



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
SAVANNAH DISTRICT, CORPS OF ENGINEERS
1590 ADAMSON PARKWAY, SUITE 200
MORROW, GEORGIA 30260-1777

JUN 24 2014

Regulatory Division
SAS-2001-02070

JOINT PUBLIC NOTICE Savannah District/State of Georgia

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

Application Number: SAS-2001-02070

Applicant: Mr. Billy Malone
DeKalb County Public Works Department
Sanitation Division
3720 Leroy Scott Drive
Decatur, Georgia 30032

Agent: Mr. J. Andrew Whorton
Geosyntec Consultants
Project Ecologist
80 Shades Crest Road
Birmingham, Alabama 35226

Location of Proposed Work: The Ward Lake expansion project is located southeast of Atlanta, in DeKalb County, Georgia (**Figure 1**), as illustrated on the Southeast Atlanta U.S. Geological Survey (USGS) 7.5-minute Quadrangle Map, within the city limits of Ellenwood (**Figure 2**). The Ward Lake expansion project boundary encompasses approximately 163 acres separated into two tracts (**Figure 3**). The north tract consists of 64 acres and is actively mined for borrow material. The second tract (i.e., South Tract) is located south of Ward Lake Road and consists of 99 acres. Ward Lake is located on the South Tract and is hydrologically influenced by North Creek, a tributary to Conley Creek, which ultimately discharges to the South River at river mile 416.8. The South River is located approximately 2 miles from the northeast boundary of the North Tract. The 8-digit Hydrologic Unit Code (HUC) for the site is 03070103 (Upper Ocmulgee Watershed).

Seminole Road Municipal Solid Waste (MSW) Landfill is located east of, and adjacent to, the Ward Lake Expansion Project with a physical address of 4203

Clevemont Road, Ellenwood, Georgia 30294. The latitude and longitude for the Ward Lake expansion project is latitude: 33.6551°N; longitude: -84.2732°W.

Description of Work Subject to the Jurisdiction of the U.S. Army Corps of Engineers:

DeKalb County Public Works Sanitation Division owns and operates Seminole Road MSW Landfill in Ellenwood, DeKalb County, Georgia. Over the years, Sanitation has proactively acquired lands adjacent to the landfill to increase buffer from surrounding residential developments and/or for use as borrow material sites. The proposed Ward Lake expansion project site is located west of the permitted disposal limits of the landfill and consists of 163 acres divided by Ward Lake Road into two tracts, the North Tract (64 acres) and the South Tract (99 acres). Borrow material (consisting entirely of upland material) is currently being mined from the North Tract.

The South Tract, which includes Ward Lake (16.5 acres), has not been previously mined for borrow material. However, on-site borings were performed in 2007 and 2013 to evaluate the feasibility of obtaining borrow material from the South Tract. The boring data indicated that the South Tract contained 20 to 50 feet of overburden [approximately 1.2 million cubic yards (MCY)] that could be utilized as borrow material. The proposed Ward Lake expansion project calls for borrow material to be excavated from the South Tract, including a portion of the Ward Lake footprint and adjoining area.

Cumulative and permanent jurisdictional impacts associated with the proposed project include the loss of 130 linear feet of stream (including ephemeral channels), 0.88 acre of wetlands, and 0.56 acre of open water. Impacts associated with the project would be mitigated by purchasing 594 stream credits and 9.56 wetland credits. Although the project proposes to dewater 9.4 acres of Ward Lake, the project includes returning the lake to full pool and expanding it into adjacent areas being utilized for borrow material. This expansion will result in the creation of an additional 15.6 acres of open water. At project completion, the footprint of Ward Lake will increase from 16.5 acres to 32.3 acres. Upon completion of excavation, Sanitation plans to convert the project site into an outdoor recreational and education facility for the benefit of the general public.

The proposed Ward Lake Expansion Project has been designed to avoid and minimize impacts to aquatic resources to the greatest extent practicable while meeting the project purpose and need. The excavation of the borrow area adjacent to Ward Lake proposes to impact 47 linear feet of Ephemeral Stream 5, 27 linear feet of Ephemeral Stream 6, 0.82 acre of Wetland D, and 0.06 acre of Wetland E. The construction of the new dam adjacent to Ward Lake Road would cause the permanent loss of 0.56 acre of open water. The development of the Ward Lake Property into a recreational and educational facility will require the installation of culverts for two access road crossings and one trail crossing, resulting in the loss of 16 linear feet of Ephemeral

Stream 2, and 198 linear feet of Intermittent Stream 3. Additional details regarding the proposed impacts are provided in **Figures 5 and 7**.

Additional stream, wetland, and open water crossings are proposed during construction of the recreational pedestrian trails; however, these crossings will involve the construction of boardwalks to allow for aerial spans over potentially jurisdictional areas. The Ward Lake expansion project also proposes to temporarily dewater 9.4 acres of open water (Ward Lake) in order to excavate borrow material (soils) beneath the lake bottom. To dewater the lake, a sheetpile cofferdam will be installed up-gradient of the excavation footprint. The cofferdam will extend 457 feet across the lake and have an approximate width of one foot, thus creating a temporary impact footprint of 0.01 acre of open water.

BACKGROUND

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

STATE OF GEORGIA

Water Quality Certification: The Georgia Department of Natural Resources, Environmental Protection Division, intends to certify this project at the end of 30 days in accordance with the provisions of Section 401 of the Clean Water Act, which is required for a Federal Permit to conduct activity in, on, or adjacent to the waters of the State of Georgia. Copies of the application and supporting documents relative to a specific application will be available for review and copying at the office of the Georgia Department of Natural Resources, Environmental Protection Division, Water Protection Branch, 4220 International Parkway, Suite 101, Atlanta, Georgia 30354, during regular office hours. A copier machine is available for public use at a charge of 25 cents per page. Any person who desires to comment, object, or request a public hearing relative to State Water Quality Certification must do so within 30 days of the State's receipt of application in writing and state the reasons or basis of objections or request for a hearing. The application can be reviewed in the Savannah District, US Army Corps of Engineers, Regulatory Division, 1590 Adamson Parkway, Suite 200 Morrow, Georgia 30260-1777.

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

US ARMY CORPS OF ENGINEERS

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

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

A Phase I cultural resources survey of the proposed Ward Lake expansion project area (North and South Tracts) was performed by R.S. Webb & Associates between 10 April and 7 May, 2013. The survey was conducted to locate and identify cultural and archaeological resources within the Ward Lake expansion project boundary and to assess resource significance based on National Historic Places (NRHP) criteria [36 CFR Part 60.4]. Due to active/disturbed areas associated with Seminole Road MSW Landfill, project avoidance of the Lakeview Cemetery, and the presence of Ward Lake and associated wetlands, only a portion of the total acreage in the Ward Lake expansion project boundary required survey for cultural resources. The Phase I cultural and archaeological resources survey included a literature review and an intensive field survey. Only one new cultural resource site was recorded during the Phase I survey. This feature, along with previously recorded sites, was recommended ineligible to the NRHP. Two historic properties, the Lakeview Cemetery and a 1954-constructed ranch house, were considered eligible. These features will not be impacted as part of the Ward Lake expansion project.

Endangered Species: Pursuant to Section 7(c) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), we request information from the U.S. Department of the Interior, Fish and Wildlife Service, the U.S. Department of Commerce, the National Oceanic and Atmospheric Administration, and the National Marine Fisheries Service; or, any other interested party, on whether any species listed or proposed for listing may be present in the area.

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

Consideration of Public Comments: The U.S. Army Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Native

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

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

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

Comment Period: Anyone wishing to comment on this application for a Department of the Army Permit should submit comments in writing to the Commander, U.S. Army Corps of Engineers, Savannah District, Attention: Maya B. Odeh-Adimah, 1590 Adamson Parkway, Suite 200, Morrow, Georgia 30260-1777, no later than 30 days from the date of this notice. Please refer to the applicant's name and the application number in your comments.

If you have any further questions concerning this matter, please contact Maya B. Odeh-Adimah, Regulatory Specialist, Piedmont Branch at 678-422-5731.

Enclosures

1. Alternative Analysis for Ward Lake Expansion
2. Compensatory Mitigation Plan
3. Ward Lake Expansion Site Location Maps, Figure 1-Figure 3
4. Jurisdictional Impact Maps Figure 5 & Figure 7

Table 4. Alternative Site Analysis Property Information

Alternative Sites	Property Size (acres)	Listed Purchase Price	One Way Driving Distance ¹	Raw Hauling Costs per Cubic Yard ³	Current Zoning	Adverse Historical Site Use
Ward Lake Property (Preferred Alternative)	99 ²	*Currently Owned By Sanitation	1.5	Nominal ⁴	Commercial	No
104 Clark Drive	62	\$496,000	1.5	\$9.15/CY	Residential	Yes ⁵
2568 East Atlanta Rd	48	\$3,597,750	2.5	\$10.10/CY	Residential	No
2132 East Atlanta Rd	50	\$1,750,000	4.4	\$10.10/CY	Residential	No
Anvil Block Rd	56	\$416,999	4.4	\$10.10/CY	Residential	No
4265 Snapfinger Rd	118	\$1,184,300	4.7	\$10.31/CY	Residential	No
4001 Panola Rd	53	\$995,000	5.9	\$10.53/CY	Commercial	No
2750 Moreland Ave SE	87	\$2,295,000	6.9	\$12.60/CY	Commercial	No

Notes:

¹ Driving distance is reported as the sum of the distance between the alternative site and the landfill (approximated using Google Maps) and one mile of total estimated travel on-site at the alternative site and the landfill.

² Property size of the Ward Lake Property includes the entire South Tract property. Approximately 25 acres will be disturbed by mining.

³ The driving distance from the Ward Lake site to the landfill is estimated to be approximately 1.5 miles. However, this value may vary due to the use of off-road hauling equipment on Sanitation property.

⁴ The preferred alternative site's hauling cost are considered nominal since the property is already owned by DeKalb and the equipment used to transport the potential borrow material are already operating at the landfill. Off-site hauling from prospective alternative sites would have to be performed by a contractor and which would not allow Sanitation to use existing staff and resources.

⁵ 104 Clark Drive was removed from further evaluation due to discovery that this property was previously used as a borrow site.

\$17.67 per Bank Cubic Yard (BCY), compared to the preferred alternative site's (Ward Lake) cost of \$4.50 per BCY.

Table 6. Excavation and Raw Hauling Costs

Operation	Cost
Excavator & Operator; 4.5 CY excavator; 95% Fill Factor	\$1.10/BCY
Hauling - 12 CY truck, 10 mile cycle, 30 MPH average, 25 min wait/load/unload	\$10.10/LCY
Hauling - 12 CY truck, 12 mile cycle ¹ , 30 MPH average, 25 min wait/load/unload	\$10.31/LCY
Hauling - 12 CY truck, 14 mile cycle ² , 35 MPH average, 25 min wait/load/unload	\$10.53/LCY

Notes:

¹ The cost for a 12 mile cycle at 30 MPH was not included in the RS Means manual; therefore, the value was calculated as the average of the 10 mile cycle at 30 MPH and the 14 mile cycle at 35 MPH, assuming similar truck size and waiting time.

² The cost for a 14 mile cycle at 35 MPH was not included in the RS Means manual; therefore, the value was interpolated using a linear relationship between the 10 mile and 20 mile cycles, assuming similar truck size, speed, and waiting time.

Utilizing the assumptions and estimated hauling costs listed above, Table 7 presents total cost estimates for each site in dollars per bank cubic yard of soil.

Table 7. Cost Estimates of Alternative Site per Bank Cubic Yard of Borrow Material

Site	2568 East Atlanta Rd	2132 East Atlanta Rd	Anvil Block Rd	4265 Snapfinger Rd	4001 Panola Rd	Preferred Alternative (Ward Lake)
Distance from Project Location	4.4	4.4	4.7	5.9	6.9	1.5
Total Cost of Alternative Site ¹	\$21,198,690	\$19,355,000	\$18,033,199	\$19,262,160	\$19,294,000	\$4,500,000
Cost of Alternative Site/BCY	\$17.67	\$16.13	\$15.03	\$16.05	\$16.08	\$4.50

Notes:

¹ Total cost includes land acquisition costs, engineering fees, clearing/grubbing costs, and other variables common for all potential alternative properties. Environmental permitting and compensatory mitigation costs are not included.

9.5 Proposed Impacts to Aquatic Resources

The final consideration in this alternatives analysis involved estimating potential impacts to aquatic resources at each alternative site. Pedestrian surveys on each property are cost prohibitive and could not be performed due to access restrictions (under separate ownership); therefore, potential impacts to on-site aquatic resources were determined using the following resources:

- USGS Quadrangle Map to analyze the contours for “blueline” streams as well as other topographic signatures that identify potential locations of streams;
- National Resources Conservation Service (NRCS) Web Soil Survey to locate potential wetlands on-site based on the hydric rating of the soil groups on-site as well as linear drainage features;
- U.S. Fish and Wildlife Service National Wetlands Inventory “Wetlands Mapper” to locate the mapped wetlands on-site; and
- Aerial maps of the area to locate potential cultural resources and additional natural resources not found using the USGS Quadrangle Maps.

Results from this analysis provided an estimate of potential wetlands and/or streams at each alternative site that would possibly be impacted from the proposed project (Table 8). General descriptions of each alternative site, including potential wetlands and streams that may exist on the property, acreage of land available for borrow material, and quantity of borrow material available, are discussed below.

Table 8. Potential Impacts¹ to Wetlands and Streams for Each Alternative Site

	2568 East Atlanta Rd	2132 East Atlanta Rd	Anvil Block Rd	4265 Snapfinger Rd	4001 Panola Rd	Preferred Site Alternative (Ward Lake)
Impacted Wetlands (acres)	0 ac	4.5 ac	0 ac	3.88 ac	0 ac	0.88 ac
Impacted Stream (linear feet) ²	1640 LF	0 LF	712 LF	1480 LF	519 LF	198 LF ²

Notes:

¹Impacts are estimates based solely on desktop research or other publically available sources.

²This calculation is limited to intermittent and perennial streams, and excludes ephemeral channels.

9.5.1 Alternative Property Located at 2568 E Atlanta Rd (47.97 Acres)

A review of desktop resources indicated the potential presence of two streams (totaling approximately 2,950 LF) on-site (**Figure 10**). Approximately 36.1 acres of the 47.97-acre site are available for excavation. This value accounts for the required 50-ft setback from the property boundaries. The proposed excavation of borrow material will result in impacts to approximately 1,640 LF of stream. Using the assumptions and Equations 1 and 2 found in **Appendix G**, 36.1 acres of the subject property will produce approximately 1.06 MCY of borrow material.

9.5.2 Alternative Property Located at 2132 E Atlanta Rd (50 Acres)

The review of desktop resources for this property identified the potential presence of one stream (totaling approximately 1,300 LF) on-site (**Figure 11**). Additionally, hydric soils, indicating the presence of potential wetlands, are depicted on the USDA soils survey for this property. Approximately 22.8 acres of the 50-acre property are available for excavation. This value accounts for the required 50-ft setback from the property boundaries. This site would require impacts to approximately 4.5 acres of wetlands; however, no defined stream characteristics were noted within the proposed excavation footprint. Using the assumptions and Equations 1 and 2 outlined in **Appendix G**, 22.8 acres of the subject property will produce approximately 0.65 MCY of borrow material.

9.5.3 Alternative Property Located at Anvil Block Rd (55.6 Acres)

A review of desktop resources revealed the presence of four streams (totaling approximately 2,230 LF) located on-site (**Figure 12**). NWI-mapped wetlands and hydric soils were identified on-site indicating the presence of potential wetlands. Approximately 38.4 acres of the 55.6-acre property are available for excavation. This value accounts for the required 50-ft setback from the property boundaries. Borrow source mining would potentially impact approximately 712 LF of stream; however, impacts to the potential wetlands would be avoided (based on property configuration and location of potential wetlands). As mentioned above, the test pit data provided by the realtor indicated an average depth of suitable soil of 13.4 ft. This assumption was utilized in the calculation of the approximate borrow material available on-site. Using the assumptions and Equations 1 and 2 outlined in **Appendix G**, 38.4 acres of the subject property will produce approximately 0.78 MCY of borrow material.

9.5.4 Alternative Property Located at 4265 Snapfinger Rd (118 Acres)

Desktop research identified the presence of one stream (totaling approximately 1,600 LF) on this property. NWI-mapped wetlands and hydric soils were identified on-site indicating the presence of potential wetlands (**Figure 13**). Accounting for the required 50-ft setback from the property boundaries, approximately 36.1 acres are available for excavation. Approximately 1,480 LF of stream and 3.88 acres of wetland would be potentially impacted from the proposed project. Using the assumptions and Equations 1 and 2 outlined in **Appendix G**, 36.1 acres of the subject property will produce approximately 1.06 MCY of borrow material.

Based on further evaluations of 4265 Snapfinger Rd, the South River was identified as the southern boundary of the site. The southeastern corner of the site contains an area known as “Panola Shoals,” which is assumed to be unfit for excavation of borrow material due to its classification as a shoal. Additionally, the South River II Trail (operated by the PATH Foundation in partnership with DeKalb County, Rockdale County, and the Arabia Mountain Heritage Alliance) travels through the site, roughly following the outline of the wetlands located on-site. The proximity to the South River II Trail and Panola Shoals would likely pose additional concerns/obstacles for utilizing this site as a source for borrow material.

9.5.5 Alternative Property Located at 4001 Panola Rd (53 Acres)

Desktop studies of 4001 Panola Rd identified the potential presence of three streams (totaling approximately 1,520 LF) (**Figures 14**). Additionally, soils on the site are classified as hydric. After accounting for 50-ft setback from property boundaries, approximately 31.3 acres are available for excavation resulting in impacts to 519 LF of stream. Potential wetland impacts would be avoided due to the boundary configuration. Using the assumptions and Equations 1 and 2 outlined in **Appendix G**, 31.3 acres of land could potentially produce approximately 0.91 MCY of borrow material.

9.6 Final Cost Estimate

Based on the evaluation of the five remaining sites, the excavation limits were further refined to obtain a more accurate quantity estimate. Total area for excavation, total estimated available borrow material, and a refined cost estimate for each site is provided in **Table 9**. The cost estimates presented below differ from the preliminary cost estimate results due to the reduction in area that must be cleared and grubbed, as well as

the adjusted excavation and hauling volumes based on the area of excavation analyzed for each site.

As noted in **Table 9**, the Ward Lake Site Alternative would cost an estimated \$3.75 per BCY. The cost of the other alternative sites range from \$14.90 to \$17.75 per BCY, which ranges from 397 percent to 473 percent of the cost of the Preferred Site Alternative. Additionally, no alternative site but Ward Lake meets the required purpose and need of the project of providing 1.2 million BCY of borrow material.

Table 9. Final Cost Estimates of Alternative Site per Bank Cubic Yard (BCY) of Borrow Material Versus the Preferred Alternative Site

	Alternative Site 1 2568 East Atlanta Rd	Alternative Site 2 2132 East Atlanta Rd	Alternative Site 3 Anvil Block Rd	Alternative Site 4 4265 Snappfinger Rd	Alternative Site 5 4001 Panola Rd	Preferred Site Alternative (Ward Lake)
Area of Excavation (acres)	35.9	22.8	38.4	36.1	31.3	25.2
Total Soil Available (BCY)	1.05 million	0.65 million	0.78 million	1.06 million	0.91 million	1.2 million
Total Cost of Alternative Site	\$18.6 million	\$11.07 million	\$11.6 million	\$16.65 million	\$14.54 million	\$4.5 million
Cost of Alternative Site/BCY	\$17.75	\$17.03	\$14.90	\$15.71	\$15.98	\$3.75
Percent of Preferred Site Cost per BCY	473%	454%	397%	419%	424%	100%

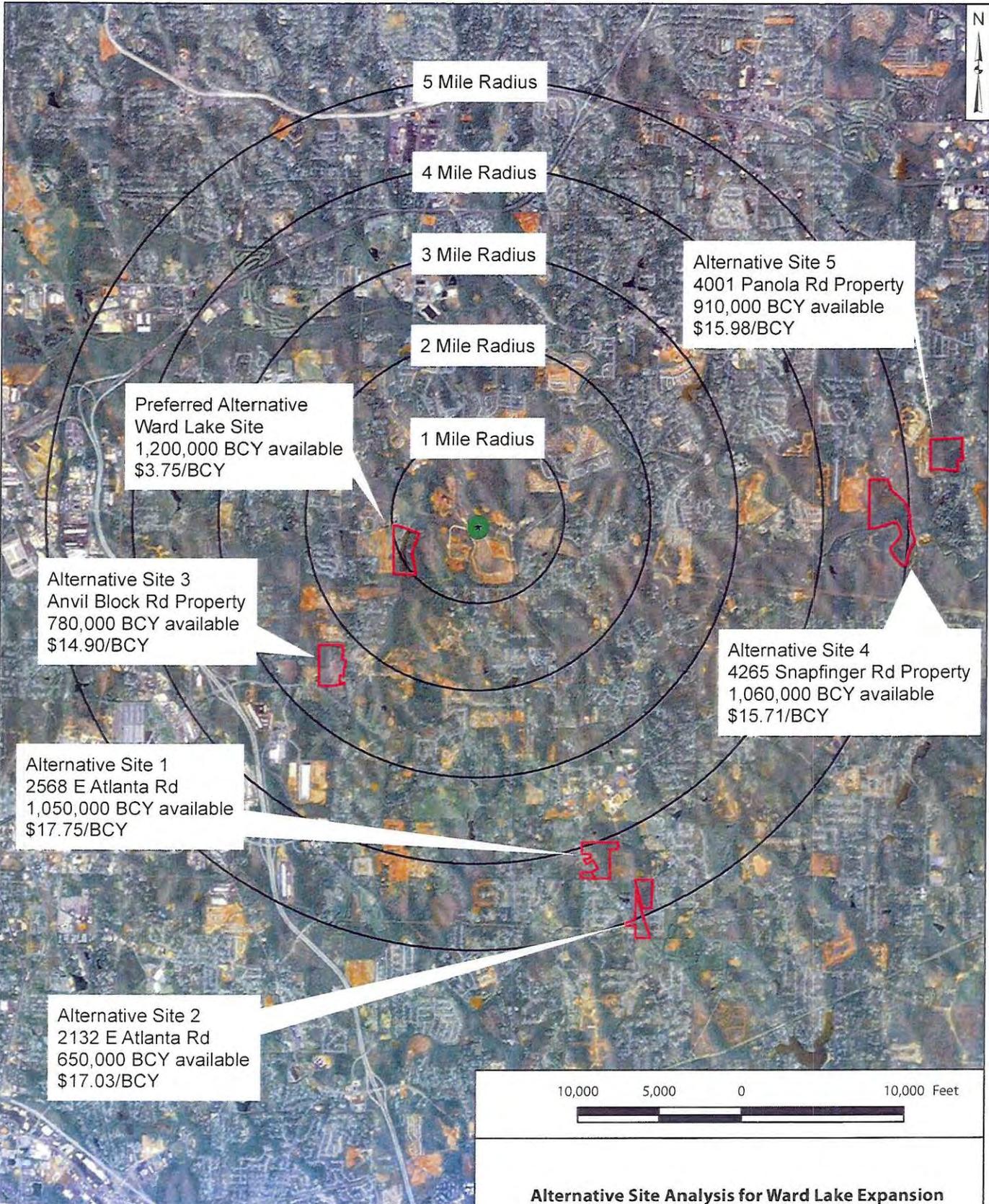
9.7 Preferred Site Alternative

Based on the result of the alternative analysis the LEDPA is the Ward Lake property, which is located west and immediately adjacent to the Seminole Road MSW Landfill. As demonstrated in **Table 9** above, the Ward Lake property represents the most feasible and practicable site available. Costs to obtain borrow material are significantly lower than all other sites. The site’s proximity to the Seminole Road Landfill and the quantity of available borrow source material is more favorable in meeting both the project purpose and need. In addition, the Ward Lake property is preferred because it proposes

the least amount of cumulative (wetlands and streams combined) impacts, with stream impacts limited entirely to the ephemeral drainages for proposed borrow activities. Although open water impacts to Ward Lake total 9.4 acres, the expansion of the lake at completion of borrow mining operations will increase the lake footprint by 15.6 acres and deepen the lake to as much as 30 feet which will result in overall improvement in water quality and habitat diversity.

9.8 Alternatives Analysis Summary

The search for available properties that are of adequate size and proximity to the landfill identified five sites potentially capable of providing borrow material for the landfill. The economic and aquatic resources impacts of the five sites chosen as final alternatives (2568 E Atlanta Rd, 2132 E Atlanta Rd, Anvil Block Rd, 4265 Snapfinger Rd, and 4001 Panola Rd) were compared against the Preferred Site Alternative (Ward Lake property) to determine the viability of each alternative. The only site alternative capable of providing the required 1.2 million BCY of borrow material for the landfill is the preferred alternative (Ward Lake Site). Additionally, the Ward Lake property would provide the necessary material at roughly one-quarter of the economic cost of the alternative sites and with equal or lesser cumulative impacts to wetlands and streams. Based on the calculations, assumptions, and subsequent findings of this alternatives analysis, the Ward Lake site is the LEDPA.



10,000 5,000 0 10,000 Feet

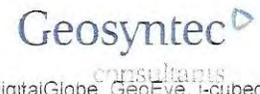


Alternative Site Analysis for Ward Lake Expansion

Dekalb County, GA

Legend

-  Approximate Center of Seminole Road Landfill
-  Site Boundary
-  Radius from Center
- BCY Bank Cubic Yard



Figure

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Kneitnyesaw, GA

Part 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

11. MITIGATION

Compensatory mitigation provides an additional measure of minimization of impacts to aquatic resources. The applicant proposes to provide compensatory mitigation for all permanent impacts associated with the excavation of the borrow area (0.88 acre wetland, 74 LF of ephemeral channel), construction of a new dam (0.56 acre of open water), and the proposed road crossings associated with the recreational facility (16 LF of ephemeral channel, 198 LF of intermittent stream). Mitigation for temporary impacts associated with the dewatering of Ward Lake is not proposed.

11.1 Proposed Mitigation

Mitigation for permanent impacts to jurisdictional wetlands and waters will be accomplished by purchasing credits from the USACE-approved Little Sandy Creek Mitigation Bank (**Appendix I**). This bank is situated within the same watershed (HUC 03070103-Upper Ocmulgee Watershed) of the project. The mitigation bank point-of-contact has stated that this bank currently has, or will have at the time of permit issuance, the appropriate wetland and stream credits available for purchase. Geosyntec calculated the required credits using the most current Compensatory Mitigation Standard Operating Procedures Adverse Impact Worksheets for Streams, Wetlands, and Open Waters (**Appendix J**). The calculations determined that the proposed project would require the purchase of 594 stream credits and 9.56 wetland credits.

11.2 Rationale for Impacts Not Requiring Mitigation

As stated previously, no formal compensatory mitigation is being provided for temporary impacts to Ward Lake, which includes dewatering 9.4 acres and the 0.01 acre for installation of the sheetpile cofferdam. Upon completion of borrow material mining, the existing Ward Lake footprint and borrow areas will be allowed to refill with water via removal of the cofferdam. Berms that were constructed between the Phase I borrow area and the Phase II borrow area will be removed to allow for contiguous open water across the excavation site. This plan will increase Ward Lake by 15.6 acres, nearly doubling the size of the 16.5-acre lake. Because Ward Lake is a man-made system, impacts to open water are temporary, and the lake footprint will nearly double following completion of the project, no formal open water mitigation is proposed.



Private Commercial Outparcel

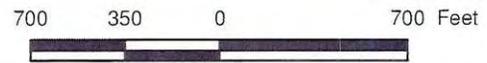
North Tract
(Johnson Property)

Lakeview Cemetery

Ward Lake Road

South Tract
(Ward Lake Property)

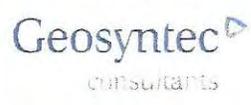
Linecrest Drive



Aerial Map Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Aerial Imagery Map
Ward Lake Expansion Project
 Ellenwood, Georgia

Legend	
	Approximate Project Boundary
	Not Included in Project Area



Dekalb County

Kennesaw, GA

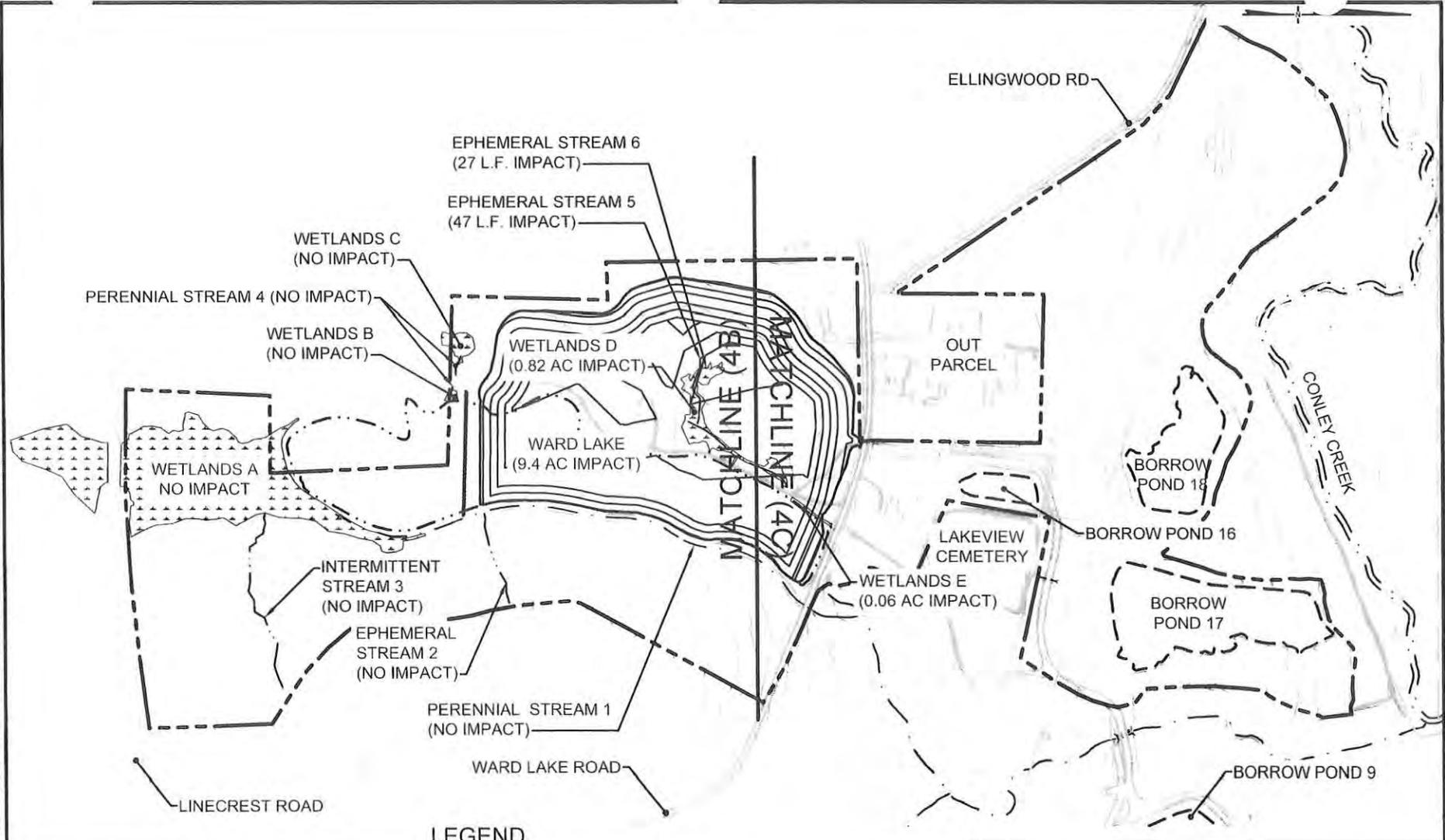
March 2014

Figure

3

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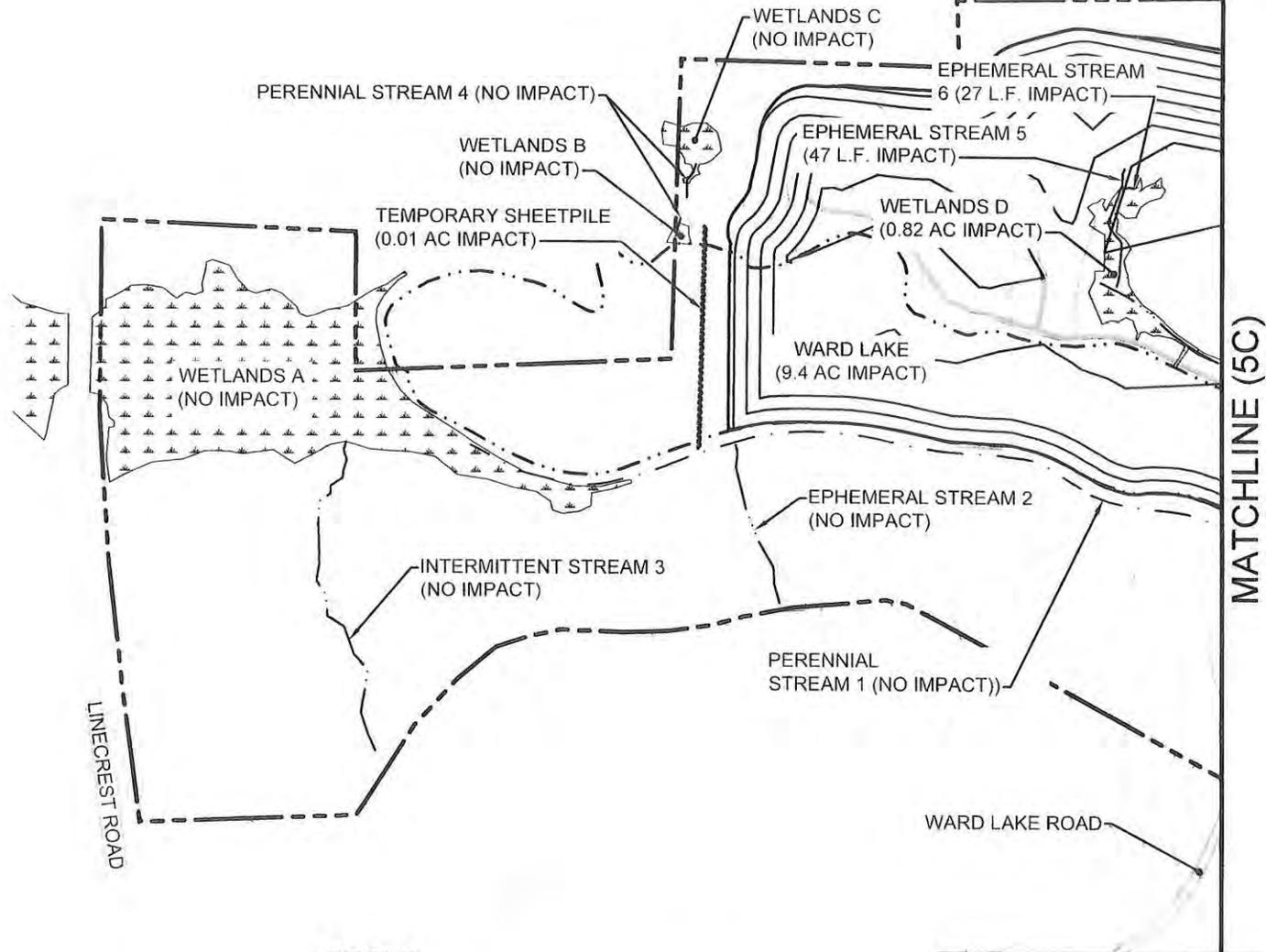
LEGEND

	ROADS		PROJECT BOUNDARY
	EPHEMERAL STREAMS (74 LF)		BORROW POND
	INTERMITTENT STREAMS (NO IMPACT)		WETLANDS (0.88 AC IMPACT)
	PERENNIAL STREAMS (NO IMPACT)		
	LAKE BOUNDARY (9.4 AC IMPACT)		



<p>PROPOSED PHASE I JURISDICTIONAL IMPACTS WARD LAKE BORROW AREA DeKALB COUNTY, GEORGIA</p>	
PROJECT NO: GD5409	MARCH 2014
<p>FIGURE 5A</p>	

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LEGEND

	ROADS		PROJECT BOUNDARY
	EPHEMERAL STREAMS (74 LF)		WETLANDS (0.88 AC IMPACT)
	INTERMITTENT STREAMS (NO IMPACT)		
	PERENNIAL STREAMS (NO IMPACT)		
	LAKE BOUNDARY (9.4 AC IMPACT)		



<p>PROPOSED PHASE I JURISDICTIONAL IMPACTS WARD LAKE BORROW AREA DEKALB COUNTY, GEORGIA</p>	
<p>Geosyntec consultants</p>	
PROJECT NO: GD5409	MARCH 2014
<p>FIGURE 5B</p>	

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MATCHLINE (1B)



LEGEND

	ROADS		PROJECT BOUNDARY
	EPHEMERAL STREAMS (74 LF)		BORROW POND
	INTERMITTENT STREAMS (NO IMPACT)		WETLANDS (0.88 AC IMPACT)
	PERENNIAL STREAMS (NO IMPACT)	 SCALE IN FEET	
	LAKE BOUNDARY (9.4 AC IMPACT)		

PROPOSED PHASE I
 JURISDICTIONAL IMPACTS
 WARD LAKE BORROW AREA
 DEKALB COUNTY, GEORGIA

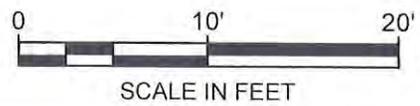
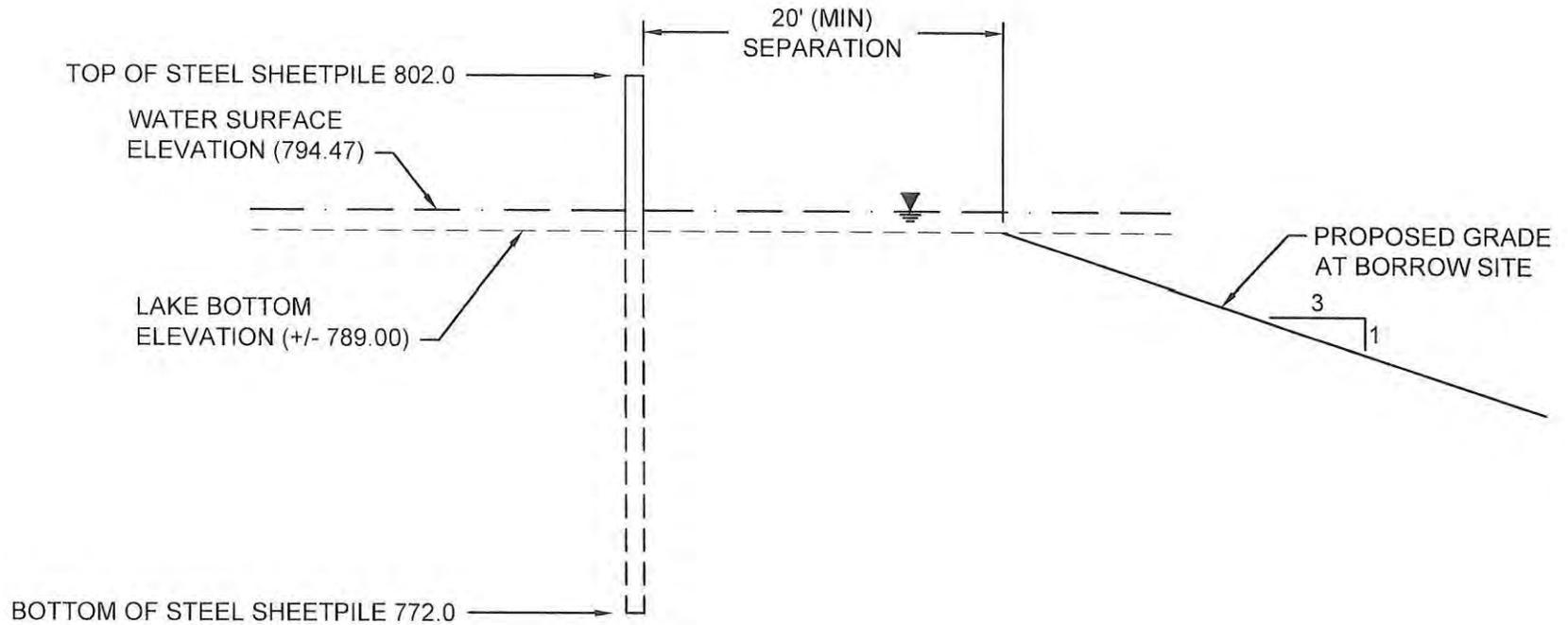
Geosyntec
 consultants

FIGURE
 5C

PROJECT NO: GD5409

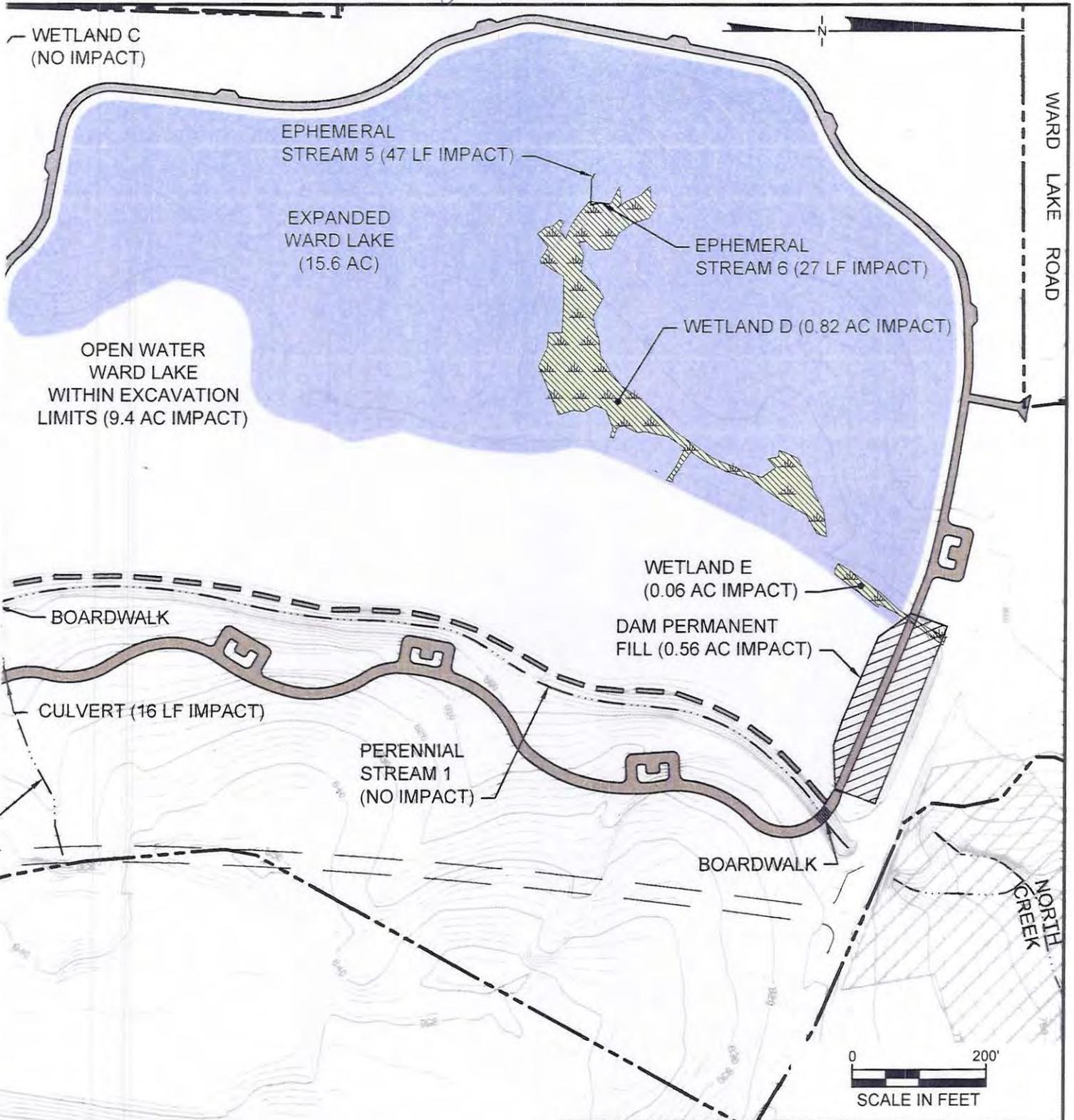
MARCH 2014

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COFFERDAM CROSS- SECTION WARD LAKE EXPANSION PROJECT DEKALB COUNTY, GEORGIA	
Geosyntec consultants	FIGURE 6
PROJECT NO. GD5409	MARCH 2014

Figure 7 Part 1



EXPANSION CONCEPTUAL DESIGN
WITH PROPOSED IMPACTS

WARD LAKE EXPANSION PROJECT
DEKALB COUNTY, GEORGIA

Geosyntec
consultants

Figure:

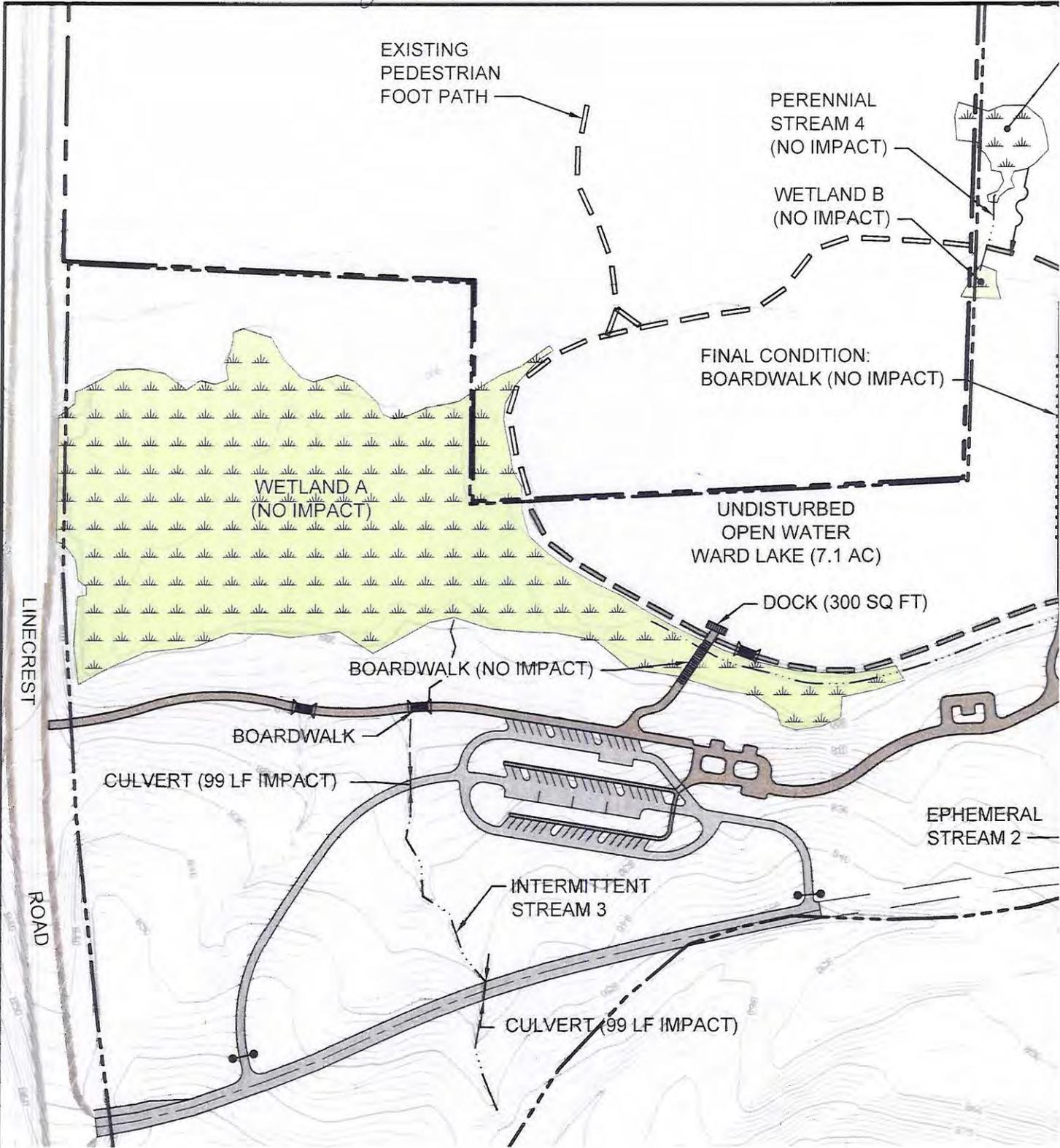
7

Kennesaw, GA

MARCH 2014

L198 LF INTERMITTENT; 74 LF EPHEMERAL)

Figure 7 Part 2



LEGEND

	EXISTING OPEN WATER		FILL AREA WITHIN LAKE (0.56 AC)
	PROPOSED OPEN WATER EXPANSION (15.8 AC)		STREAM (STREAM IMPACTS TOT)
	WETLAND (7.76 AC)		PROJECT BOUNDARY
	WETLAND REMOVED BY LAKE EXPANSION (0.88 AC)		PROPERTY LINE