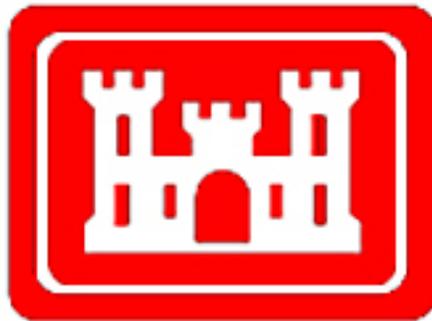


Finding of No Significant Impacts and Environmental Assessment

Chattahoochee Raw Water Intake Improvements
and Defoors Island Bank Stabilization
City of Atlanta, Fulton and Cobb Counties, Georgia



Prepared by:
U.S. Army Corps of Engineers
Mobile District
Mobile, Alabama

September 2012

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)
FOR
CHATTAHOOCHEE RAW WATER IMPROVEMENT
AND DEFOORS ISLAND BANK STABILIZATION
SECTION 219 ENVIRONMENTAL INFRASTRUCTURE PROJECT
CITY OF ATLANTA, FULTON AND COBB COUNTIES, GEORGIA**

1. PROPOSED ACTION: Alternative B consist of two components: 1) restoring the upper and lower sills to their original design elevations by placement of riprap appropriately sized to achieve the desired river stages, and of suitable size to remain in-place during peak flow/velocity events; and 2) bank stabilization along the eastern bank of Defoors Island.

Alternative B consists of the lower sill being armored by 400 tons of rip-rap to elevation 749 feet, which is the original constructed elevation. The elevation has been degraded overtime and the current rock structure does not consistently meet this elevation. A 40-foot notch in the lower sill would be provided to maintain low flow conditions. The elevation of this notch would be constructed to 746 feet. Therefore, either side of the lower sill would be at elevation 749 feet and transition down to elevation 746 towards the middle of the sill.

Similarly, armoring of the upper sill is also included under Alternative B to re-establish its original design elevation. Riprap will be placed along the upper sill approximately 1 to 2 feet in thickness such that the original control elevation (elevation 749) is restored. It should be noted however that improvements to the lower sill are a higher priority than improvements to the upper sill. It is recommended that improvements to the upper sill be made after the lower sill and bank stabilization work is complete, and based upon overall construction costs and available project funding.

Alternative B for the Defoors Island would consist of the placement of 6,100 tons of large diameter riprap along the eastern bank of Defoors Island, beginning at the southerly tip of the island and continuing upstream to the upper sill. Riprap placement would extend outward from the existing bank approximately 20 to 30 feet, and reach a height of approximately 8 to 12 feet. This overall height would include toeing the riprap into the existing river bed, and placement to a height equal to, or above the one-year storm stage. The riprap size would include a gradation to allow for interlocking and filled of voids, with the largest stones anticipated to be in the range of 3 to 5 feet in diameter. Live stakes will be placed within the riprap voids to establish a vegetative bank cover.

Above the top of riprap (extending from the riprap to the top of bank), bank protection measures would include excavation of 1,250 cubic yards of earthen material, placement of 750 cubic yards of earthen fill, and placement of 400 square yards of turf reinforcement matting. The matting would be designed to allow for bank re-vegetation with 900 live stakes consisting of an equal mixture of silky dogwood (*Cornus amomum*), silky willow (*Salix sericea*), and elderberry (*Sambucus caerulea*). Along the top of bank and extending landward towards the center of the island, a mixture of native plants

(containerized trees and shrubs) will be placed within areas disturbed during construction activities. Planted vegetation will include a mixture of the following: southern wax myrtle (*Myrica cerifera*), winterberry (*Ilex verticillata*), silky dogwood (*Cornus amomum*), red maple (*Acer rubrum*), river birch (*Betula nigra*), black willow (*Salix nigra*), boxelder (*Acer negundo*), green ash (*Fraxinus pennsylvanica*), and sycamore (*Platanus occidentalis*). All disturbed areas will also be seeded using a riparian buffer seed mixture suitable for the project area.

The tentatively selected alternative will remain within the existing footprint except for where temporary access is required.

2. NEED FOR PROPOSED ACTION: The purpose of the proposed action is to rehabilitate the upper and lower sills adjacent to the City of Atlanta raw water intake structure on the Chattahoochee River and stabilize the eastern shoreline of Defoors Island which serves as an integral part of the sill system. The project is needed to ensure adequate water depth at the City of Atlanta raw water intake during periods of low flow in the Chattahoochee River.

3. ALTERNATIVES TO THE PROPOSED ACTION CONSIDERED: Alternatives to the proposed action which were considered in the study include:

a. **Alternative A No Action (Sills Improvement and Defoors Island).** Under the No Action Alternative, the existing sills would (at least for some period of time) continue to function as they currently do. With this option, however, the raw water intake facility would continue to function below design/optimum performance. Further, the sill would over time continue to degrade and compromise the hydraulic performance of the facility. The existing banks along the eastern side of Defoors Island are significantly eroded, and continue to recede. The No Action Alternative will not address the current condition, nor mitigate continued degradation. Over time, continued bank erosion could compromise the integrity of the lower sill, resulting in significant impacts to the operations at the raw water intake. The bank would remain as a vertical, relatively bare portion of the river corridor, with a limited aesthetic appeal, compared to surrounding vegetated banks with rock outcroppings. In addition, continued erosion of the island bank could lead to a breach between the lower sill and island.

b. **Alternative C Sills Improvement Riprap Placement (Grouted or in Combination with a Poured Concrete Barrier Wall).** Alternative C is similar to Alternative B, but includes the option of either grouting the newly placed riprap for increased stability and/or constructing a concrete barrier wall (for riprap support and to deter sub-structure flows). With this alternative, additional construction costs would be incurred (in comparison with Alternative B), as well as potentially increase permitting/environmental considerations. Also less aesthetically appearing and not supported by the National Park Service.

c. **Alternative C Defoors Island Riprap Placement (with Tennessee Fieldstone Facing).** This alternative is similar to Alternative B, but includes placement of Tennessee

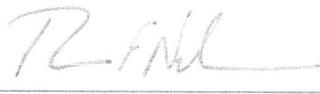
fieldstone, or other available stone, along the exterior of the riprap slope to improve the visual appearance of the bank stabilization. Bank re-vegetative measures incorporated above the top of the fieldstone would be similar to those described in Alternative B. Tennessee fieldstone is a stackable material with a more natural, varied color, widely used on stream restoration projects in the southeast. In comparison with Alternative B, Alternative C would improve the overall aesthetics of the completed project, but at a significantly higher cost. Unit prices for Tennessee fieldstone are anticipated to be roughly double that of locally quarried riprap.

d. **Alternative D Defoors Island Flexible Concrete Matting.** Several types of flexible concrete matting products are available for consideration as viable bank stabilization alternatives (including ShoreTech, ArmorFlex, A-Jacks, Fabriform, and other similar products). Considering the various flexible concrete matting options, the design approach would be similar for each product considered. Similar to Alternatives B and C, the flexible matting option would result in a uniform cross section providing bank stabilization up to the one-year storm level. Also similar to the other options, this alternative would include "toeing" in the matting at the riverbed and re-vegetation of the restored bank above the upper limit of the matting. The placement of riprap along the shoreline would be replaced with placement of the flexible matting. The thickness and volume of matting would require significantly more earthwork and compaction of earthen fill would be required in order to prepare the bank for placement of the matting. The flexible concrete matting would result in an inconsistent aesthetic compared to other natural banks in the surrounding river corridor.

4. FACTORS CONSIDERED IN DETERMINING THAT NO ENVIRONMENTAL IMPACT STATEMENT IS REQUIRED: There have been no significant adverse issues raised regarding the recommended plan. There was no hazardous, toxic or radiological waste identified in the proposed project area. There are no jurisdictional wetlands in the proposed project area. There will be no impacts to cultural resources. There is no effect to Federally protected flora or fauna within the proposed project area.

5. CONCLUSIONS: An evaluation of the Environmental Assessment describing the proposed Chattahoochee Raw Water Intake Improvement and Defoors Island Bank Stabilization Project shows that the proposed action would have no significant impacts on the environment. Therefore an Environmental Impact Statement is not warranted.

Date: 28 SEP 2012


for Steven J. Roemhildt, P.E.
Colonel, Corps of Engineers
District Commander

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EA Appendix B: Photographs

EA Appendix C: Coordination Letter

EA Appendix D: Section 404 (B)(1) Evaluations

Acronyms and Abbreviations

APE	Area of Potential Effect
BMP	Best Management Practices
COA	City of Atlanta
EA	Environmental Assessment
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GADNR	Georgia Department of Natural Resources
GAEPD	Georgia Environmental Protection Division
GGG	Georgia Geological Survey
GNAHRGIS	Georgia Natural, Archaeological and Historic Resources Georgia Information System
NAAQS	National Ambient Air Quality Standards
NHPA	National Historic Preservation Act
NPS	National Park Service
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Service
OAQPS	Office of Air Quality Planning and Standards
REC	Recognized Environmental Conditions
SFHA	Special Flood Hazard Area
TMDL	Total Maximum Daily Load
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGA	U.S. Geological Survey

1.0 Introduction

The U.S. Army Corps of Engineers, Mobile District (USACE), in partnership with the City of Atlanta (COA), has proposed to rehabilitate the upper and lower sills adjacent to the COA raw water intake structure on the Chattahoochee River, which has slowly deteriorated over time. The COA and USACE have coordinated the project with the National Park Service (NPS), given the project area is within the Chattahoochee National Recreation Area. While the project goal is to restore the stability of both the sills and adjacent east bank of Defoors Island, the project is not intended to prevent the recreational usage of the river. The project will involve improvements to both sills to restore the integrity and cross section of the sills back to their original design condition. The sills are designed to ensure adequate water depth at the intake structure during low flow conditions while still passing base flow.

1.1 Location

The COA raw water intake is located on the east bank of the Chattahoochee River approximately 1,600 feet upstream of South Atlanta Road. The east bank of the Chattahoochee River is within the incorporated areas of the COA, and the west bank is within unincorporated areas of Cobb County. Figure 1-1 illustrates the location of the intake structure. The land use in this area is primarily industrial, with the Cobb County R.L. Sutton Water Reclamation Facility on the west bank, and the COA Chattahoochee water treatment plant and the R.M. Clayton Water Reclamation Facility to the south of Peachtree Creek. Defoors Island is COA property. The proposed action is located within the Chattahoochee River channel in both Fulton and Cobb Counties, Georgia.

1.2 Proposed Action

Alternative B (Environmental Assessment (EA) Appendix A: Construction Design Drawings) consist of two components: 1) restoring the upper and lower sills to their original design elevations by placement of riprap appropriately sized to achieve the desired river stages, and of suitable size to remain in-place during peak flow/velocity events; and 2) bank stabilization along the eastern bank of Defoors Island.

Alternative B consists of the lower sill being armored by 400 tons of rip-rap to elevation 749 feet, which is the original constructed elevation. The elevation has been degraded overtime and the current rock structure does not consistently meet this elevation. A 40-foot notch in the lower sill would be provided to maintain low flow conditions. The elevation of this notch would be constructed to 746 feet. Therefore, either side of the lower sill would be at elevation 749 feet and transition down to elevation 746 towards the middle of the sill.

Similarly, armoring of the upper sill is also included under Alternative B to re-establish its original design elevation. Riprap will be placed along the upper sill approximately 1 to 2 feet in thickness such that the original control elevation (elevation 749) is restored. It should be noted however that improvements to the lower sill are a higher priority than improvements to the upper sill. It is recommended that improvements to the upper sill be made after the lower sill and bank stabilization work is complete, and based upon overall construction costs and available project funding.

Alternative B for the Defoors Island would consist of the placement of 6,100 tons of large diameter riprap along the eastern bank of Defoors Island, beginning at the southerly tip of the island and continuing upstream to the upper sill. Riprap placement would extend outward from the existing bank approximately 20 to 30 feet, and reach a height of approximately 8 to 12 feet. This overall height would include toeing the riprap into the existing river bed, and placement to a height equal to, or above the one-year storm stage. The riprap size would include a gradation to allow for interlocking and fill of voids, with the largest stones anticipated to be in the range of 3 to 5 feet in diameter. Live stakes will also be placed within the riprap voids to establish a vegetative bank cover.

Above the top of riprap (extending from the riprap to the top of bank), bank protection measures would include excavation of 1,250 cubic yards of earthen material, placement of 750 cubic yards of earthen fill, and placement of 400 square yards of turf reinforcement matting. The matting would be designed to allow for bank re-vegetation with 900 live stakes consisting of an equal mixture of silky dogwood (*Cornus amomum*), silky willow (*Salix sericea*), and elderberry (*Sambucus caerulea*). Along the top of bank and extending landward towards the center of the island, a mixture of native plants (containerized trees and shrubs) will be placed within areas disturbed during construction activities. Planted vegetation will include a mixture of the following: southern wax myrtle (*Myrica cerifera*), winterberry (*Ilex verticillata*), silky dogwood (*Cornus amomum*), red maple (*Acer rubrum*), river birch (*Betula nigra*), black willow (*Salix nigra*), boxelder (*Acer negundo*), green ash (*Fraxinus pennsylvanica*), and sycamore (*Platanus occidentalis*). All disturbed areas will also be seeded using a riparian buffer seed mixture suitable for the project area.

The proposed action will remain within the existing footprint except for where temporary access is required (EA Appendix A: Construction Design Drawings).

1.3 Purpose and Need

The purpose of the proposed action is to rehabilitate the upper and lower sills adjacent to the COA raw water intake structure on the Chattahoochee River and stabilize the eastern shoreline of Defoors Island which serves as an integral part of the sill system. The project is needed to ensure adequate water depth at the COA raw water intake during periods of low flow in the Chattahoochee River.

1.4 Authority

The Chattahoochee Raw Water Intake Improvement and Defoors Island Bank Stabilization project is being conducted under the authority of Section 219 of the Water Resources Development Act (WRDA) of 1992, as amended, in subsection "c (2) Atlanta, Georgia. – A combined sewer overflow treatment facility for the City of Atlanta, Georgia." In 1996, this authority was "modified to include watershed restoration and development in the regional Atlanta watershed, including Big Creek and Rock Creek" and to provide "(e) AUTHORIZATION OF APPROPRIATIONS FOR CONSTRUCTION ASSISTANCE. – They are authorized to be appropriated for providing construction assistance under this section – (5) \$25,000,000 for the project described in subsection (c) (2)."

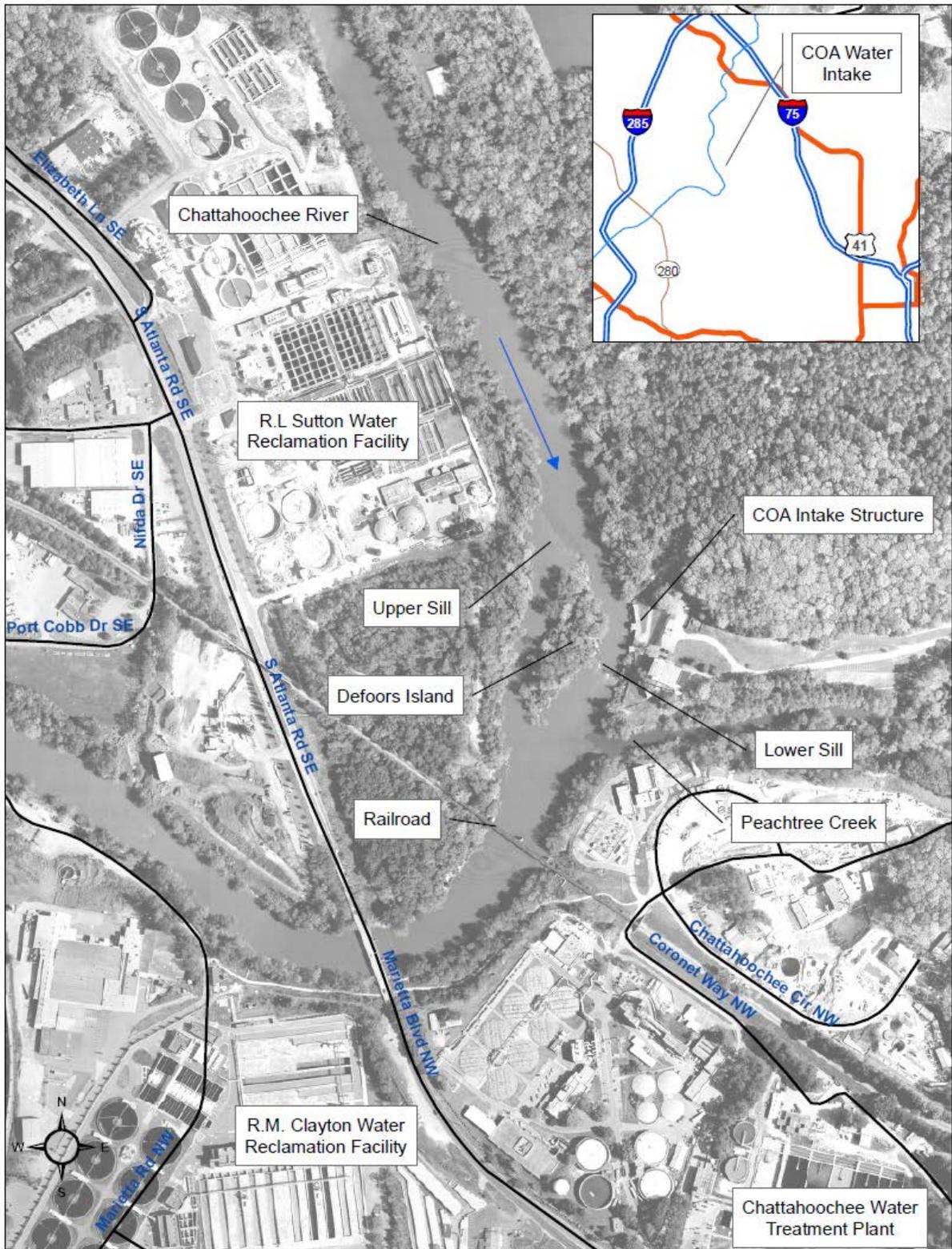


Figure 1-1
 Location Map
 Chattahoochee Raw Water Intake Rehabilitation

2.0 Alternatives to the Proposed Action

Several alternatives were considered as part of the Chattahoochee Raw Water Intake Improvements and Defoors Island Bank Stabilization project. Of these alternatives, Alternative B was chosen from both the alternative design options for the upper and lower sills and the Defoors Island eastern banks.

Alternatives to the Proposed Action are detailed below:

2.1 Alternative A No Action (Sills Improvement and Defoors Island)

Under the No Action Alternative, the existing sills would (at least for some period of time) continue to function as they currently do. With this option, however, the raw water intake facility would continue to function below design/optimum performance. Further, the sill would over time continue to degrade and compromise the hydraulic performance of the facility. The existing banks along the eastern side of Defoors Island are significantly eroded, and continue to recede. The No Action Alternative will not address the current condition, nor mitigate continued degradation. Over time, continued bank erosion could compromise the integrity of the lower sill, resulting in significant impacts to the operations at the raw water intake. The bank would remain as a vertical, relatively bare portion of the river corridor, with a limited aesthetic appeal, compared to surrounding vegetated banks with rock outcroppings. In addition, continued erosion of the island bank could lead to a breach between the lower sill and island.

2.2 Alternative C Sills Improvement Riprap Placement (Grouted or in Combination with a Poured Concrete Barrier Wall)

Alternative C is similar to Alternative B, but includes the option of either grouting the newly placed riprap for increased stability and/or constructing a concrete barrier wall (for riprap support and to deter sub-structure flows). With this alternative, additional construction costs would be incurred (in comparison with Alternative B), as well as potentially increase permitting/environmental considerations. Also less aesthetically appearing and not supported by the NPS.

2.3 Alternative C Defoors Island Riprap Placement (with Tennessee Fieldstone Facing)

This alternative is similar to Alternative B, but includes placement of Tennessee fieldstone, or other available stone, along the exterior of the riprap slope to improve the visual appearance of the bank stabilization. Bank re-vegetative measures incorporated above the top of the fieldstone would be similar to those described in Alternative B. Tennessee fieldstone is a stackable material with a more natural, varied color, widely used on stream restoration projects in the southeast. In comparison with Alternative B, Alternative C would improve the overall

aesthetics of the completed project, but at a significantly higher cost. Unit prices for Tennessee fieldstone are anticipated to be roughly double that of locally quarried riprap.

2.4 Alternative D Defoors Island Flexible Concrete Matting

Several types of flexible concrete matting products are available for consideration as viable bank stabilization alternatives (including ShoreTech, ArmorFlex, A-Jacks, Fabriform, and other similar products). Considering the various flexible concrete matting options, the design approach would be similar for each product considered. Similar to Alternatives B and C, the flexible matting option would result in a uniform cross section providing bank stabilization up to the one-year storm level. Also similar to the other options, this alternative would include “toeing” in the matting at the riverbed and re-vegetation of the restored bank above the upper limit of the matting. The placement of riprap along the shoreline would be replaced with placement of the flexible matting. The thickness and volume of matting would require significantly more earthwork and compaction of earthen fill would be required in order to prepare the bank for placement of the matting. The flexible concrete matting would result in an inconsistent aesthetic compared to other natural banks in the surrounding river corridor.

3.0 Existing Environment and Potential Consequences

This section summarizes the general conditions of the physical and biological environment and the socioeconomic resources in the project area. The information was used to assess potential impacts resulting from implementation of the Proposed Action. Impacts from the various action alternatives (C-D) are consistent and thus only the Proposed Action impacts are detailed. Consequences, as well as environmental impacts which are expected with no project implementation (the No Action Alternative), are also summarized in this section.

3.1 Land Use

Urban growth and development has adversely affected the biological integrity and water quality of the Chattahoochee River within Fulton and Cobb Counties. Fulton County has a land area of approximately 526.64 square miles and has a population density of 1,748 persons per square mile (based on 2010 census). For comparison, the population density of the State is 168.4 persons per square mile. Cobb County has a land area of approximately 339.55 square miles and has a population density of 2,026.4 persons per square mile (based on 2010 census). The Chattahoochee River Basin covers 6,140 square miles (70%) in Georgia.

3.1.1 Consequences

Proposed Action Alternative B

Construction involved in implementation of the Proposed Action would not affect any land use types in the watershed. All land disturbances resulting from this project would be limited to the Chattahoochee River portion of the project area. The proposed action is not expected to facilitate growth in the project area. Therefore, no significant impacts to land use will occur.

No Action Alternative A (Sills Improvement and Defoors Island)

Conditions would remain as they are. No impacts to land use would result from the No Action Alternatives.

3.2 Air Quality

The Environmental Protection Agency's (EPA) Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The OAQPS has set NAAQS for six principal pollutants, called criteria pollutants. These pollutants are: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), lead (Pb), particulates {particles with diameters of 10 micrometers or less (PM 10)}, and sulfur dioxide (SO₂) (EPA 2002). The State of Georgia has adopted the NAAQS as the state's air quality criteria.

The Atlanta region is in nonattainment for ground level Ozone standard, and the [Fine Particle Particulate Matter \(PM 2.5\)](#) standard.

3.2.1 Consequences

Proposed Action Alternative B

Construction of the Proposed Action would be similar to other moderate-sized construction projects in terms of impacts to air quality. Short-term emissions would result, but impacts would end when construction was complete. Construction activities could generate fugitive dust, but impacts would be limited through the use of appropriate BMPs, including sprinkling/irrigation, vegetative cover, and mulching, to minimize fugitive dust production. Significant impacts would be avoided through timing of construction activities to avoid any severe air quality alert days. Additional mitigation measures for short-term impacts include properly maintaining equipment and reducing the amount of equipment involved to the extent possible, so that (where applicable) equipment is not left idling for prolonged periods of time. Therefore, no significant impacts to air quality will occur.

No Action Alternative A (Sills Improvement and Defoors Island)

No construction would occur. No impacts to air quality would result from the No Action Alternatives.

3.3 Noise

The proposed project area is commercial/industrial/residential and noise levels in typical urban residential areas range from 58 dB to 72 dB (USACE, 1998).

3.3.1 Consequences

Proposed Action Alternative B

Noise associated with construction of the proposed restoration projects would be generated by the various trucks, backhoes, bulldozers, and other heavy equipment required. As these noise levels are higher than those typical in urban residential areas, construction activities will be limited to typical working hours, minimizing exposure to nearby residents, to mitigate the effects of noise in the project area. Nearby residences may experience interference with outdoor conversation, but any such interference would be only a minor nuisance. Additionally, workers will be required to wear appropriate hearing protection. No work would be done at night, so

there would be no sleep disturbance. Any impacts from noise would be short-term and negligible. Therefore, there will be no significant impacts from noise.

No Action Alternative A (Sills Improvement and Defoors Island)

No construction would occur. No impacts from noise would result under the No Action Alternatives.

3.4 Physiography, Geology, and Soils

3.4.1 Physiography

The Proposed Action is located in the Southern Inner Piedmont subecoregion of Georgia, in the larger Piedmont Level III Ecoregion (Griffith et al., 2001). The Piedmont is bounded to the north by more mountainous areas and to the south by the Southeastern Plains Ecoregion. Most of the Southern Inner Piedmont subecoregion is forested, with predominately oak-pine and oak-hickory forest types. Open pastures and cropland areas also exist in the subecoregion. Urban and suburban development is occurring in the region (Georgia Department of Natural Resources [GADNR], 2001).

3.4.2 Geology

Geology in the Piedmont Ecoregion consists primarily of Precambrian and Paleozoic metamorphic and igneous rocks. Metamorphic rock types include biotite gneiss, schist, slate, quartzite, phyllite, and amphibolite. Igneous rocks consist primarily of granite, but also include gabbro, mafic rocks, and diabase dikes. Overall, gneiss, schist, and granite are the dominant rock types (U.S. Department of Agriculture [USDA], 2006).

3.4.3 Soils

Based on the online soil surveys of Cobb and Fulton Counties, Georgia, as prepared by the US Department of Agriculture Natural Resource Conservation Service, Toccoa soils are found on the west (Cobb County) bank of the subject property and the southern portion of Defoors Island. Congaree Sandy Loam (0 to 2 percent slopes; occasionally flooded) occurs in the northern portion of Defoors Island and the construction staging area located closest to the river on the Fulton County bank. The Congaree-Cartecay complex (0 to 2 percent slopes; occasionally flooded) is the dominant soil type found in the area south of the Chattahoochee River Raw Water Intake structure on the Fulton County bank. Finally, the Ashlar-Rion complex (6 to 25 percent slopes, stony) is the dominant soil type of the second construction area located adjacent to the Chattahoochee River Raw Water Intake Facility (Natural Resources Conservation Service [NRCS], 2011a).

The Congaree Sandy Loam (0 to 2 percent slopes; occasionally flooded) and the Congaree-Cartecay complex (0 to 2 percent slopes; occasionally flooded) are both classified as well drained and are composed of sandy loam and loam materials (NRCS, 2011b and NRCS, 2011c). The Toccoa soils include sandy loam materials and are well-drained (NRCS, 2011d). The Ashlar-Rion complex (6 to 25 percent slopes, stony) is classified as excessively well drained with a typical profile of loamy sand, sandy loam, and bedrock (NRCS, 2011e).

3.4.4 Consequences

Proposed Action Alternative B

The Proposed Action would have no impact on physiography and geology. Some disturbance to soils would occur from construction of the Proposed Action. Heavy equipment would be used to move and compact soils, and remove debris in construction areas. Disturbed areas would be minimized, and the work would be confined to the final site boundaries. Sedimentation and erosion controls would be implemented to minimize erosion of surrounding soils due to soil/ground disturbance. Potential impacts to soils would be controlled and avoided through the use of appropriate BMPs and soil stabilization/re-vegetation techniques following construction. Appropriate BMPs would be selected based on site-specific conditions and could include, but would not be limited to, sediment barriers (silt fence or straw bales), grade stabilization with seed and mulch, and geotextile slope stabilization.

The grading plans would also provide information regarding when earthwork would start and stop, establish the degree and length of finished slopes, and specify where and how excess material would be disposed or where borrow materials would be obtained if needed. Berms, diversions, and other stormwater practices that require excavation and filling also would be incorporated into the grading plan. Erosion, sediment control and stormwater management goals would be considered in the grading plan. Grading crews would be supervised to ensure that the plans are implemented as intended.

Positive impacts to soils would result from implementation of the Proposed Action. Bank stabilization measures included in the proposed project would reduce the amount of erosion occurring in the stream channel and lead to a long-term decrease in soil loss. Riparian planting, earthen fill, and riprap placement in the project area would also decrease the amount of soil loss and erosion in riparian areas.

No Action Alternative A (Sills Improvement and Defoors Island)

Under the No Action Alternative, no land disturbance or construction would take place. Therefore, no direct impacts to geology, soils or topography would result from the No Action Alternative. There would be indirect negative impacts to soils. Absent the implementation of the Proposed Action, Defoors Island degradation would continue and soils would be lost to erosion.

3.5 Aesthetics

At the project locations, the aesthetics of the sill improvements would not be distinguishable or visible while the aesthetics of the Defoors Island has diminished causing a less pleasing appearance. Areas along Defoors Island have been infiltrated with debris, and severe erosion. A visual overview of the historical and current aesthetics of the project area can be found in EA Appendix B: Photographs.

3.5.1 Consequences

Proposed Action Alternative B

The Proposed Action would have a positive impact on aesthetics. The planting of native trees and shrubs, along Defoors Island would enhance the riparian areas at the project location. Bank stabilization would remove the sight of bare and sloughing banks, and would result in cleaner

and clearer water at the project location. Additionally, debris would be removed during the proposed activities and would improve aesthetics at the project site.

No Action Alternative A (Sills Improvement and Defoors Island)

Under the No Action Alternative, no changes to the lower sill and Defoors Island would occur, and there would be no changes to aesthetics.

3.6 Water Resources

3.6.1 Surface Water

Georgia Environmental Protection Division (GAEPD) identifies segments of State streams in Georgia's 305(b)/303(d) List of Waters in accordance with Section 305(b) of the Clean Water Act. Section 305(b) requires states to monitor and report water quality conditions on a biannual basis. The List of Waters provides an assessment of surface water quality by listing assessed waters as either "supporting" or "not supporting" their designated use, and for waters not supporting their designated use, identifying the criterion violated and potential causes of impairment. The list places waters not supporting their designated use into one of five categories, which indicate the status of development by GAEPD of total maximum daily loads (TMDLs), a determination of the amount of a pollutant which can be introduced to a stream without causing the stream to violate its designated use.

The Chattahoochee River segment of the proposed project area is not listed on Georgia's 305(b)/303(d) list of waters. However, Peachtree Creek, located downstream of the project area, is listed for not supporting the "fishing" water use classification and for violating fecal coliform standards. The Chattahoochee River from Peachtree Creek to Utoy Creek, located south of the subject property, is also listed for not supporting the "fishing" water use classification and for violating fecal coliform and polychlorinated biphenyls (PCBs) standards (GAEPD, 2012).

3.6.2 Groundwater

The identification of groundwater recharge areas is important for identifying alternative water sources. The Department of Natural Resources makes available its Hydrologic Atlas 18 database which identifies significant groundwater recharge areas in Georgia. Areas of thick soils are identified by aquifer type across the State based on testing conducted by the State, and on outcrop area, lithology, soil type, slope, density of lithologic contacts, geologic structure, the presence of karst, and potentiometric surfaces (U.S. Geological Survey [USGS], 2006). A few very small areas are classified as "probable areas of thick soils;" however no groundwater recharge areas are present within the Chattahoochee River Basin (Georgia Geological Survey [GGS], 2007).

3.6.3 Floodplains

Typically, floodplains are designated and mapped by the National Flood Insurance Program, which is administered by the Federal Emergency Management Agency (FEMA). Official floodplain maps prepared by FEMA delineate intermediate regional flood zones (areas inundated by a flood having an average frequency of occurrence once in 100 years). The effective flood zone designation for the Chattahoochee River within both counties is "Zone AE", a Special Flood Hazard Area (SFHA) with designated base flood elevations. An SFHA is an area subject to

flooding during the 1-% annual chance event, also known as the “base flood”. The Chattahoochee River also has a designated floodway within the revision area.

3.6.4 Wetlands

Wetland delineation was conducted to determine if there was the presence of wetlands in the project area. None were found in the proposed project area and staging areas. However, it is important to understand that wetlands provide a critical habitat for a number of species, are a valuable land cover, and should be protected because they maintain average river levels, and they filter and purify surface water. Wetlands also reduce the frequency and intensity of flooding by storing water during storms and slowly releasing it. Especially significant is the ability of wetlands to filter pollutants from urban runoff, leaking septic systems, agricultural runoff, and heavy metals from industrial sites. Due to the important role these areas play in the ecosystem, wetlands are provided appropriate protection through current federal and state regulations.

3.6.5 Stormwater

Urban stormwater runoff has been identified as a major source of stressors such as oxygen demanding waste and fecal coliform bacteria in the Chattahoochee basin; however, there are no issues with stormwater in the vicinity of the project area. Stormwater may flow directly to streams as a diffuse, nonpoint process, or may be collected and discharged through a storm sewer system.

Pollutants typically found in urban storm water runoff include pathogens (such as bacteria and viruses from human and animal waste), heavy metals, debris, oil and grease, petroleum hydrocarbons and a variety of compounds toxic to aquatic life. In addition, the runoff often contains sediment, excess organic material, fertilizers (particularly nitrogen and phosphorus compounds), herbicides, and pesticides which can upset the natural balance of aquatic life in lakes and streams. Storm water runoff may also increase the temperature of a receiving stream during warm weather, which is particularly threatening to the valuable trout fishery in the Chattahoochee River Basin. All of these pollutants, and many others, influence the quality of storm water runoff. There are also many potential problems related to the quantity of urban runoff, which can contribute to flooding and erosion in the immediate drainage area and downstream (GAEPD, 1997).

3.6.6 Consequences

Proposed Action Alternative B

Surface Water

Construction activities may lead to short-term water quality effects, including increased sedimentation and nonpoint source pollution. Additionally, modified surface water runoff patterns resulting from land disturbance may result in hydrologic impacts. However, any water quality and hydrologic impacts that could occur would be temporary and would end upon completion of construction. Construction would comply with 401 Water Quality Certification and the Georgia Erosion and Sedimentation Act. To limit the degree of impact to Chattahoochee River, proper BMPs for sediment and erosion control will be used, in accordance with the Georgia Erosion and Sedimentation Act and local erosion and watershed protection ordinances.

State Water Quality Certification and Stream Buffer Variance application permits are being requested from GAEPD which are mandated by state law and site specific. If construction of the Proposed Action would disturb greater than one acre of land, a Notice of Intent for a National Pollutant Discharge Elimination System (NPDES) Stormwater Construction Permit will be filed with GAEPD.

There would be long-term positive impacts from the implementation of the Proposed Action. Projected long-term effects to surface water include improvements to water quality in the Chattahoochee River. The Proposed Action implementation includes: (1) riparian planting in the project area would decrease the amount of soil loss and erosion in riparian areas and (2) bank stabilization measures to decrease bank erosion and instream sediment production. Both of these measures would improve the water quality in Chattahoochee River.

Groundwater

Construction would be limited to near surface areas and would not involve any harmful materials and/or potential pollutants. The Proposed Action would not be expected to impact groundwater resources.

Floodplains

Floodplain maps will be considered in the design phase of the projects, and Proposed Action will be constructed in compliance with FEMA's guidance for "no-rise/no-impact" certification for proposed developments in designated floodways. There would be no negative impacts to floodplains.

There are potential long-term positive impacts from the implementation of the Proposed Action. Rehabilitation of the lower sill ensures relatively deeper water habitat in the immediate project area during times of drought.

Wetlands

The proposed project would have no affect on wetlands because none were found in the proposed project area or project staging areas. However, BMPs implemented during construction may include, but not limited to, vegetation cover, stream bank stabilization, slope stabilization, silt fences, construction of terraces, interceptor channels, sediment traps, inlet and outfall protection, diversion channels, and sedimentation basins would minimize the potential for indirect impacts to offsite wetlands.

Stormwater

Construction activities involved in the implementation of the proposed project would have no significant impacts on stormwater. Construction activities would comply with the Georgia Erosion and Sedimentation Act of 1975 and local erosion and watershed protection ordinances. Additionally, construction would comply with the Georgia Rules and Regulations for Water Quality Control, 391-3-6-18 (GADNR, 2004). Installation, use, and maintenance of appropriate stormwater controls would prevent impacts from construction site stormwater.

No Action Alternative A (Sills Improvement and Defoors Island)

No construction would occur so there would be no direct impacts to water resources.

3.7 Biological Resources

Biological resources in the area which have the potential to be impacted by the Proposed Action include flora and fauna; and endangered and threatened species common to the area.

3.7.1 Flora and Fauna

Flora

Typical plant species that may occur in the Chattahoochee River Basin include algae, common cattail (*Typha latifolia*), pickerel weed (*Pontederia cordata*), sweetgum (*Liquidambar styraciflua*), American Holly (*Ilex opaca*), red maple (*Acer rubrum*), American wisteria (*Wisteria frutescens*), and cardinal flower (*Lobelia cardinalis*).

Fauna

Typical fish species that may occur in the Chattahoochee River Basin include the largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), yellow perch (*Perca flavescens*), catfish (*Ictalurus punctatus*), rainbow trout (*Oncorhynchus mykiss*), brown trout (*Salmo trutta*), and crappie (*Pomoxis nigromaculatus*).

Other common animals that may occur in the Chattahoochee River Basin include the wood duck (*Aix sponsa*), Canada goose (*Branta Canadensis*), belted kingfisher (*Megaceryle alcyon*), beaver (*Castor canadensis*), great blue heron (*Ardea Herodias*), muskrat (*Ondatra zibethicus*), river otter (*Lutra canadensis*), cottonmouth (*Agkistrodon piscivorus*), pond slider (*Chrysemys scripta*), Flaxen elimia (*Elimia boykiniana*), raccoon (*Procyon lotor*), white-tail deer (*Odocoileus virginianus*) and mayfly.

3.7.2 Endangered and Threatened Species

According to the US Fish and Wildlife Service (USFWS), there are several listed species potentially occurring within Fulton County: the endangered Gulf Moccasinshell mussel (*Medionidus pencillatus*), the endangered Shiny-rayed pocketbook (*Hamiota subangulata*), and the threatened Cherokee darter (*Etheostoma scotti*). Species listed by USFWS as potentially occurring in Cobb County are: the threatened Cherokee darter (*Etheostoma scotti*), and the endangered Michaux's sumac (*Rhus michauxii*).

3.7.3 Consequences

Proposed Action Alternative B

Flora and Fauna

Common animals in the area of the proposed action have the potential to be impacted. Temporary displacement and/or incidental mortality of fish species (and possibly some macroinvertebrate species) is expected during the construction phase of the Proposed Action. By letter dated 8 July 2012, the USFWS provided recommendations regarding the timing restrictions to avoid the spring spawning season and summer; while flow is temporarily diverted away from the lower sill and the east side of the Chattahoochee River for work to occur at the lower sill and east side of Defoor Island, stranded fishes should be collected and transported to suitable habitat downstream or held briefly in a holding tank to facilitate larger-scale relocations to downstream habitat; intake hose for the dewatering pump should be fitted

with a mesh screen to prevent fish entrainment; and revegetation should use non-invasive; preferably native species.

Long-term, however, the project has the potential to enhance physical habitat in the Chattahoochee River, and thus lead to improvements in the health of fish and macroinvertebrate communities. Overall, the biological resources of the Chattahoochee River are projected to improve with implementation of the Proposed Action, due to an improvement in surface water and stormwater quality. Through the stabilization of Defoors Island, common plants would be disturbed or displaced during construction; however, the vegetation community would be expected to recover within one complete growing season. Long-term positive impacts to plant species are expected to result from the proposed action from improved bank stability. The proposed alternative involves planting of the Defoors Island within the Chattahoochee River. Additionally, planting of riparian buffers involves the establishment of trees or other woody vegetation in a riparian zone that has been reduced or cleared. Improving or increasing the riparian vegetation will increase this biological resource and will provide additional habitat and cover for aquatic organisms.

Endangered and Threatened Species

By letter dated 8 July, 2012, the USFWS stated no federally-listed species are likely to occur in the proposed project area. However, a Federal candidate species, the Georgia aster (*Symphytotrichum georgianum*), could potentially occur in the proposed project area and it is possible that this species could be federally-listed in the future.

By email correspondence dated 14 January 2011 regarding the proposed project the USFWS Athens Office had concerns with shoal and striped bass migrating through the project area from West Point to Morgan Falls. In the USFWS letter dated 8 July 2012, they also submitted comments concerning the suitability of fish passage regarding the shoal and striped bass. After review of the design plans and criteria for fish passage; the USFWS concluded these structures should not inhibit the passage of adult striped bass. While the lower sill hydraulics may represent a velocity barrier to adult shoal bass, this barrier exists only at the upper range of fish passage flows (~ 5% on the flow duration curve); even at those high flows the velocity barrier may be moderated by the trapezoidal shape of the sill, which creates lower velocities at the side slopes and by the roughened flow boundary created by the riprap.

Coordination letter was prepared for GADNR dated 7 June 2012 requesting concurrence on the proposed project as well as seeking information that may be pertinent to the preparation of this EA. No response was received.

No Action Alternative A (Sills Improvement and Defoors Island)

If the No Action Alternative is selected, biological resources in the project area are expected to undergo further decline due to erosion and sedimentation.

3.8 Cultural Resources

Cultural resources consist of prehistoric and historic districts, sites, structures, artifacts, objects, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Cultural resources can be

divided into two broad categories: Archaeological Resources (prehistoric and historic) and Architectural Resources.

Under the National Historic Preservation Act (NHPA) of 1966, as amended, only cultural resources included in or eligible for inclusion on the National Register of Historic Places (NRHP), defined as 'historic properties', warrant consideration with regard to adverse impacts from a proposed action.

3.8.1 Archaeological Resources

The area of potential effect (APE) is defined to include all area to be armored including the lower sill, the upper sill and the eastern shore of Defoors Island as well as all construction access roads, and staging areas.

A review of historic photographs shows that the APE was previous disturbed by construction activity from 1957 to 1962 (Appendix B) to the point that cultural resources listed on or eligible for listing on the NRHP are unlikely to exist. A site visit of the APE was conducted by Mobile District cultural resources staff on October 5, 2011 and two shovel tests were conducted to verify subsurface disturbance. The shovel tests resulted in the recovery of disturbed alluvial soils and a small concentration of nonlocal construction gravel to a depth of 75 centimeters below the surface, when testing was terminated. No cultural material over 50 years old was recovered in shovel tests and no surface features were identified during a pedestrian walk over of the APE. In addition, a review of Georgia's Natural, Archaeological, and Historic Resources GIS (GNAHRGIS) was conducted and no previously recorded cultural resources are located within the APE. Based on the background study and site visit, no historic properties are located within the project APE. Therefore, the Corps has determined **no historic properties affected** by the proposed undertaking as per 36 CFR 800.4(d)(1). Therefore the proposed action will have no significant impacts to cultural resources. SHPO Concurrence has been received from the Georgia State Historic Preservation Officer (Appendix C). In previous consultation, the Tribes have indicated that they do not wish to consult on projects such as this in previously disturbed urban areas.

3.8.2 Architectural Resources

No architectural resources are located with the APE.

3.8.3 Consequences

Proposed Action Alternative B

There would be no impacts to archaeological or architectural resources under Alternative B.

No Action Alternative A (Sills Improvement and Defoors Island)

There would be no impacts to archeological or architectural resources under the No Action Alternative.

3.9 Socioeconomics

This section addresses the socioeconomic issues associated with the proposed project area. The socioeconomic indicators used include employment, wages, demographic characteristics, and housing costs. Recreational areas, as well as environmental justice and protection of children,

are also described in this section. The socioeconomic statistics provided describe Cobb and Fulton Counties as a whole.

3.9.1 Employment

According to 2010 U.S. Census, the largest industry in both Fulton and Cobb Counties is merchant wholesaler sales. The remaining industries are split amongst retail sales, manufacturer's shipments, federal spending and accommodation and food services sales in Fulton and Cobb Counties.

3.9.2 Wages

In 2010, the Fulton County median per capita income was \$37,211. The median household income was \$56,709. According to the 2010 census, 15.3% were below the poverty line in Fulton County. In 2010, the Cobb County median per capita income was \$33,110. The median household income was \$65,522. According to the 2010 census, 10.6% were below the poverty line in Cobb County.

3.9.3 Demographics and Housing

The project would not result in the movement of people into or out of the region or impact housing costs. There would be no change in regional demographics or housing demand. Therefore, these resource areas are excluded from analysis in the EA.

3.9.4 Protection of Children

The nature of the project is to rehabilitate the lower sill and bank stabilization of Defoors Island. This action would create no environmental health or safety risks to children. Accordingly, this resource area is not further evaluated in the EA.

3.9.5 Environmental Justice

The project would not displace any portion of the population in the area nor create any environmental hardships for any portion of the population. Therefore, the action would not disproportionately impact minority or low income populations and Environmental Justice is not further evaluated in the EA.

3.9.6 Recreation Areas

Construction activities would be confined to the general area of the river, and would temporarily impact recreational usage of this portion of the Chattahoochee National Recreational Area used for kayaking and canoeing. The kayak gates located at the lower sill will not be affected by the proposed action.

3.9.7 Climate Change

The nature of the project is to rehabilitate the lower sill and bank stabilization of Defoors Island along the Chattahoochee River. As such, there would be no permanent sources of greenhouse gas emissions. Insignificant emissions of greenhouse gases during construction would have no potential to affect climate change. Extremes in weather such as droughts in the project area has caused periods of low flow due to climate change. The proposed action will protect water supply during these more extreme drought conditions. In accordance with the guidance provided in USACE Engineering Circular EC 1165-2-211 (USACE 2009), USACE planning,

engineering, and designing projects, must consider how sensitive and adaptable natural and managed ecosystems and human systems are to climate change and other related global changes, and consider alternatives that are assessed for possible future rates of sea-level change which can be caused by climate change. According to Appendix C of the EC “Flowchart to Account for Changes in Mean Sea Level”, the first step in this determination is to decide whether the project would occur in a coastal/tidal/estuarine zone or in an area bordering such zones. In accordance with the flowchart, Chattahoochee River is not in such a zone and no further consideration to sea level change is necessary.

3.9.8 Consequences

Proposed Action Alternative B

The Proposed Action would have a temporary minor positive impact on socioeconomic factors. There would be temporary construction employment and associated wages. Suppliers in the surrounding area would have a short-term increase in the sale of construction-related materials. There would be no long-term impacts on employment or income in the area of the proposed action.

No Action Alternative A (Sills Improvement and Defoors Island)

There would be no change in current socioeconomic conditions under the No Action Alternative. There would be no short-term increase in construction-related jobs and wages, and no associated increase in local sales of construction-related materials. There would be no changes to demographics, housing costs, children, minorities, low income populations, or recreation areas.

3.10 Hazardous and Toxic Substances

In the area surrounding the alternative actions, numerous commercial and industrial facilities manufacture, store, or handle toxic chemicals and are regulated by one or more EPA permit programs. Personnel were interviewed during the site reconnaissance to determine if any spills or releases have occurred and if contamination is present on the property. There were no historic or current RECs on the subject property. In addition, records and databases searches were performed to determine if there were the present of hazardous and toxic substances in the project area.

3.10.1 Consequences

Proposed Action Alternative B

CH2M HILL performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of the ASTM E1527 of the subject project, which includes the upper and lower sills and the east bank of Defoors Island located on the Chattahoochee River. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the subject property.

No Action Alternative A (Sills Improvement and Defoors Island)

Implementation of the No Action Alternative would maintain current conditions in the Chattahoochee River. There would be no impact to hazardous and toxic substances.

3.11 Cumulative Effects Summary

The most severe environmental degradation may not result from the direct effects of any particular action, but from the combination of effects of multiple, independent actions over time. As defined in 40 CFR 1508.7 (CEQ Regulations), a cumulative effect is the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.”

Some authorities contend that most environmental effects can be seen as cumulative because almost all systems have already been modified. Principles of cumulative effects analysis are described (CEQ, 2006) as follows:

“For cumulative effects analysis to help the decision-maker and inform interested parties, it must be limited through scoping to effects that can be evaluated meaningfully. The boundaries for evaluating cumulative effects should be expanded to the point at which the resource is no longer affected significantly or the effects are no longer of interest to affected parties.”

The following subsections detail how the Proposed Action and the No Action Alternative could interact with other past, present, or reasonably foreseeable future actions to generate impacts that, while individually small, could become substantial through incremental accumulation.

3.11.1 Proposed Action Alternative B

While the Proposed Action has the potential to provide substantial watershed improvement benefits when implemented as an individual project, the effects of the proposed action should be evaluated in terms of its effects in conjunction with other watershed activities. Potential changes in the watershed which could potentially interact with the results of the proposed action include population growth and urban development such as increase impervious cover, new construction and additional anthropogenic pollutant sources.

3.11.2 No Action Alternative A (Sills Improvement and Defoors Island)

The No Action Alternative is not expected to have any long- or short-term positive impacts on environmental or socioeconomic conditions in the Chattahoochee River.

4.0 Coordination

As required by the National Environmental Policy Act, the Corps coordinated this project with various local, state and Federal agencies. During the early stages of development, the U.S. Fish and Wildlife Service, the National Park Service, Georgia State Historic Preservation Officer, Tribal Nations, Georgia Department of Natural Resources and Georgia Department of Environmental Protection (GAEPD) were solicited (Appendix C, Coordination Letters) for their comments and/or concerns regarding the proposed project. Additionally, water quality certification and stream buffer variance application permits are being obtained from GAEPD. Final coordination is complete.

Coordination with the general public was accomplished by making a GAEPD public notice for water quality certification and stream buffer variance available by placing an ad in the Marietta Daily Journal. There was a 30-day comment period and no comments were received.

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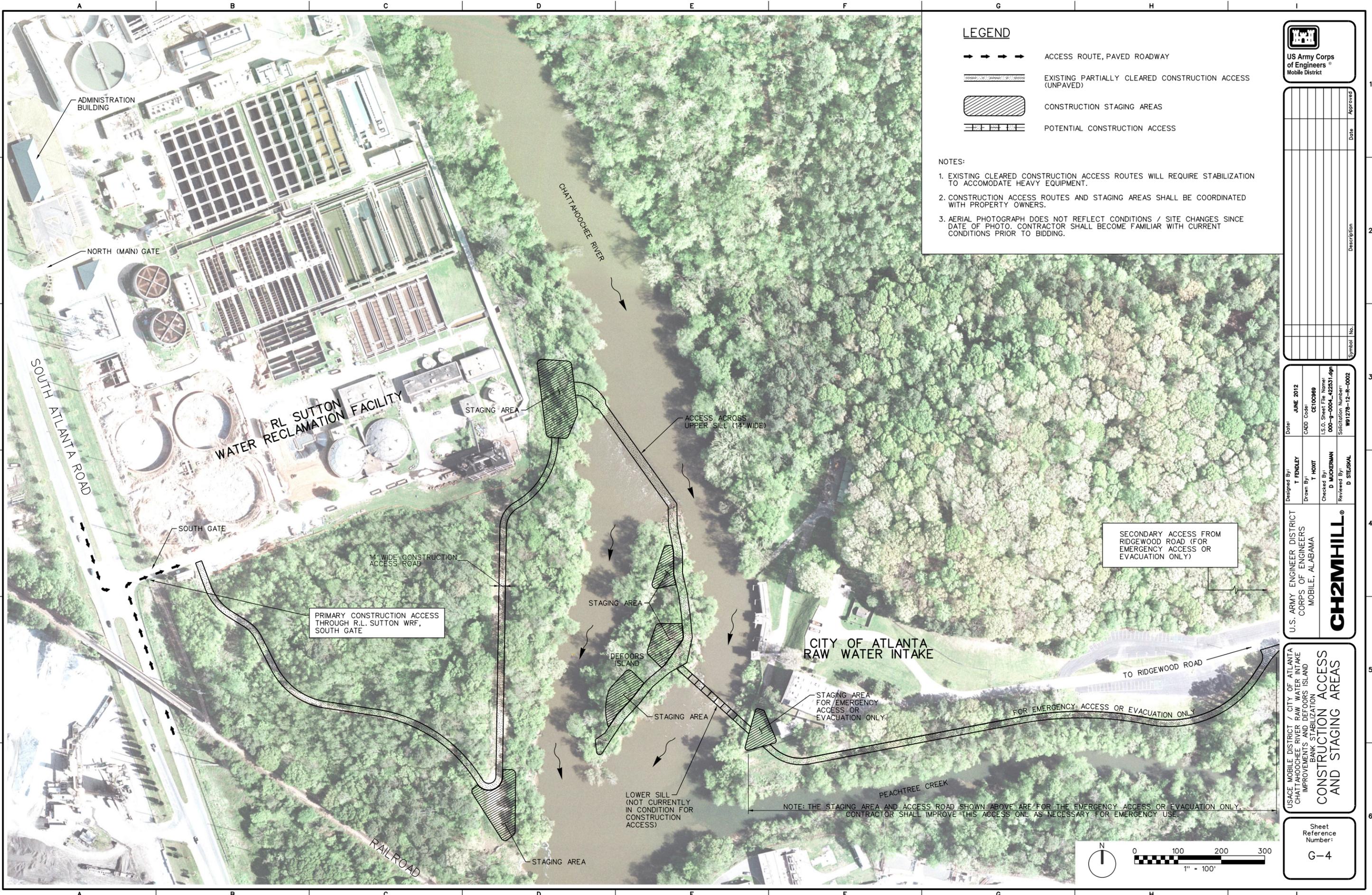
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EA APPENDIX A CONSTRUCTION DESIGN DRAWINGS



LEGEND

- → → → → ACCESS ROUTE, PAVED ROADWAY
- --- --- --- --- EXISTING PARTIALLY CLEARED CONSTRUCTION ACCESS (UNPAVED)
- [Hatched Box] CONSTRUCTION STAGING AREAS
- [Dashed Box] POTENTIAL CONSTRUCTION ACCESS

NOTES:

1. EXISTING CLEARED CONSTRUCTION ACCESS ROUTES WILL REQUIRE STABILIZATION TO ACCOMMODATE HEAVY EQUIPMENT.
2. CONSTRUCTION ACCESS ROUTES AND STAGING AREAS SHALL BE COORDINATED WITH PROPERTY OWNERS.
3. AERIAL PHOTOGRAPH DOES NOT REFLECT CONDITIONS / SITE CHANGES SINCE DATE OF PHOTO. CONTRACTOR SHALL BECOME FAMILIAR WITH CURRENT CONDITIONS PRIOR TO BIDDING.



Symbol No.	Description	Date	Approved

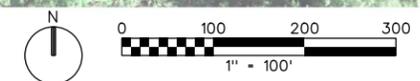
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Checked By:	D. MUCKERMAN
Drawn By:	T. HOYT
Designed By:	T. FENLEY
Reviewed By:	D. STEBKA
Solicitation Number:	WA1278-12-R-002

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

CH2MHILL

USACE MOBILE DISTRICT / CITY OF ATLANTA
CHATTAHOOCHEE RIVER WATER INTAKE
IMPROVEMENTS AND DEFOORS ISLAND
BANK STABILIZATION
**CONSTRUCTION ACCESS
AND STAGING AREAS**

Sheet Reference Number:
G-4



NOTE: THE STAGING AREA AND ACCESS ROAD SHOWN ABOVE ARE FOR THE EMERGENCY ACCESS OR EVACUATION ONLY. CONTRACTOR SHALL IMPROVE THIS ACCESS ONLY AS NECESSARY FOR EMERGENCY USE.

SECONDARY ACCESS FROM RIDGEWOOD ROAD (FOR EMERGENCY ACCESS OR EVACUATION ONLY)

FOR EMERGENCY ACCESS OR EVACUATION ONLY

STAGING AREA FOR EMERGENCY ACCESS OR EVACUATION ONLY

LOWER SILL (NOT CURRENTLY IN CONDITION FOR CONSTRUCTION ACCESS)

STAGING AREA

STAGING AREA

ACCESS ACROSS UPPER SILL (14' WIDE)

STAGING AREA

PRIMARY CONSTRUCTION ACCESS THROUGH R.L. SUTTON WRF, SOUTH GATE

14' WIDE CONSTRUCTION ACCESS ROAD

SOUTH GATE

SOUTH ATLANTA ROAD

NORTH (MAIN) GATE

ADMINISTRATION BUILDING

R.L. SUTTON WATER RECLAMATION FACILITY

CHATTAHOOCHEE RIVER

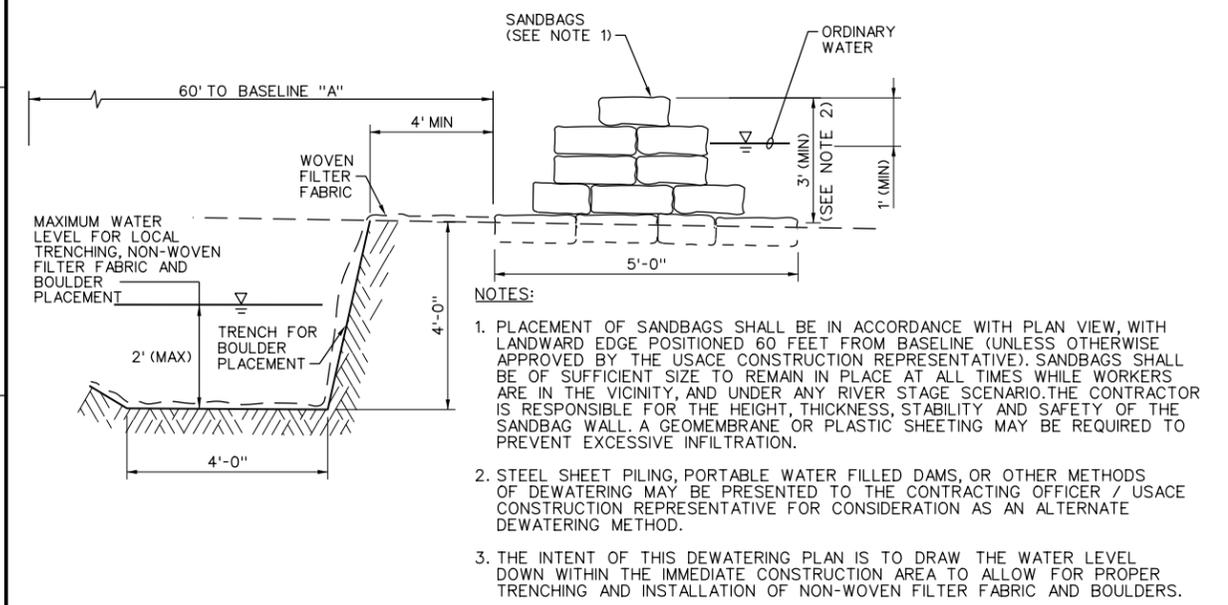
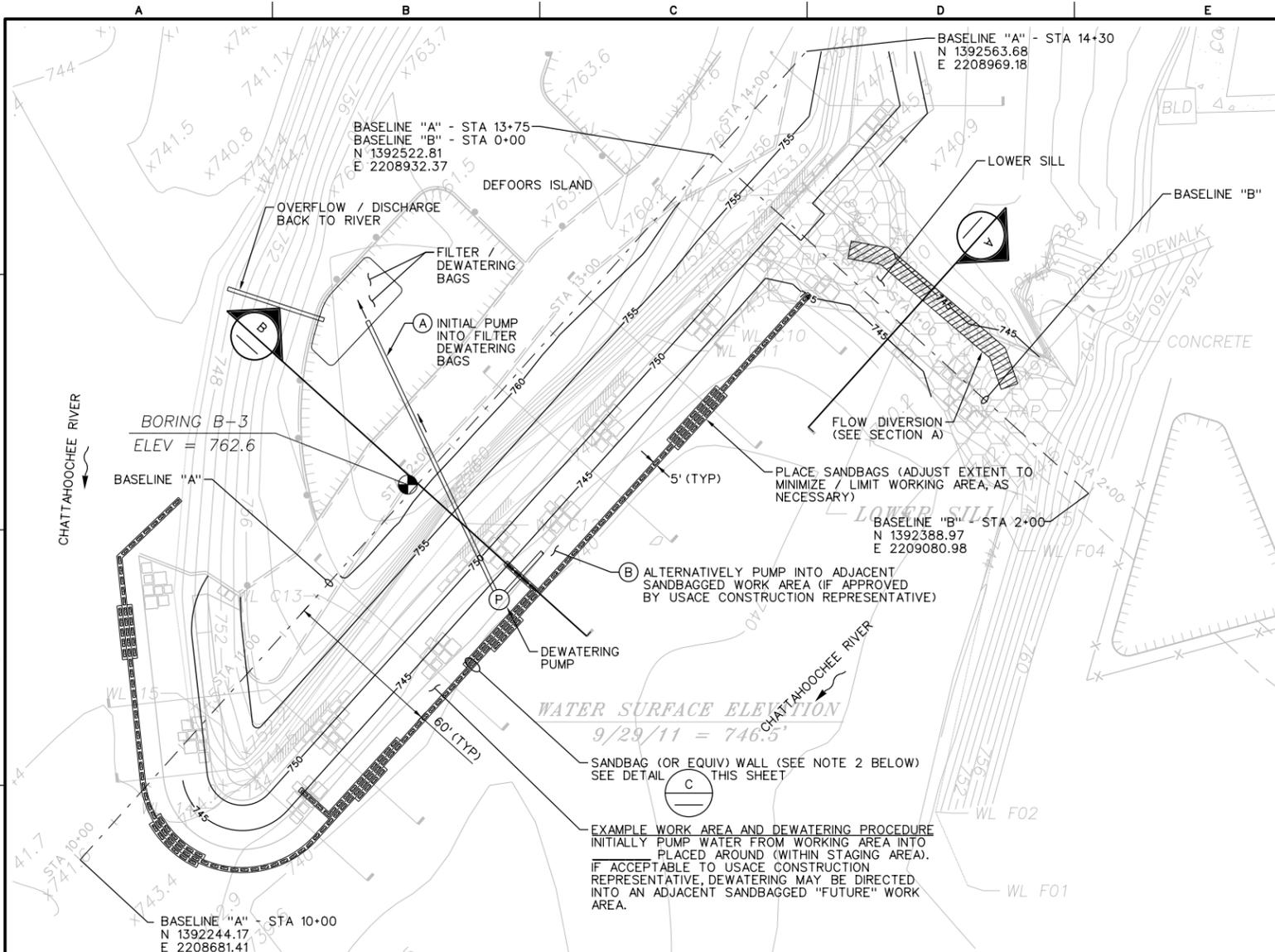
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PEACHTREE CREEK

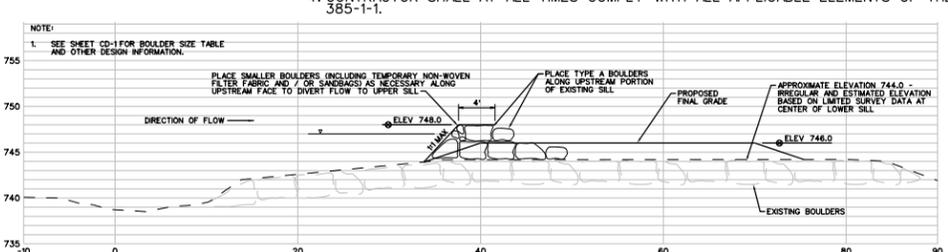
TO RIDGEWOOD ROAD

RAILROAD

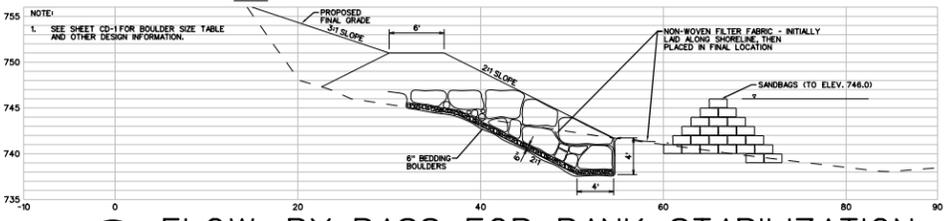
PHASE 1 DEWATERING /FLOW BY-PASS PLAN LOWER SILL IMPROVEMENTS AND DOWNSTREAM BANK STABILIZATION



(C) DEWATERING - SANDBAG DETAIL
NTS



(A) FLOW DIVERSION SECTION
1" = 10'



(B) FLOW BY-PASS FOR BANK STABILIZATION
1" = 10'

RIVER STAGE TABLE	
STORM EVENT (RECURRENT INTERVAL)	RIVER STAGE (FT-NGVD)
2-YR	762.05
5-YR	765.44
10-YR	767.36
25-YR	769.53
100-YR	772.29



- GENERAL DESCRIPTION OF DEWATERING PLAN**
1. BYPASSING NORMAL FLOWS FROM THE CHATTAHOOCHEE RIVER AND LOCAL DEWATERING WILL BE REQUIRED IN ORDER TO CONSTRUCT PHASE 1 IMPROVEMENTS (INCLUDING IMPROVEMENTS TO THE LOWER SILL AND DOWNSTREAM DEFOORS ISLAND BANK STABILIZATION).
 2. THE CONTRACTOR WILL BE REQUIRED TO COMPLY WITH THE MINIMUM FLOW BY-PASS AND DEWATERING REQUIREMENTS INDICATED ON THIS PLAN, AND SHALL ALSO PREPARE AN EMERGENCY EVACUATION PLAN TO IDENTIFY PROCEDURES THAT WILL BE FOLLOWED SHOULD RIVER STAGE EXCEED ELEVATION 755.0, OR A POINT THAT MIGHT JEOPARDIZE THE SAFETY OF PERSONNEL AND/OR EQUIPMENT WITHIN THE CONSTRUCTION SITE.
 3. DEVIATIONS FROM THIS DEWATERING PLAN MAY BE REQUESTED BY THE CONTRACTOR AND PRESENTED TO THE USACE CONSTRUCTION REPRESENTATIVE FOR REVIEW AND APPROVAL. DEVIATIONS SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY THE USACE CONSTRUCTION REPRESENTATIVE.
- SEQUENCING OF FLOW BY-PASS AND DEWATERING PLAN AND MINIMUM REQUIREMENTS**
- FLOW DIVERSION AT LOWER SILL:**
1. THE CONTRACTOR SHALL INITIALLY DIVERT RIVER FLOWS FROM THE LOWER SILL, TO THE UPPER SILL. THIS SHALL BE ACCOMPLISHED BY PLACING BOULDERS ALONG THE UPSTREAM EDGE OF THE LOWER SILL. BOULDERS SHALL BE PLACED TO A HEIGHT SUCH THAT FLOW IS DIVERTED TO THE UPPER SILL ONLY. THIS MAY REQUIRE A COMBINATION OF VARIABLE BOULDER GRADATION, PLACEMENT OF SANDBAGS ALONG THE UPSTREAM FACE OF THE RAISED SILL AND/OR PLACEMENT OF A GEOTEXTILE FABRIC IN ORDER TO SATISFACTORILY FILL THE VOIDS IN THE BOULDERS AND SUCCESSFULLY DIVERT FLOW TO THE UPPER SILL. SEE SECTION A - FLOW DIVERSION SECTION.
 2. AS AN ALTERNATE TO BOULDERS, SANDBAGS ONLY MAY BE USED TO BUILD UP THE LOWER SILL AND DIVERT FLOW TO THE UPPER SILL. USING BOULDERS, HOWEVER, WILL ALLOW THE CONTRACTOR TO LATER SPREAD THE BOULDERS TO THE PROPOSED GRADE SHOWN ON THE PLANS FOR THE LOWER SILL IMPROVEMENTS (INCLUDING PLACEMENT OF BOULDERS IMMEDIATELY UPSTREAM AND DOWNSTREAM OF THE LOWER SILL).
 3. ONCE RIVER FLOW IS DIVERTED TO THE UPPER SILL, THE CONTRACTOR SHALL EXECUTE THE PROPOSED PHASE 1 LOWER SILL IMPROVEMENTS, PLACING BOULDERS TO THE FINAL LINE AND GRADE INDICATED ON THE PLANS.
 4. FLOW DIVERSION FEATURES SHALL REMAIN IN PLACE FOR CONTRACTOR'S EXECUTION OF PROPOSED DEFOORS ISLAND BANK STABILIZATION (DOWNSTREAM OF THE LOWER SILL), AS DESCRIBED BELOW.
- DEWATERING FOR DEFOORS ISLAND BANK STABILIZATION DOWNSTREAM OF LOWER SILL:**
1. WITH RIVER FLOWS DIVERTED TO THE UPPER SILL, THE CONTRACTOR SHALL PLACE SANDBAGS (OR USE OTHER METHODS, APPROVED BY THE USACE CONSTRUCTION REPRESENTATIVE) WHERE INDICATED ON THESE DRAWINGS TO FACILITATE DEFOORS ISLAND (DOWNSTREAM) BANK STABILIZATION. SEE DEWATERING - SANDBAG DETAIL.
 2. WITH SANDBAGS (OR APPROVED ALTERNATE) IN PLACE THE CONTRACTOR SHALL EXCAVATE A TRENCH IN ACCORDANCE WITH THE DETAIL FOR PLACEMENT OF NON-WOVEN FILTER FABRIC AND INITIAL BOULDER PLACEMENT. IT IS ANTICIPATED THAT COMPLETE DEWATERING TO THE FULL DEPTH OF THE TRENCH WILL NOT BE PRACTICAL. THE CONTRACTOR SHALL DEWATER, HOWEVER, TO THE ELEVATION INDICATED ON THE DEWATERING DETAIL.
 3. LOCAL DEWATERING OF THE BANK STABILIZATION AREA SHALL INITIALLY BE BY PUMPING INTO FILTER / DEWATERING BAGS PLACED UP AND (WITHIN CONSTRUCTION STAGING AREA). CONTRACTOR MAY PUMP INTO AN ADJACENT SANDBAGGED AREA. WORK AREAS SHALL BE LIMITED IN SIZE SUCH THAT DEWATERING IS EFFECTIVE AND WATER LEVELS CAN BE MAINTAINED AT A POINT AT OR BELOW MID-TRENCH DEPTH.
 4. ONCE PLACEMENT OF BOULDERS FOR BANK STABILIZATION IS COMPLETED WITHIN A LIMITED WORK AREA (INCLUDING FILLING THE TRENCH WITH NON-WOVEN FILTER FABRIC AND BOULDER PLACEMENT TO A POINT EQUAL TO OR ABOVE THE NORMAL RIVER LEVEL), THEN SANDBAGS MAY BE REMOVED AND LOCATED TO THE NEXT WORK AREA.
 5. IT IS ANTICIPATED THAT BANK STABILIZATION WORK WILL PROGRESS FROM DOWNSTREAM TO UPSTREAM, UNTIL THE BANK STABILIZATION BOULDERS TIES INTO THE LOWER SILL IMPROVEMENTS.
- EMERGENCY EVACUATION PLAN**
1. THE CONTRACTOR SHALL MAINTAIN ON-SITE AT ALL TIMES A BOAT, DESIGNATED FOR EMERGENCY USE / SITE EVACUATION. THE BOAT SHALL BE SECURED AT THE CITY OF ATLANTA'S INTAKE STRUCTURE BOAT RAMP, AND SHALL BE OF SUFFICIENT SIZE TO ACCOMMODATE UP TO 10 PASSENGERS.
 2. THE CONTRACTOR SHALL PREPARE AN EMERGENCY EVACUATION (TO BE SUBMITTED TO AND APPROVED BY THE CONTRACTING OFFICER) PLAN FOR IMPLEMENTATION SHOULD THE RIVER STAGE ABOVE ELEVATION 755.0. THE EMERGENCY EVACUATION PLAN SHALL INCLUDE THE FOLLOWING COMPONENTS, AT A MINIMUM:
 - a. PLACEMENT OF A RIVER LEVEL STAFF GAUGE WITHIN THE PROJECT AREA.
 - b. PROVISIONS FOR TRACKING DAILY RAINFALL AND EXTENDED RAINFALL FORECASTS.
 - c. PROVISIONS FOR TRACKING DAILY RIVER STAGES AT A POINT DOWNSTREAM OF MORGAN FALLS DAM.
 3. THE EMERGENCY EVACUATION PLAN SHALL ALSO INCLUDE THE FOLLOWING PROVISIONS, SHOULD THE RIVER STAGE AT THE PROJECT SITE EXCEED ELEVATION 755.0, ALSO, NOTE FREQUENCY (RIVER STAGE CORRESPONDING TO STORM EVENT) IN TABLE AT LOWER RIGHT THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR MOVING PERSONAL, EQUIPMENT, AND MATERIALS TO A SAFE/DRY LOCATION SHOULD FLOODING OCCUR.
 - a. PROVISIONS FOR REMOVAL OF ALL EQUIPMENT AND PERSONNEL FROM THE PROJECT SITE WITHIN A SIX (6) HOUR PERIOD, AND PRIOR TO RIVER STAGES EXCEEDING ELEV. 755.0.
 - b. PROVISIONS SHOULD FLOODING OF THE PROJECT SITE OCCUR, INCLUDING PROVISIONS FOR EXCAVATIONS, WORK IN PROCESS, AND ANY EQUIPMENT OR MATERIALS EITHER LEFT WITHIN THE PROJECT LIMITS OR NOT SECURED PRIOR TO FLOODING.
 - c. MAPS/DRAWINGS INDICATING EVACUATION ROUTES AND LOCATIONS FOR PLACEMENT OF REMOVED MATERIALS AND EQUIPMENT.
- CONTRACTOR REQUIREMENTS**
1. THE CONTRACTOR SHALL MAINTAIN COMPLIANCE WITH ALL MINIMUM REQUIREMENTS DESCRIBED ABOVE. IN ADDITION, FURTHER REQUIREMENTS MAY BE IDENTIFIED DURING THE COURSE OF THE PROJECT BY EITHER THE CONTRACTING OFFICER OR THE USACE CONSTRUCTION REPRESENTATIVE, TO WHICH THE CONTRACTOR SHALL ALSO COMPLY.
 2. THE CONTRACTOR SHALL INFORM AND ADVISE ALL EMPLOYEES, SUBCONTRACTORS AND ANY PERSONNEL ENTERING THE PROJECT AREA OF THE EMERGENCY EVACUATION PLAN COMPONENTS AND IMPLEMENTATION SHOULD CONDITIONS ARISE.
 3. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR THE SAFETY OF ALL CONTRACTOR PERSONNEL, EMPLOYEES, MATERIALS, AND EQUIPMENT FOR THE DURATION OF THE CONSTRUCTION CONTRACT.
 4. CONTRACTOR SHALL AT ALL TIMES COMPLY WITH ALL APPLICABLE ELEMENTS OF THE USACE SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385-1-1.

US Army Corps of Engineers
Mobile District

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Designed By: T FENLEY
Drawn By: T HOYT
Checked By: D MUCKERMAN
Reviewed By: D STEBKA

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

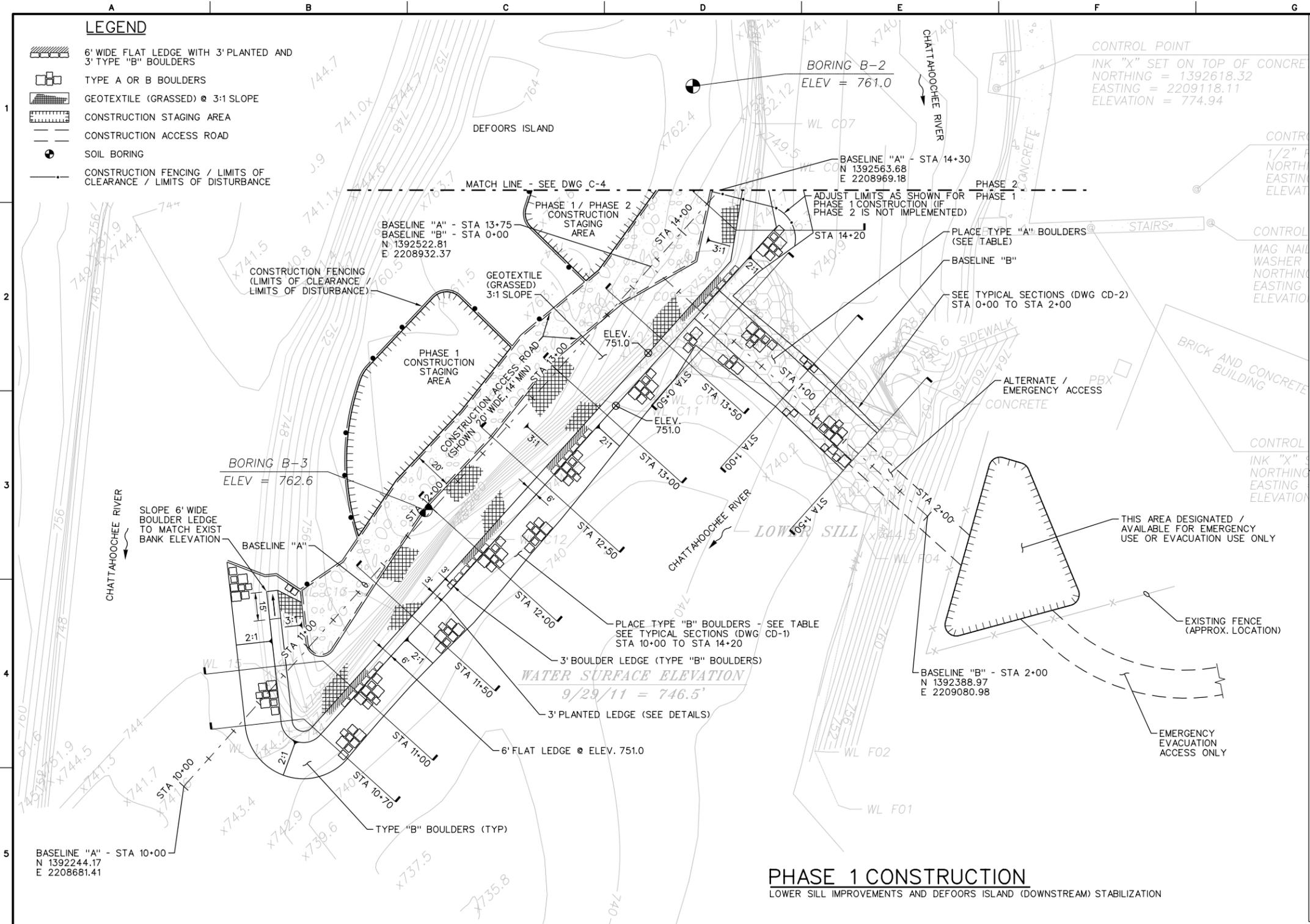
CH2MHILL

USACE MOBILE DISTRICT / CITY OF ATLANTA
CHATTAHOOCHEE RIVER RAW WATER INTAKE
IMPROVEMENTS AND DEFOORS ISLAND
BANK STABILIZATION
DEWATERING / FLOW BY-PASS PLAN
PHASE 1 CONSTRUCTION

Sheet Reference Number:
C-2

LEGEND

- 6' WIDE FLAT LEDGE WITH 3' PLANTED AND 3' TYPE "B" BOULDERS
- TYPE A OR B BOULDERS
- GEOTEXTILE (GRASSED) @ 3:1 SLOPE
- CONSTRUCTION STAGING AREA
- CONSTRUCTION ACCESS ROAD
- SOIL BORING
- CONSTRUCTION FENCING / LIMITS OF CLEARANCE / LIMITS OF DISTURBANCE

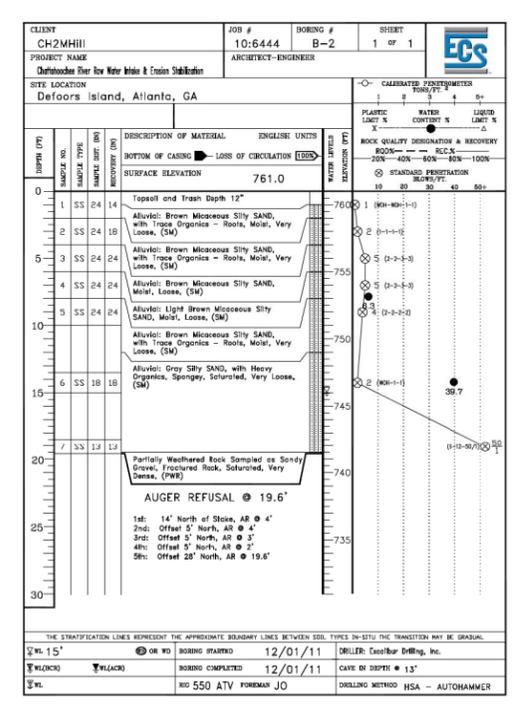
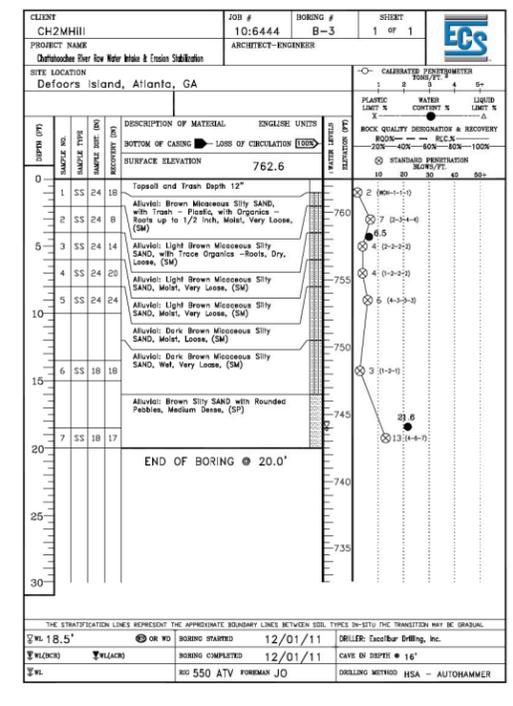


PHASE 1 CONSTRUCTION
LOWER SILL IMPROVEMENTS AND DEFOORS ISLAND (DOWNSTREAM) STABILIZATION

- NOTES:**
- PRIOR TO BEGINNING CONSTRUCTION, ALL INITIAL SEDIMENT AND EROSION CONTROL FEATURES (SHOWN ON DRAWING EC-05) SHALL BE INSTALLED, INCLUDING CONSTRUCTION FENCING, SILT FENCING, CONSTRUCTION EXITS, AND TREE PROTECTION FENCING. THE CONSTRUCTION ACCESS ROAD WILL REQUIRE STONE STABILIZATION TO PREVENT EXCESSIVE RUTTING.
 - REFER TO THE DEWATERING/FLOW BY-PASS PLAN ON DRAWING C-02. DEWATERING AND BY-PASS FEATURES ARE NOT SHOWN ON THIS DRAWING FOR CLARITY, BUT SHALL BE INSTALLED PRIOR TO BOULDER PLACEMENT.
 - BOULDERS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL SECTIONS SHOWN ON DRAWINGS CD-1 AND CD-2 USING BOULDER SIZES INDICATED ON TABLE 1.
 - BOULDER AND GEOTEXTILE STABILIZATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ALIGNMENT AND GRADE SHOWN ON THIS DRAWING, AS WELL AS ALL APPLICABLE CROSS SECTIONS, TYPICAL SECTIONS AND DETAILS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING, MATCHING DIMENSIONS SHOWN ON THESE DRAWINGS AND MEASUREMENTS REFERENCED FROM BASELINES. CONSTRUCTION ACCESS AND STAGING AREAS SHOWN ON THESE DRAWINGS MAY BE ADJUSTED, IF NECESSARY, SHOULD FIELD CONDITIONS DICTATE. ANY DEVIATIONS SHALL BE PRE-APPROVED BY THE USACE CONSTRUCTION REPRESENTATIVE.
 - SEE SHEET C-6 FOR FINAL GRADING PLAN.

GRADATION		LOWER SILL - PHASE 1 TYPE A STONE (D ₅₀ = 30")			BANK STABILIZATION - PHASE 1 TYPE B STONE (D ₅₀ = 18")		
BOULDER SIZE RANGE	STONE WEIGHT RANGE	BOULDER SIZE (INCHES)	BOULDER WEIGHT (LBS)	PERCENT (BY VOLUME)	BOULDER SIZE (INCHES)	BOULDER WEIGHT (LBS)	PERCENT (BY VOLUME)
1.5 D ₅₀ TO 1.7 D ₅₀	3.0 W ₅₀ TO 5.0 W ₅₀	45" TO 51"	4,540 TO 6,611	15%	27" TO 31"	981 TO 1,400	15%
1.15 D ₅₀ TO 1.5 D ₅₀	1.5 W ₅₀ TO 3.0 W ₅₀	35" TO 45"	2,137 TO 4,540	50%	21" TO 27"	462 TO 981	50%
0.85 D ₅₀ TO 1.15 D ₅₀	0.65 W ₅₀ TO 1.5 W ₅₀	26" TO 35"	875 TO 2,137	15%	15" TO 21"	168 TO 462	15%
0.5 D ₅₀ TO 0.85 D ₅₀	0.125 W ₅₀ TO 0.65 W ₅₀	15" TO 26"	168 TO 875	20%	9" TO 15"	36 TO 168	20%

NOTE: BOULDERS SHALL BE A MINIMUM OF 162.24 LBS PER CUBIC FOOT, MINIMUM SPECIFIC GRAVITY = 2.6. BOULDER WEIGHTS LISTED ABOVE ARE BASED ON AVERAGE BOULDER WEIGHT OF 165 LBS PER CUBIC FOOT




Client: CH2MHILL	Job #: 10-6444	Boring #: B-3	Sheet: 1 of 1
Project Name: Chattahoochee River Raw Water Intake & Erosion Stabilization	Architect-Engineer: CH2MHILL	Scale: AS SHOWN	Drawn By: T. HOBBS
Site Location: Defoors Island, Atlanta, GA	Checked By: D. MUCKERMAN	Reviewed By: D. STEBERG	Date: JUNE 2012

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

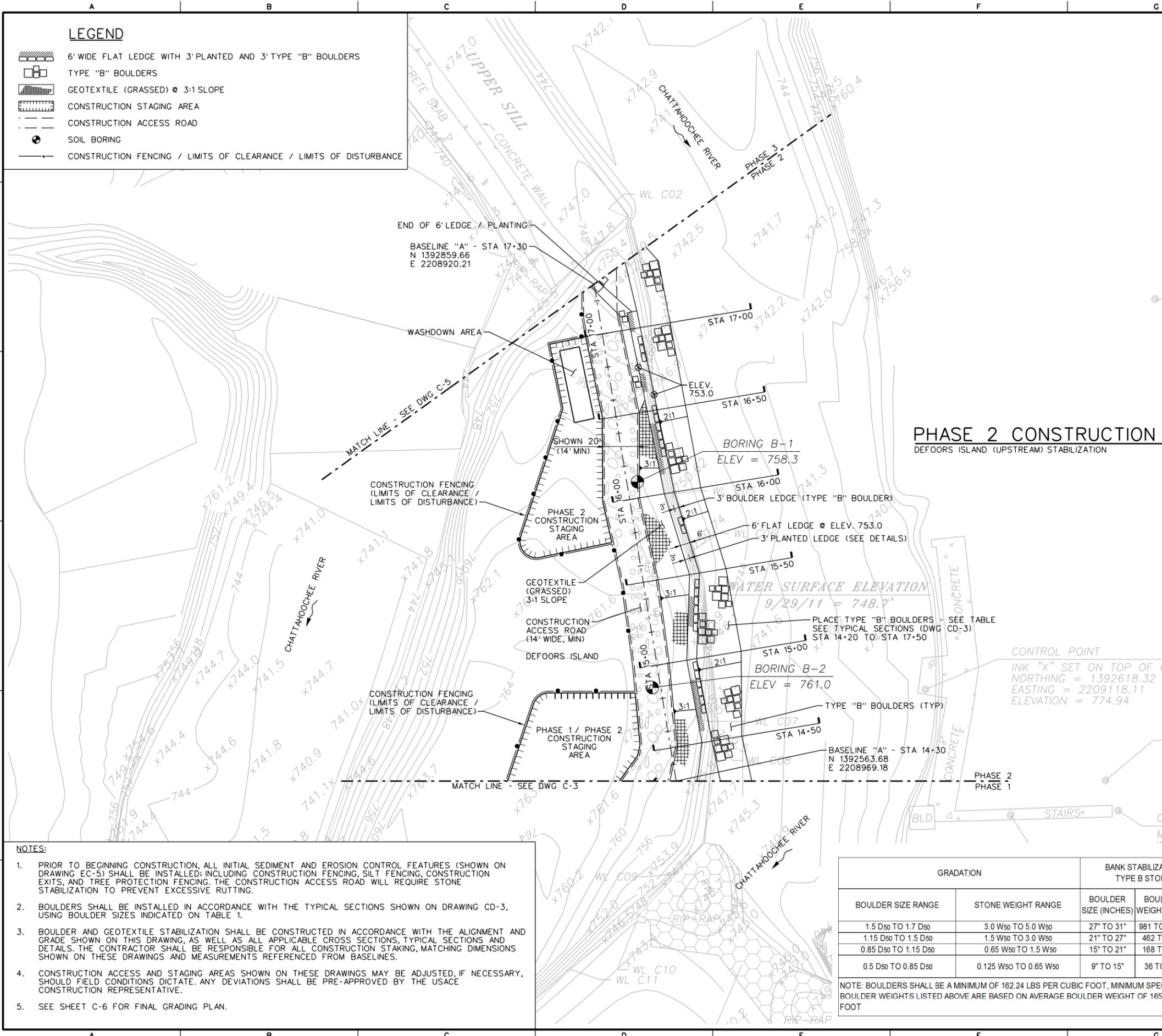
CH2MHILL

USACE MOBILE DISTRICT / CITY OF ATLANTA
CHATTAAHOOCHEE RIVER RAW WATER INTAKE
IMPROVEMENTS AND DEFOORS ISLAND
BANK STABILIZATION
PLAN VIEW - PHASE 1
CONSTRUCTION AND
SOIL BORINGS

Sheet Reference Number:
C-3

LEGEND

- 6' WIDE FLAT LEDGE WITH 3' PLANTED AND 3' TYPE "B" BOULDERS
- TYPE "B" BOULDERS
- GEOTEXTILE (GRASSED) @ 3:1 SLOPE
- CONSTRUCTION STAGING AREA
- CONSTRUCTION ACCESS ROAD
- SOIL BORING
- CONSTRUCTION FENCING / LIMITS OF CLEARANCE / LIMITS OF DISTURBANCE

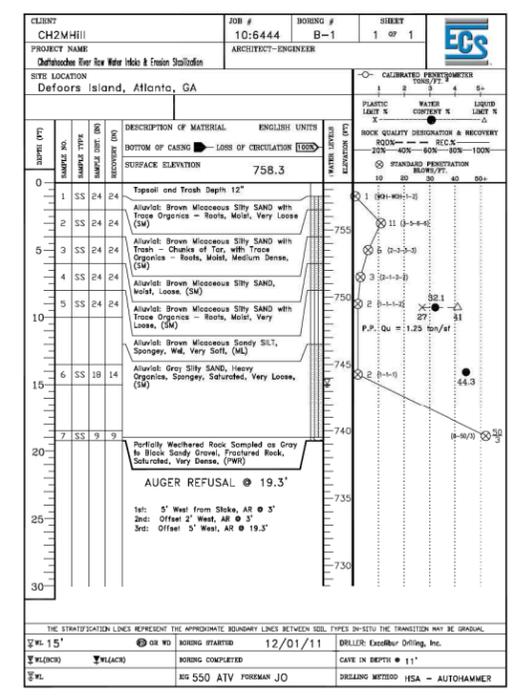
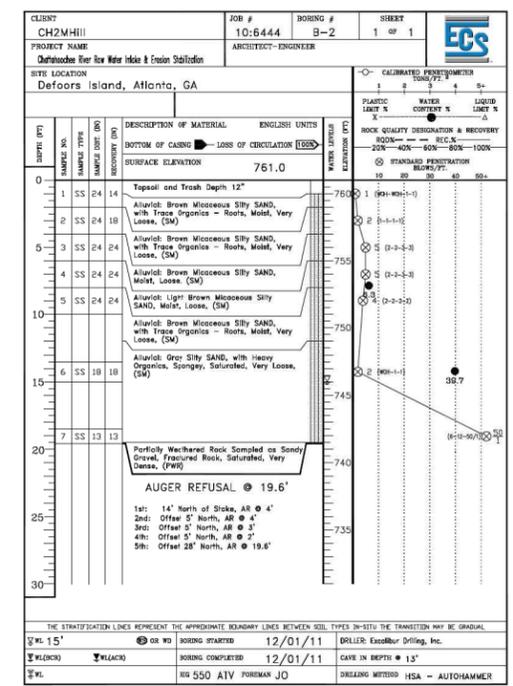


PHASE 2 CONSTRUCTION
DEFOORS ISLAND (UPSTREAM) STABILIZATION

- NOTES:**
- PRIOR TO BEGINNING CONSTRUCTION, ALL INITIAL SEDIMENT AND EROSION CONTROL FEATURES (SHOWN ON DRAWING EC-5) SHALL BE INSTALLED, INCLUDING CONSTRUCTION FENCING, SILT FENCING, CONSTRUCTION EXITS, AND TREE PROTECTION FENCING. THE CONSTRUCTION ACCESS ROAD WILL REQUIRE STONE STABILIZATION TO PREVENT EXCESSIVE RUTTING.
 - BOULDERS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL SECTIONS SHOWN ON DRAWING CD-3, USING BOULDER SIZES INDICATED ON TABLE 1.
 - BOULDER AND GEOTEXTILE STABILIZATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ALIGNMENT AND GRADE SHOWN ON THIS DRAWING, AS WELL AS ALL APPLICABLE CROSS SECTIONS, TYPICAL SECTIONS AND DETAILS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING, MATCHING DIMENSIONS SHOWN ON THESE DRAWINGS AND MEASUREMENTS REFERENCED FROM BASELINES.
 - CONSTRUCTION ACCESS AND STAGING AREAS SHOWN ON THESE DRAWINGS MAY BE ADJUSTED, IF NECESSARY, SHOULD FIELD CONDITIONS DICTATE. ANY DEVIATIONS SHALL BE PRE-APPROVED BY THE USACE CONSTRUCTION REPRESENTATIVE.
 - SEE SHEET C-6 FOR FINAL GRADING PLAN.

GRADATION		BANK STABILIZATION - PHASE 2 TYPE B STONE (D50 = 18")		
BOULDER SIZE RANGE	STONE WEIGHT RANGE	BOULDER SIZE (INCHES)	BOULDER WEIGHT (LBS)	PERCENT (BY VOLUME)
1.5 D50 TO 1.7 D50	3.0 W50 TO 5.0 W50	27" TO 31"	981 TO 1,400	15%
1.15 D50 TO 1.5 D50	1.5 W50 TO 3.0 W50	21" TO 27"	462 TO 981	50%
0.85 D50 TO 1.15 D50	0.65 W50 TO 1.5 W50	15" TO 21"	168 TO 462	15%
0.5 D50 TO 0.85 D50	0.125 W50 TO 0.65 W50	9" TO 15"	36 TO 168	20%

NOTE: BOULDERS SHALL BE A MINIMUM OF 162.24 LBS PER CUBIC FOOT, MINIMUM SPECIFIC GRAVITY = 2.6. BOULDER WEIGHTS LISTED ABOVE ARE BASED ON AVERAGE BOULDER WEIGHT OF 165 LBS PER CUBIC FOOT



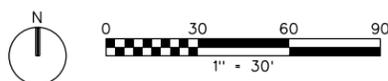
Client: CH2MHILL	Job #: 10:6444	Boring #: B-2	Sheet: 1 of 1																																
Project Name: Chattahoochee River Raw Water Intake & Erosion Stabilization	Architect-Engineer																																		
<table border="1"> <tr> <th>DEPTH (FT)</th> <th>SOIL TYPE</th> <th>REMARKS</th> <th>WATER TABLE (FT)</th> </tr> <tr> <td>0</td> <td>1 SS 24 14</td> <td>Topsoil and Trash Depth 12"</td> <td>761.0</td> </tr> <tr> <td>1</td> <td>2 SS 24 18</td> <td>Aluvial: Brown Micaceous Silty SAND, with Trace Organics - Roots, Moist, Very Loose, (SM)</td> <td></td> </tr> <tr> <td>2</td> <td>3 SS 24 24</td> <td>Aluvial: Brown Micaceous Silty SAND, with Trace Organics - Roots, Moist, Very Loose, (SM)</td> <td></td> </tr> <tr> <td>3</td> <td>4 SS 24 24</td> <td>Aluvial: Brown Micaceous Silty SAND, Moist, Loose, (SM)</td> <td></td> </tr> <tr> <td>4</td> <td>5 SS 24 24</td> <td>Aluvial: Light Brown Micaceous Silty SAND, Moist, Loose, (SM)</td> <td></td> </tr> <tr> <td>5</td> <td>6 SS 18 18</td> <td>Aluvial: Brown Micaceous Silty SAND, with Trace Organics - Roots, Moist, Very Loose, (SM)</td> <td></td> </tr> <tr> <td>6</td> <td>7 SS 13 13</td> <td>Aluvial: Gray Silty SAND, with heavy Organics, Spongy, Saturated, Very Loose, (SM)</td> <td></td> </tr> </table>				DEPTH (FT)	SOIL TYPE	REMARKS	WATER TABLE (FT)	0	1 SS 24 14	Topsoil and Trash Depth 12"	761.0	1	2 SS 24 18	Aluvial: Brown Micaceous Silty SAND, with Trace Organics - Roots, Moist, Very Loose, (SM)		2	3 SS 24 24	Aluvial: Brown Micaceous Silty SAND, with Trace Organics - Roots, Moist, Very Loose, (SM)		3	4 SS 24 24	Aluvial: Brown Micaceous Silty SAND, Moist, Loose, (SM)		4	5 SS 24 24	Aluvial: Light Brown Micaceous Silty SAND, Moist, Loose, (SM)		5	6 SS 18 18	Aluvial: Brown Micaceous Silty SAND, with Trace Organics - Roots, Moist, Very Loose, (SM)		6	7 SS 13 13	Aluvial: Gray Silty SAND, with heavy Organics, Spongy, Saturated, Very Loose, (SM)	
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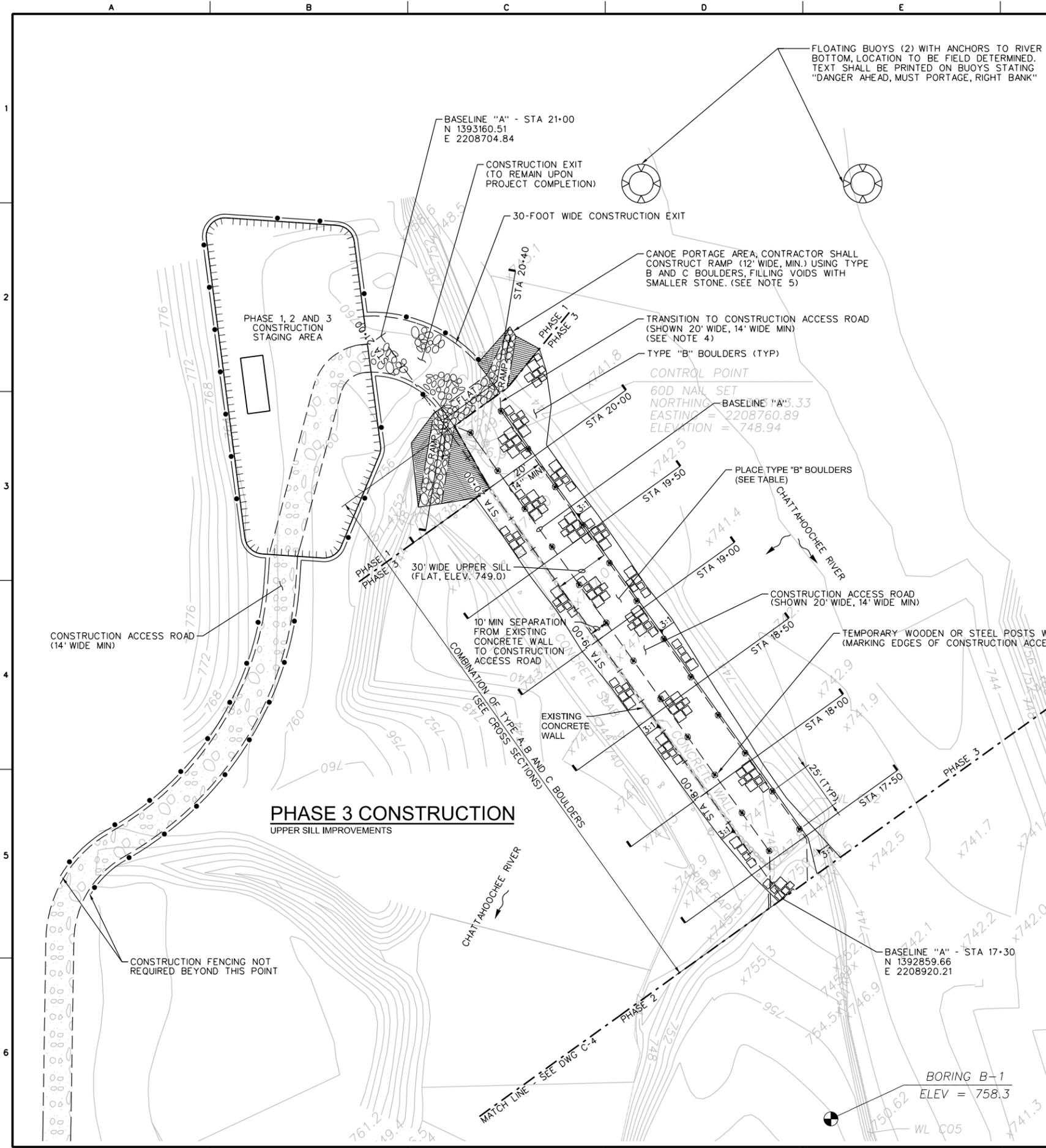
CH2MHILL

DATE: JUNE 2012
DESIGNED BY: T FENLEY
DRAWN BY: T HOBIT
CHECKED BY: D MUCKERMAN
REVIEWED BY: D STEGAL

USACE MOBILE DISTRICT / CITY OF ATLANTA
CHATTAHOOCHEE RIVER RAW WATER INTAKE
IMPROVEMENTS AND DEFOORS ISLAND
BANK STABILIZATION
PLAN VIEW - PHASE 2
CONSTRUCTION AND
SOIL BORINGS



Sheet Reference Number:
C-4



NOTES:

1. PRIOR TO BEGINNING CONSTRUCTION, ALL INITIAL SEDIMENT AND EROSION CONTROL FEATURES (SHOWN ON DRAWING EC-5) SHALL BE INSTALLED; INCLUDING CONSTRUCTION FENCING, SILT FENCING, CONSTRUCTION EXITS, AND TREE PROTECTION FENCING. THE CONSTRUCTION ACCESS ROAD WILL REQUIRE STONE STABILIZATION TO PREVENT EXCESSIVE RUTTING.
2. BOULDER SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ALIGNMENT AND GRADE SHOWN ON THIS DRAWING, AS WELL AS ALL APPLICABLE CROSS SECTIONS, TYPICAL SECTIONS AND DETAILS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING, MATCHING DIMENSIONS SHOWN ON THESE DRAWINGS AND MEASUREMENTS REFERENCED FROM BASELINES.
3. CONSTRUCTION ACCESS AND STAGING AREAS SHOWN ON THESE DRAWINGS MAY BE ADJUSTED, IF NECESSARY, SHOULD FIELD CONDITIONS DICTATE. ANY DEVIATIONS SHALL BE PRE-APPROVED BY THE USACE CONSTRUCTION REPRESENTATIVE.
4. THE CONTRACTOR SHALL STAKE THE LIMITS (BOTH EDGES) OF THE CONSTRUCTION ACCESS ROAD (SHOWN 20' WIDE, 14' MIN) CROSSING THE UPPER SILL, IN ANTICIPATION OF WATER LEVELS WHICH MIGHT IMPEDED VISIBILITY. IT IS ANTICIPATED THAT NORMAL FLOW DEPTH ACROSS THE UPPER SILL WILL BE APPROXIMATELY 1-FOOT DEEP DURING PHASE 1 CONSTRUCTION. STAKING MAY BE ACCOMPLISHED USING WOODEN OR STEEL POSTS SET AT APPROXIMATELY 25 FOOT SPACING, AND FLAGGED.
5. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UPPER SILL CONCRETE WALL DURING ALL CONSTRUCTION ACTIVITIES. ANY DAMAGE TO THE EXISTING CONCRETE WALL SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL PERFORM A FIELD SURVEY OF THE UPPER SILL PRIOR TO PLACEMENT OF THE CONSTRUCTION ACCESS ROAD. THE QUANTITY OF STONE USED TO CONSTRUCT THE ACCESS ROAD SHALL BE PAID FOR UNDER THE UNIT PRICE BID FOR CONSTRUCTION ACCESS ROADS (PER LINEAR FOOT). STONE USED FOR THE CONSTRUCTION ACCESS ROAD ACROSS THE UPPER SILL SHALL BE OF SUITABLE SIZE (#3 STONE OR LARGER) TO REMAIN IN PLACE FOR THE PROJECT DURATION.
7. A CANOE PORTAGE RAMP SHALL BE CONSTRUCTED WHERE INDICATED ON THE DRAWINGS. THE PORTAGE RAMP SHALL BE OF A SLOPE NO GREATER THAN 10%, AND CONSTRUCTED OF A MIXTURE OF TYPE B AND C BOULDERS. VOIDS BETWEEN BOULDERS SHALL BE FILLED USING #3 AND #4 STONES.
8. A 30-FOOT WIDE CONSTRUCTION EXIT SHALL BE MAINTAINED DURING PROJECT CONSTRUCTION, BUT SHALL ALSO BE IMPROVED (TO MINIMUM STANDARDS) UPON PROJECT COMPLETION FOR PERMANENT USE.
9. UPPER SILL IMPROVEMENT WILL REQUIRE A GRADED MIXTURE OF TYPE B BOULDERS.
10. SEE SHEET C-6 FOR FINAL GRADING PLAN.

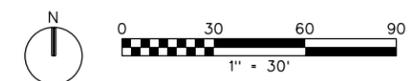
LEGEND

- 6' WIDE FLAT LEDGE WITH 3' PLANTED AND 3' TYPE B BOULDERS
- TYPE B BOULDERS
- GEOTEXTILE (GRASSED) @ 3:1 SLOPE
- CONSTRUCTION STAGING AREA
- CONSTRUCTION ACCESS ROAD
- SOIL BORING
- CONSTRUCTION FENCING / LIMITS OF CLEARANCE / LIMITS OF DISTURBANCE
- TEMPORARY STAKING OF CONSTRUCTION ACCESS ROAD LIMITS (WOODEN OR STEEL POSTS WITH FLAGGING)
- CONSTRUCTION EXIT STONE (MIXTURE NO. 3 AND NO. 4 STONE)
- CANOE PORTAGE RAMP

GRADATION		UPPER SILL - PHASE 3 TYPE B STONE (D ₅₀ = 18")		
BOULDER SIZE RANGE	STONE WEIGHT RANGE	BOULDER SIZE (INCHES)	BOULDER WEIGHT (LBS)	PERCENT (BY VOLUME)
1.5 D ₅₀ TO 1.7 D ₅₀	3.0 W ₅₀ TO 5.0 W ₅₀	27" TO 31"	981 TO 1,400	15%
1.15 D ₅₀ TO 1.5 D ₅₀	1.5 W ₅₀ TO 3.0 W ₅₀	21" TO 27"	462 TO 981	50%
0.85 D ₅₀ TO 1.15 D ₅₀	0.65 W ₅₀ TO 1.5 W ₅₀	15" TO 21"	168 TO 462	15%
0.5 D ₅₀ TO 0.85 D ₅₀	0.125 W ₅₀ TO 0.65 W ₅₀	9" TO 15"	36 TO 168	20%

NOTE: BOULDERS SHALL BE A MINIMUM OF 162.24 LBS PER CUBIC FOOT, MINIMUM SPECIFIC GRAVITY = 2.6. BOULDER WEIGHTS LISTED ABOVE ARE BASED ON AVERAGE BOULDER WEIGHT OF 165 LBS PER CUBIC FOOT

CONTROL POINT
 1/2" REBAR FOUND
 NORTHING = 1392850.77
 EASTING = 2209255.16
 ELEVATION = 768.38



Symbol No.	Description	Date	Approval

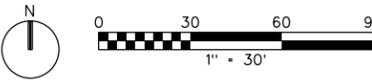
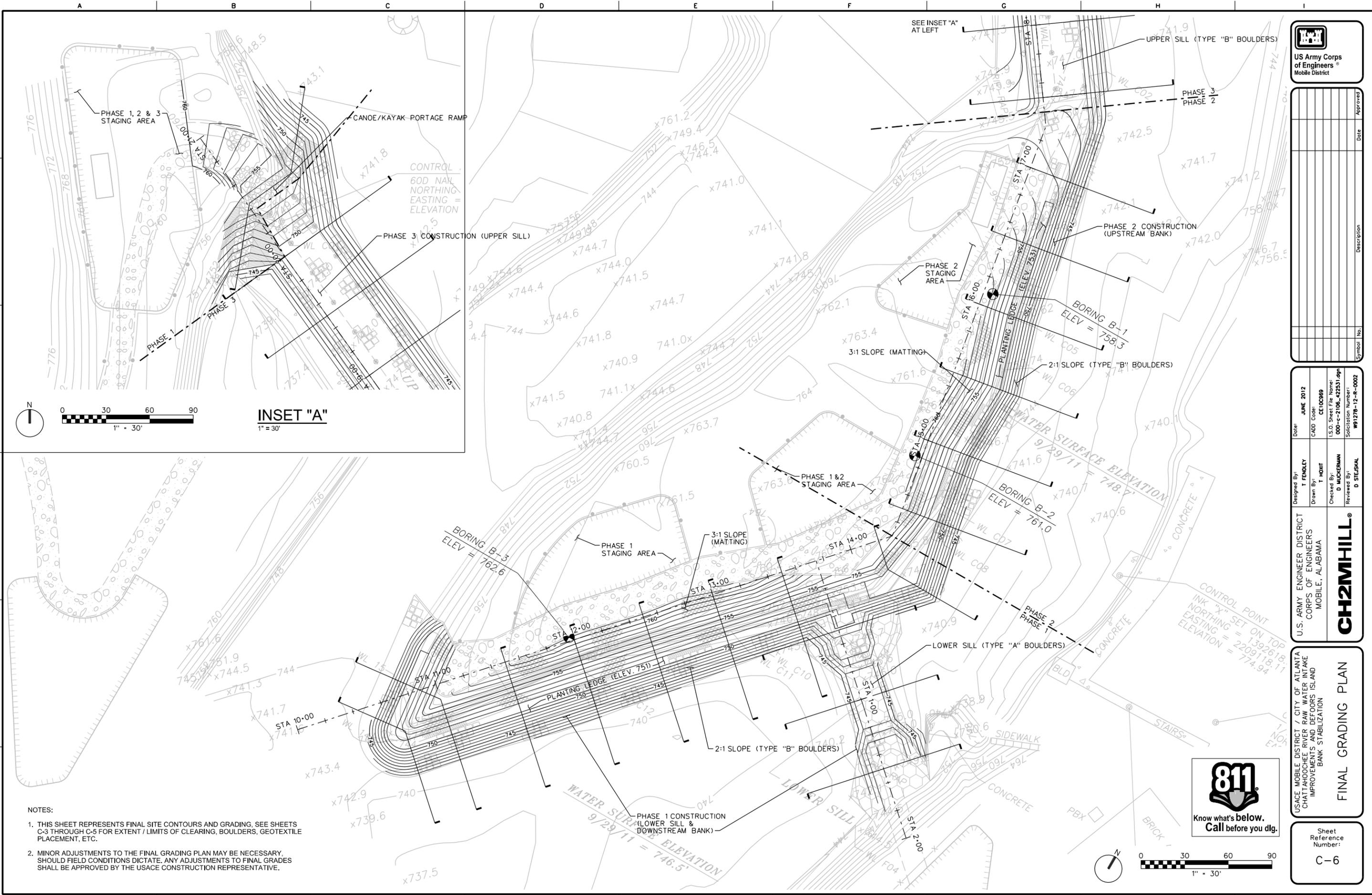
Date:	JUNE 2012
CADD Code:	CE 00969
U.S.O. Sheet File Name:	000-c-2105-422531.dgn
Substation Number:	WB1276-12-R-0002
Designed By:	T. FENLEY
Drawn By:	T. HOBT
Checked By:	D. MUCKERMAN
Reviewed By:	D. STEBKA

U.S. ARMY ENGINEER DISTRICT
 CORPS OF ENGINEERS
 MOBILE, ALABAMA

CH2MHILL

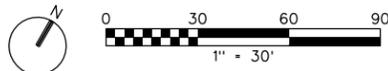
USACE MOBILE DISTRICT / CITY OF ATLANTA
 CHATTAHOOCHEE RIVER RAW WATER INTAKE
 IMPROVEMENTS AND DEFORS ISLAND
 BANK STABILIZATION
**PLAN VIEW - PHASE 3
 CONSTRUCTION**

Sheet Reference Number:
C-5



INSET "A"
1" = 30'

- NOTES:
1. THIS SHEET REPRESENTS FINAL SITE CONTOURS AND GRADING. SEE SHEETS C-3 THROUGH C-5 FOR EXTENT / LIMITS OF CLEARING, BOULDERS, GEOTEXTILE PLACEMENT, ETC.
 2. MINOR ADJUSTMENTS TO THE FINAL GRADING PLAN MAY BE NECESSARY, SHOULD FIELD CONDITIONS DICTATE. ANY ADJUSTMENTS TO FINAL GRADES SHALL BE APPROVED BY THE USACE CONSTRUCTION REPRESENTATIVE.



Symbol No.	Description	Date	Approval

Date:	JUNE 2012
Designed By:	T FENLEY
Drawn By:	T HOBT
Checked By:	D MUCKERMAN
Reviewed By:	D STEGAL
CAD Code:	CE 00969
I.S.O. Sheet File Name:	000-c-2106-422531.dgn
Substation Number:	WB1276-12-R-002

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA



USACE MOBILE DISTRICT / CITY OF ATLANTA
CHATTahoochee RIVER WATER INTAKE
IMPROVEMENTS AND DEFOORS ISLAND
BANK STABILIZATION

FINAL GRADING PLAN

Sheet Reference Number:
C-6

Symbol No.	Description	Date	Approval

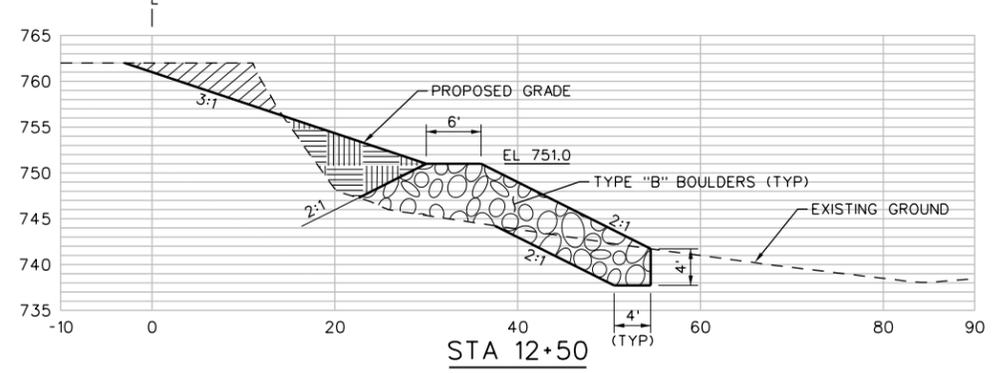
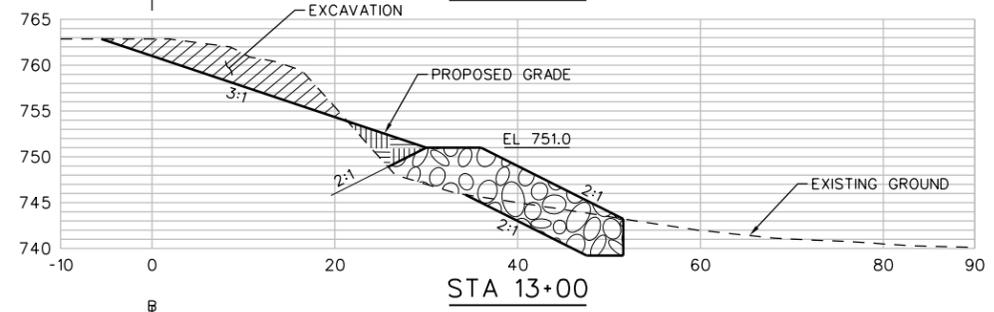
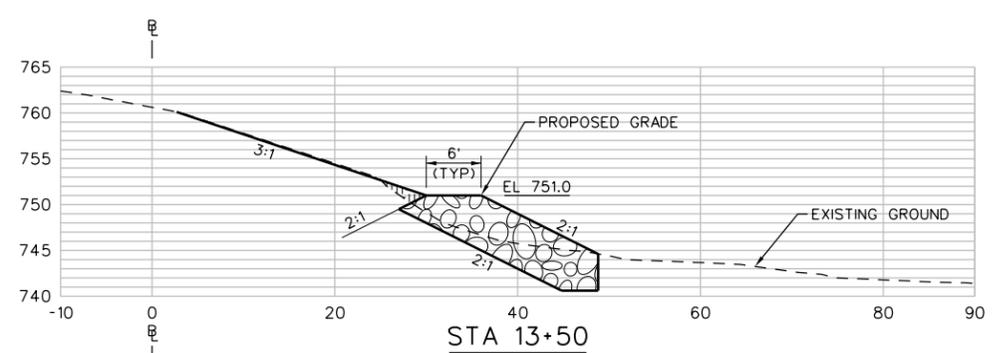
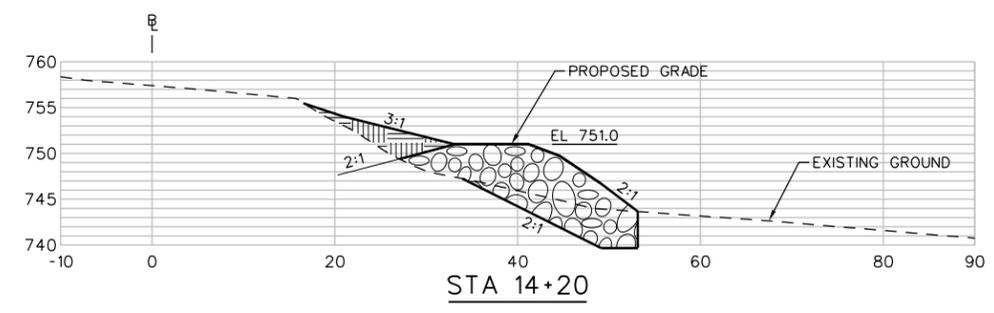
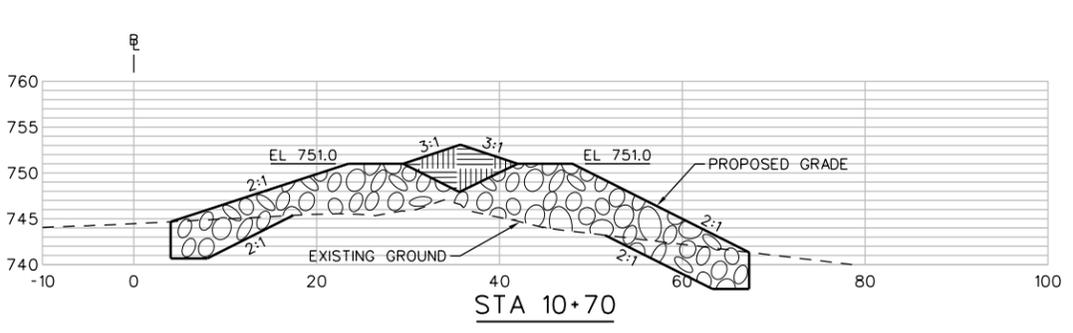
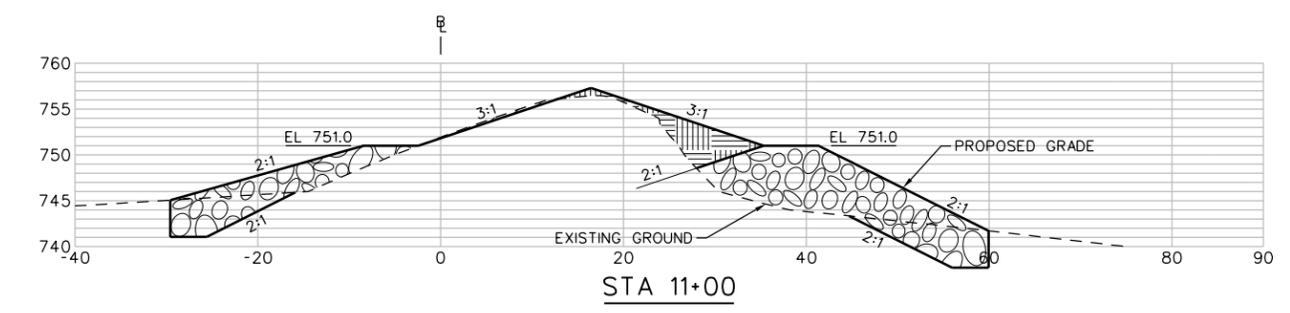
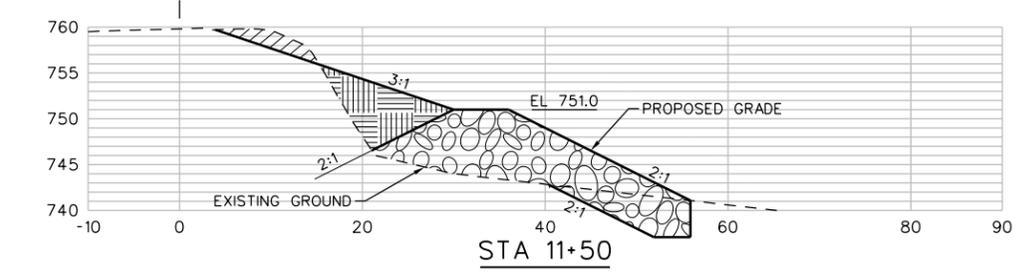
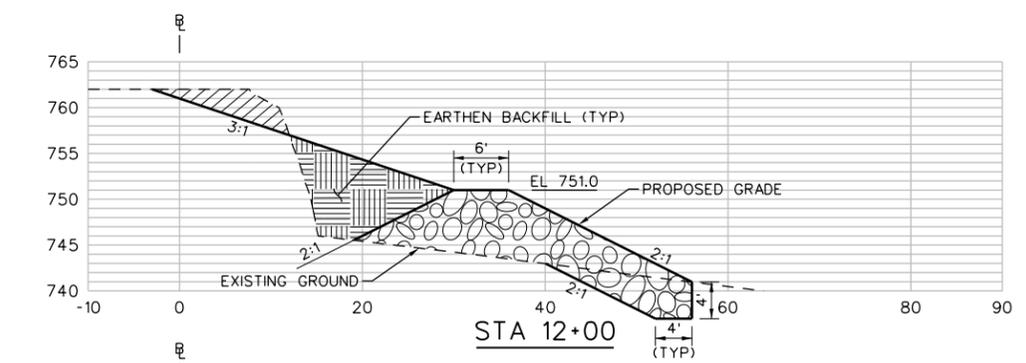
Designed By:	T. FENLEY	Date:	JUNE 2012
Drawn By:	T. HOBT	CADD Code:	CE 00869
Checked By:	D. MUCKERMAN	I.S.O. Sheet File Name:	000-c-2107-42531.dgn
Reviewed By:	D. STEGAL	Substation Number:	WB1276-12-R-002

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA



USACE MOBILE DISTRICT / CITY OF ATLANTA
CHATTahoochee RIVER RAW WATER INTAKE
IMPROVEMENTS AND DEFORS ISLAND
BANK STABILIZATION
PHASE 1
CROSS SECTIONS
BASELINE - A

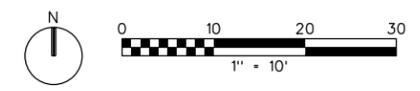
Sheet Reference Number:
C-7

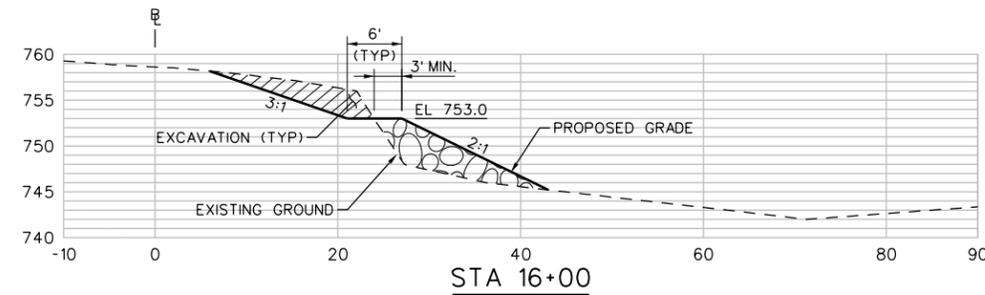
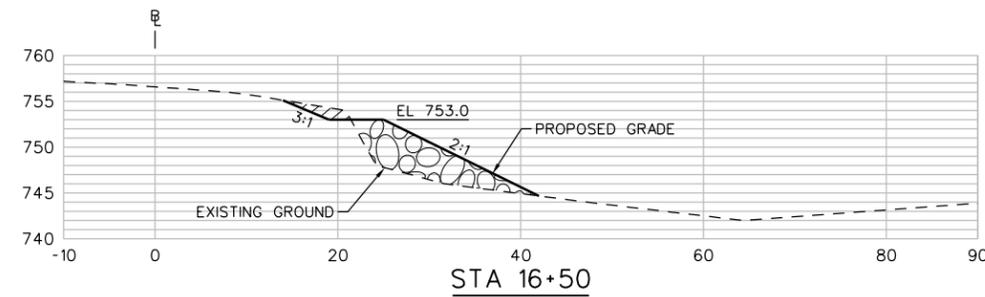
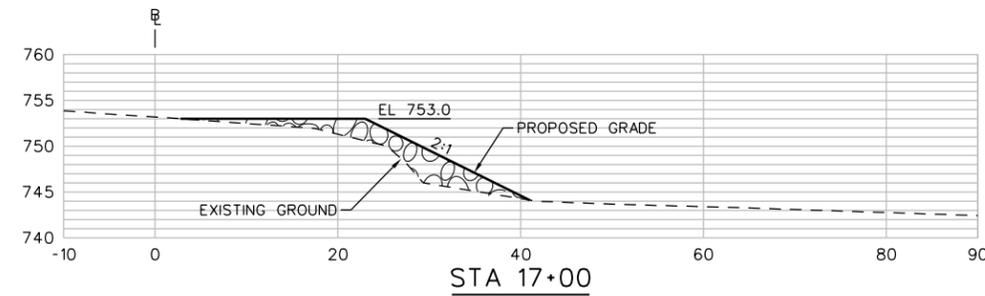
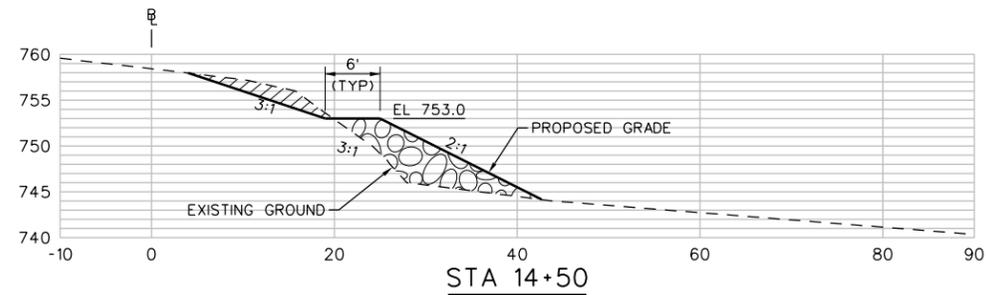
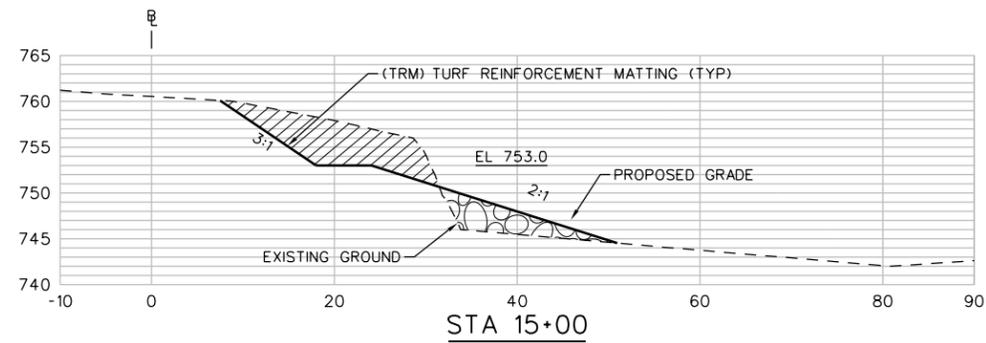
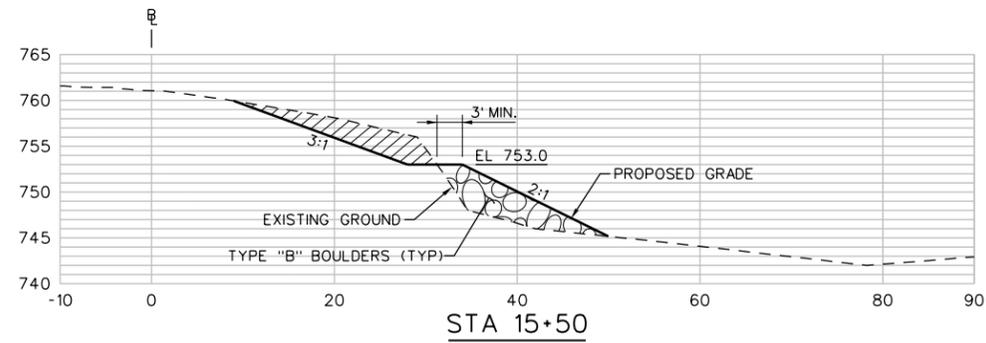


GRADATION		PHASE 1 BANK STABILIZATION TYPE B STONE (D ₅₀ = 18")		
BOULDER SIZE RANGE	STONE WEIGHT RANGE	BOULDER SIZE (INCHES)	BOULDER WEIGHT (LBS)	PERCENT (BY VOLUME)
1.5 D ₅₀ TO 1.7 D ₅₀	3.0 W ₅₀ TO 5.0 W ₅₀	27" TO 31"	981 TO 1,400	15%
1.15 D ₅₀ TO 1.5 D ₅₀	1.5 W ₅₀ TO 3.0 W ₅₀	21" TO 27"	462 TO 981	50%
0.85 D ₅₀ TO 1.15 D ₅₀	0.65 W ₅₀ TO 1.5 W ₅₀	15" TO 21"	168 TO 462	15%
0.5 D ₅₀ TO 0.85 D ₅₀	0.125 W ₅₀ TO 0.65 W ₅₀	9" TO 15"	36 TO 168	20%

NOTE: BOULDERS SHALL BE A MINIMUM OF 162.24 LBS PER CUBIC FOOT, MINIMUM SPECIFIC GRAVITY = 2.6. BOULDER WEIGHTS LISTED ABOVE ARE BASED ON AVERAGE BOULDER WEIGHT OF 165 LBS PER CUBIC FOOT

NOTE: SEE TYPICAL SECTIONS, DRAWING CD-1 FOR BOULDER PLACEMENT/INSTALLATION DETAILS

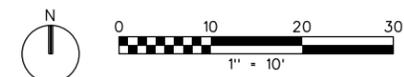




GRADATION		BANK STABILIZATION - PHASE 2 TYPE B STONE (D ₅₀ = 18")		
BOULDER SIZE RANGE	STONE WEIGHT RANGE	BOULDER SIZE (INCHES)	BOULDER WEIGHT (LBS)	PERCENT (BY VOLUME)
1.5 D ₅₀ TO 1.7 D ₅₀	3.0 W ₅₀ TO 5.0 W ₅₀	27" TO 31"	981 TO 1,400	15%
1.15 D ₅₀ TO 1.5 D ₅₀	1.5 W ₅₀ TO 3.0 W ₅₀	21" TO 27"	462 TO 981	50%
0.85 D ₅₀ TO 1.15 D ₅₀	0.65 W ₅₀ TO 1.5 W ₅₀	15" TO 21"	168 TO 462	15%
0.5 D ₅₀ TO 0.85 D ₅₀	0.125 W ₅₀ TO 0.65 W ₅₀	9" TO 15"	36 TO 168	20%

NOTE: BOULDERS SHALL BE A MINIMUM OF 162.24 LBS PER CUBIC FOOT, MINIMUM SPECIFIC GRAVITY = 2.6. BOULDER WEIGHTS LISTED ABOVE ARE BASED ON AVERAGE BOULDER WEIGHT OF 165 LBS PER CUBIC FOOT

NOTE: SEE TYPICAL SECTIONS, DRAWING CD-3 FOR BOULDER PLACEMENT/INSTALLATION DETAILS



Symbol No.	Description	Date	Approval

Designed By:	T. FENLEY	Date:	JUNE 2012
Drawn By:	T. HOBT	CADD Code:	CE 00969
Checked By:	D. MUCKERMAN	I.S.O. Sheet File Name:	000-c-2109-422531.dgn
Reviewed By:	D. STEBAK	Substation Number:	W91276-12-R-0002

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA
CH2MHILL

USACE MOBILE DISTRICT / CITY OF ATLANTA
CHATTahoochee RIVER RAW WATER INTAKE
IMPROVEMENTS AND DEFORS ISLAND
BANK STABILIZATION
PHASE 2
CROSS SECTIONS

Sheet Reference Number:
C-9



Symbol No.	Description	Date	Approval

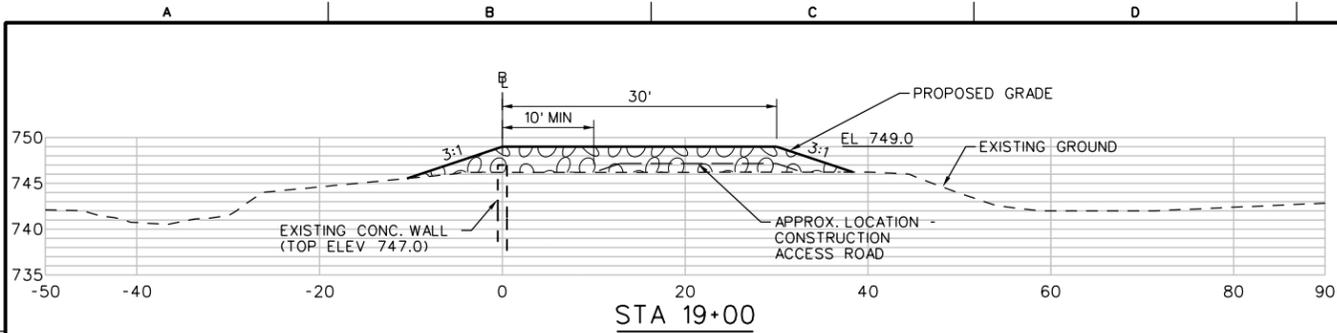
Designed By:	T. FENLEY	Date:	JUNE 2012
Drawn By:	T. HOBT	CADD Code:	CE 00869
Checked By:	D. MUCKERMAN	U.S.O. Sheet File Name:	000-c-2110-42531.dgn
Reviewed By:	D. STEGAL	Substation Number:	WP1276-12-R-0002

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

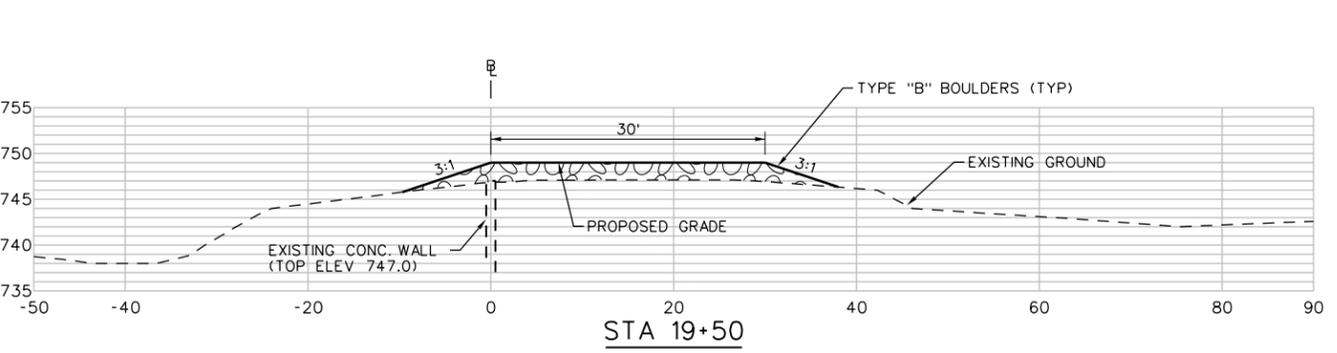
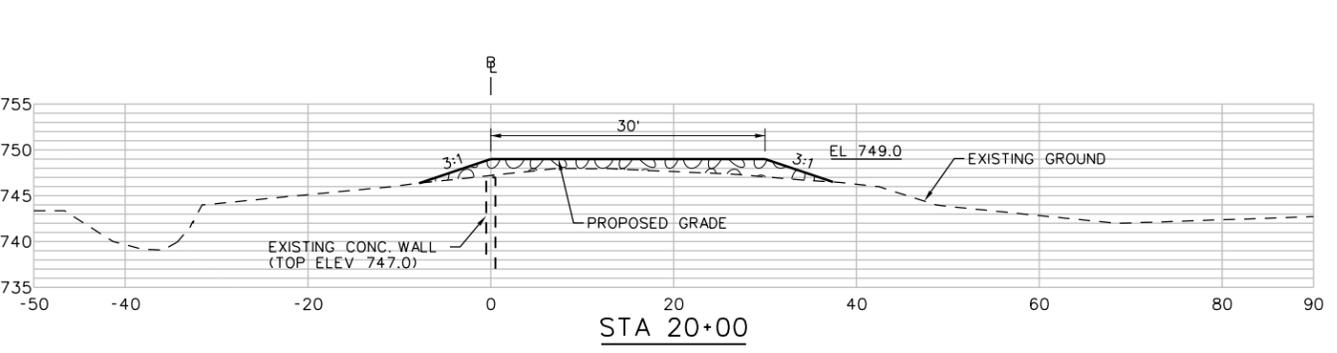
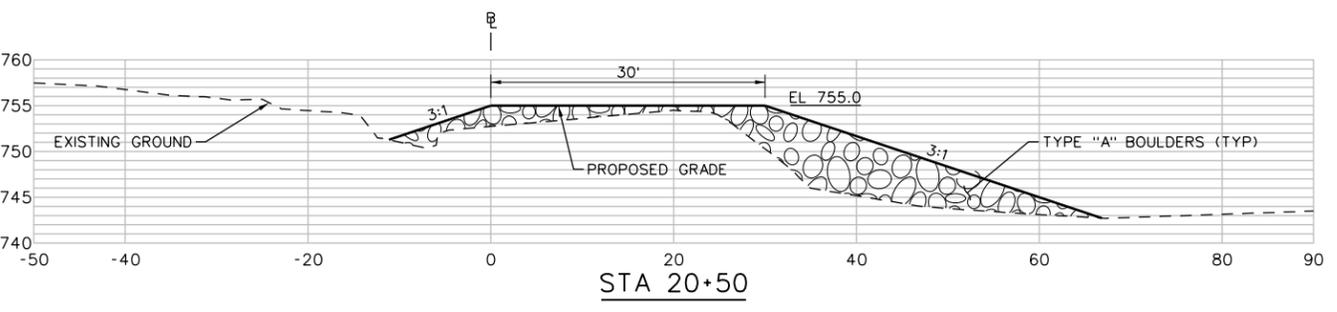
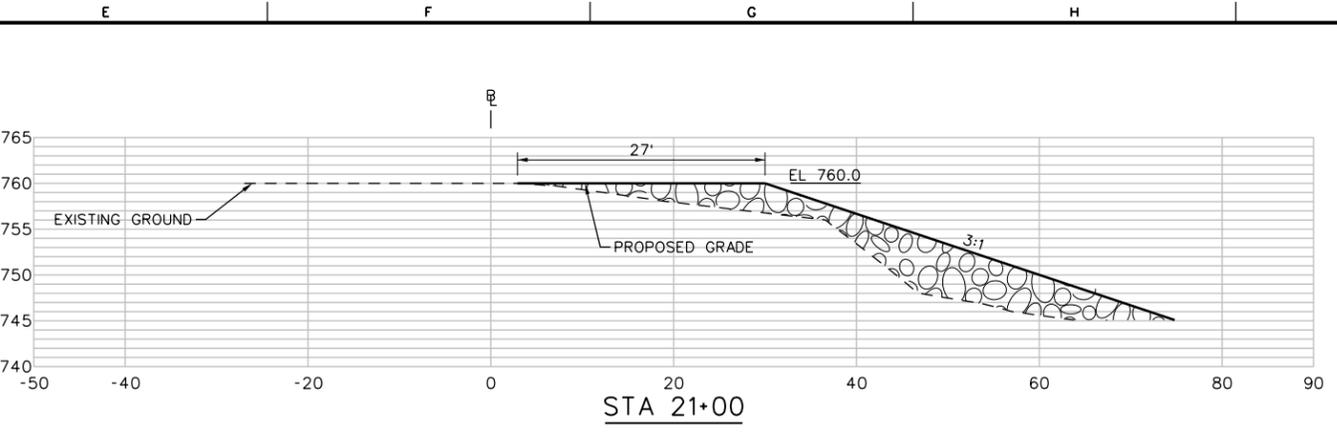
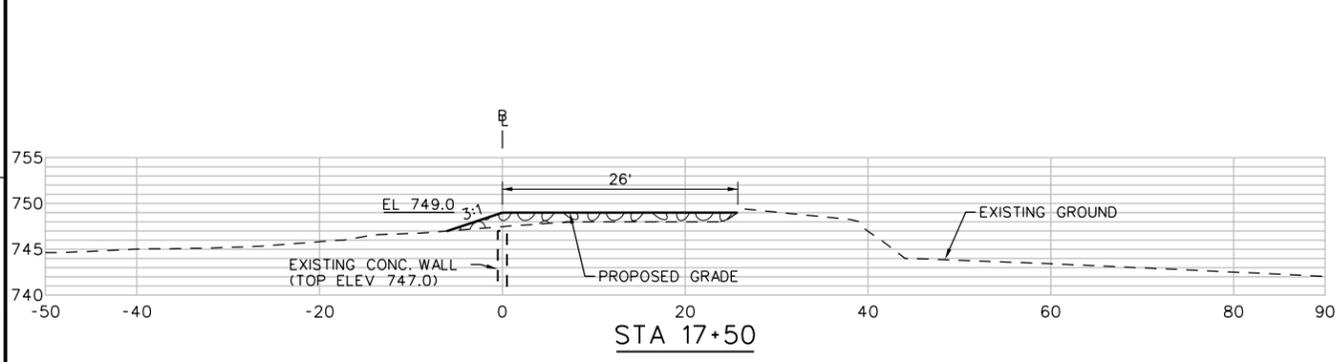
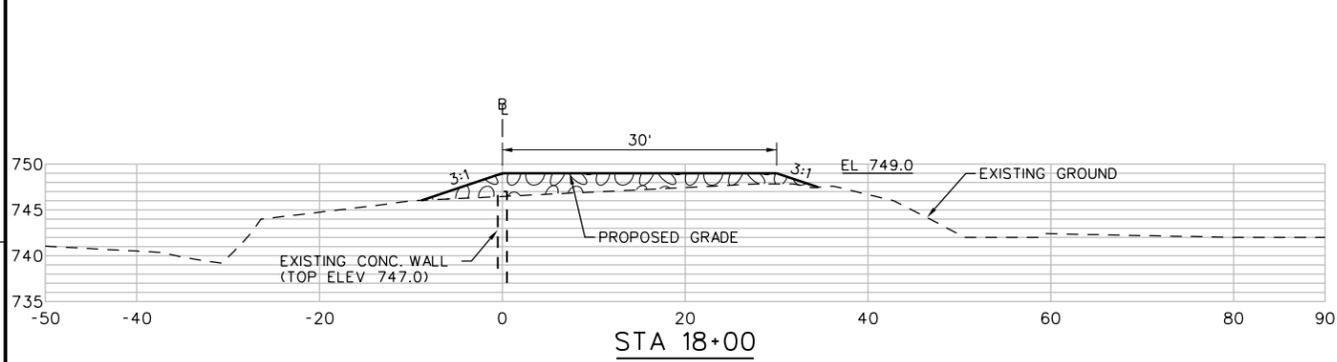
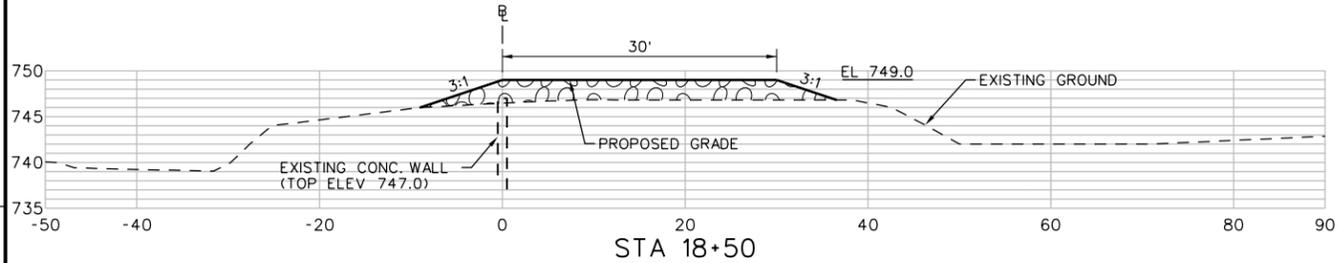


USACE MOBILE DISTRICT / CITY OF ATLANTA
CHATTahoochee RIVER RAW WATER INTAKE
IMPROVEMENTS AND DEFORS ISLAND
BANK STABILIZATION
PHASE 3
CROSS SECTIONS

Sheet Reference Number:
C-10

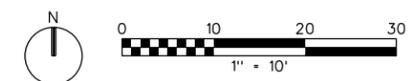


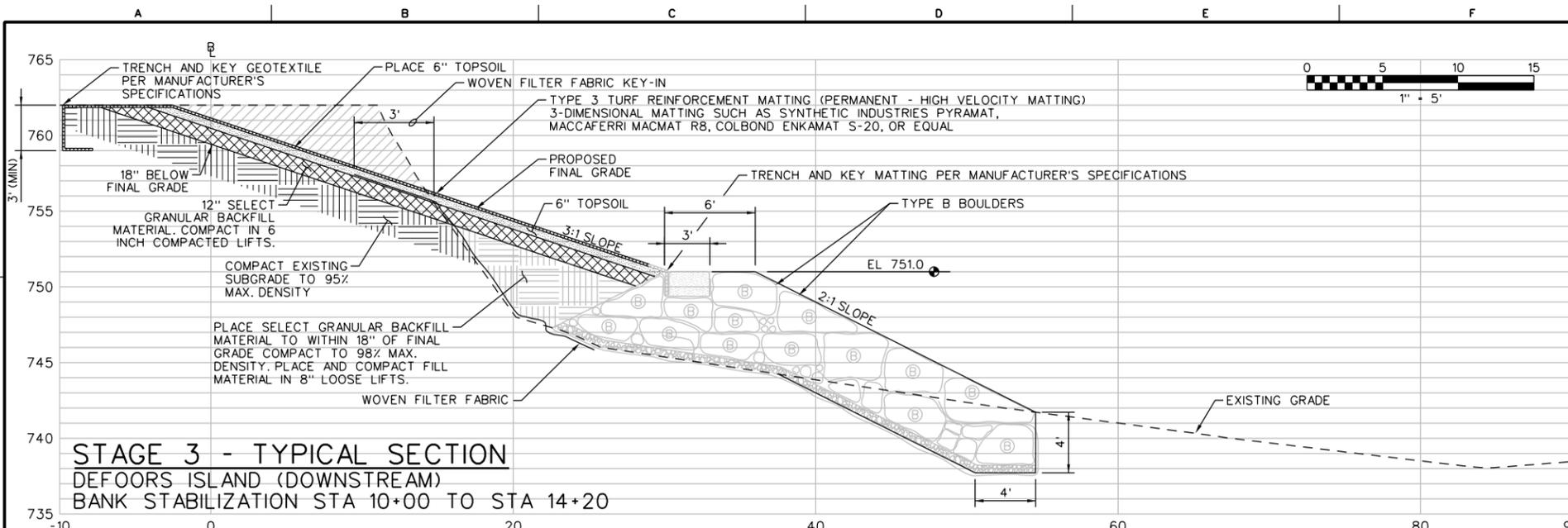
NOTE:
THE CONSTRUCTION ACCESS ROAD (USED FOR ASSCESS TO PHASE 1 & 2 CONSTRUCTION)
SHALL BE NO CLOSER THAT 10' FROM THE EXISTING CONCRETE WALL



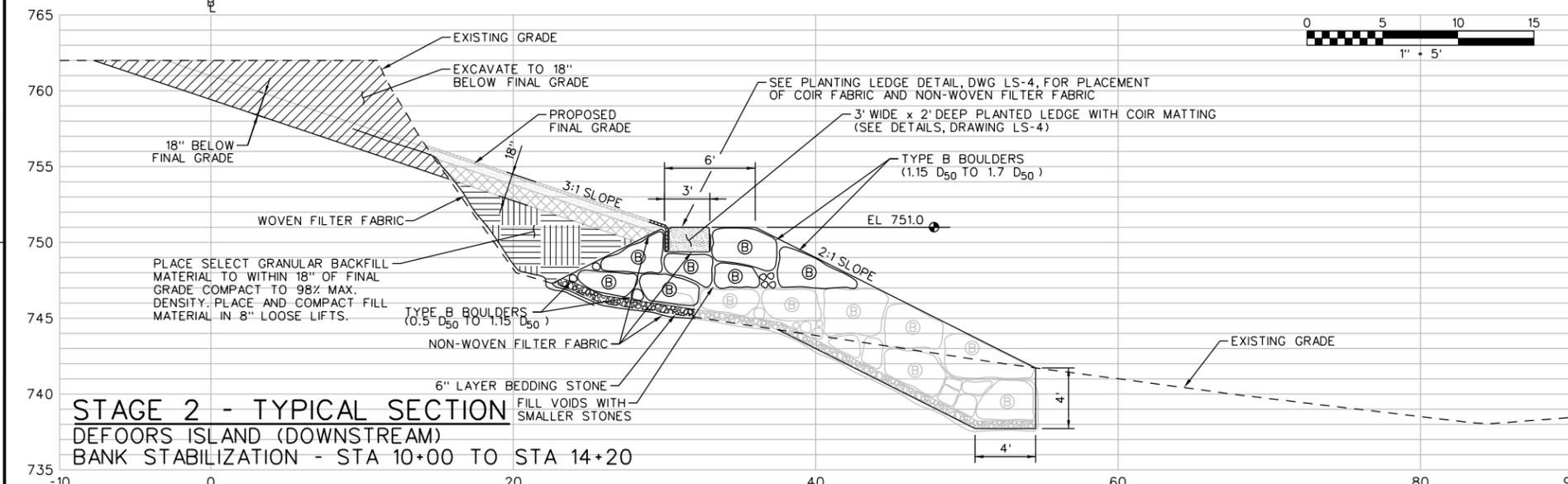
GRADATION		UPPER SILL - PHASE 3 TYPE B STONE (D50 = 18")		
BOULDER SIZE RANGE	STONE WEIGHT RANGE	BOULDER SIZE (INCHES)	BOULDER WEIGHT (LBS)	PERCENT (BY VOLUME)
1.5 D50 TO 1.7 D50	3.0 W50 TO 5.0 W50	27" TO 31"	981 TO 1,400	15%
1.15 D50 TO 1.5 D50	1.5 W50 TO 3.0 W50	21" TO 27"	462 TO 981	50%
0.85 D50 TO 1.15 D50	0.65 W50 TO 1.5 W50	15" TO 21"	168 TO 462	15%
0.5 D50 TO 0.85 D50	0.125 W50 TO 0.65 W50	9" TO 15"	36 TO 168	20%

NOTE: BOULDERS SHALL BE A MINIMUM OF 162.24 LBS PER CUBIC FOOT, MINIMUM SPECIFIC GRAVITY = 2.6.
BOULDER WEIGHTS LISTED ABOVE ARE BASED ON AVERAGE BOULDER WEIGHT OF 165 LBS PER CUBIC FOOT

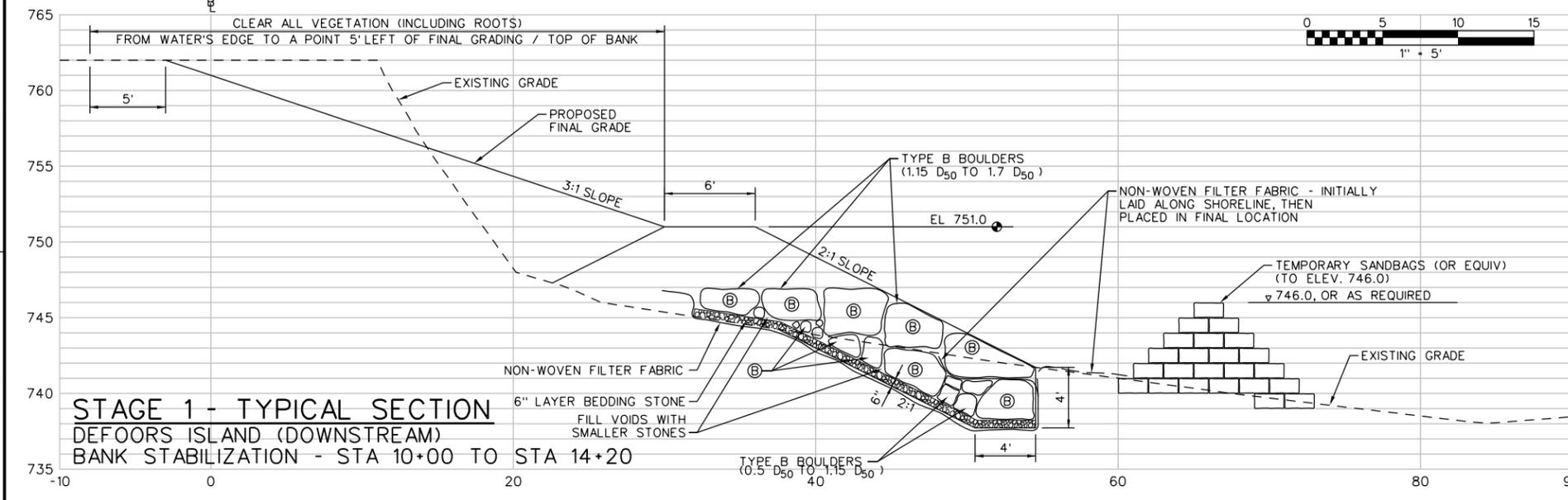




STAGE 3 - TYPICAL SECTION
 DEFOORS ISLAND (DOWNSTREAM)
 BANK STABILIZATION STA 10+00 TO STA 14+20



STAGE 2 - TYPICAL SECTION
 DEFOORS ISLAND (DOWNSTREAM)
 BANK STABILIZATION - STA 10+00 TO STA 14+20



STAGE 1 - TYPICAL SECTION
 DEFOORS ISLAND (DOWNSTREAM)
 BANK STABILIZATION - STA 10+00 TO STA 14+20

GRADATION		BANK STABILIZATION - PHASE 1 TYPE B STONE (D ₅₀ = 18")		
BOULDER SIZE RANGE	STONE WEIGHT RANGE	BOULDER SIZE (INCHES)	BOULDER WEIGHT (LBS)	PERCENT (BY VOLUME)
1.5 D ₅₀ TO 1.7 D ₅₀	3.0 W ₅₀ TO 5.0 W ₅₀	27" TO 31"	981 TO 1,400	15%
1.15 D ₅₀ TO 1.5 D ₅₀	1.5 W ₅₀ TO 3.0 W ₅₀	21" TO 27"	462 TO 981	50%
0.85 D ₅₀ TO 1.15 D ₅₀	0.65 W ₅₀ TO 1.5 W ₅₀	15" TO 21"	168 TO 462	15%
0.5 D ₅₀ TO 0.85 D ₅₀	0.125 W ₅₀ TO 0.65 W ₅₀	9" TO 15"	36 TO 168	20%

NOTE: BOULDERS SHALL BE A MINIMUM OF 162.24 LBS PER CUBIC FOOT, MINIMUM SPECIFIC GRAVITY = 2.6. BOULDER WEIGHTS LISTED ABOVE ARE BASED ON AVERAGE BOULDER WEIGHT OF 165 LBS PER CUBIC FOOT

STAGE 3 NOTES:

1. EXCAVATE AND GRADE THE UPPER SECTION OF EXISTING BANK TO 18 INCHES BELOW THE FINAL PROPOSED GRADE.
2. COMPACT SUBGRADE (EXISTING MATERIAL) TO 95% MAXIMUM DENSITY, ADDING SELECT GRANULAR BACKFILL MATERIAL AS NECESSARY TO ESTABLISH FINAL SUBGRADE ELEVATION.
3. ADD SELECT GRANULAR BACKFILL MATERIAL (12" THICK) AND COMPACT TO 95% MAXIMUM DENSITY, MEETING FINAL PROPOSED GRADE. COMPACT IN 6 INCH COMPACTED LIFTS.
4. PLACE 6 INCHES OF TOP SOIL ABOVE THE COMPACTED SELECT GRANULAR BACKFILL FROM PLANTING TO TOP OF BANK.
5. PLACE TYPE 3 TURF REINFORCEMENT MATTING ALONG BANK SLOPE, SECURING MATTING BY TRENCHING AND/OR OTHER METHODS SPECIFIED BY THE MANUFACTURER. THE BANK SLOPE SHALL BE SEEDDED USING A RIPARIAN BUFFER SEED MIX PRIOR TO PLANTING AND SECURING MATTING.

STAGE 2 NOTES:

1. CONTINUE PLACING NON-WOVEN FILTER FABRIC, BEDDING STONE AND BOULDERS TO THE PROPOSED CROSS SECTION SHOWN.
2. USE COIR MATTING TO PREPARE 3-FOOT WIDE BY 2-FOOT DEEP PLANTING LEDGE.
3. CONTINUE WOVEN FILTER FABRIC PLACEMENT ALONG EXISTING GROUND, PREPARING FOR PLACEMENT OF SELECT GRANULAR BACKFILL.
4. PLACE SELECT BACKFILL IN 8-INCH LOOSE LIFTS (COMPACTING TO 98% MAXIMUM DENSITY), UNTIL THE PROPOSED ELEVATION IS ACHIEVED.

STAGE 1 NOTES:

1. CONTRACTOR SHALL INITIALLY PLACE SANDBAGS (OR OTHER MEANS OF ISOLATING THE WORK AREA) BEGINNING 60 FEET WATERWARD FROM BASELINE "A". SANDBAGS SHALL BE PLACED TO A HEIGHT AND CROSS SECTION TO ALLOW FOR EFFECTIVE DEWATERING OF THE LOCAL WORK SPACE. SEE DWG C-2 FOR DETAILS.
2. THE WORK AREA SHALL BE KEPT TO A SIZE/EXTENT TO ALLOW FOR EFFECTIVE DEWATERING, AS DETERMINED BY THE USACE CONSTRUCTION REPRESENTATIVE.
3. CONTRACTOR SHALL EXCAVATE A 4-FOOT DEEP TRENCH AS INDICATED, AND DEWATER THE AREA TO AT LEAST HALF THE DEPTH OF THE TRENCH. EXCAVATED SOIL SHALL BE PLACED ONTO AN UPLAND LOCATION (CONSTRUCTION STAGING AREA, OR OTHER LOCATION APPROVED BY THE USACE CONSTRUCTION REPRESENTATIVE). SOILS SHALL BE ALLOWED TO DRAIN USING A BLADDER SYSTEM PRIOR TO REMOVAL OF SOILS TO A DISPOSAL LOCATION.
4. DEWATERING WITHIN THE TRENCH SHALL BE PERFORMED BY PUMPING FROM THE TRENCH DIRECTLY TO THE BLADDER SYSTEM, OR ALTERNATELY INTO AN ADJACENT SANDBAGGED WORK AREA, IF APPROVED BY THE USACE CONSTRUCTION REPRESENTATIVE (A MINIMUM OF TWO SANDBAGGED WORK AREAS MUST BE ESTABLISHED AT ALL TIMES IN ORDER TO DEWATER ONE AREA, WHILE UTILIZING THE SECOND AREA AS A SEDIMENT BASIN).
5. PLACE NON-WOVEN FILTER FABRIC TO THE CROSS SECTION INDICATED IN THE TYPICAL SECTION.
6. PLACE BEDDING STONE, 6 INCHES THICK (MIN.)
7. BEGIN PLACING TYPE B BOULDERS TO THE PROPOSED SECTION SHOWN. PLACE IN VERTICAL LIFTS NOT EXCEEDING 3'.



Symbol No.	Description	Date	Approval

Date:	JUNE 2012
CADD Code:	CE 00969
U.S.O. Sheet File Name:	005-c-5101-422531.dgn
Substation Number:	WP1276-12-R-0002
Designed By:	T. FENLEY
Drawn By:	T. HOBT
Checked By:	D. MUCKERMAN
Reviewed By:	D. STEBAK

U.S. ARMY ENGINEER DISTRICT
 CORPS OF ENGINEERS
 MOBILE, ALABAMA

CH2MHILL

USACE MOBILE DISTRICT / CITY OF ATLANTA
 CHATTAHOOCHEE RIVER RAW WATER INTAKE
 IMPROVEMENTS AND DEFOORS ISLAND
 BANK STABILIZATION
 CONSTRUCTION DETAILS
 PHASE 1 BANK STABILIZATION
 TYPICAL SECTIONS

Sheet Reference Number:
 CD-1

PROJECT CONTACT INFORMATION:

LOCAL SPONSOR / OWNER: CITY OF ATLANTA DEPARTMENT OF WATERSHED MANAGEMENT BUREAU OF ENGINEERING SERVICES
650 17th STREET N.W. ATLANTA, GA. 30318
LEE HUNT, P.E. (404) 658-7274

24 HOUR CONTACT: NOLTON JOHNSON WATERSHED DIRECTOR BUREAU OF ENGINEERING SERVICES CITY OF ATLANTA (404) 546-3241

ENGINEER: CH2M HILL NORTH PARK 400 1000 ABERNATHY ROAD, SUITE 1600 ATLANTA, GA 30328 CONTACT: TOM FENDLEY, P.E. (678) 530-4259

SURVEYOR: ROCHESTER & ASSOCIATES 425 OAK STREET, N.W. GAINESVILLE, GA. 30501 CONTACT: JARROD BLACK (678) 450-5154

PRIMARY PERMITTEE

OPERATOR/CONTRACTOR: TO BE DETERMINED

COMPANY: TBD
ADDRESS: _____

PHONE: TBD

EMAIL: TBD

GSWCC LEVEL II CERTIFICATION NO.: TBD

NAME: TBD
TITLE: TBD

DESIGN PROFESSIONAL CERTIFICATION:

(1) "I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALLS AND THAT THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR 100001."

(2) "I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY SUPERVISION."

(3) "I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT CERTIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

NAME: PATRICK GERVAIS, P.E. SIGNATURE: _____
TITLE: GSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION NO. 0000013075

1. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, AND CONCURRENT WITH LAND-DISTURBING ACTIVITIES.

2. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDED FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

3. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

DESIGN PROFESSIONAL 7 DAY INSPECTION

THE PRIMARY PERMITTEE MUST RETAIN THE DESIGN PROFESSIONAL WHO PREPARED THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, EXCEPT WHEN THE PRIMARY PERMITTEE HAS REQUESTED IN WRITING AND EPD HAS AGREED TO AN ALTERNATE DESIGN PROFESSIONAL, TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPs WHICH THE DESIGN PROFESSIONAL DESIGNED WITHIN SEVEN (7) DAYS AFTER INSTALLATION. THE DESIGN PROFESSIONAL SHALL DETERMINE IF THESE BMPs HAVE BEEN INSTALLED AND ARE BEING MAINTAINED AS DESIGNED. THE DESIGN PROFESSIONAL SHALL REPORT THE RESULTS OF THE INSPECTION TO THE PRIMARY PERMITTEE WITHIN SEVEN (7) DAYS AND THE PERMITTEE MUST CORRECT ALL DEFICIENCIES WITHIN TWO (2) BUSINESS DAYS OF RECEIPT OF THE INSPECTION REPORT FROM THE DESIGN PROFESSIONAL UNLESS WEATHER RELATED SITE CONDITIONS ARE SUCH THAT ADDITIONAL TIME IS REQUIRED.

DATE OF INSPECTION: _____
INSPECTION BY: _____
GSWCC CERTIFICATION NO. _____
SIGNATURE: _____

PROJECT NARRATIVE

1. PROJECT DESCRIPTION:
WORK REQUIRED UNDER THIS CONTRACT INCLUDES FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED FOR THE CHATTAHOOCHEE RIVER RAW WATER INTAKE AND EROSION STABILIZATION PROJECT. THE PROJECT INVOLVES CLEARING AND GRUBBING, REHABILITATION OF THE UPPER AND LOWER SILLS WITH A RIPRAP AND BANK STABILIZATION ALONG THE EAST SIDE OF DEFOORS ISLAND. ASSOCIATED WORK INCLUDES SITE GRADING, RESTORATION/REVEGETATION, AND SEDIMENT AND EROSION CONTROL MEASURES.

2. SITE DATA:
A. PROPERTY ADDRESS:
FROM COBB COUNTY, RL SUTTON WRF:
5175 S. ATLANTA ROAD
SMYRNA, GA 30080
FROM CITY OF ATLANTA, RAW WATER INTAKE:
2630 RIDGEWOOD ROAD
ATLANTA, GA 30318
B. PROJECT AREA: 11.71 ACRES
D. DISTURBED AREA: 2.55 ACRES
E. ZONING: INDUSTRIAL
F. FEMA FLOOD ZONE: AE W/ FLOODWAY
G. LAND LOTS: 1022, 1023, 231, 232; 17th DISTRICT; FULTON COUNTY
H. CRITICAL AREAS: NO CRITICAL AREAS ARE IDENTIFIED FOR THE SITE.
I. HYDROLOGY INFORMATION: DRAINAGE AREA = 1,450 SQ. MILES
BASE FLOW = 1,100 CFS
1-YR FLOW = 16,180 CPS
10-YR FLOW = 25,700 CFS
25-YR FLOW = 30,240 CFS

3. SOILS INFORMATION: SEE USGS SOILS MAP UNIT LEGEND ON DWG EC-4.

4. VEGETATION: THE EXISTING SITE IS COVERED WITH TREES, SHRUBS AND GRASS.

5. RECEIVING WATERS: CHATTAHOOCHEE RIVER

6. NEPHELOMETRIC TURBIDITY UNITS (NTU) LIMIT FOR THE SITE:
SURFACE WATER DRAINAGE AREA = 1,450 SQ. MILES
SITE SIZE = 2.55 ACRES (DISTURBED)
NTU = 500

GENERAL NOTES

1. SOIL DISTURBING ACTIVITIES WILL INCLUDE: PLACEMENT OF EROSION AND SEDIMENT CONTROL PRIOR TO SITE CLEARING AND GRUBBING, GRADING OPERATIONS, FACILITIES CONSTRUCTION, TRENCH EXCAVATION AND BACKFILL, AND SURFACE RESTORATION.

2. EROSION CONTROL AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

3. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES INSTALLED FOR THE FULL DURATION OF THIS CONTRACT.

4. PROVISIONS TO PREVENT EROSION OF SOIL FROM THE SITE SHALL BE, AT A MINIMUM, IN CONFORMANCE WITH THE REQUIREMENTS OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA. THIS DESIGN SHALL CONFORM TO AND ALL WORK WILL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THIS PUBLICATION.

5. ALL PERIMETER EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF SITE WORK AND REMAIN UNTIL COMPLETION OF WORK. CONTRACTOR IS RESPONSIBLE TO REPAIR OR REPLACE DAMAGED ITEMS.

6. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE PROVIDED WHERE SHOWN AND WHERE REQUIRED DURING CONSTRUCTION.

GENERAL NOTES (CONT.)

7. THE CONTRACTOR SHALL OBSERVE THE PROJECT SEQUENCE SHOWN ON THE PLANS. THE CONTRACTOR SHALL MAINTAIN CAREFUL SCHEDULING AND PERFORMANCE TO ENSURE THAT EXPOSURE OF LAND AREA STRIPPED OF ITS NATURAL COVER IS KEPT TO A MINIMUM.

8. NO BURN OR BURY PITS SHALL BE PERMITTED ON THE SITE WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF THE SITE OWNER AND/OR THE ENGINEER OF RECORD.

9. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE AT ALL TIMES.

10. CONTRACTOR SHALL INSTALL AND ADD TO EROSION CONTROL MEASURES AS DETERMINED BY THE ENGINEER, OWNER OR THE COUNTY.

11. AMENDMENTS/REVISIONS TO THE EROSION AND SEDIMENT CONTROL PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPs WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.

EROSION AND SEDIMENT CONTROLS

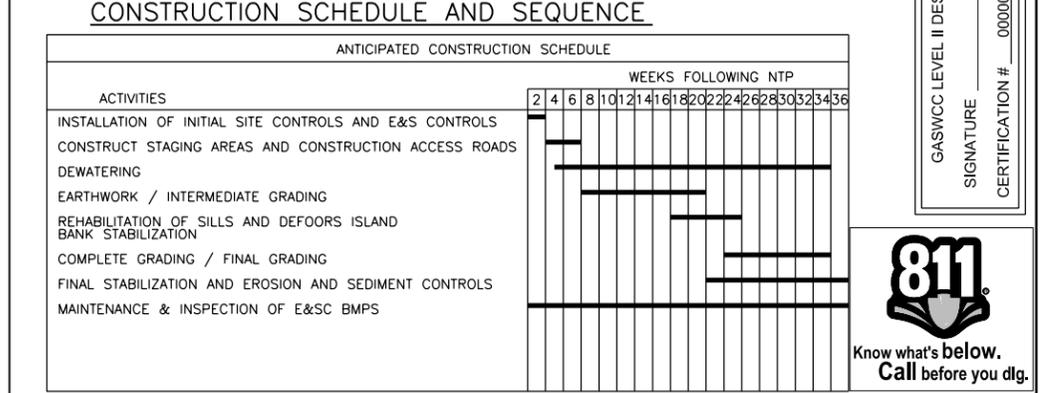
1. **STABILIZATION MEASURES:**
SITE WORK SHALL ENSURE THAT EXISTING VEGETATION IS PRESERVED AND THAT DISTURBED PORTIONS OF THE SITE ARE STABILIZED. STABILIZATION MEASURES MAY INCLUDE: TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SOD STABILIZATION, VEGETATIVE BUFFER STRIPS, PROTECTION OF TREES, PRESERVATION OF MATURE VEGETATION, AND OTHER APPROPRIATE MEASURES. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 14 DAYS FROM WHEN ACTIVITIES CEASED, THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE BY THE 7TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.

2. **STRUCTURAL PRACTICES:**
PER THE EROSION CONTROL PLANS, STRUCTURAL PRACTICES SHALL BE IMPLEMENTED TO DIVERT FLOWS FROM EXPOSED SOILS, STORE FLOWS OR OTHERWISE LIMIT RUNOFF AND THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE TO THE DEGREE ATTAINABLE. SUCH PRACTICES MAY INCLUDE SILT FENCES, EARTH DIKES, DRAINAGE SWALES, SEDIMENT TRAPS, CHECK DAMS, SUBSURFACE DRAINS, PIPE SLOPE DRAINS, ROCK OUTLET PROTECTION, REINFORCED SOIL RETAINING SYSTEMS, AND TEMPORARY OR PERMANENT SEDIMENT BASINS. STRUCTURAL PRACTICES SHOULD BE PLACED ON UPLAND SOILS TO THE DEGREE ATTAINABLE.

OTHER CONTROLS

1. **WASTE MATERIALS**
A. ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH DEBRIS FROM THE SITE SHALL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED A MINIMUM OF ONCE PER A WEEK OR MORE OFTEN IF NECESSARY AND TRASH WILL BE HAULED AS REQUIRED BY LOCAL REGULATIONS. NO CONSTRUCTION WASTE WILL BE BURIED ONSITE. ALL PERSONNEL WILL BE INSTRUCTED ON PROPER PROCEDURES FOR WASTE DISPOSAL. A NOTICE STATING THESE PRACTICES WILL BE POSTED AT THE JOBSITE AND THE CONTRACTOR WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
B. DEMOLITION AND CONSTRUCTION DEBRIS WILL BE PROPERLY DISPOSED OF OFFSITE IN LICENSED LANDFILLS OR LOCATIONS THAT ARE APPROVED BY FEDERAL, STATE, AND LOCAL AUTHORITIES.
C. ANY DISPOSAL OF SOLID WASTE TO WATERS OF THE STATE IS PROHIBITED UNLESS AUTHORIZED BY A SECTION A 404 PERMIT.

2. **HAZARDOUS WASTES**
A. ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN A MANNER SPECIFIED BY LOCAL, STATE, AND/OR FEDERAL REGULATIONS AND BY MANUFACTURER OF SUCH PRODUCTS. THE CONTRACTOR WILL IMPLEMENT SPILL PREVENTION CONTROL & COUNTER MEASURES (SPCC) AND WILL TRAIN ALL PERSONNEL IN THE PROPER CLEANUP AND HANDLING OF SPILLED MATERIALS. NO SPILLED HAZARDOUS MATERIALS OR HAZARDOUS WASTE WILL BE ALLOWED TO COME IN CONTACT WITH STORMWATER DISCHARGES. IF SUCH CONTACT OCCURS, THE STORMWATER DISCHARGE WILL BE CONTAINED ON SITE UNTIL THE APPROPRIATE MEASURES IN COMPLIANCE WITH STATE AND FEDERAL REGULATIONS ARE TAKEN TO DISPOSE OF SUCH CONTAMINATED STORMWATER. IT SHALL BE THE RESPONSIBILITY OF THE JOB SUPERINTENDENT TO PROPERLY TRAIN ALL PERSONNEL IN THE USE OF THE SPCC PLAN.



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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

CH2MHILL

USACE MOBILE DISTRICT / CITY OF ATLANTA
CHATTAHOOCHEE RIVER RAW WATER INTAKE
IMPROVEMENTS AND DEFOORS ISLAND
BANK STABILIZATION
EROSION CONTROL
NOTES (1 OF 4)

Sheet Reference Number:
EC-1

OTHER CONTROLS (CONT.)

3. SANITARY WASTES

- A. A MINIMUM OF ONE PORTABLE SANITARY UNIT SHALL BE PROVIDED FOR EVERY TEN (10) WORKERS ON THE SITE. ALL SANITARY WASTE SHALL BE COLLECTED FROM A PORTABLE UNITS A MINIMUM OF ONE TIME PER WEEK BY A LICENSED PORTABLE FACILITY PROVIDER IN COMPLETE COMPLIANCE WITH LOCAL AND STATE REGULATIONS.
B. ALL SANITARY WASTE UNITS SHALL BE LOCATED IN AN AREA WHERE THE LIKELY HOOD OF THE UNIT CONTRIBUTING TO STORMWATER DISCHARGE IS NEGLIGIBLE. ADDITIONAL CONTAINMENT BMP'S MUST BE IMPLEMENTED, SUCH AS GRAVEL BAGS OR SPECIALLY DESIGNED PLASTIC SKID CONTAINERS AROUND THE BASE TO PREVENT WASTES FROM CONTRIBUTING TO STORM WATER DISCHARGES. THE LOCATION OF SANITARY WASTE UNITS MUST BE IDENTIFIED ON THE EROSION CONTROL GRADING PHASE BY THE CONTRACTOR ONCE THE LOCATIONS HAVE BEEN DETERMINED.

4. OFFSITE VEHICLE TRACKING

A STABILIZED CONSTRUCTION EXIT SHALL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENT. THE STREET ADJACENT TO THE SITE EXIT SHALL BE INSPECTED DAILY FOR TRACKING OF MUD, DIRT, OR ROCK. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPULIN.

5. FUGITIVE DUST CONTROL

- A. DUST CONTROL MEASURES SHALL BE IMPLEMENTED CONTINUALLY ON ALL DISTURBED AREAS, CONSTRUCTION ROADS, AND CONSTRUCTION AREAS UNTIL SUCH AREAS ARE STABILIZED WITH VEGETATIVE PRACTICES AND/OR FINAL SURFACING.
B. DUST CONTROL SHALL CONSIST OF A COMBINATION OF: MULCHING, TEMPORARY SEEDING, TACKIFIERS, AND IRRIGATION.

6. GOOD HOUSEKEEPING

- A. QUANTITIES OF PRODUCTS STORED ON SITE SHALL BE LIMITED TO THE AMOUNT NEEDED FOR THE JOB.
B. PRODUCTS AND MATERIALS SHALL BE STORED IN A NEAT, ORDERLY MANNER IN APPROPRIATE CONTAINERS PROTECTED FROM RAINFALL.
C. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH MANUFACTURER LABELS LEGIBLE AND VISIBLE.
D. PRODUCT MIXING, DISPOSAL AND DISPOSAL OF PRODUCT CONTAINERS SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
E. THE CONTRACTOR SHALL INSPECT SUCH MATERIALS TO ENSURE PROPER USE, STORAGE AND DISPOSAL.

7. PRODUCT SPECIFIC PRACTICES

- A. PETROLEUM BASED PRODUCTS: LOCAL AND STATE REGULATIONS ARE TO BE FOLLOWED FOR CONTAINING, HANDLING AND DISPOSAL OF PETROLEUM BASED COMPOUNDS SUCH AS DIESEL FUEL, GASOLINE, TAR, AND LUBRICANTS. RECOMMENDED METHODS SHALL BE POSTED ON JOB SITE. DAILY INSPECTIONS FOR LEAKS AND CRACKS MUST BE PERFORMED FOR SITE VEHICLES, MACHINERY, TANKS AND CONTAINERS. ALL CONTAINERS SHALL HAVE SECONDARY MEANS OF CONTAINMENT. RELEASE INTO THE ENVIRONMENT IS STRICTLY FORBIDDEN. LOCATION FOR MACHINERY MAINTENANCE SHOULD BE PERFORMED AWAY FROM WATER SOURCES, SUCH AS NATURAL DRAINS. SPILL CLEAN UP EQUIPMENT IS REQUIRED ON SITE TO INCLUDE LABELED CONTAINERS FOR WASTE, SAND SAW DUST, GLOVES, GOGGLES, SAND, AND LITTER, TO SERVE AS BASIC CONTROLS. SUPPLY OTHER CLEAN UP EQUIPMENT AS REQUIRED.
B. PAINTS/FINISHES/SOLVENTS: ALL PRODUCTS SHALL BE STORED IN TIGHTLY SEALED ORIGINAL CONTAINERS WHEN NOT IN USE. EXCESS PRODUCTS SHALL NOT BE DISCHARGED TO THE STORMWATER COLLECTION SYSTEM. EXCESS PRODUCT, MATERIALS USED WITH THESE PRODUCTS AND PRODUCT CONTAINERS SHALL BE DISPOSED OF ACCORDING TO MANUFACTURE'S SPECIFICATIONS AND RECOMMENDATIONS.
C. CONCRETE TRUCK WASHING: CONCRETE TRUCKS SHALL WASHDOWN TOOLS, CONCRETE MIXER CHUTES, HOPPERS AND THE REAR OF THE VEHICLES AT DESIGNATED LOCATIONS OFF SITE. WASHOUT OF THE DRUM AT THE CONSTRUCTION SITE IS PROHIBITED.
D. FERTILIZER/HERBICIDES: THESE PRODUCTS SHALL BE APPLIED AT RATES THAT DO NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS OR ABOVE THE GUIDELINES SET FORTH IN THE CROP ESTABLISHMENT OR IN THE GSWCC MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA. ANY STORAGE OF THESE MATERIALS SHALL BE UNDER ROOF IN SEALED CONTAINERS.
E. BUILDING MATERIALS: NO BUILDING OR CONSTRUCTION MATERIALS SHALL BE BURIED OR DISPOSED OF ONSITE. ALL SUCH MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

8. SPILL PREVENTION

- A. PRACTICES SUCH AS GOOD HOUSEKEEPING, PROPER HANDLING OF HAZARDOUS PRODUCTS AND PROPER SPILL CONTROL PRACTICES SHALL BE FOLLOWED TO REDUCE THE RISK OF SPILLS AND SPILLS FROM DISCHARGING INTO STORM WATER RUNOFF.
B. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE LICENSED PROFESSIONAL WHO PREPARED THIS PLAN IF MORE THAN 1320 GALLONS OF PETROLEUM IS STORED ONSITE (THIS INCLUDES CAPACITIES OF EQUIPMENT) OR IF ANY ONE PIECE OF EQUIPMENT HAS A CAPACITY OF GREATER THAN 660 GALLONS. THE CONTRACTOR WILL NEED A SPILL PREVENTION CONTAINMENT AND COUNTER MEASURES PLAN PREPARED BY THAT LICENSED PROFESSIONAL. LOCAL, STATE AND MANUFACTURER'S METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND PROCEDURES WILL BE MADE AVAILABLE TO SITE PERSONNEL.
C. MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREAS. TYPICAL MATERIALS AND EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO BROOMS, DUSTPANS, MAPS, RAGS, GLOVES, GOGGLES, CAT LITTER, SAND, SAWDUST AND PROPERLY LABELED PLASTIC AND METAL WASTE CONTAINERS. SPILL PREVENTION PRACTICES AND PROCEDURES SHALL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. ALL SPILLS SHALL BE REPORTED AS REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS.
D. FOR SPILLS THAT IMPACT SURFACE WATER, THE NATIONAL RESPONSE CENTER (NRC) SHALL BE CONTACTED WITHIN 24 HOURS AT 1.800.426.2675.
E. FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL RESPONSE CENTER (NRC) SHALL BE CONTACTED WITHIN 24 HOURS AT 1.800.426.2675.

OTHER CONTROLS (CONT.)

- F. FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD SHALL BE CONTACTED WITHIN 24 HOURS.
G. FOR SPILLS LESS THEN 25 GALLONS AND NOT SURFACE WATER IMPACT, SPILL SHALL BE CLEANED UP AND LOCAL AGENCIES SHALL BE CONTACTED AS REQUIRED.

CONSTRUCTION PHASING

PHASE I - INITIAL PHASE: SITE PREPARATION AND PRE-CONSTRUCTION OPERATIONS

- 1. PRIOR TO LAND DISTURBANCE ACTIVITIES THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE OWNER, PROJECT ENGINEER, AND AREA SITE DEVELOPMENT INSPECTOR.
2. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITIES, THE CONTRACTOR SHALL CLEARLY AND ACCURATELY DEMARCATTE THE LIMITS OF DISTURBANCE WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS, FOR THE ENTIRE DURATION OF THE PROJECT.
3. PRIOR TO LAND DISTURBANCE ACTIVITIES, THE CONTRACTOR SHALL INDENTIFY THE AREA(S) FOR TEMPORARY STOCKPILE OF EXCAVATED MATERIAL AND FOR DISPOSAL OF SURPLUS EXCAVATED MATERIAL.
4. NO LAND DISTURBANCE SHALL OCCUR OUTSIDE THE APPROVED LIMITS INDICATED IN THE APPROVED PLANS.
5. THE FOLLOWING EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN THIS PHASE:
A. THE CONSTRUCTION ROAD SHALL BE AT LEAST 14 FEET WIDE FOR ONE-WAY TRAFFIC AND 20 FEET WIDE FOR TWO-WAY TRAFFIC. A 6 INCH COURSE OF COARSE AGGREGATE SHALL BE APPLIED ON A GEOTEXTILE LAYER. CURVES AND SWITCHBACKS MUST BE OF SUFFICIENT RADIUS FOR TRUCKS AND LARGER VEHICLES TO NEGOTIATE EASILY.
B. SILT FENCE SHALL BE INSTALLED AT THE TOE OF THE SLOPE OR AS INDICATED IN THE PLANS. THE SILT FENCE SHALL BE PLACE IN ACCORDANCE WITH THE REQUIREMENTS LISTED IN THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL). IN ADDITION, THE SILT FENCE SHALL MEET THE REQUIREMENTS OF SECTION 171 - TEMPORARY SILT FENCE FOR THE GDOT.
C. STONE CHECK DAMS SHALL BE INSTALLED IN AREAS OF CONCENTRATED FLOWS AS DETERMINED NECESSARY.
D. CONTRACTOR SHALL PROVIDE DIVERSION DIKES AS DETERMINED BY SITE CONDITIONS TO DIVERT THE STORMWATER AWAY FROM CONSTRUCTION AREA.
6. AFTER INSTALLATION OF THE INITIAL EROSION AND SEDIMENT CONTROL MEASURES, THE SITE CONTRACTOR SHALL SCHEDULE AN INSPECTION WITH THE OWNER, PROJECT ENGINEER AND/OR THE AREA SITE INSPECTOR. NO OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR UNTIL PROJECT ENGINEER APPROVES THE INSTALLATION OF THE INITIAL EROSION AND SEDIMENT CONTROL MEASURES. IF UNFORESEEN CONDITIONS EXIST IN THE FIELD THAT WARRANT THE INSTALLATION OF ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES, THE CONTRACTOR MUST INSTALL ANY ADDITIONAL MEASURES DEEMED NECESSARY BY THE PROJECT ENGINEER.

PHASE II - INTERMEDIATE PHASE: CONSTRUCTION ACTIVITIES

- 1. DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN CAREFUL SCHEDULING AND PERFORMANCE TO ENSURE THAT EXPOSURE OF LAND AREA STRIPPED OF ITS NATURAL COVER IS KEPT TO A MINIMUM.
2. THE LOCATION OF SOME EROSION AND SEDIMENT CONTROL MEASURES MAY HAVE TO BE ALTERED FROM THOSE SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION DIFFER FROM THE ONES SHOWN ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH SEDIMENT CONTROL FOR ALL DRAINAGE PATTERNS CREATED DURING VARIOUS STAGES OF CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE IMMEDIATELY REPORTED TO THE PROJECT ENGINEER.
3. MULCH OR TEMPORARY SEEDING SHALL BE APPLIED TO ALL DISTURBED AREAS WITHIN 7 DAYS OF CLEARING. ALL DISTURBED AREAS THAT ARE STABILIZED WITH MULCH SHALL BE STABILIZED WITH TEMPORARY SEEDING AFTER 21 DAYS.
4. AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVED FINAL GRASSING TREATMENT WITHIN 21 DAYS SHALL BE TEMPORARY SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT COMPETE WITH THE PERMANENT GRASSING.
5. EARTHWORK OPERATIONS IN THE VICINITY OF STREAM AND WETLAND BUFFERS SHALL BE CAREFULLY CONTROLLED TO AVOID DUMPING OR SLOUGHING INTO THE BUFFER ZONE.
6. CUT AND FILL SLOPES ARE NOT TO EXCEED 2H:1V. ALL SLOPES STEEPER THAN 2.5:1 AND WITH A HEIGHT OF TEN FEET OR GREATER AND CUTS AND FILLS WITHIN STREAM BUFFERS SHALL BE STABILIZED WITH APPROPRIATE EROSION CONTROL MATTING OR BLANKETS.

PHASE III - FINAL PHASE: CONSTRUCTION COMPLETION AND FINAL STABILIZATION

- 1. SEDIMENT SHALL NOT BE WASHED FROM THE SITE. IT SHALL BE REMOVED FROM THE SEDIMENT TRAPS, DISPOSED OF, AND STABILIZED IN SUCH A WAY THAT IT WILL NOT ENTER THE SITE AGAIN.
2. PERMANENT BMP'S AND VEGETATION MEASURES SHALL BE INSTALLED IN THIS PHASE. SEEDING SHALL BE APPLIED TO ALL DISTURBED AREAS.
3. THE CONTRACTOR SHALL MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
4. ALL EROSION AND SEDIMENT CONTROL DEVICES IN THIS PHASE SHALL BE MAINTAINED AS DIRECTED ON THIS SHEET.
5. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND DISPOSE OF THEM, UNLESS NOTED ON THE PLANS. PERMANENT SEEDING SHALL BE APPLIED TO THE ENTIRE SITE FOR ALL REMAINING AREAS.

MAINTENANCE

- 1. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES UNTIL PERMANENT STABILIZATION OF THE SITE IS ACHIEVED.
2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED AFTER EACH RAIN EVENT, AND SHALL BE IMMEDIATELY REPAIRED OR REPLACED IF FOUND TO BE DEFECTIVE.
3. CONTRACTOR SHALL INSPECT EROSION AND SEDIMENT CONTROL MEASURES EACH DAY TO ENSURE THAT THEY ARE WORKING PROPERLY.
4. SILT FENCE SHALL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND. BUILT UP SEDIMENT SHALL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-HALF THE HEIGHT OF THE FENCE.
5. EACH BEST MANAGEMENT PRACTICE (BMP) IS TO BE MAINTAINED OR REPLACED IF THE ACCUMULATED SEDIMENT DEPTH IS EQUAL TO OR GREATER THAN 1/2 OF THE CAPACITY OF THE DEVICE. REFERENCE MARKS DENOTING THE ELEVATION AT WHICH EACH DEVICE IS TO BE MAINTAINED SHALL BE PLACED ON ALL DEVICES.
6. TEMPORARY AND PERMANENT SEEDING AND PLANTING SHALL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH. ALL THE PERMANENT SEEDED GRASS COVER AREAS SHALL BE REWORKED AND RESEDED IF 75% GRASS COVER IS NOT ACHIEVED WITHIN 14 DAYS.
7. CONTRACTOR SHALL INSTALL AND ADD TO EROSION CONTROL MEASURES AS DETERMINED BY THE PROJECT ENGINEER OR THE OWNER.
8. IF FULL IMPLEMENTATION OF THE APPROVED PLANS DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED AS DIRECTED BY THE PROJECT ENGINEER TO CONTROL OR TREAT THE SEDIMENT SOURCE.
9. ALL AREAS DISTURBED SHALL BE PERMANENTLY SEEDED BY THE COMPLETION OF CONSTRUCTION. THE SEEDED MIX MUST PROVIDE BOTH LONG TERM AND RAPID GROWTH SEASONAL VEGETATION.
10. A MAINTENANCE INSPECTION REPORT SHALL BE MADE AFTER EACH INSPECTION BY THE CONTRACTOR. THE REPORTS WILL BE KEPT ON-SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST BY THE OWNER, THE ENGINEER, OR ANY FEDERAL STATE OR LOCAL AGENCY APPROVING EROSION AND SEDIMENT CONTROL PLANS. THIS REPORT SHALL BE MADE AND RETAINED AS PART OF THE STORMWATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED.

BUFFER ZONE RESTORATION, Bf

- 1. NO LAND-DISTURBING ACTIVITIES SHALL BE CONDUCTED WITHIN A BUFFER AND A BUFFER SHALL REMAIN IN ITS NATURAL, UNDISTURBED STATE OF VEGETATION UNTIL ALL LAND-DISTURBING ACTIVITIES ON THE CONSTRUCTION SITE ARE COMPLETED.
2. AN UNDISTURBED NATURAL VEGETATIVE BUFFER OF 25 FEET MEASURED FROM THE STREAM BANKS AND EDGE OF THE WETLAND SHALL NORMALLY BE RETAINED ADJACENT TO ANY STATE WATERS.
3. A NATURAL STRIP OF VEGETATION SHOULD BE PRESERVED AND, IF NEEDED, SUPPLEMENTED TO FROM THE BUFFER ZONE.
4. AREAS ADJACENT TO STREAMS AND WETLANDS REQUIRED TO BE DISTURBED FOR CONSTRUCTION OF FACILITIES REQUIRES AN APPROVED BUFFER VARIANCE.
5. BUFFER SHALL BE RESTORED AS REQUIRED BY THE PERMIT AND THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA.
6. REFER TO TABLES 6-1.1 AND 6-1.2 OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA FOR SUGGESTED PLANT SPECIES FOR BUFFER RESTORATION.

CONSTRUCTION ROAD STABILIZATION, Cr

- 1. CONTRACTOR SHALL PROVIDE A FIXED ROUTE FOR TRAVEL FOR CONSTRUCTION TRAFFIC.
2. TEMPORARY ROADS SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO MINIMIZE DISTURBANCE OF DRAINAGE PATTERNS.
3. TEMPORARY PARKING AND CONTRACTOR STAGING AREA SHOULD BE LOCATED ON NATURALLY FLAT AEAS TO MINIMIZE GRADING, WHENEVER POSSIBLE.
4. GRADES FOR TEMPORARY ROADS SHOULD NOT EXCEED TEN PERCENT EXCEPT FOR VERY SHORT LENGTHS (200 FEET OR LESS), BUT MAXIMUM GRADES OF 20 PERCENT OR MORE MAY BE USED IF NECESSARY FOR SPECIAL USES.
5. TEMPORARY ROADBEDS SHALL BE AT LEAST 14 FEET WIDE FOR ONE-WAY TRAFFIC AND 20 FEET WIDE FOR TWO-WAY TRAFFIC.
6. ALL CUT AND FILLS SHALL BE 2:1 OR FLATTER TO THE EXTENT POSSIBLE.
7. TREES, STUMPS, ROOTS, WEEDS, AND OTHER UNSUITABLE MATERIALS SHALL BE REMOVED FROM THE ROADBED AND PARKING AREA.
8. CLEARING, GRADING, SUBGRADE PREPARATION, AND COMPACTION SHALL BE DONE AS NEEDED, AS SPECIFIED IN SECTIONS 31 11 00, CLEARING AND GRUBBING; AND 31 00 00, EARTHWORK.
9. MAINTENANCE: ROADS AND PARKING AREAS MAY REQUIRE A PERIODIC TOP DRESSING OF GRAVEL TO MAINTAIN THE GRAVEL SURFACING DEPTH AT A MINIMUM 6 INCHES.
10. REMOVE ANY SILT OR OTHER DEBRIS CAUSING CLOGGING OR ROAD-SIDE DITCHES OR OTHER DRAINAGE STRUCTURES.

GASWCC LEVEL II DESIGN PROFESSIONAL
SIGNATURE
CERTIFICATION # 0000013075



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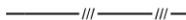
U.S. ARMY ENGINEER DISTRICT
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USACE MOBILE DISTRICT / CITY OF ATLANTA
CHATTahoochee RIVER RAW WATER INTAKE
IMPROVEMENTS AND DEFORSER ISLAND
BANK STABILIZATION
EROSION CONTROL
NOTES (2 OF 4)



Sheet Reference Number: EC-2

LEGEND

-  CONSTRUCTION STAGING AREA
-  TYPE C SILT FENCE
-  CONSTRUCTION FENCING / LIMITS OF CLEARANCE / LIMITS OF DISTURBANCE
-  CONSTRUCTION ACCESS ROAD
-  25', 50', 75' SETBACKS
-  TREE PROTECTION
-  CONSTRUCTION EXIT STONE (MIXTURE NO. 3 AND NO. 4 STONE)
-  CONSTRUCTION ACCESS ROAD (6" OF NO. 57 STONE)

EROSION SEDIMENTATION AND POLLUTION CONTROL PLAN:

IN ADDITION TO THE FEATURES AND MINIMUM REQUIREMENTS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL:

1. PREPARE A WASHDOWN AREA FOR EQUIPMENT AND TOOLS. THE WASHDOWN AREA SHALL BE LOCATED WITHIN THE PROJECT LIMITS, AT A LOCATION SATISFACTORY TO THE OWNER/ENGINEER. THE WASHDOWN AREA SHALL INCLUDE GRAVEL, HAY BALES AND/OR SILT FENCING ALONG ITS PERIMETER TO CAPTURE RUNOFF.
2. ANY PROBLEM SPILLS AND/OR LEAKS SHALL BE ADDRESSED IMMEDIATELY, AND EQUIPMENT INSPECTED DAILY FOR NECESSARY REPAIRS. IF A LEAK OR SPILL OCCURS, CONTRACTOR SHALL IMMEDIATELY ABSORB FREE LIQUIDS; THEN CONTAIN AND COLLECT SOILS IMPACTED BY THE LEAK. CONTAMINATED SOILS SHALL BE COLLECTED AND DISPOSED OFF-SITE IN A MANNER THAT MEETS ALL APPLICABLE REGULATORY REQUIREMENTS.
3. BMPs SHALL BE CONSISTANT WITH AND NO LESS STRINGENT THAN THE MANUAL FOR EROSION AND SEDIMENTATION CONTROL IN GEORGIA.
4. ANY AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPs WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.

GASWCC LEVEL II DESIGN PROFESSIONAL
SIGNATURE _____
CERTIFICATION # 0000013075



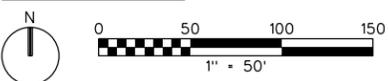
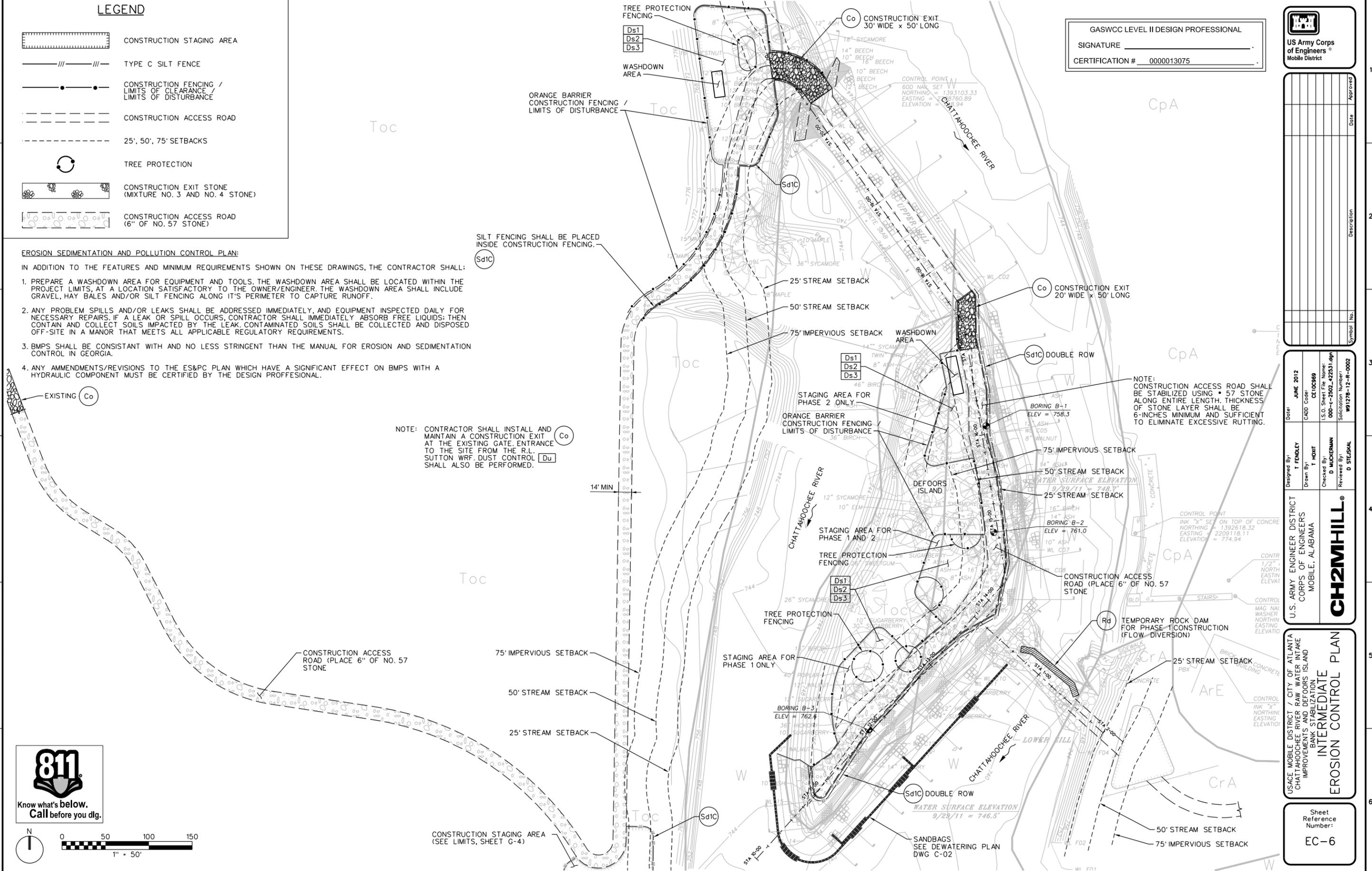
Symbol No.	Description	Date	Approval

Date:	JUNE 2012
Designed By:	T. FENLEY
Drawn By:	T. HOBIT
Checked By:	D. MUCKERMAN
Reviewed By:	D. STEGAL
CADD Code:	CE 00969
U.S.O. Sheet File Name:	000-c-2502-42251.dgn
Substation Number:	WB1276-12-R-002

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

USACE MOBILE DISTRICT / CITY OF ATLANTA
CHATTANOOCHEE RIVER WATER INTAKE
IMPROVEMENTS AND DEFOORS ISLAND
BANK STABILIZATION
INTERMEDIATE
EROSION CONTROL PLAN

Sheet Reference Number:
EC-6



NOTE: CONTRACTOR SHALL INSTALL AND MAINTAIN A CONSTRUCTION EXIT AT THE EXISTING GATE ENTRANCE TO THE SITE FROM THE R.L. SUTTON WRF DUST CONTROL SHALL ALSO BE PERFORMED.

SILT FENCING SHALL BE PLACED INSIDE CONSTRUCTION FENCING.

NOTE: CONSTRUCTION ACCESS ROAD SHALL BE STABILIZED USING # 57 STONE ALONG ENTIRE LENGTH. THICKNESS OF STONE LAYER SHALL BE 6-INCHES MINIMUM AND SUFFICIENT TO ELIMINATE EXCESSIVE RUTTING.

CONSTRUCTION STAGING AREA (SEE LIMITS, SHEET G-4)

WATER SURFACE ELEVATION 9/29/11 = 746.5'

WATER SURFACE ELEVATION 9/29/11 = 748.0'

CONTROL POINT INK "X" SET ON TOP OF CONCRETE NORTHING = 1392618.32 EASTING = 2209118.11 ELEVATION = 774.94

CONTROL INK "X" NORTHING EASTING ELEVATION

WATER SURFACE ELEVATION 9/29/11 = 762.9'

WATER SURFACE ELEVATION 9/29/11 = 761.0'

BORING B-1 ELEV = 758.3

BORING B-2 ELEV = 761.0

CONTROL POINT 600' MAX SET W NORTHING = 1393103.33 EASTING = 220760.89 ELEVATION = 774.94

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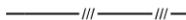
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LEGEND

-  CONSTRUCTION STAGING AREA
-  TYPE C SILT FENCE
-  CONSTRUCTION FENCING / LIMITS OF CLEARANCE / LIMITS OF DISTURBANCE
-  CONSTRUCTION ACCESS ROAD
-  25', 50', 75' SETBACKS
-  TREE PROTECTION
-  CONSTRUCTION EXIT STONE (MIXTURE NO. 3 AND NO. 4 STONE)
-  CONSTRUCTION ACCESS ROAD (6" OF NO. 57 STONE)

EROSION SEDIMENTATION AND POLLUTION CONTROL PLAN:

IN ADDITION TO THE FEATURES AND MINIMUM REQUIREMENTS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL:

1. PREPARE A WASHDOWN AREA FOR EQUIPMENT AND TOOLS. THE WASHDOWN AREA SHALL BE LOCATED WITHIN THE PROJECT LIMITS, AT A LOCATION SATISFACTORY TO THE OWNER/ENGINEER. THE WASHDOWN AREA SHALL INCLUDE GRAVEL, HAY BALES AND/OR SILT FENCING ALONG ITS PERIMETER TO CAPTURE RUNOFF.
2. ANY PROBLEM SPILLS AND/OR LEAKS SHALL BE ADDRESSED IMMEDIATELY, AND EQUIPMENT INSPECTED DAILY FOR NECESSARY REPAIRS. IF A LEAK OR SPILL OCCURS, CONTRACTOR SHALL IMMEDIATELY ABSORB FREE LIQUIDS; THEN CONTAIN AND COLLECT SOILS IMPACTED BY THE LEAK. CONTAMINATED SOILS SHALL BE COLLECTED AND DISPOSED OFF-SITE IN A MANNER THAT MEETS ALL APPLICABLE REGULATORY REQUIREMENTS.
3. BMPs SHALL BE CONSISTANT WITH AND NO LESS STRINGENT THAN THE MANUAL FOR EROSION AND SEDIMENTATION CONTROL IN GEORGIA.
4. ANY AMMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPs WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.

GASWCC LEVEL II DESIGN PROFESSIONAL
 SIGNATURE _____
 CERTIFICATION # 0000013075

NOTE:
 1. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE REMOVED BY THE CONTRACTOR FOLLOWING FINAL GRADING AND SITE STABILIZATION (WITH CONTRACTING OFFICER'S APPROVAL, OR APPROVAL OF DESIGNATED REPRESENTATIVE).



Symbol No.	Description	Date	Approval

Date:	JUNE 2012
Designed By:	T. FENLEY
Drawn By:	T. HORT
Checked By:	D. MUCKERMAN
Reviewed By:	D. STEBKA
CADD Code:	CE 00969
I.S.O. Sheet File Name:	000-c-2503-42251.dgn
Substation Number:	WP1276-12-R-002

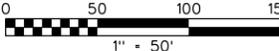
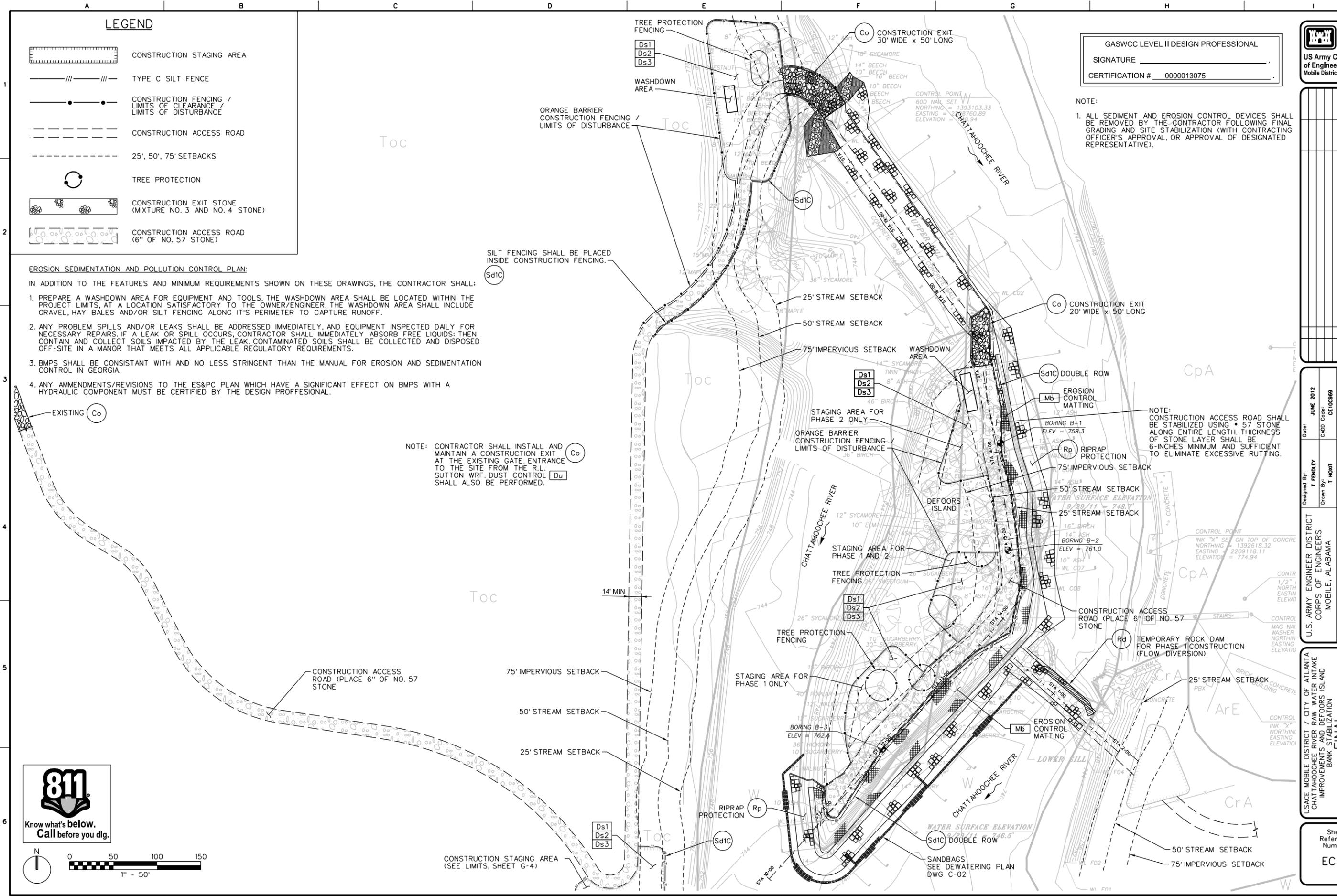
U.S. ARMY ENGINEER DISTRICT
 CORPS OF ENGINEERS
 MOBILE, ALABAMA

USACE MOBILE DISTRICT / CITY OF ATLANTA
 CHATTAHOOCHEE RIVER RAW WATER INTAKE
 IMPROVEMENTS AND DEFOORS ISLAND
 BANK STABILIZATION
FINAL
EROSION CONTROL PLAN

Sheet Reference Number:
EC-7



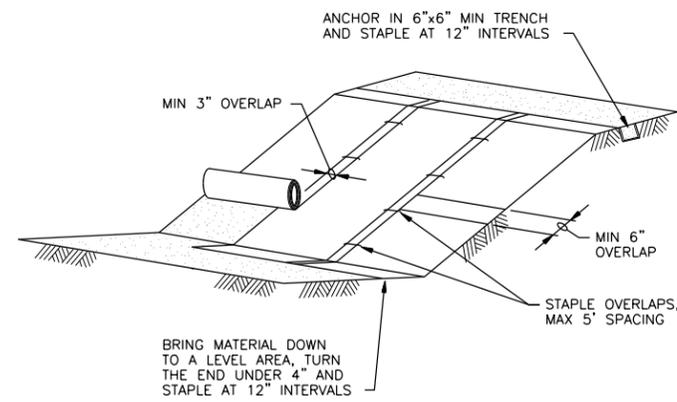
Know what's below.
 Call before you dig.

NOTE: CONTRACTOR SHALL INSTALL AND MAINTAIN A CONSTRUCTION EXIT AT THE EXISTING GATE ENTRANCE TO THE SITE FROM THE R.L. SUTTON WRF DUST CONTROL. [Du] SHALL ALSO BE PERFORMED.

NOTE: CONSTRUCTION ACCESS ROAD SHALL BE STABILIZED USING # 57 STONE ALONG ENTIRE LENGTH. THICKNESS OF STONE LAYER SHALL BE 6-INCHES MINIMUM AND SUFFICIENT TO ELIMINATE EXCESSIVE RUTTING.

CONSTRUCTION STAGING AREA (SEE LIMITS, SHEET G-4)

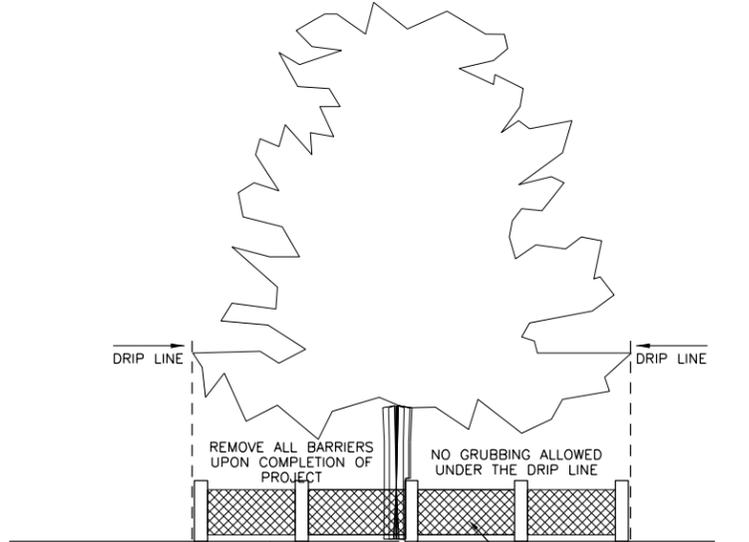


NOTES:

1. MATTING AND BLANKETS SHALL BE PLACED ON 3:1 AND STEEPER SLOPES.
2. SLOPE SURFACE SHALL BE SMOOTH BEFORE PLACEMENT FOR PROPER SOIL CONTACT.
3. DO NOT STRETCH BLANKETS/MATTINGS TIGHT, ALLOW THE ROLLS TO MOLD TO ANY IRREGULARITIES.
4. STAPLING PATTERN AS PER MANUFACTURER'S RECOMMENDATIONS.
5. FOR SLOPES LESS THAN 3:1, ROLLS MAY BE PLACED IN HORIZONTAL STRIPS.
6. LIME, FERTILIZE AND SEED BEFORE INSTALLATION. PLANTING OF SHRUBS, TREES, ETC SHOULD OCCUR AFTER INSTALLATION.

EROSION CONTROL MATTING AND BLANKETS (Mb)

NTS

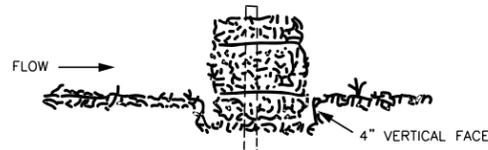


NOTES:

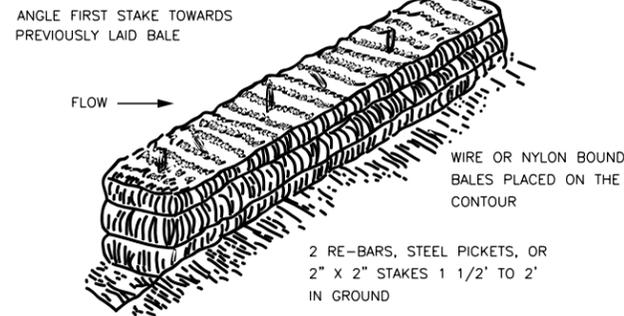
1. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, TRENCHING, BURIAL PITS OR OTHER LAND DISTURBING ACTIVITY ARE ALLOWED IN THE TREE PROTECTION ZONE.
2. TREE PROTECTION BARRIERS SHALL EXTEND AROUND THE TREES WITH A RADIUS EQUAL TO OR GREATER THAN THE DRIP LINE.
3. ALL TREE PROTECTION BARRIERS SHALL BE INSTALLED PRIOR TO ANY GRADING, CONSTRUCTION OR OTHER LAND-DISTURBING ACTIVITY. THEY SHALL BE CONSTRUCTED USING ORANGE SAFETY FENCING ON METAL POSTS.
4. FENCING MAY BE ORANGE PLASTIC OR FABRIC.

TREE PROTECTION (Tr)

NTS



EMBEDDING DETAIL



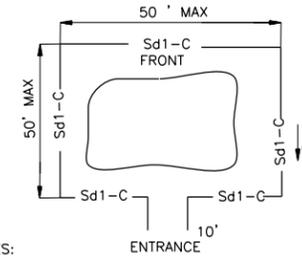
ANCHORING DETAIL

NOTE:

- ANCHOR AND EMBED INTO SOIL TO PREVENT WASHOUT OR WATER WORKING UNDER BARRIER
- REPAIR OR REPLACEMENT MUST BE MADE PROMPTLY AS NEEDED

HAY BALES BARRIER (Hb)

NTS



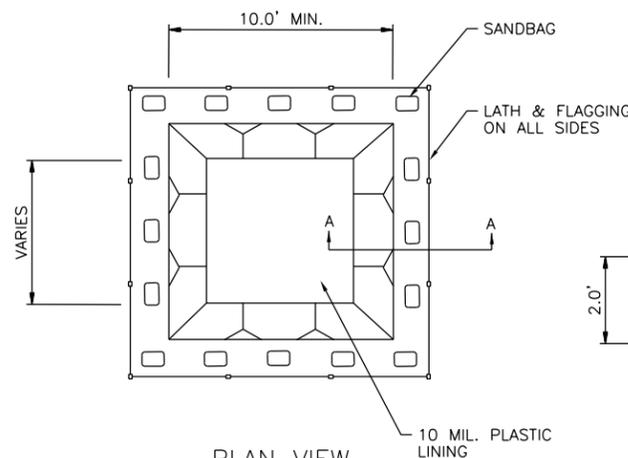
NOTES:

1. EXISTING GROUND SHALL SLOPE AWAY FROM THE UPSTREAM ENTRANCE OF THE STOCKPILE AREA.
2. ENTRANCE SHALL BE LIMITED TO APPROXIMATELY 10' WIDE AND FACE UPHILL, AWAY FROM THE CHANNEL.
3. TEMPORARY STOCKPILE AREAS ARE ONLY ALLOWED WITHIN CONSTRUCTION STAGING AREAS.

TEMPORARY STOCKPILE AREA

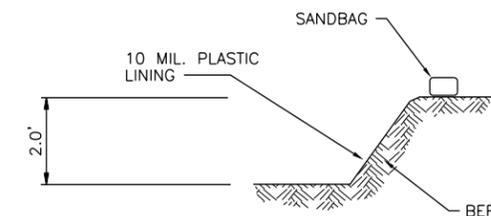
NTS

1. THE CONTRACTOR MUST PROVIDE A DESIGNATED AREA FOR CONCRETE WASHDOWN OF TOOLS, CONCRETE MIXER CHUTES, HOPPERS, AND THE REAR OF THE VEHICLES. THIS AREA MUST HAVE A CONCRETE WASHOUT FACILITY AND SHALL BE CONSTRUCTED ACCORDING TO THE DETAIL SHOWN BELOW.
2. THE CONCRETE WASHOUT FACILITY SHALL BE LOCATED A MINIMUM OF 50 FEET FROM STORM DRAINS, OPEN DITCHES, OR WATER BODIES.
3. WASH OUT DISCHARGE FROM THE CLEANING OF CONCRETE TRUCKS, TOOLS, AND OTHER EQUIPMENT SHALL NOT BE DISCHARGED INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
4. EXCESS CONCRETE SHALL NOT BE DISPOSED OF ON SITE. ALL EXCESS CONCRETE SHALL BE TRANSPORTED OFF-SITE AND DISPOSED OF PROPERLY.
5. IT IS PROHIBITED TO WASH OUT THE MIXING DRUM OF CONCRETE TRUCKS ON SITE.



PLAN VIEW

NTS
TYPE "BELOW GRADE"



SECTION A-A

NTS

EQUIPMENT/TRUCK WASHING AREA (Wd)

NTS

GASWCC LEVEL II DESIGN PROFESSIONAL
SIGNATURE _____
CERTIFICATION # 0000013075



Symbol	No.	Description	Date	Approval

Date:	JUNE 2012
Designed By:	J RAMOS
Drawn By:	T HOBIT
Checked By:	J RAMOS
Reviewed By:	D STEBKA
CADD Code:	CE 00969
I.S.O. Sheet File Name:	005-c-5502-42531.dgn
Substation Number:	W91276-12-R-0002

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA
CH2MHILL

USACE MOBILE DISTRICT / CITY OF ATLANTA
CHATTahoochee RIVER WATER INTAKE
IMPROVEMENTS AND DEFORS ISLAND
BANK STABILIZATION
EROSION CONTROL
DETAILS (2 OF 2)



Sheet Reference Number:
EC-9

EA APPENDIX B PHOTOGRAPHS



Photograph 1 - Current view of upper sill from the Chattahoochee Raw Water Intake Facility.



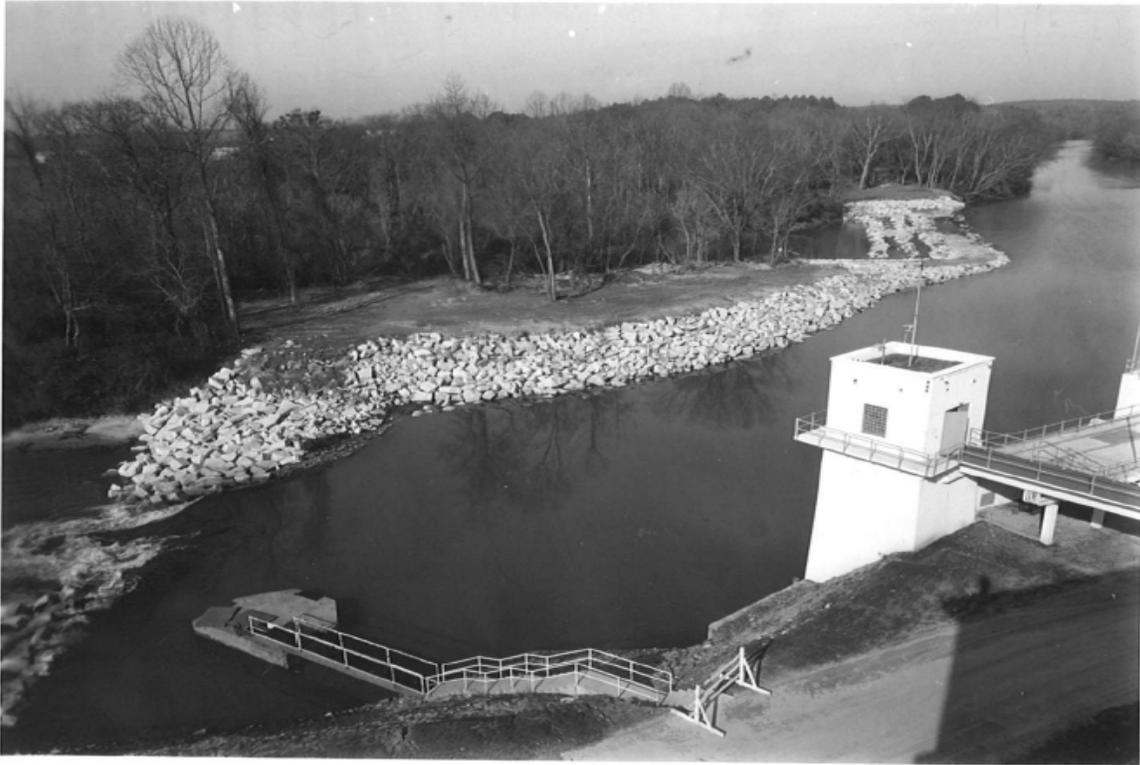
Photo 2 - Current view of lower sill from the Chattahoochee Raw Water Intake Facility.



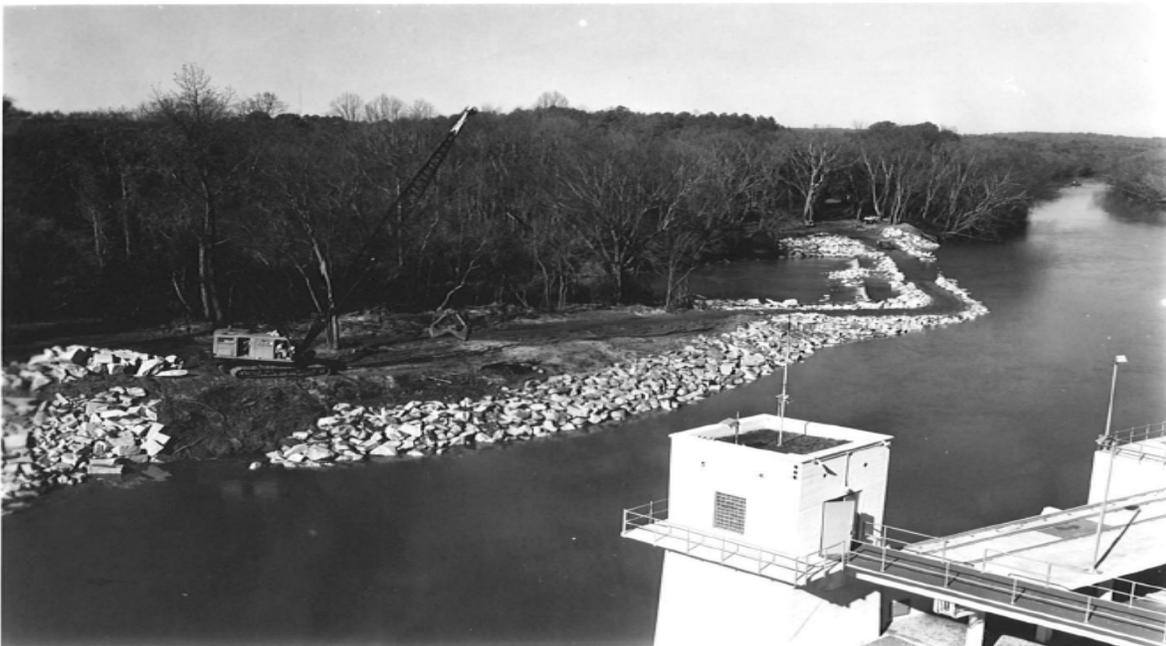
Photograph 3 – Current view of Raw Water Intake Structure.



Photograph 4 – Current view from Chattahoochee Raw Water Intake Facility towards Defoors Island and the upper sill.



Photograph 5 - Undated historic photograph showing Defoors Island partially cleared of vegetation for construction activities.



Photograph 6 - Undated historic photograph showing mechanized placement of rock armoring and access road for construction activities.



Photograph 7 – Repairs to intake structure in 1957.



Photograph 8 - Repairs to intake structure in 1957.

• OCT •
68



Photograph 9 – Bank armoring and access road on Defoors Island and the upper sill in October, 1968.

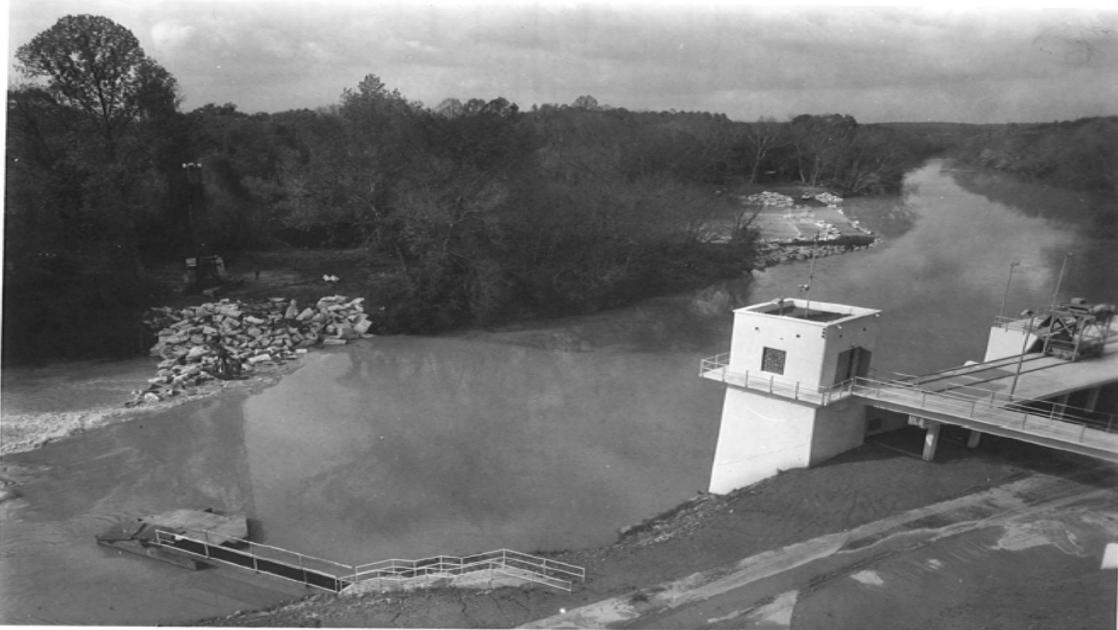
• OCT •
68



Photograph 10 - Bank armoring and access road on Defoors Island and the upper sill in October, 1968.



Photograph 11 – Undated historic photograph showing access road across the upper sill to Defoors Island.



Photograph 12 – Undated historic photograph showing construction and staging areas on Defoors Island.

EA APPENDIX C COORDINATION LETTERS

From: [Zettle, Brian A SAM](#)
To: [Diaz, Velma F SAM](#)
Subject: FW: City of Atlanta Water Intake Project (UNCLASSIFIED)
Date: Monday, June 04, 2012 11:07:28 AM

Classification: UNCLASSIFIED
Caveats: FOUO

FYI

Brian Zettle
Biologist
Chief, Inland Environment Team
U.S. Army Corps of Engineers, Mobile District
(251) 690-2115

-----Original Message-----

From: Sandy_Abbott@fws.gov [mailto:Sandy_Abbott@fws.gov]
Sent: Friday, January 14, 2011 12:50 PM
To: Zettle, Brian A SAM
Subject: Re: City of Atlanta Water Intake Project (UNCLASSIFIED)

Brian,

After looking at the pictures, I don't think I really need to come to the site visit, but I would like a written detailed description of the project. The engineering drawings are greek to me pretty much, so I need a written description. I talked with Alice Lawrence in our Athens office and there is concern with shoal and stripped bass migrating through there from West Point to Morgan Falls. If I can get that written description, then a conference call would probably do to get any questions I have answered. Thanks for the heads up and I look forward to working with you on this project.

Sandy

Inactive hide details for "Zettle, Brian A SAM" <Brian.A.Zettle@usace.army.mil> "Zettle, Brian A SAM" <Brian.A.Zettle@usace.army.mil>

"Zettle, Brian A SAM" <Brian.A.Zettle@usace.army.mil>

01/13/2011 11:30 AM

To

<sandy_abbott@fws.gov>

cc

Subject

City of Atlanta Water Intake Project (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: FOUO

Sandy,

Here is the information about the subject project we discussed this morning. The site visit will be next Wednesday – January 19. We are meeting with Lee Hunt (City of Atlanta) at the Engineering office at the Hemphill Water Treatment Plant. The entrance to the plant is on 17th Street via a normally closed security gate, pull up to the gate, a guard will check a photo ID and tell them you are visiting Lee Hunt. Mr. Hunt's trailer is about 50 yards beyond the security checkpoint. Following the meeting at Hemphill there will be a site visit to the River Intake, which is about a 15 minute drive.

The link below provides an aerial view of the project site. The project involves repairing the two weirs (one on the west side of the river at the north end of the island and one on the east side of the river just below the intake). I've also attached some engineer drawings of the proposed project. Hopefully you can meet us for the site visit. If not, we will work out another time to show you the site and answer any questions. The attached photo is taken from the water intake looking down stream at the lower weir. Thanks.

<http://www.bing.com/maps/?v=2&cp=pn44cx7yvtxw&lvl=19.360837467499685&dir=81.17168023008921&sty=u>
< <http://www.bing.com/maps/?v=2&cp=pn44cx7yvtxw&lvl=19.360837467499685&dir=81.17168023008921&sty=u> >

Brian Zettle
Biologist
US Army Corps of Engineers
(251) 690-2115

Classification: UNCLASSIFIED

Caveats: FOUO

[attachment "C 9 Upper Sill Cross Sections.pdf" deleted by Sandy Abbott/R4/FWS/DOI] [attachment "C 6 Lower Sill Plan and Cross Sections.pdf" deleted by Sandy Abbott/R4/FWS/DOI] [attachment "IMG_1267.jpg" deleted by Sandy Abbott/R4/FWS/DOI]

Classification: UNCLASSIFIED

Caveats: FOUO

March 27, 2011

Inland Environment Team
Planning and Environmental Division

Mr. Rick Slade
Chief of Science and Resource Management
Chattahoochee River National Recreation Area
1978 Island Ford Parkway
Sandy Springs, GA 30350

Dear Mr. Slade:

This letter is in reference to discussions to date concerning interest of the National Park Service (NPS) in regards to the Chattahoochee River Main Raw Water Intake Rehabilitation project undertaken by the US Army Corps of Engineers (USACE), Mobile District on behalf of the City of Atlanta Georgia as a phase of the Atlanta Environmental Infrastructure Project as authorized by Section 219 of the Water Resources Development Act of 1992, as amended.

The NPS requested to be informed of the primary features of the project which will be visible along the lower end of the NPS jurisdictional corridor on the main Chattahoochee River and to assure proper consideration is given to the aesthetics along this corridor. The A-E, CH2M HILL, has researched and prepared the enclosed documents which compare the functionality, appearance, and cost of three viable alternatives to address the erosion which is occurring in between and below the lower sill along the east bank of Defoor's Island.

Each of the three alternatives are evaluated using the maximum ability to address aesthetic concerns by minimizing clearing of overstory trees on the island as well as incorporating features such as planting ledges in the transition between stone toe and bank stabilization using geotextile and native riparian vegetative plantings. The application of large native granite rip rap stone is the most effective alternative to meet the project objectives and provide a stable, protected stream bank surface. Over time, this alternative is not likely to require significant maintenance issues or develop material loss or cracks due to shifting of the river bed and lower river bank. However, if additional stone is require to maintain the project over time due to settling, granite rip rap is readily available at a reliably cost-effective price. Native vegetative plantings will also be incorporated with this alternative to provide natural habitat that blends with the adjacent river corridor, which would eventually overhang and hide much of the rip rap stone. The Tennessee fieldstone mentioned by the NPS would provide a relatively similar level of stability to the granite stone alternative, as long as similarly sized stone is available for the project; however, there are uncertainties and long-term concerns about the effectiveness of this alternative. First, Tennessee fieldstone is not as readily available in large volumes as rip rap, which would add uncertainty and delays to the project schedule, as well as

the overall project cost. Tennessee fieldstone would also be expensive to maintain over time due to the higher cost of the stone. Although initially, Tennessee fieldstone would provide a more varied coloration than granite, over time, the coloration would become more similar between the two stone types and vegetation would overhang the stones, minimizing the visibility of the stone and the potential long-term difference in aesthetics between the granite and Tennessee fieldstone alternatives.

Based upon 65% design cost estimates, there would be just enough Federal funds to construct this project with use of native rip rap material for toe protection. Under this authority, the non-Federal Sponsor is unable to “buy up” above their cost share of 25% of total project cost. No additional Federal funds were provided in the FY 2012 workplan for USACE and the existing funds must be obligated on schedule in FY 2012 to avoid possible revocation of these construction funds. In order for this project to be constructed with existing funds, in accordance with the Project Partnering Agreement executed with the City of Atlanta, the project design schedule must be maintained to accommodate award of a construction contract prior to 30 August 2012.

Considering the above constraints; the incorporation of a planting ledge; vegetating the upper bank and disturbed riparian area; and the lower risk encountered to install and provide sustainable stone toe protection of the river bank at Defoor’s Island, it is the recommendation of USACE, Mobile District to use large native rip rap materials to assure success of the project which includes timely execution of existing Federal funds.

We are requesting that your agency review the enclosure. Please contact Mr. Brian Zettle at email address brian.a.zettle@usace.army.mil or telephone number 251-690-2115 for additional information.

Sincerely,

Curtis M. Flakes,
Chief, Planning and Environment
Division

Enclosure

May18, 2012

Inland Environment Team
Planning and Environmental Division

Dr. David Crass
Deputy State Historic Preservation Officer
Historic Preservation Division
Department of Natural Resources
254 Washington Street, SW
Ground Level
Atlanta, Georgia 30334

Dear Dr. Crass:

At the request of the City of Atlanta to the U.S. Army Corps of Engineers (Corps), Mobile District is providing assistance in addressing deficiencies in Defoors Island and the associated sills that are part of the Chattahoochee River Raw Water Intake Facility. The proposed action would occur at Defoors Island on the Chattahoochee River, just upstream of the confluence of Peachtree Creek and adjacent to the Chattahoochee River Raw Water Intake Facility at 2630 Ridgewood Road in Atlanta, Georgia.

The U.S. Army Corps of Engineers, Mobile District in partnership with the City of Atlanta, Fulton County, Georgia proposes 1) restoring the upper and lower sills to their original design elevations by placement of riprap appropriately sized to achieve the desired river stages, and of suitable size to remain in-place during peak flow/velocity events; and 2) bank stabilization along the eastern bank of Defoors Island. The project would be designed and constructed in cooperation with the Corps, Atlanta, and their contractors.

As per requirements outlined in Section 106 of the National Historic Preservation Act, the Corps must consider the effects of the proposed action on historic properties. On October 5, 2011, Corps Archaeologist Mr. Matt Grunewald, RPA, conducted a site visit. The area of potential effect (APE) was found to be extensively disturbed by erosion and previous construction activity. No standing structures were observed within the APE. In addition, a review of historic photography demonstrates that the APE was previously disturbed by construction conducted from 1957 to 1962.

A review of historic photography and the site visit showed that the entire APE had been previously disturbed. Based on the results of the site visit and background research, the Corps has determined **no historic properties affected** by the proposed action as per 36 Code of Federal Regulations 800.4(d)(1).

I. Description of the Undertaking - The proposed activity consists of the lower sill being armored by 400 tons of riprap to elevation 749 feet, which is the original constructed elevation. The elevation has been degraded overtime and the current rock structure does not consistently meet this elevation. A 40-foot notch in the lower sill would be provided to maintain low flow conditions. The elevation of this notch would be constructed to 746 feet. Therefore, either side of the lower sill would be at elevation 749 feet and transition down to elevation 746 towards the middle of the sill.

Similarly, armoring of the upper sill is also included to re-establish its original design elevation. Riprap will be placed along the upper sill approximately one to two feet in thickness such that the original control elevation (elevation 749) is restored. It should be noted however that improvements to the lower sill are a higher priority than improvements to the upper sill. It is recommended that improvements to the upper sill be made after the lower sill and bank stabilization work is complete, and based upon overall construction costs and available project funding.

The proposed action on Defoors Island would consist of the placement of 6,100 tons of large diameter riprap along the eastern bank of Defoors Island, beginning at the southerly tip of the island and continuing upstream to the upper sill. Riprap placement would extend outward from the existing bank approximately 20 to 30 feet, and reach a height of approximately eight to 12 feet. This overall height would include toeing the riprap into the existing river bed, and placement to a height equal to, or above the one-year storm stage. The riprap size would include a gradation to allow for interlocking and filled of voids, with the largest stones anticipated to be in the range of three to five feet in diameter. Live stakes will be placed within the riprap voids to establish a vegetative bank cover.

Above the top of riprap (extending from the riprap to the top of bank), bank protection measures would include excavation of 1250 cubic yards of earthen material, placement of 750 cubic yards of earthen fill, and placement of 400 square yards of turf reinforcement matting. The matting would be designed to allow for bank re-vegetation with 900 live stakes consisting of an equal mixture of silky dogwood, silky willow, and elderberry. Along the top of bank and extending landward towards the center of the island, a mixture of native plants (containerized trees and shrubs) will be placed within areas disturbed during construction activities. Planted vegetation will include a mixture of the following: southern wax myrtle, winterberry, silky dogwood, red maple, river birch, black willow, boxelder, green ash, and sycamore. All disturbed areas will also be seeded using a riparian buffer seed mixture suitable for the project area.

The APE is defined to include all area to be armored including the lower sill, the upper sill and the eastern shore of Defoors Island as well as all construction access roads, and staging areas. These areas are depicted in the attached figure showing the limits of construction access and staging areas over aerial photography. The APE is located at Defoors Island on the Chattahoochee River, just upstream of the confluence of Peachtree Creek and adjacent to the Chattahoochee River Raw Water Intake Facility at 2630 Ridgewood Road in Atlanta, Georgia. The geographic coordinates for the site are latitude 33° 49' 40.69" N and longitude -84° 27' 19.81" W. A location map, aerial photograph, and a portion of the Northwest Atlanta 7.5 minute

USGS quadrangle depicting the project location as well as photographs of the APE and a construction drawing are enclosed.

II. Methodology and Reporting – A search of the Georgia Natural, Archaeological, and Historic Resources GIS (GNAHRGIS) was conducted for previously recorded archaeological sites. No previously recorded archaeological sites were identified within the APE. Seven previously recorded archaeological sites 9Co1, 9Co533, 9Fu10, 9Fu13, 9Fu236, 9Fu413, 9Fu414, and 9Fu415 are located within the vicinity of APE but will not be affected.

A review of historic photographs shows that the APE was previous disturbed by construction activity from 1957 to 1962 (enclosed) to the point that cultural resources listed on or eligible for listing on the NRHP are unlikely to exist.

A site visit of the APE was conducted by Mobile District cultural resources staff on October 5, 2011 and two shovel tests were conducted on Defoors Island to verify subsurface disturbance. The shovel tests resulted in the recovery of disturbed alluvial soils and a small concentration of nonlocal construction gravel to a depth of 75 centimeters below the surface, when testing was terminated. All construction access roads and staging areas were walked and found to be previously utilized. No cultural material over 50 years old was recovered in shovel tests and no surface features were identified during a pedestrian walk over of the APE.

III. Resources Identified and Evaluated (Significance Criteria Considered) – The background research and field visit located no historic properties within the project APE.

IV. Effects Determination and Compliance Decision – Effects determinations are the responsibility of the lead Federal agency. The Corps has considered the nature of the undertaking and the presence of properties that may possess the qualities of integrity and meet at least one of the criteria necessary to be considered eligible for inclusion in the National Register of Historic Places. Based on the background study and site visit, no historic properties are located within the project APE. Therefore, the Corps has determined **no historic properties affected** by the proposed undertaking as per 36 CFR 800.4(d)(1).

The Corps asks that you concur with our finding of **no historic properties affected** by the proposed action as per 36 CFR 800.4(d)(1). If you have questions or require further information, please contact Mr. Matt Grunewald at (251) 694-4107 or via email at matthew.m.grunewald@usace.army.mil.

Sincerely,

Brian A. Zettle
Chief, Inland Environment Team

Enclosures

June 7, 2012

Inland Environment Team
Planning and Environmental Division

Ms. Sandy Abbott
US Fish and Wildlife Service West Georgia Office
Georgia Ecological Services
P.O. Box 52560
Ft. Benning, GA 31995-2560

Dear Ms. Abbott:

The U.S. Army Corps of Engineers (Corps), Mobile District is proposing a Section 219 Environmental Infrastructure Project for the Chattahoochee Raw Water Intake Improvement and Defoors Island Bank Stabilization. The proposed project is located in the City of Atlanta in Fulton and Cobb Counties, Georgia. We have determined that the proposed project may affect but not likely to adversely affect endangered and threatened species that may be in the proposed project area and are seeking your concurrence.

The Tentatively Selected Plan (Alternative B) consist of two components: 1) restoring the upper and lower sills to their original design elevations by placement of riprap appropriately sized to achieve the desired river stages, and of suitable size to remain in-place during peak flow/velocity events; and 2) bank stabilization along the eastern bank of Defoors Island.

Alternative B consists of the lower sill being armored by 400 tons of rip-rap to elevation 749 feet, which is the original constructed elevation. The elevation has been degraded overtime and the current rock structure does not consistently meet this elevation. A 40-foot notch in the lower sill would be provided to maintain low flow conditions. The elevation of this notch would be constructed to 746 feet. Therefore, either side of the lower sill would be at elevation 749 feet and transition down to elevation 746 towards the middle of the sill.

Similarly, armoring of the upper sill is also included under Alternative B to re-establish its original design elevation. Riprap will be placed along the upper sill approximately 1 to 2 feet in thickness such that the original control elevation (elevation 749) is restored. It should be noted however that improvements to the lower sill are a higher priority than improvements to the upper sill. It is recommended that improvements to the upper sill be made after the lower sill and bank stabilization work is complete, and based upon overall construction costs and available project funding.

Alternative B for the Defoors Island would consist of the placement of 6,100 tons of large diameter riprap along the eastern bank of Defoors Island, beginning at the southerly tip of the island and continuing upstream to the upper sill. Riprap placement would extend outward from the existing bank approximately 20 to 30 feet, and reach a height of approximately 8 to 12 feet. This overall height would include toeing the riprap into the existing river bed, and placement to a

height equal to, or above the one-year storm stage. The riprap size would include a gradation to allow for interlocking and filled of voids, with the largest stones anticipated to be in the range of 3 to 5 feet in diameter. Live stakes will be placed within the riprap voids to establish a vegetative bank cover.

Above the top of riprap (extending from the riprap to the top of bank), bank protection measures would include excavation of 1250 cubic yards of earthen material, placement of 750 cubic yards of earthen fill, and placement of 400 square yards of turf reinforcement matting. The matting would be designed to allow for bank re-vegetation with 900 live stakes consisting of an equal mixture of silky dogwood, silky willow, and elderberry. Along the top of bank and extending landward towards the center of the island, a mixture of native plants (containerized trees and shrubs) will be placed within areas disturbed during construction activities. Planted vegetation will include a mixture of the following: southern wax myrtle, winterberry, silky dogwood, red maple, river birch, black willow, boxelder, green ash, and sycamore. All disturbed areas will also be seeded using a riparian buffer seed mixture suitable for the project area.

We are requesting that you provide concurrence on this subject by June 29, 2012. Please contact Ms. Velma Diaz at email address velma.f.diaz@usace.army.mil or telephone number 251-690-2025 for additional information.

Sincerely,

Brian A. Zettle,
Acting Chief, Environment and Resources
Branch

June 7, 2012

Inland Environment Team
Planning and Environmental Division

Mr. Dan Forster, Director
Georgia Department of Natural Resources
Wildlife Resources Division
2070 U.S. Highway 278, SE
Social Circle, GA 30025

Dear Mr. Forster:

The U.S. Army Corps of Engineers (Corps), Mobile District is proposing a Section 219 Environmental Infrastructure Project for the Chattahoochee Raw Water Intake Improvement and Defoors Island Bank Stabilization. The proposed project is located in the City of Atlanta in Fulton and Cobb Counties, Georgia. Therefore, we are requesting information on fish and wildlife that may be in the proposed project area as well as your comments and/or recommendations on the proposed alternative.

The Tentatively Selected Plan (Alternative B) consist of two components: 1) restoring the upper and lower sills to their original design elevations by placement of riprap appropriately sized to achieve the desired river stages, and of suitable size to remain in-place during peak flow/velocity events; and 2) bank stabilization along the eastern bank of Defoors Island.

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We will utilize the information and other information and analyses to prepare an Environmental Assessment and other environmental documentation for this Chattahoochee Raw Water Intake Improvement and Defoors Island Bank Stabilization Section 219 Environmental Infrastructure Project. Those environmental documents will also be coordinated with your office for review and comment.

We are requesting that your agency provide us the requested information on this subject by June 29, 2012. Please contact Ms. Velma Diaz at email address velma.f.diaz@usace.army.mil or telephone number 251-690-2025 for additional information.

Sincerely,

Brian A. Zettle,
Acting Chief, Environment and Resources
Branch

June 7, 2012

Inland Environment Team
Planning and Environmental Division

Mr. Judson H. Turner, Director
Georgia Environmental Protection Division
2 Martin Luther King Jr. Drive
Suite 1152 East Tower
Atlanta, GA 30334

Dear Mr. Barnes:

The U.S. Army Corps of Engineers (Corps), Mobile District is proposing a Section 219 Environmental Infrastructure Project for the Chattahoochee Raw Water Intake Improvement and Defoors Island Bank Stabilization. The proposed project is located in the City of Atlanta in Fulton and Cobb Counties, Georgia. Therefore, we are requesting information on air quality and water quality that may be in the proposed project area as well as your comments and/or recommendations on the proposed alternative.

The Tentatively Selected Plan (Alternative B) consist of two components: 1) restoring the upper and lower sills to their original design elevations by placement of riprap appropriately sized to achieve the desired river stages, and of suitable size to remain in-place during peak flow/velocity events; and 2) bank stabilization along the eastern bank of Defoors Island.

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This overall height would include toeing the riprap into the existing river bed, and placement to a height equal to, or above the one-year storm stage. The riprap size would include a gradation to allow for interlocking and filled of voids, with the largest stones anticipated to be in the range of 3 to 5 feet in diameter. Live stakes will be placed within the riprap voids to establish a vegetative bank cover.

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We will utilize the information and other information and analyses to prepare an Environmental Assessment and other environmental documentation for this Chattahoochee Raw Water Intake Improvement and Defoors Island Bank Stabilization Section 219 Environmental Infrastructure Project. Those environmental documents will also be coordinated with your office for review and comment.

We are requesting that your agency provide us the requested information on this subject by June 29, 2012. Please contact Ms. Velma Diaz at email address velma.f.diaz@usace.army.mil or telephone number 251-690-2025 for additional information.

Sincerely,

Brian A. Zettle,
Acting Chief, Environment and Resources
Branch



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

June 21, 2012

Brian Zettle
Department of the Army
Mobile District, Corps of Engineers
Post Office Box 2288
Mobile, Alabama 36628
Attn: Matt Grunewald

**RE: Restore Sills, Bank Stabilization, Defoors Island/Chattahoochee River Raw Water Intake Facility
Fulton County, Georgia
HP-120525-002**

Dear Mr. Zettle:

The Historic Preservation Division (HPD) has received the information submitted concerning the above referenced undertaking. Our comments are offered to assist the U.S. Department of the Army Corps of Engineers (USACE) and its applicants in complying with provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Based on the information received, HPD concurs that the proposed project will have no effect on archaeological resources or historic structures that are listed in or eligible for listing in the National Register of Historic Places (NRHP), as defined in 36 CFR Part 800.4(d)(1).

Please refer to project number **HP-120525-002** in any future correspondence regarding this undertaking. If we may be of further assistance, please do not hesitate to contact Erin Parr, Environmental Review Specialist, at (404) 651-6546.

Sincerely,

A handwritten signature in blue ink that reads "Elizabeth Shirk".

Elizabeth Shirk
Environmental Review Coordinator

ES:ebp

cc: Allison Duncan, Atlanta Regional Commission



United States Department of the Interior
Fish and Wildlife Service
105 West Park Drive, Suite D
Athens, Georgia 30606

West Georgia Sub Office
P.O. Box 52560
Ft. Benning, Georgia 31995-2560

Coastal Sub Office
4980 Wildlife Dr.
Townsend, Georgia 31331

July 8, 2012

Mr. Brian Zettle, Chief
Inland Environment Team
United States Army Corps of Engineers, Mobile District
P.O. Box 2288
Mobile, Alabama 36628

Re: City of Atlanta Water Intake, FWS No. 04EG1000-2012-CPA-0869

Dear Mr. Zettle:

The U.S. Fish and Wildlife Service (Service) has reviewed the United States Army Corps of Engineers (Corps) June 2012 Draft Environmental Assessment (EA) for the Chattahoochee Raw Water Intake Improvements and Defoors Island Bank Stabilization, City of Atlanta, Fulton and Cobb Counties, Georgia, as well as CH2MHill's June 2012 final design plans for the Corps and the City of Atlanta. The City of Atlanta has proposed to rehabilitate the upper and lower sills adjacent to the City of Atlanta water intake structure on the Chattahoochee River, which has slowly deteriorated over time, and stabilize the eastern bank of Defoors Island. This would be achieved with the Corps under Section 219 of the Water Resources Development Act. The project would involve improvements to both sills to restore the integrity and cross section of the sills back to their previous condition. The sills are designed to ensure adequate water depth at the intake structure during low flow conditions while still passing base flow. The City of Atlanta's water intake is located on the east bank of the Chattahoochee River approximately 1,600 feet upstream of South Atlanta Road. We submit the following comments and recommendations under the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*), and the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. § 1531 *et seq.*).

Project Description

The proposed alternative consists of two components: 1) restoring the upper and lower sills to their original design elevations by placement of riprap appropriately sized to achieve the desired river stages, and of suitable size to remain in place during peak flow events; and 2) bank stabilization along the eastern bank of Defoors Island. This proposed project consists of armoring the lower sill with 400 tons of rip-rap to elevation 749 feet, which is the original constructed elevation. The elevation has been degraded over time and the current rock structure does not consistently meet this elevation. A 40-foot notch in the lower sill would be provided to maintain low flow conditions. The elevation of this notch would be constructed to 746 feet.

Therefore, either side of the lower sill would be at elevation 749 feet and transition down to elevation 746 towards the middle of the sill. Similarly, armoring of the upper sill is also included to re-establish its original design elevation. Riprap would be placed along the upper sill approximately 1 to 2 feet in thickness such that the original control elevation (elevation 749) is restored.

The proposed alternative would consist of the placement of 6,100 tons of large diameter riprap along the eastern bank of Defoors Island, beginning at the southerly tip of the island and continuing upstream to the upper sill. Riprap placement would extend outward from the existing bank approximately 20 to 30 feet and reach a height of approximately 8 to 12 feet. This overall height would include toeing the riprap into the existing river bed, and placement to a height equal to or above the one-year storm stage. Live stakes would be placed within the riprap voids to establish a vegetative bank cover.

Above the top of riprap (extending from the riprap to the top of bank), bank protection measures would include excavation of 1250 cubic yards of earthen material, placement of 750 cubic yards of earthen fill, and placement of 400 square yards of turf reinforcement matting. The matting would be designed to allow for bank re-vegetation with 900 live stakes. Along the top of bank and extending landward towards the center of the island, a mixture of native plants (containerized trees and shrubs) will be placed within areas disturbed during construction activities. All disturbed areas will also be seeded using a riparian buffer seed mixture suitable for the project area.

Endangered Species Act

No federally-listed species are likely to occur in the proposed project area. However, a Federal candidate species, the Georgia aster (*Symphytotrichum georgianum*), could potentially occur in the proposed project area. It is possible that this species could be federally-listed in the future.

Fish and Wildlife Coordination Act

Suitability of fish passage:

Adult striped bass (*Morone saxatilis*) and adult shoal bass (*Micropterus cataractae*) are in the project area and are known to conduct upstream spawning migrations over long distances. To investigate if raising these sills could potentially cause a barrier to upstream movement for these fishes, a Service fishway engineer reviewed the design plans and provided the following:

Given:

1. Based on the description of the riprap height at the bank of Doors Island (Corps' June 7, letter to the Service) and the elevations at said bank on sheet C-7, **we assume the 1-year flood stage is equivalent to 751.0 feet.**
2. Using stream gage data collected at USGS 02336000, located approximately 2.3 river miles upstream of Doors Island, a Log Pearson Type 3 flood frequency analysis indicates that **the 1-year storm flow is approximately 5,500 cubic feet per second (cfs).**

3. Based on a flow duration curve (FDC) comprised of daily average flows from 1982 through 2011, **5,500 cfs (the 1-year storm) is equaled or exceed 6% of the time on a FDC.**

4. Service standard criteria is that fish passage structures must be operable (i.e., passable) for all flows between the range of 5% and 95% on a FDC. Given the hydraulics produced by a (contracted) notched sill, **the low flow criterion (95%) is easily met.** Based on 3 above, Service high flow criterion and the 1-year storm are effectively the same at this site. Therefore, **passage over the upper/lower sills should be provided up to flow stages of 751.0 ft.**

6. A velocity rating curve was developed for both the upper and lower sills. The curve indicates that at elevation 751.0 feet (which correlates to the high fish passage flow criterion) velocities over the notched lower sill will be approximately 7 feet per second. At the same stage elevation, velocities over the upper sill will remain less than 5 feet per second.

7. Striped bass have demonstrated burst (swimming) speeds well in excess of these estimated velocities; therefore **these sills will remain passable to striped bass throughout the operable range** as defined by Service criteria.

8. Because of the paucity of literature describing swimming speeds for shoal bass, the performance characteristics of a surrogate species, the smallmouth bass (*Micropterus dolomieu*), was used. These species are relatively weak swimmers and the peak velocity of **7 feet per second (as describe above) may represent a velocity barrier that will inhibit passage.** However, the design characteristics of the sills moderate this impact; the trapezoidal notch (on the lower sill) and the riprap itself will provide areas of interstitial flow and areas of lower velocity that fish may use to their advantage.

Conclusion:

These structures should not inhibit the passage of adult striped bass. While the lower sill hydraulics may represent a velocity barrier to adult shoal bass, this barrier exists only at the upper range of fish passage flows (~ 5% on the FDC); even at those high flows the velocity barrier may be moderated by the trapezoidal shape of the sill, which creates lower velocities at the side slopes and by the roughened flow boundary created by the riprap.

Recommendations:

We provide the following recommendations under the FWCA:

- 1) A timing restriction should be placed on instream construction activities to avoid the a) spring spawning season of fishes, as well as b) the summer period, which is the time of highest water temperatures and lowest dissolved oxygen levels that can be stressful for aquatic species. Therefore, we recommend that instream construction activities not take place during early spring-summer.
- 2) As indicated on C-2 in the final design plans, all flow is proposed to be temporarily diverted away from the lower sill and the east side of the Chattahoochee River so that work to the lower sill and the east side of Defoor Island can occur. Fishes stranded due

to the falling waters, either below the lower sill or within the isolated sandbagged area along Defoor Island, should be collected (e.g., dip-net, seine, and/or backpack electrofishing) and transported to suitable habitat downstream or held briefly in a holding tank to facilitate larger-scale relocations to downstream habitat. Due to the timing of our recommended construction activities (i.e., fall through winter), water quality and associated water temperatures should be suitable to ensure high survival of collected, handled, and relocated individuals. In addition, the intake hose for the dewatering pump should be fitted with a mesh screen to prevent fish entrainment.

- 3) Revegetation should use non-invasive, preferably native species. We note that weeping lovegrass (*Erogrostis curvula*) is listed on EC-8 of the final design plans to be used as a temporary vegetation cover. Georgia Exotic Pest Plant Council lists weeping lovegrass as a Category 3 invasive species, which is defined as an exotic plant that currently is a minor problem in Georgia natural areas, or is not yet known to be a problem in Georgia, but is already known to be a problem in adjacent states.

We appreciate the opportunity to comment during the planning stages of your project. If you have any questions, please contact staff biologist Alice Lawrence at 706.614.7276 ext. 222.

Sincerely,

John Doresky/for

Sandra S. Tucker
Field Supervisor

cc: Sandy Abbott, USFWS, Columbus, GA
Brett Towler, USFWS, Hadley, MA
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EA APPENDIX D SECTION 404(B)(1) EVALUATION

**SECTION 404(B) (1) EVALUATION
FOR
CHATTAHOOCHEE RAW WATER INTAKE IMPROVEMENT
AND DEFOORS ISLAND BANK STABILIZATION
CITY OF ATLANTA, FULTON AND COBB COUNTIES, GEORGIA**

1. PROJECT DESCRIPTION:

a. Location. The COA raw water intake is located on the east bank of the Chattahoochee River approximately 1,600 feet upstream of South Atlanta Road. The east bank of the Chattahoochee River is within the incorporated areas of the COA, and the west bank is within unincorporated areas of Cobb County. Figure 1-1 illustrates the location of the intake structure. The land use in this area is primarily industrial, with the Cobb County R.L. Sutton Water Reclamation Facility on the west bank, and the COA Chattahoochee water treatment plant and the R.M. Clayton Water Reclamation Facility to the south of Peachtree Creek. DeFours Island is COA property. The proposed action is located within the Chattahoochee River channel in both Fulton and Cobb Counties, Georgia.

b. General Description. The Tentatively Selected Plan (Alternative B) consist of two components: 1) restoring the upper and lower sills to their original design elevations by placement of riprap appropriately sized to achieve the desired river stages, and of suitable size to remain in-place during peak flow/velocity events; and 2) bank stabilization along the eastern bank of Defoors Island.

Alternative B consists of the lower sill being armored by 400 tons of rip-rap to elevation 749 feet, which is the original constructed elevation. The elevation has been degraded overtime and the current rock structure does not consistently meet this elevation. A 40-foot notch in the lower sill would be provided to maintain low flow conditions. The elevation of this notch would be constructed to 746 feet. Therefore, either side of the lower sill would be at elevation 749 feet and transition down to elevation 746 towards the middle of the sill.

Similarly, armoring of the upper sill is also included under Alternative B to re-establish its original design elevation. Riprap will be placed along the upper sill approximately 1 to 2 feet in thickness such that the original control elevation (elevation 749) is restored. It should be noted however that improvements to the lower sill are a higher priority than improvements to the upper sill. It is recommended that improvements to the upper sill be made after the lower sill and bank stabilization work is complete, and based upon overall construction costs and available project funding.

Alternative B for the Defoors Island would consist of the placement of 6,100 tons of large diameter riprap along the eastern bank of Defoors Island, beginning at the southerly tip of the island and continuing upstream to the upper sill. Riprap placement would extend outward from the existing bank approximately 20 to 30 feet, and reach a height of approximately 8 to 12 feet. This overall height would include toeing the riprap into the existing river bed, and placement to a height equal to, or above the one-year storm stage. The riprap size would

include a gradation to allow for interlocking and filled of voids, with the largest stones anticipated to be in the range of 3 to 5 feet in diameter. Live stakes will be placed within the riprap voids to establish a vegetative bank cover.

Above the top of riprap (extending from the riprap to the top of bank), bank protection measures would include excavation of 1,250 cubic yards of earthen material, placement of 750 cubic yards of earthen fill, and placement of 400 square yards of turf reinforcement matting. The matting would be designed to allow for bank re-vegetation with 900 live stakes consisting of an equal mixture of silky dogwood, silky willow, and elderberry. Along the top of bank and extending landward towards the center of the island, a mixture of native plants (containerized trees and shrubs) will be placed within areas disturbed during construction activities. Planted vegetation will include a mixture of the following: southern wax myrtle, winterberry, silky dogwood, red maple, river birch, black willow, boxelder, green ash, and sycamore. All disturbed areas will also be seeded using a riparian buffer seed mixture suitable for the project area.

c. Authority and Purpose. The Chattahoochee Raw Water Intake Improvement and Defoors Island Bank Stabilization project is being conducted under the authority of Section 219 of the Water Resources Development Act (WRDA) of 1992, as amended, in subsection "c (2) *Atlanta, Georgia. – A combined sewer overflow treatment facility for the City of Atlanta, Georgia.*" The purpose of the proposed action is to improve the functional aspects of the upper and lower sills adjacent to the COA raw water intake structure on the Chattahoochee River, as well as to stabilize the eroding/receding eastern shoreline of Defoors Island in the vicinity of the lower sill.

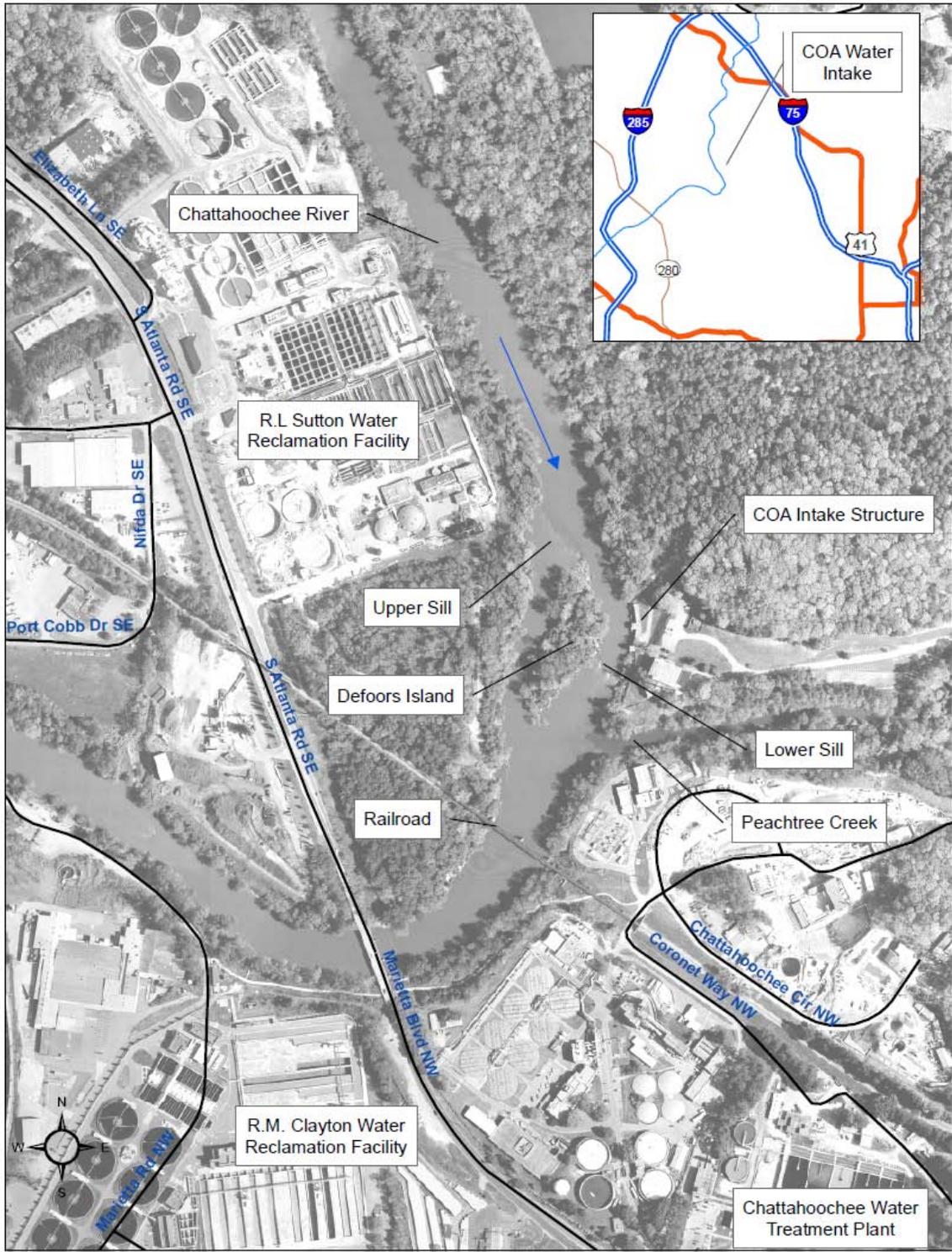


Figure 1-1
 Location Map
 Chattahoochee Raw Water Intake Rehabilitation

d. General Description of Dredge or Fill Material.

(1) General Characteristic of Material. The fill material for the bank stabilization consists of turf matrix, riprap, and earthen fill.

(2) Quantity of Material. The quantity of material for Alternative B component one (upper and lower sills) includes 400 tons of riprap and component two (bank stabilization) 6,100 tons of riprap, 750 cubic yards of earthen fill, and 400 square yards of turf reinforcement matting.

(3) Source of Material. Fill materials will come from local manufacturers and quarries in the region.

e. Description of the Proposed Discharge Site.

(1) Location. The discharge site is located on the Chattahoochee River.

(2) Size. Alternative B is approximately 1,600 feet.

(3) Type of Site. The fill sites are unconfined areas.

(4) Type of Habitat. The habitat of Alternative I fill site consists of a combination of Toccoa, Congaree Sandy Loam, Congaree-Cartecay complex and Ashlar-Rion complex soils.

(5) Timing and Duration of Discharge. Construction and excavation activities are scheduled for a 1 year time frame.

f. Description of Disposal Method. Material will be placed in the designated area using land-based heavy equipment.

II. Factual Determinations:

a. Physical Substrate Determinations.

(1) Substrate Elevation and Slope. There would be no impact on physiography and geology. Due to the tentatively selected alternative being small scale, there would be no change to conditions at the landscape level or extend to the underlying geology.

(2) Sediment Type. The sediment type of the fill sites would be altered due to placement of riprap, and turf reinforcement matting. However, the change in sediment type is not expected to be significant since the fill material is of similar soil and rock composition of the original sediment type.

(3) Dredged/Fill Material Movement. The material used for fill should not experience any movement due to the riprap, and turf reinforcement matting being of such a size so as to prevent movement during high flows.

(4) Physical Effects on the Benthos. Some benthos would be destroyed by the discharge located in the riprap sites. However, the placement of riprap material into the streambank will provide beneficial long-term habitat for the benthos. These areas will provide a stable habitat base in the streambank over time. Maintenance activities are not expected to adversely affect benthic communities that colonize the riprap areas. It is anticipated that benthic communities will recolonize all construction sites within the streambank since undisturbed sites along the creek will serve as a source for recolonization.

(5) Actions Taken to Minimize Impacts (Subpart H). Construction Best Management Practices would be implemented at each site in order to minimize impacts to the streams.

b. Water Circulation, Fluctuation, and Salinity Determinations.

(1) Salinity. Not applicable.

(2) Water Chemistry. Water chemistry would not be significantly impacted.

(3) Clarity. Water clarity will be temporarily decreased during the construction activities due to increased turbidity associated with the excavation and fill activities. It is anticipated that water clarity will quickly return to pre-project conditions within a short time after construction activities cease.

(4) Color. Color would not be significantly impacted.

(5) Odor. No effect.

(6) Taste. No effect.

(7) Dissolved Gas Levels. Dissolved gas levels would not be significantly impacted.

(8) Nutrients. Nutrient levels would not be significantly impacted.

(9) Eutrophication. Eutrophication would not be significantly impacted.

c. Water Circulation, Fluctuation, and Salinity Gradient Determinations:

(1) Current Patterns and Circulation.

(a) Current Patterns and Flow. During construction there would be a short-term disruption in flow patterns, but application of sound engineering principles and best management practices will minimize these effects.

(b) Velocity. No significant impacts on water velocity are anticipated from placement of the riprap and turf reinforcement matting.

(2) Stratification. There would be no impacts on water stratification.

(3) Hydrologic Regime. There would be no impacts on the hydrologic regime.

(4) Normal Water Level Fluctuations. River levels will not be measurably affected.

(5) Salinity Gradients. Not applicable.

d. Suspended Particulate/Turbidity Determinants.

(1) Expected Changes in Suspended Particulate and Turbidity Levels in Vicinity of Disposal Sites. No significant effects are anticipated other than short-term localized increases on suspended particulate and turbidity levels in the immediate vicinity of the construction of the riprap, and turf reinforcement matting activities.

(2) Effects on Chemical and Physical Properties of the Water Column.

(a) Light Penetration. Reductions in light penetration at the proposed project sites due to temporary increases in turbidity during construction will be short-term and localized and are not expected to be significant

(b) Dissolved Oxygen. Dissolved oxygen will not be significantly impacted.

(c) Toxic Metals and Organics. No activities or processes resulting in toxic metal or organics contamination are part of this project.

(d) Pathogens. There would be no significant impacts on pathogen levels.

(e) Aesthetics. The area would be impacted during the sill improvements and bank stabilization activities. There would be beneficial impacts to the aesthetics of the bank stabilization upon completion of the activities.

(3) Effects on biota.

(a) Primary Production, Photosynthesis. Temporary, localized impacts to primary production or photosynthesis levels may result from turbidity plumes generated by the construction activities. These effects would be localized and temporary.

(b) Suspension/Filter Feeders. Suspension/filter feeders may be temporarily affected within a localized area near the fill sites although this impact is expected to be minimal and insignificant.

(c) Sight Feeders. Sight-dependent species may suffer reduced feeding ability in a limited area for a limited time during excavation/fill activities. However, sight feeders are expected to leave the site during excavation and disposal operations, and return to the area as ambient conditions return.

(4) Actions taken to Minimize Impacts (Subpart H). Construction Best Management Practices would be implemented at each site in order to minimize impacts.

e. Contaminant Determinations. No contaminants harmful to the environment are known to exist in the proposed project area as determined by the environmental site assessment investigation where the proposed fill material would be placed during construction activities.

f. Aquatic Ecosystem and Organism Determinations.

(1) Effects on plankton. Plankton would not be significantly affected by the proposed project.

(2) Effects on Benthos. While short term adverse impacts will occur to the benthos in the area to be filled, long-term beneficial impacts are expected.

(3) Effects on nekton. Nektonic species are expected to temporarily leave the area during excavation and placement operations, and return to the area once turbidity levels return to ambient conditions.

(4) Effects on Aquatic Food Web. No significant impact is expected.

(5) Effects on Special Aquatic Sites

(a) Sanctuaries and Refuges. No sanctuaries or refuges would be affected by this project.

(b) Wetlands. No wetland vegetation would be affected by this project.

(c) Mud Flats. No mud flats would be affected by this project.

(d) Vegetated Shallows. No vegetated shallows would be affected by this project.

(e) Coral Reefs. Not applicable.

(f) Riffle and Pool Complexes. No riffle or pool complexes will be affected by this project.

(6) Threatened and Endangered Species. According to the US Fish and Wildlife Service (USFWS), there are several species listed as potentially occurring with Fulton County: the endangered Gulf Moccasinshell mussel (*Medionidus pencillatus*), the endangered Shiny-rayed pocketbook (*Hamiota subangulata*), and the threatened Cherokee darter (*Etheostoma scotti*). Species listed by USFWS as potentially occurring in Cobb County are: the threatened Cherokee darter (*Etheostoma scotti*), and the endangered Michaux's sumac (*Rhus michauxii*).

(7) Other Wildlife. The proposed project will have no significant impacts to other wildlife species.

(8) Actions to Minimize Impacts. Construction Best Management Practices would be implemented at each site in order to minimize impacts on the aquatic ecosystem and organisms.

g. Proposed Fill Site Determination.

(1) Mixing Zone Determination. State water quality requirements would be utilized for this project; therefore, turbidity outside the limits of the mixing zone shall not exceed the ambient turbidity by more than 50 Nephelometric Turbidity Units.

(2) Determination of Compliance with Applicable Water Quality Standards. The fill/placement operation will be in conformance with applicable Federal and State standards. Water Quality Certification, pursuant to Section 401 of the Clean Water Act, will be obtained from Georgia Department of Natural Resources (GADNR), Environmental Protection Division (GAEPD).

(3) Potential Effects on Human Use Characteristics.

(a) Municipal and Private Water Supply. This project would have no impacts on municipal or private water supplies.

(b) Recreation and Commercial Fisheries. The proposed project would have no impact on recreational and commercial fisheries.

(c) Water Related Recreation. Not applicable.

(d) Aesthetics. Aesthetics would be temporarily impacted, but would have beneficial impacts when the project is complete.

(e) Parks, National and Historic Monuments, National Seashores, Wilderness Areas Research Sites, and Similar Preserves. The National Park Service was coordinated with for recommendations on the proposed action because it is located within the Chattahoochee National Recreation Area. Recommendations were incorporated into the proposed action.

(f) Other Effects. Not applicable.

(4) Determination of Cumulative Effects on the Aquatic Ecosystem. The proposed rehabilitate the upper and lower sills and bank stabilization project will result in a negligible increase in the cumulative impacts on the aquatic ecosystem of the Chattahoochee River. The impacts will be beneficial for habitat and water quality of the Chattahoochee River.

(5) Determination of Secondary Effects on the Aquatic Ecosystem. The loss of benthic organisms and habitat on the fill sites on the Chattahoochee River would have an insignificant adverse effect on the fishery resources in the proposed project area. Also, the temporary and localized increase in turbidity will insignificantly reduce primary production. The long-term impacts will be beneficial impacts to habitat and water quality of the Chattahoochee River.

III. Findings of Compliance or Noncompliance with the Restrictions on Discharge.

a. Adaptation of Section 404(b) (1) Guidelines to the Evaluations. No significant adaptations of the guidelines were made relative to this evaluation.

b. Consideration of the Availability of Practicable Alternatives to the Proposed Discharge Site Which Would Have Less Adverse Impacts on the Aquatic Ecosystem. The proposed activities represent the least environmentally damaging practicable alternative.

c. Compliance with State Water Quality Standards. The planned disposal of excavated material would not violate any applicable State water quality standards. Furthermore, water quality certification will be obtained from Georgia.

d. Compliance with Applicable Toxic Effluent Standard or Prohibition under Section 307 of the Clean Water Act. The fill material would not violate the toxic standards of Section 307 of the Clean Water Act.

e. Compliance with Endangered Species Act. Use of the proposed fill site will not jeopardize the continued existence of any State-listed endangered or threatened species or their critical habitat.

f. Compliance with Specific Protection Measures for Marine Sanctuaries Designated by the Marine Protection, Research, and Sanctuaries Act. Not applicable.

g. Evaluation of Extent of Degradation of the Waters of the United States. The proposed fill plan is specified as complying with the requirements of these guidelines. The proposed activities would not contribute to significant degradation of waters of the United States. Nor would it result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreation and commercial fishing; life stages of organisms dependent upon the aquatic ecosystem; ecosystem diversity, productivity and stability; or recreational, aesthetic or economic values.

h. Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem.

(1) An interdisciplinary team has evaluated sites, and project design altered per their recommendation.

(2) Appropriate construction best management practices will be implemented at each of the construction sites to minimize environmental impacts.

i. On the Basis of the Guidelines, the proposed Disposal Site for the Discharge of Dredged Material. The Chattahoochee River project sites are specified as complying with the requirements of these guidelines, with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects on the aquatic ecosystem.

DATE: 28 SEP 2012


Steven J. Roemhildt, P.E.
Colonel, Corps of Engineers
District Commander