



DEPARTMENT OF THE ARMY
SAVANNAH DISTRICT, CORPS OF ENGINEERS
100 W. OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401-3640

REPLY TO
ATTENTION OF:

JULY 25 2016

Regulatory Division
SAS-2006-00598
SAS-2012-00778
SAS-2016-00263

JOINT PUBLIC NOTICE
Savannah District/State of Georgia

The Savannah District has received an application for a Department of the Army Permit, pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 403) and Section 404 of the Clean Water Act (33 U.S.C. § 1344), as follows:

Application Number: SAS-2006-00598; SAS-2012-00778; & SAS-2016-00263

Applicant: Dr. Hameed Malik
City of Augusta
505 Telfair Street
Augusta, Georgia 30901

Agent: Mr. Joe Carvitti
Environmental Resources Management
9825 Kenwood Road, Suite 100
Cincinnati, Ohio 45242

Location of Proposed Work: The project sites are located within Lake Aumond/Hiers Pond (Latitude 22.48017, Longitude -82.06456); Lake Olmstead (Latitude 33.4948, Longitude -82.0047); & Warren Lake (Latitude 33.5200, Longitude -82.0125) in Augusta, Richmond County, Georgia.

Description of Work Subject to the Jurisdiction of the U.S. Army Corps of Engineers:
The applicant is proposing to remove accumulated sediment and perform work within four lakes within the City of Augusta.

Lake Aumond/Hiers Pond/SAS-2012-00778

The applicant is proposing to remove 54,200 Cubic Yards (CYs) of accumulated sediment from Lake Aumond and 24,000 CYs of accumulated sediment from Hiers Pond. According to the applicant's agent, ERM, a diversion structure would be placed in the stream above Hiers Pond, to divert stream flow around both lakes, to the outfall below Lake Aumond. Stream flow diversion would be accomplished using an electric

pump and a 14 inch or larger pipe. Proposed dredging work would be performed in the dry by bulldozers, excavators, and backhoes.

All dredged material would be disposed of in an approved upland site or landfill. As proposed, the project would result in the dredging of 0.79 acre of emergent wetland, which is located in the area of the lake where sediment has accumulated. To offset the impacts to wetland, the applicant has proposed the purchase of 47.02 wetland credits from the Phinizy Swamp Mitigation Bank. The applicant is also proposing to maintain the Lake/Pond by dredging 4,000 CYs of material every 3-10 years. All maintenance dredged material would be disposed in an approved upland location.

Lake Olmstead/SAS-2016-00263

Lake Olmstead consists of two lakes (Upper Lake Olmstead and Lower Lake Olmstead); divided by Washington Road. As proposed, the applicant would remove 107,600 CYs of accumulated sediment from Upper Lake Olmstead and 133,000 CYs of accumulated sediment from Lower Lake Olmstead. All dredged material would be removed via a hydraulic cutterhead dredge and pumped to an open water borrow pit (i.e. the applicant's proposed disposal site). Effluent would be discharged from the proposed disposal site into a creek that is directly connected to the Augusta Canal.

As proposed, the dredging would impact 2.55 acres of wetland within Upper Lake Olmstead and 1.98 acres of wetland within Lower Lake Olmstead. These wetlands are also located in areas of the lakes where sediment has accumulated. To compensate for the proposed impacts, the applicant has proposed the purchase of 150.13 wetland credits from the Phinizy Swamp Mitigation Bank. The applicant is also proposing to maintain the lakes by dredging 12,000 CYs of material every 5-10 years. All maintenance dredged material would be disposed of in the same borrow pit as the initial dredged material. The applicant has also proposed the construction of a 20' x 20' pile supported canoe launch within Lower Lake Olmstead and the stabilization of 500 linear feet of the banks of Rae's Creek within Upper Lake Olmstead (see enclosures).

Warren Lake/SAS-2006-00598

The applicant is proposing to remove 118,535 CYs of accumulated sediment via a hydraulic cutterhead dredge. All dredged material would be pumped to an open water borrow pit (i.e. the applicant's proposed disposal site). The effluent generated would be discharged from the proposed disposal site into a creek that is directly connected to the Augusta Canal. A temporary dike would be installed between Warren Lake and the Canal during the dredging operation to prevent downstream migration of disturbed sediments.

As proposed, the dredging would impact 5.29 acres of wetland. These wetlands are also located in areas of the lake where sediment has accumulated. To compensate for

the proposed impacts, the applicant has proposed the purchase of 47.19 wetland credits from the Phinizy Swamp Mitigation Bank. The applicant is also proposing to maintain the Lake by dredging 6,000 CYs of material every 5-10 years. All maintenance dredged material would be disposed in the same borrow pit as the initial dredged material.

Borrow Pit (i.e. Applicant's proposed disposal site for Lake Olmstead and Warren Lake)

The borrow pit is 24.49 acres in size and depths range from several inches to 6'. The site is located across the Augusta Canal from Lake Olmstead, between the Savannah River and Riverwatch Parkway, in Augusta, Richmond County, Georgia (Latitude 33.5017, Longitude -81.9948). According to ERM, water in the pit comes from a leak in the Augusta Canal levee. The agent also stated that the borrow pit was dug during the construction of the Riverwatch Parkway and has been used in the past for disposal of dredged material from Lake Olmstead. Disposal of dredged material into the borrow pit from Lake Olmstead and Warren Lake would result in the fill of 2.81 acres of emergent wetland. To offset the loss in wetland, the applicant has proposed the purchase of 52.9 wetland credits from the Phinizy Swamp Mitigation Bank.

BACKGROUND

The four subject water bodies are all located in the northern portion of Richmond County within the City of Augusta. According to ERM, all of the areas proposed for dredging are located near the confluence of third and fourth order streams (Rae's Creek and Rock Creek) and the pool elevation of the Augusta Canal. Warren Lake, the northernmost lake of the four, is in the Rock Creek drainage basin, whereas the other three bodies are in the Rae's Creek drainage basin and on Rae's Creek. Rock Creek flows through the northern edge of Augusta in an easterly direction into the Augusta Canal. Rae's Creek also flows in an easterly direction into the Augusta Canal.

Hiers Pond/Lake Aumond

Hiers Pond is located just upstream of Lake Aumond, south of Lake Forest Drive (latitude 22.48017, longitude -82.06456). Lake Aumond is located south of Walton Way between Camelia Road and Quail Court (latitude 33.4835, longitude -82.06124). With the exception of two unbuildable lots on the northeast end of Lake Aumond, the water bodies are surrounded by suburban housing developments and public roads. Hiers Pond and Lake Aumond were once owned by neighborhood associations. Currently the waterbodies are owned by the Augusta-Richmond County (ARC) and used for stormwater detention and flood control. Water in Rae's Creek flows through Hiers Pond and then flows approximately 800 feet eastward into Lake Aumond. Overflow from

Lake Aumond eventually flows into the upper portion of Lake Olmstead before ultimately joining the Augusta Canal.

Hiers Pond is actually two small ponds owned since 1991 by ARC. The lower portion was built in 1979 by Bill Gaskins, and the upper pond was developed in 1989 by Bill Hiers. The pond is currently surrounded by residential housing. Hiers Pond has no known history of dredging. Lake Aumond, (i.e. Judge Hammond's Pond and Murry's Pond), was formed when the dam was constructed in 1812. A narrow water passage between the two distinct water areas is formed by the remnants of the earthen embankment of Barton's Mill dam. The lake went through many construction changes and was rebuilt in 1891. The lake was dredged in 1974 and again in 1989 as an agreement between the owner at the time (Gaskins) and the County. The County government purchased the lake in 1991 to serve as a regional stormwater detention facility. Lake Aumond was last desilted in 1989.

Warren Lake

Warren Lake and Lake Olmstead were both constructed in 1870 as part of the expansion of the Augusta Canal. Warren Lake lies at the confluence of Rock Creek and the Augusta Canal. Currently, much of the Lake is an emergent wetland dominated by giant cutgrass (*Zizaniopsis miliacea*). The surrounding area is undeveloped, however current site conditions exhibit evidence of illegal garbage dumping.

Lake Olmstead

Lake Olmstead is divided into two discrete sections separated by Washington Road. The lower portion flows directly into the Augusta Canal. Much of Lake Olmstead is surrounded by residential housing. The southern side of lower Lake Olmstead is bounded by Lakeview Park, a city park and public recreation area. According to ERM, Lake Olmstead was last dredged during the spring of 1993 when approximately 57,000 cubic yards (yd³) of sediment was removed from the same upper and lower reaches as proposed for this project. That work was conducted in response to a greater than 200-year event resulting when tropical storms Klaus and Marco stalled over the Augusta area in October 1990. Dredging was conducted without draining or lowering the lake water level using a floating, hydraulic pipeline cutter head dredge. Dredged material was pumped as a water/sediment slurry to an unused soil borrow pit adjacent to River Watch Parkway, about 8,500 feet northeast of the lake. This same borrow pit is the proposed disposal location for the proposed Warren Lake and Lake Olmstead dredging.

The applicant sampled and tested the sediments to be dredged from the existing lakes in accordance with the Inland Testing Manual. In November 2015, the applicant's agent, ERM, submitted a report entitled "City of Augusta, Sediment Sampling Plan, Final Report." Currently, the report is being reviewed and evaluated by the Corps.

This Joint Public Notice announces a request for authorizations from both the U.S. Army Corps of Engineers and the State of Georgia. The applicant's proposed work may also require local governmental approval.

STATE OF GEORGIA

Water Quality Certification: The Georgia Department of Natural Resources, Environmental Protection Division, intends to certify this project at the end of 30 days in accordance with the provisions of Section 401 of the Clean Water Act, which is required for a Federal Permit to conduct activity in, on, or adjacent to the waters of the State of Georgia. Copies of the application and supporting documents relative to a specific application will be available for review and copying at the office of the Georgia Department of Natural Resources, Environmental Protection Division, Watershed Protection Branch, 2 MLK Jr. Drive, Suite 418, Atlanta, Georgia 30334, during regular office hours. A copier machine is available for public use at a charge of 10 cents per page. All coastal projects are filed at our Brunswick office and will need to be requested from Mr. Bradley Smith at Bradley.Smith@dnr.ga.gov. Any person who desires to comment, object, or request a public hearing relative to State Water Quality Certification must do so within 30 days of the State's receipt of application in writing and state the reasons or basis of objections or request for a hearing. The application can be reviewed in the Savannah District, U.S. Army Corps of Engineers, Regulatory Division, 100 W. Oglethorpe Avenue Savannah, Georgia 31401-3640.

State-owned Property and Resources: The applicant may also require assent from the State of Georgia, which may be in the form of a license, easement, lease, permit or other appropriate instrument.

U.S. ARMY CORPS OF ENGINEERS

The Savannah District must consider the purpose and the impacts of the applicant's proposed work, prior to a decision on issuance of a Department of the Army Permit.

Cultural Resources Assessment: Review of the latest published version of the National Register of Historic Places indicates that no registered properties or properties listed as eligible for inclusion are located at the site or in the area affected by the proposed work. Presently unknown archaeological, scientific, prehistorical or historical data may be located at the site and could be affected by the proposed work.

Endangered Species: Pursuant to Section 7(c) of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 et seq.), we request information from the U.S. Department of the Interior, Fish and Wildlife Service, the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine

Fisheries Service; or, any other interested party, on whether any species listed or proposed for listing may be present in the area.

Public Interest Review: The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and in general, the needs and welfare of the people.

Consideration of Public Comments: The U.S. Army Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Native American Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the U.S. Army Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Application of Section 404(b)(1) Guidelines: The proposed activity involves the discharge of dredged or fill material into the waters of the United States. The Savannah District's evaluation of the impact of the activity on the public interest will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency, under the authority of Section 404(b) of the Clean Water Act.

Public Hearing: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application for a Department of the Army permit. Requests for public hearings shall state, with particularity, the reasons for requesting a public hearing. The decision whether to hold a public hearing is at the discretion of the District Engineer, or his designated appointee, based on the need for additional substantial information necessary in evaluating the proposed project.

Comment Period: Anyone wishing to comment on this application for a Department of the Army Permit should submit comments in writing to the Commander, U.S. Army Corps of Engineers, Savannah District, Attention: Sarah E. Wise, 100 W. Oglethorpe Avenue Savannah, Georgia 31401-3640, no later than 30 days from the date of this notice. Please refer to the applicant's name and the application number in your comments.

If you have any further questions concerning this matter, please contact Sarah E. Wise, Project Manager, Coastal Branch at 912-652-5550.

Enclosure

1. Wetland Master Plan For Warren Lake, Lake Olmstead, Aumond Lake & Hiers Pond, Augusta, Richmond County, Georgia, Prepared for the City of Augusta Engineering Department, Augusta, Richmond County, Georgia," dated July 1, 2016. (Sheets 1-60)

**WETLANDS
MASTER PLAN
FOR**

**WARREN LAKE, LAKE OLMSTEAD,
AUMOND LAKE & HIERS POND**

AUGUSTA, RICHMOND COUNTY, GEORGIA

PREPARED FOR

**THE CITY OF AUGUSTA
ENGINEERING DEPARTMENT
AUGUSTA, RICHMOND COUNTY, GEORGIA**

PREPARED BY



Cranston Engineering Group, P.C.

ENGINEERS - PLANNERS - SURVEYORS

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mail@cranstonengineering.com

ENVIRONMENTAL CONSULTANTS:

**SIMKINS ENVIRONMENTAL CONSULTING, LLC
BEAUFORT, SOUTH CAROLINA
ERM, CINCINNATI, OHIO**

**WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA**



COVER SHEET

APRIL 15, 2016
REV. 2/19/16
REV. 7/1/16

SHEET 1 OF 60

WETLANDS MASTER PLAN

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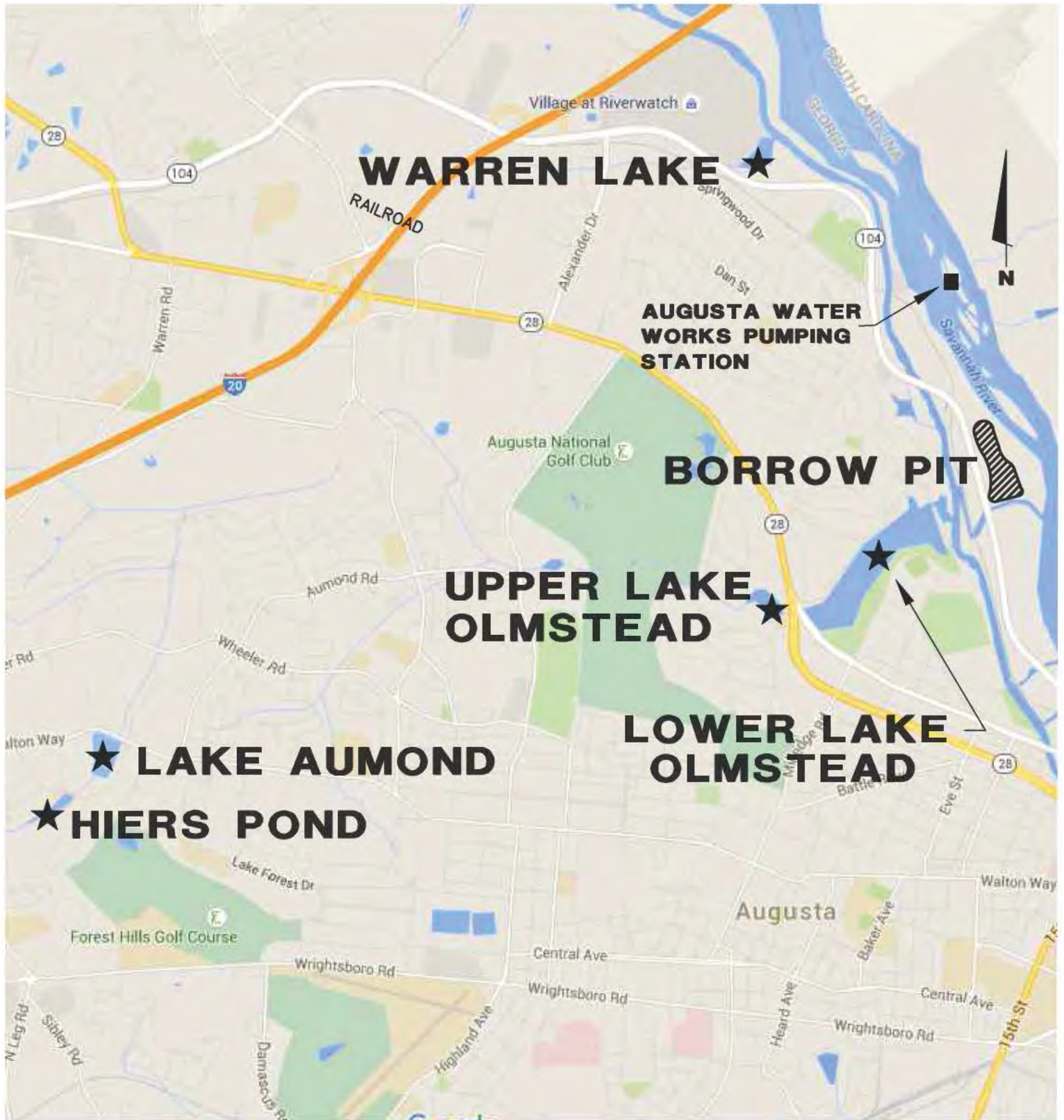


WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



VICINITY MAP

SCALE: N.T.S.
APRIL 15, 2011
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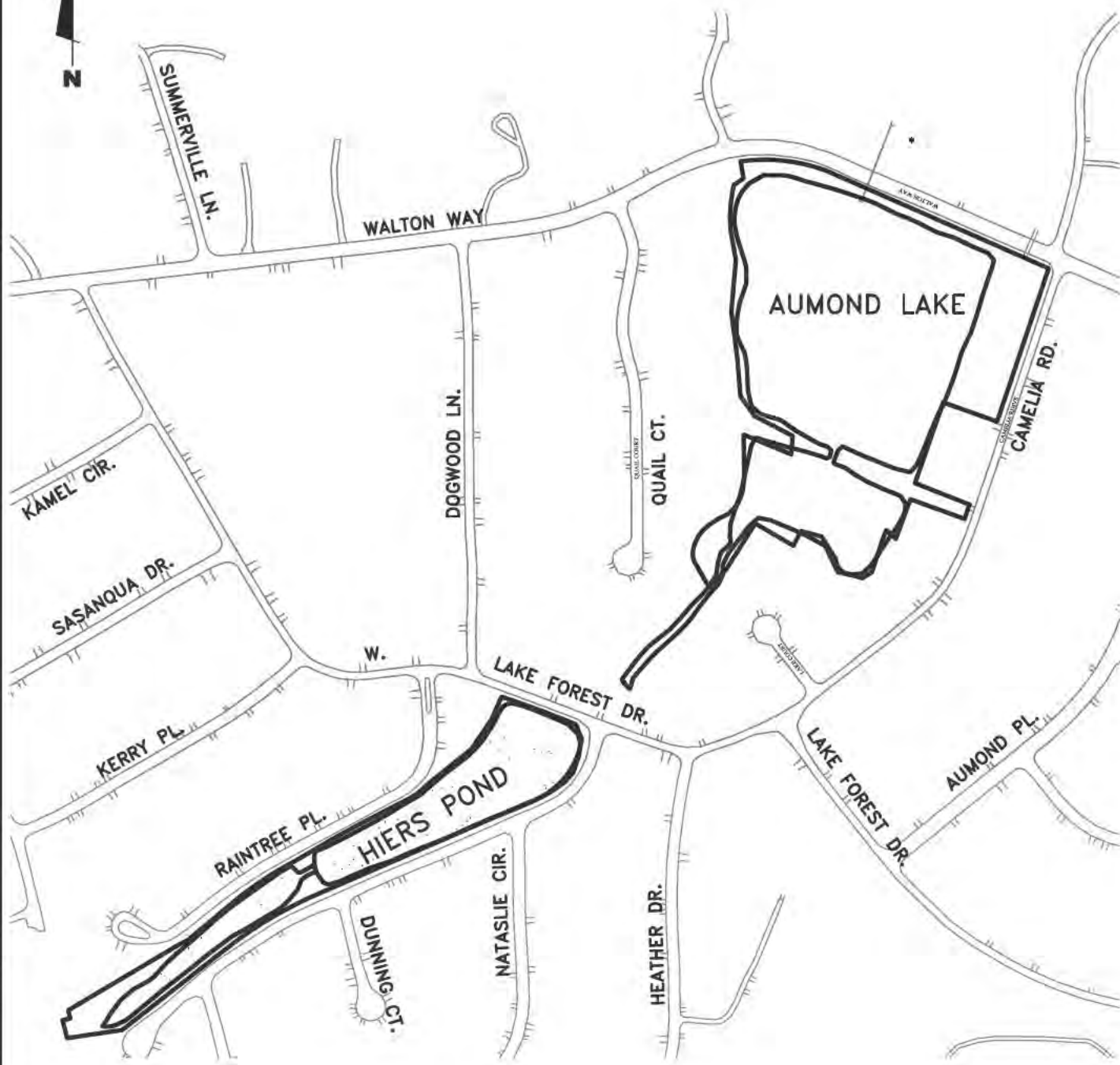


WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



LOCATION MAP

SCALE: N.T.S.
 APRIL 15, 2011
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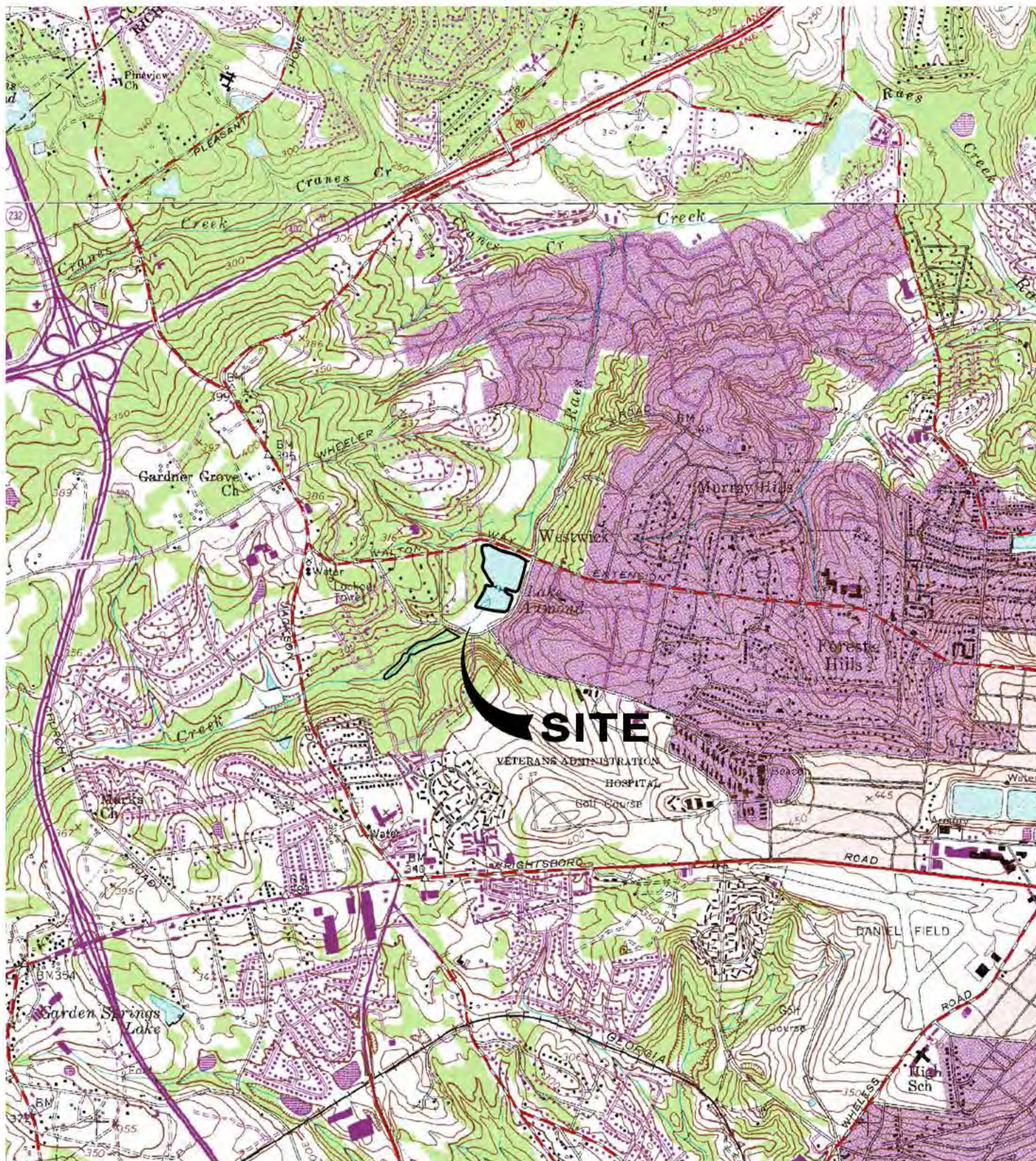
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SCALE IN FEET

WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



OVERALL PLAN –
HIERS POND & LAKE
AUMOND

SCALE: 1" = 400'
OCTOBER 1, 2011
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2000 1000 0 2000 4000

SCALE IN FEET

WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



USGS QUAD SHEET —
HIERS POND & LAKE
AUMOND

SCALE: 1" = 2000'
 OCTOBER 1, 2016
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 REV. 7/1/16
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PROJECT DATA

| | LAKE AUMOND | HIERS POND | TOTAL |
|--------------------------------|-------------|------------|----------|
| TOTAL PROJECT BOUNDARY (ACRES) | 14.05 AC | 4.62 AC | 18.67 AC |

WATERS OF THE U.S.

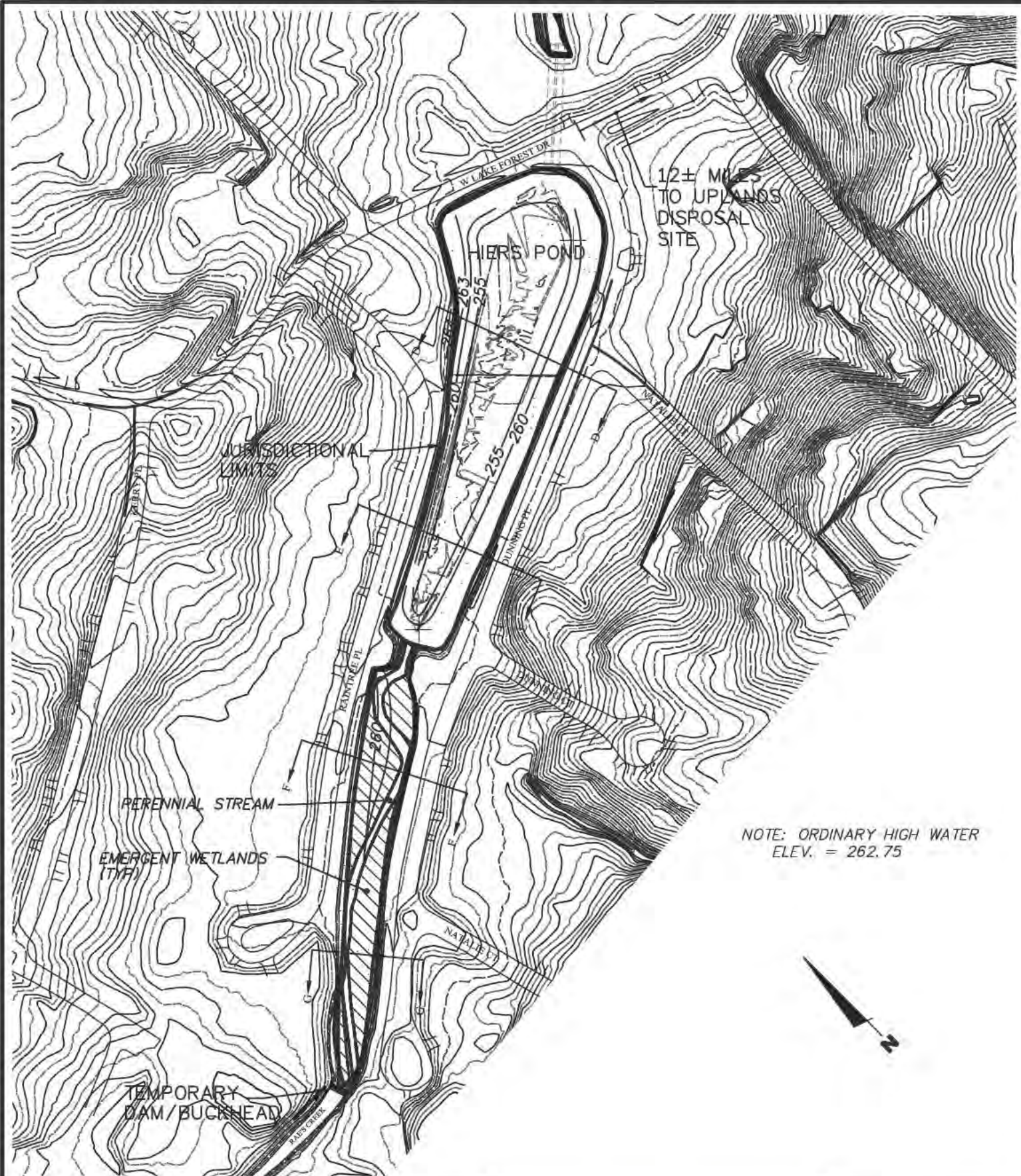
| | LAKE AUMOND | HIERS POND | TOTAL |
|---------------------------------|-----------------|----------------|----------------|
| EMERGENT WETLANDS (ACRES) | 0 AC | 0.79 AC | 0.79 AC |
| OPEN WATERS (ACRES) | 11.05 AC | 2.86 AC | 13.91 AC |
| TOTAL W.O.T.U.S. (ACRES) | 11.05 AC | 3.65 AC | 14.7 AC |

IMPACTS TO WATERS OF THE U.S.

| | LAKE AUMOND | HIERS POND | TOTAL |
|---|----------------|----------------|-----------------|
| DREDGING QUANTITY (C.Y.) | 54192 C.Y. | 24000 C.Y. | 78192 C.Y. |
| FILL (PERMANENT) (C.Y.) | 0 C.Y. | 0 C.Y. | 0 C.Y. |
| FILL (TEMPORARY) (C.Y.) | 0 C.Y. | 40 C.Y. | 40 C.Y. |
| TOTAL FILL (C.Y.) | 0 C.Y. | 40 C.Y. | 40 C.Y. |
| WETLANDS IMPACTS (ACRES) | 0 AC | 0.79 AC | 0.79 AC |
| OPEN WATER IMPACTS (ACRES) | 9.85 AC | 2.86 AC | 12.71 AC |
| FILL (PERMANENT) (ACRES) | 0 AC | 0 AC | 0 AC |
| FILL (TEMPORARY) (ACRES) | 0 AC | 0.01 AC | 0.01 AC |
| TOTAL W.O.T.U.S. IMPACTS (ACRES) | 9.85 AC | 3.66 AC | 13.51 AC |

MITIGATION

| | LAKE AUMOND | HIERS POND | TOTAL |
|--------------|-------------|------------|-------|
| BANK CREDITS | 33.49 | 13.53 | 47.02 |

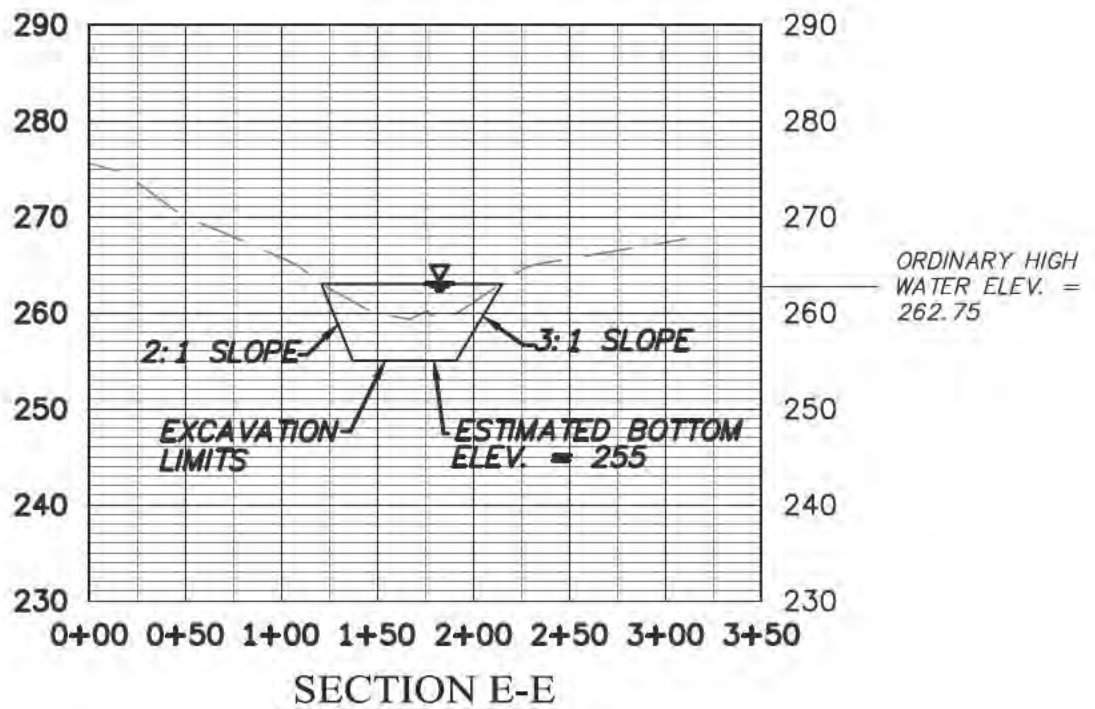
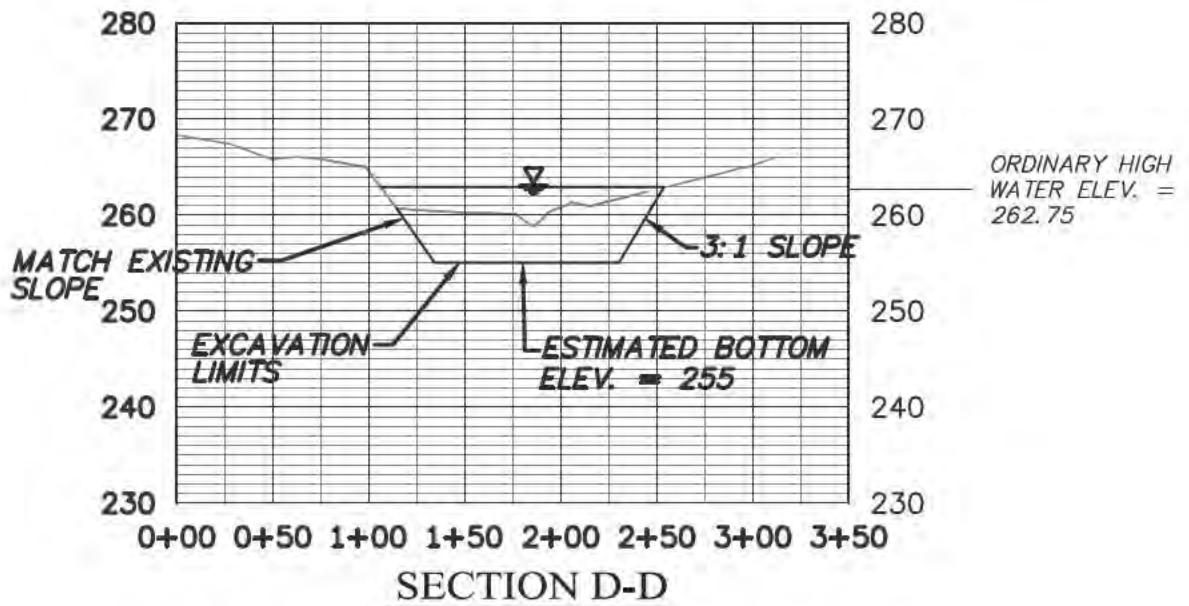


WETLANDS MASTER PLAN
WARREN LAKE DREDGING
 AUGUSTA, RICHMOND COUNTY, GEORGIA



HIERS POND
GRADING PLAN

SCALE: 1" = 200'
 OCTOBER 1, 2011
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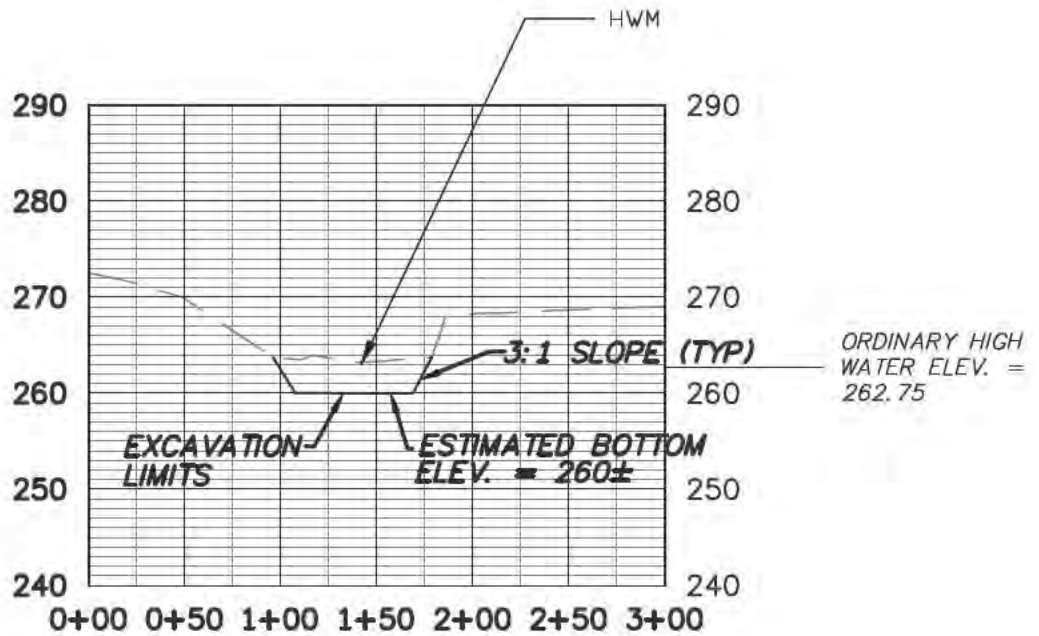


WETLANDS MASTER PLAN
WARREN LAKE DREDGING
 AUGUSTA, RICHMOND COUNTY, GEORGIA

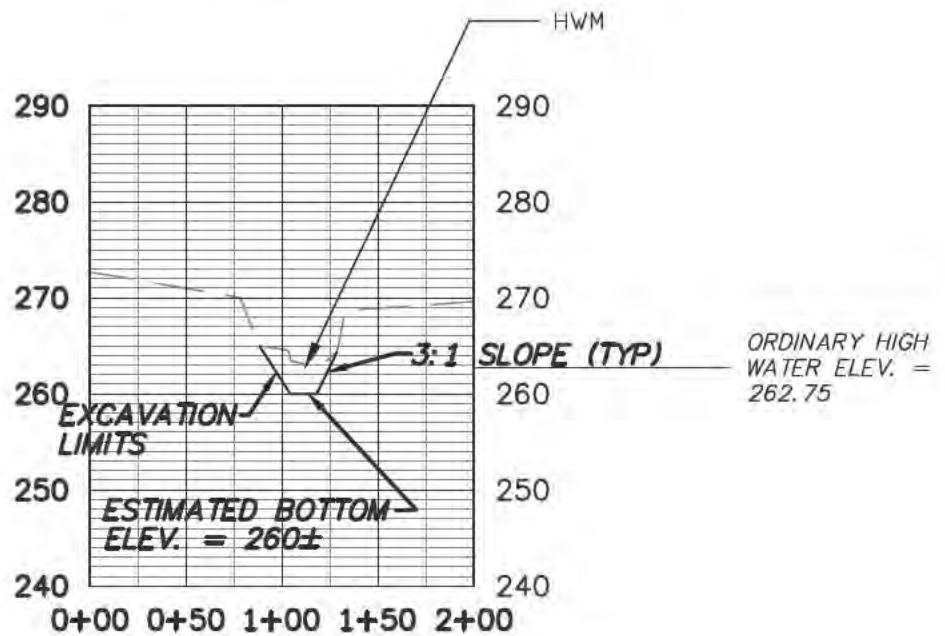


HIERS POND
 CROSS-SECTIONS
 D-D, E-E

SCALE: VERT.: 1" = 20'
 HORIZ.: 1" = 100'
 OCTOBER 1, 2011
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SECTION F-F



SECTION G-G

WETLANDS MASTER PLAN
WARREN LAKE DREDGING
 AUGUSTA, RICHMOND COUNTY, GEORGIA



HIERS POND
CROSS-SECTIONS
F-F, G-G

SCALE: VERT.: 1" = 20'
 HORIZ.: 1" = 100'
 OCTOBER 1, 2011
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LAT=N33°28'42.67"
LONG=W82°04'04.18"

EMERGENT
WETLANDS

PROJECT
BOUNDARY

LAT=N33°28'50.61"
LONG=W82°03'49.75"

OPEN
WATER

LAT=N33°28'48.06"
LONG=W82°03'54.47"

EMERGENT
WETLANDS

WATERS OF
THE U.S.
LIMITS
(TYP)

AREA NOTES:

EMERGENT WETLANDS: 0.79 AC.

OPEN WATER: 2.86 AC.

TOTAL AREA OF U.S. WATERS: 3.65 AC.

PROJECT AREA: 4.62 AC.



WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



**HIRES POND
JURISDICTIONAL
DELINEATION**

SCALE: 1" = 250'
APRIL 15, 2011
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REV. 7/1/16
SHEET 11 OF 60

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1 | N56°17'47"W | 20.92 |
| L2 | N45°01'48"E | 57.94 |
| L3 | N44°06'12"E | 40.03 |
| L4 | N47°29'35"E | 70.50 |
| L5 | N49°03'49"E | 61.70 |
| L6 | N47°46'36"E | 93.76 |
| L7 | N49°43'08"E | 62.87 |
| L8 | N52°11'20"E | 111.38 |
| L9 | N52°14'15"E | 70.17 |
| L10 | N56°29'45"E | 88.26 |
| L11 | S41°25'13"E | 17.42 |
| L12 | S86°01'16"E | 24.70 |
| L13 | N54°46'58"E | 32.91 |
| L14 | N02°13'26"E | 31.16 |
| L15 | N63°36'36"E | 129.28 |
| L16 | N59°02'13"E | 123.67 |
| L17 | N61°15'45"E | 66.67 |
| L18 | N48°28'43"E | 66.84 |
| L19 | N53°44'17"E | 72.48 |
| L20 | N45°44'19"E | 68.52 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L21 | N33°46'13"E | 69.63 |
| L22 | N32°07'33"E | 45.83 |
| L23 | N69°55'29"E | 19.10 |
| L24 | S73°39'06"E | 79.04 |
| L25 | S69°27'26"E | 64.14 |
| L26 | S41°55'01"E | 73.23 |
| L27 | S03°35'16"W | 31.61 |
| L28 | S14°47'10"W | 30.23 |
| L29 | S29°45'29"W | 47.76 |
| L30 | S55°34'15"W | 88.19 |
| L31 | S66°49'57"W | 58.79 |
| L32 | S67°26'42"W | 93.10 |
| L33 | S68°06'33"W | 71.82 |
| L34 | S65°41'07"W | 120.94 |
| L35 | S67°43'27"W | 106.49 |
| L36 | S68°52'19"W | 109.23 |
| L37 | S73°36'53"W | 49.70 |
| L38 | N32°51'01"W | 38.84 |
| L39 | S66°38'47"W | 29.28 |
| L40 | S52°10'50"W | 33.85 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L41 | S30°47'14"W | 27.57 |
| L42 | S43°55'00"W | 31.86 |
| L43 | S44°22'53"W | 37.53 |
| L44 | S59°32'40"W | 96.54 |
| L45 | S63°18'30"W | 32.39 |
| L46 | S58°58'28"W | 33.88 |
| L47 | S52°29'27"W | 78.39 |
| L48 | S47°48'24"W | 74.88 |
| L49 | S49°55'33"W | 66.22 |
| L50 | S54°43'53"W | 23.70 |
| L51 | S58°50'00"W | 38.01 |
| L52 | S49°40'58"W | 49.55 |
| L53 | S67°07'26"W | 48.86 |
| L1035 | N71°21'14"E | 17.94 |
| L1036 | N64°24'13"E | 20.87 |
| L1037 | N47°28'59"E | 44.93 |
| L1038 | N36°21'35"E | 29.24 |
| L1039 | N16°22'14"E | 20.86 |
| L1040 | N64°43'46"E | 25.95 |
| L1041 | N13°41'30"E | 13.75 |

WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



HIERS POND
JURISDICTIONAL
DELINEATION CHART

APRIL 15, 2011
REV. 2/19/16
REV. 7/1/16

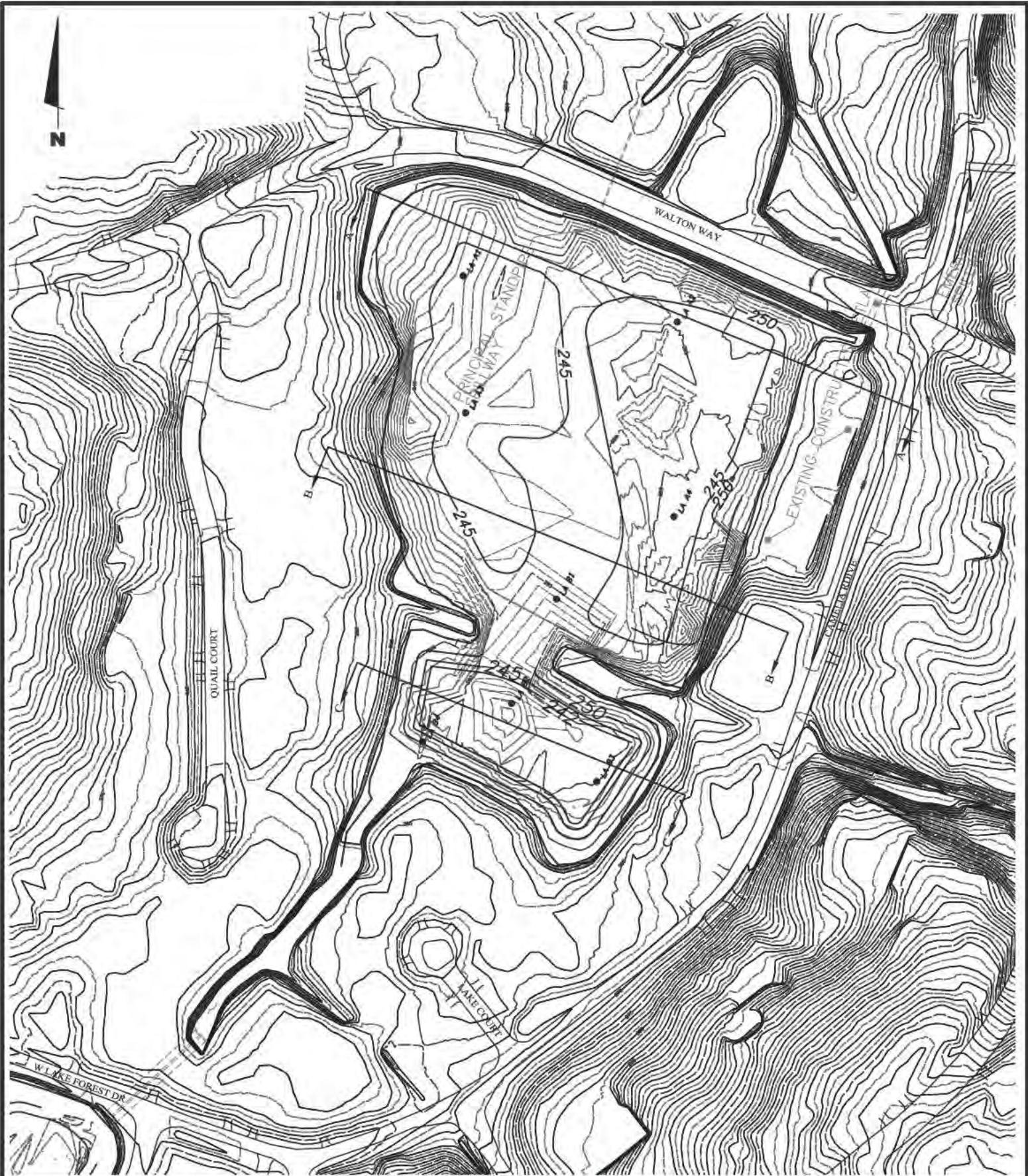
SHEET 12 OF 60

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1042 | N47°45'52"E | 36.04 |
| L1043 | N43°29'26"E | 23.49 |
| L1044 | N38°35'10"E | 36.24 |
| L1045 | N43°44'14"E | 34.67 |
| L1046 | N50°54'13"E | 38.65 |
| L1047 | N65°04'43"E | 33.94 |
| L1048 | N71°36'39"E | 21.37 |
| L1049 | N86°34'01"E | 25.10 |
| L1050 | N63°10'43"E | 26.98 |
| L1051 | N57°57'40"E | 28.58 |
| L1052 | N52°22'48"E | 42.20 |
| L1053 | N64°35'45"E | 34.75 |
| L1054 | N11°50'13"E | 34.12 |
| L1055 | N39°35'39"E | 58.57 |
| L1056 | N60°52'41"E | 21.34 |
| L1057 | S87°11'39"E | 39.12 |
| L1058 | N57°18'05"E | 15.40 |
| L1059 | N50°40'08"E | 31.32 |
| L1060 | N24°52'19"E | 18.62 |
| L1061 | N36°53'12"E | 31.30 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1062 | S73°46'35"W | 48.25 |
| L1063 | S69°47'55"W | 51.02 |
| L1064 | S81°28'42"W | 63.35 |
| L1065 | N32°06'58"W | 30.38 |
| L1066 | S54°49'42"W | 51.44 |
| L1067 | N65°17'27"W | 22.48 |
| L1068 | S70°26'27"W | 23.40 |
| L1069 | S48°59'35"W | 45.60 |
| L1070 | S38°22'48"E | 5.08 |
| L1071 | S26°40'47"E | 24.10 |
| L1072 | S17°09'47"W | 29.65 |
| L1073 | S65°49'25"W | 25.82 |
| L1074 | S58°17'38"W | 17.68 |
| L1075 | N12°59'25"W | 4.89 |
| L1076 | N34°00'08"E | 13.13 |
| L1077 | N49°24'05"W | 4.71 |
| L1078 | S70°15'02"W | 39.36 |
| L1079 | S53°19'38"W | 21.92 |
| L1080 | S41°27'08"W | 21.74 |
| L1081 | S72°52'54"W | 23.55 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1082 | S77°37'20"W | 34.52 |
| L1083 | S65°11'16"W | 51.21 |
| L1084 | S46°41'18"W | 51.53 |
| L1085 | S43°41'12"W | 82.50 |
| L1086 | S36°59'58"W | 46.75 |
| L1087 | S55°09'01"W | 28.23 |
| L1088 | S11°04'05"W | 14.82 |
| L1089 | S35°34'33"W | 24.80 |
| L1090 | S49°40'58"W | 37.34 |
| L1092 | N16°20'52"W | 12.60 |
| L1093 | N07°39'55"E | 41.94 |
| L1094 | N46°22'46"E | 26.90 |
| L1095 | S73°41'35"E | 21.83 |
| L1096 | N50°52'30"E | 35.03 |
| L1097 | S88°08'59"E | 21.15 |
| L1098 | N37°03'04"E | 21.62 |
| L1099 | S06°00'00"E | 51.31 |
| L1100 | S49°31'40"W | 23.52 |
| L1101 | S66°16'37"W | 21.46 |
| L1102 | S71°14'02"W | 17.46 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1103 | S62°38'22"W | 23.38 |
| L1104 | S81°11'10"W | 19.17 |
| L1105 | S55°37'31"W | 18.66 |



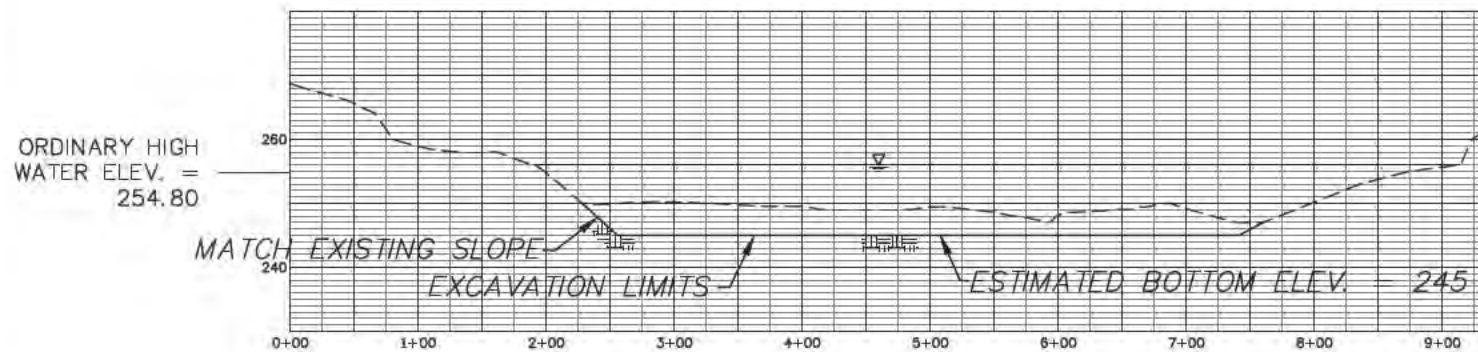
WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



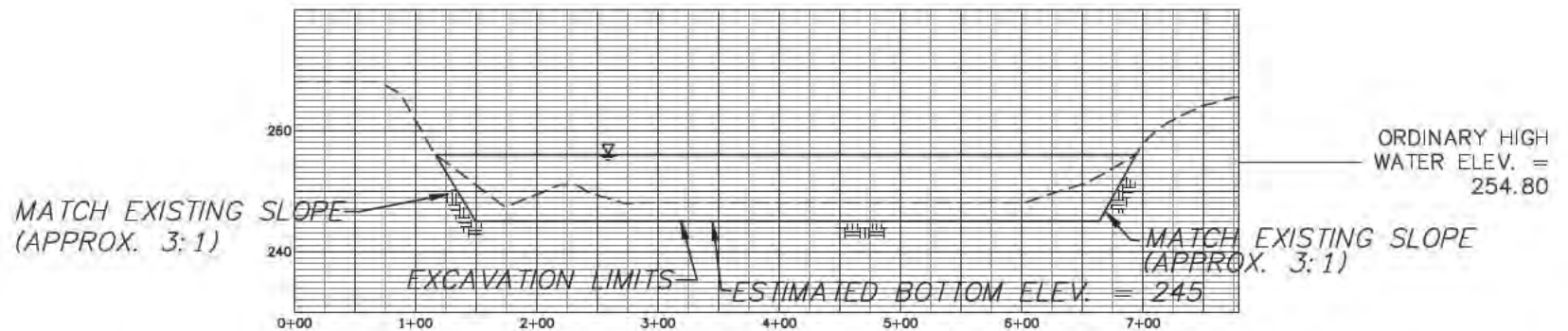
AUMOND LAKE
GRADING PLAN

SCALE: 1" = 200'
 OCTOBER 1, 2011
 REV. 2/19/16
 REV. 7/1/16
 SHEET 14 OF 60

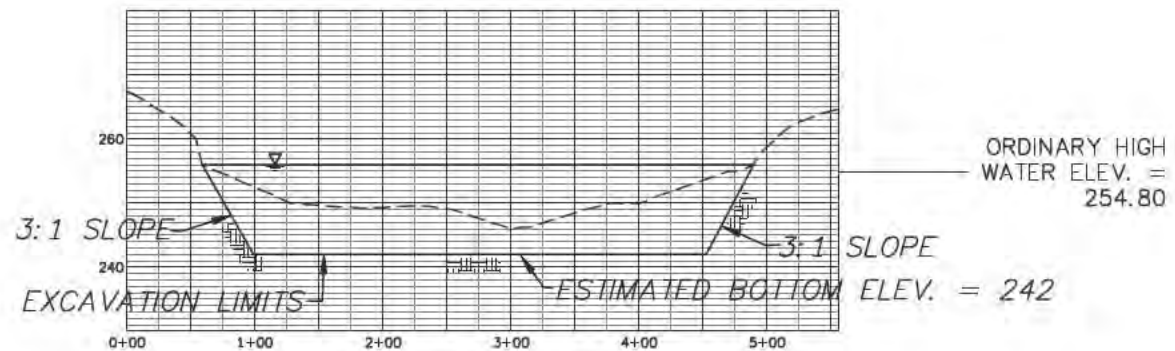
WETLANDS MASTER PLAN
WARREN LAKE DREDGING
 AUGUSTA, RICHMOND COUNTY, GEORGIA



SECTION A-A



SECTION B-B



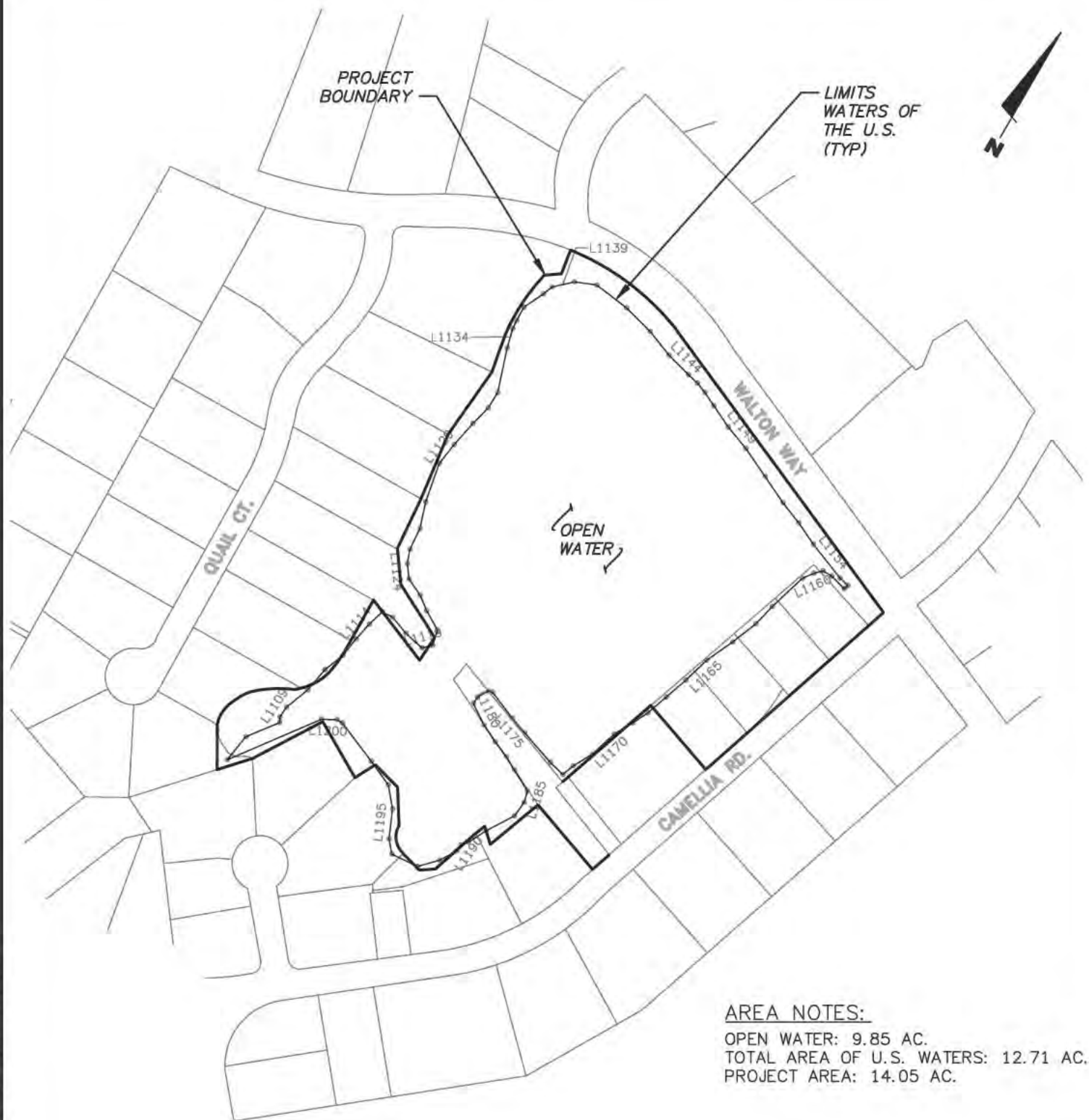
SECTION C-C

AUMOND LAKE
 CROSS SECTIONS
 A-A, B-B, C-C

SCALE: VERT.: 1" = 30'
 HORIZ.: 1" = 150'

OCTOBER 1, 2011
 REV. 2/19/16
 REV. 7/1/16

SHEET 15 OF 60



AREA NOTES:

OPEN WATER: 9.85 AC.

TOTAL AREA OF U.S. WATERS: 12.71 AC.

PROJECT AREA: 14.05 AC.



WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



AUMOND LAKE JURISDICTIONAL DELINEATION

SCALE: 1" = 250'
APRIL 15, 2011
REV. 2/19/16
REV. 7/1/16
SHEET 16 OF 60

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1106 | N09°07'49"E | 53.62 |
| L1107 | N37°16'06"E | 66.00 |
| L1108 | N28°52'09"W | 10.08 |
| L1109 | N03°48'16"E | 21.16 |
| L1110 | N20°58'01"E | 48.73 |
| L1111 | N10°26'17"E | 48.21 |
| L1112 | N21°20'49"E | 41.59 |
| L1113 | N08°25'45"E | 38.40 |
| L1114 | N12°02'14"E | 35.09 |
| L1115 | N16°43'04"E | 32.32 |
| L1116 | N87°43'16"E | 20.72 |
| L1117 | S69°38'26"E | 37.16 |
| L1118 | S77°11'23"E | 39.76 |
| L1119 | N45°59'07"E | 19.53 |
| L1120 | N12°17'03"W | 28.92 |
| L1121 | N58°34'58"W | 40.32 |
| L1122 | N53°18'23"W | 29.73 |
| L1123 | N64°16'55"W | 35.49 |
| L1124 | N35°50'11"W | 28.24 |
| L1125 | N19°47'34"W | 25.66 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1126 | N04°10'42"W | 42.08 |
| L1127 | N18°08'37"W | 48.44 |
| L1128 | N10°37'44"W | 73.62 |
| L1129 | N08°43'36"E | 42.87 |
| L1130 | N11°32'57"E | 50.75 |
| L1131 | N14°46'35"E | 39.20 |
| L1132 | N01°25'01"E | 32.67 |
| L1133 | N17°59'08"W | 81.86 |
| L1134 | N13°42'56"W | 36.48 |
| L1135 | N04°35'21"W | 16.09 |
| L1136 | N01°54'38"W | 27.05 |
| L1137 | N25°58'57"E | 43.10 |
| L1138 | N20°40'35"E | 19.23 |
| L1139 | N47°19'51"E | 41.59 |
| L1140 | N67°51'07"E | 40.28 |
| L1141 | S82°42'32"E | 67.62 |
| L1142 | S74°48'28"E | 59.86 |
| L1143 | S68°28'33"E | 54.32 |
| L1144 | S75°09'13"E | 49.60 |
| L1145 | S76°03'03"E | 22.52 |

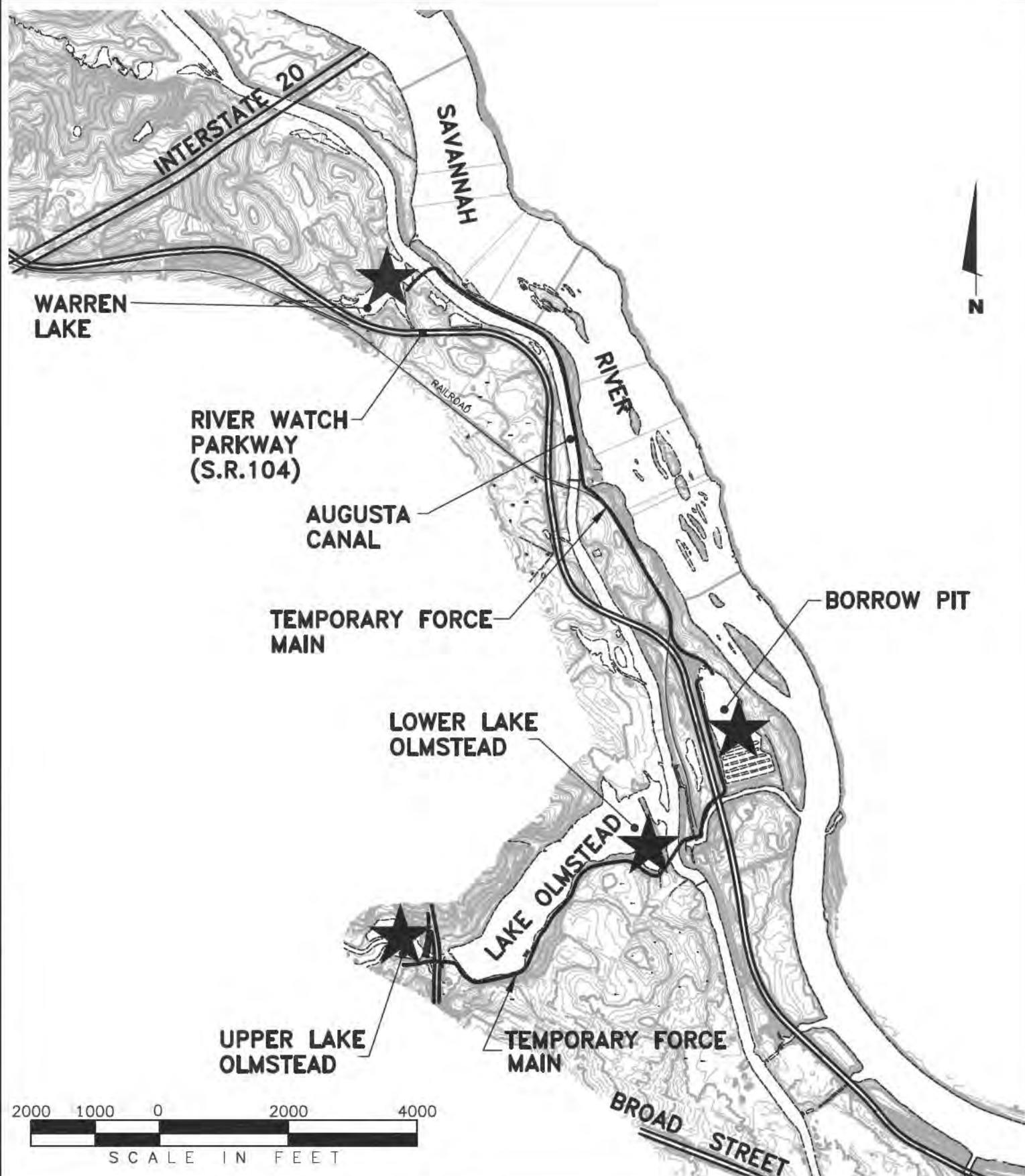
| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1146 | S69°09'20"E | 21.27 |
| L1147 | S63°08'55"E | 29.18 |
| L1148 | S64°27'08"E | 45.99 |
| L1149 | S69°30'06"E | 49.89 |
| L1150 | S64°24'40"E | 61.21 |
| L1151 | S63°58'22"E | 56.98 |
| L1152 | S68°20'32"E | 46.11 |
| L1153 | S64°34'40"E | 46.33 |
| L1154 | S68°02'45"E | 77.44 |
| L1155 | S76°49'04"E | 19.90 |
| L1156 | S23°13'53"W | 8.96 |
| L1157 | N74°09'21"W | 31.32 |
| L1158 | N89°02'55"W | 18.49 |
| L1159 | S44°33'24"W | 17.18 |
| L1160 | S37°03'40"W | 22.48 |
| L1161 | S16°40'09"W | 74.14 |
| L1162 | S13°13'19"W | 43.04 |
| L1163 | S22°34'12"W | 52.89 |
| L1164 | S24°36'45"W | 56.99 |
| L1165 | S16°09'41"W | 51.99 |

Line Table

| Line # | Direction | Length |
|--------|-------------|--------|
| L1166 | S19°34'43"W | 46.71 |
| L1167 | S19°13'56"W | 43.38 |
| L1168 | S25°49'22"W | 32.00 |
| L1169 | S28°59'23"W | 39.86 |
| L1170 | S17°31'18"W | 53.42 |
| L1171 | S28°48'13"W | 39.96 |
| L1172 | S20°05'12"W | 24.53 |
| L1173 | N75°42'06"W | 31.34 |
| L1174 | N70°46'31"W | 70.50 |
| L1175 | N70°02'16"W | 34.87 |
| L1176 | N67°14'08"W | 58.62 |
| L1177 | S70°37'01"W | 7.64 |
| L1178 | S30°51'33"W | 22.53 |
| L1179 | S01°19'15"W | 13.28 |
| L1180 | S55°52'48"E | 43.26 |
| L1181 | S63°58'25"E | 36.01 |
| L1182 | S66°52'14"E | 33.55 |
| L1183 | S60°50'36"E | 27.32 |
| L1184 | S61°52'45"E | 45.41 |
| L1185 | S12°59'23"E | 21.48 |

Line Table

| Line # | Direction | Length |
|--------|-------------|--------|
| L1186 | S05°47'34"W | 29.76 |
| L1187 | S32°27'43"W | 57.40 |
| L1188 | S27°17'29"W | 37.29 |
| L1189 | S38°41'50"W | 14.85 |
| L1190 | S05°53'12"W | 12.92 |
| L1191 | S30°56'13"W | 34.55 |
| L1192 | S44°19'51"W | 41.72 |
| L1193 | S85°21'42"W | 51.36 |
| L1194 | N39°56'27"W | 27.82 |
| L1195 | N23°37'42"W | 54.10 |
| L1196 | N39°33'07"W | 44.05 |
| L1197 | N66°00'29"W | 51.97 |
| L1198 | N66°54'18"W | 86.62 |
| L1199 | N89°02'09"W | 11.17 |
| L1200 | S61°42'25"W | 28.45 |
| L1201 | S36°40'34"W | 184.42 |



WETLANDS MASTER PLAN
WARREN LAKE DREDGING
 AUGUSTA, RICHMOND COUNTY, GEORGIA



OVERALL PLAN —
WARREN LAKE,
LAKE OLMSTEAD, &
BORROW PIT

SCALE: 1" = 2000'
 APRIL 15, 2011
 REV. 2/19/16
 REV. 7/1/16
 SHEET 19 OF 60

PROJECT DATA

| | | UPPER | LOWER | | |
|--------------------------------|-------------|---------------|---------------|------------|-----------|
| | WARREN LAKE | LAKE OLMSTEAD | LAKE OLMSTEAD | CORROW PIT | TOTAL |
| TOTAL PROJECT BOUNDARY (ACRES) | 31.97 AC | 28.92 AC | 83.8 AC | 44.36 AC | 189.05 AC |

WATERS OF THE U.S.

| | | UPPER | LOWER | | |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|------------------|
| | WARREN LAKE | LAKE OLMSTEAD | LAKE OLMSTEAD | BORROW PIT | TOTAL |
| EMERGENT WETLANDS (ACRES) | 10.61 AC | 3.04 AC | 2.68 AC | 2.81 AC | 19.14 AC |
| FORESTED WETLANDS (ACRES) | 0 AC | 0 AC | 2.25 AC | 0 AC | 2.25 AC |
| JURISDICTIONAL DITCH (ACRES) | 0 AC | 0 AC | 0 AC | 0.41 AC | 0.41 AC |
| OPEN WATERS (ACRES) | 4.66 AC | 8.43 AC | 70.56 AC | 21.67 AC | 105.32 AC |
| TOTAL W.O.T.U.S. (ACRES) | 15.27 AC | 11.47 AC | 75.49 AC | 24.89 AC | 127.12 AC |
| | | | | | |
| JURISDICTIONAL DITCH (LF) | 0 LF | 0 LF | 0 LF | 925 LF | 925 LF |
| TOTAL W.O.T.U.S. (LF) | 0 LF | 0 LF | 0 LF | 925 LF | 925 LF |

IMPACTS TO WATERS OF THE U.S.

| | | UPPER | LOWER | | |
|---|-------------|---------------|---------------|------------|------------|
| | WARREN LAKE | LAKE OLMSTEAD | LAKE OLMSTEAD | CORROW PIT | TOTAL |
| DREDGING QUANTITY (C Y) | 118535 C Y | 107624 C Y | 133000 C Y | 0 C Y | 359159 C Y |
| FILL (PERMANENT) (C Y) | 5500 C Y | 305 C Y | 0 C Y | 359159 C Y | 364964 C Y |
| FILL (TEMPORARY) (C Y) | 250 C Y | 0 C Y | 0 C Y | 75 C Y | 325 C Y |
| TOTAL FILL (C..Y.) | 5750 C Y | 305 C Y | 0 C Y | 359234 C Y | 365289 C Y |
| WETLANDS IMPACTS (ACRES) | 5.29 AC | 2.55 AC | 1.98 AC | 2.81 AC | 12.63 AC |
| OPEN WATER IMPACTS (ACRES) | 4.66 AC | 8.43 AC | 30.07 AC | 21.67 AC | 64.83 AC |
| FILL (PERMANENT) (ACRES) | 1.12 AC | 0.06 AC | 0 AC | 0 AC | 1.18 AC |
| FILL (TEMPORARY) (ACRES) | 0.02 AC | 0 AC | 0 AC | 0.01 AC | 0.03 AC |
| TOTAL W.O.T.U.S. IMPACTS (ACRES) | 11.09 AC | 11.04 AC | 32.05 AC | 24.49 AC | 78.67 AC |
| JURISDICTIONAL DITCH (L F) | 0 L F | 0 L F | 0 L F | 350 L F | 350 L F |
| TOTAL W.O.T.U.S. IMPACTS (L F.) | 0 L F | 0 L F | 0 L F | 350 L F | 350 L F |

MITIGATION

| | | UPPER | LOWER | | |
|--------------|-------------|---------------|---------------|------------|--------|
| | WARREN LAKE | LAKE OLMSTEAD | LAKE OLMSTEAD | BORROW PIT | TOTAL |
| BANK CREDITS | 47.19 | 34.59 | 115.54 | 52.9 | 250.22 |

WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA

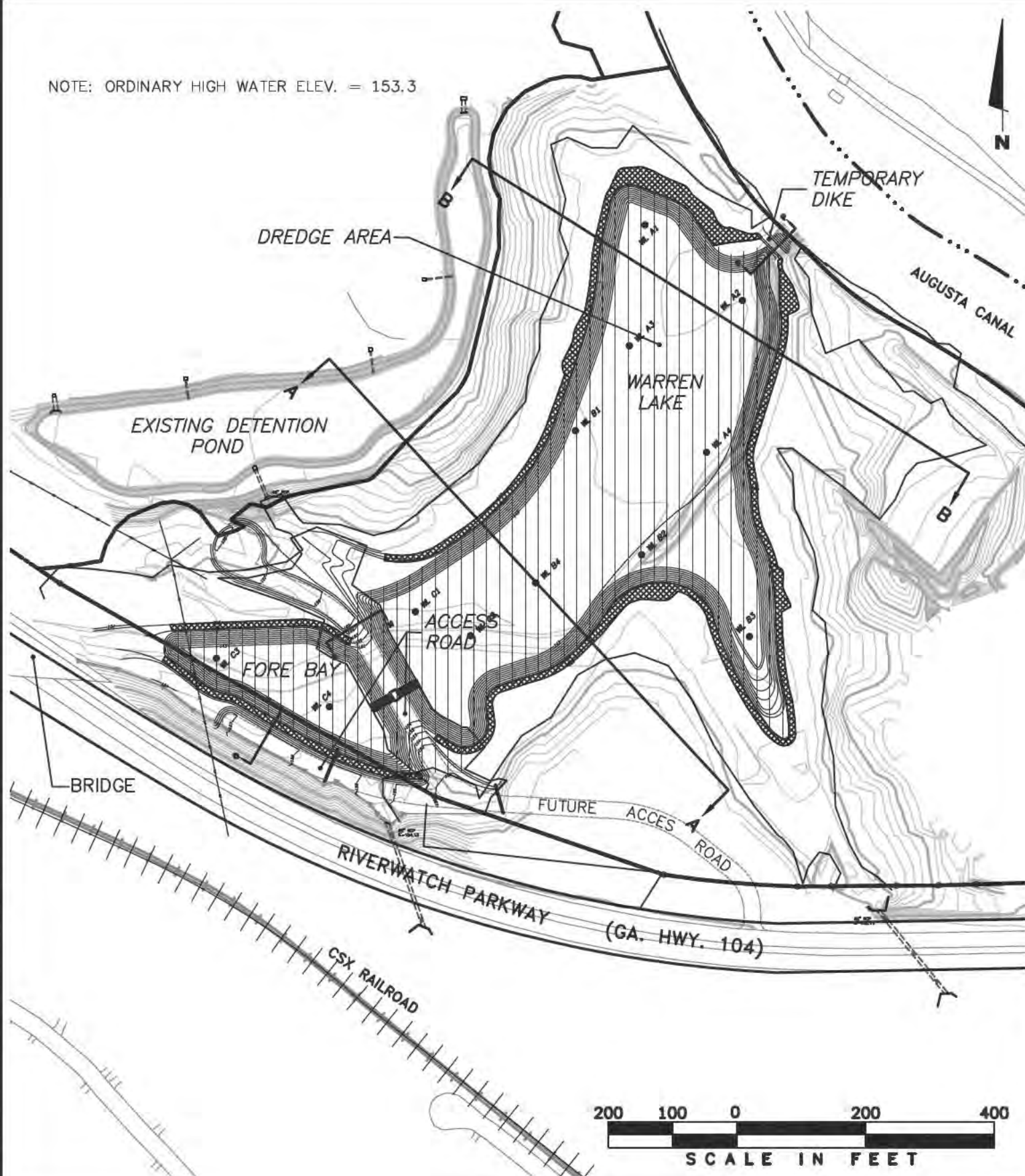


PROJECT DATA -
WARREN LAKE, LAKE
OLMSTEAD, &
BORROW PIT

APRIL 15, 2011
REV. 2/19/16
REV. 7/1/16

SHEET 21 OF 60

NOTE: ORDINARY HIGH WATER ELEV. = 153.3

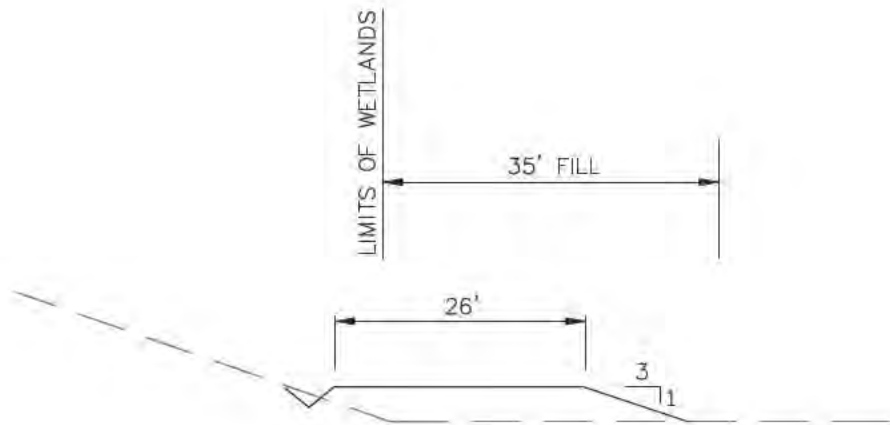


WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



WARREN LAKE
GRADING PLAN

SCALE: 1" = 200'
APRIL 15, 2011
REV. 2/19/16
REV. 7/1/16
SHEET 22 OF 60



ACCESS ROAD SECTION 0-0

SCALE: 1" = 20'

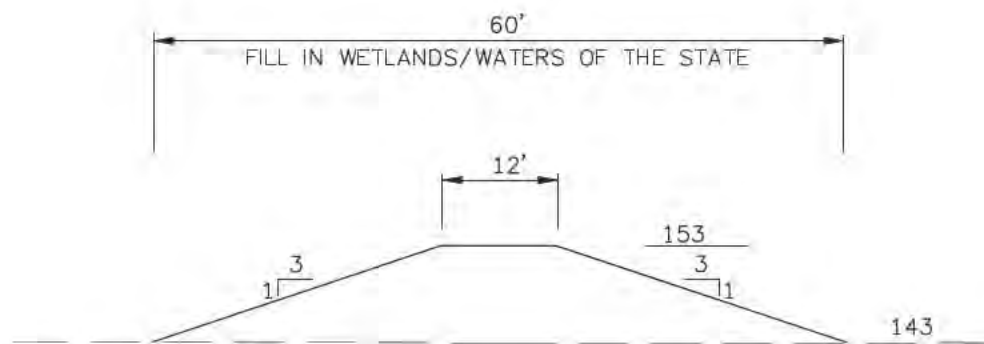
WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



WARREN LAKE
ACCESS ROAD
CROSS-SECTION 0-0

SCALE: 1" = AS SHOWN
 APRIL 15, 2011
 REV. 2/19/16
 REV. 7/1/16

SHEET 25 OF 60



TEMPORARY CONSTRUCTION DIKE SECTION P-P

SCALE: 1" = 20'

WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



WARREN LAKE
TEMPORARY DIKE
CROSS-SECTION P-P

SCALE: AS SHOWN
 APRIL 15, 2011
 REV. 2/19/16
 REV. 7/1/16

SHEET 26 OF 60

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1783 | S80°04'59"E | 21.10 |
| L1784 | S68°59'20"E | 53.68 |
| L1785 | S72°41'13"E | 58.02 |
| L1786 | S86°37'24"E | 51.94 |
| L1787 | N49°01'18"E | 75.48 |
| L1788 | N53°47'36"E | 45.59 |
| L1789 | N48°09'54"E | 49.38 |
| L1790 | N32°47'16"E | 57.83 |
| L1791 | N41°04'13"E | 56.84 |
| L1792 | N07°51'47"E | 58.81 |
| L1793 | N25°49'32"E | 36.84 |
| L1794 | N02°13'00"E | 50.91 |
| L1795 | N34°05'58"E | 38.44 |
| L1796 | N12°52'38"E | 43.10 |
| L1797 | N03°05'08"W | 37.42 |
| L1798 | N00°20'47"E | 30.61 |
| L1799 | N16°48'35"E | 61.07 |
| L1800 | N29°07'21"W | 70.04 |
| L1801 | N44°26'04"E | 22.13 |
| L1802 | S68°15'40"E | 31.17 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1803 | S73°59'57"E | 39.23 |
| L1804 | N51°27'40"E | 37.04 |
| L1805 | N27°56'36"E | 34.38 |
| L1806 | S49°23'29"E | 38.20 |
| L1807 | S46°18'52"E | 45.16 |
| L1808 | S43°52'32"E | 39.71 |
| L1809 | S56°31'57"E | 77.44 |
| L1810 | S62°52'23"E | 31.28 |
| L1811 | N30°16'11"E | 18.09 |
| L1812 | N40°04'00"W | 28.59 |
| L1813 | N34°47'01"W | 68.44 |
| L1814 | N31°14'34"W | 67.52 |
| L1815 | N28°58'40"W | 64.44 |
| L1816 | N38°26'21"W | 80.76 |
| L1817 | N03°43'57"W | 23.39 |
| L1818 | N55°29'30"W | 42.76 |
| L1819 | N64°43'29"W | 60.98 |
| L1820 | N47°28'09"W | 67.90 |
| L1821 | N47°02'15"W | 57.74 |
| L1822 | S06°50'33"W | 18.31 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1823 | S16°49'04"E | 21.76 |
| L1824 | S03°35'10"E | 59.06 |
| L1825 | S42°52'13"E | 44.96 |
| L1826 | S69°12'59"E | 83.04 |
| L1827 | S28°28'53"E | 19.77 |
| L1828 | S30°42'10"E | 17.66 |
| L1829 | S32°08'24"E | 32.68 |
| L1830 | N77°39'02"E | 25.01 |
| L1831 | S54°02'29"E | 29.30 |
| L1832 | N37°41'38"E | 16.49 |
| L1833 | S37°06'30"E | 22.44 |
| L1834 | S13°51'37"E | 20.22 |
| L1835 | S81°22'43"E | 28.92 |
| L1836 | S39°07'58"E | 44.79 |
| L1837 | S58°30'56"W | 52.52 |
| L1838 | N89°35'24"W | 61.77 |
| L1839 | S33°39'13"W | 25.72 |
| L1840 | S27°09'12"W | 56.31 |
| L1841 | S07°24'00"W | 39.51 |
| L1842 | N53°46'45"W | 92.90 |

WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



WARREN LAKE
JURISDICTIONAL
DELINEATION CHART

APRIL 15, 2011
 REV. 2/19/16
 REV. 7/1/16

SHEET 28 OF 60

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1843 | N46°48'53"W | 60.82 |
| L1844 | N50°33'27"W | 45.55 |
| L1845 | S61°59'12"W | 12.56 |
| L1846 | S15°50'40"E | 36.49 |
| L1847 | S14°44'11"E | 39.28 |
| L1848 | S07°20'58"E | 70.63 |
| L1849 | S50°54'35"E | 42.45 |
| L1850 | S07°31'15"W | 24.11 |
| L1851 | S29°19'56"W | 40.50 |
| L1852 | S02°06'52"W | 21.49 |
| L1853 | S51°47'27"E | 30.06 |
| L1854 | S09°56'28"E | 38.89 |
| L1855 | S24°28'24"W | 53.90 |
| L1856 | S06°22'43"E | 46.95 |
| L1857 | S06°36'00"E | 75.33 |
| L1858 | S38°36'02"E | 49.78 |
| L1859 | S38°27'56"E | 34.19 |
| L1860 | S18°58'02"E | 25.77 |
| L1861 | N83°57'50"W | 30.75 |
| L1862 | S51°50'10"E | 19.34 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1863 | S75°02'38"W | 14.72 |
| L1864 | S57°29'21"E | 23.45 |
| L1865 | S16°21'17"E | 24.84 |
| L1866 | S22°48'09"W | 13.47 |
| L1867 | N30°41'37"W | 37.96 |
| L1868 | N14°36'05"W | 42.04 |
| L1869 | N37°53'18"W | 25.87 |
| L1870 | N34°39'05"W | 31.63 |
| L1871 | N66°39'25"W | 36.55 |
| L1872 | N23°53'32"E | 28.91 |
| L1873 | N36°57'15"W | 24.75 |
| L1874 | N52°21'23"E | 36.32 |
| L1875 | N44°27'00"W | 35.44 |
| L1876 | S85°35'34"W | 13.03 |
| L1877 | S10°53'54"W | 46.88 |
| L1878 | N45°25'12"W | 28.37 |
| L1879 | N34°24'50"W | 55.57 |
| L1880 | N35°08'15"W | 23.58 |
| L1881 | N33°28'08"W | 81.80 |
| L1882 | N36°49'29"W | 45.19 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1883 | N26°11'46"W | 57.38 |
| L1884 | N19°20'36"W | 43.82 |
| L1885 | N35°34'28"W | 35.48 |
| L1886 | N43°51'36"W | 57.33 |
| L1887 | N88°42'12"W | 83.04 |
| L1888 | S31°46'47"W | 59.94 |
| L1889 | S54°31'31"W | 51.01 |
| L1890 | S22°34'45"W | 21.57 |
| L1891 | S62°26'04"W | 57.61 |
| L1892 | S39°02'08"W | 38.57 |
| L1893 | S38°00'29"W | 58.51 |
| L1894 | S86°08'28"W | 42.05 |
| L1895 | N54°32'10"W | 43.18 |
| L1896 | S87°07'50"W | 60.79 |
| L1897 | S79°04'24"W | 16.65 |
| L1898 | S27°42'40"E | 71.62 |
| L1899 | N80°35'09"W | 45.50 |
| L1900 | N26°51'15"W | 19.33 |
| L1901 | N36°39'00"W | 13.91 |
| L1902 | N71°57'55"W | 88.40 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1903 | N60°09'09"W | 57.41 |
| L1904 | N61°55'18"W | 81.90 |
| L1905 | N58°35'32"W | 48.57 |
| L1906 | N49°53'14"W | 62.49 |
| L1907 | N56°52'27"W | 50.72 |
| L1908 | N71°08'34"W | 43.22 |
| L1909 | N60°51'34"W | 30.00 |
| L1910 | S80°35'29"W | 39.36 |
| L1911 | N57°07'46"W | 115.61 |
| L1912 | N76°49'17"E | 43.70 |
| L1913 | N10°35'23"W | 41.14 |
| L1914 | N10°45'21"E | 24.21 |
| L1915 | N55°00'42"E | 28.43 |
| L1916 | S79°36'21"E | 51.94 |
| L1917 | S80°30'02"E | 64.66 |
| L1918 | S85°01'17"E | 30.51 |
| L1919 | N57°51'48"E | 29.03 |
| L1920 | S76°20'00"E | 60.06 |
| L1921 | S89°21'23"E | 47.10 |
| L1922 | S89°16'58"E | 60.00 |

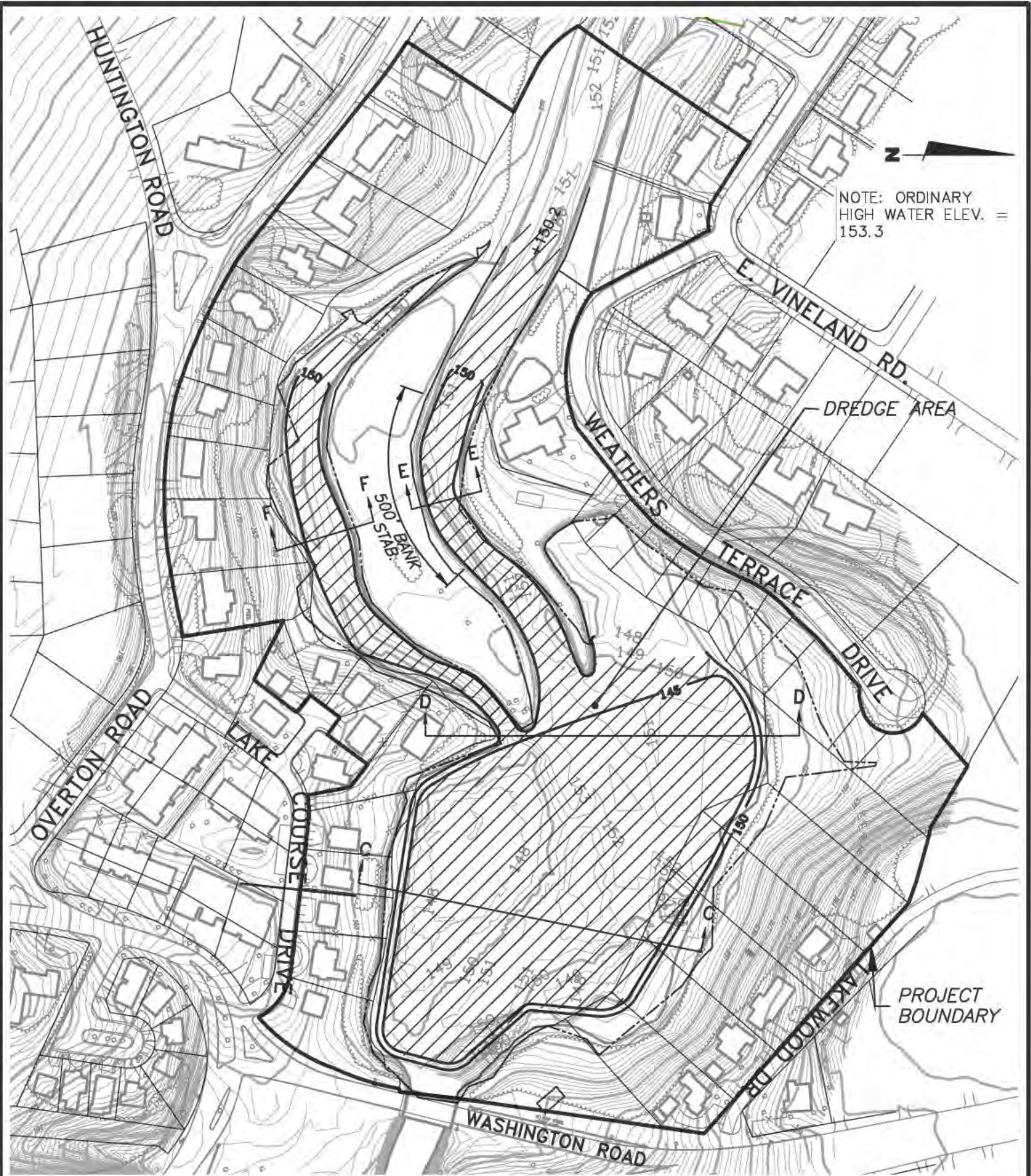
| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1923 | N44°10'54"E | 53.42 |
| L1924 | N45°41'17"W | 44.58 |
| L1925 | N78°30'31"W | 42.49 |
| L1926 | N04°32'50"W | 29.81 |
| L1927 | S56°47'13"W | 14.22 |
| L1928 | S14°01'02"E | 40.01 |
| L1929 | S31°26'46"W | 33.86 |
| L1930 | S14°45'32"E | 41.83 |
| L1931 | S15°43'24"W | 50.37 |
| L1932 | S20°02'34"W | 30.17 |
| L1933 | S14°02'01"W | 65.66 |
| L1934 | S03°07'30"W | 37.35 |
| L1935 | S03°51'52"E | 46.75 |
| L1936 | S04°03'38"E | 35.49 |
| L1937 | S06°05'27"E | 37.99 |
| L1938 | S14°47'43"E | 26.79 |
| L1939 | S18°35'40"E | 45.77 |
| L1940 | S02°02'55"E | 45.43 |
| L1941 | S05°33'18"E | 26.34 |
| L1942 | S18°13'51"E | 40.58 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1943 | S11°44'38"E | 40.53 |
| L1944 | S04°35'06"W | 38.66 |
| L1945 | S34°29'23"W | 38.32 |
| L1946 | S56°01'37"W | 32.91 |
| L1947 | S57°32'39"E | 20.31 |
| L1948 | S80°22'33"E | 36.61 |
| L1949 | N61°50'42"W | 21.90 |
| L1950 | N55°07'35"W | 19.40 |
| L1951 | N00°09'09"W | 13.53 |
| L1952 | N21°41'27"W | 29.09 |
| L1953 | N48°21'37"W | 38.39 |
| L1954 | N06°00'48"W | 34.30 |
| L1955 | N14°13'03"W | 42.34 |
| L1956 | N37°24'52"W | 25.29 |
| L1957 | N39°57'51"W | 150.62 |
| L1958 | S53°17'17"W | 32.88 |
| L1959 | S43°20'51"W | 59.58 |
| L1960 | N61°03'11"W | 21.81 |
| L1961 | N39°11'17"W | 14.80 |
| L1962 | N58°24'13"W | 23.53 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1963 | N46°20'43"E | 24.64 |
| L1964 | N65°30'41"E | 33.24 |
| L1965 | N42°12'26"E | 32.62 |
| L1966 | N06°36'16"W | 22.90 |
| L1967 | N20°36'22"E | 31.62 |
| L1968 | N41°19'47"E | 31.78 |
| L1969 | N44°48'08"W | 46.70 |
| L1970 | N59°04'21"W | 48.56 |
| L1971 | N05°31'02"W | 54.43 |
| L1972 | N29°46'30"E | 23.37 |
| L1973 | N24°35'49"E | 57.81 |
| L1974 | N11°59'33"E | 56.90 |
| L1975 | N40°04'40"E | 51.01 |
| L1976 | N02°17'42"W | 23.97 |
| L1977 | N29°47'24"E | 43.84 |
| L1978 | N11°55'38"E | 38.76 |
| L1979 | N31°49'49"E | 49.29 |
| L1980 | N85°13'07"E | 53.46 |
| L1981 | S24°52'19"E | 32.54 |
| L1982 | S14°55'53"E | 14.73 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1983 | S65°32'02"E | 75.78 |
| L1984 | N58°58'10"E | 28.56 |
| L1985 | N46°03'49"E | 17.56 |
| L2243 | N80°03'06"E | 25.55 |
| L2244 | N15°28'44"W | 7.97 |
| L2245 | N35°33'11"E | 9.84 |
| L2246 | S56°31'50"E | 13.34 |
| L2247 | S88°42'42"E | 43.69 |
| L2248 | S78°20'05"E | 25.06 |
| L2249 | N88°04'25"E | 39.18 |
| L2250 | S77°57'29"E | 60.97 |
| L2251 | S58°52'14"E | 71.23 |
| L2252 | S74°41'50"E | 58.35 |
| L2253 | N85°54'57"E | 28.21 |
| L2254 | N71°07'42"E | 26.91 |
| L2255 | N43°44'46"E | 21.31 |
| L2256 | N63°43'05"E | 65.02 |
| L2257 | S25°48'34"E | 44.62 |
| L2258 | S62°20'44"W | 62.02 |
| L2259 | S64°42'19"W | 54.84 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L2260 | S83°59'44"W | 38.40 |
| L2261 | N78°41'58"W | 58.08 |
| L2262 | N58°45'20"W | 43.89 |
| L2263 | N48°56'12"W | 34.66 |
| L2264 | N68°23'06"W | 83.60 |
| L2265 | S83°03'18"W | 27.67 |
| L2266 | N82°46'56"W | 47.95 |
| L2267 | S83°09'49"W | 16.87 |
| L2268 | S16°42'04"E | 6.99 |
| L2269 | S45°02'06"W | 7.47 |



NOTE: ORDINARY
HIGH WATER ELEV. =
153.3

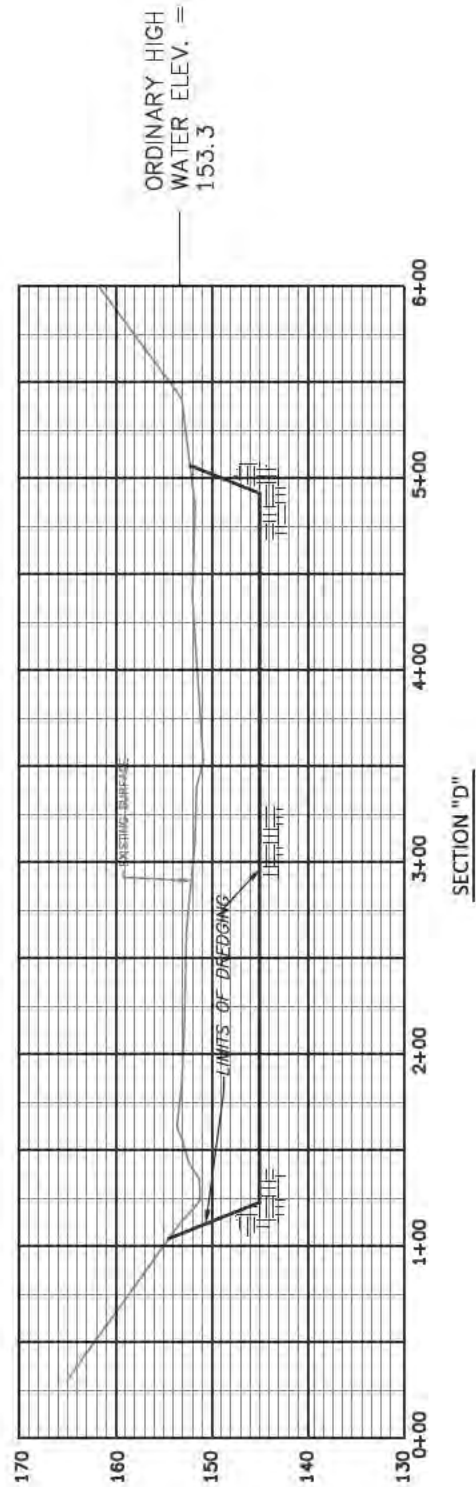
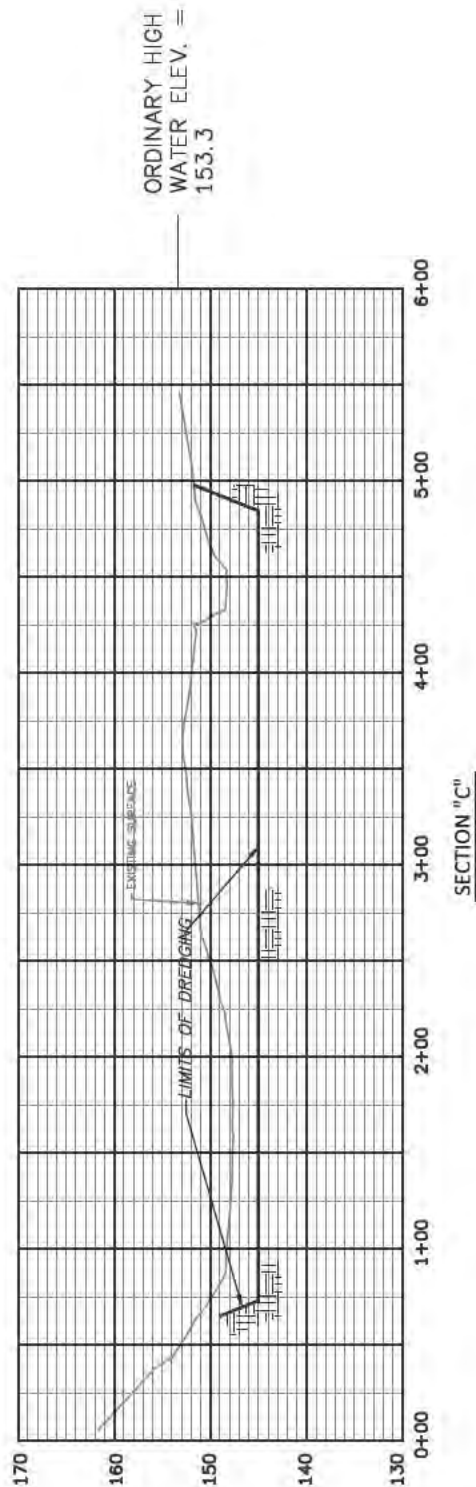
WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



**UPPER LAKE
OLMSTEAD
GRADING PLAN**

SCALE: 1" = 200'
APRIL 15, 2011
REV. 2/19/16
REV. 7/1/16
SHEET 32 OF 60

G:\Map-CadFiles\2009\0009-0002-Warren Lake Dredging C-Plans\WARREN LAKE DREDGING PLOT PERMITS\009-002-WL-BP-permit.dwg, 27.7772016 5 08 31 PM, unimaged



WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



UPPER LAKE OLMSTEAD
CROSS-SECTIONS
C-C, D-D

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

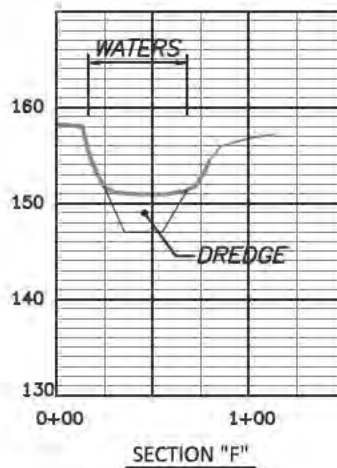
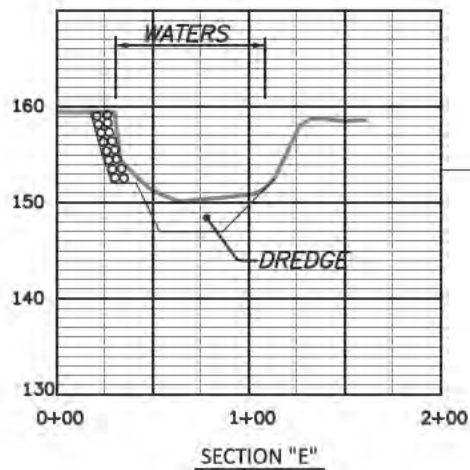
APRIL 15, 2011

REV. 2/19/16

REV. 7/1/16

SHEET 33 OF 60

LAY BACK BANK TO
2:1 SLOPE; ADD FILTER
FABRIC & RIP-RAP



WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



UPPER LAKE OLMSTEAD
CROSS-SECTIONS
E-E, F-F

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

APRIL 15, 2011

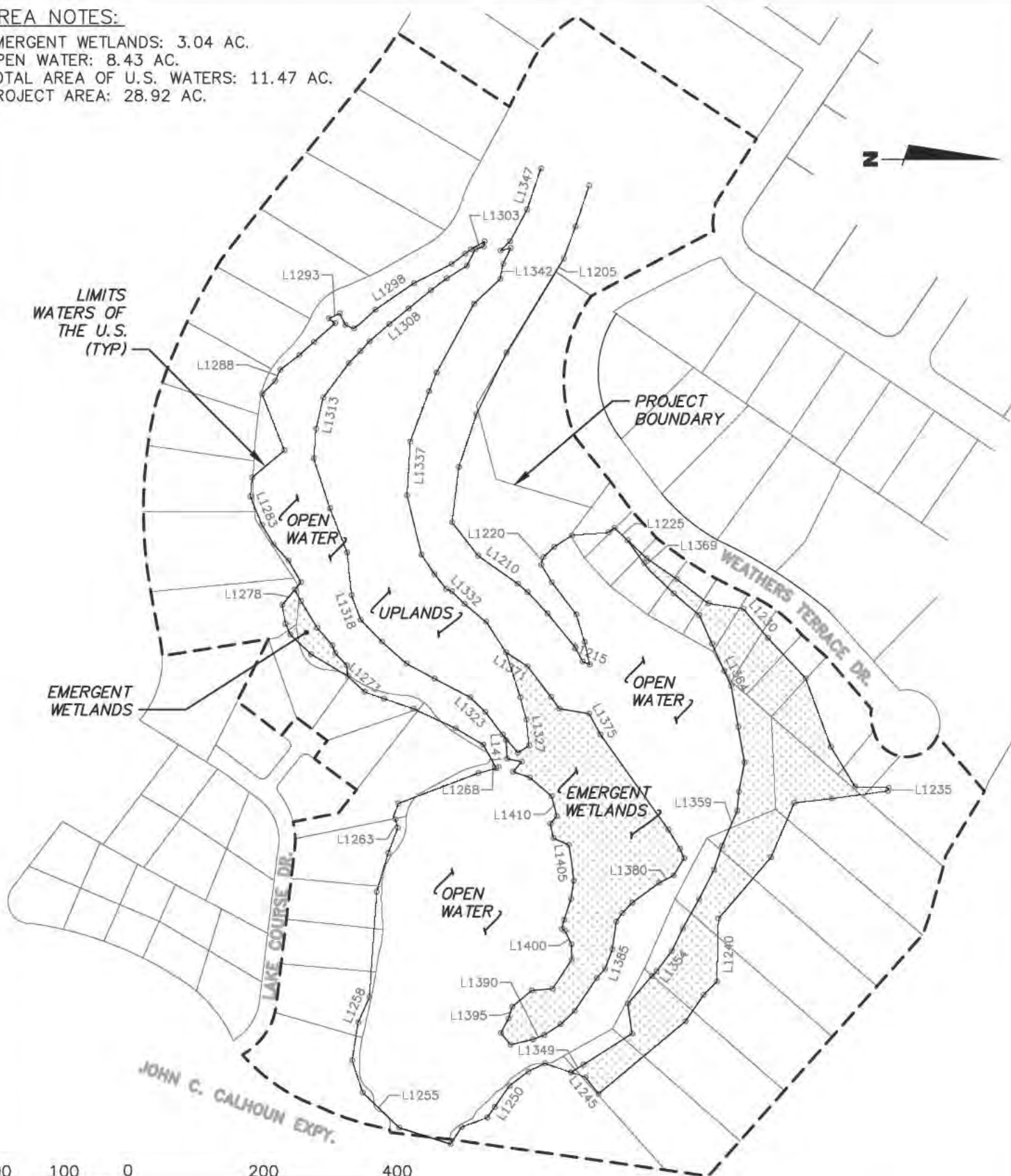
REV. 2/19/16

REV. 7/1/18

SHEET 34 OF 60

AREA NOTES:

EMERGENT WETLANDS: 3.04 AC.
 OPEN WATER: 8.43 AC.
 TOTAL AREA OF U.S. WATERS: 11.47 AC.
 PROJECT AREA: 28.92 AC.



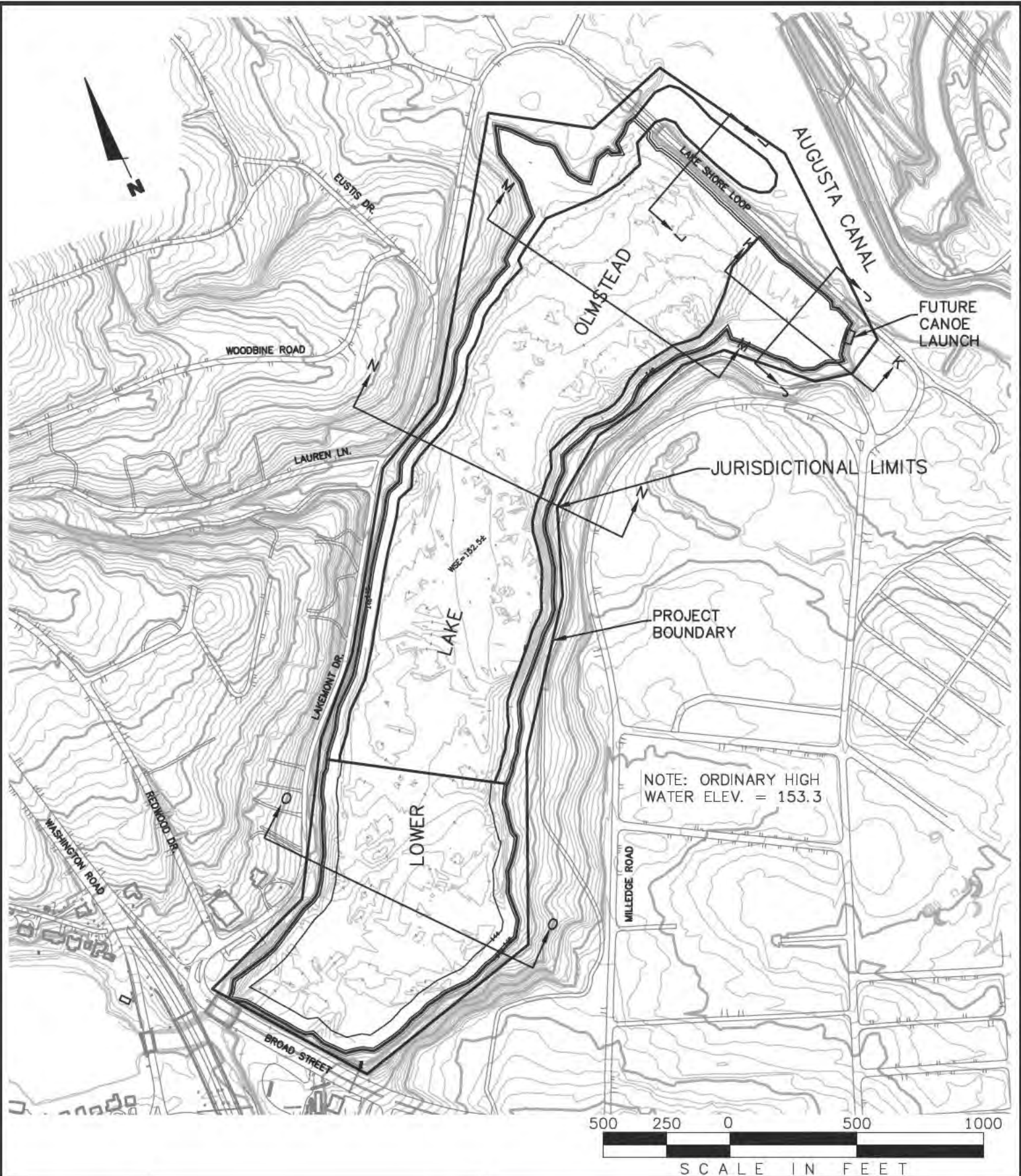
WETLANDS MASTER PLAN
WARREN LAKE DREDGING
 AUGUSTA, RICHMOND COUNTY, GEORGIA



UPPER LAKE OLMSTEAD
JURISDICTIONAL
DELINEATION

SCALE: 1" = 200'
 APRIL 15, 2011
 REV. 2/19/16
 REV. 7/1/16

g:\subarea\2009\009-0002\warren lake dredging\Plan\00000002_SLU\Wetlands\Map3.dwg O:\UPPER_JD_MAP_7/7/2016 5:08:55 PM, wrc\jgromney



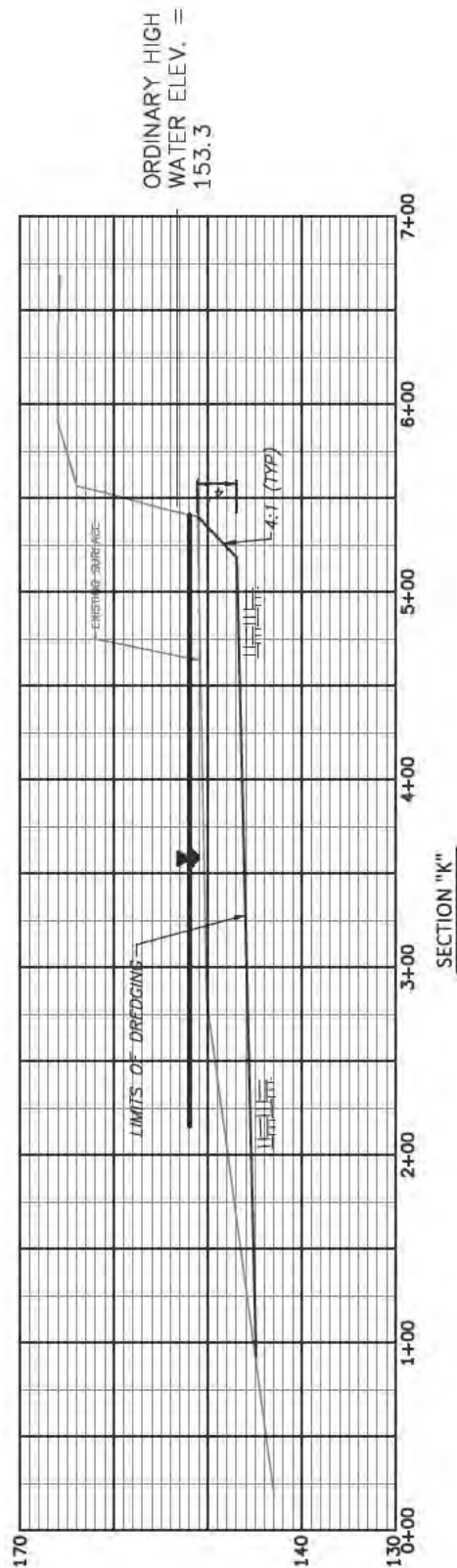
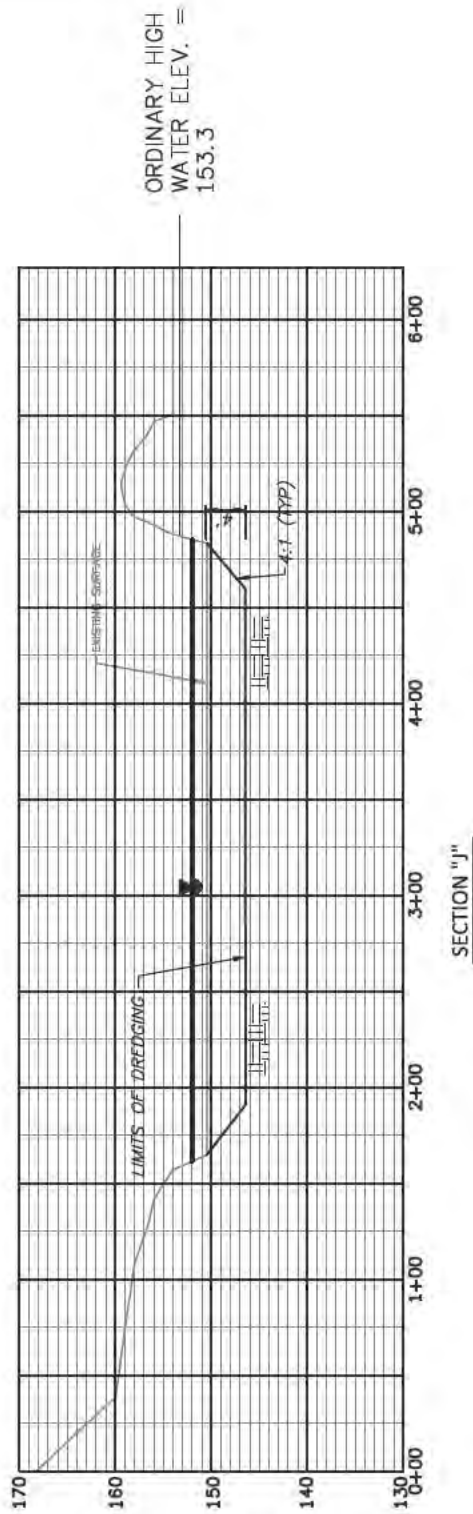
WETLANDS MASTER PLAN
WARREN LAKE DREDGING
 AUGUSTA, RICHMOND COUNTY, GEORGIA



LOWER LAKE
OLMSTEAD
GRADING PLAN

SCALE: 1" = 500'
 FEBRUARY 19, 2016
 REV. 7/1/16

SHEET 36 OF 60



WETLANDS MASTER PLAN
WARREN LAKE DREDGING
 AUGUSTA, RICHMOND COUNTY, GEORGIA



LOWER LAKE OLMSTEAD
CROSS-SECTIONS
 J-J, K-K

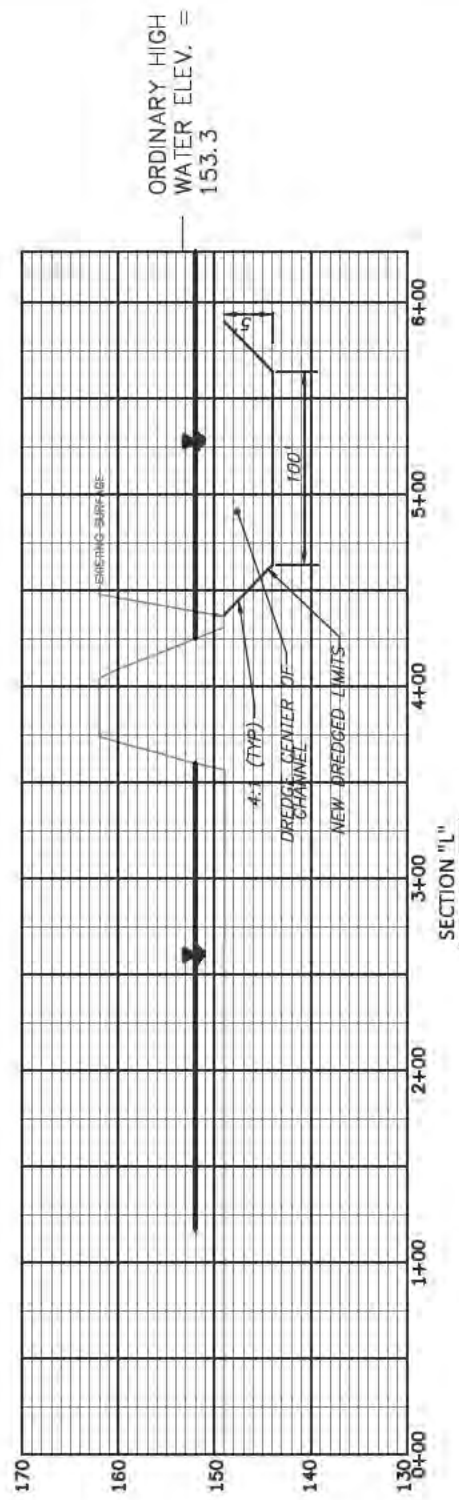
SCALE: VERT.: 1" = 20'
 HORIZ.: 1" = 100'

APRIL 15, 2011

REV. 2/19/16

REV. 7/1/16

SHEET 37 OF 60



WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



LOWER LAKE OLMSTEAD
CROSS-SECTION
L-L

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

APRIL 15, 2011

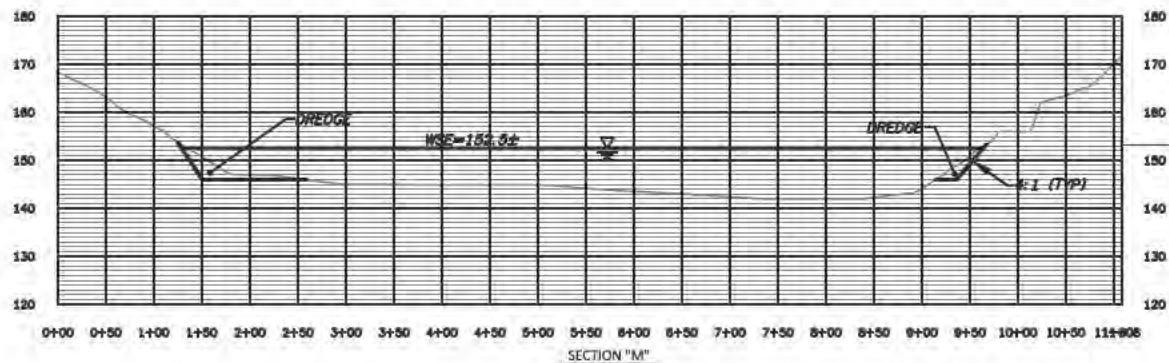
REV. 2/19/16

REV. 7/1/18

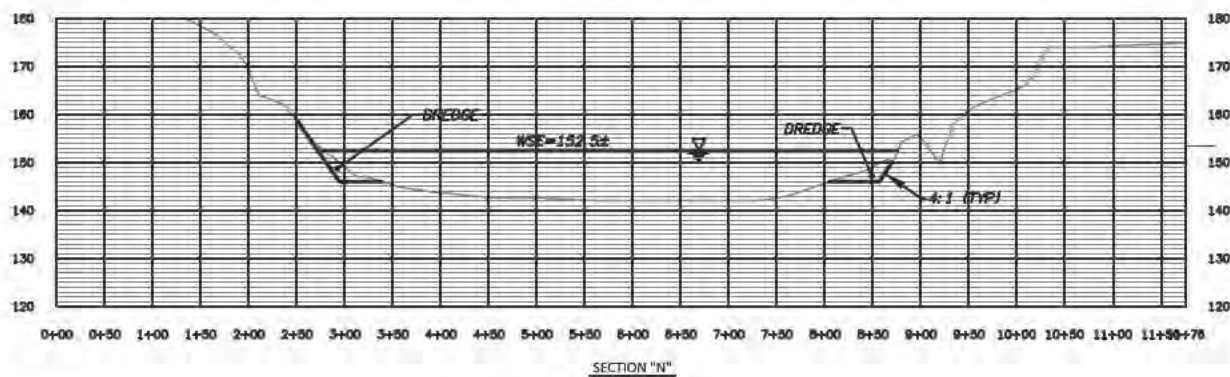
SHEET 38 OF 60

WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA

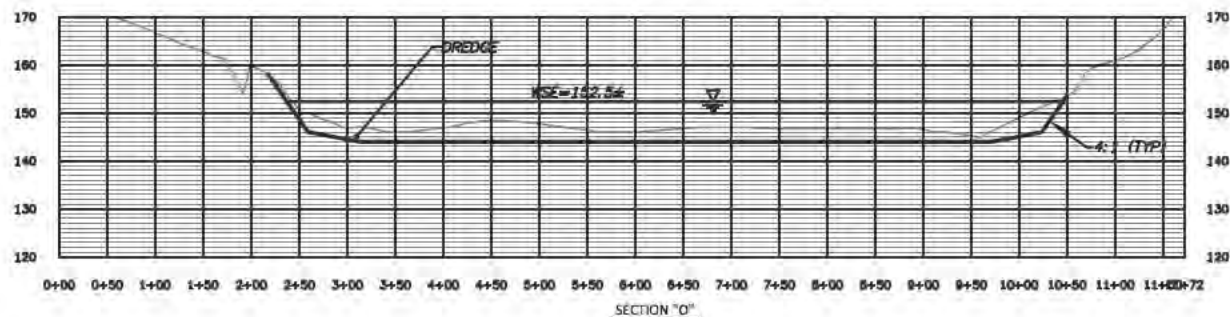
Augusta
RICHMOND COUNTY, GEORGIA



ORDINARY HIGH
WATER ELEV. =
153.3



ORDINARY HIGH
WATER ELEV. =
153.3



LOWER LAKE OLMSTEAD

CROSS-SECTIONS
M-M, N-N, O-O

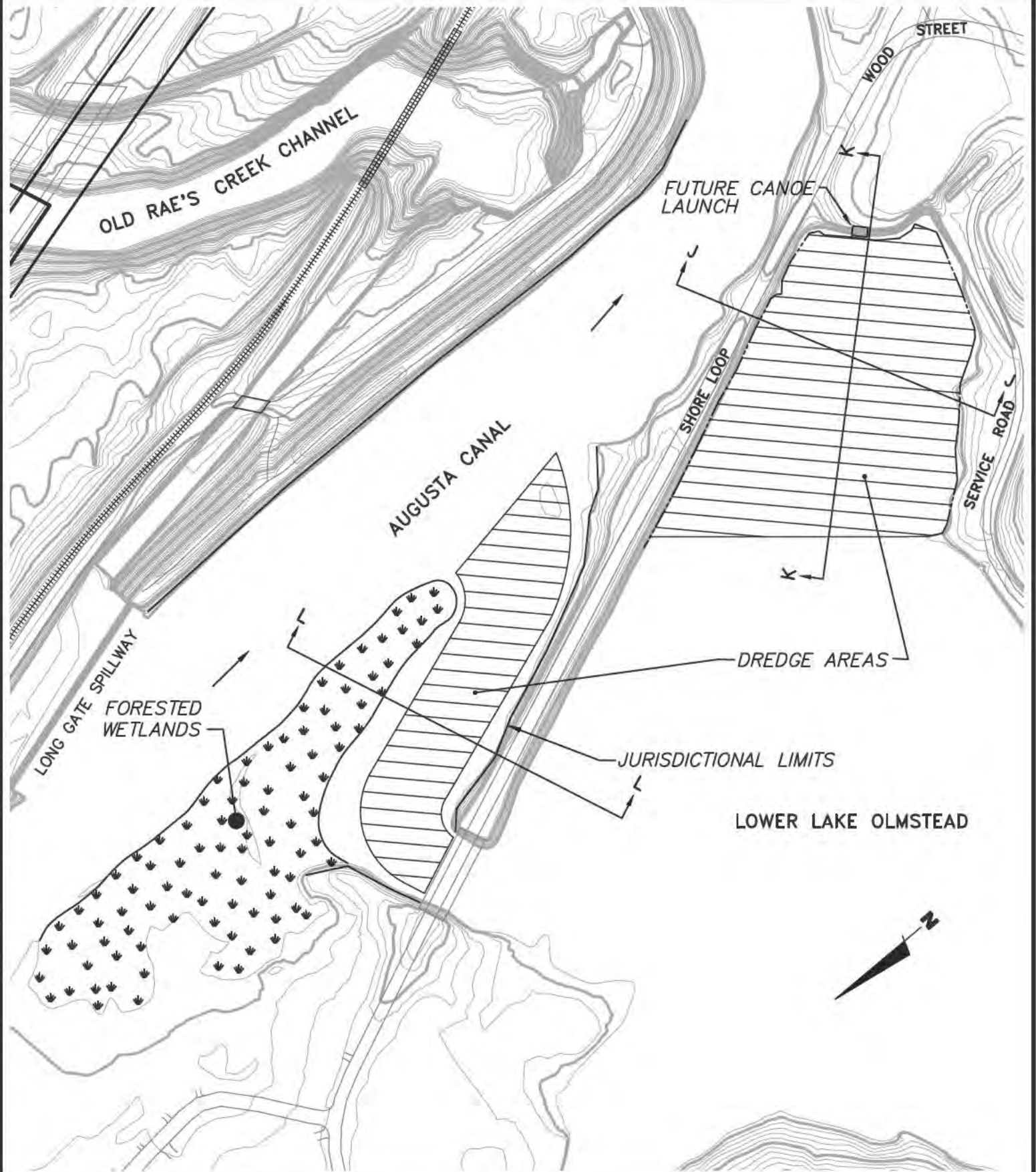
SCALE: VERT.: 1" = 40'

HORIZ.: 1" = 200'

FEBRUARY 19, 2016

REV. 7/1/16

SHEET 39 OF 60



WETLANDS MASTER PLAN
WARREN LAKE DREDGING
 AUGUSTA, RICHMOND COUNTY, GEORGIA



**LOWER LAKE OLMSTEAD
 JURISDICTIONAL
 DELINEATION (DEATL)**
 SCALE: 1" = 200'
 APRIL 15, 2011
 REV. 2/19/16
 REV. 7/1/16
 SHEET 41 OF 60

g:\subarea\2009\009-0002-warren lake dredging\c-plans\WARREN LAKE DREDGING\PT PERMITS\09-002-WL-SP-SEMI.dwg, 37, 7/7/2016 5:10:40 PM, wmcgometry

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1203 | N71°30'12"W | 64.51 |
| L1204 | N70°00'12"W | 51.25 |
| L1205 | N58°38'54"W | 164.70 |
| L1206 | S64°02'33"E | 102.41 |
| L1207 | S71°31'53"E | 83.08 |
| L1208 | S82°56'33"E | 83.60 |
| L1209 | N52°01'14"E | 63.66 |
| L1210 | N35°14'48"E | 72.68 |
| L1211 | N40°01'53"E | 19.06 |
| L1212 | N47°12'25"E | 43.41 |
| L1213 | N50°37'18"E | 66.32 |
| L1214 | N62°33'36"E | 23.43 |
| L1215 | N24°05'02"E | 11.45 |
| L1216 | S77°14'14"W | 34.49 |
| L1217 | S73°22'10"W | 43.16 |
| L1218 | S52°43'48"W | 60.76 |
| L1219 | S59°09'47"W | 30.73 |
| L1220 | N73°06'27"W | 11.62 |
| L1221 | N43°37'52"W | 22.17 |
| L1222 | N32°47'20"W | 31.76 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1223 | N04°46'23"W | 54.90 |
| L1224 | N36°48'51"W | 11.09 |
| L1225 | N43°22'22"E | 66.54 |
| L1226 | N43°22'22"E | 66.54 |
| L1227 | N34°41'10"E | 54.99 |
| L1228 | N37°28'56"E | 59.03 |
| L1229 | N08°52'27"E | 52.99 |
| L1230 | N49°54'32"E | 57.10 |
| L1231 | N46°54'21"E | 82.79 |
| L1232 | N69°47'58"E | 109.11 |
| L1233 | N58°46'34"E | 69.94 |
| L1234 | N01°37'08"E | 50.58 |
| L1235 | S73°02'44"E | 5.20 |
| L1236 | S07°37'29"E | 84.76 |
| L1237 | S06°41'50"E | 56.42 |
| L1238 | S66°53'36"E | 88.50 |
| L1239 | S49°27'09"E | 121.11 |
| L1240 | S88°38'58"E | 93.84 |
| L1241 | S45°14'56"E | 27.99 |
| L1242 | S55°22'17"E | 48.34 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1243 | S39°52'54"E | 169.35 |
| L1244 | S39°52'54"E | 169.35 |
| L1245 | S51°42'44"W | 31.68 |
| L1246 | S18°48'07"W | 64.51 |
| L1247 | S18°48'07"W | 64.51 |
| L1248 | S26°28'36"E | 27.57 |
| L1249 | S37°02'31"E | 34.92 |
| L1250 | S55°12'09"E | 39.25 |
| L1251 | S54°57'57"E | 19.06 |
| L1252 | S20°22'46"E | 40.84 |
| L1253 | S56°35'13"E | 30.41 |
| L1254 | S17°33'33"W | 80.23 |
| L1255 | S43°55'37"W | 76.31 |
| L1256 | S71°51'13"W | 50.80 |
| L1257 | N80°56'05"W | 57.13 |
| L1258 | N66°03'12"W | 41.58 |
| L1259 | N86°03'26"W | 158.35 |
| L1260 | N86°03'26"W | 158.35 |
| L1261 | N73°18'34"W | 60.25 |
| L1262 | N69°16'48"W | 40.42 |

WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



LAKE OLMSTEAD
JURISDICTIONAL
DELINEATION CHART

APRIL 15, 2011
 REV. 2/19/16
 REV. 7/1/16

SHEET 42 OF 60

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1263 | S73°44'44"W | 13.25 |
| L1264 | S36°53'52"W | 4.13 |
| L1265 | S69°41'55"E | 22.63 |
| L1266 | S20°47'26"E | 127.96 |
| L1267 | S14°42'39"E | 28.02 |
| L1268 | N61°13'08"E | 40.40 |
| L1269 | N30°31'15"E | 48.57 |
| L1270 | N24°57'06"E | 69.47 |
| L1271 | N18°41'45"E | 46.41 |
| L1272 | N19°32'28"E | 30.68 |
| L1273 | N42°55'56"E | 34.81 |
| L1274 | N30°52'01"E | 64.00 |
| L1275 | N43°17'55"E | 42.51 |
| L1276 | N66°02'56"E | 17.69 |
| L1277 | N80°15'51"E | 28.65 |
| L1278 | S50°33'12"E | 44.09 |
| L1279 | S50°33'12"E | 44.09 |
| L1280 | N60°02'23"E | 37.44 |
| L1281 | N47°50'56"E | 32.99 |
| L1282 | N58°45'54"E | 33.85 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1283 | N67°46'33"E | 45.61 |
| L1284 | S85°00'51"E | 28.75 |
| L1285 | S39°55'51"E | 63.05 |
| L1286 | N68°30'24"E | 90.98 |
| L1287 | S44°46'34"E | 27.50 |
| L1288 | S65°38'32"E | 18.31 |
| L1289 | S37°38'08"E | 36.18 |
| L1290 | S41°56'04"E | 29.20 |
| L1291 | S41°26'42"E | 42.49 |
| L1292 | N37°32'52"E | 12.00 |
| L1293 | S24°13'31"E | 17.92 |
| L1294 | S63°08'56"W | 19.52 |
| L1295 | S22°43'08"W | 13.14 |
| L1296 | S36°40'55"E | 14.33 |
| L1297 | S42°59'33"E | 28.78 |
| L1298 | S34°27'58"E | 69.96 |
| L1299 | S26°59'54"E | 62.97 |
| L1300 | S37°15'55"E | 26.37 |
| L1301 | S30°13'50"E | 23.85 |
| L1302 | N77°20'56"W | 8.39 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1303 | N16°39'10"W | 12.51 |
| L1304 | N62°32'57"W | 28.21 |
| L1305 | N32°04'07"W | 35.10 |
| L1306 | N36°45'35"W | 30.13 |
| L1307 | N39°30'09"W | 43.03 |
| L1308 | N38°45'53"W | 36.97 |
| L1309 | N40°43'27"W | 39.14 |
| L1310 | N47°28'53"W | 20.06 |
| L1311 | N46°11'04"W | 24.53 |
| L1312 | N53°18'12"W | 65.02 |
| L1313 | N77°16'41"W | 48.17 |
| L1314 | N85°27'11"W | 44.16 |
| L1315 | S72°01'46"W | 78.21 |
| L1316 | S68°41'35"W | 70.88 |
| L1317 | S84°03'22"W | 64.23 |
| L1318 | S69°38'11"W | 39.55 |
| L1319 | S45°49'49"W | 45.87 |
| L1320 | S41°41'20"W | 48.86 |
| L1321 | S28°29'44"W | 47.92 |
| L1322 | S27°35'14"W | 60.30 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1323 | S44°12'48"W | 31.52 |
| L1324 | S52°42'29"W | 42.71 |
| L1325 | S49°49'14"W | 34.97 |
| L1326 | S31°25'38"E | 19.91 |
| L1327 | N84°03'30"E | 39.09 |
| L1328 | N74°45'16"E | 34.56 |
| L1329 | N72°20'50"E | 70.93 |
| L1330 | N57°10'26"E | 54.77 |
| L1331 | N40°01'46"E | 41.60 |
| L1332 | N44°35'39"E | 26.46 |
| L1333 | N23°25'07"E | 9.13 |
| L1334 | N51°52'23"E | 28.59 |
| L1335 | N56°10'13"E | 34.73 |
| L1336 | N76°17'30"E | 91.36 |
| L1337 | S86°36'28"E | 80.85 |
| L1338 | S69°30'10"E | 80.21 |
| L1339 | N68°06'18"W | 30.00 |
| L1340 | N61°29'41"W | 117.26 |
| L1341 | N43°18'58"W | 54.12 |
| L1342 | N79°16'17"W | 23.37 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1343 | N64°13'19"W | 26.21 |
| L1344 | S14°50'21"E | 16.01 |
| L1345 | N43°47'27"W | 20.14 |
| L1346 | N61°56'33"W | 54.16 |
| L1347 | N71°24'02"W | 64.72 |
| L1349 | S32°25'04"E | 21.43 |
| L1350 | S32°25'04"E | 86.66 |
| L1351 | N82°02'23"E | 45.17 |
| L1352 | S49°03'53"E | 54.68 |
| L1353 | S46°50'08"E | 10.04 |
| L1354 | S52°37'27"E | 38.20 |
| L1355 | S64°22'58"E | 37.69 |
| L1356 | S60°59'38"E | 49.98 |
| L1357 | S62°52'08"E | 49.07 |
| L1358 | S71°26'24"E | 37.92 |
| L1359 | S66°39'41"E | 56.74 |
| L1360 | S84°27'50"E | 29.79 |
| L1361 | S79°12'54"E | 43.87 |
| L1362 | N79°53'15"E | 53.83 |
| L1363 | N80°14'07"E | 62.69 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1364 | N65°06'20"E | 24.53 |
| L1365 | N65°47'33"E | 44.27 |
| L1366 | N66°05'09"E | 47.18 |
| L1367 | N40°30'21"E | 50.27 |
| L1368 | N43°32'51"E | 51.02 |
| L1369 | N54°07'59"E | 12.66 |
| L1370 | S54°07'59"W | 41.94 |
| L1371 | S32°51'10"W | 38.80 |
| L1372 | N52°55'18"E | 57.53 |
| L1373 | N54°36'25"E | 21.38 |
| L1374 | N09°22'50"E | 45.36 |
| L1375 | N61°30'31"E | 35.64 |
| L1376 | N54°27'37"E | 175.01 |
| L1377 | N58°47'04"E | 33.42 |
| L1378 | N65°21'30"E | 15.31 |
| L1379 | S58°04'14"E | 30.57 |
| L1380 | S27°16'12"E | 24.13 |
| L1381 | S36°33'15"E | 50.19 |
| L1382 | S46°13'08"E | 21.61 |
| L1383 | S54°32'08"E | 15.36 |



| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1384 | S82°13'08"E | 41.82 |
| L1385 | S69°29'26"E | 31.40 |
| L1386 | S47°44'05"E | 18.72 |
| L1387 | S55°55'08"E | 59.05 |
| L1388 | S44°37'37"E | 28.78 |
| L1389 | S33°06'01"E | 29.96 |
| L1390 | S20°26'40"E | 17.74 |
| L1391 | S13°40'54"E | 34.56 |
| L1392 | S51°02'30"W | 22.81 |
| L1393 | N63°31'15"W | 8.05 |
| L1394 | N61°50'39"W | 15.96 |
| L1395 | N72°16'55"W | 19.01 |
| L1396 | N39°31'19"W | 38.06 |
| L1397 | N04°25'19"W | 30.85 |
| L1398 | N56°36'15"W | 52.59 |
| L1399 | S88°59'06"W | 22.92 |
| L1400 | S64°33'57"W | 22.34 |
| L1401 | S29°16'13"W | 5.68 |
| L1402 | N75°15'22"W | 14.18 |
| L1403 | N71°58'50"W | 33.01 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1404 | N81°19'06"W | 27.41 |
| L1405 | S83°00'47"W | 29.92 |
| L1406 | S80°42'56"W | 24.06 |
| L1407 | S24°21'26"W | 25.21 |
| L1408 | S77°34'28"W | 21.67 |
| L1409 | N50°23'53"W | 15.06 |
| L1410 | S76°01'43"W | 30.86 |
| L1411 | S40°21'48"W | 43.06 |
| L1412 | S19°30'52"W | 26.40 |
| L1413 | N49°20'12"W | 19.67 |
| L1414 | S11°10'53"W | 22.40 |
| L1415 | S86°53'50"W | 27.55 |
| L1416 | N58°24'20"E | 9.81 |
| L1417 | S04°30'47"W | 6.91 |
| L1418 | S15°07'34"W | 38.72 |
| L1419 | S54°29'32"W | 39.56 |
| L1420 | S85°56'06"W | 41.32 |
| L1421 | S82°44'43"W | 65.46 |
| L1422 | S77°01'24"W | 99.86 |
| L1423 | S65°10'59"W | 28.44 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1424 | S68°46'31"W | 29.08 |
| L1425 | S58°44'57"W | 55.72 |
| L1426 | S56°56'20"W | 68.67 |
| L1427 | S71°37'56"W | 46.76 |
| L1428 | S72°18'03"W | 32.24 |
| L1429 | S50°10'21"W | 36.56 |
| L1430 | S34°33'50"W | 34.81 |
| L1431 | S30°56'47"W | 86.26 |
| L1432 | S19°55'41"W | 64.52 |
| L1433 | S21°43'53"W | 43.73 |
| L1434 | S28°42'56"W | 59.64 |
| L1435 | S24°23'16"W | 63.55 |
| L1436 | S23°45'13"W | 96.25 |
| L1437 | S64°23'12"W | 28.35 |
| L1438 | S29°49'48"W | 52.93 |
| L1439 | S36°32'43"W | 46.03 |
| L1440 | S48°00'51"W | 60.05 |
| L1441 | S34°09'41"W | 42.30 |
| L1442 | S42°32'54"W | 144.04 |
| L1443 | S51°57'50"W | 61.43 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1444 | S35°11'36"W | 98.68 |
| L1445 | S36°01'36"W | 135.42 |
| L1446 | S32°42'45"W | 131.95 |
| L1447 | S35°09'51"W | 129.36 |
| L1448 | S41°01'54"W | 81.98 |
| L1449 | S33°51'31"W | 72.52 |
| L1450 | S37°18'53"W | 51.33 |
| L1451 | S50°31'22"W | 47.16 |
| L1452 | S73°38'03"W | 28.37 |
| L1453 | S36°10'15"E | 32.08 |
| L1454 | S21°54'35"E | 28.36 |
| L1455 | S88°13'54"W | 9.98 |
| L1456 | N63°42'32"W | 15.62 |
| L1457 | N39°28'44"W | 35.16 |
| L1458 | S26°46'07"W | 56.93 |
| L1459 | S60°59'33"W | 62.67 |
| L1460 | S67°22'25"W | 68.16 |
| L1461 | S65°24'58"W | 71.44 |
| L1462 | S55°53'37"W | 106.08 |
| L1463 | S48°07'59"W | 56.19 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1464 | S34°28'56"W | 51.07 |
| L1465 | S29°28'12"W | 109.54 |
| L1466 | S56°55'42"W | 80.97 |
| L1467 | S40°20'14"W | 61.52 |
| L1468 | S61°39'20"W | 75.80 |
| L1469 | S59°57'40"W | 56.40 |
| L1470 | S61°53'13"W | 70.88 |
| L1471 | N75°47'44"W | 10.00 |
| L1472 | S51°50'31"W | 16.46 |
| L1473 | S03°46'00"W | 21.25 |
| L1474 | S55°32'47"W | 84.55 |
| L1475 | S57°31'53"W | 91.26 |
| L1476 | S55°43'35"W | 25.30 |
| L1477 | S06°42'57"W | 83.79 |
| L1478 | S10°25'49"W | 44.02 |
| L1479 | S03°08'51"E | 60.60 |
| L1480 | S26°30'03"E | 69.76 |
| L1481 | S10°41'35"E | 60.83 |
| L1482 | S12°33'46"W | 114.92 |
| L1483 | S59°09'44"W | 42.14 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1484 | N17°14'44"W | 59.18 |
| L1485 | N47°11'02"W | 67.04 |
| L1486 | N43°02'40"W | 36.01 |
| L1487 | N36°39'07"W | 55.10 |
| L1488 | N53°02'47"W | 51.93 |
| L1489 | N43°03'52"W | 35.07 |
| L1490 | N09°50'42"W | 43.04 |
| L1491 | N03°30'45"W | 75.88 |
| L1492 | N49°13'35"W | 21.75 |
| L1493 | N26°08'59"W | 22.52 |
| L1494 | N17°39'02"W | 16.93 |
| L1495 | N66°13'03"W | 11.66 |
| L1496 | S41°03'19"W | 84.32 |
| L1497 | S70°34'24"W | 68.52 |
| L1498 | N31°38'13"W | 35.00 |
| L1499 | N59°19'42"W | 11.47 |
| L1500 | S07°39'15"E | 28.26 |
| L1501 | S51°00'22"W | 76.31 |
| L1502 | S70°56'22"W | 52.77 |
| L1503 | S61°51'03"W | 16.87 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1504 | S22°14'15"E | 107.61 |
| L1505 | S25°55'09"W | 18.05 |
| L1506 | S07°32'30"E | 30.57 |
| L1507 | S40°17'59"E | 56.11 |
| L1508 | S21°47'33"E | 117.97 |
| L1509 | S27°58'41"E | 46.35 |
| L1510 | S21°17'38"E | 81.00 |
| L1511 | S18°48'00"E | 40.17 |
| L1512 | S21°53'26"E | 79.62 |
| L1513 | S23°18'00"E | 74.41 |
| L1514 | S05°19'22"E | 7.79 |
| L1515 | S23°47'02"E | 42.64 |
| L1516 | S21°58'32"E | 60.05 |
| L1517 | S08°12'47"E | 9.66 |
| L1518 | S26°04'23"E | 62.08 |
| L1519 | S21°59'51"E | 49.40 |
| L1520 | S29°18'06"E | 26.27 |
| L1521 | S20°07'11"E | 55.95 |
| L1522 | S25°34'33"E | 68.70 |
| L1523 | S25°34'33"E | 68.70 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1524 | S24°03'42"E | 54.34 |
| L1525 | S07°19'32"W | 11.16 |
| L1526 | S34°50'59"W | 8.31 |
| L1527 | S47°28'19"E | 20.87 |
| L1528 | S25°52'50"E | 32.76 |
| L1529 | S16°26'54"E | 52.56 |
| L1530 | S28°29'43"W | 15.81 |
| L1531 | S78°42'17"W | 9.14 |
| L1532 | S44°44'43"W | 41.98 |
| L1533 | S47°21'29"W | 37.96 |
| L1534 | S35°29'44"W | 38.31 |
| L1535 | S06°07'50"W | 23.18 |
| L1536 | S23°07'49"E | 10.26 |
| L1537 | S60°11'52"W | 36.48 |
| L1538 | N74°00'09"W | 16.28 |
| L1539 | N72°44'47"W | 80.91 |
| L1540 | N69°21'51"W | 64.48 |
| L1541 | N51°44'18"W | 14.99 |
| L1542 | N35°11'22"W | 26.80 |
| L1543 | N30°18'24"W | 47.14 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1544 | N47°41'53"W | 58.92 |
| L1545 | N42°59'46"W | 44.19 |
| L1546 | N53°44'32"W | 47.84 |
| L1547 | N36°32'59"W | 71.39 |
| L1548 | N23°10'13"W | 15.37 |
| L1549 | N09°08'25"E | 21.91 |
| L1550 | S59°54'31"W | 12.24 |
| L1551 | S54°30'29"W | 23.89 |
| L1552 | S76°04'56"W | 30.29 |
| L1553 | S84°53'40"W | 41.27 |
| L1554 | N84°44'26"W | 41.83 |
| L1555 | N81°57'29"W | 55.63 |
| L1556 | S80°51'33"W | 54.22 |
| L1557 | S77°34'58"W | 47.45 |
| L1558 | N80°01'14"W | 52.87 |
| L1559 | S59°31'32"W | 50.33 |
| L1560 | S45°13'52"W | 62.24 |
| L1561 | S66°43'16"W | 84.14 |
| L1562 | S76°32'28"W | 27.20 |
| L1563 | S82°56'16"W | 29.28 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1564 | N73°51'03"W | 32.69 |
| L1565 | N85°24'32"W | 35.36 |
| L1566 | S71°54'13"W | 27.41 |
| L1567 | S66°28'53"W | 41.18 |
| L1568 | S79°45'41"W | 27.35 |
| L1569 | S75°14'55"W | 41.31 |
| L1570 | S30°13'53"W | 16.34 |
| L1571 | S09°51'55"W | 25.99 |
| L1572 | S39°52'24"W | 25.25 |
| L1573 | S51°41'49"W | 24.92 |
| L1574 | S50°20'02"W | 22.14 |
| L1575 | S41°04'54"W | 32.92 |
| L1576 | S22°59'51"E | 19.95 |
| L1577 | S52°59'31"W | 15.18 |
| L1578 | N67°13'51"W | 19.11 |
| L1579 | S49°03'52"W | 26.34 |
| L1580 | S55°35'28"W | 17.88 |
| L1581 | S44°57'04"W | 24.91 |
| L1582 | S31°53'58"W | 35.56 |
| L1583 | S16°05'43"W | 24.86 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1584 | S11°50'06"W | 21.19 |
| L1585 | S10°07'46"W | 34.67 |
| L1586 | S10°55'06"W | 45.56 |
| L1587 | S02°25'18"W | 26.13 |
| L1588 | S26°32'30"W | 43.73 |
| L1589 | S29°30'39"W | 27.67 |
| L1590 | S16°22'10"W | 25.42 |
| L1591 | S27°05'09"W | 24.75 |
| L1592 | S17°26'54"W | 29.64 |
| L1593 | S20°24'28"W | 22.54 |
| L1594 | S24°27'52"W | 23.49 |
| L1595 | S38°32'05"W | 18.46 |
| L1596 | S54°39'16"W | 28.25 |
| L1597 | S54°36'56"W | 22.27 |
| L1598 | S55°26'59"W | 34.25 |
| L1599 | S42°50'43"W | 25.50 |
| L1600 | S45°49'08"W | 38.89 |
| L1601 | S41°10'09"W | 40.63 |
| L1602 | S40°20'21"W | 18.14 |
| L1603 | S42°02'35"W | 28.37 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1604 | S53°14'09"W | 23.93 |
| L1605 | S51°29'49"W | 23.22 |
| L1606 | S39°00'32"W | 18.66 |
| L1607 | S51°29'05"W | 25.61 |
| L1608 | S35°02'47"W | 27.13 |
| L1609 | S43°45'59"W | 15.73 |
| L1610 | S46°01'38"W | 21.34 |
| L1611 | S18°36'23"W | 26.22 |
| L1612 | S28°54'01"W | 18.89 |
| L1613 | S10°22'10"E | 17.80 |
| L1614 | S24°35'35"W | 51.04 |
| L1615 | S42°30'24"W | 30.41 |
| L1616 | S43°38'32"E | 26.56 |
| L1617 | S28°14'51"W | 12.00 |
| L1618 | N78°05'35"W | 24.24 |
| L1619 | S33°18'54"W | 15.76 |
| L1620 | S01°39'45"W | 7.48 |
| L1621 | S46°13'36"W | 28.11 |
| L1622 | S67°42'30"W | 25.48 |
| L1623 | S31°39'04"W | 22.99 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1624 | S50°55'48"W | 37.73 |
| L1625 | S36°36'34"W | 54.66 |
| L1626 | S32°24'39"W | 28.08 |
| L1627 | S14°22'02"E | 13.10 |
| L1628 | S12°38'45"W | 42.15 |
| L1629 | S13°07'09"W | 38.27 |
| L1630 | S06°58'55"E | 24.08 |
| L1631 | S01°10'21"W | 24.14 |
| L1632 | S18°10'51"W | 23.10 |
| L1633 | S58°14'12"W | 11.19 |
| L1634 | S08°22'00"W | 21.86 |
| L1635 | S37°23'02"W | 24.70 |
| L1636 | S40°05'16"W | 29.89 |
| L1637 | S41°44'04"W | 50.89 |
| L1638 | S31°52'23"W | 48.25 |
| L1639 | S05°36'29"W | 54.20 |
| L1640 | S03°52'46"W | 59.80 |
| L1641 | S19°05'26"W | 43.17 |
| L1642 | S28°09'34"W | 44.24 |
| L1643 | S61°22'53"W | 35.16 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1644 | S72°49'25"W | 38.27 |
| L1645 | S52°26'31"W | 32.13 |
| L1646 | S73°57'37"W | 88.86 |
| L1647 | S78°40'34"W | 89.31 |
| L1648 | S86°04'04"W | 63.02 |
| L1649 | N87°55'46"W | 50.38 |
| L1650 | S78°27'27"W | 58.58 |
| L1651 | S67°12'14"W | 21.99 |
| L1652 | S74°07'19"W | 66.79 |
| L1653 | S71°05'30"W | 39.99 |
| L1654 | S73°41'40"W | 45.81 |
| L1655 | S76°38'14"W | 122.15 |
| L1656 | N64°26'13"W | 37.24 |
| L1657 | N70°27'41"W | 46.90 |
| L1658 | N65°01'34"W | 33.58 |
| L1659 | N51°38'30"W | 25.46 |
| L1660 | N37°38'53"W | 36.66 |
| L1661 | N38°56'52"W | 43.67 |
| L1662 | N30°54'31"W | 34.75 |
| L1663 | N41°29'07"W | 32.34 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1664 | N40°23'42"W | 45.93 |
| L1665 | N36°45'55"W | 37.42 |
| L1666 | N38°32'30"W | 59.90 |
| L1667 | N35°56'43"W | 38.59 |
| L1668 | N32°46'52"W | 20.49 |
| L1669 | N35°50'47"W | 26.53 |
| L1670 | N35°57'12"W | 32.65 |
| L1671 | N45°11'23"W | 41.22 |
| L1672 | N70°11'21"W | 13.10 |
| L1673 | S48°52'57"W | 5.90 |
| L1674 | N25°25'28"W | 52.12 |
| L1675 | S63°15'19"E | 30.85 |
| L1676 | S72°36'27"W | 10.48 |
| L1677 | N31°31'10"W | 29.54 |
| L1678 | N38°13'59"W | 38.48 |
| L1679 | N41°13'00"W | 35.20 |
| L1680 | N08°43'18"E | 21.53 |
| L1681 | N00°35'10"E | 43.80 |
| L1682 | N07°47'16"W | 34.76 |
| L1683 | N23°59'16"W | 30.48 |

Line Table

| Line # | Direction | Length |
|--------|-------------|--------|
| L1684 | N88°47'11"E | 17.94 |
| L1986 | N84°24'33"E | 19.37 |
| L1987 | N89°29'47"E | 95.57 |
| L1988 | N67°35'59"E | 21.32 |
| L1989 | S73°20'50"E | 63.50 |
| L1990 | S59°23'55"E | 32.22 |
| L1991 | N83°38'35"E | 27.18 |
| L1992 | S61°14'35"E | 42.27 |
| L1993 | S66°36'28"E | 42.57 |
| L1994 | S47°45'36"E | 32.81 |
| L1995 | S32°21'16"E | 29.84 |
| L1996 | S16°42'38"E | 23.86 |
| L1997 | S60°50'27"E | 26.54 |
| L1998 | S53°29'06"E | 31.16 |
| L1999 | S87°33'00"E | 37.05 |
| L2000 | S82°01'21"E | 21.25 |

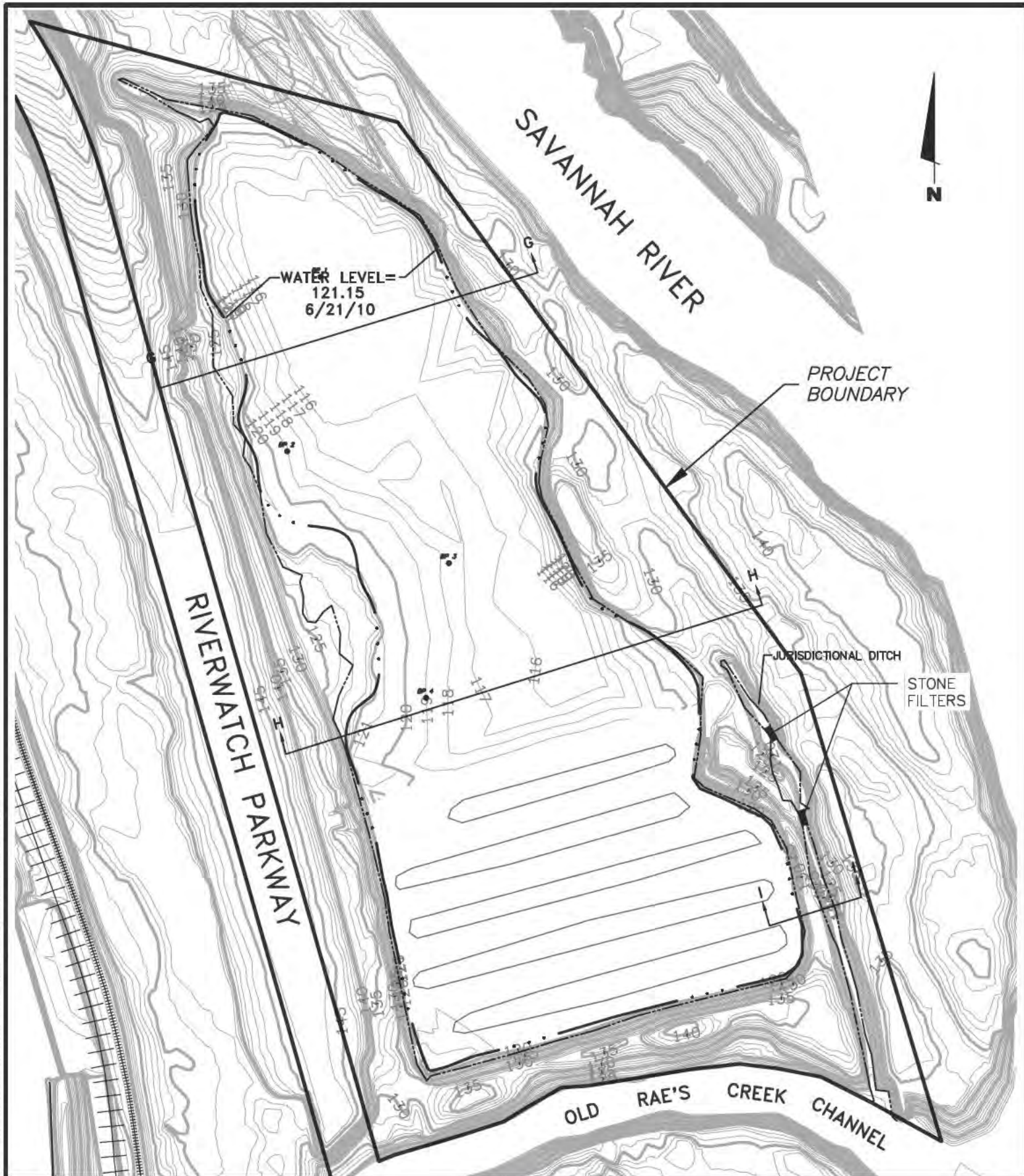
WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



**LAKE OLMSTEAD
 JURISDICTIONAL
 DELINEATION CHART**

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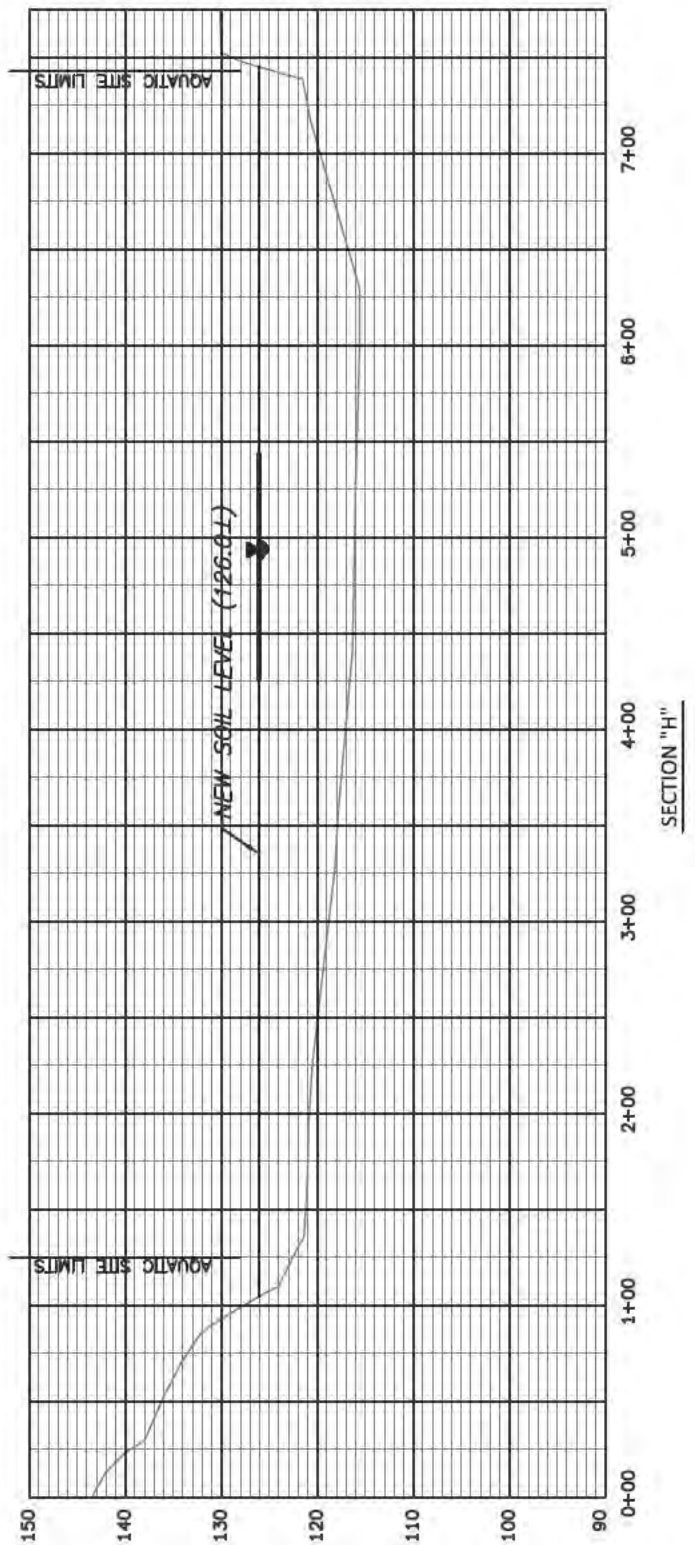
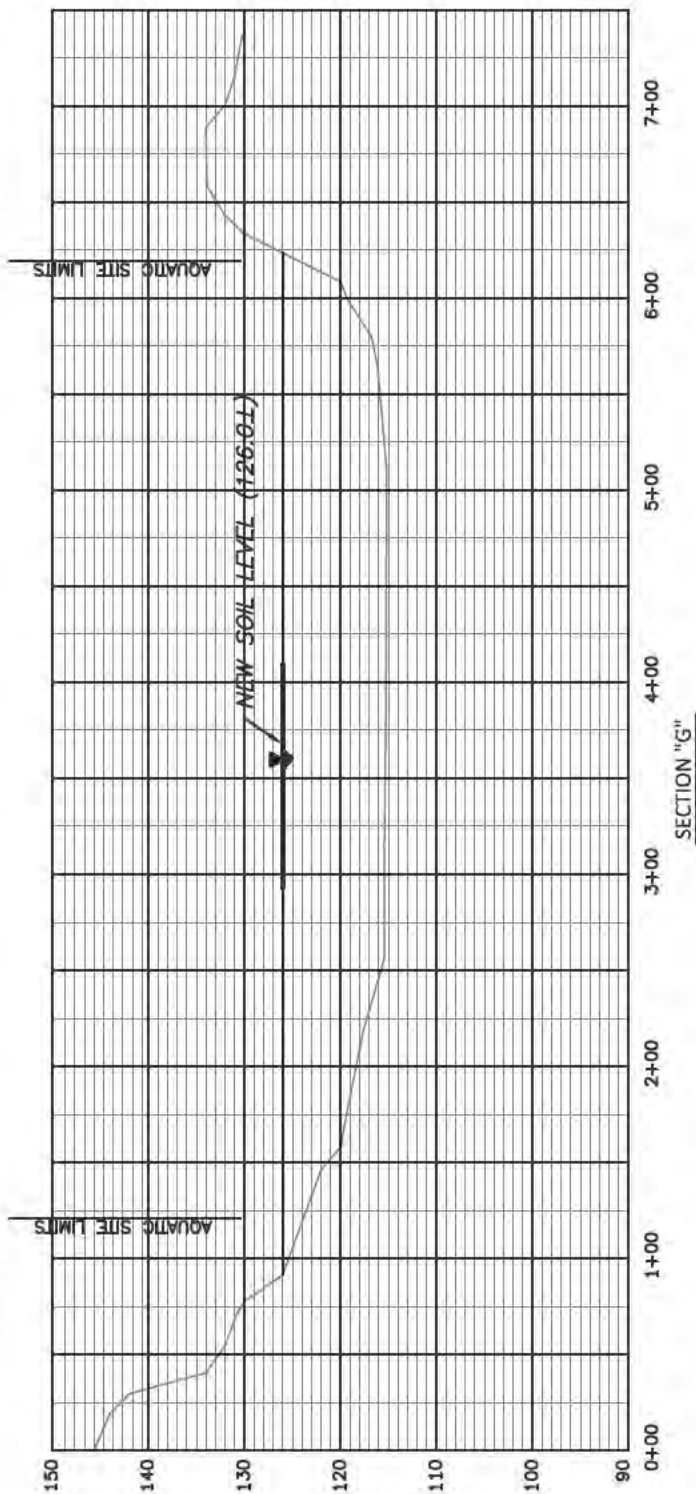


WETLANDS MASTER PLAN
WARREN LAKE DREDGING
AUGUSTA, RICHMOND COUNTY, GEORGIA



BORROW PIT
GRADING PLAN

SCALE: 1" = 250'
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WARREN LAKE DREDGING
 AUGUSTA, RICHMOND COUNTY, GEORGIA



BORROW PIT
CROSS-SECTIONS
G-G, H-H

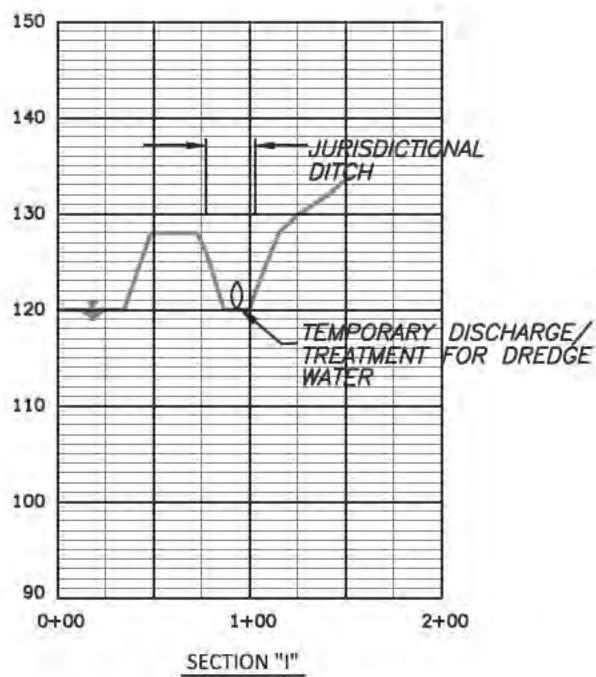
SCALE: VERT.: 1" = 20'
 HORIZ.: 1" = 100'

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WETLANDS MASTER PLAN
WARREN LAKE DREDGING
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BORROW PIT
CROSS-SECTION
I-I

SCALE: VERT.: 1" = 20'
 HORIZ.: 1" = 100'
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| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1685 | S49°57'10"W | 5.10 |
| L1686 | N76°05'42"W | 8.79 |
| L1687 | N75°11'22"W | 24.75 |
| L1688 | N66°27'07"W | 37.82 |
| L1689 | N79°31'25"W | 49.44 |
| L1690 | N74°24'31"W | 55.80 |
| L1691 | N72°57'21"W | 40.36 |
| L1692 | N81°04'24"W | 44.77 |
| L1693 | N59°43'30"W | 63.01 |
| L1694 | N67°11'35"W | 97.04 |
| L1695 | N56°37'25"W | 123.79 |
| L1696 | N53°31'20"W | 115.25 |
| L1697 | N29°13'13"W | 148.66 |
| L1698 | N33°50'52"W | 139.57 |
| L1699 | N42°32'10"W | 94.26 |
| L1700 | N27°05'25"W | 74.24 |
| L1701 | N00°45'54"W | 76.16 |
| L1702 | N30°17'09"E | 32.00 |
| L1703 | N04°32'59"E | 36.36 |
| L1704 | N09°31'46"W | 19.25 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1705 | N25°38'34"W | 59.07 |
| L1706 | N25°33'44"W | 152.59 |
| L1707 | N32°33'35"W | 26.42 |
| L1708 | N55°21'07"W | 247.16 |
| L1709 | N43°22'17"W | 18.31 |
| L1710 | N21°36'41"E | 22.95 |
| L1711 | N03°43'27"W | 73.24 |
| L1712 | N12°23'14"E | 42.45 |
| L1713 | N21°21'05"W | 97.89 |
| L1714 | N64°27'03"W | 126.05 |
| L1715 | N20°27'10"W | 127.45 |
| L1716 | N11°19'02"W | 103.49 |
| L1717 | N12°27'19"E | 58.59 |
| L1718 | N37°51'11"E | 35.11 |
| L1719 | N72°01'42"E | 47.36 |
| L1720 | N79°48'22"E | 117.35 |
| L1721 | N75°16'52"E | 135.55 |
| L1722 | N74°04'02"E | 111.54 |
| L1723 | N73°15'56"E | 108.39 |
| L1724 | N75°03'49"E | 64.79 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L1725 | S48°24'11"E | 41.62 |
| L1726 | N75°11'57"E | 93.21 |
| L1727 | S87°14'35"E | 23.51 |
| L1728 | N37°03'26"W | 35.77 |
| L1729 | N13°57'02"E | 19.13 |
| L1730 | S47°32'07"E | 40.36 |
| L1731 | S14°11'59"E | 68.82 |
| L1732 | S11°17'07"E | 41.47 |
| L1733 | S10°14'49"E | 50.81 |
| L1734 | S10°36'54"E | 56.07 |
| L1735 | S11°12'44"E | 56.41 |
| L1736 | S06°38'00"E | 57.08 |
| L1737 | S08°07'59"E | 52.75 |
| L1738 | S23°45'34"E | 43.60 |
| L1739 | S08°41'08"W | 33.24 |
| L1740 | S36°37'36"E | 25.68 |
| L1741 | S13°26'18"E | 49.36 |
| L1742 | S17°16'53"E | 50.39 |
| L1743 | S22°58'29"E | 65.10 |
| L1744 | S30°32'15"W | 42.44 |

WETLANDS MASTER PLAN
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Line Table

| Line # | Direction | Length |
|--------|-------------|--------|
| L1745 | S29°35'01"W | 69.38 |
| L1746 | S04°07'47"W | 45.56 |
| L1747 | S05°02'23"E | 48.21 |
| L1748 | S04°49'35"E | 71.68 |
| L1749 | S20°04'34"E | 70.93 |
| L1750 | N73°51'41"E | 26.01 |
| L1751 | N26°17'06"E | 34.58 |
| L1752 | N40°44'23"E | 65.42 |
| L1753 | S51°03'37"E | 22.20 |
| L1754 | S40°04'55"W | 26.14 |
| L1755 | S38°37'57"W | 45.06 |
| L1756 | S08°15'15"W | 25.95 |
| L1757 | N89°50'26"E | 43.15 |
| L1758 | S67°07'41"E | 28.73 |
| L1759 | S44°40'35"E | 31.42 |
| L1760 | S16°53'10"E | 42.05 |
| L1761 | S25°00'48"E | 76.33 |
| L1762 | S16°22'18"E | 63.58 |
| L1763 | S03°26'54"E | 53.43 |
| L1764 | S23°17'27"E | 55.01 |

Line Table

| Line # | Direction | Length |
|--------|-------------|--------|
| L1765 | S13°46'43"W | 53.97 |
| L1766 | S16°38'09"E | 74.52 |
| L1767 | S19°13'04"E | 56.20 |
| L1768 | S31°30'31"E | 29.18 |
| L1769 | S55°49'42"E | 34.79 |
| L1770 | S05°11'20"W | 60.64 |
| L1771 | S13°28'01"E | 49.24 |
| L1772 | S04°57'47"E | 32.98 |
| L1773 | S05°51'45"E | 73.22 |
| L1774 | S03°30'57"E | 50.96 |
| L1775 | S32°05'24"W | 76.23 |
| L1776 | S18°24'41"E | 32.90 |
| L1777 | S70°51'23"E | 79.42 |
| L1778 | S56°45'10"E | 30.43 |
| L1779 | S72°29'44"E | 39.01 |
| L1780 | S81°50'17"E | 29.96 |
| L1781 | S45°56'08"E | 15.90 |
| L1782 | S06°33'46"E | 5.85 |
| L2001 | N12°08'33"E | 28.93 |
| L2002 | N50°03'54"W | 19.81 |

Line Table

| Line # | Direction | Length |
|--------|-------------|--------|
| L2003 | S77°28'48"W | 73.50 |
| L2004 | S75°27'02"W | 86.74 |
| L2005 | S71°28'35"W | 137.22 |
| L2006 | S74°10'01"W | 199.66 |
| L2007 | S67°39'29"W | 117.81 |
| L2008 | S00°33'26"W | 24.77 |
| L2009 | S49°00'37"E | 21.47 |
| L2010 | N67°39'29"E | 115.42 |
| L2011 | N74°10'01"E | 198.26 |
| L2012 | N71°28'35"E | 136.75 |
| L2013 | N75°27'02"E | 84.54 |
| L2014 | N77°28'48"E | 72.76 |
| L2015 | N71°03'44"E | 111.73 |
| L2016 | N72°12'54"E | 196.99 |
| L2017 | N69°18'34"E | 137.09 |
| L2018 | N79°07'18"E | 81.64 |
| L2019 | N77°28'48"E | 25.87 |
| L2020 | S83°14'45"E | 20.13 |
| L2021 | S24°14'40"E | 11.85 |
| L2022 | S22°29'45"W | 8.48 |

WETLANDS MASTER PLAN
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| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L2023 | S68°14'51"W | 42.41 |
| L2024 | S71°52'42"W | 90.61 |
| L2025 | S73°05'36"W | 190.56 |
| L2026 | S68°59'51"W | 141.09 |
| L2027 | S75°45'14"W | 99.92 |
| L2028 | N79°40'44"W | 20.21 |
| L2029 | N05°42'53"W | 17.34 |
| L2030 | N47°15'24"E | 12.86 |
| L2031 | N69°24'49"E | 64.41 |
| L2032 | N07°36'02"W | 20.98 |
| L2033 | S86°03'28"W | 20.17 |
| L2034 | S71°28'40"W | 48.63 |
| L2035 | S71°52'42"W | 91.30 |
| L2036 | S73°05'36"W | 188.93 |
| L2037 | S75°01'00"W | 184.99 |
| L2038 | S62°20'42"W | 62.08 |
| L2039 | S43°42'29"W | 18.17 |
| L2040 | S03°00'54"W | 13.19 |
| L2041 | S87°38'19"E | 20.16 |
| L2042 | N75°45'14"E | 105.41 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L2043 | N63°03'04"E | 68.86 |
| L2044 | N73°28'47"E | 263.31 |
| L2045 | N71°52'42"E | 91.59 |
| L2046 | N38°46'45"W | 19.47 |
| L2047 | N46°27'29"E | 50.59 |
| L2048 | N81°28'33"E | 180.02 |
| L2049 | N68°40'41"E | 152.89 |
| L2050 | N75°43'39"E | 63.94 |
| L2051 | N71°52'42"E | 92.43 |
| L2052 | N66°52'37"E | 45.20 |
| L2053 | N88°05'32"E | 33.40 |
| L2054 | S08°58'46"E | 21.39 |
| L2055 | S66°04'05"W | 74.08 |
| L2056 | S71°52'42"W | 93.57 |
| L2057 | S60°23'37"W | 87.31 |
| L2058 | S77°30'34"W | 132.29 |
| L2059 | S73°55'47"W | 129.59 |
| L2060 | S84°52'33"W | 87.14 |
| L2061 | S78°06'32"W | 139.96 |
| L2062 | S77°07'58"W | 93.78 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L2063 | S77°30'34"W | 139.87 |
| L2064 | S73°55'47"W | 132.42 |
| L2065 | S72°30'05"W | 72.82 |
| L2066 | N77°12'54"W | 20.17 |
| L2067 | N40°37'23"E | 20.51 |
| L2069 | N72°30'05"E | 73.09 |
| L2070 | N73°55'47"E | 133.34 |
| L2071 | N77°30'34"E | 139.21 |
| L2072 | N70°21'15"E | 95.76 |
| L2073 | N77°34'34"E | 144.70 |
| L2074 | N81°16'30"E | 37.34 |
| L2075 | S78°14'26"E | 27.28 |
| L2076 | S55°58'28"W | 49.67 |
| L2077 | S72°44'22"W | 20.66 |
| L2078 | N44°43'42"W | 12.12 |
| L2079 | N09°13'15"W | 50.64 |
| L2080 | N84°28'02"W | 24.41 |
| L2081 | N07°10'39"W | 69.12 |
| L2082 | N17°07'32"W | 43.77 |
| L2083 | N10°35'59"W | 86.55 |

WETLANDS MASTER PLAN
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| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L2084 | N15°27'55"W | 42.82 |
| L2085 | N17°28'08"W | 65.37 |
| L2086 | N10°39'46"W | 54.51 |
| L2087 | N20°50'40"W | 73.45 |
| L2088 | N15°28'18"W | 64.16 |
| L2089 | N19°31'58"W | 58.65 |
| L2090 | N10°18'19"W | 14.37 |
| L2091 | N75°17'51"E | 12.51 |
| L2092 | N57°11'28"W | 20.05 |
| L2093 | N00°20'01"W | 61.29 |
| L2094 | N35°13'52"W | 75.16 |
| L2095 | N28°30'51"W | 59.40 |
| L2096 | N42°24'00"W | 42.46 |
| L2097 | N33°10'39"W | 89.50 |
| L2098 | S82°13'42"W | 7.01 |
| L2099 | S01°28'03"E | 9.49 |
| L2100 | S55°22'48"E | 14.49 |
| L2101 | S24°40'14"E | 81.84 |
| L2102 | S42°08'36"E | 76.93 |
| L2103 | S00°45'15"W | 47.18 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L2104 | S09°58'43"E | 26.39 |
| L2105 | S23°09'39"E | 27.51 |
| L2106 | S17°34'59"E | 29.05 |
| L2107 | S86°16'02"E | 16.48 |
| L2108 | S30°39'21"E | 41.38 |
| L2109 | S08°20'58"E | 115.04 |
| L2110 | S20°14'36"E | 126.66 |
| L2111 | S26°43'23"E | 24.34 |
| L2112 | S15°04'58"E | 93.58 |
| L2113 | S11°59'46"E | 151.50 |
| L2114 | S11°02'35"E | 35.94 |
| L2115 | S15°56'27"E | 29.14 |
| L2116 | S70°35'10"W | 6.68 |
| L2117 | N63°13'54"W | 110.40 |
| L2118 | N78°54'24"W | 85.75 |
| L2119 | N83°01'59"W | 75.90 |
| L2120 | S83°53'56"W | 90.47 |
| L2121 | S80°36'45"W | 113.46 |
| L2122 | S81°13'59"W | 99.32 |
| L2123 | S85°55'27"W | 51.50 |

| Line Table | | |
|------------|-------------|--------|
| Line # | Direction | Length |
| L2124 | S60°15'17"W | 81.24 |
| L2125 | S58°00'46"W | 50.65 |
| L2126 | S72°17'29"W | 81.48 |
| L2127 | S73°35'14"W | 142.70 |
| L2128 | S67°44'17"W | 34.71 |
| L2129 | S37°41'52"E | 7.68 |
| L2130 | N36°45'21"E | 26.13 |
| L2131 | N51°48'39"E | 20.18 |
| L2132 | S17°24'36"E | 58.12 |
| L2133 | S02°46'08"W | 39.35 |
| L2134 | S48°59'13"E | 35.31 |
| L2135 | S24°48'26"W | 67.15 |
| L2136 | S13°16'43"W | 46.75 |
| L2137 | S25°19'05"E | 31.75 |
| L2138 | S20°24'48"E | 15.84 |

**WETLANDS MASTER PLAN
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AUGUSTA, RICHMOND COUNTY, GEORGIA**



**BORROW PIT
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APRIL 15, 2011
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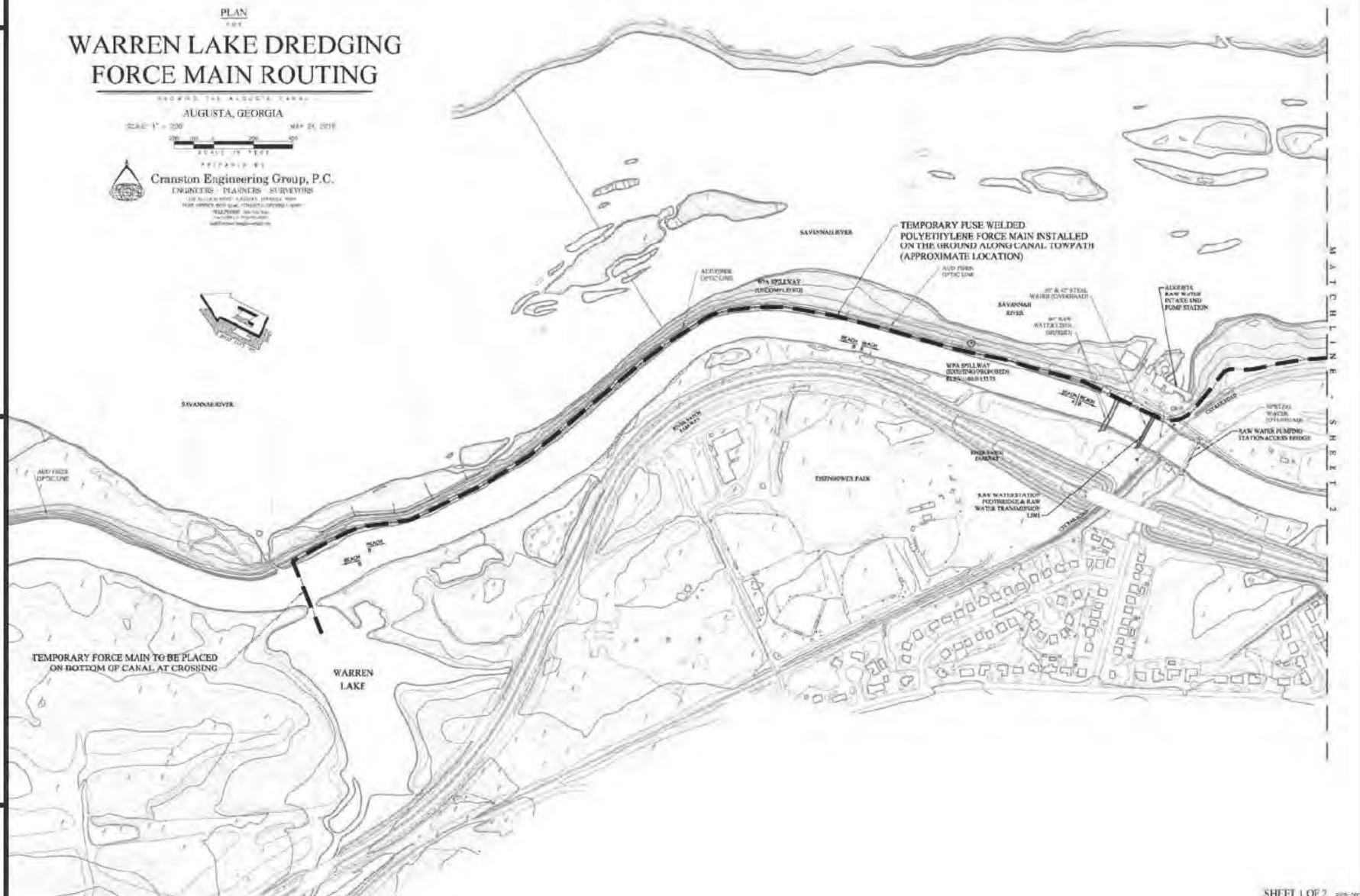
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FORCE MAIN
ROUTING -
BORROW PIT

SCALE: AS SHOWN
MAY 24, 2016
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ROUTING -
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SCALE: AS SHOWN
MAY 24, 2016
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