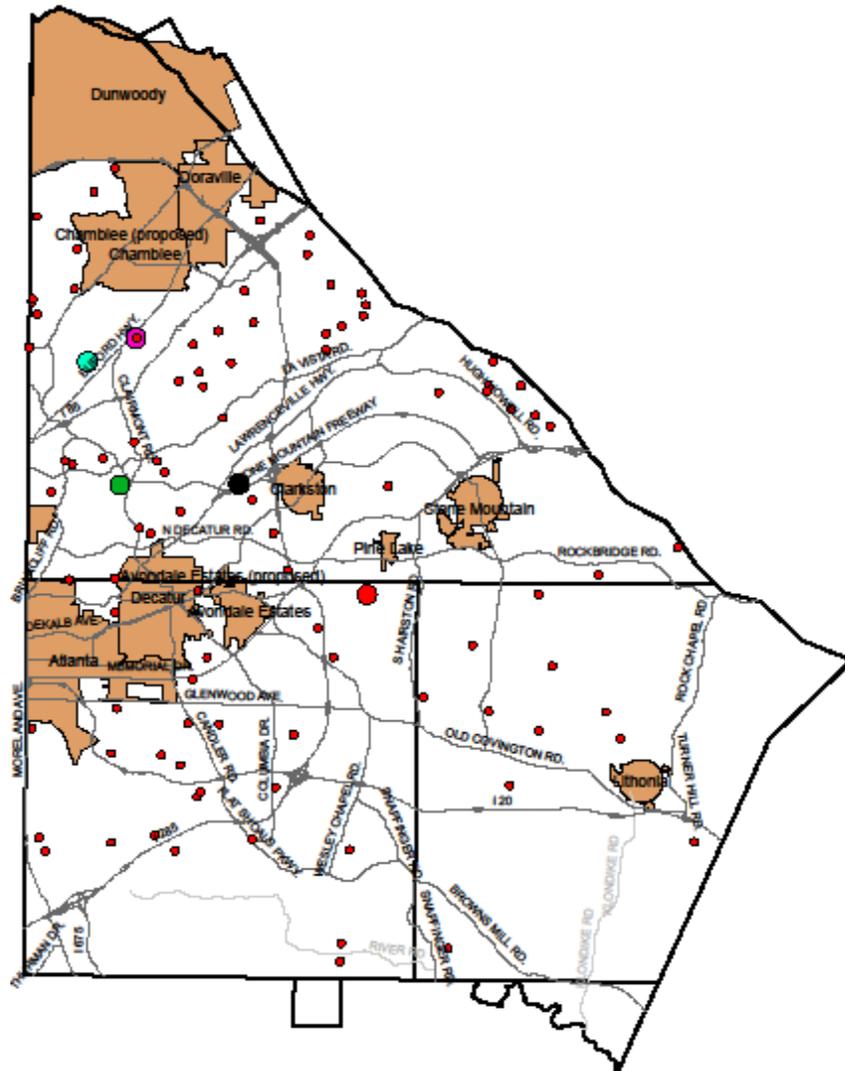


DRAFT ENVIRONMENTAL ASSESSMENT

PROPOSED STORMWATER INFRASTRUCTURE UPGRADES CHATTAHOOCHEE RIVER DRAINAGE

DEKALB COUNTY, GEORGIA



April 2010

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DEKALB COUNTY, GEORGIA**

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1.0. PURPOSE AND NEED FOR THE PROPOSED ACTION.

This proposed action consists of stormwater infrastructure upgrades to provide additional stormwater capacity at road crossings and catch basin inlets at four locations in DeKalb County, Georgia. The old structures are failing and are inadequately sized to handle the storm flows experienced in these areas. The four culvert/drainage sites include Vistavia Circle, Drew Valley Basin, Valley Brook Estates and Dering Circle, and all are located within the Chattahoochee River Basin.

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.

There are four culvert/drainage sites within DeKalb County that are proposed for upgrade. All four of these sites are within residential subdivisions that were constructed prior to the 1970’s. Listed on the following pages, in order of priority, are brief descriptions of the project locations and the proposed work to be accomplished. Project photographs and figures of these sites are included in Appendix A. The construction footprints at each of the drainage/culvert sites include an area 50 feet on either side of the culvert being replaced, unless otherwise noted in the site descriptions below, to accommodate streambank shaping/stabilization work to provide a transition zone between the streams and the new structures.

3.1 Vistavia Circle.

Vistavia Circle has experienced flooding during intense rain events. The flood waters start along McConnell Drive, continue downstream to Vistavia Circle until they eventually flow into a tributary of the South Fork Peachtree Creek just north of Mason Mill Road. There are several reasons for this flooding, starting with source at the commercial development in the Toco Hills Shopping Center located in the upper portion of the watershed. The Toco Hills Shopping Center provides little or no storm water detention despite its considerable amount of impervious surface. The Vistavia Circle culvert, located just downstream from McConnell Drive, further compounds the problem.

Vistavia Circle has an undersized existing 54” corrugated metal pipe (CMP) cross drain which was lined with concrete to stabilize the roadway and temporarily increase the flow capacity until a comprehensive study was performed. After careful analysis the Corps determined the best solution to the Vistavia Circle problem is enlarging the culvert and widening the stream channel in the immediate vicinity. The proposed plan calls for upgrading the cross drain with a double barrel reinforced concrete box culvert and to perform approximately 150 feet of bank shaping/rock stabilization downstream of the enlarged culvert using approximately 334 cubic yards of stone fill material. The project also provides for approximately 50 feet of bank shaping/rock stabilization upstream or downstream of the enlarged culvert with an adequate amount of stone material to accomplish the work if needed. The desired results will provide upgraded flow capacity at the cross drain.

3.2 Drew Valley Basin.

The proposed project calls for stormwater upgrades at three consecutive parallel street crossings in the Drew Valley Basin Subdivision. Drew Valley Basin has three CMP cross drains of varying sizes that have reached their anticipated life expectancy and need cross drain flow capacity upgrades. The Drew Valley Basin improvements would require the replacement of 84 feet of culvert underneath Bynum Road, the replacement of approximately 90 feet of culvert underneath Ewing Drive. Approximately 75 feet of culvert needs to be replaced underneath Poplar Springs Drive as well. The project also provides for approximately 50 feet of bank shaping/rock stabilization upstream or downstream of the enlarged culvert with an adequate amount of stone material to accomplish the work if needed. When completed the upgrades will provide increased flow capacity at each of the three cross drains.

3.3 Valley Brook Estates.

Valley Brook Estates has four undersized CMP cross drains of varying sizes and a few conveyance system runs that have reached their anticipated life expectancy. These need to be replaced and the flow capacities need to be upgraded. The proposed project requires approximately 220 feet of culvert replacement at Dove Way. While only about 70 feet of the culvert is underneath the roadway at Dove Way, the other 150 feet of the proposed upgrade culvert drains into the historically modified drainageway. The project will need to replace approximately 240 feet of culvert at Anthony Drive. Of the 240 feet of culvert only about 100 feet is actually underneath Anthony Drive and the remaining 140 feet is located downslope where it drains into the historically modified drainageway. Similarly the project will replace about 48 feet of culvert underneath Francine Drive, and approximately 45 feet of culvert beneath Brook Drive. The project will also require a downstream riprap stone protection apron approximately 35 feet long, consisting of approximately 160 cubic yards of rock fill. The project also provides for approximately 50 feet of bank shaping/rock stabilization upstream or downstream of the enlarged culvert with an adequate amount of stone material to accomplish the work if needed. The desired results will provide upgraded flow capacity at each of the four cross drains and the adjoining system.

3.4 Dering Circle.

Drainage problems occur along Dering Circle North and Capehart Circle. There are also drainage problems with the adjacent storm drainage collection system. The current system attempts to convey stormwater flows from ten (10) separate drainage basins. Yet the central drainage collection system along Dering Circle North and Capehart Circle consists of only five (5) curb inlet catch basins from the intersection of Buford Highway and Dering Circle to the intersection of Capehart Circle and Woodacres Drive. The road has a 7.73% slope which causes all the stormwater to sheetflow for more than 1,000 linear feet along the existing curb before discharging into the collection system. The stormwater ultimately discharges into Peachtree Creek. Improvements to Dering Circle necessitates the replacement and/or upgrade of a series of undersized CMP cross drains. The proposed project would also involve replacing approximately 460 feet of culvert on the south side of Dering Circle and Capehart Circle, connecting that to approximately 75 feet of culvert underneath Capehart Circle, with a downstream riprap stone protection. The riprap stone protection will be approximately 25 feet long, consisting of approximately 60 cubic yards of rock fill. Further down that drainageway where it crosses back to the south, the project would replace approximately 50 feet of culvert underneath Capehart Circle, with a downstream riprap stone protection apron approximately 25 feet long, consisting of approximately 60 cubic yards of rock fill. The project also provides for approximately 50 feet of bank shaping/rock stabilization upstream or downstream of the enlarged culvert with an adequate amount of stone material to accomplish the work, if needed. The desired results will provide an increase in storm water flow capacity throughout the neighborhood.

**Table 1 - Proposed Project Locations
DeKalb County, Chattahoochee Basin Sites**

Address	Project
2136 Dering Circle	Dering Circle
2094 Capehart Circle	Dering Circle
2368 Bynum Drive	Drew Valley
2344 Ewing Drive	Drew Valley
2316 Poplar Springs Drive	Drew Valley
3105 Dove Way	Valley Brook Estates
3107 Anthony Drive	Valley Brook Estates
3109 Francine Drive	Valley Brook Estates
3113 Brook Drive	Valley Brook Estates
1017 Vistavia Circle	Vistavia
1025 Vistavia Circle	Vistavia
1082 McConnell Drive	Vistavia
1066 McConnell Drive	Vistavia

DeKalb County, GA

Proposed DeKalb County, GA Drainage Infrastructure Projects

May 13, 2009

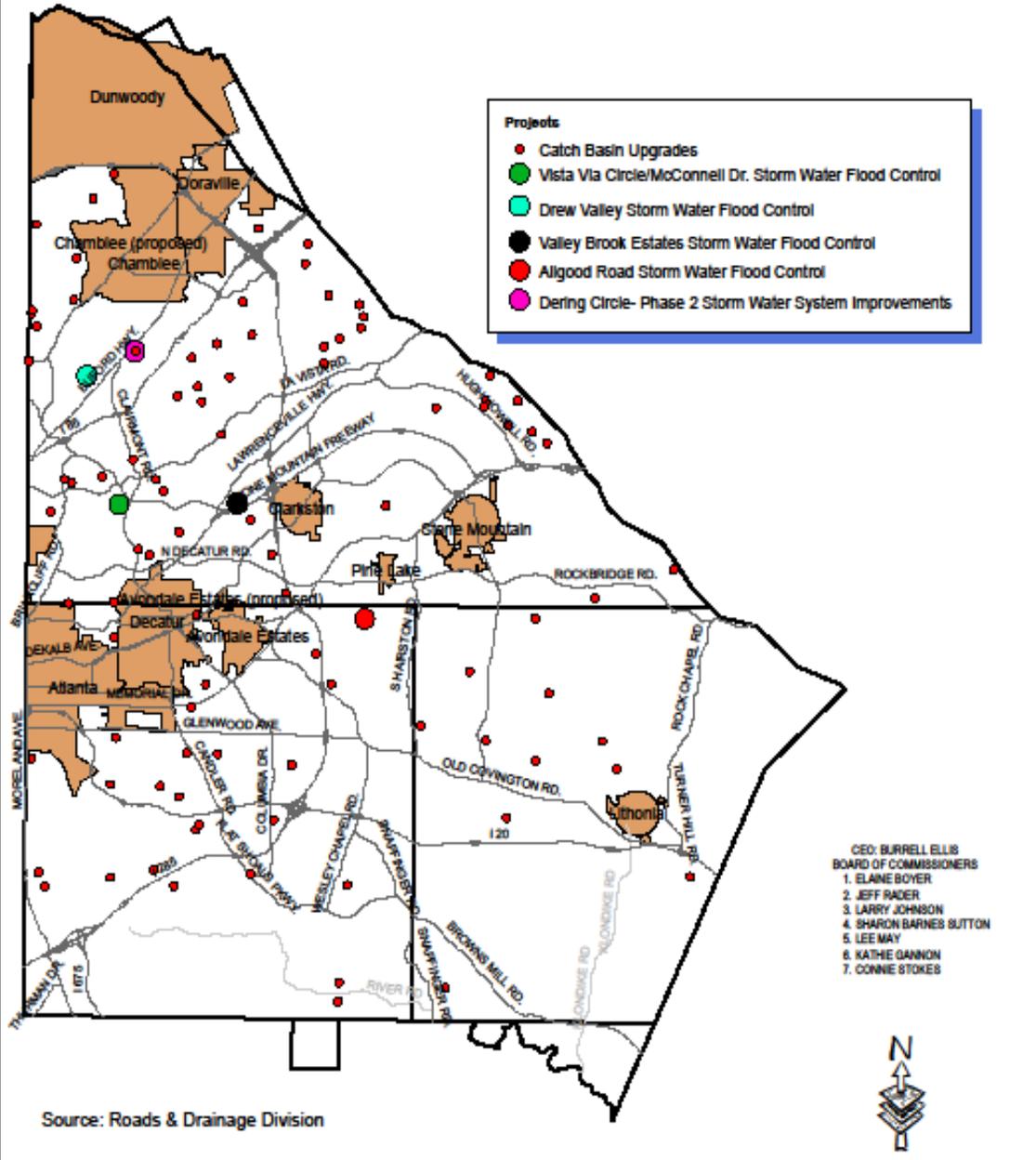


Figure 1. DeKalb County Proposed Drainage Project Locations (Allgood Road included in separate environmental documentation)

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

4.1. **No Action.** The No Action alternative was considered and would involve no upgrades to be completed at the four proposed locations. This alternative avoids the monetary costs associated with the upgrades of the proposed sites. However, upgrading the proposed locations would decrease the chance of flooding to the surrounding community. Without these upgrades the risk of flooding would continue and poses a risk to structures in the neighborhoods around the sites.

5.0 **AFFECTED ENVIRONMENT.**

5.1. **General.** DeKalb County is in the northwestern part of Georgia and has a land area of 268.7 square miles. It is included in the five-county core of the Atlanta-Sandy Springs-Marietta, Georgia, metropolitan statistical area. It is bordered on the west by Fulton County and contains a portion of the City of Atlanta. DeKalb is primarily a suburban county. All of the proposed project locations are located within the Chattahoochee River Basin area of DeKalb County.

5.2. **Climate.** The climate for the area is classified as Humid Subtropic and is characterized by short, mild winters and long, hot summers. Rainfall in this area of Georgia averages 50-plus inches of rain annually. The high annual rainfall and the high percentage of developed impervious surface within DeKalb County necessitate functional stormwater infrastructure within the county.

5.3. **Topography.** The topography of the area is generally characterized by rolling hills. Elevations range from 1,683 feet at the top of Stone Mountain to 640 feet in the southeastern part of the county.

5.4 **Soils.** In general, the upland soils found in this area are well drained with a loamy surface layer and clayey subsoil. The floodplain areas are loamy throughout and poorly too well-drained.

5.5. **Streams/Wetlands.** Surface water streams within DeKalb County are divided into those in the northern part of the county that flows into Peachtree and Nancy Creeks, and ultimately drain into the Chattahoochee River, and the southern part of the county that drains into the South River and ultimately into the Ocmulgee and Altamaha Rivers – with the Chattahoochee and Altamaha basins roughly separated by the CSX Railroad. The four drainage/culvert project areas that are addressed in this EA are located within the Chattahoochee River drainage. There are several ponds and lakes located throughout the county, along with scattered riparian wetlands. These wetlands tend to be rather small and have been affected in their function and value by the high level of urban development within the county. The areas around the proposed activities are clean with a narrow vegetative buffer in most cases. The streams at the four drainage/culvert project locations are small ephemeral to perennial water bodies that are located in a highly impacted urban environment and are subject to a “flashy” hydrology caused by the significant increase in impervious surface within these developed watersheds. These subdivisions and

stormwater drainage facilities were constructed prior to the 1970's. According to the Georgia Environmental Protection Division, the proposed road/drainage maintenance and repair are exempt from the state's stream buffer variance regulations (personal communication, Jan Sammons, Georgia Environmental Protection Division, 22 April 2010).

5.6. **Flora.** The proposed upgrade locations are located in largely residential areas. The predominant flora around the upgrade locations would consist mainly of grassed lawns.

5.7. **Fauna.** Due to the fact that the upgrade locations are all located in highly disturbed areas it would not prove to be suitable habitat for species other than those that have adapted to urban settings such as raccoons, opossums, rabbits, gray squirrels, etc. Species populations are limited in the area immediately surrounding the project. Aquatic organisms within the streams at the four locations appear to have been significantly impacted by the surrounding urbanization of the watersheds. Some tolerant species of small-bodied fish, reptiles, and amphibians were observed in the streams.

5.8. **Endangered and Threatened Species.** The U.S. Fish and Wildlife Service (FWS) have listed species as endangered or threatened in the DeKalb County area. Below on Table 1 is a listing of species as found on the FWS website:

http://www.fws.gov/athens/endangered/counties/dekalb_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. The state of Georgia has also listed several species in the DeKalb County area as threatened or endangered, these species are listed on the next page.

Table 2 – List of Federal and state Endangered and Threatened Species Within DeKalb County, Georgia

Species	Federal Status	State Status	Habitat
Bird			
Bald eagle <i>Haliaeetus leucocephalus</i>	T	E	Inland waterways and estuarine areas in Georgia.
Fish			
Bluestripe shiner <i>Cyprinella callitaenia</i>	No Federal Status	T	Brownwater streams
Plant			
Bay star-vine <i>Schisandra glabra</i>	No Federal Status	T	Twining on subcanopy and understory trees/shrubs in rich alluvial woods
Black-spored quillwort <i>Isoetes melanospora</i>	E	E	Shallow pools on granite outcrops, where water collects after a rain. Pools are less than 1 foot deep and rock rimmed.
Flatrock onion <i>Allium speculae</i>	No Federal Status	T	Seepy edges of vegetation mats on outcrops of granitic rock
Granite rock stonecrop <i>Sedum pusillum</i>	No Federal Status	T	Granite outcrops among mosses in partial shade under red cedar trees
Indian olive <i>Nestronia umbellula</i>	No Federal Status	T	Dry open upland forests of mixed hardwood and pine
Piedmont barren strawberry <i>Waldsteinia lobata</i>	No Federal Status	T	Rocky acedic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods
Pool Sprite, Snorkelwort <i>Amphianthus pusillus</i>	T	T	Shallow pools on granite outcrops, where water collects after a rain. Pools are less than 1 foot deep and rock rimmed

Due to the fact that all proposed sites are located in highly disturbed areas, the Corps has determined that no suitable habitat exists for these species in the four proposed drainage/culvert upgrade locations.

5.9. Cultural Resources. Field reconnaissance investigations have shown that the proposed stormwater infrastructure upgrade locations have all been previously disturbed and are located in residential neighborhoods. The Corps has determined that no significant archeological sites are located within the proposed project areas.

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. Data taken from the EPA website (www.epa.gov) indicates that in 2008 there were 13 days that the air was classified as unhealthy for sensitive groups or unhealthy.

5.12 Water Quality. DeKalb County crosses two watersheds, the Upper Chattahoochee and Upper Ocmulgee. The 303(d) list of impaired waters for these watersheds list 4 impaired waters for the Upper Ocmulgee and 10 impaired waters for the Upper Chattahoochee.

5.13 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 on the next page you will find some demographic characteristics of the DeKalb County area.

Table 3 – Demographic Characteristics of DeKalb County

Data Category	DeKalb County	Georgia
Population		
2000	666,036	8,186,812
2008	739,956	9,685,744
Percent change	11.10%	18.30%
Persons per square mile	2,484.60	141.4
Age		
Under 18	24.00%	26.30%
Over 65	8.60%	10.10%
Race		
White	40.20%	65.40%
Black	53.70%	30.00%
Native American	0.40%	0.40%
Asian	4.20%	2.90%
Pacific Islander	0.10%	0.10%
Two or more races	1.40%	1.30%
Hispanic	10.40%	8.00%
Language other than English spoken at home	17.40%	9.90%
Education		
High School Graduates	85.10%	78.60%
Four-college degree	36.30%	24.30%
Persons per household	2.62	2.65
Income		
Median household	\$54,708	\$50,834
Per capita	\$23,968	\$21,154
Persons below poverty	15.60%	14.70%

Source: U.S. Census Bureau: State and County Quick Facts. Last Revised 23 February 2010

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. The existing environmental risks to children in DeKalb County include health hazards from flooding due to the inadequately sized drainage system currently in place.

5.14 Hazardous, Toxic, and Radiological Wastes. These four project sites are in older neighborhoods within DeKalb County that have been in existence, as in the Vistavia neighborhood, since at least the 1950s. These homes appear to have been continuously occupied and maintained since that time. Valleybrook Estates is somewhat of an exception to that rule, in that it would likely be classified as a lower income neighborhood with smaller homes and is more densely populated. While the areas are largely residential, there are nearby areas where large shopping areas, gas stations, oil

change facilities and dry cleaners come within one-half mile or so of the subject sites. Existing area maps were reviewed and area residents were interviewed that confirmed that these drainage structures have been in place typically since at least the 1950s. The actions associated with drainage/culvert replacements in DeKalb County are occurring on existing rights-of-way at very old existing drainage structure locations, therefore, these actions will occur at previously disturbed sites that have been impacted by multiple incidents of flooding. All sites are within the Federal Emergency Management Agency (FEMA) flood zone. An Environmental Site Assessment (ESA) was initiated in February 2010 for the drainage enhancements being performed at rights-of-way sites throughout DeKalb County. The Environmental Site Assessment (ESA) was conducted generally according to ASTM E 1527 - 00 (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process) to determine whether hazardous, toxic, radiological substances were stored, disposed of, or released to the environment that may impact the areas proposed for drainage improvements at culvert crossings and specific areas that experience flooding located throughout DeKalb County. 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. There is no indication of environmental degradation or stressed vegetation. While the waterways do not show signs of environmental contamination, such as stressed vegetation, dead areas or dumping; the rare observation of fish and wildlife indicate a less than optimum biologically healthy streams.

6.0. ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION.

6.1 General. The impacts associated with stormwater infrastructure upgrades at the Vistavia Circle, Drew Valley Basin, Valley Brook Estates and Dering Circle locations are discussed in the following paragraphs.

6.2. Topography.

6.2.1 Proposed Action. The stormwater infrastructure upgrades of the proposed locations would not include any significant excavation or fill. Therefore, the proposed action would not have any major environmental consequences on the topography of the sites.

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 stormwater infrastructure upgrade locations are located in previously disturbed locations, so the activities to upgrade and repair the drainage/culvert structures would have a short-term, localized minor affect on soils. Minimal excavation and/or fill would be involved with the upgrade of the proposed locations. 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.

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.** A drainage/culvert replacement design that does not create a rise in the water surface upstream or downstream of the road crossing is proposed and FEMA clearance for the work will be obtained prior to construction. FEMA coordination is required for the entire project where there is work in a regulated floodway. If the base flood elevation is increased due to the proposed project, the design/construction contractor is responsible for obtaining all the necessary Federal and State clearances prior to construction of the project. Stream bed and bank protection will be provided at those locations as required.

Although the Corps does not issue regulatory permits to itself, these projects have been evaluated and otherwise comply with the terms and conditions of Nationwide Permit Number 3 (NWP #3). This is a minor activity, not having significant impacts on wetlands or waters of the U.S. (as otherwise discussed within this EA). Therefore, it would comply with Corps Regulatory Program Nationwide Permit Number 3, for minor activities having minimal adverse impacts. NWP #3 is specifically for repair, rehabilitation, or replacement of currently existing and serviceable structures. Also based on NWP #3, the proposed activities would not be put to different uses than those intended for the existing structures, e.g., drainage and conveyance systems within the project sites located in DeKalb County. A 404(B)(1) Evaluation Report for these four drainage/culvert sites has been prepared to further describe the effects of the proposed Federal action upon wetlands and waters of the U.S. (Appendix B). Additional environmental analysis has been performed by the Corps on the NWP program in the form of an EA and Finding of No Significant impact. Copies of these documents can be found on the following webpage: <http://www.regulations.gov> (Docket Identification Number COE-2006-0005)

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

6.5 Flora.

6.5.1 **Proposed Action.** All stormwater infrastructure upgrade sites are in previously disturbed areas, predominately grassed lawns. The proposed action would have short-term and localized adverse impacts to these vegetated areas.

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

6.6 Fauna.

6.6.1 **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 will occur during construction, but no long-term significant impacts are expected to occur due to the proposed action.

At the sites that do not have other buried infrastructure such as sewer and water lines, the design/construction contractor will include appropriate fish and aquatic organism passage considerations, such as those listed in the Savannah District's Nationwide Permit Regional Conditions for work in stream systems. For example, the replacement culvert invert elevations must not provide a barrier to fish and aquatic organism movements or induce increased stream channel instability upstream or downstream of the structure. In areas where other buried infrastructure prohibits this level of embedment, the replacement drainage/culvert structures will be installed at least as deep as the structures being replaced. None of the existing structures appear to be a barrier to fish and aquatic organism passage. Guidance on Savannah District's Nationwide Permit Regional Conditions for work in stream systems can be found at the following web site location <http://www.sas.usace.army.mil/regulatory/regulatory.html>.

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

6.7 Endangered and Threatened Species.

6.7.1 **Proposed Action.** There is no evidence of any endangered and threatened species at any of the proposed locations. Therefore, the Corps has determined that the proposed action would not adversely impact any endangered or threatened species or designated critical habitat. The Corps is coordinating this finding with the FWS as part of the public/agency review of this Draft EA. Preliminary discussions with the FWS would support concurrence with the Corps finding (personnal communication, Robin Goodloe, FWS, Athens Field Office, 23 April 2010).

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

6.8. Cultural Resources.

6.8.1 **Proposed Action.** Pursuant to the requirements contained in Section 106 of the National Historic Preservation Act, the Corps considered the effects of the proposed action on historic properties. Field reconnaissance investigations have shown that the proposed upgrade locations have all been previously disturbed and are in residential neighborhoods. Based on the above information, the Corps has determined that no significant archeological or historic sites are located within the proposed project areas; hence the proposed project activities would not adversely affect archeological or historic sites. The Corps findings are being coordinated with the Georgia SHPO and appropriate tribes by letters dated March 23, 2010. Results of coordination will be included in Final EA.

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

6.9. Noise.

6.9.1 **Proposed Action.** Noise levels in the immediate vicinity of the proposed project would increase during the operation of vehicles and equipment. The construction noise levels at each site would be increased for several weeks at each site, with the noise generated during normal business hours. After the proposed project is complete, noise levels should decrease to the normal level currently found in the area. This temporary increase in noise would not have a significant adverse impact to the surrounding area.

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

6.10. Air Quality.

6.10.1 **Proposed Action.** The proposed activities would cause some temporary increases in exhaust and dust emissions from vehicles and equipment operation. Exhaust emission increases would be minor and not adversely impact the local air quality. The proposed action would not adversely impact air quality in the area.

6.10.2 **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.

6.11. Water Quality.

6.11.1 **Proposed Action.** The proposed action will cause a temporary localized adverse affect to water quality in the construction areas, however the pre-construction conditions will resume shortly after completion of the drainage/culvert upgrades.

6.11.2 **No Action Alternative.** Under the no action alternative there would be no

change in water quality in the area.

6.12. Environmental Justice/Protection of Children.

6.12.1 **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 DeKalb County by decreasing potential flooding hazards. Beneficial impacts to children would be realized by the proposed action in reducing the potential for flooding in the surrounding communities. This should decrease the potential of possible hazards to children in DeKalb County. Therefore, the proposed action would have a positive impact on the community and is compliant with both executive orders.

6.12.2 **No Action Alternative.** Under this alternative potential adverse impacts to children would continue. This alternative would not eliminate the hazards present from the risk of potential flooding that could occur during storm events.

6.13 Hazardous, Toxic, and Radiological Wastes.

6.13.1 **Proposed Action.** These four project sites do not have any known hazardous, toxic, and radiological waste concerns, therefore, the proposed action will not create any adverse effects on these types of wastes. Should the results of the final ESA report show any issues with hazardous, toxic, or radiological wastes at these four sites, the Corps, non-Federal sponsor, and design/construction contractor will take whatever measures are necessary to satisfy all appropriate laws and regulations.

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

6.14 **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.

The potential direct environmental and socioeconomic impacts associated with the proposed action are insignificant. The proposed upgrade and repair of proposed locations would serve the area in a more efficient and environmentally beneficial manner. However, if not implemented, the flooding induced by the aged and undersized conveyance systems would continue create a hazard for residents. The proposed action is not the result of any planned or future development 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 **AGENCIES AND INDIVIDUALS CONSULTED.**

7.1. A public notice (FP10-DK01-6) has been published to notify interested individuals and agencies of the proposed action and that notice and supporting environmental documents have been posted on the USACE, Mobile District webpage. The agencies notified include the following:

- a. U.S. Environmental Protection Agency, Region IV, Atlanta, Georgia
- b. U.S. Department of the Interior, Fish and Wildlife Service, Athens, Georgia
- c. Georgia State Historic Preservation Officer, Atlanta, Georgia
- d. Georgia Department of Natural Resources, Wildlife Resources Division, Atlanta, Georgia
- e. Georgia Department of Natural Resources, Environmental Protection Division, Atlanta, Georgia

A summary of that coordination will be included in the Final EA.

APPENDIX A

PHOTOGRAPHS AND FIGURES

Photo 1 – Vistavia Circle Typical Culvert Site



Photo 2 – Drew Valley Typical Culvert Site



Photo 3 – Valley Brook Typical Culvert Site



Photo 4 – Dering Circle Typical Culvert Site



Figure 1 - Vistavia Aerial Photo

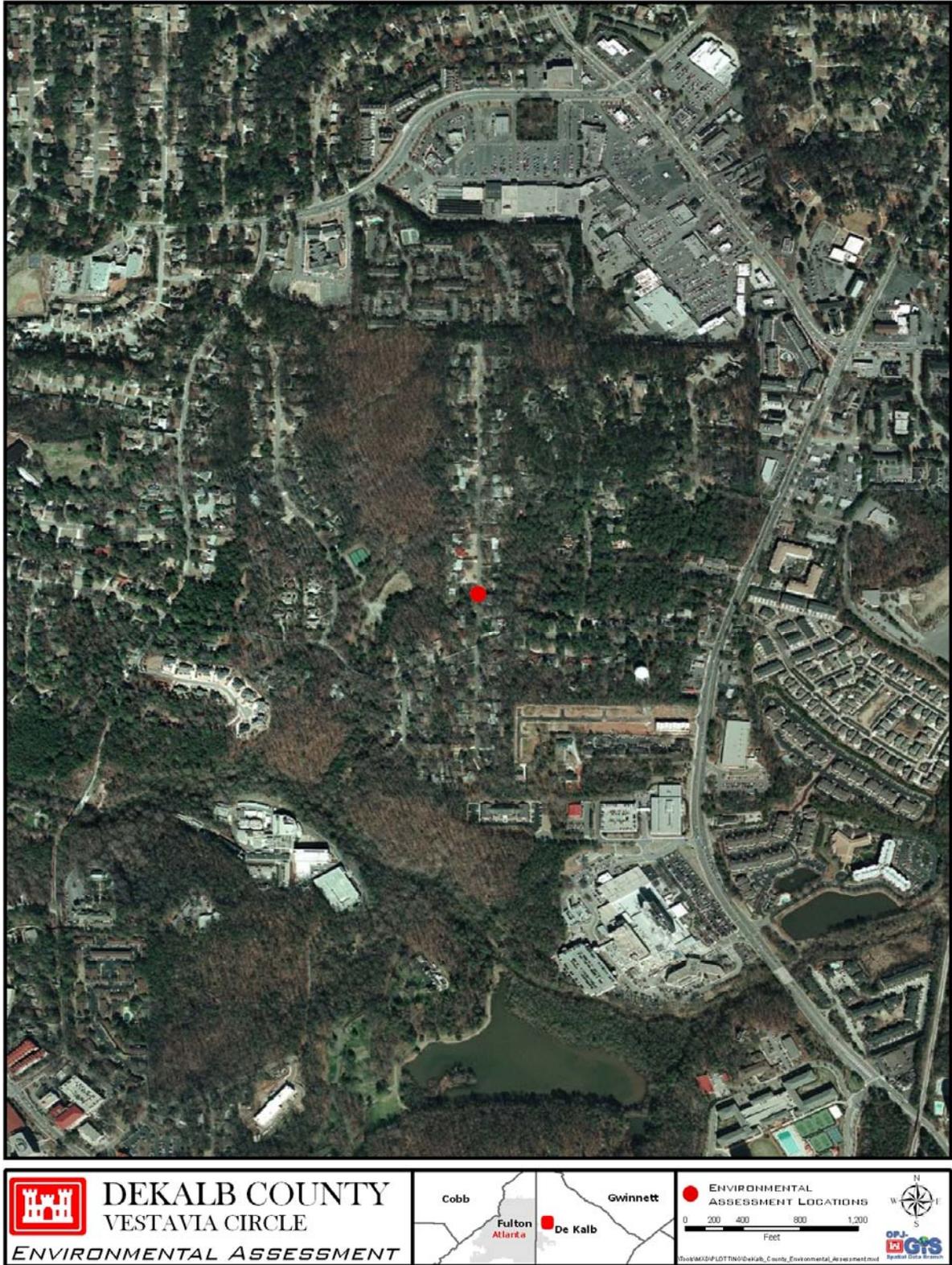


Figure 2 – Drew Valley Aerial Photo

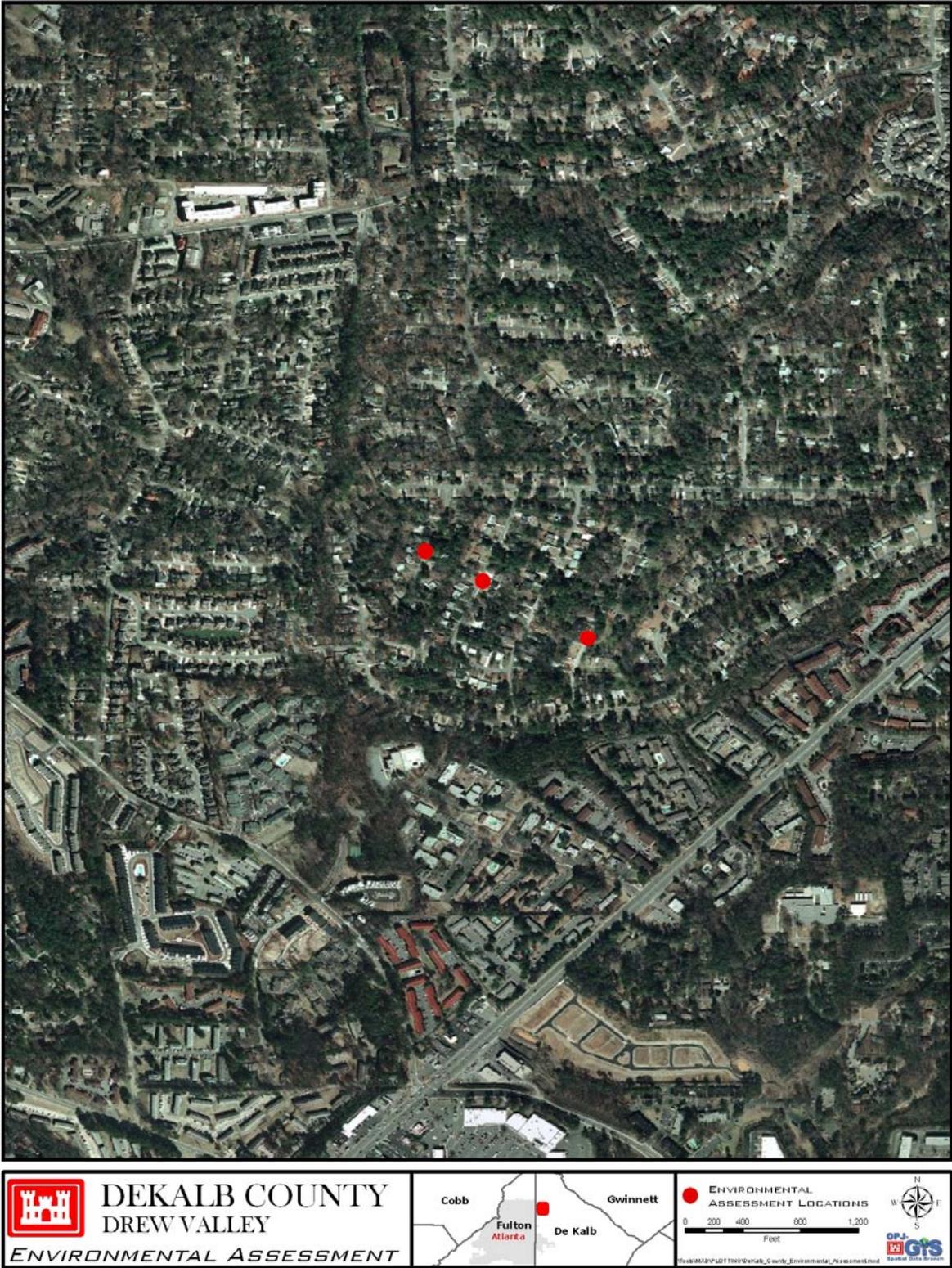


Figure 3 – Valley Brook Aerial Photo

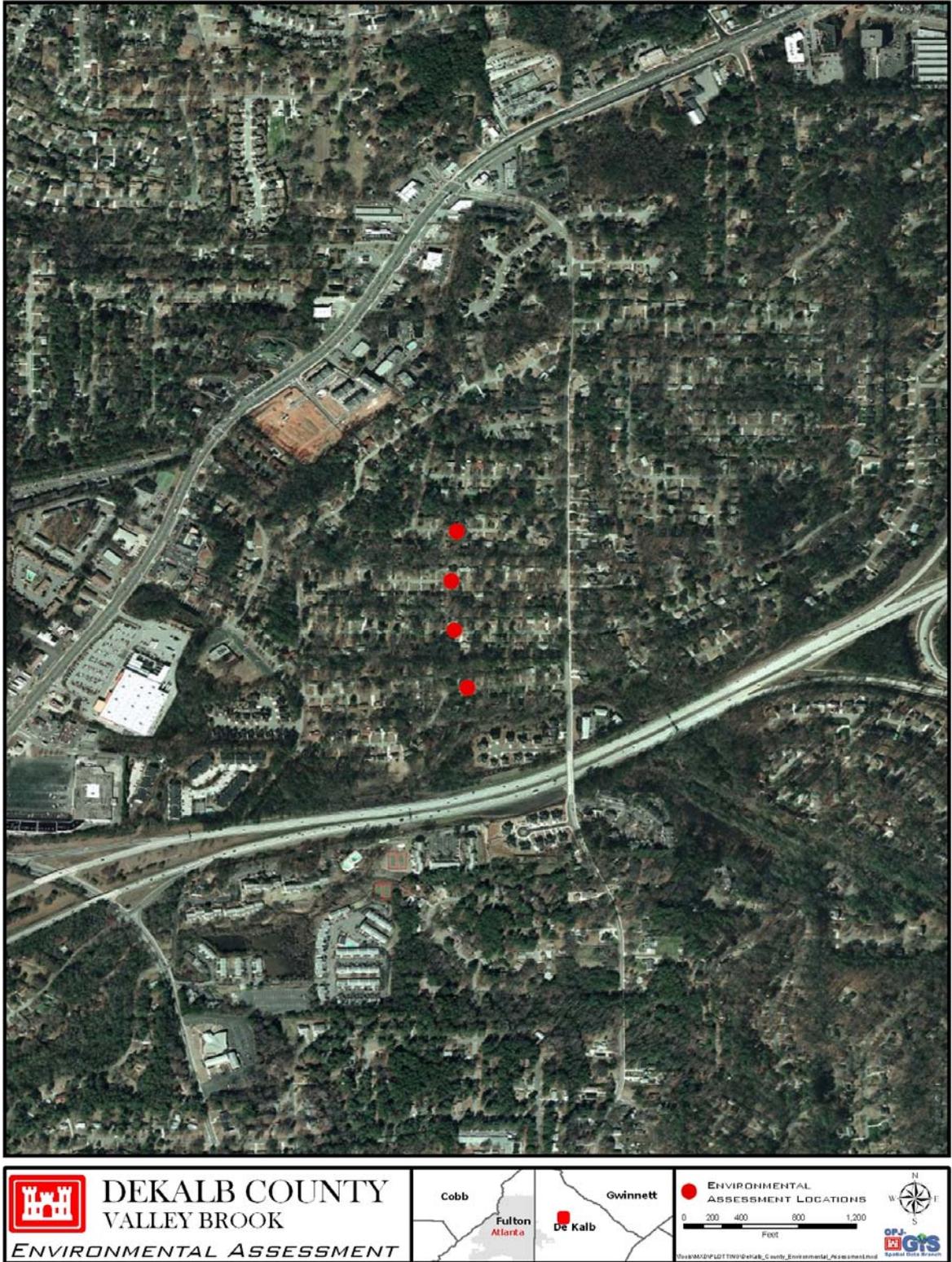


Figure 4 – Dering Circle Aerial Photo

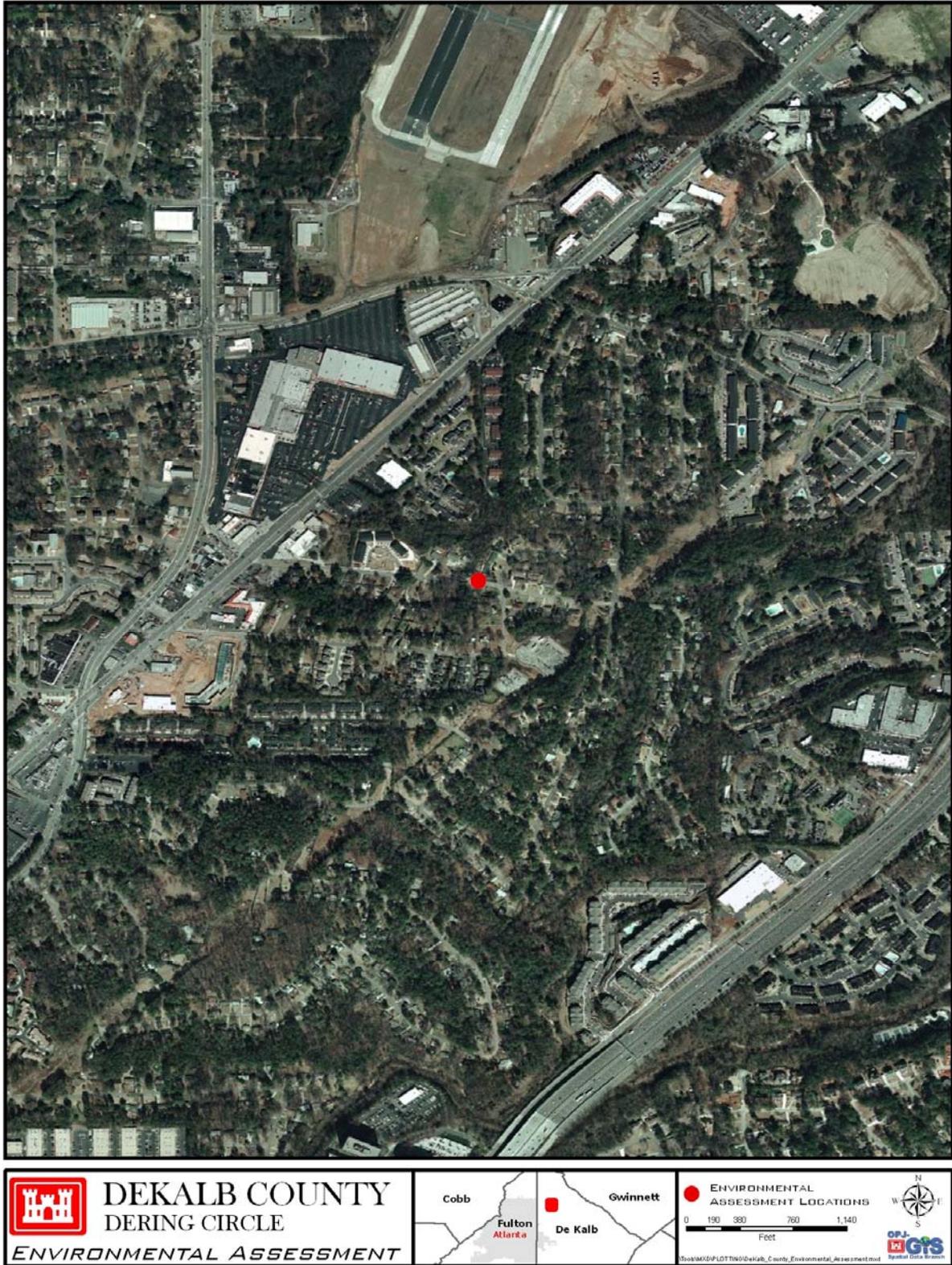


Figure 5 - Vistavia Topographic Map



Figure 6 – Drew Valley Topographic Map



Figure 7 – Valley Brook Topographic Map

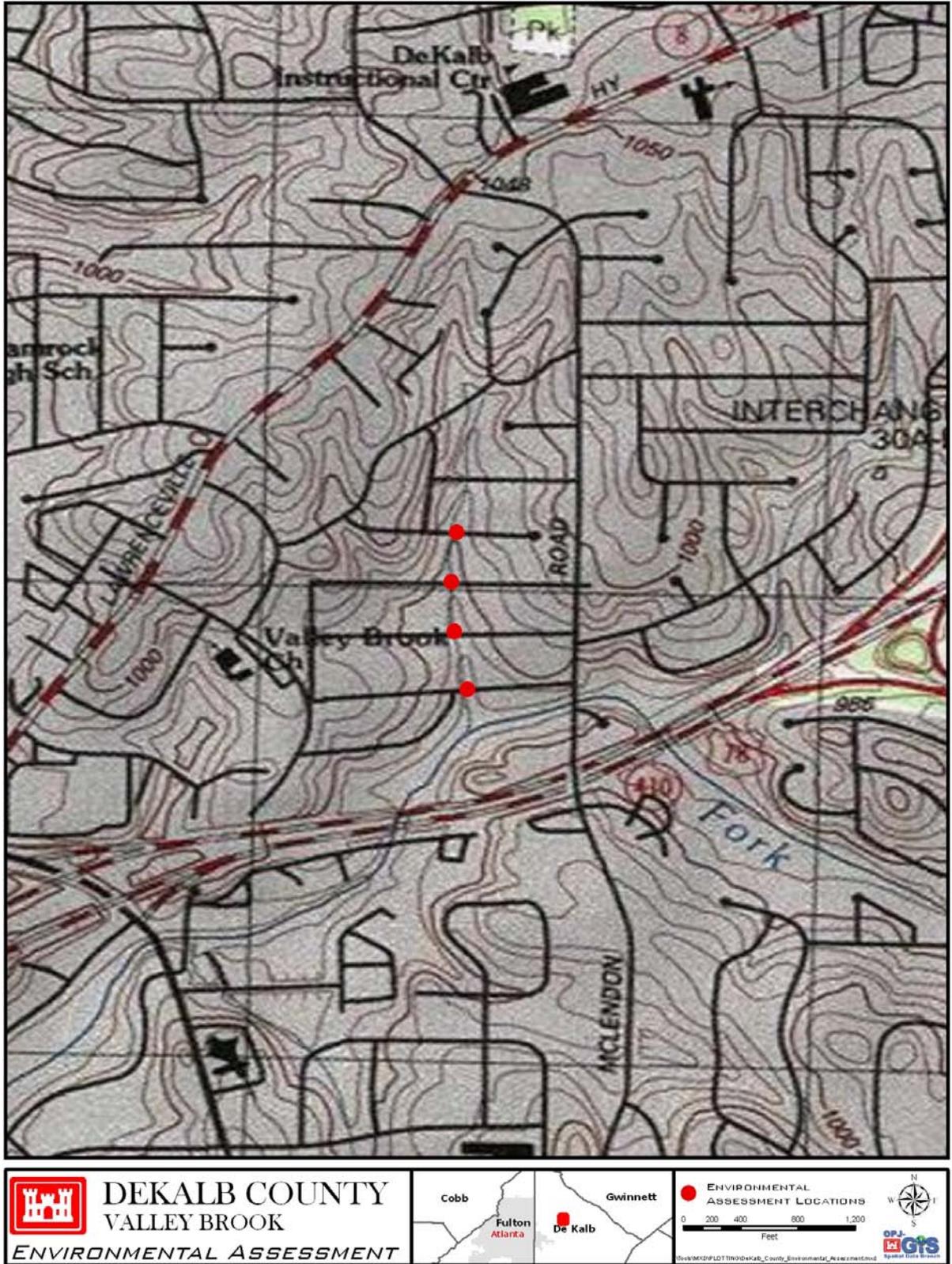


Figure 8 – Dering Circle Topographic Map

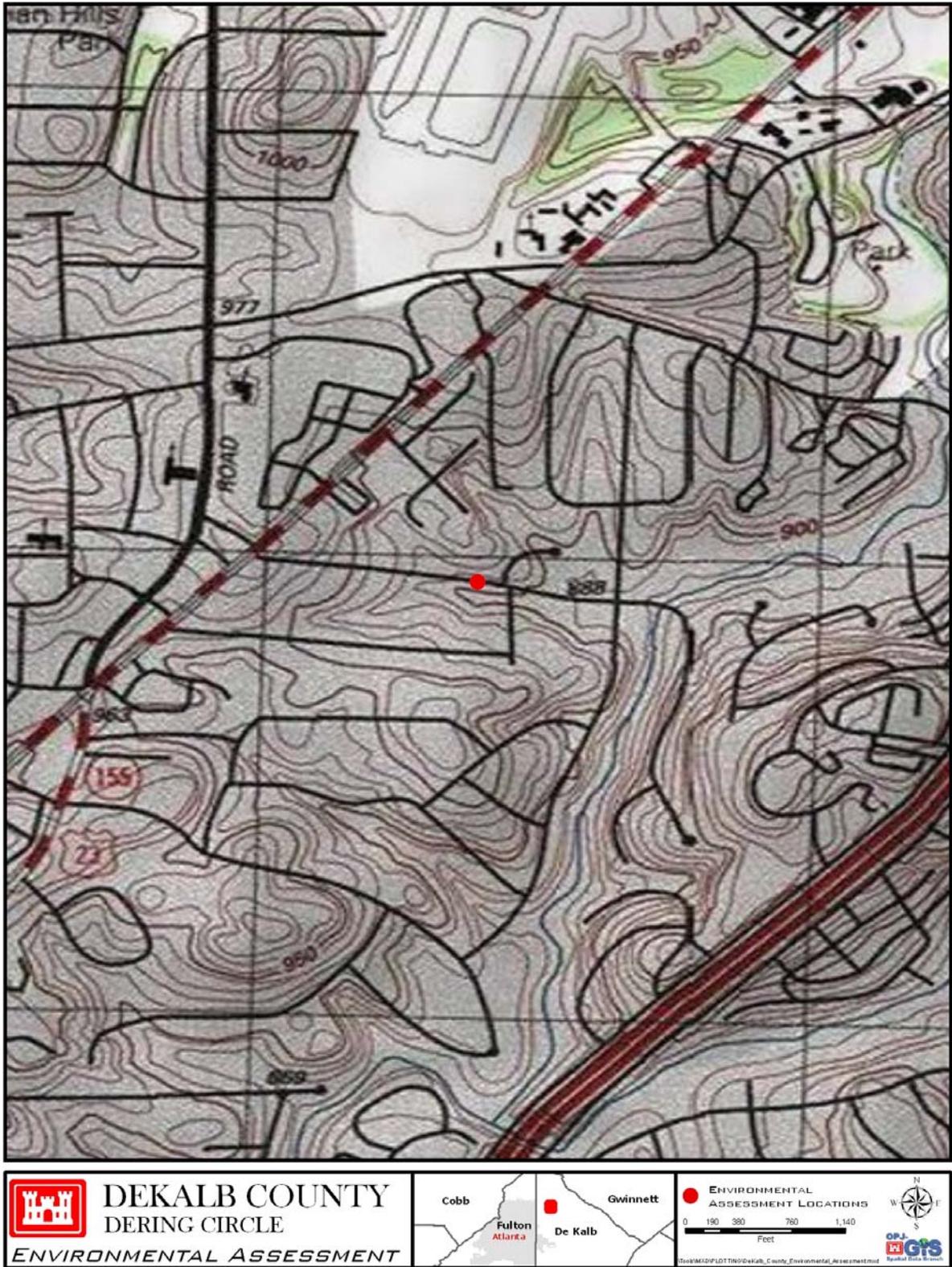


Figure 13 –Valley Brook Site Details (2 of 2)

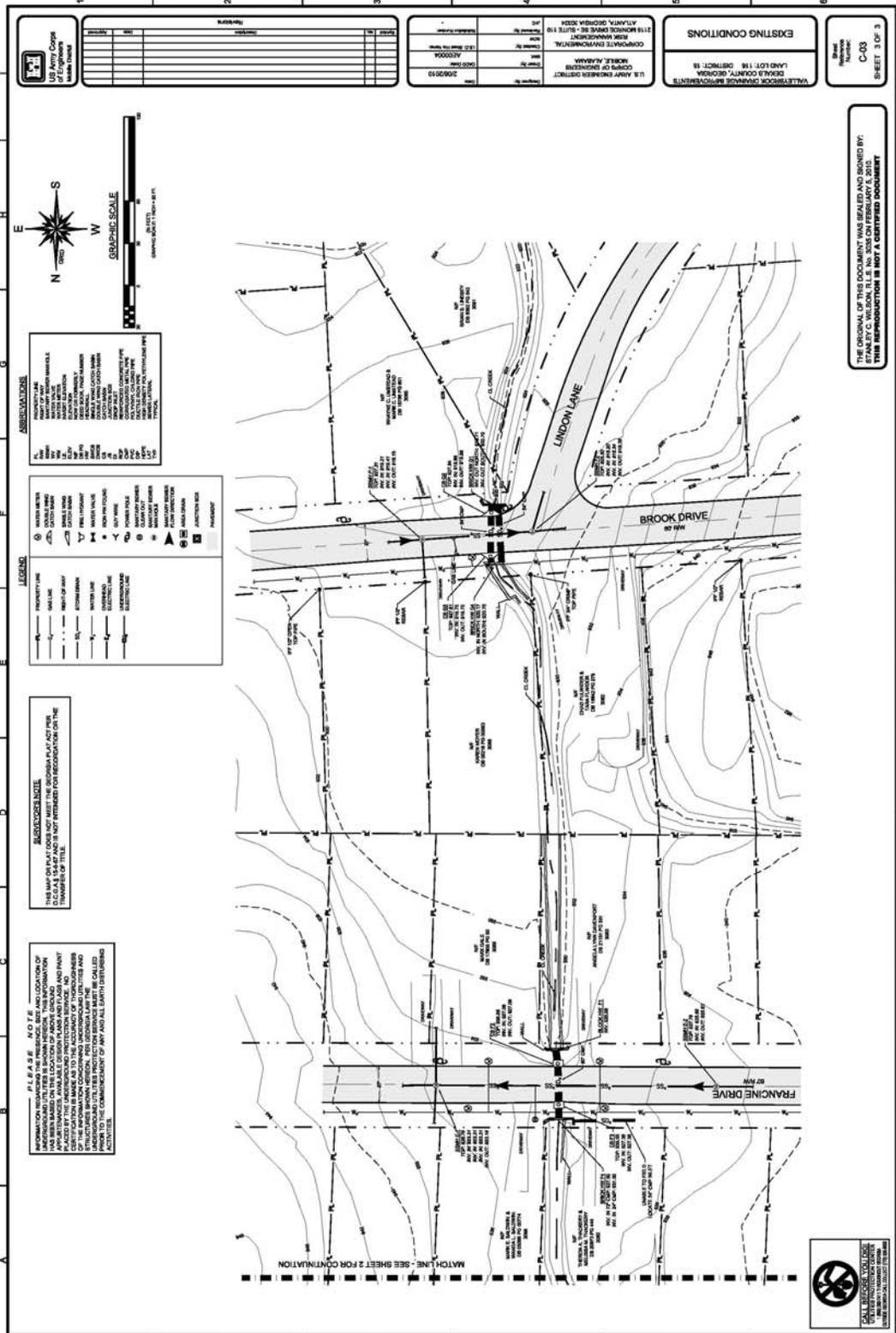


Figure 15 –Dering Circle Site Details (2 of 2)

