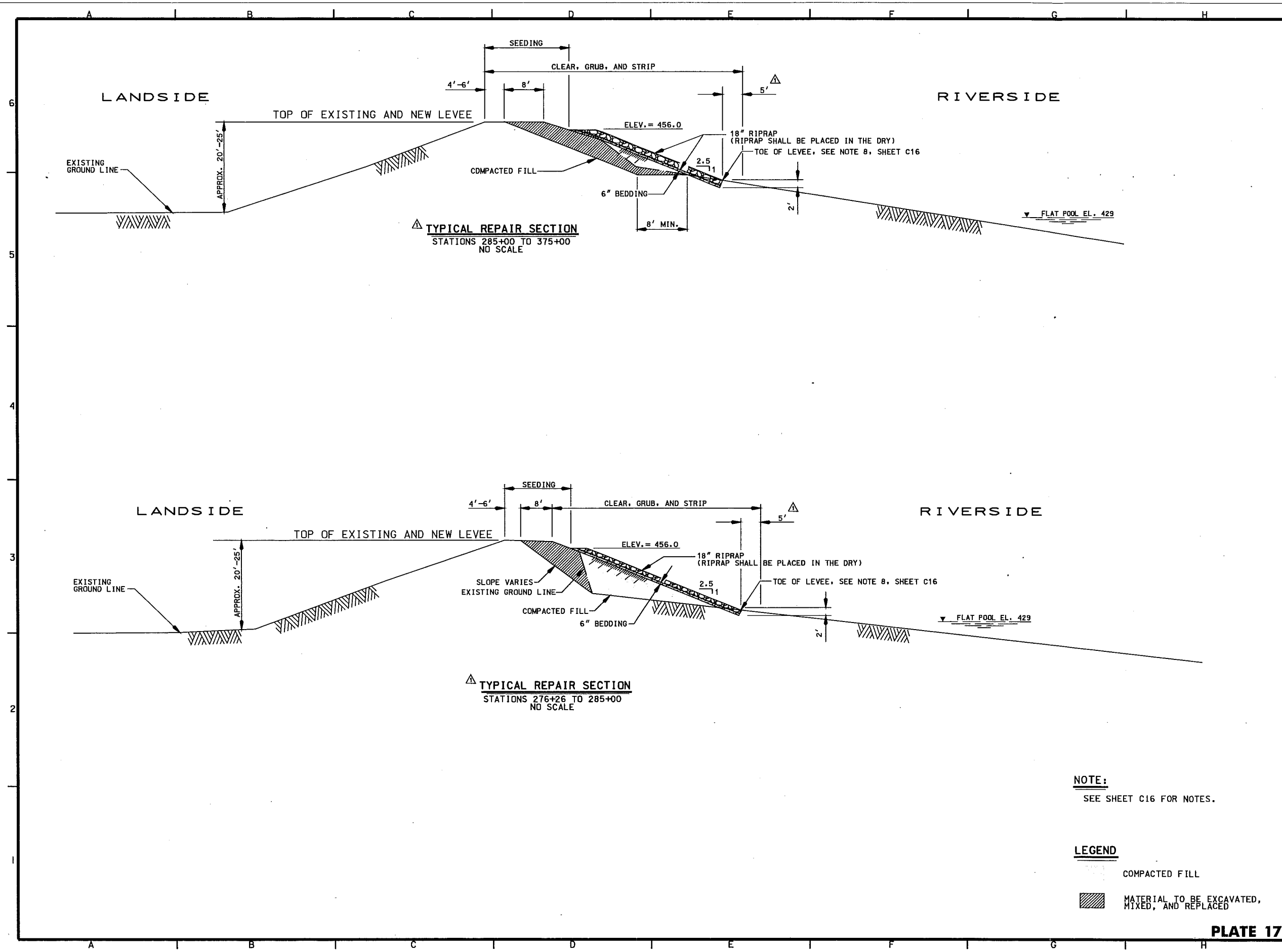
Designed By: RTN	Date: 16 JUNE 1999
Drawn By: TPD/SDB	Scale: AS SHOWN
Checked By: KJB	Drawing Code: 1-L-3-1/72
Reviewed By: BLK	Soil/Location Number: 16022-49-8-001


U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ROCK ISLAND, ILLINOIS

ILLINOIS WATERWAY PROGRAM
ENVIRONMENTAL MANAGEMENT
LAGRANGE POOL RIVER MILE 138-144
BANNER WILDERNESS AREA
FULTON AND PEBDIA COUNTIES, IL.

TYPICAL LEVEE REPAIR SECTIONS I

Sheet Reference Number:
C16
Sheet 19 of 53





US Army Corps
of Engineers
Rock Island
District

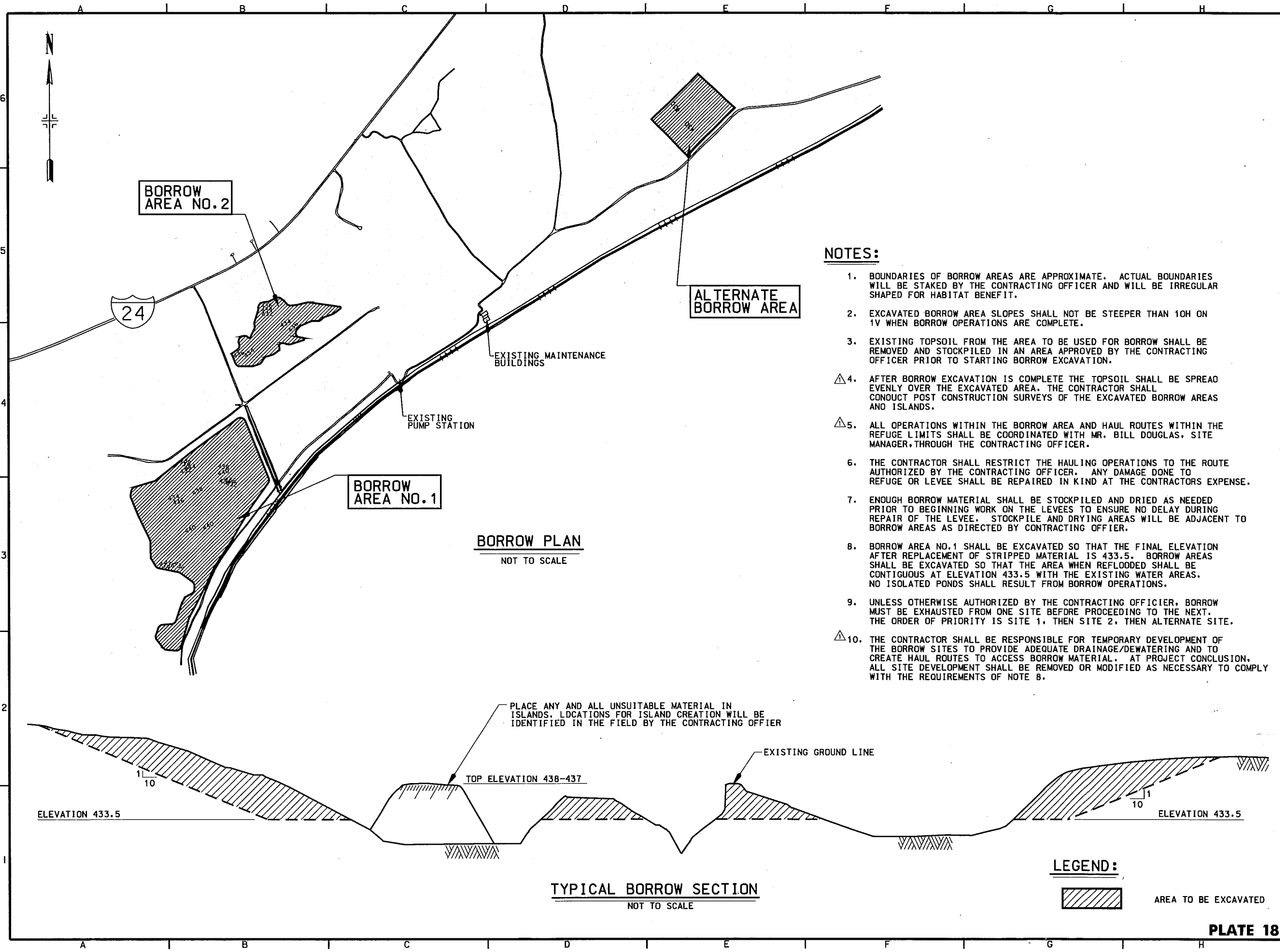
Description	Revisions
REVISED AS CONSTRUCTED	3/27/04
AND 25' HIGH REVISION	3/27/04
Symbol	Approved

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS	Date: 16 JUNE 1999	Scale: AS SHOWN
Designed By: RTN	Drawn By: TPO/SDB	Checked By: KJB
Reviewed By: BLK	Seal/Revision Number: 1-1-3-1/72	Checked By: KJB
	Checked By: KJB	Checked By: KJB

ILLINOIS WATERWAY PROGRAM
ENVIRONMENTAL MANAGEMENT
BANNER WILDLIFE MANAGEMENT AREA
FULTON AND PECOIA COUNTIES, IL

**TYPICAL LEVEE
REPAIRS SECTIONS II**

Sheet
Reference
Number:
C17
Sheet 20 of 53



- NOTES:**
- BOUNDARIES OF BORROW AREAS ARE APPROXIMATE. ACTUAL BOUNDARIES WILL BE STAKED BY THE CONTRACTING OFFICER AND WILL BE IRREGULAR SHAPED FOR HABITAT BENEFIT.
 - EXCAVATED BORROW AREA SLOPES SHALL NOT BE STEEPER THAN 10H ON 1V WHEN BORROW OPERATIONS ARE COMPLETE.
 - EXISTING TOPSOIL FROM THE AREA TO BE USED FOR BORROW SHALL BE REMOVED AND STOCKPILED IN AN AREA APPROVED BY THE CONTRACTING OFFICER PRIOR TO STARTING BORROW EXCAVATION.
 - △ 4. AFTER BORROW EXCAVATION IS COMPLETE THE TOPSOIL SHALL BE SPREAD EVENLY OVER THE EXCAVATED AREA. THE CONTRACTOR SHALL CONDUCT POST CONSTRUCTION SURVEYS OF THE EXCAVATED BORROW AREAS AND ISLANDS.
 - △ 5. ALL OPERATIONS WITHIN THE BORROW AREA AND HAUL ROUTES WITHIN THE REFUGE LIMITS SHALL BE COORDINATED WITH MR. BILL DOUGLAS, SITE MANAGER, THROUGH THE CONTRACTING OFFICER.
 - THE CONTRACTOR SHALL RESTRICT THE HAULING OPERATIONS TO THE ROUTE AUTHORIZED BY THE CONTRACTING OFFICER. ANY DAMAGE DONE TO REFUGE OR LEVEE SHALL BE REPAIRED IN KIND AT THE CONTRACTORS EXPENSE.
 - ENOUGH BORROW MATERIAL SHALL BE STOCKPILED AND DRIED AS NEEDED PRIOR TO BEGINNING WORK ON THE LEVEES TO ENSURE NO DELAY DURING REPAIR OF THE LEVEE. STOCKPILE AND DRYING AREAS WILL BE ADJACENT TO BORROW AREAS AS DIRECTED BY CONTRACTING OFFICER.
 - BORROW AREA NO.1 SHALL BE EXCAVATED SO THAT THE FINAL ELEVATION AFTER REPLACEMENT OF STRIPPED MATERIAL IS 433.5. BORROW AREAS SHALL BE EXCAVATED SO THAT THE AREA WHEN REFLOODED SHALL BE CONTIGUOUS AT ELEVATION 433.5 WITH THE EXISTING WATER AREAS. NO ISOLATED PONDS SHALL RESULT FROM BORROW OPERATIONS.
 - UNLESS OTHERWISE AUTHORIZED BY THE CONTRACTING OFFICER, BORROW MUST BE EXHAUSTED FROM ONE SITE BEFORE PROCEEDING TO THE NEXT. THE ORDER OF PRIORITY IS SITE 1, THEN SITE 2, THEN ALTERNATE SITE.
 - △ 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY DEVELOPMENT OF THE BORROW SITES TO PROVIDE ADEQUATE DRAINAGE/DEWATERING AND TO CREATE HAUL ROUTES TO ACCESS BORROW MATERIAL. AT PROJECT CONCLUSION, ALL SITE DEVELOPMENT SHALL BE REMOVED OR MODIFIED AS NECESSARY TO COMPLY WITH THE REQUIREMENTS OF NOTE 8.

US Army Corps of Engineers
Rock Island District

Revised As Constructed	3/7/04	11/1/04	3/7/04	11/1/04
Revised Notes	3/7/04	11/1/04	3/7/04	11/1/04
Symbol	Revisions	Date	Approved	Revised

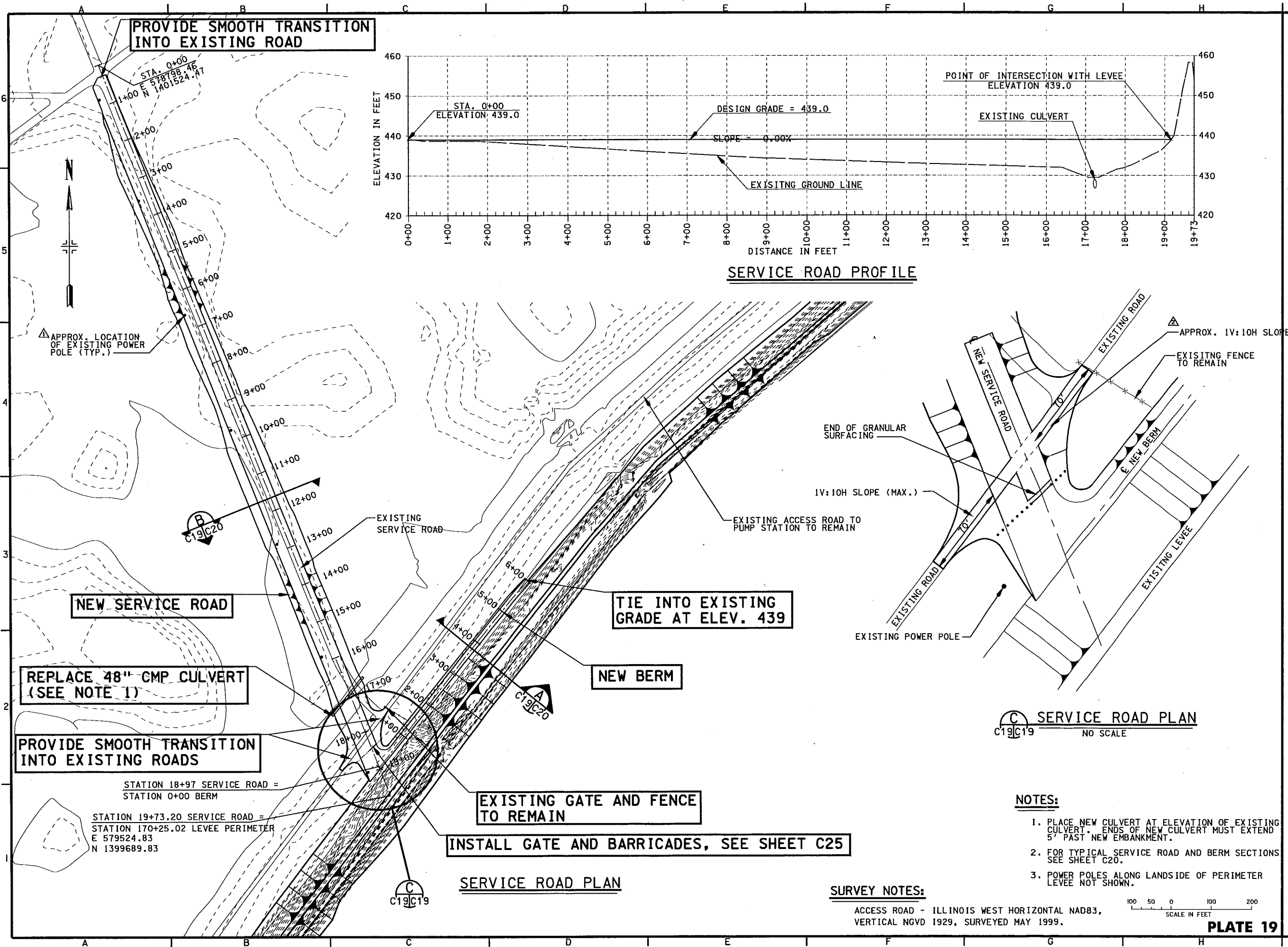
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Drawn By:	TPD/SDB	Scale:	AS SHOWN
Checked By:	KJB	Drawing Code:	1-41-3-1/72
Reviewed By:	BLK	Specification Number:	DACR-99-8-0001

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ROCK ISLAND, ILLINOIS

ILLINOIS WATERWAY PROGRAM
ENVIRONMENTAL MANAGEMENT
BANNER WILDLIFE MANAGEMENT AREA
FULTON AND PECOIA COUNTIES, IL.

BORROW PLAN AND TYPICAL SECTION

Sheet Reference Number:
C18
Sheet 21 of 53



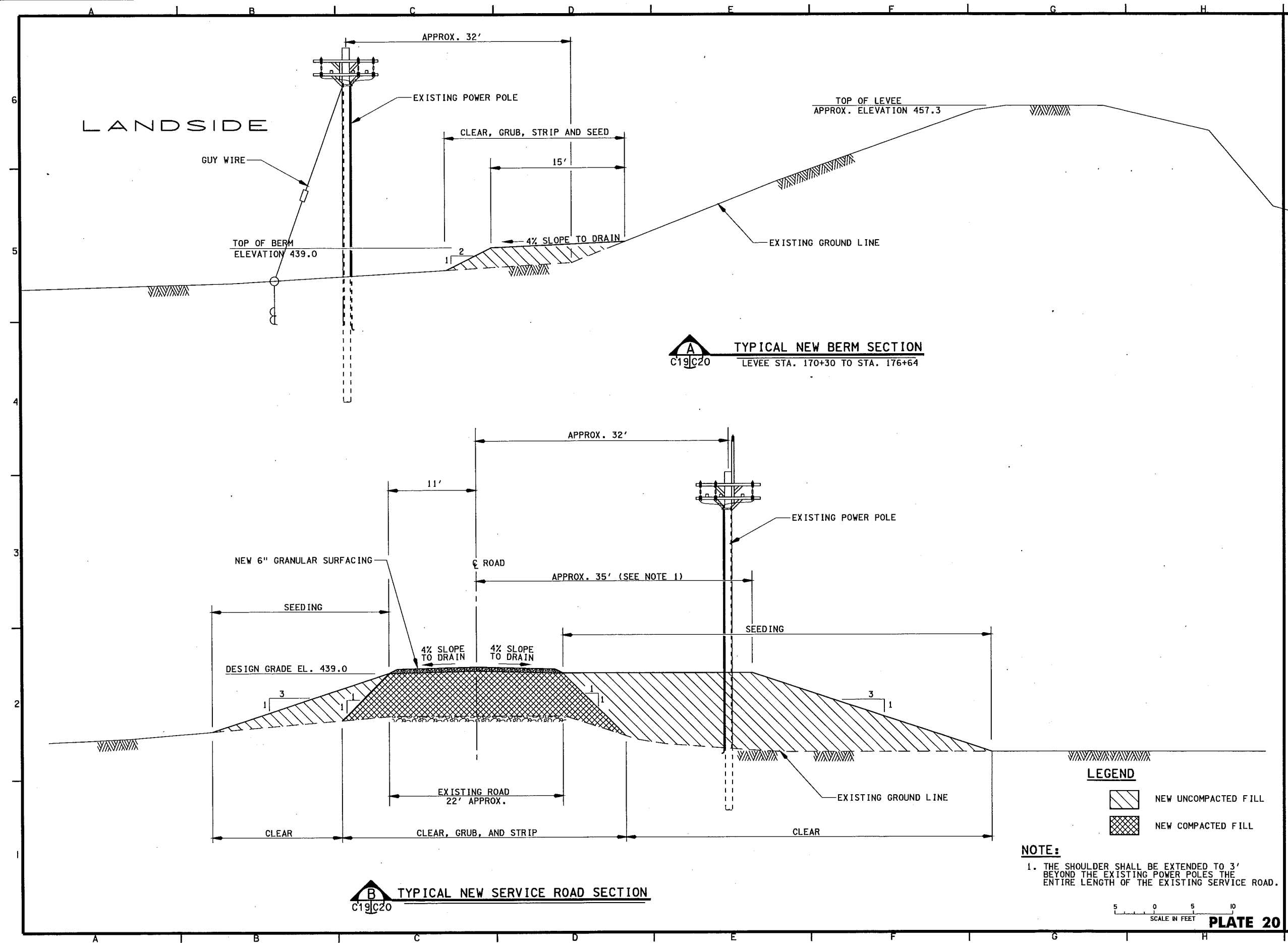
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B	NO. 3 - MINOR REVISIONS	12/17/03	2
C	NO. 3 - MINOR REVISIONS	12/17/03	3

Designed By	RTN	Date	16 JUNE 1999
Drawn By	TPD/SDB	Scale	AS SHOWN
Checked By	KJB	Drawing Code	1-11-3-1/72
Reviewed By	BLK	Soil Classification Number	Duck22-99-8-0021

ILLINOIS WATERWAY PROGRAM
ENVIRONMENTAL MANAGEMENT
BANNER WILDLIFE MANAGEMENT AREA
FULTON AND PEDIATA COUNTIES, IL.

SERVICE ROAD PLAN AND PROFILE

Sheet Reference Number:
C19
Sheet 22 of 53



US Army Corps
of Engineers
Rock Island
District

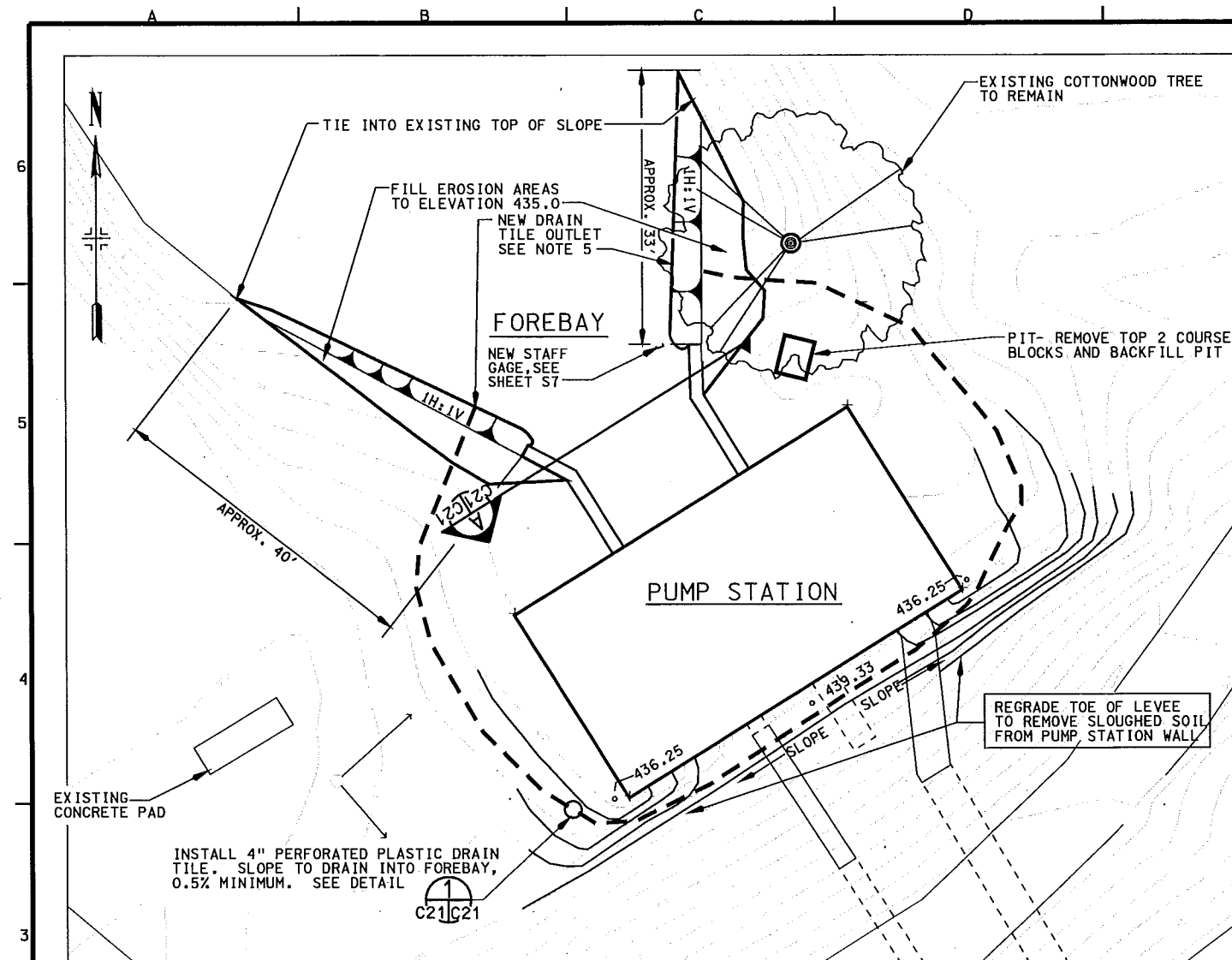
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U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS FORT MONROE, VIRGINIA ROCK ISLAND, ILLINOIS	Designed By:	RTN	Dates:	16 JUNE 1999
	Drawn By:	TPD/SDB	Scale:	AS SHOWN
	Checked By:	KJB	Drawing Code:	1-1-3-1/12
	Reviewed By:	BLK	Sanitization Number:	DWGS-99-4-0021

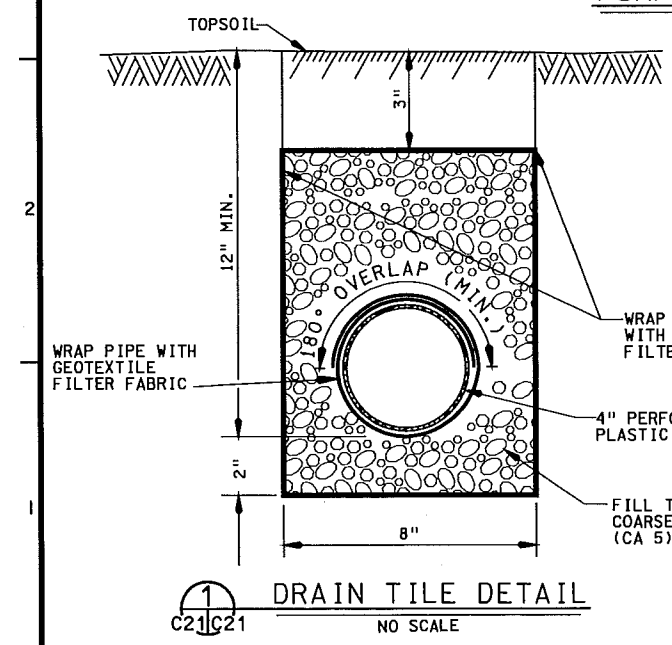
**TYPICAL SERVICE ROAD
AND BERM SECTIONS**

Sheet
Reference
Number:
C20
Sheet 23 of 53

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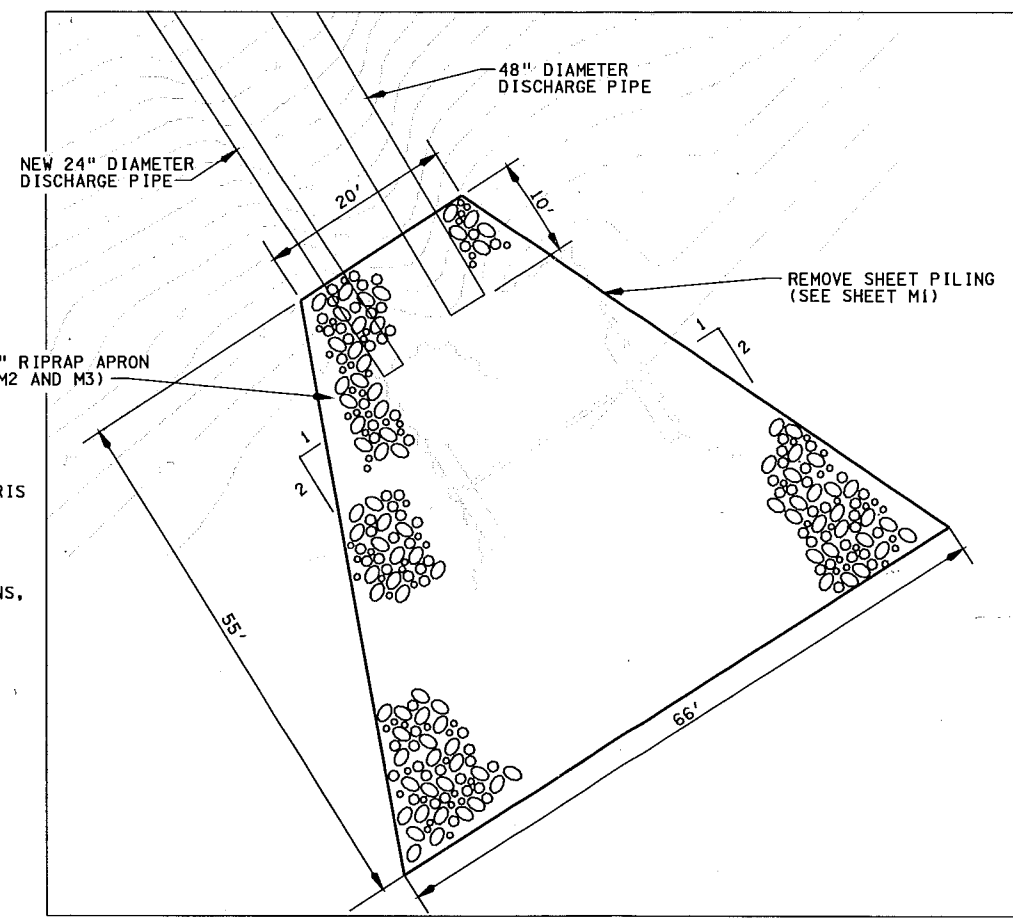
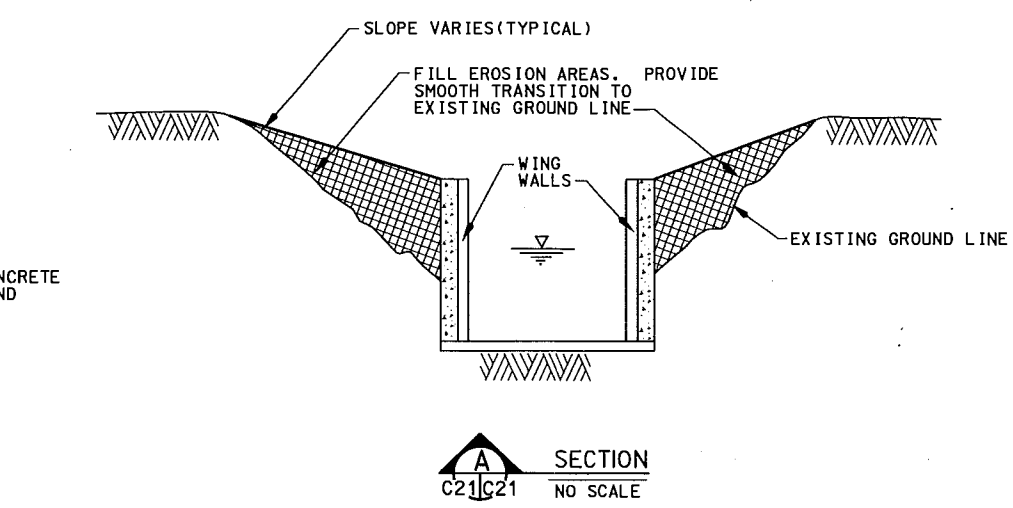
PUMP STATION GRADING PLAN
NO SCALE



DRAIN TILE DETAIL
NO SCALE

NOTES:

1. BEFORE PROCEEDING WITH ANY EARTHWORK, REMOVE WOOD, PIPING, MISCELLANEOUS STEEL, CABLE, WIRE AND ALL OTHER TRASH OR DEBRIS WITHIN 100 FEET OF PUMP STATION, AND DISPOSE OFF SITE.
2. IN EROSION REPAIR AREAS, TAMP NEW FILL BY HAND OR MACHINE BUCKET TO PROVIDE SEMI-COMPACTION.
3. SEE SHEETS M1, M2 AND M3 FOR EXISTING AND NEW SITE CONDITIONS, GRADING AND FEATURES AT DISCHARGE BAY.
4. SEE SPEC. SECTION 02072 PHOTO E8 FOR EXISTING CONDITIONS OF FOREBAY.
5. PROVIDE VARMIT GUARD OVER OUTLET OF NEW DRAIN TILE.
6. ALL DISTURBED AREAS SHALL BE SEEDED.
7. ENDS OF DRAIN TILE LINES SHALL BE UNPERFORATED (5 FEET FROM OUTLET).



DISCHARGE BAY PLAN

SCALE IN FEET
8 0 8 16



Revisions	Description	Date
1	REVISED AS CONSTRUCTED	3/1/04

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS	Drawn by: RTN Checked by: KJB Reviewed by: BLK	Date: 16 JUNE 1999 Scale: AS SHOWN Drawing Code: 11-L-3-1/72 Specification Number: DAC22-99-9-0001
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ILLINOIS WATERWAY PROGRAM
ENVIRONMENTAL MANAGEMENT
DESIGN AND CONSTRUCTION
FULTON AND PONTIAC COUNTIES, IL

PUMP STATION GRADING PLAN
Sheet Reference Number: **C21**
Sheet 24 of 53



Symbol	Description	Revisions
AS	AS CONSTRUCTED	
3/12/04	JLF/DJL	Approved
		Date

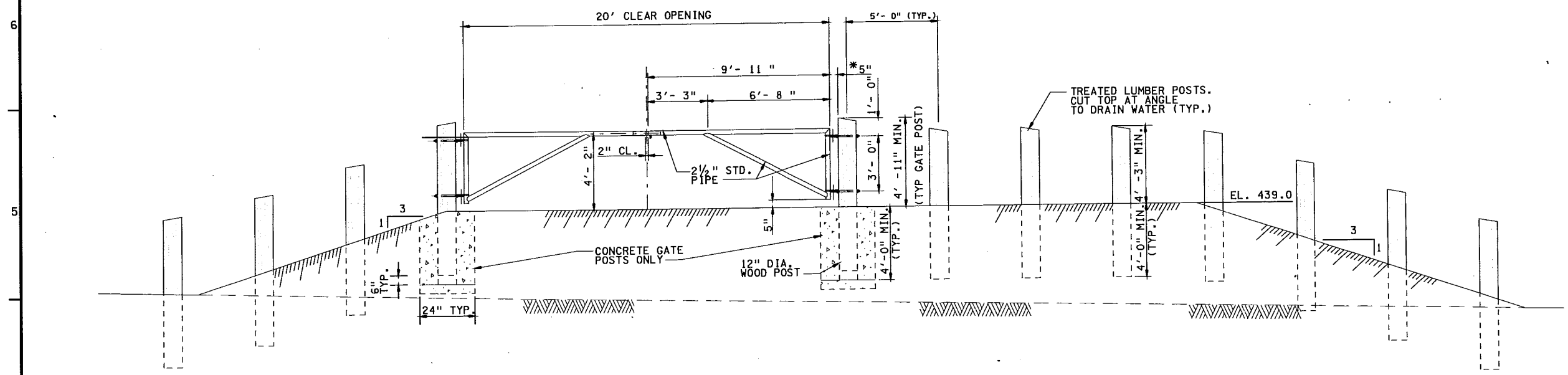
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Date: 16 JUNE 1999	Scale: AS SHOWN	Drawn Date: 1-11-3-1-72	Drawn Date: 1-11-3-1-72
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS			

ILLINOIS WATERWAY
ENVIRONMENTAL MANAGEMENT
PROGRAM
LAGRANGE FLOOD RIVER WILE
BANNER WILDFIRE MANAGEMENT AREA
FULTON AND PEORIA COUNTIES, IL.

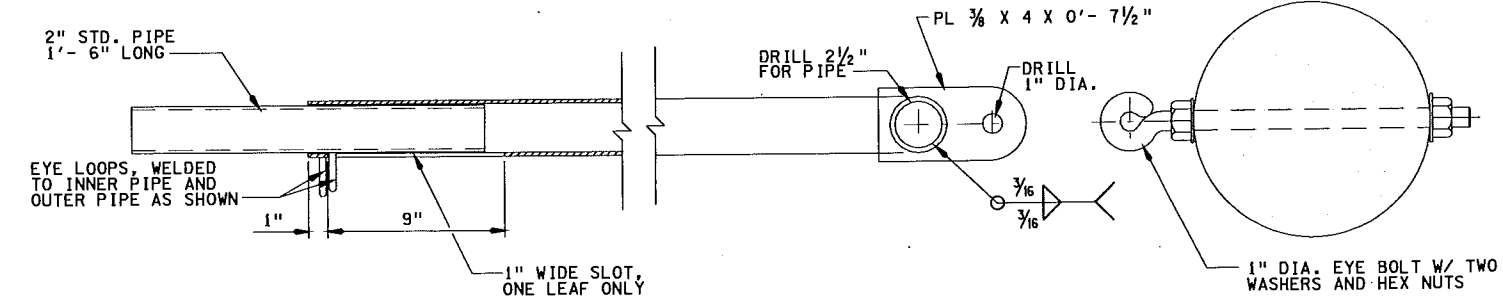
MISCELLANEOUS
DETAILS

Sheet
Reference
Number:
C25
Sheet 28 of 53

*THIS DIMENSION MAY REQUIRE MINOR ADJUSTMENT
TO MAINTAIN THE 20' CLEAR OPENING, DEPENDING
ON THE EXACT DIMENSIONS OF THE EYE BOLT ETC.
VERIFY THIS BEFORE SETTING THE POSTS.

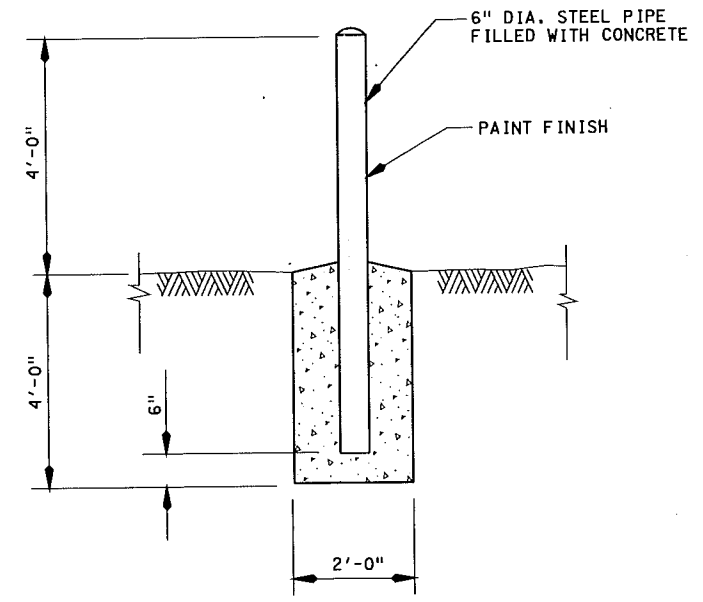


GATE ELEVATION
SEE PLAN, SHEET C19
SCALE IN FEET



LOCK DETAIL
SCALE IN INCHES

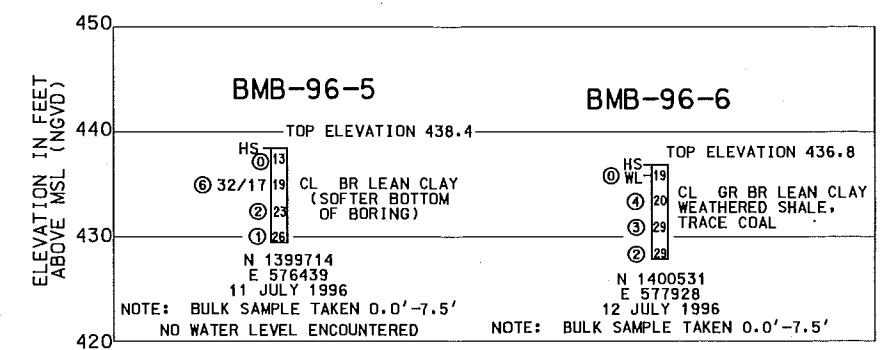
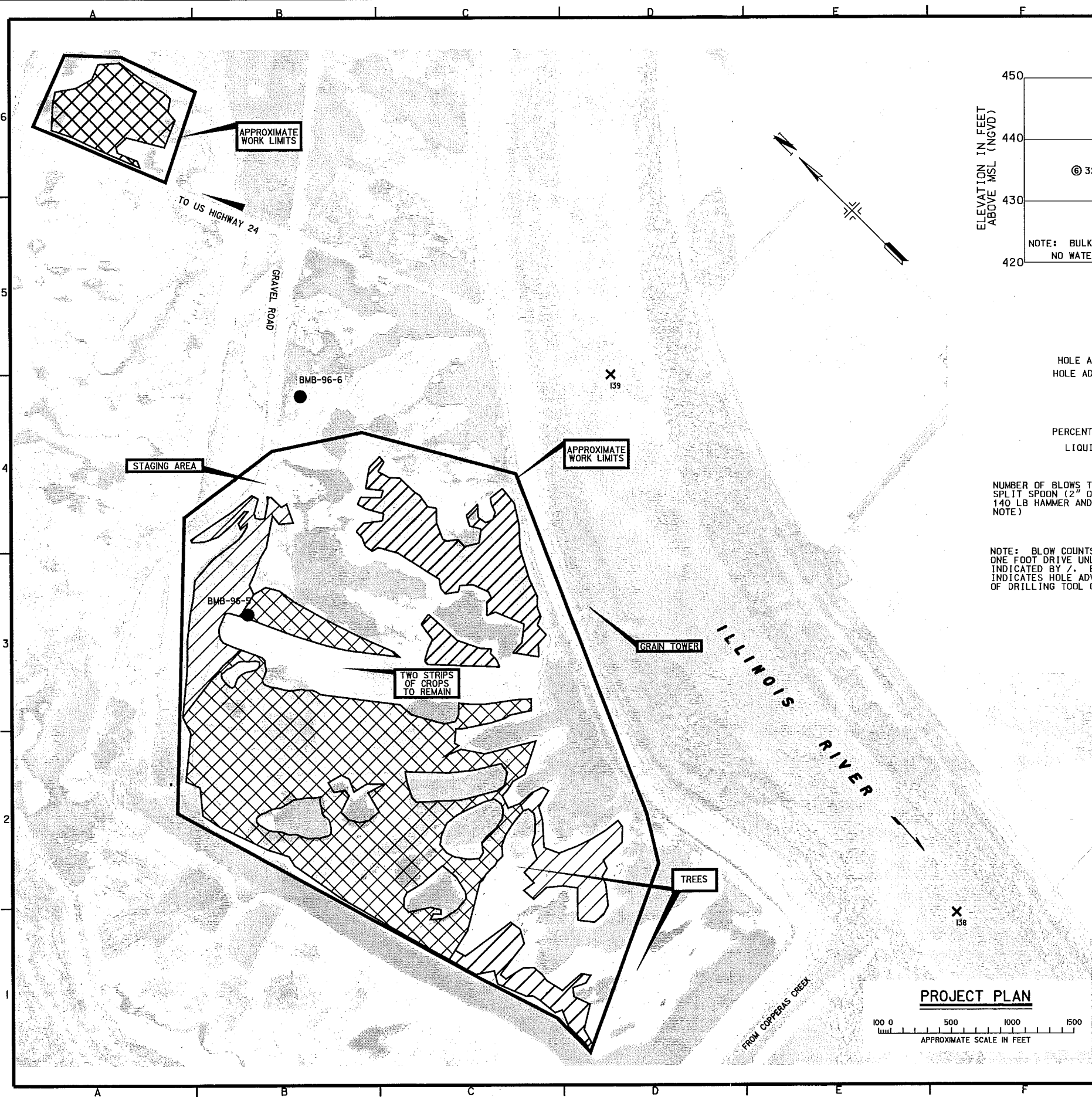
NOTE:
HINGE PINS ARE
3/4\"/>



PIPE BOLLARD DETAIL
SCALE IN FEET

NOTES:

1. EXACT LOCATION OF GATES AND PIPE BOLLARDS WILL BE ADJUSTED IN THE FIELD, AS DIRECTED BY CONTRACTING OFFICER.
2. WELD ALL PIPE JOINTS WITH CONTINUOUS BEAD, SIZE EQUAL TO PIPE WALL THICKNESS, AND DRESS SMOOTH.
3. THE PIPE BOLLARDS SHALL BE PAINTED AFTER INSTALLATION, PRIOR TO BACK FILL.
4. ALL GATE COMPONENTS SHALL BE GALVANIZED AFTER FABRICATION.



BORING LEGEND

BORING NUMBER

HOLE ADVANCED BY HOLLOW STEM HS
HOLE ADVANCED WITH ROLLER BIT RB

TOP ELEVATION (IN FEET) NGVD 1929

WATER LEVEL WL

PERCENT PASSING #200 SIEVE (6.7)
LIQUID AND PLASTIC LIMIT 46/28

2% NATURAL MOISTURE CONTENT
IN PERCENT DRY WEIGHT

① MAJOR STRATA CHANGE
MINOR STRATA CHANGE

NOTE: BLOW COUNTS ARE FOR ONE FOOT DRIVE UNLESS OTHERWISE INDICATED BY /. BLOW COUNT OF ZERO INDICATES HOLE ADVANCED WITH WEIGHT OF DRILLING TOOL ONLY

* PROBE OR SPLIT SPOON REFUSAL

LOCATION OF BORING APPROXIMATE DATE OF DRILLING
4 JULY 1976 ALSO, DATE WATER LEVEL NOTED

GRID COORDINATES TAKEN IN ILLINOIS
STATE PLANE SYSTEM, WEST ZONE
NAD 1927

PROCTOR CURVE DATA AVAILABLE
GEOTECHNICAL BRANCH, USACE,
ROCK ISLAND DISTRICT

PROCTOR ANALYSIS RESULTS (ASTM D-698)					
CLASSI- FICATION	BORING NUMBER	SAMPLE DEPTH	OPTIMUM MOISTURE	OPTIMUM DENSITY	LL/PL
CL	BMB-96-5	0.0'-7.5'	15.6%	113.0 PCF	33/16
CL	BMB-96-6	0.0'-7.5'	14.5%	112.5 PCF	37/15

LEGEND

SEEDING LIMITS

DISKED AND
SEEDED LIMITS

NOTE:

1. AERIAL PHOTO WAS TAKEN 21 MAY 2002, DURING ILLINOIS RIVER FLOODING. WATER LEVELS MAY VARY FROM THOSE SHOWN.

US Army Corps of Engineers
Rock Island District

3/11/2004/CEH
REVISED AS CONSTRUCTED
CONTRACT MONITORING/REVISIONS
Description
Revisions

Date: 16 JUNE 1999
Scale: AS SHOWN
Drawing Code: 1-11-3-1/72
Soil Station Number: D4022-99-4-0001

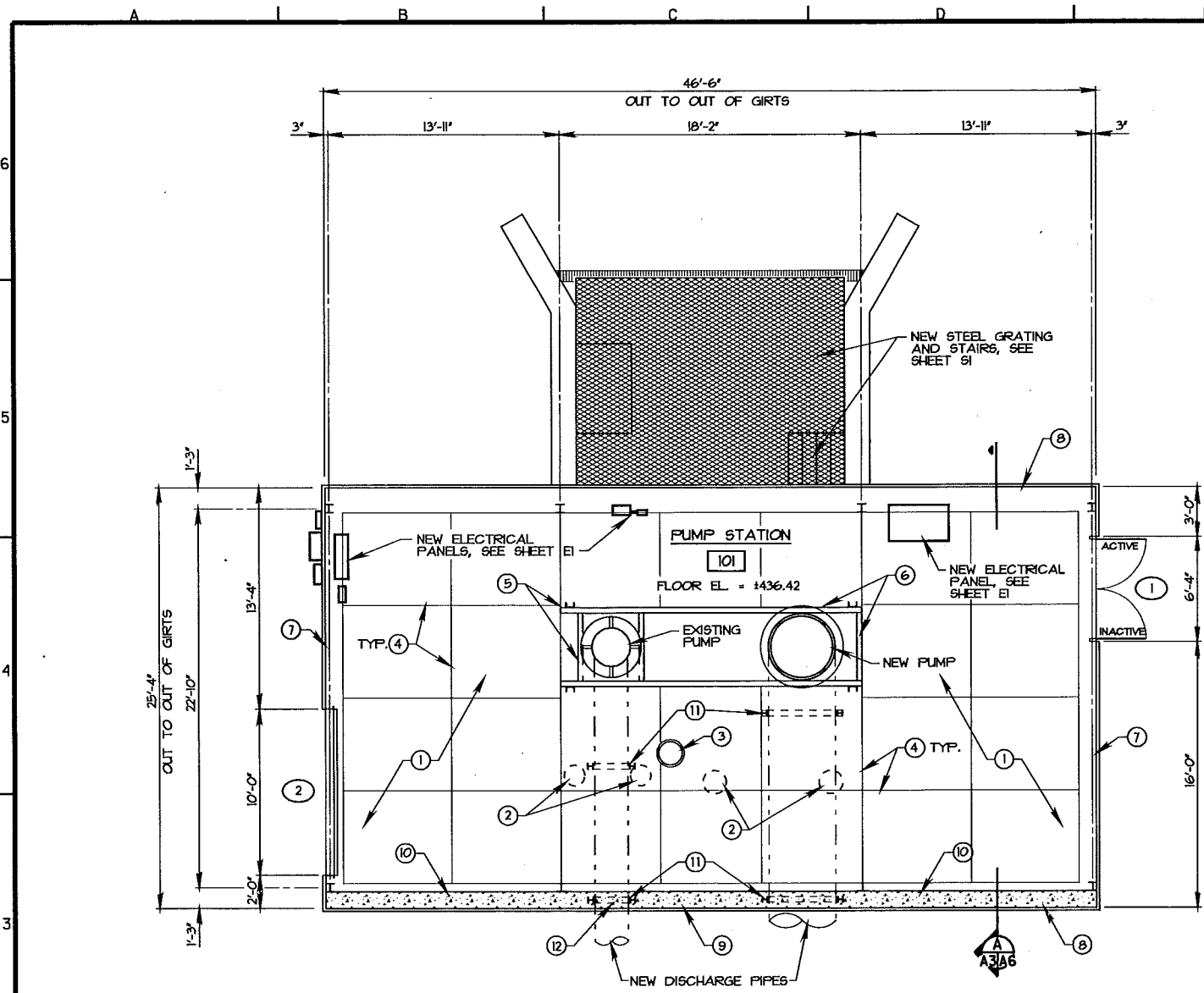
Designed By: CEH
Drawn By: RLC
Checked By: JET
Reviewed By: JWB

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ROCK ISLAND, ILLINOIS

ILLINOIS WATERWAY
ENVIRONMENTAL MANAGEMENT
PROGRAM
BANKER WILSON MANAGEMENT AREA,
FULTON AND PEDIATA COUNTIES, IL.

PROJECT PLANS

Sheet
Reference
Number:
C1
Sheet 3 of 53



CONSTRUCTION NOTES

1. CLEAN EXISTING BROKEN-UP CONCRETE FLOOR SLAB OF ALL DEBRIS AND MUD PRIOR TO INSTALLATION OF NEW CONCRETE FLOOR SLAB. INSTALL NEW FLOOR SLAB AFTER NEW PUMP IS IN PLACE.
2. COVER EXISTING PIPE OPENINGS IN EXISTING FLOOR WITH 22 GAGE METAL PANELS PRIOR TO INSTALLATION OF NEW CONCRETE FLOOR SLAB.
3. PROVIDE MANHOLE ADJUSTING RINGS AS REQUIRED TO BRING EXISTING MANHOLE LID FLUSH WITH TOP OF NEW CONCRETE FLOOR SLAB.
4. CONTROL JOINTS IN NEW CONCRETE FLOOR SLAB, TOOL JOINTS OR SAWCUT JOINTS TO A DEPTH OF 1" AND FILL WITH SEALANT.
5. PROVIDE ISOLATION JOINT BETWEEN NEW CONCRETE FLOOR SLAB AND EXISTING STEEL CHANNEL BASE FOR PUMPS BY USING 1/2" EXPANSION JOINT MATERIAL, BOND BREAKER, AND SEALANT.
6. CLEAN AND PAINT EXISTING STEEL CHANNEL BASE AND PLATES SUPPORTING PUMPS.
7. INSTALL NEW LOWER GIRTS IN ENDWALLS OF BUILDING, SEE ELEVATIONS ON SHEET A5.
8. INSTALL NEW BOTTOM TWO GIRTS IN THIS BAY, SEE ELEVATIONS ON SHEET A5.
9. INSTALL ALL NEW GIRTS IN THIS BAY, SEE ELEVATIONS ON SHEET A5.
10. NEW REINFORCED CONCRETE FOUNDATION WALL, SEE DETAIL 1 ON SHEET A6.
11. NEW STRUCTURAL STEEL SUPPORTS FOR DISCHARGE PIPES, SEE SHEET S8 FOR DETAILS.
12. WELD 3/4" X 2" STOP TAB TO 24" DISCHARGE PIPE, SEE SHEET S2 FOR STOP TAB DETAIL.

GENERAL NOTES

1. FOR MECHANICAL WORK SEE SHEETS MI THRU M4.
2. FOR ELECTRICAL WORK SEE SHEETS EI THRU E7.
3. FOR STRUCTURAL WORK SEE SHEETS S1 THRU S8.



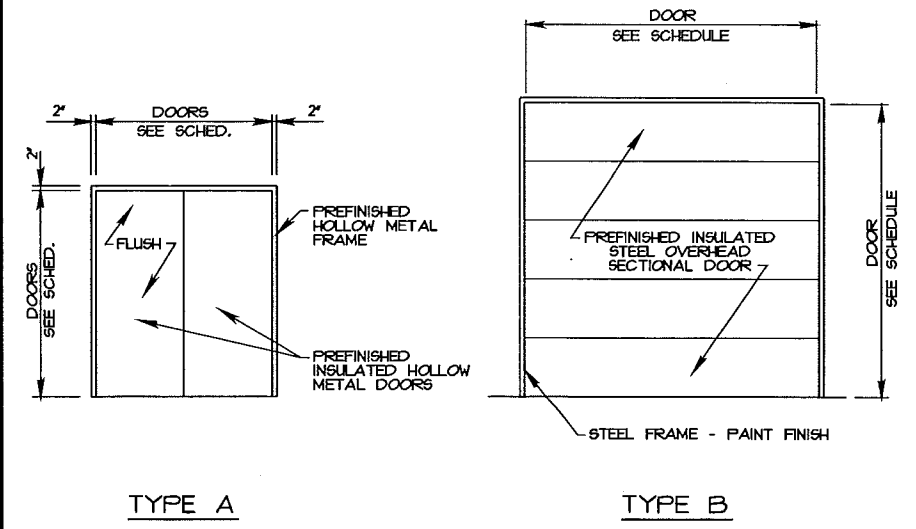
NEW FLOOR PLAN



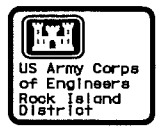
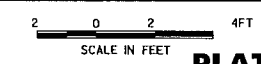
ROOM FINISH SCHEDULE									
LEGEND	FLOORING		WALL BASE		WALLS		CEILING		CEILING HEIGHT
	CONCRETE	PAINT	EXPOSED CONSTRUCTION	PAINT	EXPOSED CONSTRUCTION	PAINT	EXPOSED CONSTRUCTION	PAINT	
⑥ DENOTES FINISH REQUIRED									
① DENOTES FINISH REQUIRED AND TO ALSO SEE REMARK NO.									
RM. NO. & NAME									
101	PUMP STATION	①		⑥		⑥	②	⑥	③ VARIES
REMARKS									
1. PLACE NEW 4" THICK CONCRETE FLOOR SLAB OVER EXISTING BROKEN-UP SLAB AND REINFORCE W/ 6 X 6 - W1.4 X W1.4.									
2. SANDBLAST AND PAINT EXISTING STRUCTURAL FRAMING PRIOR TO INSTALLATION OF NEW WALL PANELS AND INSULATION, SEE SPEC. SECTION 09900.									
3. SANDBLAST AND PAINT EXISTING STRUCTURAL FRAMING PRIOR TO INSTALLATION OF NEW ROOF PANELS AND INSULATION, SEE SPEC. SECTION 09900.									

DOOR SCHEDULE						
DOOR NO.	DOOR SIZE	TYPE	DOOR DETAILS			REMARKS
			HEAD	JAMB	SILL	
1	PR 3'-0" X 7'-0" X 16"	A	1-A3/A4	1-A3/A4	1-A3/A4	HW-1
2	10'-0" X 10'-0" X 2"	B	2-A3/A4	2-A3/A4	2-A3/A4	
REMARKS						

SCHEDULES



DOOR & FRAME AND WINDOW TYPES

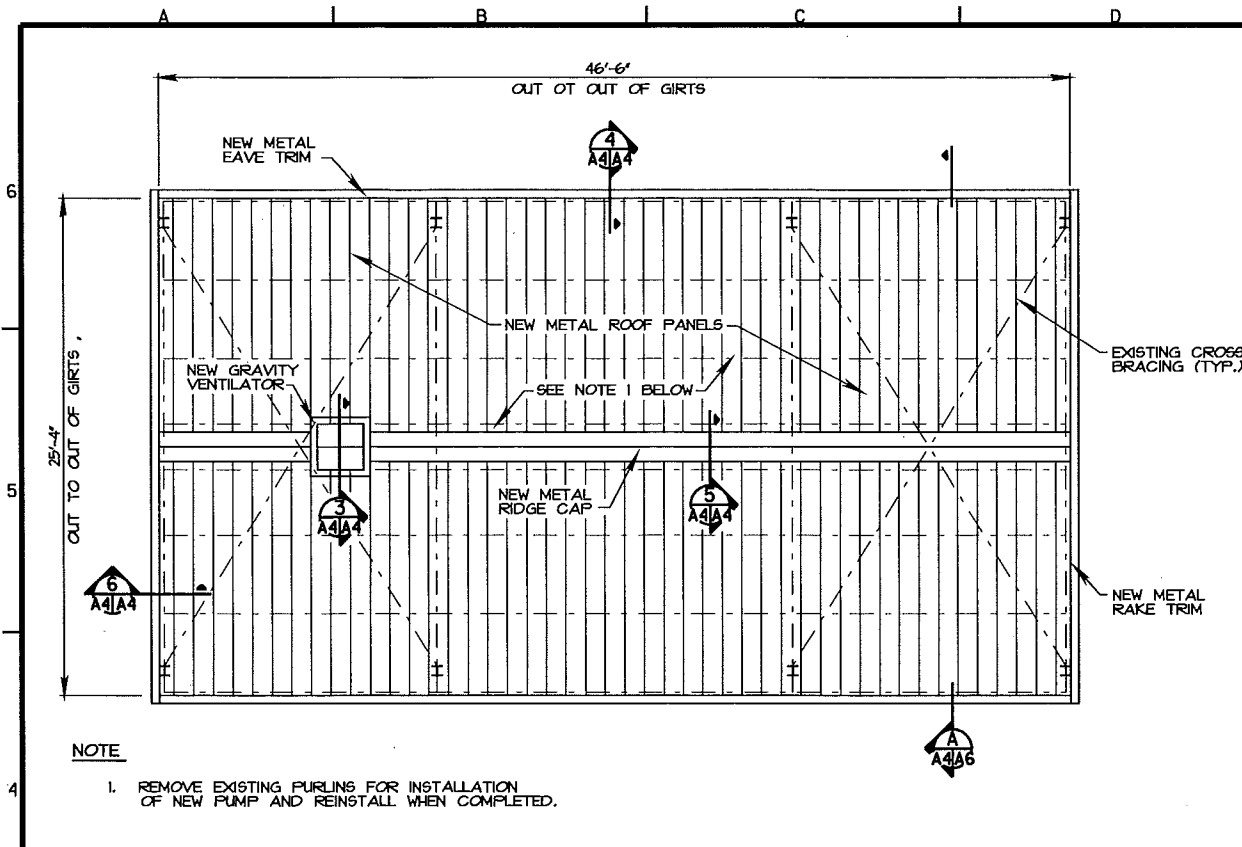


REVISIONS	DATE	DESCRIPTION
1	3/2/04	REVISED AS CONSTRUCTED

DESIGNED BY: RTN	DATE: 16 JUNE 1999
DRAWN BY: TPD/SDB	SHEET: AS SHOWN
CHECKED BY: KJB	DRAWING CODE: 1-1-3-1/72
REVIEWED BY: BLK	DATE: 02-09-0001

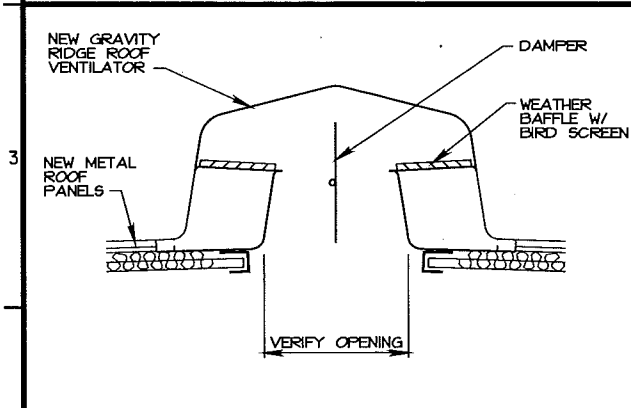
ILLINOIS WATERWAY PROGRAM
ENVIRONMENTAL MANAGEMENT
BANNER WILDLIFE MANAGEMENT AREA
FULTON AND PONTIAC COUNTIES, IL.

Sheet Reference Number:
A3
Sheet 31 of 53



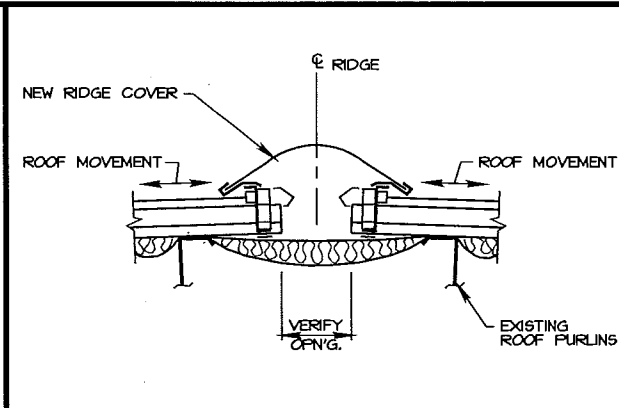
ROOF PLAN

SCALE IN FEET
0 4 8 12 16 20



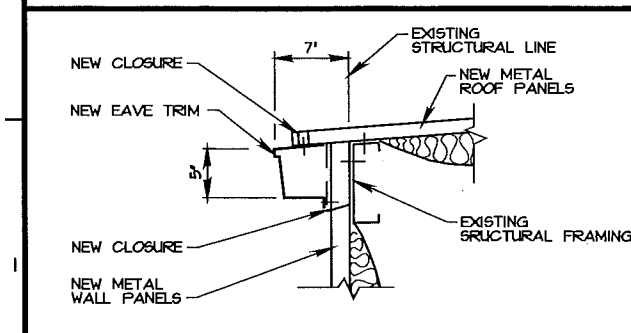
3 VENTILATOR DETAIL
A4/A4

NOT TO SCALE



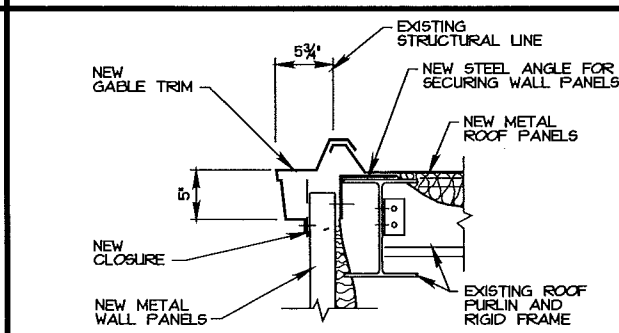
5 RIDGE CAP DETAIL
A4/A4 A6/A4

SCALE IN FEET
0 4 8 12 16 20



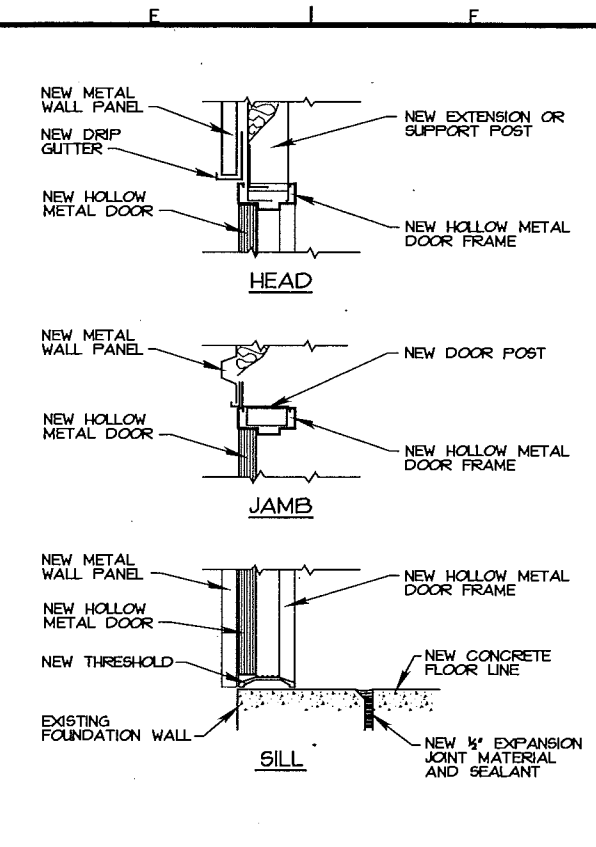
4 EAVE DETAIL
A4/A4 A6/A4

SCALE IN FEET
0 4 8 12 16 20



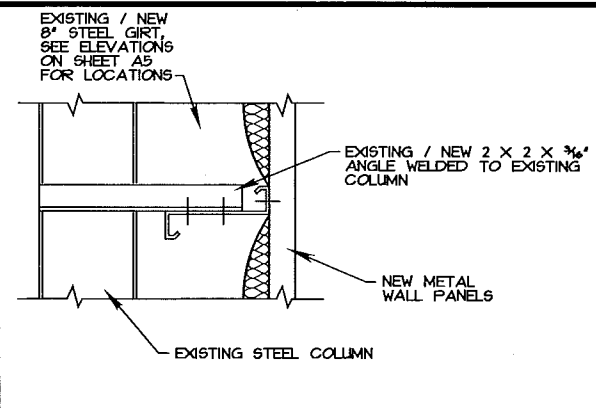
6 RAKE DETAIL
A4/A4

SCALE IN FEET
0 4 8 12 16 20



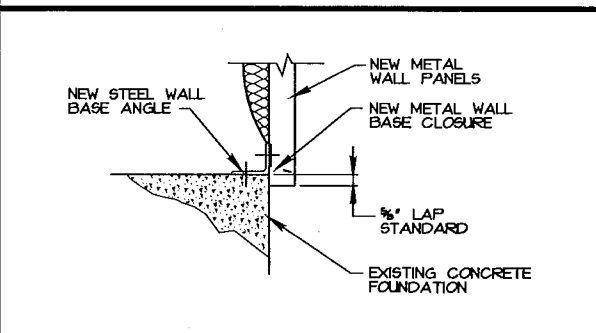
1 DOOR DETAILS
A3/A4

SCALE IN FEET
0 4 8 12 16 20



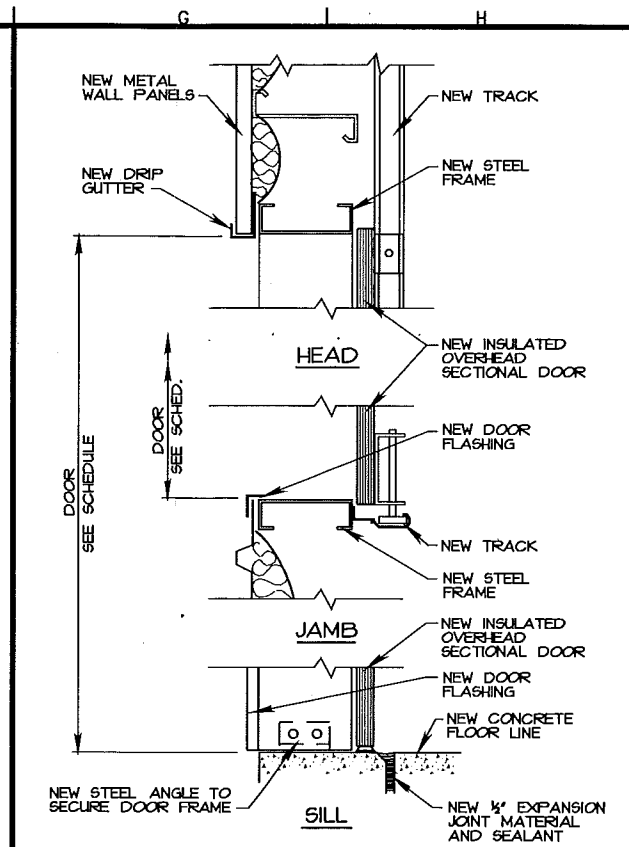
7 TYPICAL DETAIL
A6/A4

SCALE IN FEET
0 4 8 12 16 20



8 BASE DETAIL
A6/A4

SCALE IN FEET
0 4 8 12 16 20



2 OVERHEAD DOOR DETAILS
A3/A4

SCALE IN FEET
0 4 8 12 16 20

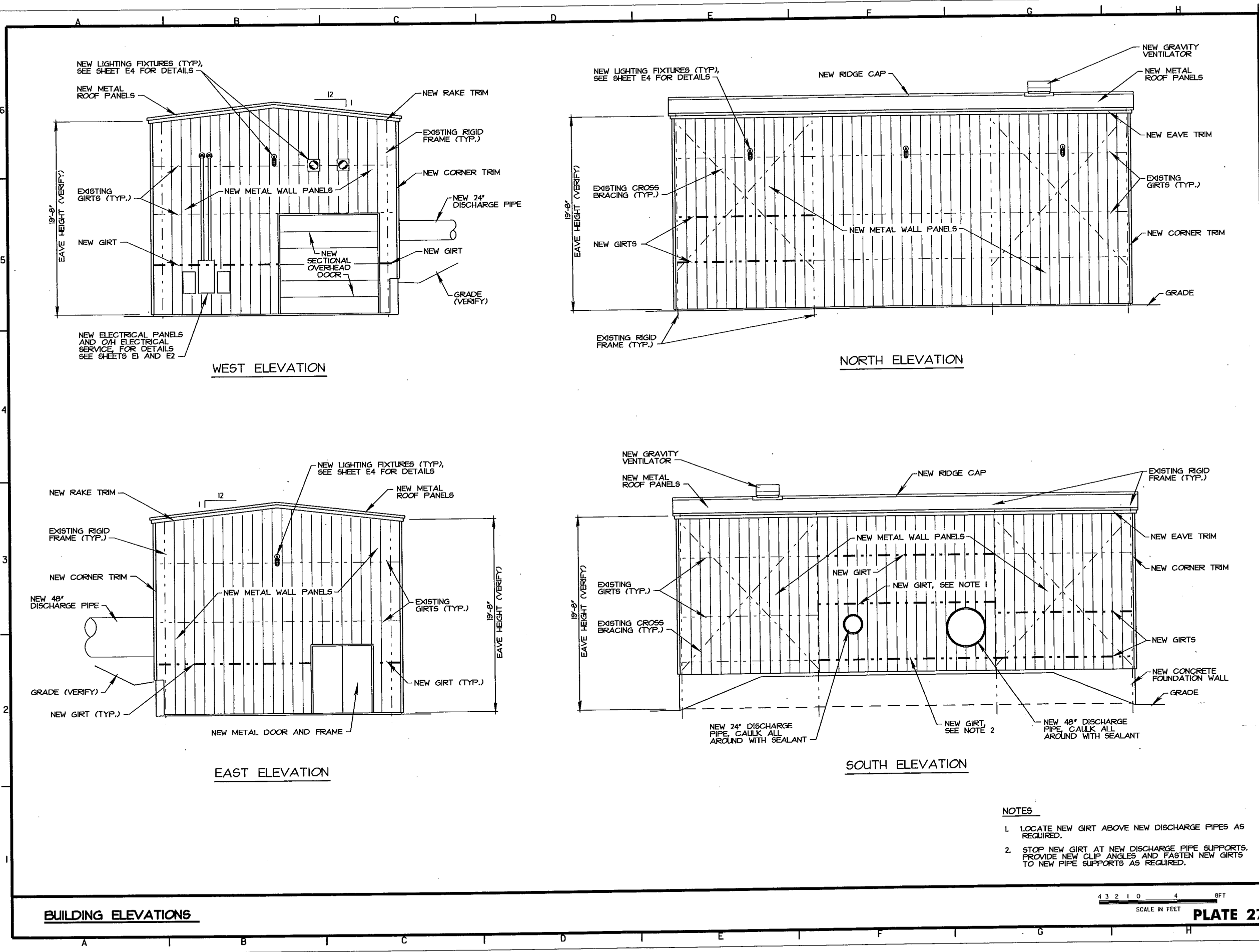


Revision	Date	By	Check
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2	3/10/04	LL/LL	LL/LL
3	3/10/04	LL/LL	LL/LL
4	3/10/04	LL/LL	LL/LL
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17	3/10/04	LL/LL	LL/LL
18	3/10/04	LL/LL	LL/LL
19	3/10/04	LL/LL	LL/LL
20	3/10/04	LL/LL	LL/LL

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS	Designated By: RTN Drawn By: TPO/SDS Checked By: KJB Reviewed By: BLK	Date: 16 JUNE 1999 Scale: AS SHOWN Drawing Code: 1-1-3-1/72 S&I (OPTIONAL) NUMBER: DUCKER-99-8-0001
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ILLINOIS WATERWAY
MANAGEMENT PROGRAM
PUMP STATION
ROOF PLAN
AND DETAILS

Sheet
Reference
Number:
A4
Sheet 32 of 53



BUILDING ELEVATIONS

- NOTES**
- 1. LOCATE NEW GIRT ABOVE NEW DISCHARGE PIPES AS REQUIRED.
 - 2. STOP NEW GIRT AT NEW DISCHARGE PIPE SUPPORTS. PROVIDE NEW CLIP ANGLES AND FASTEN NEW GIRTS TO NEW PIPE SUPPORTS AS REQUIRED.

4 3 2 1 0 4 8 FT
SCALE IN FEET

PLATE 27



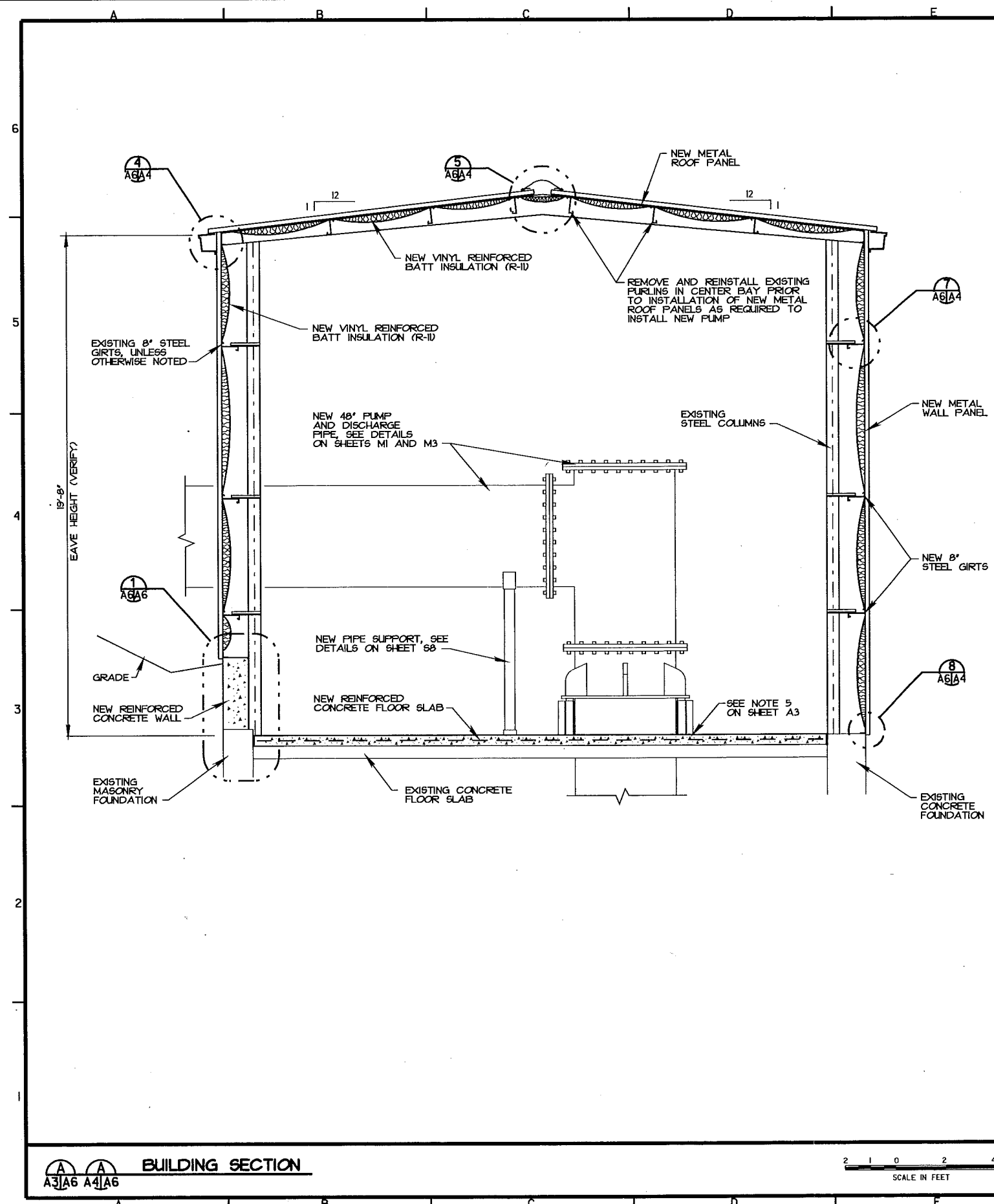
Symbol	Description	Revisions
A	REVISED AS CONSTRUCTED	12/04 JLF/DOJ Date Approved

Designed By: RTN	Drawn By: TPD/SDB	Checked By: KJB	Reviewed By: BLK
U.S. ARMY ENGINEER DISTRICT ARNS ENGINEERS ROCK ISLAND, ILLINOIS			

ILLINOIS WATERWAY PROGRAM
EARTHWORK DISTRICT
LA SALLE, ILLINOIS
BANNER WILDLIFE MANAGEMENT AREA
FULTON AND PEORIA COUNTIES, IL.

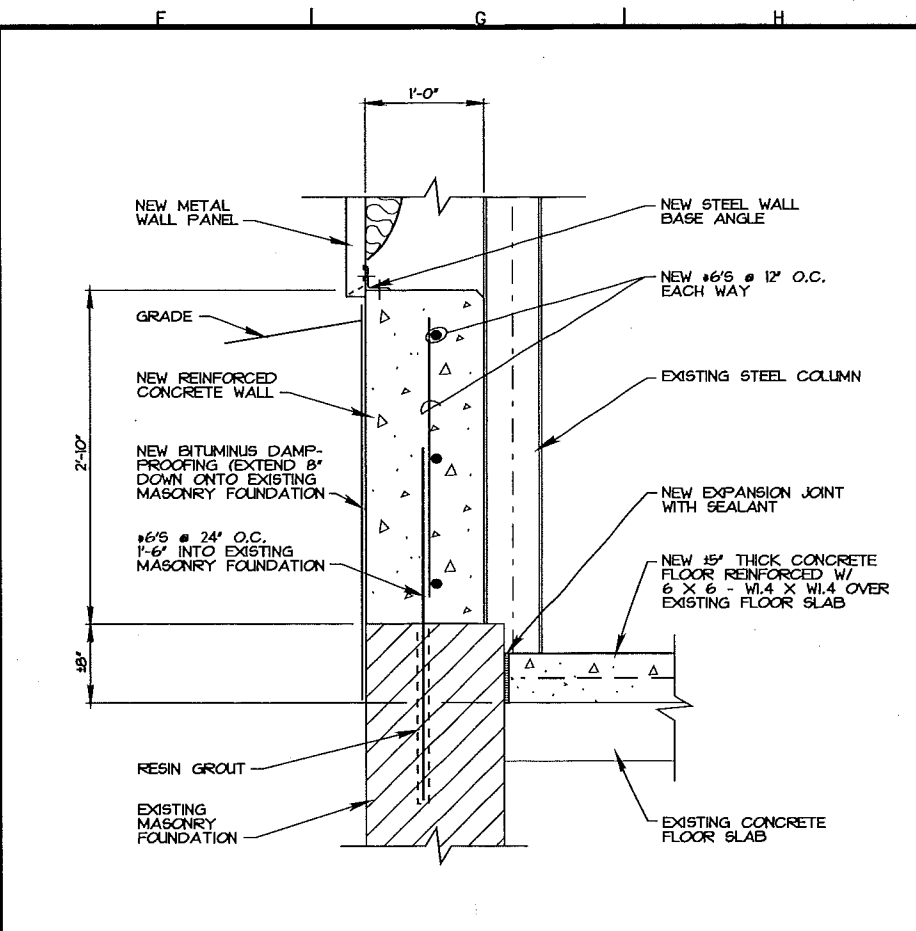
PUMP STATION BUILDING ELEVATIONS

Sheet Reference Number:
A5
Sheet 33 of 53



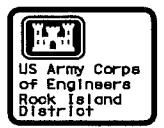
BUILDING SECTION
A3/A6 A4/A6

2 1 0 2 4 FT
SCALE IN FEET



FOUNDATION WALL DETAIL
A3/A6

1 0 1 FT
SCALE IN FEET

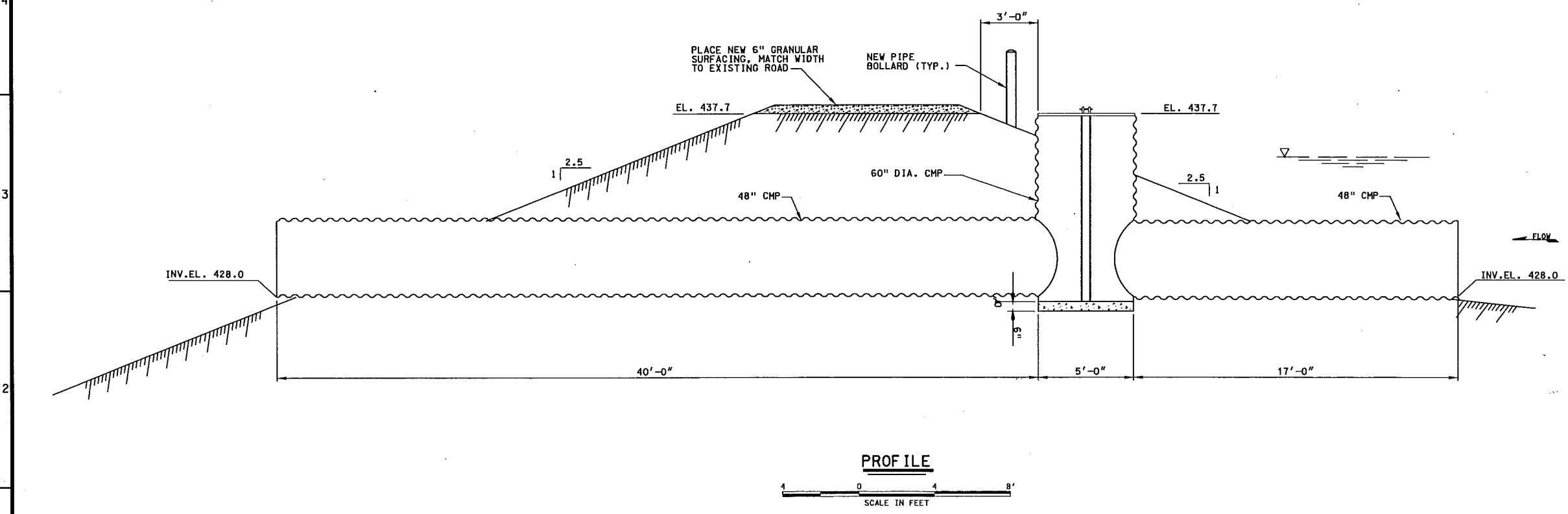
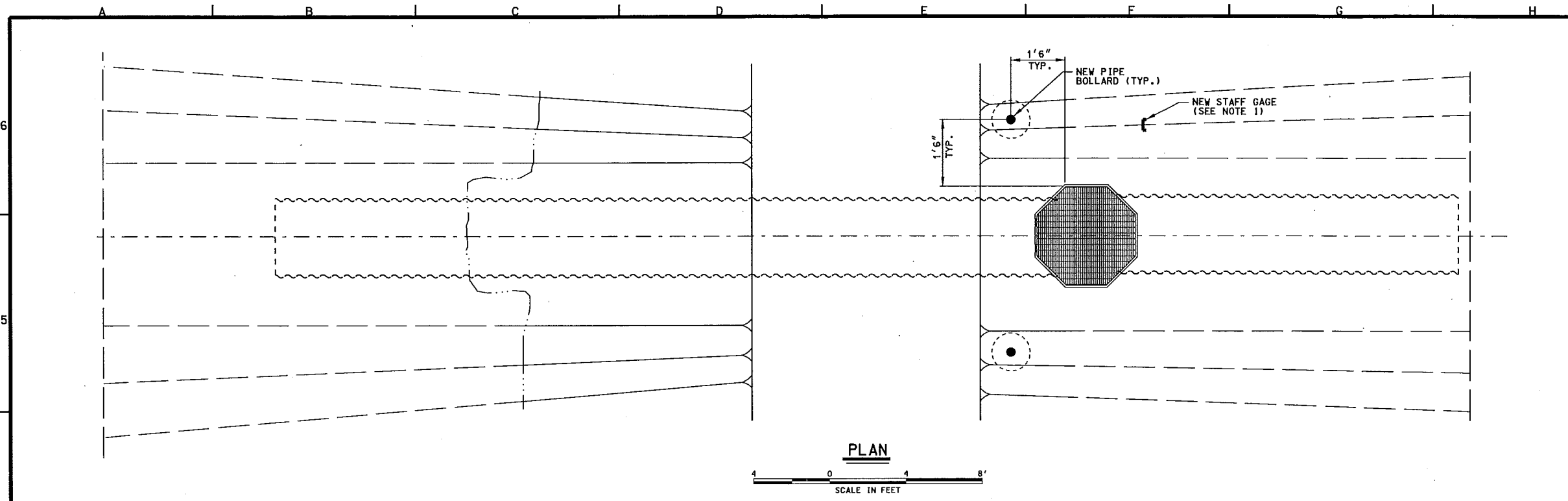


Revisions	Date	By	Appr.
1	3/7/04	FILE/ML	
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3	3/7/04	FILE/ML	
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5	3/7/04	FILE/ML	
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18	3/7/04	FILE/ML	
19	3/7/04	FILE/ML	
20	3/7/04	FILE/ML	

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS	Date: 16 JUNE 1999
Drawn By: RTN	Scale: AS SHOWN
Checked By: KJB	Revision: 1-1-1-3-1-72
Reviewed By: BLK	Soil/Retention Number: D4623-99-9-V001

ILLINOIS WATERWAY PROGRAM
ENVIRONMENTAL MANAGEMENT
PROGRAM FOR THE ILLINOIS
RIVER AND PEORIA COUNTIES, IL.
**PUMP STATION
BUILDING SECTION**

Sheet
Reference
Number:
A6
Sheet 34 of 53



- NOTES:
1. LOCATION OF STAFF GAGE WILL BE DETERMINED BY CONTRACTING OFFICER.
 2. FOR DETAILS OF WATER CONTROL STRUCTURE, SEE SHEET S6A.

PLATE 30



Symbol	Description	Revisions
AS CONSTRUCTED	AS CONSTRUCTED	
NO. 3	SHEET ADDED TO SET	
DATE	APPROVED	
3/1/04	3/1/04	

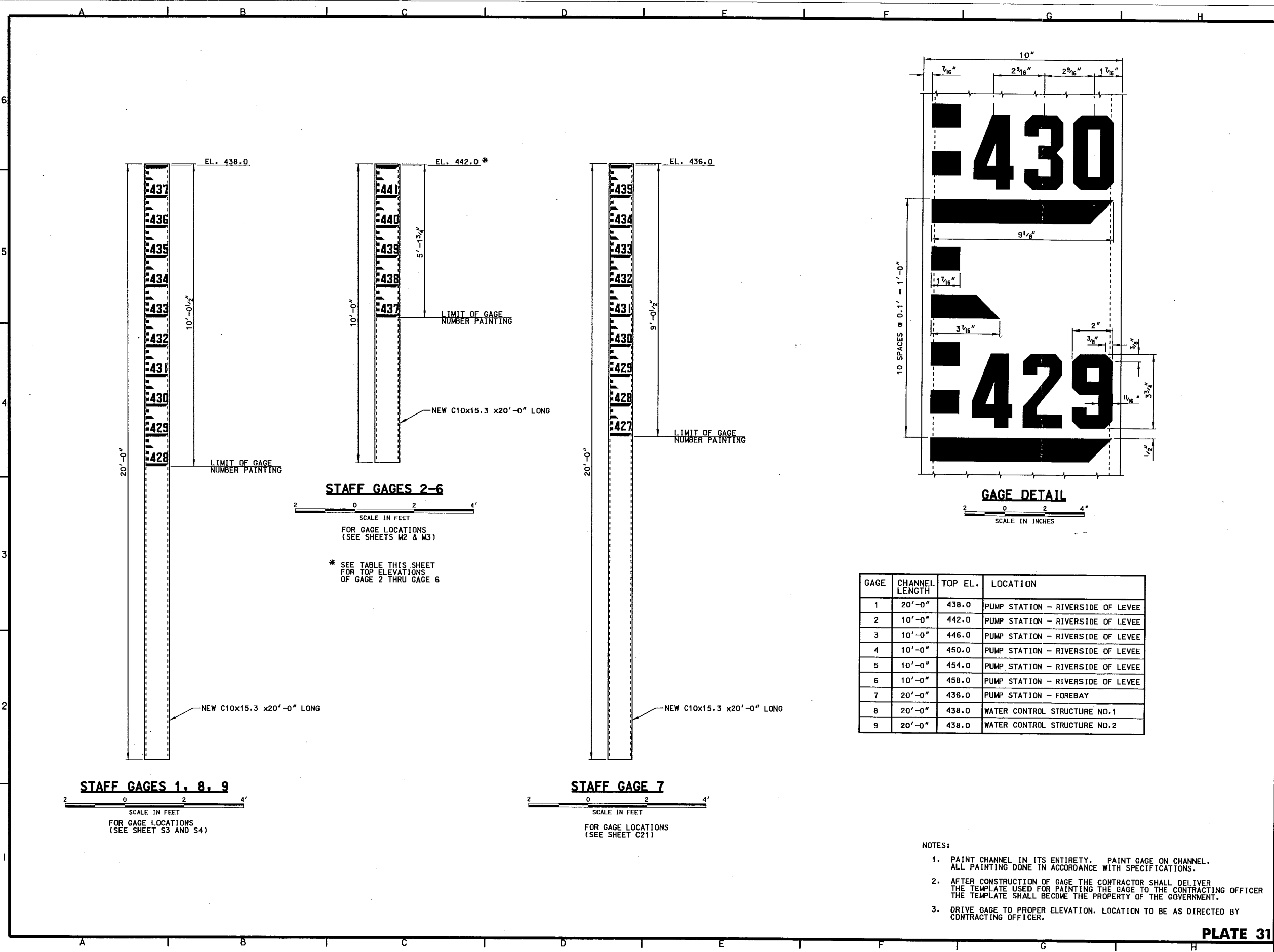
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Drawn By:	RDG	Scale:	AS SHOWN
Checked By:	FRJ	Drawing Code:	1-1-3-1/72
Reviewed By:	MM	Revision Number:	DAC22-99-8-0021

ILLINOIS WATERWAY PROGRAM
ENVIRONMENTAL MANAGEMENT
BANNER WILDLIFE MANAGEMENT AREA
FULTON AND PEORIA COUNTIES, IL.

WATER CONTROL STRUCTURE NO. 2 (OPTION L2)

Sheet Reference Number:
S4A
Sheet 38 of 53

15-DEC-2004 15:05
c:\projects\grain\proj\sheet38of53.dgn



GAGE	CHANNEL LENGTH	TOP EL.	LOCATION
1	20'-0"	438.0	PUMP STATION - RIVERSIDE OF LEVEE
2	10'-0"	442.0	PUMP STATION - RIVERSIDE OF LEVEE
3	10'-0"	446.0	PUMP STATION - RIVERSIDE OF LEVEE
4	10'-0"	450.0	PUMP STATION - RIVERSIDE OF LEVEE
5	10'-0"	454.0	PUMP STATION - RIVERSIDE OF LEVEE
6	10'-0"	458.0	PUMP STATION - RIVERSIDE OF LEVEE
7	20'-0"	436.0	PUMP STATION - FOREBAY
8	20'-0"	438.0	WATER CONTROL STRUCTURE NO.1
9	20'-0"	438.0	WATER CONTROL STRUCTURE NO.2

- NOTES:
1. PAINT CHANNEL IN ITS ENTIRETY. PAINT GAGE ON CHANNEL. ALL PAINTING DONE IN ACCORDANCE WITH SPECIFICATIONS.
 2. AFTER CONSTRUCTION OF GAGE THE CONTRACTOR SHALL DELIVER THE TEMPLATE USED FOR PAINTING THE GAGE TO THE CONTRACTING OFFICER. THE TEMPLATE SHALL BECOME THE PROPERTY OF THE GOVERNMENT.
 3. DRIVE GAGE TO PROPER ELEVATION. LOCATION TO BE AS DIRECTED BY CONTRACTING OFFICER.

PLATE 31

US Army Corps of Engineers
Rock Island District

Symbol	AS CONSTRUCTED	Description	Revisions
1			
2			
3			
4			
5			
6			

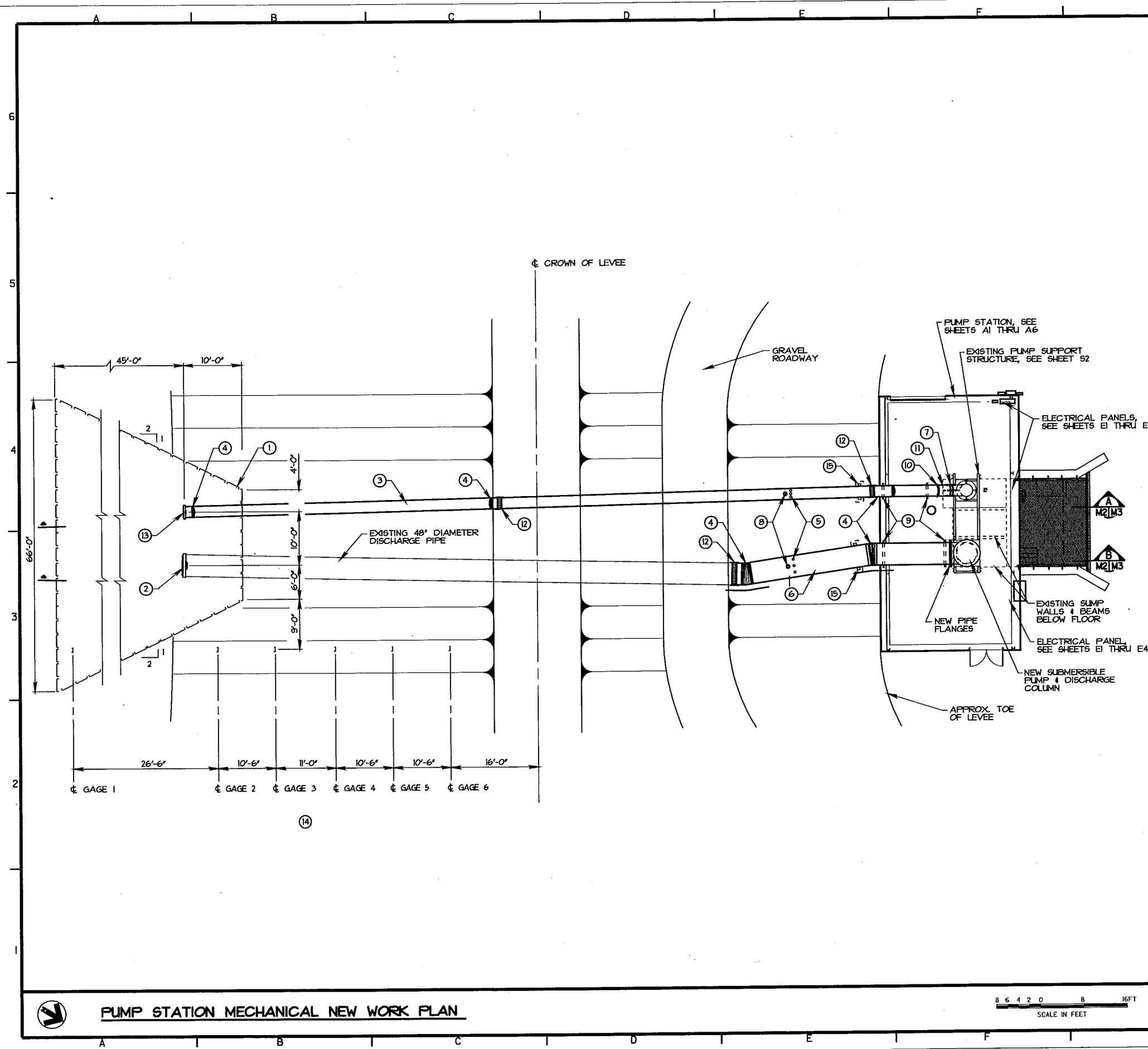
U.S. ARMY ENGINEER DISTRICT
ROCK ISLAND, ILLINOIS

ILLINOIS WATERWAY
ENHANCEMENT PROGRAM
RIVER MILE
BANNER RIVER
FULTON AND PEORIA COUNTIES, IL.

Design By: BMA
Drawn By: RDG
Checked By: FRJ
Reviewed By: MM

Date: 16 JUNE 1999
Scale: AS SHOWN
Drawing Code: 1-1-3-1-72
Soil/Cliff on Notes: DATED 9-9-00

Sheet
Reference
Number:
S7
Sheet 41 of 53



CONSTRUCTION NOTES

- 1 SEE SHEET C21 FOR RIPRAP PROTECTION AT THE DISCHARGE PIPE OUTLET AREA.
- 2 INSTALL NEW 48" FLAP GATE WELDED 48" SLIP-ON FLANGE. SEE SPECIFICATION SECTION 02631 FOR FLAP GATE REQUIREMENTS.
- 3 INSTALL APPROX. 150 L.F. OF NEW 24" DIA. DISCHARGE PIPE WITH FLAP GATE AT DISCHARGE OUTLET. SEE SPECIFICATION SECTION 02631 FOR REQUIREMENTS OF DISCHARGE PIPE AND FLAP GATE. INVERT ELEVATION OF DISCHARGE PIPE SHALL MATCH EXISTING 48" DISCHARGE PIPE INVERT ELEVATION.
- 4 THE CONTRACTOR SHALL FABRICATE AND INSTALL THE NECESSARY MITERED WELDED ELBOWS TO OBTAIN THE REQUIRED PIPE SPACING AT THE DISCHARGE OUTLET. DETERMINATION OF THE DEGREE OF ANGLE FOR THE ELBOW SHALL BE THE CONTRACTORS RESPONSIBILITY.
- 5 INSTALL NEW PITOT TUBE CONNECTIONS. NEW CONNECTIONS SHALL BE INSTALLED AT LOCATION WHERE TOP OF DISCHARGE PIPE MEETS LEVEE GRADE. SEE PITOT TUBE CONNECTION DETAIL ON SHEET M4.
- 6 NEW 48" OUTSIDE DIAMETER DISCHARGE PIPE WITH MITERED ELBOWS AND FLANGED END FOR CONNECTION TO THE NEW PUMP DISCHARGE COLUMN WITHIN THE PUMP STATION BUILDING.
- 7 THE CONTRACTOR SHALL INSTALL A 24" SLEEVE TYPE COUPLING TO CONNECT THE NEW DISCHARGE PIPE TO THE EXISTING VERTICAL PUMP. SEE REFERENCE DRAWING R1 FOR DIMENSIONS OF THE PUMP.
- 8 A 6" AND 8" AIR/ VACUUM VALVE SHALL BE INSTALLED ON 4" TALL PIPE RISERS WELDED TO THE 24" AND 48" DISCHARGE PIPES AT THE LOCATIONS SHOWN. RESPECTIVELY. SEE SPECIFICATION SECTION 02631 FOR AIR/ VACUUM VALVE REQUIREMENTS.
- 9 PIPE SADDLES AND SUPPORTS SHALL BE INSTALLED TO SUPPORT THE DISCHARGE PIPES FROM THE FLOOR AND FOUNDATION. SEE STRUCTURAL SHEET S8 FOR DETAILS.
- 10 24" FLANGES SHALL BE INSTALLED ON THE NEW DISCHARGE PIPE.
- 11 24" DIAMETER PIPE SPOOL WITH LIFTING EYE.
- 12 FLEXIBLE PIPE COUPLING
- 13 24" FLAP GATE AND PIPE FLANGE.
- 14 INSTALL NEW GAGES. DIMENSIONS FROM CENTERLINE TO BE VERIFIED BY CONTRACTOR. SEE SHEET S7 FOR GAGE DETAILS.
- 15 NEW CONCRETE PIPE SADDLE SUPPORT, SEE SHEET S8 FOR DETAILS.



Revision	Description	Date
1	REVISED AS CONSTRUCTED	3/1/04

Designed By:	RTN	Drawn By:	TPD/SDB	Checked By:	KJB	Reviewed By:	BLK
Date:	16 JUNE 1999	Scale:	AS SHOWN	Drawing Code:	1-11-3-1/72	Sheet Title:	M2

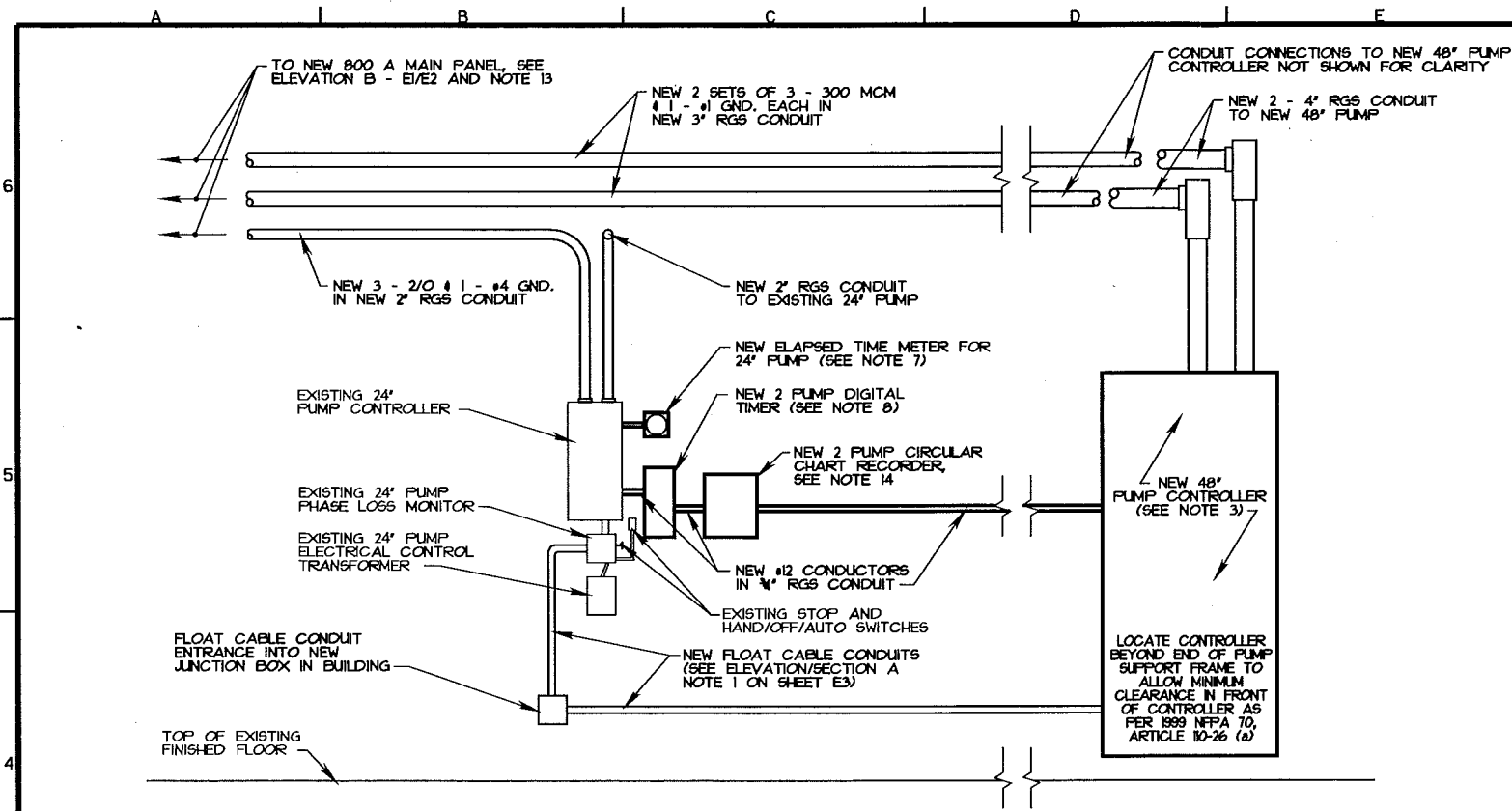
ILLINOIS WATERWAY PROGRAM
 ENVIRONMENTAL MANAGEMENT
 LA GRANGE, ILLINOIS
 PULMON AND PULMON COUNTIES, IL.

Sheet
 Reference
 Number:
M2
 Sheet 44 of 53



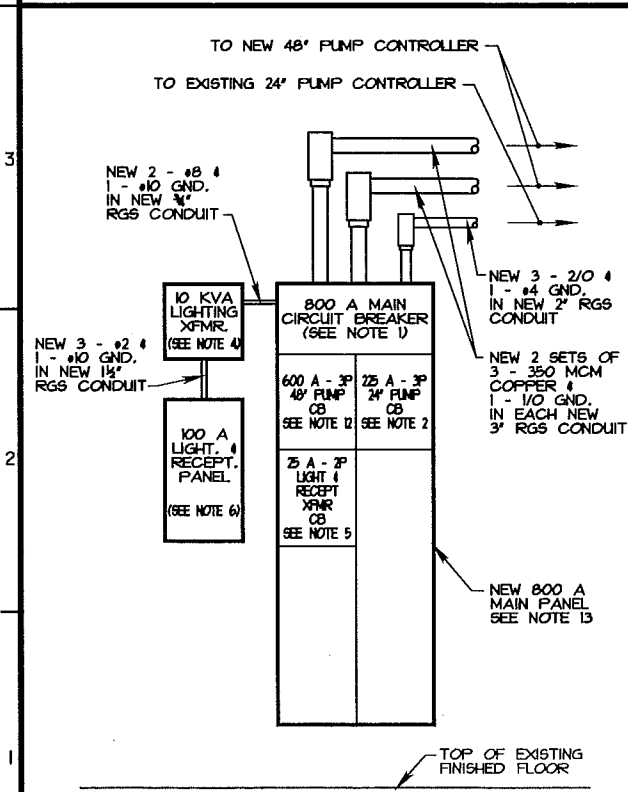
PUMP STATION MECHANICAL NEW WORK PLAN

8 6 4 2 0 8 16 FT
 SCALE IN FEET



ELEVATION ELECTRICAL EQUIPMENT
E1/E2

0 1 2 FT
SCALE IN FEET

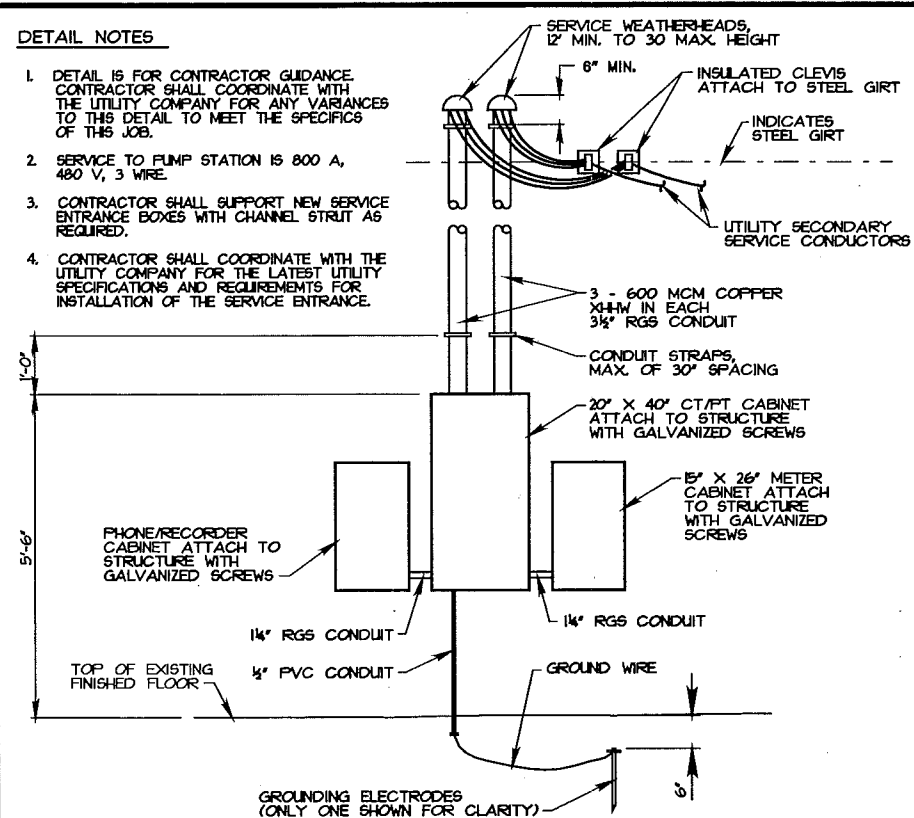


ELEVATION SERVICE EQUIPMENT DISCONNECT
E1/E2

SCALE SAME AS DETAIL A ON THIS SHEET

DETAIL NOTES

1. DETAIL IS FOR CONTRACTOR GUIDANCE. CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY FOR ANY VARIANCES TO THIS DETAIL TO MEET THE SPECIFICS OF THIS JOB.
2. SERVICE TO PUMP STATION IS 800 A, 480 V, 3 WIRE.
3. CONTRACTOR SHALL SUPPORT NEW SERVICE ENTRANCE BOXES WITH CHANNEL STRUT AS REQUIRED.
4. CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY FOR THE LATEST UTILITY SPECIFICATIONS AND REQUIREMENTS FOR INSTALLATION OF THE SERVICE ENTRANCE.



ELEVATION SERVICE ENTRANCE EQUIPMENT
E1/E2

0 1 2 FT
SCALE IN FEET

ELECTRICAL EQUIPMENT LAYOUT NOTES

1. SERVICE ENTRANCE MAIN DISCONNECT, 800A THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKER, 3 POLE, 480V, 30,000 AIC MINIMUM, BOLT ON.
 2. TWENTY-FOUR INCH PUMP DISCONNECT, 225A THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKER DISCONNECT, 3 POLE, 480V, 30,000AIC MINIMUM, BOLT ON. CIRCUIT BREAKER SHALL BE LOCKABLE IN THE OFF POSITION.
 3. CONTROLLER FOR NEW 48 INCH PUMP. STARTING SHALL BE REDUCED VOLTAGE OF EITHER AUTOTRANSFORMER OR SOLID STATE ELECTRONIC TYPE ADJUSTABLE SO AS THE INITIAL STARTING VOLTAGE AT THE MOTOR DOES NOT EXCEED 65% OF THE RUN VOLTAGE. MOTOR STARTER SIZE SHALL BE NEMA SIZE 6 OR EQUIVALENT. THERMAL OVERLOAD RELAYS SHALL BE CLASS 10 QUICK-TRIP HAND RESET MELTING ALLOY OR EQUIVALENT SIZED FOR MOTOR. CONTROLLER SHALL BE RATED FOR 480VAC, 3 PHASE, AND 48 INCH PUMP HORSE POWER.
- CONTROL VOLTAGE SHALL BE 120V. CONTROL TRANSFORMER SHALL BE AN INTEGRAL PART OF THE CONTROLLER.
- CONTROLLER SHALL INCLUDE A PHASE FAILURE AND UNDERVOLTAGE RELAY ABLE TO DETECT A PHASE LOSS, PHASE REVERSAL, PHASE UNBALANCE, AND UNDERVOLTAGE. THE RELAY SHALL BE INSTALLED ON THE LOAD SIDE OF THE OVERLOADS FOR LOAD SIDE MONITORING OF POWER TO THE MOTOR.
- CONTROLLER SHALL INCLUDE AN ELAPSED TIME METER WHICH HAS A RANGE FROM 0-99,999.9, NON-RESETTABLE, TO RECORD 48 INCH PUMP RUNNING TIME.
- ENCLOSURE SHALL BE TYPE NEMA 12 WALL MOUNTED. BOTTOM OF CONTROLLER SHALL BE 18" MINIMUM ABOVE FINISHED FLOOR. SEE SHEET E3 FOR PANEL 4 CONTROL DETAILS.
4. LIGHTING AND RECEPTACLE TRANSFORMER SHALL BE RATED FOR 10KVA, 480V/240/120V SINGLE PHASE, AIR COOLED, NEMA 1 ENCLOSURE.
 5. LIGHTING AND RECEPTACLE TRANSFORMER PRIMARY DISCONNECT SHALL BE A 25A THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKER DISCONNECT, 2 POLE, 480V, 30,000AIC MINIMUM, BOLT ON. CIRCUIT BREAKER SHALL BE LOCKABLE IN THE OFF POSITION.
 6. LIGHTING AND RECEPTACLE PANEL SHALL BE RATED FOR 240/120V, 100A, 20 SINGLE POLE CIRCUIT BREAKER SPACES, 50A DOUBLE POLE MAIN CIRCUIT BREAKER, 20 INCH WIDE, NEMA 1 SURFACE MOUNT ENCLOSURE.
 7. ELAPSED TIME METER FOR 24 INCH PUMP SHALL HAVE A RANGE FROM 0-99,999.9, NON-RESETTABLE, TO RECORD 24" PUMP RUNNING TIME. METER SHALL EITHER BE MOUNTED IN ITS OWN NEMA 1 ENCLOSURE OR IT MAY BE MOUNTED IN THE 24 INCH PUMP CONTROLLER ENCLOSURE.
 8. TWO PUMP DIGITAL TIMER SHALL CONTROL THE 24 INCH AND 48 INCH PUMP INDEPENDENTLY, PLUS HAVE THE ABILITY TO CONTROL 2 ADDITIONAL INDEPENDENT CIRCUITS. TIMER SHALL HAVE AUTOMATIC DAYLIGHT SAVING TIME AND LEAP YEAR ADJUSTMENT. HOLIDAYS MAY BE PROGRAMMED IN, BATTERY BACKUP, MANUAL OVERRIDE FOR EACH CIRCUIT INDEPENDENTLY, TO THE MINUTE INDEPENDENT CONTROL WITH 300 SET POINTS MINIMUM. ENCLOSURE SHALL BE 18 GAUGE STEEL MINIMUM, NEMA 1 RATED, SURFACE MOUNT. CONTACTS SHALL BE RATED FOR 15A MINIMUM RESISTIVE.
 9. A 3 PHASE MOV CATEGORY "C" SURGE ARRESTER SHALL BE INSTALLED ON THE 800A MAIN DISCONNECT FOR PUMP STATION ELECTRICAL PROTECTION. THE SURGE ARRESTER SHALL COMPLY WITH IEEE C62.11, C62.22, C62.41 AND UL1449. ARRESTERS SHALL BE EQUIPPED WITH MOUNTING BRACKETS SUITABLE FOR THE INDICATED INSTALLATION. SURGE ARRESTER RATINGS SHALL BE 480V, 3 PHASE, 3 WIRE HIGH ENERGY (METAL DISK MINIMUM). PROTECTION SHALL BE PHASE TO PHASE. SURGE ARRESTER SHALL BE EQUIPPED WITH DIAGNOSTIC INDICATORS TO SHOW ARRESTER CONDITION (A GOOD AND FAILED MOV CONDITION MINIMUM). ARRESTER SHALL INCORPORATE REDUNDANT PROTECTORS FOR CONTINUOUS PROTECTION IF ONE SHOULD FAIL. ALSO INCLUDE PLUG-IN REPLACEMENT MODULES TO REPLACE FAILED ONES. EACH PHASE OF THE ARRESTER SHALL BE INDEPENDENTLY FUSED RATED AT 200,000 AMP. IF ARRESTER CANNOT BE INSTALLED WITHIN THE MAIN SERVICE ENTRANCE PANEL ENCLOSURE, ARRESTER ENCLOSURE SHALL BE ADJACENT TO THE PANEL AND BE NEMA 1 RATED.
 10. THE POWER FACTOR OF THE NEW 48" PUMP SHALL BE BETWEEN .80 AND 1.0 (LAGGING). IF THE POWER FACTOR IS LOWER THAN .80 THE CONTRACTOR SHALL ADD POWER FACTOR CORRECTION CAPACITORS TO THE 48" PUMP TO BRING UP THE POWER FACTOR TO THE .80 MINIMUM. THE CONTRACTOR SHALL MEASURE THE POWER FACTOR OF THE EXISTING 24" PUMP. THE POWER FACTOR OF THE 24" PUMP AND CORRECTED POWER FACTOR OF THE 48" PUMP SHALL BE SUBMITTED AS A TEST REPORT. ENCLOSURE SHALL BE NEMA TYPE 1 WALL MOUNTED LOCATED ADJACENT TO THE MOTOR CONTROLLER OF THE PUMP IT IS CONNECTED TO. BOTTOM OF THE ENCLOSURE SHALL BE 18" MINIMUM ABOVE FINISHED FLOOR.
 11. CONTRACTOR SHALL SUPPORT ALL ELECTRICAL BOXES WITH CHANNEL STRUT AS REQUIRED OR EXISTING ELECTRICAL PANEL SUPPORT FRAME ON THE NORTH WALL. CHANNEL STRUT SHALL BE GALVANIZED AND CUT ENDS SHALL BE PAINTED WITH ZINC RICH PAINT.
 12. FORTY-EIGHT INCH PUMP DISCONNECT, 600A THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKER DISCONNECT, 3 POLE, 480V, 30,000AIC MINIMUM, BOLT ON. THE 600A 600A BREAKER SIZE IS TENTATIVE SIZE BASED ON DESIGN CALCULATIONS. CONTRACTOR SHALL COORDINATE WITH THE PUMP MANUFACTURER TO MATCH THE CORRECT CIRCUIT BREAKER WITH THE SELECTED PUMP, BOLT ON. CIRCUIT BREAKER SHALL BE LOCKABLE IN THE OFF POSITION.
 13. MAIN SERVICE ENTRANCE PANEL, SERVICE ENTRANCE RATED, 800A, 480V, 3 PHASE, 3 WIRE, MINIMUM RATED COPPER BUSES, SURFACE MOUNT. PANEL SHALL BE COMPATIBLE WITH AND HAVE THE CIRCUIT BREAKER MOUNTING SPACE AVAILABLE FOR CIRCUIT BREAKERS MENTIONED ABOVE PLUS 3, 3 POLE SPACES FOR ADDITIONAL CIRCUIT BREAKERS.
 14. TWO CHANNEL CIRCULAR CHART RECORDER, CASE SHALL BE OF DIECAST ALUMINUM OR HIGH IMPACT PLASTIC DESIGNED FOR INDUSTRIAL APPLICATIONS. TIME PER REVOLUTION OF CIRCLE CHART SHALL BE ADJUSTABLE FROM 24 HOURS TO 31 DAYS. CHART DRIVE SHALL BE ELECTRIC 120 V. TRANSDUCER INPUT SHALL BE 120 V "ON" OR 0 V "OFF" FROM PUMP MOTOR CONTROL CIRCUIT. THE TRANSDUCER OUTPUT SHALL BE PROPORTIONAL TO ITS INPUT AND INTERFACE WITH CHART RECORDER INPUT. RECORDING MECHANISM SHALL BE MADE OF STAINLESS STEEL. PEN SHAFTS ARE FITTED WITH BALL PIVOTS. CALIBRATION ADJUSTMENTS SHALL BE MADE WITH EASILY ACCESSIBLE SCREW ADJUSTMENTS. CHARTS SHALL BE 12 INCH AND PRINTED ON MOISTURE RESISTANT PAPER. PENS WILL SHALL BE OF V-TYPE, FOUNTAIN OR BUCKET TYPE OR CHARTOMATIC TYPE. RECORDER SHALL RECORD THE "ON" AND "OFF" DURATION OF EACH PUMP (EACH ON AN INDEPENDANT CHANNEL).

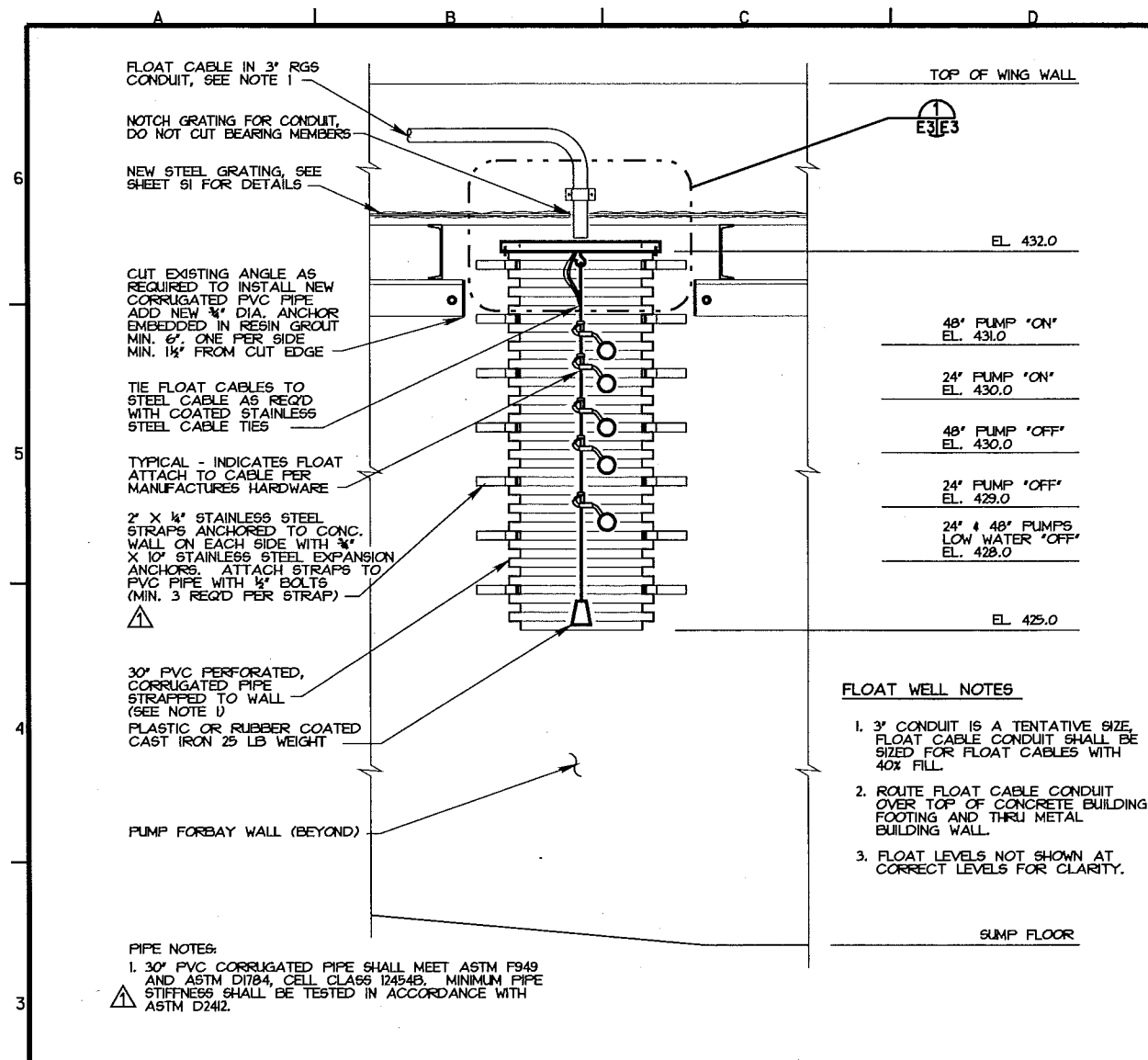


Revisions	Date	By	Appr.
1	12/04	JLE/DLL	
2			
3			
4			
5			
6			

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Drawn By:	RTH
Checked By:	TPD/TDB
Reviewed By:	BOB
Scale:	AS SHOWN
Project No.:	1-11-3-1-172
Revision No.:	1-11-3-1-172
Revision Date:	1-11-3-1-172
Revision Description:	BACKLOG-9-8-0001

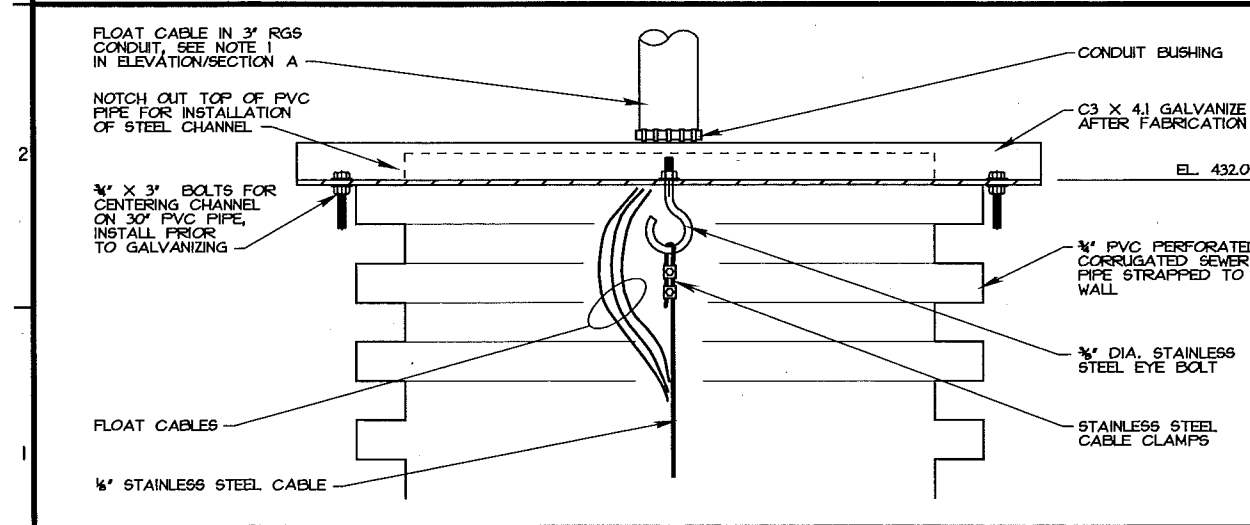
ILLINOIS WATERWAY PROGRAM
ENVIRONMENTAL MANAGEMENT
PROGRAM
WATERWAY MANAGEMENT
AREA
BANNER WILDLIFE MANAGEMENT
FULTON AND PEBDIA COUNTIES, IL.

Sheet
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Number:
E2
Sheet 48 of 53



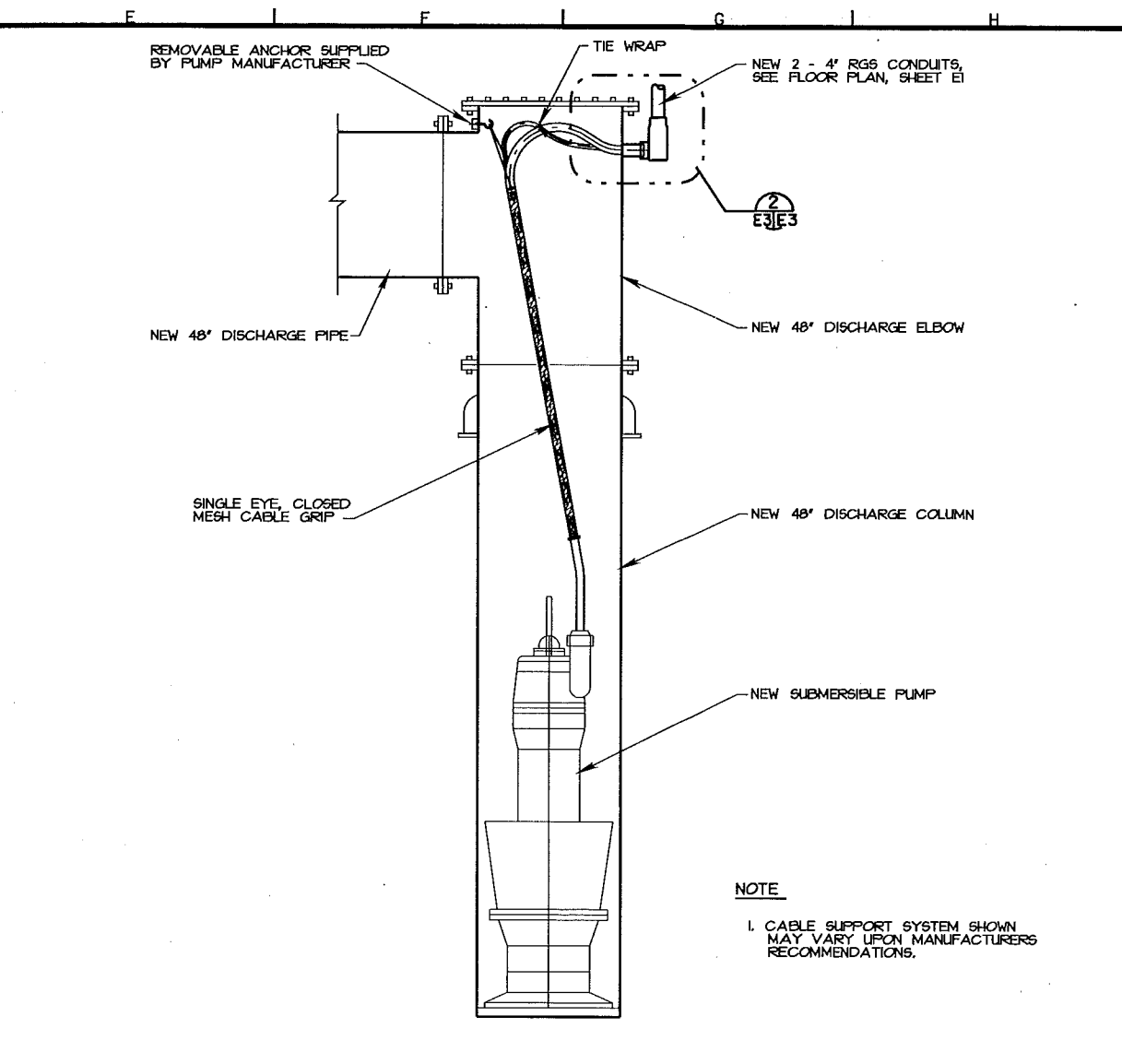
ELEVATION/SECTION FLOAT WELL

SCALE IN FEET



DETAIL FLOAT WELL

SCALE IN INCHES

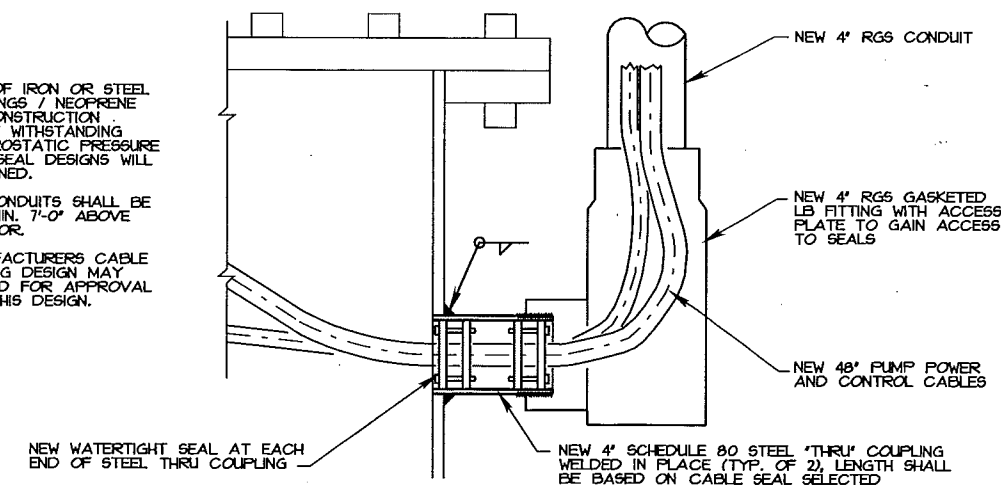


ELEVATION/SECTION 48" PUMP

SCALE IN FEET

NOTES

- SEALS ARE OF IRON OR STEEL PRESSURE RINGS / NEOPRENE GROMMET CONSTRUCTION CAPABLE OF WITHSTANDING 50 PSI HYDROSTATIC PRESSURE MIN. OTHER SEAL DESIGNS WILL BE ENTERTAINED.
- 48" PUMP CONDUITS SHALL BE ROUTED A MIN. 7'-0" ABOVE FINISHED FLOOR.
- PUMP MANUFACTURERS CABLE "THRU" FITTING DESIGN MAY BE SUBMITTED FOR APPROVAL IN LIEU OF THIS DESIGN.



DETAIL CABLE/CONDUIT CONNECTION

SCALE IN INCHES



Revision	Date	By	Check	Appr.
1	3/2/04	JLB		
2	3/2/04	JLB		
3	3/2/04	JLB		
4	3/2/04	JLB		
5	3/2/04	JLB		
6	3/2/04	JLB		

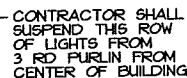
Design By:	RJW	Drawn By:	TPD	Checked By:	BGR	Reviewed By:	JWB
Date:	16 JUNE 1999	Scale:	AS SHOWN	Drawing Code:	1-L1-3-1/72	Specification Number:	DACR23-99-8-0021

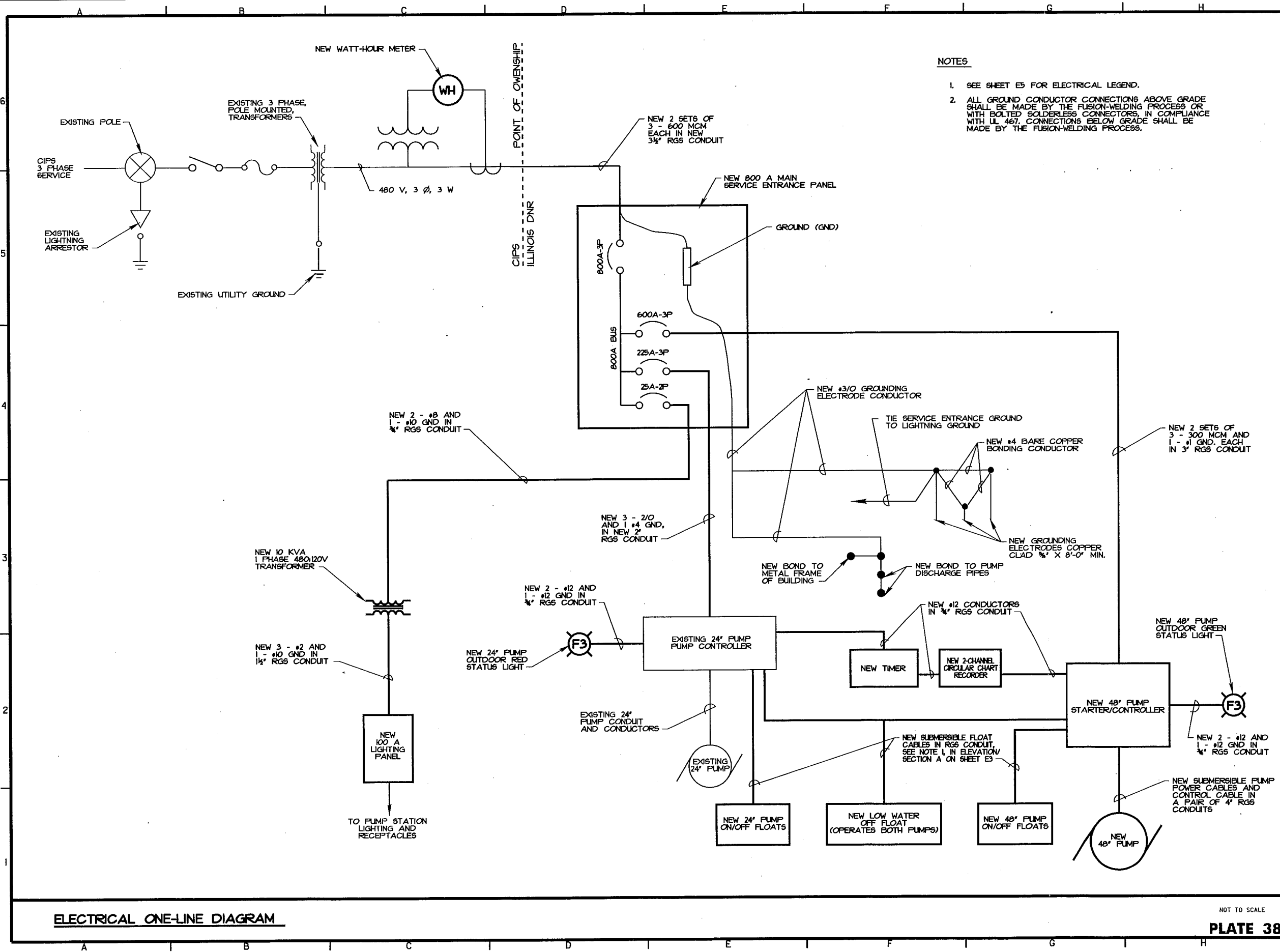
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ROCK ISLAND, ILLINOIS

ILLINOIS WATERWAY PROGRAM
ENVIRONMENTAL REVIEW
LAGANER FLOOD RIVER MILE 135-144
BANNER WILLOW MANAGEMENT AREA
FULTON AND PEORIA COUNTIES, IL.

**PUMP STATION
FLOAT WELL AND
MISCELLANEOUS DETAILS**

Sheet
Reference
Number:
E3
Sheet 49 of 53





- NOTES**
1. SEE SHEET E5 FOR ELECTRICAL LEGEND.
 2. ALL GROUND CONDUCTOR CONNECTIONS ABOVE GRADE SHALL BE MADE BY THE FUSION-WELDING PROCESS OR WITH BOLTED SOLDERLESS CONNECTORS, IN COMPLIANCE WITH UL 467. CONNECTIONS BELOW GRADE SHALL BE MADE BY THE FUSION-WELDING PROCESS.



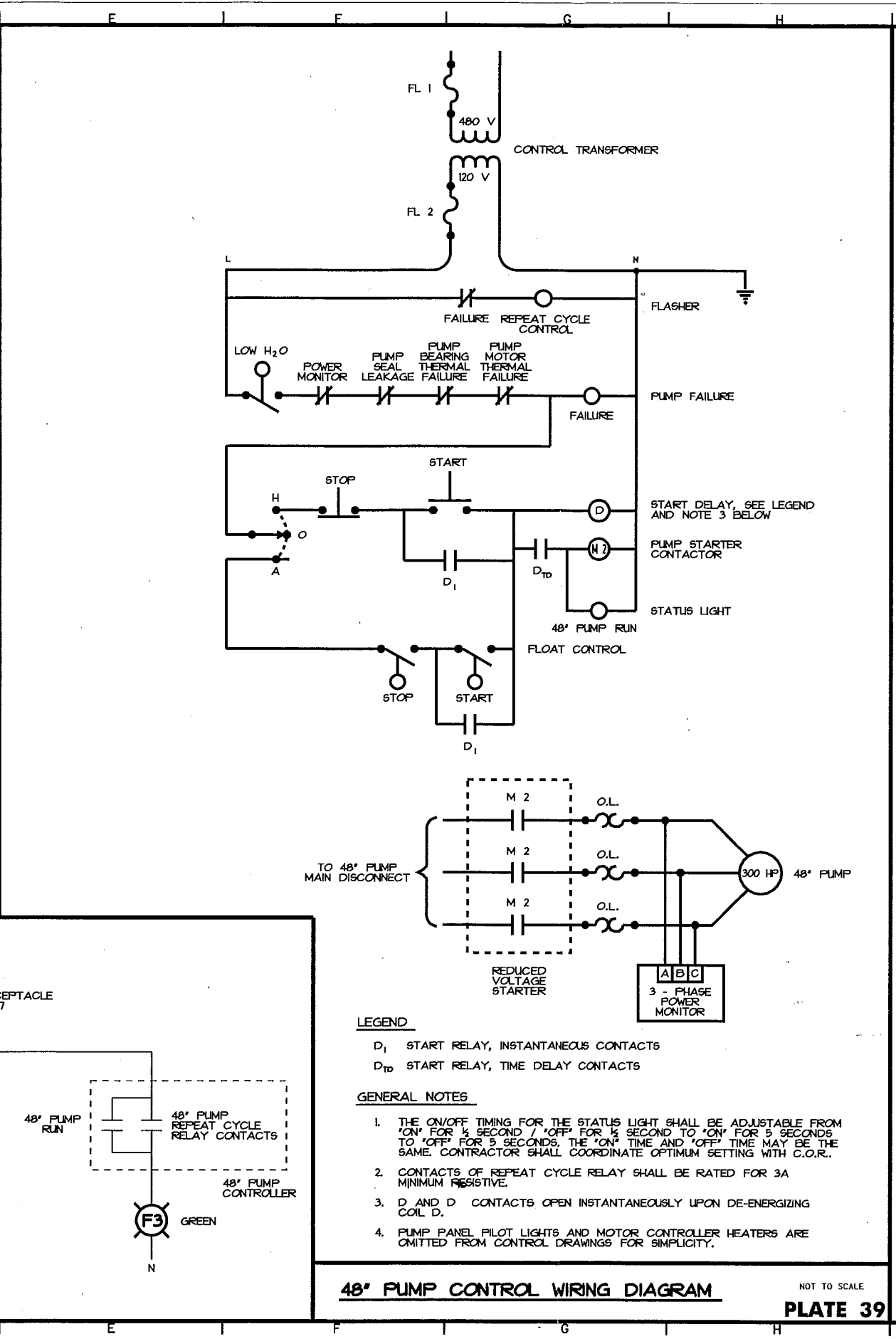
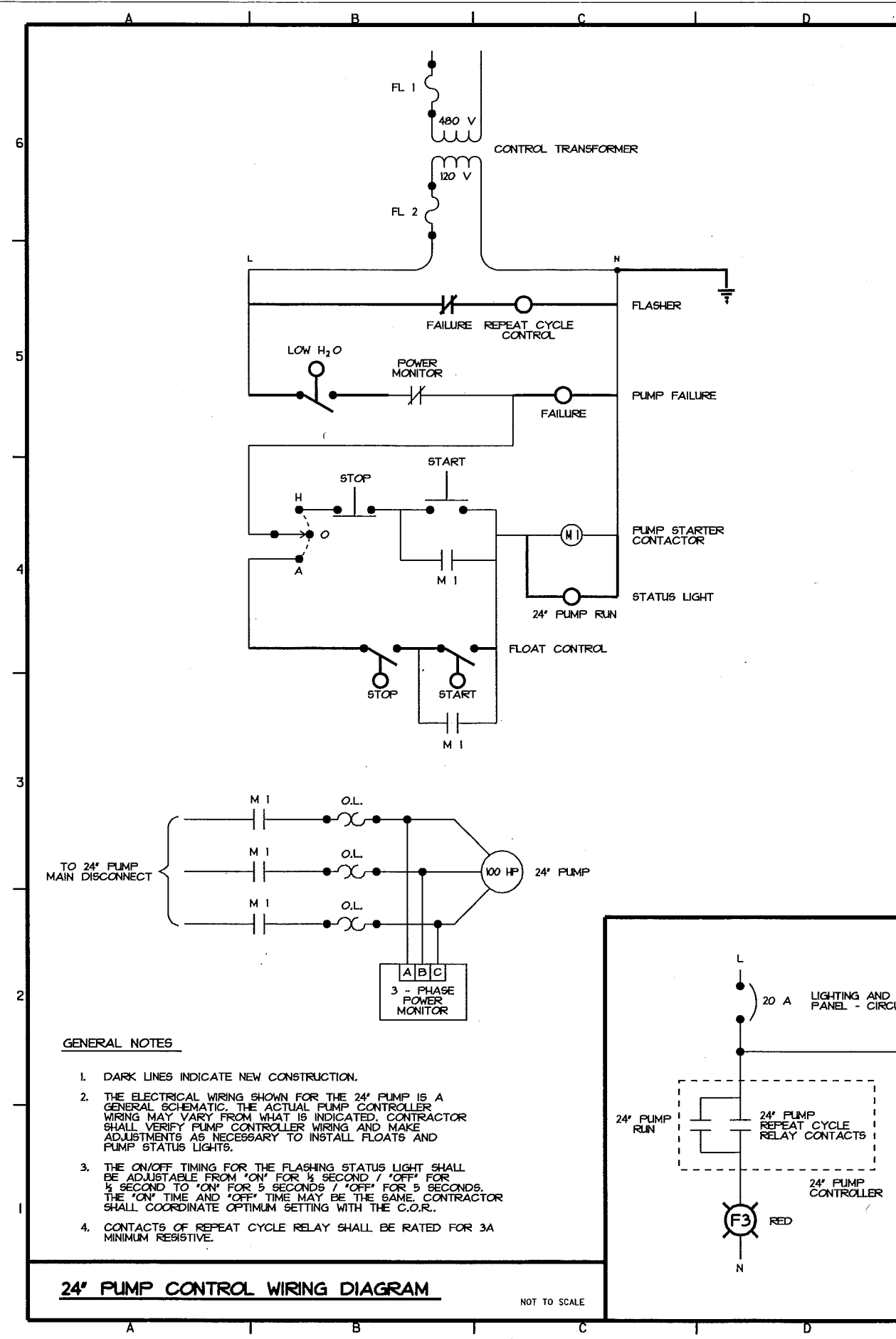
Symbol	Description	Revision
AS CONSTRUCTED		

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ILLINOIS WATERWAY PROGRAM
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E6
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ELECTRICAL ONE-LINE DIAGRAM



Project No.	30704 ILZ001
Revision	1
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Checked By	KJB
Reviewed By	BLK
Date	10/04/2004
Author	AS SHOWN
Checker	KJB
Reviewer	BLK

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Drawn By	TPD/SDB
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Salvage Number	04022-99-8-0001

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Sheet Reference Number:
E7
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