

# DRAFT ENVIRONMENTAL ASSESSMENT GROUNDWATER WELL AND TREATMENT FACILITY PROJECT

ROSWELL, GEORGIA



July 2011

**DRAFT ENVIRONMENTAL ASSESSMENT  
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**1.0. PURPOSE AND NEED FOR THE PROPOSED ACTION.**

The City of Roswell Groundwater Well and Treatment Facility project is part of the City's long-term water system improvement strategy as described in its Water System Master Plan dated July 2010. The City of Roswell is part of the 15-county Metropolitan North Georgia Water Planning District. The Metropolitan North Georgia Water Planning District (Metro Water District) was created by the Georgia General Assembly in 2001 (O.C.G.A. §12-5-572) to serve as the water planning organization for the greater metropolitan Atlanta area. The Metro Water District's purpose is to establish policy, create plans and promote intergovernmental coordination of water issues in the District from a regional perspective. The Metro Water District enabling legislation mandated the development of three long-term regional plans to address the water resources challenges, one of which is the Water Supply and Water Conservation Management Plan (<http://www.northgeorgiawater.com/html/88.htm>).

This Plan provides regional water demand forecasts that include the effects of water conservation and identifies adequate future water supplies in the 15-county Metropolitan North Georgia Water Planning District. The Plan specifically calls for the expansion of the Roswell Water Plant from its current 1.2 million gallons per day (MGD) permitted allowance to 5 MGD. Current water supplies that serve the city of Roswell are derived from both a surface water intake along Big Creek and from water purchased from Fulton County. The proposed project would provide an anticipated 0.17 MGD, allowing the City to move closer to its planned supply capacity and provide a more cost effective, balanced blend of water resources for the City.

**2.0. AUTHORITY.**

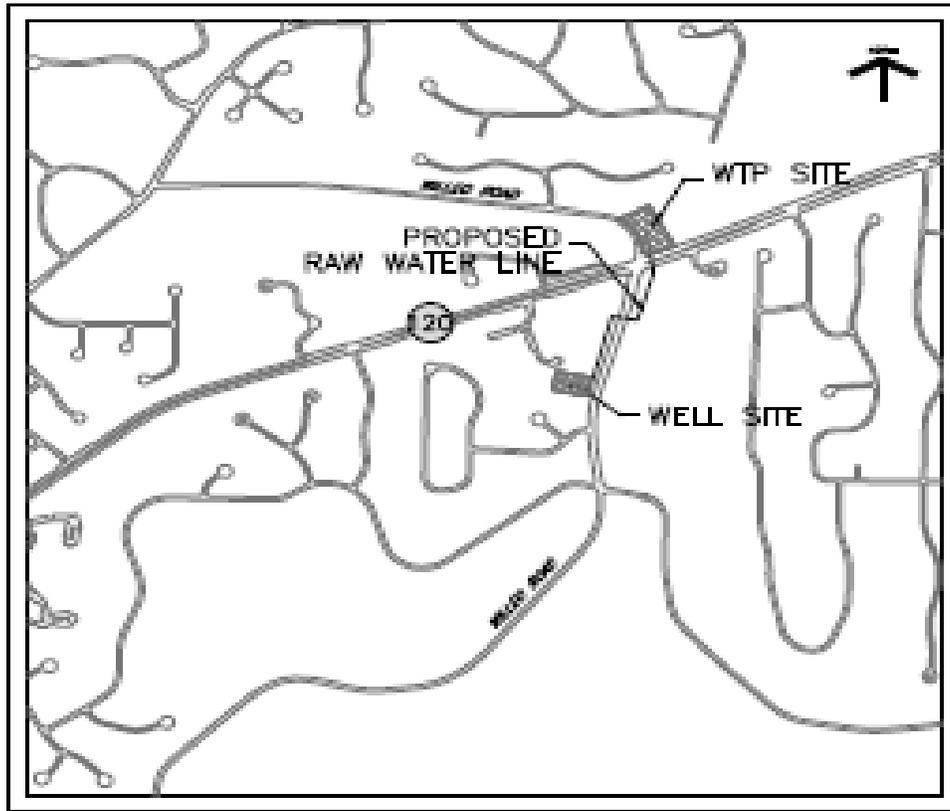
The proposed action is being conducted under the authority of Section 219 of the Water Resources and Development Act (WRDA) of 1992, as amended, in subsection "c (2) *Atlanta, Georgia. – A combined sewer overflow treatment facility for the City of Atlanta, Georgia.*" In 1996, this authority was "*modified 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).*"

**3.0. DESCRIPTION OF THE PROPOSED ACTION.**

**3.1. Groundwater Wells.** The proposed project would include the development of two previously drilled water wells designated as RWL-1C and RWL-1J. RWL-1C would provide the water supply and RWL-1J would serve as a monitoring well. A combination of 4-inch and 6-inch ductile iron water main would be installed for a distance of approximately 2,000 feet from the well to the treatment facility. The pipe would be installed by excavating trench approximately 5 feet below the existing grade using track hoes and other heavy equipment as needed. The 4-inch main would follow a gravel access drive to the well site which is on the City of Roswell permanent easement. 14 Cubic yards of fill material would be brought in to the well site RWL-1C to provide a base for the concrete slab/enclosure for the well pump and for grading

to provide a smooth transition for the access road. The water line would be installed under the existing sidewalk on the right-of-way along Willeo from the well access drive to the intersection with SR 120. Approximately 1,000 SF of sidewalk would be removed, disposed of in a local landfill, and rebuilt after pipeline construction. In compliance with a city ordinance the City Arborist has instructed that a 27” diameter breast height (DBH) Poplar tree located within the construction area be saved. Two bore and jack installations would be required to cross Willeo Road and State Highway 120 without interrupting traffic flow. A 12-inch ductile iron water line would be installed for a distance of approximately 170 feet from the treatment facility to the 12 inch distribution main on Roswell Road using similar method to that described above.

### Proposed Raw Water Line Route



**3.2 Water Treatment Facility.** A 600 square foot water treatment facility would be built on an approximately 0.59-acre site. Driveway layout for access to the treatment facility is designed to meet the requirements for one-way driveway access set forth in the City of Roswell Standard Construction Specifications. The well site and treatment facility would be fenced for safety and security measures in accordance with the City’s vulnerability standards. The City’s Zoning Ordinance requires a 50 foot setback from the property line for structures. The selected layout requires a variance for the 50 foot setback requirement. The Local Sponsor submitted a variance application for reducing the setback requirement to 20 feet from the property line. The variance request was approved at the Board of Zoning Appeals meeting on March 8, 2011. The distance from the property line to the structure is 34 feet at final design.

#### **4.0. ALTERNATIVES TO THE PROPOSED ACTION.**

4.1. **No Action.** Without implementation of a producing groundwater well, the City of Roswell would continue to rely heavily on wholesale providers and entirely on surface water to meet their potable water needs. Surface water sources for the City of Roswell are within the Chattahoochee River watershed, downstream of Lake Lanier, which currently supplies more than 70 percent of the water to metropolitan Atlanta. The Chattahoochee River has the smallest headwaters drainage area compared to other water supply resources used for other metropolitan areas across the country. The City of Roswell desires to be more self-sufficient with regards to water supply by reducing its reliance on wholesale providers such as Fulton County and rely less on surface water sources. By achieving this aim, the City's goal is to develop a safe, secure, and reliable water supply system and reduce the dependence on limited surface water resources. The no action alternative would result in continued or increased future use of a limited surface water resource and reliance on wholesale providers to purchase water.

4.2. **Constructing the Groundwater Supply Well and Treatment Facility at the Same Location.** The groundwater supply well is located on the southwest side of the intersection of Willeo Road and by locating the groundwater supply well and treatment facility at the same location; the project would not require a groundwater pipeline connecting the supply well and treatment facility. The co-location of these two facilities would thus result in a lower capital cost for the construction project. However, if the treatment facility were to be located at the supply well site, additional land would be required, leading to increased environmental impacts due to an adjacent perennial stream (east of the supply well) and existing infrastructure. The existing infrastructure is a stormwater detention pond that is located to the west of the supply well beyond a roughly 25-foot high vertical embankment. After multiple site reviews, it is not considered feasible to construct a treatment house toward the steep embankment and stormwater detention pond. Thus, if a treatment facility were to be sited at the supply well, the treatment facility would impact the State-protected 25-foot undisturbed buffer of the perennial stream. In addition, the City does not currently own the property surrounding the supply well site, and citizens, elected officials, and residential land owners adjacent to the supply well have voiced opposition to locating any additional infrastructure at this site.

4.3. **Constructing Two Groundwater Supply Wells and Treatment Facility to Obtain Increased Capacity.** The original groundwater supply investigation conducted by the City identified two potential sites for a supply well. One site was located at the proposed supply well site and one site was located at the proposed treatment facility site. Constructing both wells was initially believed to result in increased groundwater withdrawal capacity in addition to providing some redundancy with supply sources. After further investigation, it was determined that the two supply wells exhibited a hydraulic conductivity. The total monthly withdrawal capacity of the two proposed wells was similar to a single well. Of the two proposed supply wells, the well located at the proposed supply well site showed a higher production rate and thus was more economical. Installing production wells at both sites would provide some redundancy, but the expected pumping rate of the well located on the treatment facility site was too low to justify the additional cost.

5.0. AFFECTED ENVIRONMENT.

Location Map



Parcel Location Map



Foot

**CH2MHILL**

5.1. **General.** The subject properties are located in Fulton County, Georgia southwest from the City of Roswell. The city of Roswell is a city located in northern Fulton County within the Piedmont region of Georgia. The City of Roswell is within the Atlanta metropolitan area and includes predominantly residential and commercial land use areas. The subject properties are located in a setting consisting of residential neighborhoods, commercial shopping areas, and forested vacant land uses.

5.2. **Topography.** The topography at Parcel 1(Well RWL-1J) is gradually sloped downhill towards the stream channel located along the eastern edge of the parcel. Topography at Parcel 2 (Well RWL-1C) gradually slopes downhill towards Willeo Road

5.3. **Soils.** Soils at well site RWL-1C (Parcel 2) consist of Cartecay-Toccoa complex (0 to 2 percent slopes, occasionally flooded) and the Pacolet sandy loam (15 to 25 percent slopes, moderately eroded) (NRCS, 2010a). According to the NRCS, the Cartecay-Toccoa complex includes sandy loam materials from 0-68 inches below ground surface (bgs) and is classified as moderately well drained (NRCS, 2010b). The Pacolet sandy loam soil consists of sandy loam, sandy clay loam, and clay granular materials (NRCS, 2010c). The soils at well site RWL-1J (Parcel 1)also consist of Pacolet sandy loam ( 15 to 25 percent slopes, moderately eroded) and Cecil sandy loam (6 to 10 percent slopes, moderately eroded) (NRCS, 2010a). Cecil sandy loam includes sandy loam, sand clay loam, clay, and clay loam granular materials (NRCS, 2010d). The Pacolet sandy loam and Cecil sandy loam soil are both classified as well drained.

5.4. **Streams/Wetlands.** Two defined stream channels, including a large tributary to the Chattahoochee River, intersect at Parcel 2 (RWL-1C). Another small stream was observed in Parcel 1 (RWL-1J). Stream 1 and 2 are perennial streams with steep eroding banks and a sand/gravel substrate. Stream 3 is a tributary stream comprised of three small drainages from an adjacent wetland. Results of an October 7-8, 2011 jurisdictional wetland and waters of the United States assessment for the two parcels confirmed that no wetlands were defined on Parcel 2. The majority of Parcel 1 is forested wetland, with tulip poplar (*Liriodendron tulipifera*) as the dominant tree and Chinese privet (*Ligustrum sinense*) as the dominant shrub species.

5.5. **Floodplains.** According to available Federal Emergency Management Agency (FEMA) flood zone maps, Parcel 1 is within a classified flood area. The parcel includes the floodplain of the Chattahoochee River tributary and would be expected to flood with heavy precipitation conditions. Parcel 2 was not within a designated floodplain area.

5.6. **Flora.** The subject properties are predominately forested areas located adjacent to stream channels in an urban setting. Results of a an October 7-8, 2011 jurisdictional wetland and waters of the United States assessment for the two parcels showed that the dominant species on Parcel 1 are tulip poplar (*Liriodendron tulipifera*), Chinese privet (*Ligustrum sinense*) and Black willow(*salix nigra*). Parcel 2 was predominantly eastern white pine (*Pinus strobus*).

5.7. **Fauna.** Typical wildlife could include small reptiles (for example, snakes and lizards), various songbirds, eastern gray squirrel (*Sciurus carolinensis*), Eastern chipmunk (*Tamias striatus*), Virginia opossum (*Didelphis virginiana*), and white-tail deer (*Odocoileus virginianus*).

5.8. **Endangered and Threatened Species.** The U.S. Fish and Wildlife Service (FWS) lists the species on Table 1 (found below) as potentially occurring within Fulton County. The data in Table 1 was taken from the following FWS service website:

[http://www.fws.gov/athens/endangered/counties/fulton\\_county.html](http://www.fws.gov/athens/endangered/counties/fulton_county.html)

The Bald Eagle is included in the following list, this species has since been delisted; however, it is still protected under the Bald and Golden Eagle Protection Act. Species in the Fulton County area that the State of Georgia listed as threatened or endangered are listed in Table 1.

**Table 1 – List of Federal and State Endangered and Threatened Species within Fulton County, Georgia**

Listed Species in Fulton County (updated May 2004)				
Species	Federal Status	State Status	Habitat	Threats
<b>Bird</b>				
<b>Bald eagle</b> <i>Haliaeetus leucocephalus</i>	T	E	Inland waterways and estuarine areas in Georgia.	Major factor in initial decline was lowered reproductive success following use of DDT. Current threats include habitat destruction, disturbance at the nest, illegal shooting, electrocution, impact injuries, and lead poisoning.
<b>Invertebrate</b>				
<b>Gulf moccasinshell mussel</b> <i>Medionidus pencillatus</i>	E	E	Medium streams to large rivers with slight to moderate current over sand and gravel substrates; may be associated with muddy sand substrates around tree roots	Habitat modification, sedimentation, and water quality degradation
<b>Shiny-rayed pocketbook mussel</b> <i>Hamiota subangulata</i>	E	E	Medium creeks to the mainstems of rivers with slow to moderate currents over sandy substrates and associated with rock or clay	Habitat modification, sedimentation, and water quality degradation
<b>Fish</b>				
<b>Bluestripe shiner</b> <i>Cyprinella callitaenia</i>	No Federal Status	T	Brownwater streams*	
<b>Cherokee</b>	T	T	Shallow water (0.1-0.5 m) in small	Habitat loss due to dam and

<b>darter</b> <i>Etheostoma scotti</i>			to medium warm water creeks (1-15 m wide) with predominantly rocky bottoms. Usually found in sections with reduced current, typically runs above and below riffles and at ecotones of riffles and backwaters.	reservoir construction, habitat degradation, and poor water quality
<b>Highscale shiner</b> <i>Notropis hypsilepis</i>	No Federal Status	T	Blackwater and brownwater streams*	
<b>Plant</b>				
<b>Bay star-vine</b> <i>Schisandra glabra</i>	No Federal Status	T	Twining on subcanopy and understory trees/shrubs in rich alluvial woods	
<b>Piedmont barren strawberry</b> <i>Waldsteinia lobata</i>	No Federal Status	T	Rocky acidic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods	

\*typically used to describe slow moving coastal streams stained by tannins

A review of existing data showed that the project is not within any designated critical habitat area for the Cherokee darter, Shiny-rayed pocketbook, or Gulf moccasinshell. During the October 7, 2010 property survey no potentially suitable habitat for the mussel species was observed. Generally the streams located near the project area are too small and lack appropriate instream features to support Cherokee darter. In addition Cherokee darter is currently only known to occur within the Etowah River Basin. The streams near the project area drain in to the Chattahoochee River Basin. Due to the above mentioned factors the Corps has determined that no suitable habitat for any of the listed species occur at any of the supply, well, pipeline, or treatment facility sites. Coordination is currently being conducted with U.S. Fish and Wildlife Service, all correspondence and results of this coordination will be included in the Final EA.

**5.9. Cultural Resources.** A search of Georgia's Natural, Archaeological, and Historic Resources GIS (GNAHRGIS) was conducted for previously recorded archaeological sites and no previously recorded archaeological sites were identified within the area of potential effect (APE). The closest archaeological site to the proposed undertaking is 9FU567. Site 9FU567 is identified as a prehistoric lithic scatter within a disturbed context and will not be impacted by the proposed undertaking. A site visit was conducted by a Mobile District staff archaeologist. As a result of this site visit the entire APE was found to be extensively disturbed by previous well construction, roads, sidewalks, and graded gravel access roads. The Mobile District has determined that there will be no historic properties affected by the proposed action as per 36 Code of Federal Regulation 800.4(d)(1).

5.10. **Noise.** The predominant ambient sounds in the vicinity of the site are those that are associated with moving traffic and other common urban noise sources.

5.11. **Air Quality.** On November 30, 1993, the Environmental Protection Agency (EPA) published its final *General Conformity Rule* to implement Section 176(c) of the Clean Air Act (CAA) for geographic areas designated in CAA nonattainment areas and in those attainment areas subject to maintenance plans required by CAA Section 175(a). The CAA General Conformity Rule applies to Federal actions. National ambient air quality standards exist for seven criteria pollutants: carbon monoxide, nitrogen dioxide, ozone, sulfur dioxide, lead, particulate matter 2.5 micrometers in diameter and smaller, and particulate matter larger than 2.5 micrometers in diameter and smaller than 10 micrometers in diameter. According to the EPA Greenbook for non-attainment areas (*USEPA 2007*), Fulton County, Georgia, is within the metropolitan area of Atlanta and is designated by the EPA as a “non-attainment” area for ozone and for particulate matter levels. The non-attainment designations are based on results of air sampling and resulting degree to which national ambient air quality standards, as defined by EPA, are not currently being met.

5.12. **Water Quality.** The GAEPD is required, under Section 303(d) of the Clean Water Act, to identify water bodies for which effluent limitations are not stringent enough to achieve water quality standards and water body uses. The stream channels present on both parcels are not listed as 303(d) segments.

5.13. **Groundwater.** Groundwater resources within the project area must be derived from fractured bedrock sources. Results of a hydrogeologic report on the yield and water quality testing of proposed production well RWL-1C revealed, water-bearing fracture zones were intercepted at 272-274, 456, 460, and 471-472 feet below the ground surface. The static water level elevations within RWL-1C and RWL-1J are approximately 40-50 feet higher than the elevation of the nearby Chattahoochee River, indicating that groundwater in the bedrock aquifer surrounding the wells does not have a good hydraulic connection with the River. This suggests that the Chattahoochee River would not be a significant source of recharge for the Wells RWL-1C or RWL-1J. The water produced from RWL-1C is of good to excellent quality. No volatile organic contaminants were detected. Arsenic, nitrate, and chloride were all below detectable levels. The groundwater also was a low radiological content. No fecal coliform bacteria were detected and microparticulate analyses showed the water is not adversely impacted by surface water. The aquifer that would supply production well RWL-1C is not being used by any other entity.

5.14. **Environmental Justice/Protection of Children.** On February 11, 1994, the President issued Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*. The EO is designed to focus federal attention on the environmental and human health conditions in minority and low-income communities with the goal of achieving environmental justice. The EO is also intended to promote nondiscrimination in federal programs substantially affecting human health and the environment. The EO states that federal activities, programs, and policies should not produce disproportionately high and adverse impacts on minority and low-income populations. Listed in

Table 2 are demographic characteristics of the City of Roswell.

**Table 2- Demographic Characteristics of the City of Roswell**

SUBJECT	NUMBER	PERCENT
Total population	79,334	100.0
<b>SEX AND AGE</b>		
Male	39,664	50.0
Female	39,670	50.0
Median age (years)	35.2	(X)
<b>RACE</b>		
White	65,783	82.9
Black or African American	7,240	9.1
American Indian and Alaska Native	470	0.6
Asian	3,386	4.3
Native Hawaiian and Other Pacific Islander	67	0.1
Some other race	3,996	5.0
<b>EMPLOYMENT STATUS</b>		
Population 16 years and over	62,527	100.0
In labor force	46,198	73.9
Not in labor force	16,329	26.1
<b>INCOME IN 1999</b>		
Median household income (dollars)	\$71,726	(X)
<b>POVERTY STATUS IN 1999 (below poverty level)</b>		
Families	595	(X)
Percent below poverty level	(X)	2.8
Individuals	4,006	(X)
Percent below poverty level	(X)	5.0

On April 21, 1997, the President issued Executive Order (EO) 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. To the extent permitted by law and appropriate, and consistent with the federal agencies' mission, federal agencies shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

**5.15. Socioeconomic Conditions.** Population growth has affected water demand in the city of Roswell. The City currently purchases water from Fulton County and relies heavily on wholesale providers, along with surface water to meet their potable water needs.

**5.16. Hazardous, Toxic, and Radiological Wastes.** An Environmental Site Assessment (ESA) was conducted in conformance with the Code of Federal Regulations (CFR) Section 312.10 and the American Society for Testing and Materials (ASTM) 1527-05 (Practice) to determine whether hazardous, toxic, radiological substances were stored, disposed of, or released to the environment and may impact the areas for the proposed project. There is no indication that there

has been storage, release, treatment or disposal of hazardous substances or petroleum products on or around the Subject Properties.

## 6.0. **ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION.**

### 6.1. **General.**

The impacts associated with groundwater production well site are discussed in the following paragraphs. The preferred alternative will be the only alternative discussed in this section because after review of the various alternatives they were not found to be feasible for reasons such as: not helping the City meet its water system management plan requirements; location would impact the state protected 25-foot stream buffer; voiced opposition from elected officials, citizens, and residential land owners adjacent to property; increased cost for installing a second well with no increased well water withdrawal benefit.

### 6.2. **Topography.**

6.2.1. **Proposed Action.** At Parcel 1 the site would be graded to balance the site work, e.g. the fill is equal to the cut. At Parcel 2, 14 Cubic Yards of fill material would be brought in to go around the immediate well site. The 14 CY would be used for the base of the concrete slab/enclosure for the well pump and for grading around this pad to provide a smooth transition for the access road. No adverse impacts to topography are expected as a result of this project.

6.2.2. **No Action Alternative.** Under the no action alternative no effects to topography would occur and it would remain in its present state.

### 6.3. **Soils.**

6.3.1. **Proposed Action.** The proposed project would have short-term, localized minor affect on soils. Implementing best management practices would ensure that the proposed action would only have minor and temporary impacts to the existing soils and erosion would be controlled and minimized. BMP's 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 sediment basins.

6.3.2. **No Action Alternative.** Under the no action alternative no impacts to soils would occur and they would remain in their present state and only be affected by natural conditions.

### 6.4. **Streams/Wetlands.**

6.4.1. **Proposed Action.** The site layout and grading was engineered to avoid encroachment into the jurisdictional wetland areas. Therefore, no stream or wetland impacts are anticipated as a result of this project.

6.4.2. **No Action Alternative.** Under the no action alternative no impacts to streams or wetlands would occur.

## 6.5. Floodplain.

6.5.1. **Proposed Action.** The project would include placing fill within the regulatory floodplain to provide a building pad for the well treatment facility. Fill would be placed such that compensatory flood storage achieved and the cut fill amounts are equal, therefore no net fill would be placed in the floodplain. A hydraulic model was used to ensure that fill operations would not cause the floodplain water surface elevation within the regulated floodplain to rise.

6.5.2. **No Action Alternative.** Under the no action alternative there would be no impacts to the floodplain.

## 6.6. Flora.

6.6.1. **Proposed Action.** The proposed action would have adverse impacts to flora. Approximately 22 trees would be removed as a result of this project. Tree species to be removed include Poplar, Cherry, Pine and hardwood varieties. In compliance with a City ordinance the City arborist has designated one 27" Poplar tree within the construction area to be saved.

6.6.2. **No Action Alternative.** Under the no action alternative the condition of flora would remain in its present condition.

## 6.7. Fauna.

6.7.1. **Proposed Action.** Most wildlife in the vicinity of the proposed site locations have adapted to the development of the area. A minor adverse impact to local fauna would occur during construction, but no long-term significant impacts are expected to occur due to the proposed action.

6.7.2. **No Action Alternative.** Under the no action alternative no impacts to wildlife species would occur.

## 6.8. Endangered and Threatened Species.

6.8.1. **Proposed Action.** There is no evidence of any endangered or threatened species at the proposed locations. Therefore, the proposed action would not adversely impact any threatened or endangered species or designated critical habitat.

6.8.2. **No Action Alternative.** Under the no action alternative no impacts to endangered or threatened species would occur.

## 6.9. Cultural Resources.

6.9.1. **Proposed Action.** The Mobile District has determined that there will be no historic properties affected by the proposed action as per 36 Code of Federal Regulation 800.4(d)(1). This finding is being coordinated within the Georgia State Historic Preservation Officer for their comment. Native American Tribes have indicated on similar undertakings that they are not interested in consulting on projects located in previously disturbed urban settings with no historic

properties affected.

**6.9.2. No Action Alternative.** Under the no action alternative no impacts to cultural resources would occur.

#### **6.10. Noise.**

**6.10.1. Proposed Action.** Noise levels in the immediate vicinity of the proposed project would increase during the operation of vehicles and equipment. After the proposed project is complete, noise levels should decrease. There will be slight long term noise due to the well pump. The noise from the well pump should be minimal due to the fact that the well pump will be encased in an enclosure.

**6.10.2. No Action Alternative.** Under the no action alternative, noise levels currently generated in the project area would remain the same.

#### **6.11. Air Quality.**

**6.11.1. Proposed Action.** The project would have short-term effects on emissions into the air as a result of exhaust from internal combustion engines. Construction of the project would generate emissions from heavy equipment working on site. In addition, during construction, fugitive dust emissions from ground-disturbing activities would occur. Uncontrolled fugitive dust emissions, including particulate matter less than 10 microns in diameter, would be temporary and localized. Impacts of emissions and fugitive dust on air quality and the human environment should be short-term and minor. Because of the short-term nature of the project and generally small amount of emissions expected from on-site equipment, emissions would qualify as *de minimis* and therefore is exempt from the need to complete a General Conformity Determination. This is consistent with current Environmental Protection Agency regulations (USEPA (b)).

Sprinkling, chemical treatment of an approved type, and other methods may be used to control particulates. Also, maintaining excavations, stockpiles, haul roads, permanent and temporary work areas within or outside the project boundaries free from particulates would further reduce the chance of any impacts to air quality.

**6.11.2. No Action Alternative.** Under the no action alternative the annual air emissions and the air quality in the area would not be affected and remain at current levels presently found in the area.

#### **6.12. Water Quality.**

**6.12.1. Proposed Action.** Erosion and sediment control best management practices (BMP's) would be in place so that water quality standards are not violated as a result of construction activities. BMP's may include but are not limited to, vegetation cover, silt fences, hay bales, and sediment traps. Therefore, no adverse effects to groundwater or surface water quality are anticipated as a result of this project.

**6.12.2. No Action Alternative.** Under the no action alternative there would be no change in

water quality in the area.

### 6.13. **Groundwater.**

6.13.1. **Proposed Action.** The proposed project would withdraw an estimated 0.17 MGD from the crystalline rock aquifer. Results of a Yield and Quality Test of RWL-1C showed that withdrawal rates will need to be managed carefully to optimize the long term production of water. It is also recommended that the well not be pumped for more than 10-14 consecutive days prior to allowing a sufficient period for aquifer recovery. No adverse impacts to groundwater resources are expected as a result of this project.

6.13.2. **No Action Alternative.** Under the no action alternative there would be no change in groundwater resources.

### 6.14. **Environmental Justice/Protection of Children.**

6.14.1. **Proposed Action.** The proposed upgrade would not disproportionately affect minority or low-income populations. The proposed action would have beneficial impacts to the local community of Fulton County by allowing them to work towards meeting future water demands. The proposed project would not pose a health or safety risk to children. Therefore, the proposed action would have a positive impact on the community and is compliant with both executive orders.

6.14.2. **No Action Alternative.** Under the No Action alternative, the City would not meet its Water System Management Plan requirements, thus adversely affecting all area residents.

### 6.15. **Socioeconomic.**

6.15.1. **Proposed Action.** The proposed project would help the City of Roswell reduce the amount of water it has to purchase from wholesale providers such as Fulton County.

6.15.2. **No Action Alternative.** Without implementation of this project the City of Roswell would continue to rely on wholesale providers to meet its current water demands.

### 6.16. **Hazardous, Toxic, and Radiological Wastes.**

6.16.1. **Proposed Action.** The proposed project would require bulk chemical storage on site at the well treatment facility. Spill pallets would provide protection against an accidental spill. No effect on hazardous, toxic, and radiological wastes in the area is expected as a result of this project.

6.16.2 **No Action Alternative.** Under the no action alternative there would be no effect on hazardous, toxic, and radiological wastes in the area.

**6.17. Cumulative Effects Summary.** Cumulative effects are the environmental impacts that result from the incremental impacts of the action when combined with other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes the other actions. This section analyzes the proposed action as well as any connected, cumulative, and similar existing and potential actions occurring in the area surrounding the site.

Operation of the well pump will contribute to noise in the area. The noise produced by the well pump would be minimal as the pump will be encased in an enclosure. Along with cumulative impacts to noise the proposed project would also have the potential to impact groundwater resources. The proposed project would withdraw an estimated 0.17 MGD from the crystalline rock aquifer. Results of a Yield and Quality Test of RWL-1C showed that withdrawal rates will need to be managed carefully to optimize the long term production of water. It is also recommended that the well not be pumped for more than 10-14 consecutive days prior to allowing a sufficient period for aquifer recovery. With proper well monitoring and management no long impacts to groundwater are expected. There would be impacts to flora as a result of this project as some trees would be required to be removed. The impacts from removing the selected trees would not be irreversible. Lastly, the proposed action would contribute cumulative impacts to air quality in the form of particulate matter. The impacts to air quality would be slight as BMP's would be in place.

Any adverse effects which cannot be avoided during implementation and over the life of the project are expected to be minor both individually and cumulatively. The proposed project would help the Roswell community meet future water needs and serve the area in a more efficient and environmentally beneficial manner. However, if not implemented, the no action alternative would result in continued or increased future use of a limited surface water resource and reliance on wholesale providers to purchase water. The proposed action would not adversely impact any existing resources, and is designed to accommodate existing structures and not induce future development. Therefore, no adverse cumulative effects are expected from the proposed action.

**7.0. Coordination.** This draft EA will be made available for review by the interested public and agencies. After comment period, all comments will be addressed. Based on comments received, revisions may be made to the Final EA.

## **8.0. REFERENCES.**

Natural Resources Conservation Service (NRCS). 2010a. Websoil Survey 2.2 – Subject properties. <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.

Natural Resources Conservation Service (NRCS). 2010b. Websoil Survey 2.2 – Fulton County, Georgia – Ca-A – Cartecay-Toccoa complex, 0 to 2 percent slopes, occasionally flooded. <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.

Natural Resources Conservation Service (NRCS). 2010c. Websoil Survey 2.2 – Fulton County, Georgia – PaD2 – Pacolet sandy loam, 10 to 15 percent slopes, moderately eroded. <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.

Natural Resources Conservation Service (NRCS). 2010d. Websoil Survey 2.2 – Fulton County, Georgia – CeC2 – Cecil sandy loam, 6 to 10 percent slopes, moderately eroded.  
<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.

## **Appendix A**



**Looking down gravel drive toward water well RWL-1C**



**Water Well RWL-1C**



**Looking down gravel access road toward water well RWL-1J**



**Water well RWL-1J**

## **Appendix B**

CENTERLINE OF EXISTING CREEK

50' POWER LINE EASEMENT

GRAVEL ACCESS ROAD AND PARKING AREA (2 SPACES)

PROPOSED WELL HOUSE BUILDING APPROXIMATE LOCATION  
F.F.E. 879.0

100-YEAR FLOOD ELEVATION = 877.0  
(SOURCE: FEMA DIGITAL FLOOD INSURANCE RATE MAP DATABASE - FULTON COUNTY)

WETLANDS (TYPICAL)

WILEO ROAD

CONG.

50' REQUIRED SETBACK  
50' PROPOSED SETBACK

872

874

876

878

880

870

SMH (1105)  
D.P. = 877.61  
V. IN = 862.51  
V. OUT = 862.43



PRELIMINARY SITE LAYOUT PLAN

No.	Revisions/Notes	Date

City of Roseville  
Public Works/Env Dept  
38 Hill Street, Suite 236  
Roseville, CA 95678  
(770)841-3715

Project Name and Address  
Water Supply Wellhouse

Project No. 1  
Date 21DEC2010  
Scale 1"=50'

## **Appendix C**

# Jurisdictional Wetland and Waters of the United States Evaluation for City of Roswell, GA

PREPARED FOR: City of Roswell, GA  
U. S. Army Corps of Engineers

PREPARED BY: CH2M HILL

DATE: November 30, 2010

## Introduction

The purpose of this memo is to present the results of an October 7-8, 2011 jurisdictional wetland and waters of the United States (U.S.) assessment for two sites near the intersection of State Route (SR) 120 and Willeo Road in Northwest Fulton County, GA. A stream morphology evaluation was also conducted concurrent with the wetland and waters of the U.S. evaluation. A topographic survey followed in November and included wetland points identified and flagged during the October field survey.

## Wetland Determination Methodology

The delineation was performed prior to full implementation of the Interim Regional Supplement to the COE Wetland Delineation Manual: Eastern Mountains and Piedmont, so jurisdictional areas were delineated in accordance with the on site, routine methodology as described in the U. S. Army Corps of Engineers (USACE) Wetland Delineation Manual (Environmental Laboratory, 1987). Under this method, the process for making a wetland determination is based on three sequential steps:

1. Evaluation for dominance by hydrophytic vegetation based on species present and percentage cover.
2. Determination of presence of hydric soils.
3. Determination of wetland hydrology.

Wetland boundaries and waters of the U. S. were flagged during the site visit and locations of these areas will be included in the survey maps. Final determination of wetland boundaries are under the purview of the USACE-Regulatory Branch.

## Site Descriptions

Site 1 (Willeo Road) is less than 0.25-mile from the intersection of Willeo Road and SR 120 (Marietta Highway). (Figure 1). The site has a water well that is accessed from a gravel road from Willeo Road. The majority of the site is forested, with a mix of pine and hardwoods, with rising topography as you move away from Willeo Road. There is a fenced stormwater pond on Northeast portion of the site. A stream flows through the northwest and southwest portions of the property and parallels the gravel access road for approximately 80% of its length within the site boundary. No wetlands were identified on Site 1.

Site 2 (Marietta Highway) is located northeast of the intersection of SR 120 and Willeo Road (Figure 1). The site is accessed from a gravel road from Willeo Road. The site has a water well that can be accessed from a gravel road from Willeo Road, north of SR 120. The site contains multiple stream channels and wetlands, as shown on Figure 1. There is a rectangular upland area on the western side of the site (near the exiting gravel access road and well), that does not meet the three criteria test as a wetland. The majority of Site 2 is forested wetland, with the tulip poplar (*Liriodendron tulipifera*) as the dominant tree and Chinese privet (*Ligustrum sinense*) as the dominant shrub species. Additional supporting documentation on Wetland 1 is included in Table 1 and wetland delineation data sheets are included in Attachment A.

### Stream Morphology Evaluation

Stream morphology was determined using the methods from the Rosgen Stream Classification System. Measurements were made at selected cross-sections to characterize the general size and shape of the channel. In situations where measurements were not feasible due to physical constraints, an estimate was made. Measurements included:

- Bankfull width
- Bankfull depth
- Floodprone width
- Floodprone depth
- Estimated dominant and stream bed particle types (e.g. silt, sand, and gravel)
- Observations of channel shape and pattern
- Sinuosity (from aerial maps)

These measurements were used to compute the entrenchment ratio, width-to-depth ratio and sinuosity, which were used with field observations to determine stream type. Stream morphology was measured where changes in channel shape were observed.

Entrenchment is the ratio of floodprone width to bankfull width and is based on field measurements. It represents the degree of vertical containment of a channel. The width-to-depth ratio indicates the shape of the channel cross section. Sinuosity is the ratio of stream channel length to down valley distance. Channel sinuosity is measured from aerial photographs and is a primary indicator of stream type (Rosgen, 1996). Additional supporting data on the streams identified at Sites 1 and 2 are included in Table 2.

Three stream segments were evaluated:

Stream 1 (stream at Site 1)

Stream 2 (largest stream at Site 2)

Stream 3 (tributary stream system leading to Stream 2 on Site 2)

#### Stream 1

Stream 1 is a perennial stream with steep eroding banks and a sand/gravel substrate. One small portion of the channel in the middle of the evaluated segment has a bedrock substrate. The entrenchment ratio measured above and below the bedrock portion of this stream indicates that the evaluated segment is entrenched and high flows do not have regular access to the adjacent floodplain. The bedrock segment acts to prevent downcutting and

headcutting in its immediate vicinity. At that location the channel is not entrenched. The sinuosity of the reach was calculated to be 1.3. Aside from occasional pool variability, the stream depth was uniform in the survey reach. The morphological characteristics of this channel are typical of a Type G stream, one that has downcut within its channel. The width to depth ratio of Stream 1 was 4 and the entrenchment ratio was 1.25.

**Stream 2**

Stream 2 is a perennial stream with steep banks and a sand and gravel substrate. The entrenchment ratio measured for this stream indicates that the evaluated segment is entrenched and high flows do not have regular access to the adjacent floodplain. The sinuosity of the reach was calculated to be approximately 1.2, indicating low sinuosity. Aside from occasional pool variability, the stream depth was uniform in the survey reach. The morphological characteristics of this channel are typical of a Type G/F stream, one that has downcut and side cut within its channel. . The width to depth ratio of Stream 2 was 9.1 and the entrenchment ratio was 1.33.

**Stream 3**

Stream 3 is a tributary stream system comprised of three small drainages from an adjacent wetland that flow into Stream 3 as shown on Figure 1. The drainages are primarily small channels with a silt/sand substrate. Flow enters the drainages from a number of points in the wetland. Near the channel of Stream 3, these drainages have downcut several feet and active headcuts are now working back into the wetland. The morphological characteristics of these channel systems are typical of a D stream; variable and braided channels with regular access to the floodplain. Near Stream 3, the drainage channels are severely incised and have become G channels. The width to depth ratio of Stream 3, measured above the headcuts, was 2.33. The entrenchment ratio of the stream was calculated to be 4.8.

TABLE 1  
Wetlands and Waters of the U.S.

Wetlands & Waters of The U.S. #	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
Stream 1	34° 0.546'N	84° 22.577'W	R2SBH	262 Linear feet	non-section 10 – non-tidal
Stream 2	34° 0.742'N	84° 22.393'W	R2SBH	29 linear feet	non-section 10 – non-tidal
Stream 3	34° 0.761'N	84° 22.400'W	R2UBH	211 linear feet	non-section 10 – non-tidal
Wetland 1 (Site 2)	34° 0.753'N	84° 22.415'W	PSS	0.874 acre	non-section 10 – wetland

Additional supporting documentation on stream morphology is included in Table 2.

**TABLE 2**  
Stream Morphology

Reaches Within Project Area	Stream 1	Stream 2	Stream 3
Stream Type	Perennial	Perennial	Perennial
Simon Channel Evolution Stage	IV	V	I and III
Rosgen Stream Type/D50	G5	G4 becoming F4	DA6
Cowardin Class	Riverine Lower Perennial Streambed	Riverine Lower Perennial Streambed	Riverine Lower Perennial Unconsolidated Bottom
Existing Condition	Somewhat impaired	Somewhat impaired	Somewhat impaired
Criteria for Selecting Existing Condition for Each Reach	Two representative segments within channel were identified and yielded similar measurements	Location selected was outside of pools and bends, upstream of the project site to avoid influence from culvert	Stream areas were evaluated upstream of active headcuts. These areas represent the majority of the stream length. Flow in the area is heavily influenced by the artesian well draining into the wetland
Bankfull Width and Depth	Width:6.0 Depth:1.5	Width:12.7 Depth:1.4	Width: 2.1 Depth:0.9
Bankfull Indicators (Photos located in Attachment B)	Scour line along both banks and break in bank on one side.	Break in bank (small bench feature)	Scour lines and breaks along both banks.

## Conclusions and Regulatory Considerations

Jurisdictional waters and wetlands are subject to regulation under the Clean Water Act. Activities that fill or otherwise alter wetlands in certain ways may be permitted as defined under Section 404 of the Clean Water Act. Depending on the magnitude of impacts, permitting may be accomplished in one of three ways:

1. Individual permit after written authorization is received from the appropriate USACE Regulatory Division (Morrow Office of the Savannah Regulatory Division of the Savannah District USACE).

2. Nationwide permit or other general permit after written authorization is received following submission of a pre-construction notification (PCN) to USACE Regulatory.
3. Nationwide permit or other general permit without submission of a PCN. Applicant must post notify USACE Regulatory that work complied with all applicable regional and general conditions and did not result in a violation of State Clean Water Act Section 401 Water Quality standards.

Coordination with the USACE may be required if the City of Roswell will require clearing or construction activities in the areas flagged as potentially jurisdictional areas during the site visit.

## References

- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1*, US Army Engineer Waterways Experiment Station, Vicksburg, MS
- Rosgen, David. (1996). *Applied River Morphology*. Wildlife Hydrology, Pagosa Springs, CO.



**Figure 1**  
Wetlands and Waters of the U.S.  
Roswell, GA



- Legend**
- Parcels
  - Stream
  - Wetland

**Attachment A**  
**Wetland Delineation Data Forms**

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
(1987 COE Wetlands Delineation Manual)

WLA  
Site 2

Project/Site: <u>Roswell Site 2 (Willeo #120)</u> Applicant/Owner: <u>City of Roswell</u> Investigator: <u>M. Wiggins, R. Price</u>	Date: <u>10/8/2010</u> County: <u>Fulton</u> State: <u>GA</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>WLA</u> Transect ID: _____ Plot ID: _____

**VEGETATION**

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Liriodendron tulipifera</u>	<u>T</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Ligustrum sinense</u>	<u>S</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Salix nigra</u>	<u>T</u>	<u>OBL</u>	11. _____	_____	_____
4. <u>Scirpus sp.</u>	<u>H</u>	<u>---</u>	12. _____	_____	_____
5. <del><u>Alnus serrulata</u></del>	<del><u>T</u></del>	<del><u>FACW</u></del>	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: Non dominant species included Alnus serrulata, Impatiens capensis and Peltandra sagittifolia. Scirpus was not included in neutral calculation because unable to identify to species.

**HYDROLOGY**

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	<b>Wetland hydrology Indicators:</b> <b>Primary Indicators:</b> <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands <b>Secondary Indicators (2 or more required):</b> <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12" <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
<b>Field Observations:</b>  Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>3</u> (in.)	Remarks:

**SOILS**

Map Unit Name (Series and Phase): N/A Drainage Class: N/A  
 Taxonomy (Subgroup): N/A Field Observations Confirm Mapped Type? Yes No

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
2-12	B	10YR 3/2	10YR 4/1	80% mottles prominent	loam

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input checked="" type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)	(Circle)
Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No

Remarks:

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

UP A  
Site 2

Project/Site: <u>Roswell Site 2 (Willco # 120)</u> Applicant/Owner: <u>City of Roswell</u> Investigator: <u>M. Wiggins / R. Price</u>	Date: <u>10/8/2010</u> County: <u>Fulton</u> State: <u>GA</u>
Do Normal Circumstances Exist on the site? <span style="margin-left: 100px;"><input checked="" type="radio"/> Yes</span> <span style="margin-left: 20px;"><input type="radio"/> No</span> Is the site significantly disturbed (Atypical Situation)? <span style="margin-left: 100px;"><input type="radio"/> Yes</span> <span style="margin-left: 20px;"><input checked="" type="radio"/> No          Is the area a potential Problem Area? <span style="margin-left: 100px;"><input type="radio"/> Yes</span> <span style="margin-left: 20px;"><input checked="" type="radio"/> No          (If needed, explain on reverse.)       </span></span>	Community ID: <u>UP A</u> Transect ID: _____ Plot ID: _____

**VEGETATION**

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Pinus Strobus</u>	<u>T</u>	<u>FACU</u>	9. _____	_____	_____
2. _____	_____	_____	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: \_\_\_\_\_

**HYDROLOGY**

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	<b>Wetland hydrology indicators:</b> <b>Primary Indicators:</b> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands <b>Secondary Indicators (2 or more required):</b> <input type="checkbox"/> Oxidized Root Channels in Upper 12" <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
<b>Field Observations:</b>  Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>N/A</u> (in.)	Remarks: _____

UP A  
Site 2

10/8/2010

**SOILS**

Map Unit Name (Series and Phase): <u>N/A</u>		Drainage Class: <u>N/A</u>			
Taxonomy (Subgroup): <u>N/A</u>		Field Observations Confirm Mapped Type? Yes No			
<b>Profile Description:</b>					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>2-12</u>	<u>B</u>	<u>10YR4/6</u>			
<b>Hydric Soil Indicators:</b>					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)		
Remarks:					

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (Circle) Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

**Attachment B**  
**Stream Morphology Photographs**



Stream 1 facing east (downstream)



Stream 2 facing south (downstream)



Stream 3 facing north (upstream)

## **Appendix D**



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
MOBILE DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 2288  
MOBILE, AL 36628-0001

July 6, 2011

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:

The U.S. Army Corps of Engineers (Corps), Mobile District in partnership with the local elected officials of Roswell, Fulton County, Georgia are proposing the development of two previously drilled water wells designated as RWL-1C and RWL-1J. RWL-1C will provide the water supply and RWL-1J will serve as a monitoring well. A combination of 4-inch and 6-inch ductile iron water main would be installed for a distance of approximately 2,000 feet from the well to the treatment facility. In addition, a 600 square foot water treatment facility will be built on an approximately 0.59-acre site. A 12-inch ductile iron water line will be installed for a distance of approximately 170 feet from the treatment facility to the 12 inch distribution main on Roswell Road.

As per requirements outlined in Section 106 of the National Historic Preservation Act, the Mobile District must consider the effects of the proposed action on historic properties. On May 11, 2011 Mobile District Archaeologist Mr. Matt Grunewald, RPA conducted a site visit. The area of potential effect (APE) was found to be extensively disturbed by previous well construction, roads, sidewalks, and graded gravel access roads. No standing structures were observed within the APE.

The site visit showed that the entire APE had been previously disturbed. Based on the results of the site visit and background research, the Mobile District 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 action would consist of the development of two existing ground water wells and a 600 square foot water treatments facility as well as 2170 linear feet of water pipeline. A detailed description of the undertaking follows.

**Groundwater Wells.** The proposed project will include the development of two previously drilled water wells designated as RWL-1C and RWL-1J. RWL-1C will provide the water supply and RWL-1J will serve as a monitoring well. A combination of 4-inch and 6-inch ductile iron water main would be installed for a distance of approximately 2,000 feet from the well to the treatment facility. The pipe would be installed by excavating trench approximately 5 feet below the existing grade using track hoes and other heavy equipment as needed. The 4-inch main will follow a gravel access drive to the well site which is on the City of Roswell permanent easement. 14 Cubic yards of fill material will be brought in to the well site RWL-1C to provide a base for the concrete slab/enclosure for the well pump and for grading to provide a smooth transition for the access road. The water line will be installed under the existing sidewalk on the right-of-way along Willeo from the well access drive to the intersection with SR 120. Approximately 1,000 SF of sidewalk will be removed, disposed of in a local landfill, and rebuilt after pipeline construction. In compliance with a city ordinance the City Arborist has instructed that a 27 inch diameter breast height (DBH) Poplar tree located within the construction area be saved. Two bore and jack installations will be required to cross Willeo Road and State Highway 120 without interrupting traffic flow. A 12-inch ductile iron water line will be installed for a distance of approximately 170 feet from the treatment facility to the 12 inch distribution main on Roswell Road using similar method to that described above.

**Water Treatment Facility.** A 600 square foot water treatment facility will be built on an approximately 0.59-acre site. Driveway layout for access to the treatment facility is designed to meet the requirements for one-way driveway access set forth in the City of Roswell Standard Construction Specifications. The well site and treatment facility will be fenced for safety and security measures in accordance with the City's vulnerability standards. The City's Zoning Ordinance requires a 50 foot setback from the property line for structures. The selected layout requires a variance for the 50 foot setback requirement. The Local Sponsor submitted a variance application for reducing the setback requirement to 20 feet from the property line. The variance request was approved at the Board of Zoning Appeals meeting on March 8, 2011. The distance from the property line to the structure is 34 feet at final design.

The APE is defined to include the development of the two previously existing wells, a 600 square foot water treatment facility, and approximately 2170 linear feet of water pipeline. The APE is located along Willeo Road to the north and south of where it intersects with Marietta Highway in Roswell which is located in the northern part of Fulton County, Georgia. A location map, aerial photograph, and a portion of the Roswell 7.5 minute USGS quadrangle depicting the project boundary as well as photographs of the APE are enclosed.

**II. Methodology and Reporting** – A search of Georgia's Natural, Archaeological, and Historic Resources GIS (GNAHRGIS) was conducted for previously recorded archaeological sites and no previously recorded archaeological sites were identified within the area of potential effect (APE). The closest archaeological site to the proposed undertaking is 9FU567. Site 9FU567 is identified as a prehistoric lithic scatter within a disturbed context and will not be impacted by the proposed undertaking.

**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 Mobile District 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 Mobile District has determined **no historic properties affected** by the proposed land lease as per 36 CFR 800.4(d)(1).

The Mobile District 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](mailto:matthew.m.grunewald@usace.army.mil).

Sincerely,

  
Kenneth P. Bradley  
Chief, Environment and Resources  
Branch

Enclosures



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
MOBILE DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 2288  
MOBILE, AL 36628-0001

June 28, 2011

Inland Environment Team  
Planning and Environmental Division

Ms. Sandy Abbott  
U.S. Fish and Wildlife Service  
Post Office Box 52560  
Ft. Benning, Georgia 31995

Dear Ms. Abbott:

This letter serves to initiate informal consultation in reference to a Groundwater Well and Treatment Facility to serve the City of Roswell, Georgia. The proposed project location is located in Fulton County, Georgia southwest from the City of Roswell. The City of Roswell Groundwater Well and Treatment Facility Project is part of the City's long-term water system improvement strategy allowing the City an anticipated additional 0.17 million gallons per day to its current water supply.

The proposed project will include the development of two previously drilled water wells designated as RWL-1C and RWL-1J. RWL-1C will provide the water supply and RWL-1J will serve as a monitoring well. Water from RWL-1C will be pumped through approximately 1,950 linear feet of 4 inch line to the treatment facility located on the same site as RWL-1J. The pipe line and casing pipe will be installed under Wileo Road and Georgia State Highways 120 by the bore and jack method. The treatment will include iron and manganese removal through a pressure filter system and disinfection with sodium hypochlorite. The finished water will then be conveyed to the Roswell distribution system via approximately 170 feet of 12 inch line to the connection with the existing 12 inch line.

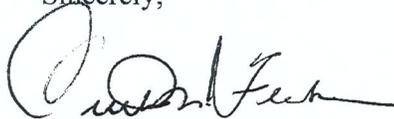
The U.S. Fish and Wildlife Service lists the following species as known to occur in Fulton County: the endangered Gulf moccasinshell mussel (*Medionidus pencillatus*), the endangered Shiny-rayed pocketbook mussel (*Hamiota subangulata*), and the endangered Cherokee darter (*Etheostoma scotti*). A review of existing data showed that the project is not within any designated critical habitat area for the Cherokee darter, Shiny-rayed pocketbook, or Gulf moccasinshell. During the October 7, 2010, property survey no potentially suitable habitat for the mussel species was observed. Generally, the streams located near the project area are too small and lack appropriate instream features to support Cherokee darter. In addition, Cherokee darter is currently only known to occur within the Etowah River Basin. The streams near the project area are unnamed and drain in to the Chattahoochee River Basin.

- Erosion and sediment control best management practices (BMP's) will be in place so that water quality standards are not violated as a result of construction activities. BMP's may include but are not limited to, vegetation cover, silt fences, hay bales, and sediment traps. With the BMP's in place and keeping any area of bare soil exposed at one time to a minimum, water quality should not be impacted to adversely affect any species that could potentially be inhabiting streams within the project vicinity.

Based on avoidance measures, current range, and best available science regarding the life cycle requirements of the endangered Gulf moccasinshell mussel, the endangered Shiny-rayed pocketbook mussel, and the endangered Cherokee darter, we have determined that implementation of the proposed project is not likely to adversely affect the federally endangered darter and mussel populations known to occur within the Fulton County area.

We request your concurrence with our determination that the proposed Groundwater Well and Treatment Facility to serve the City of Roswell will not adversely affect Gulf moccasinshell, Shiny-rayed pocketbook, and Cherokee darter. Should you have any questions, comments, or recommendations, please contact Ms. Crystal Taylor at (251) 694-4099.

Sincerely,



Curtis M. Flakes  
Chief, Planning and Environmental  
Division