protection under the Endangered Species Act. No federally-protected plants having a distributional range that includes the project area were identified in by the USFWS or the DNR Natural Heritage Program. Table 17 presents the federal and state listed species that have a distribution range within the project area.

Table 17
Federal and State Protected Species
(With a Distribution Range Within the Project Area)

Vernacular Name	Species	Federal Status	State Status	Project area
Fauna				
Bald eagle	*Haliaeetus leucocephalus*	T	E	No nests or species identified.
Shiny-rayed pocketbook mussel	*Lampsilis subangulata*	E	E	No species or potential habitats identified.
Gulf moccasinshell mussel	*Medionidus pencillatus*	E	E	No species or potential habitats identified.
Cherokee darter	*Etheostoma scotti*	T	T	No species or potential habitats identified.
Georgia aster	*Aster georgianus*	C	None	No species or potential habitats identified.
Bachman's sparrow	*Aimophila aestivalis*	None	R	No species identified visually or by song; potential habitats exist.
Blue-stripe shiner	*Cyprinella callitaenia*	None	T	No species or potential habitats identified.
Peregrine falcon	*Falco peregrinus*	None	E	No peregrine nest sites identified on buildings or bridge structures. No potentially suitable cliff–ledge habitat or species identified.
Highscale shiner	*Notropid hypsilepis*	None	T	No species or potential habitats identified.
Flora				
Bay star vine	*Schisandra glabra*	None	T	No species or potential habitats identified.
Piedmont barren strawberry	*Waldsteinia lobata*	None	T	No species or potential habitats identified.
Pink ladyslipper	*Cypripedium acaule*	None	U	No species or potential habitats identified.
Large-flowered yellow ladyslipper	*Cypripedium parviflorum var. pubescens*	None	U	No species or potential habitats identified.
Harper heartleaf	*Hexastylis shuttleworthii var. harperi*	None	U	No species or potential habitats identified.

E = Endangered T = Threatened C = Candidate U= Unusual R = Rare

Source: U.S. Fish and Wildlife Service, Update June 2002 and GA DNR Natural Heritage update December 2002.

Bald Eagle. The bald eagle (*Haliaeetus leucocephalus*) prefers riparian habitats associated with coasts, rivers, and lakes and usually nests near water bodies where they feed. Due to its migratory nature, the bald eagle utilizes inland portions of Georgia as its winter range before returning to the Gulf or Atlantic coast for the summer.

The riparian systems, which traverse the project area, provide potentially suitable nesting and foraging habitats for the bald eagle. The Proposed Project would impact such riparian systems and adjacent forested environments. However, due to the fragmentation and urbanization of the overall region, neither nests nor individual species were observed during field surveys. The Proposed Project would not impact the bald eagle.

Aquatic Species. The federally-listed aquatic species with distributional range in the project area include the shiny-rayed pocketbook Mussel (*Lamsilis subangulata*), gulf moccasinshell mussel (*Medionidus penicillatus*), and Cherokee darter (*Etheostroma scotti*).

As filter feeders, the shiny-rayed pocketbook mussel and the gulf moccasinshell mussel extract nutrients from flowing water and thus are sensitive to the introduction of harmful pollutants. Pollutant sources include urban runoff, agricultural runoff, chemical spills, municipal and industrial waste discharges, and other point and non-point water pollution sources associated with the urbanization of the greater Atlanta area. Historically, the range of the mussel species has included the upper reaches of the Chattahoochee River basin. However, the impoundment of creek and river corridors and urbanization of the adjacent forested environments has resulted in decreased water flow rates and increased sedimentation of the channel substrate, thus eliminating potentially suitable habitats for the shiny-rayed pocketbook, gulf moccassinshell mussel, as well as the Cherokee darter.

Ecologists conducted an aquatic survey along the portions of Sandy Creek that would require crossings. Based on the observed conditions on June 20, 2002, the streams exhibited an increased amount of point and non-point source pollutants; an increased amount of silt content within the channel substrate; a decreased rate of water flow; multiple culverts from previous road crossings; and unstable vertically incised stream banks. Resulting from the historical and ongoing land uses adjacent to the Sandy Creek and its tributaries, no suitable perennial stream habitat was identified that would be capable of supporting any of the protected aquatic species.

Georgia Aster. The distributional range of the Georgia aster (*Symphyotrichum georgianum*) is included in the project area. This aster species typically occurs in open roadsides, clear-cuts, transmission line rights-of-way, and openings of upland oak-hickory forests. According to a status survey conducted by Mr. James F. Matthews of the University of North Carolina, the highly adaptable Georgia aster does not generally suffer the detrimental effects of competition with invasive native and exotic species in areas with high availability of sunlight. No individual species were identified during field surveys; however, positive identification is recommended during the flowering period, which generally extends from September to October.

4.8.3 State Protected Species

Nine State of Georgia protected species, listed as threatened or endangered, have a distributional range that includes the project area. Although not granted legal protection under the Endangered Species Act of 1973, state listed wildlife and plant species are protected in Georgia by the provisions of the Georgia Endangered Wildlife Act and Wildflower Preservation Act of 1973.

Peregrine Falcon. The peregrine falcon (*Falco peregrinus*) typically prefers to nest on high inaccessible cliff ledges; however, peregrines have successfully adapted to nesting on city buildings and bridge structures while foraging within the surrounding urban landscape. Georgia represents the southern limits of the peregrine's historical breeding range with the last known cliff nest sites occurring only in the northern mountainous region of the state. However, according to the DNR's *Protected Animals of Georgia* publication, a peregrine pair successfully mated and nested, yielding three offspring, on a downtown Atlanta hotel in 1996 and again in 1997 from an adjacent downtown building. No individual species or potentially suitable cliff ledge habitat were identified within the project area. Furthermore, no peregrine nest sites were identified as occurring on any buildings or bridge structures within the project area. Given the project's proximity to the downtown Atlanta metropolitan area, the Proposed Project would have a nominal effect on any potential peregrine foraging or nesting habitat. The Proposed Project would have no impacts to the peregrine falcon.

Bachman's Sparrow. The distributional range of the Bachman's sparrow (*Aimophila aestivalis*) includes the project area. This diminutive bird species inhabits and breeds in mature pine forests, successional thickets, and open field environments, which usually have a dense ground cover.

Although occasionally documented within the Piedmont, Blueridge, and Ridge and Valley physiographic provinces in Georgia, the Bachman's sparrow is typically associated with open pine forest habitats in the southern Piedmont and Coastal Plain province.

The fragmented and degraded nature of the project area has resulted in the creation of a variety of successional open fields capable of supporting the Bachman's sparrow. The Proposed Project would encounter potentially suitable nesting and foraging habitat; however, no individual species were identified visually or by song during field surveys. Due to the common occurrence of such successional open environments throughout the project area and its surrounding, it is unlikely that any existing nesting or foraging activities would be impeded. The Proposed Project would not impact the Bachman's sparrow.

Highscale Shiner. Endemic to the Apalachicola River, Chattahoochee River, and Flint River drainage basin, the highscale shiner (*Notropis hypsilepis*) inhabits runs and pools in larger rivers with a substrate of sand and bedrock. Water quality requirements are similar to those of the previously discussed protected mussel species.

Sandy Creek, within the project area, exhibits an increased amount of point and non-point source pollutants, an increased amount of silt content within the channel substrates, and a decreased rate of water flow. Therefore, Sandy Creek does not contain suitable water pollutant levels, turbidity levels, or water flow rates, capable of supporting the highscale shiner. The Proposed Project would not impact the highscale shiner.

Blue-stripe Shiner. Endemic to the Apalachicola River, Chattahoochee River, and Flint River drainage basin, the blue-stripe (*Cyprinella callitaenia*) shiner inhabits river segments typified by a swift current and riffles over a channel substrate comprised of sand and cobble. Water quality requirements are similar to those of the previously discussed protected mussel species.

Sandy Creek, within the project area, exhibits an increased amount of point and non-point source pollutants, an increased amount of silt content within the channel substrates, and a decreased rate of water flow. Therefore, Sandy Creek does not contain suitable water pollutant levels, turbidity levels, water flow rates, or channel substrates capable of supporting the blue-stripe shiner. The Proposed Project would not impact the blue-stripe shiner.

Bay Star-Vine. The bay starvine (*Schisandra glabra*) typically occurs within the subcanopy layer of nutrient-rich forested bottomland forest types and adjacent lower slopes. Due to the detrimental effects of invasive exotic species, especially Japanese honeysuckle (*Lonicera japonica*), bottomland forested habitats capable of supporting the bay starvine must be devoid of all disturbance. Historical and current urban land uses within the project area have resulted in the degradation and fragmentation of once contiguous mature bottomland forest types. Therefore, no individual species or potentially suitable bottomland forested habitat was identified during field surveys and no appropriate habitat would be impacted by the Proposed Project.

Piedmont Barren Strawberry. The distribution range of the piedmont barren strawberry (*Waldsteinia lobata*) includes the project area. According to DNR's *Protected Plants of Georgia* publication, this perennial herb species typically occurs in rocky soils adjacent to stream corridors dominated by mountain laurel (*Kalmia latifolia*), while even more rare occurrences have been documented in upland oak-hickory-pine forested habitats. Due to the detrimental effects of invasive exotic species, especially Japanese honeysuckle, upland hardwood forested habitats capable of supporting the piedmont barren strawberry must be devoid of all disturbances. Historical and current suburban land uses within the project area have resulted in the degradation and fragmentation of once contiguous mature upland hardwood forest types. Therefore, no individual species or potentially suitable upland-forested habitat was identified during field survey and no appropriate habitat would be impacted by the Proposed Project.

Pink Ladyslipper. The distribution range of the pink ladyslipper (*Cypripedium acaule)* includes the project area. According to DNR's *Protected Plants of Georgia* publication, this perennial herb species typically occurs in acid soils of pinelands or upland hardwoods with scattered pine. However, the species occasionally grows on the edges of rhododendron thickets and mountain bogs. Appropriate habitat for the species is devoid of invasive plant species, especially Japanese honeysuckle, disturbance to the soils, and periodic burning of the understory to allow for some sunlight. Historical and current land uses within the project area have resulted in the degradation and fragmentation of mature pine or pine/hardwood upland forests. Therefore, no individual species or potentially suitable habitat was identified during field survey and no appropriate habitat would be impacted by the Proposed Project.

Large Flowered Ladyslipper. The distribution range of the large flowered ladyslipper (*Cypripedium calceolus*) includes the project area. According to DNR's *Protected Plants of Georgia* publication, this perennial herb species typically occurs in rich moist north facing mountain coves with a hardwood forest overstory. The species does not tolerate invasive plant species, especially Japanese honeysuckle, or disturbance to the soils. Periodic thinning of the overstory to increase sunlight can be beneficial. Historical and current land uses within the project area have resulted in the degradation and fragmentation of mature hardwood upland forests. Therefore, no individual species or potentially suitable habitats were identified during field survey and no appropriate habitat would be impacted by the Proposed Project.

Harper Heartleaf. The distribution range of Harper heartleaf (*Hexastylis shuttleworthii)* includes the project area. According to DNR's *Protected Plants of Georgia* publication, this perennial herb species typically occurs in the Piedmont at the edges of forested bogs in peaty soils. The species does not tolerate invasive plant species, especially Japanese honeysuckle, disturbance to the soils, or drying of the soils. Historical and current land uses within the project area have eliminated any potential bogs. Therefore, no individual species or potentially suitable habitat was identified during field surveys and no appropriate habitat would be impacted by the Proposed Project.

4.8.4 Summary of Impacts

Surveys for federal and state threatened and endangered species as well as federal candidates were conducted by biologists. No federally listed species and no potentially suitable habitat that is capable of supporting such species were identified during the field surveys. Therefore, the Proposed Project would not impact any threatened and endangered species.

4.9 Invasive Species

Pursuant to Executive Order 13112, a survey for populations of invasive plant species that may be spread during construction was conducted for this Proposed Project. The survey was limited to the invasive species identified by the State (based on GDOT right-of-way maintenance experience) and considered a high priority due to negative environmental and economic impacts caused by those species.

Common to other highly urbanized regions, the biotic communities within the project area are severely fragmented and isolated, which has resulted in the encroachment and proliferation of a variety of high priority invasive species. Species identified within the project area and considered to be a top priority within the Piedmont Physiographic Province of Georgia include Japanese honeysuckle (*Lonicera japonica*), Chinese privet (*Ligustrum sinense*), kudzu (*Pueraria montana*), mimosa (*Albizia julibrissin*), and Chinese wisteria (*Wisteria sinensis*).

4.10 Wetlands

4.10.1 Methodology

The project area was evaluated with respect to the location of wetlands protected by the provisions of Executive Order 11990, the Clean Water Act of 1977, and subsequent federal regulations. Wetland and non-wetland water systems were evaluated pursuant to the guidelines set forth in the *1987 U.S. Army Corps of Engineers Wetland Delineation*. According to this manual, wetland sites display the following characteristics:

- Prevalence of hydrophytic vegetation
- Hydric soil
- Permanent or periodic inundation or saturation

Field surveys included the identification and delineation of any including wetlands, open water bodies, and intermittent and perennial streams. The "Waters of the U.S." were identified in areas within and adjacent to potential construction activities for the Proposed Project.

Using field survey data, the estimated impacts to wetland and non-wetland "Waters of the U.S." were quantified for the Proposed Project. The project area was categorized and digitized into GIS for the purpose of computation and graphical illustration. These calculations were based upon the encroachment to "Waters of the U.S." within the project area.

4.10.2 Wetland Resource Values

Wetland systems occurring in the project area provide a variety of valuable functions including the provision of wildlife habitat, nutrient/sediment retention, dissipation of erosive forces, and overflow storage. A "low-medium-high" rating system was used to evaluate the wetland sites relative to each other. The values were assigned using professional judgment of a biologist while taking into consideration factors such as:

- Age
- Species diversity
- Degree of saturation
- Flood abatement
- Landscape position
- Wildlife quality and diversity
- Greenbelt corridor positioning
- Disturbance
- Unique habitats
- Threat of encroachment
- Pre-existing pollution impact

Consideration was given to these factors and values while determining the function and quality of the wetland habitats identified within the project area.

4.10.3 Analysis of Impacts

4.10.3.1 Wetlands

All of the jurisdictional "Waters of the U.S." were confined to the southern boundary of the Proposed Project. One wetland is located in the project area along the south bank of Sandy Creek and northeast of Runway 26; however, this wetland would not be impacted by project construction (see Figure 11). No wetland impacts would be associated with the Proposed Project.

4.10.3.2 Streams

Sandy Creek is a somewhat impaired perennial stream that flows east to west along the southern boundary of the project area. The stream flows west to its confluence with the Chattahoochee River. Sandy Creek is on the State's 303(d) list for not supporting its designated uses. It is approximately 4-20 feet wide and flows within 4-5 foot high incised banks over a sand/gravel substrate. Past disturbances to the adjacent upland areas have contributed to heavy amounts of sedimentation within the streambed. The water depth averages from one inch to 2-3 feet deep. The adjacent vegetation is consistent with the bottomland hardwood forest community previously described in Section 4.7.2.2.

The Proposed Project would require two crossings of Sandy Creek, one associated with Runway 26 and one associated with Runway 27 (see Figures 12 and 13). For these crossings, named Taxiway 26 and Taxiway 27, bridges and culverts were compared to assess potential impacts to

Sandy Creek. Table 18 shows a comparison between the stream crossing length, area of floodplain encroachment, and also compares structure, fill cost, and mitigation cost.

Table 18
Comparison of Bridges vs. Culverts
FTY Taxiway Pair Crossings at Sandy Creek

Factor	Bridge Crossings	Total for Bridges	Culvert Crossings	Total for Culverts
Length of Stream Crossing	Taxiway 26: 100 feet Taxiway 27: 100 feet	200 feet[2]	Taxiway 26: 280-320 ft Taxiway 27: 280-320 ft	600 feet
Area of Floodplain Encroachment (cubic yards)	Taxiway 26: 6,000 cy Taxiway 27: 3,000 cy	9,000 cy	Taxiway 26 103,000 cy Taxiway 27 69,000 cy	172,000 cy
Structure Cost	Taxiway 26: $3,400,000 Taxiway 27: $2,200,000	$5,600,000	Taxiway 26: $2,500,000 Taxiway 27: $2,500,000	$ 5,000,000
Fill Cost[1]	Taxiway 26: $10,000 Taxiway 27: $5,000	$15,000 (2,000 cy)	$ 1,200,000** (192,000 cy)	$ 1,200,000
Mitigation Cost	No stream mitigation needed with clear span	$85,000 floodplain*	See Total for Culverts	$100,000 stream $800,000+ floodplain*
Total Cost	See Total for Bridges	$5,700,000	See Total for Culverts	$7,100,000

[1]Standard unit prices are approx $7.75 - $8/cy; reduced to approx $6.25/cy for this comparison to allow for benefit of using some onsite material.
[2]Spanning over, but not in stream.

*Floodplain compensation costs assume 1:1 ratio and re-use of borrow from the mitigation site as fill at the development site; include professional fees, excavation/removal of dirt, and replanting/reseeding in created floodplain area.
Source: Kimley-Horn and Associates, Inc. 2003.

As shown in Table 18 and on Figure 12, bridging Sandy Creek would have substantially less impact to streams and floodplains. The bridge would minimize disruption to streams and buffers and would not require a Section 404 permit if the bridge piers avoid the streambed. Furthermore, overall costs associated with bridging Sandy Creek would be $1.4 million less than culverts. Therefore, the Proposed Project would be designed with bridges spanning the streambed and natural buffer to avoid impacts.

4.10.4 Summary of Impacts

A comprehensive field reconnaissance of the project area was conducted to evaluate the potential impacts to "Waters of the U.S." The Proposed Project would not impact any jurisdictional wetlands or streams if the bridge piers avoid the streambed. However, there may be some minor sedimentation within the stream during construction activity. These impacts would be minimized to the maximum extent practicable. Because the streams within the project area are not navigable, Section 10 of the Rivers and Harbors Act of 1899 does not apply.

4.11 Water Quality

4.11.1 Introduction

Careful consideration must be given to water quality issues as the Proposed Project is located adjacent to one of north Georgia's most important surficial water resources: the Chattahoochee River. The Chattahoochee River borders the NTA to the northwest and flows southwest. Sandy Creek, a tributary to the Chattahoochee River, borders the NTA to the south and flows west-northwest into the Chattahoochee River. Due to the proximity of the project area to these two water bodies, this project poses potential water quality impacts. Activities associated with the Proposed Project that may impact water quality include clearing and regrading, adding impervious surfaces which generate run off, and potential placement of fill material in Sandy Creek to construct two taxiway crossings over the creek.

Water quality regulations must be considered during the design, construction, and operation phases of the Proposed Project. The waters of the Chattahoochee River and its tributaries are protected by several federal, state, and local regulations. This section discusses water quality factors as they are governed by these regulations, including sediment and erosion control, placement of fill material, storm water discharge, water quality buffers, and containment of fuel spills and runoff from aircraft washing.

FAA Order 5050.4A states that it may be assumed there would be no significant water quality impacts resulting from the Proposed Project if the analysis and the appropriate consultations described within this section can demonstrate it is possible to meet water quality standards, there exists no special water related problem, and that there is no anticipated permitting difficulty.

4.11.2 Federal Regulations

Clean Water Act

Under Section 404 the Clean Water Act, a permit is required for any discharges of dredged or fill material into "Waters of the U.S." This permit is issued by the USACE.

As discussed in Section 4.10.3.2, two possible taxiway crossing alternatives at Sandy Creek were considered: constructing culverts or bridges. Each alternative was evaluated with respect to the length of stream that would be affected, the total area of floodplain that would be encroached upon, and the overall cost of each alternative (including costs of structures, fill, and mitigation). These evaluations concluded that the bridge option would both reduce affects to the stream and floodplain as well as cost less, and is, therefore, the preferred alternative.

Design of the bridge crossing has not yet taken place. However, preliminary planning indicates that the bridge piers can be positioned to avoid placement of fill or structures in the main channel of Sandy Creek, thus avoiding the necessity of a Section 404 Permit. The Clean Water Act also requires a National Pollutant Discharge Elimination System (NPDES) Permit for any discharge composed entirely of storm water. This permit is discussed in Section 4.11.3 (State Regulations).

The State of Georgia 305(b) list contains all navigable waters in the state that require a biennial water quality report under Section 305(b) of the Clean Water Act. All waters that are found to be partially supporting or not supporting of their designated uses are placed on the State of Georgia 303(d) list. GA EPD updated this list in 2002. Both Sandy Creek and the segment of the Chattahoochee River bordering the NTA are listed as not supporting their designated uses of fishing. The EPA requires states to set Total Maximum Daily Loads (TMDLs) for all waters that are included on the 303(d) list; however, TMDLs have not yet been set for either of these water bodies. Impaired waters are discussed in more detail in Section 4.11.4 (Local Regulations).

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act is applicable to any project that affects water resources, including wetlands, impoundments, diversion, deepening, modifying, or filling any water body. Consultation has been initiated with the USFWS and with Georgia EPD. Both agencies have been afforded the opportunity to comment on the wildlife aspects of the project to determine possible damage to wildlife resources and to determine methods by which the loss of or damage

to wildlife resources may be prevented, as well as to provide for the development and improvement of these resources.

4.11.3 State Regulations

Erosion and Sedimentation Act

EPD regulates the construction activity, as it relates to water quality. In accordance with the Erosion and Sedimentation Act of 1975 (amended 2000), EPD requires that a Land Disturbance Permit (LDP) be obtained for any land-disturbing activity as defined in EPD Chapter 391-3-7-.01. The work associated with this project qualifies as a land-disturbing activity and, therefore, requires a permit. The state has certified Fulton County to be the issuing authority for this permit. Specific county requirements for obtaining this permit are discussed in Section 4.11.4.

Impaired Waters

As mentioned previously, EPD has included Sandy Creek and the segment of the Chattahoochee River adjacent to the project area as not supporting their designated uses. Both water bodies are classified as fishing waters. Sandy Creek is nonsupporting of its designated use because of elevated fecal coliform levels due to urban runoff. The Chattahoochee River is nonsupporting because of temperature, fecal coliform, and fish consumption guidance violations. Both water bodies are on the 303(d) list, which means that TMDLs would be created for them and more stringent water quality standards could be mandated in the future.

Vegetative Buffers

The state mandates a 25-foot-wide natural vegetative buffer along either side of all state waters. EPD has granted local governments authority to exempt this buffer. A buffer exemption application must be submitted to Fulton County for any land-disturbing activities that would encroach upon the buffer. However, Fulton County has imposed stricter buffer requirements that supersede the 25-foot buffer on the Chattahoochee River and its tributaries. These requirements are discussed in Section 4.11.4.

National Pollutant Discharge Elimination System Permits

EPD requires any discharge composed entirely of storm water to be permitted under the NPDES. FTY operates under General Permit No. GAR000000, *Authorization to Discharge Under the National Pollutant Discharge Elimination System Stormwater Discharges Associated with*

Industrial Activity. The general permit requires the preparation of a Storm water Pollution Prevention Plan (SWPPP). The current permit expires on May 31, 2003. FTY must submit the 2003 Version of the Notice of Intent (NOI) form by May 31, 2003 to remain covered under this permit. Georgia EPD is currently accepting public comments on the new general permit. FTY's SWPPP also would be modified to include the Proposed Project.

The Proposed Project would require a separate NPDES Construction Permit to cover the construction activity associated with this project. Activity that results in a total land disturbance of less than 250 acres is eligible for coverage under General Permit GAR100000. This project should meet this criterion. An NOI must be submitted to EPD for coverage under a General Permit.

Metropolitan River Protection Act

The Georgia General Assembly enacted the Metropolitan River Protection Act (MRPA) in 1973 to protect the water quality of the Chattahoochee River. As mandated by this Act, the ARC developed the Chattahoochee Corridor Plan, which established three sets of standards for a 2,000-foot corridor along either side of the Chattahoochee River: vulnerability standards, buffer zone standards, and floodplain standards. The vulnerability and buffer zone standards are discussed in Section 4.11.4. Floodplain standards are discussed in Section 4.12.

4.11.4 Local Regulations

Many Fulton County and City of Atlanta regulations would affect this project. On May 23, 2002, Ibrahim Maslamani at Fulton County was contacted concerning overlapping regulations between City of Atlanta and Fulton County. Mr. Maslamani stated that Fulton County recently met with the City of Atlanta to discuss permit-issuing authority between the two governments. The verbal agreement reached at that meeting granted regulatory authority to the county for all projects falling within the county's jurisdiction, except in cases where the project would impact City systems (sewer, water, roads, etc.). In such cases permits must also be obtained from the City.

The Proposed Project would not likely affect City systems and therefore, all permits required by the state and county should be submitted to the appropriate agencies for approval. Copies of all material submitted to the state and county should also be submitted to the City as a courtesy. Should the City have a problem with any of the proposed actions, they would direct their

concerns to the appropriate permitting authority. Formal approval does not need to be obtained from the City.

Land Disturbance Permit

As mentioned in the previous section, the state has granted Fulton County issuing authority for LDPs. The county mandates that any land-disturbing activity affecting more than 5,000 square feet of area or occurring within 200 feet of any state water must be covered under an LDP. The Proposed Project meets both of these criteria. The application for an LDP from Fulton County must include the project plan and a sedimentation and erosion control plan. The application should also include provisions to mitigate post-development surface water runoff quality and quantity from the site to closely approximate the conditions before development at the site outlet and downstream of the proposed development.

Structural and nonstructural BMP suggestions and specifications are provided in the *Stormwater Management Storm Drainage Design and Criteria Manual* published by the Fulton County Department of Public Works. The *Georgia Stormwater Design Manual* (published by ARC) has design criteria for the BMPs as well.

Fulton County also requires a building permit to build within county jurisdiction. The LDP and a plan review process are prerequisites for obtaining the county building permit.

Erosion and Sedimentation Control Plan

Fulton County Department of Environment and Community Development (DE & CD) and Department of Public Works mandate that the erosion and sedimentation control plan meet the standards of the Georgia Erosion and Sedimentation Act of 1975. EPD further defines the requirements of the plan to include narratives, maps and drawings, land-disturbing activity schedules, and other supportive data necessary to present a complete understanding of the proposed land-disturbing activity, as described in EPD rules Chapter 391-3-7-.04.

Stream Buffers

Several stream buffers must be maintained both along the Chattahoochee River and Sandy Creek throughout the construction and operation phases of the Proposed Project, as mandated by the Chattahoochee Corridor Plan and the South Fulton County Tributary Protection Ordinance. The most stringent, and therefore governing, buffer requirements are as follows:

- A 150-foot impervious area setback along the river.
- A 75-foot undisturbed natural vegetative buffer on each side of all tributaries, including the Chattahoochee River and Sandy Creek.
- A horizontal impervious setback of 15 feet and an additional improvement setback of 10 feet adjacent to and outside the natural vegetative buffer.

Both the Chattahoochee Corridor Plan and the South Fulton County Tributary Protection Ordinance state that these buffer requirements may be waived in the case of a transportation facility stream crossing. The two taxiway crossings of Sandy Creek are, therefore, exempt from these requirements. The remaining elements of the Proposed Project have been planned so as not to encroach upon these buffers.

Vulnerability Standards

In addition to buffer zones, MRPA and the Chattahoochee Corridor Plan have defined vulnerability zones along the Chattahoochee River. These zones are characterized by six vulnerability categories, each of which defines maximum allowable percentages of disturbed area and impervious area. The project area lies within vulnerability zones of varying categories. The Proposed Project has been planned to remain within the allowable percentages within each zone. The MRPA Vulnerability Standards are shown in Table 19.

Table 19
Metropolitan River Protection Act
Vulnerability Standards

Vulnerability Category	Percent Maximum Land Disturbance	Percent Maximum Impervious Surface
A	90%	75%
B	80%	60%
C	70%	45%
D	50%	30%
E	30%	15%
F	10%	2%

Source: Chattahoochee Corridor Plan, September 23, 1998.

The Vulnerability Standards are based on the following factors:

- Soil erodibility
- Vegetation
- Hydrology
- Slope
- Floodplain

The Vulnerability Standards were developed by ARC in the Chattahoochee Corridor Plan, as amended September 23, 1998. Before development can begin, the Sponsor must submit a Corridor Review Application Form. This application must include a description of the proposed land or water uses, a vegetation plan, a site plan, an erosion control plan, a grading plan, a land disturbance plan, and all other required data listed in the ARC MRPA Rules and Regulations.

MRPA allows the Sponsor to revise the vulnerability categories in the project area using more current data than that available during the original classification (see Figure 13). New vegetative cover, soil, slope, hydrologic boundary, and floodplain data were obtained and combined in a geographic information system (GIS) to revise the MRPA vulnerability categories. These revised vulnerability categories are presented in Figure 14. The revised categories have been coordinated with ARC and have received staff approval. Final approval would be given when the revised categories are submitted to ARC as part of the Corridor Review Application.

ARC also allows vulnerability categories to be upgraded once to the respective next less restrictive categories if an undisturbed buffer zone is maintained adjacent to the river. This buffer zone must equal 1/3 of the project area. Because the MRPA corridor extends 2,000 feet from the banks of the Chattahoochee River, this buffer is usually taken to be the 500-foot-wide zone closest to the river. For the Proposed Project, this optional buffer has been maintained, thereby allowing the Sponsor to upgrade each vulnerability category within the project area. For example, areas that are marked with a "D" in Figure 13 are now only subject to the restrictions of category "C," and likewise for all other categories except floodplains, which cannot be upgraded.

Using the allowable percentages of disturbed and impervious area of the upgraded vulnerability categories, a site layout was devised for the NTA. This layout is shown over the revised and upgraded MRPA vulnerability categories in Figure 14. Table 20 shows the allowable and actual disturbed and impervious areas of the layout within each category.

Table 20
Disturbed and Impervious Areas

Vulnerability Category	Total in Project Area (acres)	Disturbed Area			Impervious Area		
		Area (acres)	Percent of Total	Maximum Allowed[1]	Area (acres)	Percent of Total	Maximum Allowed[1]
Upgraded B	8.91	7.77	87.2%	90.0%	5.88	65.9%	75.0%
Upgraded C	24.22	16.88	69.7%	80.0%	12.85	53.1%	60.0%
Upgraded D	35.28	20.63	58.5%	70.0%	14.33	40.6%	45.0%
Upgraded E	26.92	11.46	42.6%	50.0%	6.64	24.7%	30.0%
Floodplain	8.93	0.15	1.7%	30.0%	0.06	0.7%	15.0%
Totals	**104.26**	**56.89**			**39.76**		

[1] Maximum allowable values reflect upgrading by one vulnerability category.

Source: Camp Dresser & McKee, Inc. 2003.

Detention Facilities

Fulton County DE & CD requires detention of storm water runoff from the project site for water quality purposes. Detention facilities must be designed to hold runoff from the first 1.2 inches of rainfall for a minimum of 48 hours. This regulation conflicts with the FAA requirement that airport detention facilities drain within 24 hours. One possible solution to this conflict is to design drainage swales adjacent to the taxiways that detain and partially treat runoff upstream of a detention facility. The Fulton County detention requirement is a water quality measure only, not intended as a flood-control measure. Flood control requirements, discussed in Section 4.12 and erosion control requirements, discussed below, should also be met by detention facilities.

Possible future water quality regulations are included in Appendix C.

4.11.5 Conclusions

The laws and requirements presented in the section are applicable to this project and must be considered throughout the design, construction, and operation phases of the NTA development.

The following agencies or regulations have established requirements and permits that are pertinent to this project:

- Fulton County Department of Environment & Community Development (DECD)
- Fulton County Department of Public Works (DPW)
- Georgia Environmental Protection Division
- Metropolitan River Protection Act
- Atlanta Code of Ordinances
- South Fulton County Tributary Protection Ordinance
- Clean Water Act
- Rivers and Harbors Act of 1899
- Fish and Wildlife Conservation Act

A summary of specific project-related water quality requirements and permits is presented in Table 21. Water quality impacts can be avoided by considerations during design, controls during construction, and other mitigation measures in the case of most airport activities. The Proposed Project has been planned to meet the requirements of the revised and upgraded MRPA categories. During the project design phase a Corridor Review Application must be submitted to ARC.

The analysis revealed one "special water related" problem in the project area: the impaired waters adjacent to the project area on Georgia's 303(d) list. TMDLs would be created for these reaches and more stringent water quality standards may apply in the future. Since this issue was the only problem found, and because the EA has examined applicable regulating and permitting agencies and found no anticipated permitting difficulty, the construction and operation of the Proposed Project would not result in any significant water quality impacts. The implementation of the No-Action Alternative would have no water quality impacts.

Table 21
Water Quality Regulatory Matrix

Standard	Applicable Regulation	Description
Stream Buffer Standards	GA EPD	Encroachment application must be submitted to Fulton County if conducting land-disturbing activity within 25 ft of any state waters.
	Atlanta Code of Ordinances	Must adhere to all local, state, and federal standards.
	South Fulton Co. Tributary Protection Ordinance	75-foot natural vegetative buffer on each side of all tributaries; horizontal impervious surface setback of 15 ft and an additional improvement setback of 10 ft outside all natural vegetative buffers.
	MRPA	150-foot impervious area setback along Chattahoochee River.
Vulnerability Standards	MRPA	Keep disturbed and impervious areas below limits set for each vulnerability zone in project area.
Erosion & Sedimentation Control Plan	Fulton County DE & CD and Public Works	Plan must meet standards of Georgia Erosion and Sedimentation Act of 1975.
	GA EPD	Plan must include narratives, maps and drawings, land disturbing activity schedules and other data described in GA 391-3-7-.04.
	Atlanta Code of Ordinances	Submit copy of Plan to City of Atlanta as a courtesy.
Land Disturbance Permit	Fulton County DE & CD and Public Works	Required if disturbing > 5,000 sq ft or within 200 feet of a state water. Application must meet requirements of Fulton Co. Drainage Manual.
	GA EPD	Must meet requirements of Fulton Co. DE & CD and Public Works LDP.
	Atlanta Code of Ordinances	Submit copy of LDP application to City of Atlanta as a courtesy.
Building Permit	Fulton County DE & CD and Public Works	Plan review process and land disturbance permit are prerequisites.
NPDES Permit	GA EPD	Project is eligible for coverage under a general construction permit if it disturbs <250 acres.
	Clean Water Act	NPDES Permit is required for operational stormwater discharges and construction stormwater discharges. Airport must submit 2003 Notice of Intent Form to renew its Industrial Permit.
Detention	Fulton County DE & CD and Public Works	Facility should hold first 1.2 inches of runoff for a minimum of 48 hours.
Discharge of Fill Material Into Waters of the U.S.	Fish and Wildlife Conservation Act	US Fish and Wildlife Service, Dept of the Interior, and GA EPD must be consulted.
	Clean Water Act	Section 404 Permit must be obtained from USACE if taxiway crossings necessitate placement of fill in Sandy Creek.

Source: Camp Dresser & McKee, Inc. 2003.

4.12 Floodplains

4.12.1 Introduction

As discussed previously, the project area is bordered by the Chattahoochee River to the northwest and Sandy Creek to the southwest. Because the project area is located across Sandy Creek from the runways, taxiways must be constructed over the creek. Therefore, no practicable alternatives to this project are available to avoid encroachment on floodplains. The following discussion details the regulations related to floodplain impacts, an assessment of the Proposed Project's floodplain impacts, a determination as to their significance, and proposed mitigation measures (e.g., compensatory storage).

4.12.2 Regulatory Review

A regulatory review was conducted to identify applicable federal, state, and local floodplain regulations that pertain to this project. Regulatory agencies also were contacted and given the opportunity to comment on the Proposed Project. Among the regulatory documents reviewed were Executive Order (EO) 11988, DOT Order 5650.2, FAA Order 5050.4A, FAA Advisory Circular 150/5320-5B, FEMA Flood Insurance Rate Maps (FIRM) for Fulton County, the MRPA, the Fulton County Department of Public Works, and City of Atlanta Ordinances.

Executive Order 11988 and DOT Order 5650.2

Executive Order 11988 defines floodplains as "the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year." EO 11988 instructs federal agencies to "take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains..." Agencies such as the FAA and DOT have established policies to enforce EO 11988.

DOT Order 5650.2, Floodplain Management and Protection, contains DOT's policies and procedures for implementing the executive order. The DOT Order defines "natural and beneficial floodplain values" as including, but not limited to: natural moderation of floods, water quality maintenance, groundwater recharge, fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, and forestry.

DOT Order 5650.2 defines a significant floodplain encroachment as one that results in one or more of the following:

- A considerable probability of loss of human life.
- Likely future damage associated with the encroachment that could be substantial in cost or extent, including interruption of service on or loss of a vital transportation facility.
- A notable adverse impact on natural and beneficial floodplain values.

If the Proposed Project and reasonable alternatives are within the limits of a base (100-year) floodplain, this is considered by DOT Order 5650.2 to be a floodplain encroachment. EO 11988 and the DOT Order 5650.2 establish a policy to avoid taking action within a base floodplain where practicable. The term "practicable" means feasible. Whether another alternative is practicable depends on its feasibility in terms of safety, meeting transportation objectives, design, engineering, environment, economics, and any other applicable factors. Every effort must be made to minimize the potential risks to human safety and property damage and the adverse impacts on natural and beneficial floodplain values.

FAA Order 5050.4A, Airport Environmental Handbook

FAA Order 5050.4A discusses floodplains in Section 47(e)(12). This order instructs planners to consult FIRM data published by FEMA to determine the extents of base floodplains. Any proposed action that would occur within the boundaries of the base floodplain must be investigated "using the best available method meeting acceptable professional engineering standards."

If the proposed action and reasonable alternative would encroach within the limits of a base floodplain, the following apply:

- The EA shall indicate briefly why the action is proposed to be located in a floodplain and why there are not considered to be any practicable alternatives outside the base floodplain.
- The EA shall include the map information, analyses, and proposed mitigation measure and shall also consider any risk to, or resulting from the airport action in the base floodplain, including long term loss of available food storage volume.
- The EA shall indicate if the encroachment would result in significant encroachment as defined above.
- The EA shall indicate if the Proposed Project is in a special flood hazard area designated by the Federal Insurance Administration (FIA) or proposed to be so designated.

- The EA shall identify any state and local floodplain regulations and standards that must be adhered to, indicate whether the Proposed Project would conform, and name the state and local agencies having jurisdiction.

- An opportunity shall be provided for public review of base floodplain encroachments. This may be accomplished through existing public involvement procedures.

FAA Advisory Circular 150/5320-5B, Airport Drainage

Design considerations related to flood moderation and floodplains are critical for the Proposed Project, as FTY is located in an urban setting. In Advisory Circular 150/5320-5B, the FAA recommends that all airport drainage systems be designed to accommodate the 5-year storm.

Federal Emergency Management Administration

FEMA regulates the construction of buildings and other structures within the base floodplain by means of the National Flood Insurance Program (NFIP), of which Fulton County is a member. FEMA has designated Sandy Creek as a floodway, meaning its base flood elevations have been studied through detailed analysis and all efforts must be made to avoid increasing these flood elevations. FEMA dictates that a Conditional Letter of Map Revision (CLOMR) must be obtained for any development that would result in any increase of the base flood elevation of a designated floodway or in any movement of a floodplain. As this project would likely result in an increase of flood elevation in the vicinity of the taxiway crossings and change the extents of the base floodplain, the airport would need to submit a request for a CLOMR (MT-2 Form) to FEMA, along with design plans and other engineering data to allow FEMA to evaluate the need for a flood map revision.

During early agency coordination, a project description and an associated figure were sent to FEMA for comment. FEMA expressed concern over the southwestern corners of the two westernmost aircraft aprons that were partially located in the base floodplain. FEMA's concern was that encroachment of these structures might add to the potential for upstream flooding. FEMA requires that any structures built in the base floodplain be flood-proofed. In order to minimize floodplain encroachment, the original layout FEMA reviewed has been modified. The modified project layout does not include any structures within the base floodplain. This revised layout is shown with the FEMA 100-year and 500-year floodplains in Appendix C.

Furthermore, FEMA recommended that the taxiway crossings be designed to withstand the 100-year flood flow, both to avoid potential harm to the taxiways and to minimize the risk of upstream flooding caused by backwater during high flows. The current project plan calls for bridges

crossing, and 100-year flood conveyance would be accommodated. A copy of FEMA's correspondence is included in Appendix B.

Metropolitan River Protection Act

MRPA, as discussed in Section 4.11 (Water Quality), also contains requirements with respect to floodplain encroachment. The ARC enforces MRPA within its jurisdiction. During the early agency coordination, ARC noted that for floodplain area delineation ARC uses the elevations established by the USACE in the document entitled *Flood Plain Information Chattahoochee River, Buford Dam to Whitesburg, Georgia, November 1973*, and a supplement to this document dated March 1982. ARC does not use FEMA maps. ARC noted that the 100-year flood elevation is delineated along the 767-foot contour and the 500-year flood elevation is delineated from the 786-foot at US 78 (D.L. Hollowell Parkway) to the 785.5-foot contour at Sandy Creek.

In the 100-year floodplain, the standards require that all fill volume up to the floodplain elevation must be balanced with an equal amount of cut. Furthermore, flood flows cannot be blocked. Within the 500-year floodplain, a height limit of 35 feet above existing grade for all structures other than bridges is enforced. ARC's letter can be found in Appendix B.

An ARC representative has informed the Sponsor that ARC may switch to FEMA's floodplains in place of USACE's floodplains for regulatory purposes following a meeting in May 2003. This decision would affect the Proposed Project because there are differences between the two agencies' floodplain coverages (see figure in Appendix C).

Fulton County Department of Public Works

One or more detention facilities for flow attenuation should be constructed on-site to control the rate of flow and velocity after development. The same facility can be designed for water quality control, erosion control, and flow control. Water quality and erosion requirements for detention facilities are discussed in Section 4.11 (Water Quality). The Fulton County Drainage Manual gives the following design requirements for flow attenuation detention facilities:

- "No increase in the rate and velocity of runoff … greater than one cubic foot per second (cfs) for drainage basins with areas equal to or less than 10 acres in size, 0.1 cfs for each acre greater than 10 and less than or equal to 100 acres, and no greater than 10 cfs for areas of any size."

- Runoff hydrographs should be used to determine the rates and velocities after development and then be routed through the detention facility, for development areas greater than 5 acres. The increases in rate and flow must comply with the above restrictions.
- The volume of the detention basin and the outflow device must meet the runoff rate and velocity restrictions for the 2-year, 10-year, and 25-year frequency storms and all durations.
- The detention facility must have an overflow device or emergency spillway to accommodate the 100-year frequency storm. If the overflow or emergency spillway is not provided, the outlet device must be designed for the 100-year frequency.

City of Atlanta Ordinances

The City of Atlanta Code of Ordinances states that no fill or encroachment is allowed in the floodway that would impair the ability of the floodway to discharge the 100-year flood. The Code further states that earth disturbing activity would be allowed in the floodplain only when it allows storm water to enter the floodway by sheet flow (not channelized) and results in no net loss of flood volume. Table 22 contains a matrix of the floodplain requirements discussed above.

Table 22
Floodplain Regulatory Matrix

Agencies/Regulations	Floodplain Standards
FAA Order 5050.4a; Executive Order 11988; DOT Order 5650.2	EA must include: explanation of why alternatives are not feasible, map information, proposed mitigation, indication of "significant encroachment," indication of encroachment on special flood hazard areas, and assessment of impact on natural and beneficial floodplain values.
FAA Advisory Circular 150/5320-5B	All airport drainage systems should be designed to accommodate the 5-year flood.
Federal Emergency Management Agency	Bridge crossing must be designed to pass the 100-year flood. A CLOMR must be obtained for any development that will result in any increase of the base flood elevation of Sandy Creek or in any movement of its base floodplain.
Fulton County Department of Public Works	Detain site runoff from first 1.2" of rain for at least 48 hours. Control runoff flowrate from site such that it does not exceed 0.1 cfs per acre more than the pre-development flowrate for the 2-year, 10-year, and 25-year design storms. Design emergency spillways on detention facilities to accommodate the 100-year storm.
City of Atlanta Code of Ordinances	No fill or encroachment is allowed in floodway that will impair its ability to discharge 100-year flood. Earth disturbing activity allowed in floodplain only when it allows flow to enter floodway via sheet flow.
MRPA	Any fill placed in base floodplain must be balanced with equal amount of cut elsewhere in base floodplain. Structures other than bridges are limited to 35' of height in the 500-year floodplain.

Note: Table presents only currently enacted regulations.

Source: Camp Dresser & McKee, Inc. 2003.

4.12.3 Assessment of Floodplain Impacts

4.12.3.1 Extent of Floodplain Encroachment

For the sake of maintaining compliance with the regulations presented in the previous section, the floodplain regulatory standard to follow is FEMA's delineation, except in the case of MRPA. As previously discussed, the floodplain regulatory standard referenced by MRPA is USACE's delineation. However, ARC may switch from this standard to the FEMA standard following a meeting in May 2003.

FEMA FIRMs covering the NTA were studied to determine the extent of encroachment in designated Special Flood Hazard Areas (SFHAs), including the base floodplain and the 500-year floodplain. The project area encroaches on the 100-year floodplain and the 500-year floodplain (refer to figure in Appendix C). The extent of project encroachment into the base floodplain is 17,260 cubic yards.

4.12.3.2 Alternatives to Floodplain Encroachment

Since access must be provided from the Proposed Project's hangar areas to the runways, there is no practical alternative to the proposed layout that would avoid activity in the floodplain of Sandy Creek. However, the taxiway crossings are perpendicular to the stream to minimize the impacts of the placement of fill.

4.12.3.3 Determination of Significant Encroachment

As noted above, DOT Order 5650.2 defines a significant encroachment as one that has:

- A considerable probability of loss of human life.
- Likely future damage that could be substantial in cost or extent, including interruption of service on or loss of a vital transportation facility.
- A notable adverse impact on natural and beneficial floodplain values.

Per the MRPA requirement, the base floodplain encroachment would be mitigated by an equal amount of cut. The Proposed Project's revised layout does not have any buildings located within the base floodplain. Bridge pier design would eliminate or minimize any rise in base flood elevation upstream of the piers. Therefore, there is not a considerable probability of loss of human life. Nor is there likely future damage that could be substantial in cost or extent, including interruption of service on or loss of a vital transportation facility.

As noted above "natural and beneficial floodplain values" is defined as including, but not limited to: natural moderation of floods, water quality maintenance, groundwater recharge, fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, and forestry.

The natural moderation of floods would not be impacted, as the floodplain encroachment would be mitigated by an equal amount of cut. Water quality would be maintained in accordance with the requirements noted in Section 4.11.

Fulton County, along with much of Georgia's northern Piedmont region, lies over surficial crystalline-rock aquifers. Surface water features of this region recharge these aquifers. Construction of impervious surfaces within the floodplains of this region may act to impede the recharge of water to these aquifers. However, this project would not have a significant impact on groundwater recharge because the total impervious area that would be constructed in the floodplain is very small compared to the overall floodplain (recharge) area.

No significant or adverse impacts are anticipated in these areas. Also, no portion of the affected floodplain is currently used for scientific study, outdoor recreation, agriculture, aquaculture, or forestry.

This project does not qualify as a significant encroachment under the definitions of DOT Order 5650.2.

4.12.4 Floodplain Mitigation

The construction of taxiways across Sandy Creek would necessitate the placement of fill material in the floodplain of the creek. The taxiway crossings would be designed to minimize the amount of fill necessary. The approximate volume of base floodplain that would be lost due to the placing of fill for the taxiway bridge crossings is 1,660 cubic yards, based on the conceptual layout. An additional approximately 15,600 cubic yards of fill would need to be placed in the base floodplain to bring up grades within the project area. A more accurate fill volume would be calculated during project design, once a detailed grading plan has been devised. Figure 15 shows the three locations where fill would need to be placed in the base floodplain for regrading.

The loss of floodplain volume in Sandy Creek may be mitigated by excavating additional floodplain storage volume along the upstream of the creek crossing at Fulton Industrial

Boulevard. According to the MRPA, this excavated storage volume should be equal to the volume of base floodplain lost due to construction and filling in the project area. Properly designed taxiway crossings in conjunction with the additional excavated floodplain storage should be sufficient to alleviate any risks of upstream flooding up to the 100-year flood. Potential floodplain mitigation areas are shown in Figure 16. The areas delineated in this figure are on currently undeveloped airport property.

Water quality within the floodplain also is an especially important consideration within the project area. The most important water quality measure to be practiced during construction is sediment and erosion control. A sediment and erosion control plan must be devised and enacted to prevent an increase in sediment load to the waters of the floodway from construction within the floodplain. The Proposed Project layout preserves a vegetative buffer along the floodways of the Chattahoochee River and Sandy Creek (except for the taxiway crossings) to help trap sediment that may originate in the project area. Detention facilities may be constructed on the project site to treat storm water runoff before it enters Sandy Creek or the Chattahoochee River. Water quality is discussed in more detail in Section 4.11.

Detention facilities also would be constructed on the project site for flood control. These facilities would be designed to meet the requirements outlined in the Fulton County Drainage Manual for post-development runoff flowrates and velocities (discussed in Section 4.12.2). Preliminary planning estimates the total volume of on-site detention required for flood control to be approximately 1,015,000 cubic feet, which is equivalent to 3.9 acres of detention area at an average depth of six feet.

Any possible future floodplain regulations are included in Appendix C.

4.12.5 Conclusions

FAA Order 5050.4A includes the analysis criteria to determine if there is a project-related floodplain impact, determine if the impact is significant, and the data requirements that must be included in an EA. In response to the procedures as outlined above, it has been determined that while there is floodplain encroachment, it is not significant, and no further evaluation is necessary for a Finding of No Significant Impact (FONSI). In summary:

- There are no practicable alternatives to this project that do not impact the floodplain. Taxiways must be constructed across Sandy Creek to connect the NTA to the runway area, thus necessitating the placement of fill in the floodplain of Sandy Creek.
- The floodplain impacts would be mitigated as discussed above.
- This project does not meet the criteria established by DOT for a significant floodplain impact.
- The Proposed Project is not in a special flood hazard area designated by the FIA.
- State and local floodplain regulations and standards that must be adhered to are discussed above.
- The opportunity for public review would be provided through the public involvement portion of this EA.
- If this project results in an increase of flood elevation in the vicinity of the taxiway crossings due to backwater upstream of the bridge piers and changes the extents of the base floodplain, the airport would need to submit a request for a CLOMR to FEMA.
- Detention facilities should be constructed on-site to control the quality and flow rate of storm water runoff from the site.

4.13 Coastal Zones and Coastal Barriers

Fulton County is not located in a coastal zone area governed by the Coastal Zone Management Act of 1972. Moreover, the Proposed Project is not located within any coastal barrier resource area in accordance with the Coastal Barrier Resources Act of 1982. Therefore, no impacts to any coastal zone or coastal barrier resources would occur. No further analysis or mitigation is necessary.

4.14 Wild and Scenic Rivers

The federal Wild and Scenic Rivers Act describes those river areas that are eligible to be included in a system afforded protection under the Act as free flowing and possessing "...outstanding remarkable, scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values." The Act restricts development within 1,000 feet of rivers identified as wild and scenic. The only river in Georgia protected by this Act is the Chattooga River, which is located in northeast Georgia. The Proposed Project would result in no impacts to any rivers or river

segments that are designated as, or potentially qualified for inclusion into the National Wild and Scenic River System. No further analysis or mitigation is necessary.

4.15 Farmland

Farmland can be classified as prime, unique, statewide and locally important, or urban land. The Farmland Protection Policy Act (FPPA) authorizes the U.S. Department of Agriculture (USDA) to develop criteria for identifying the effects of federal programs on the conversion of farmland to nonagricultural uses. Federal agencies are directed to use the developed criteria to identify and take into account the adverse effects of federal programs on the preservation of farmland; to consider appropriate alternative actions that would lessen adverse effects; and to assure that such federal programs, to the extent practicable, are compatible with state, unit of local government, and private programs and policies to protect farmland.

Based on available field surveys, there are no areas in the project area designated as prime farmland, unique farmland, or farmland of state or local importance. Therefore, the Proposed Project would not adversely impact any prime, unique, or farmland of state or local significance. No further analysis or mitigation is necessary.

4.16 Energy Supplies

Energy requirements associated with the expansion of FTY could relate to either the changed demands for stationary facilities or the movement of air and ground vehicles. The Proposed Project was examined to identify any changes to stationary facilities that would have a major effect on local power supplies. Additional lighting needs include taxiway lights, building interior and exterior lights, parking lot lights, landscaping lights, and access road street lamps. Power supply for air conditioning, phone, and computer demands would be required in some of the new NTA buildings. Accordingly, Georgia Power Company was notified of the expansion plans and, in March 2002, returned confirmation of their ability to accommodate the change in demand. A copy of their email correspondence is included in Appendix B.

FAA Order 5050.4A states that increased consumption of fuel by aircraft need only be examined if average ground movement or runup times are increased substantially without offsetting

efficiencies in operational procedures. The air quality analysis showed a 23 percent increase in TIM for 2020. However, this resulted in a very low level of emission increase. As the emission increase is a direct result of fuel burned it can be determined that the increase in taxi time causes a substantial increase in fuel consumption. Neither would the expansion cause ground vehicle fuel consumption to increase substantially.

The Proposed Project would not involve a need for unusual materials or those in short supply. The Proposed Project would not cause changes in energy or other natural resource consumption such as demands exceeding supplies, large increases in fuel consumption, or the substantial use of limited natural resources. The implementation of either the No-Action Alternative or the Proposed Project would not have a significant affect on energy supplies.

4.17 Light Emissions

Additional lighting for the NTA would consist of the following:

- Taxiway lights
- Building exterior security lights
- Parking lot lights
- Landscape lighting
- Access road street lamps

Medium intensity taxiway lights (MITL) would be installed along the taxiways leading from the project area to the runways and along the stub taxiways leading from the parallel taxiways to the hangars. Buildings and parking lots would have lights for security purposes and possibly for landscaping.

The closest adjacent property is Bankhead Courts. The closest units at this complex are approximately 500 feet from the access road. A vegetative barrier would remain between the project area and Bankhead Courts. The buildings' exterior and security lights as well as landscaping lights would not impact adjacent neighborhoods because they are low-level lighting. Street lamps along the two-lane access road would be downcast pole mounted lights, no brighter than normal street lights, and would have little impact on adjacent property. None of the lights

listed above are expected to shine directly into residential homes. Usage of strobe lights and other high intensity lights is not anticipated in the project area. The light emissions from the Proposed Project would have no significant impacts to the adjacent properties. With the No-Action Alternative there would be no additional lighting and, therefore, no light emission impacts.

4.18 Solid Waste

4.18.1 Overview of Solid Waste Disposal Methods

To assess solid waste generation and disposal procedures, the project team interviewed FTY personnel and examined tenant data collected by airport officials.

The existing corporate hangars generally have one 8 cubic-yard dumpster (or similar) that is emptied one to two times per week. Solid waste generated from the airport's operations is collected in an 8-cubic-yard dumpster, which is emptied weekly. The onsite restaurant also collects solid waste in an 8-cubic-yard dumpster. Solid waste from one of the two onsite FBOs is collected in an 8-cubic-yard dumpster, which is emptied three times each week. Solid waste generation at the second FBO is likely to be similar, but detailed information was unavailable.

Typical waste streams generated by corporate hangar operations include paper products, food wastes, cardboard, aluminum cans, scrap metal, fiberglass, plastic, and wiring from non-salvageable aircraft components. Restaurant wastes are likely to consist mostly of food wastes, plastic containers, metal cans, and paper products. Typical airport FBO waste streams include paper products, cardboard, aluminum cans, plastics, and scrap metal components.

In addition, FBO and corporate hangar operations also generate recyclable materials (used oil, etc.) and/or universal wastes (batteries, bulbs/lamps, etc.). Waste streams from these activities are considered nonhazardous when handled in a manner consistent with state and federal guidelines.

Generally, solid waste collection from airport operations, the onsite restaurant, corporate hangar complexes, and the FBO occurs 1 to 2 times per week per location. Currently, the airport and its tenants contract with multiple independent waste haulers to collect solid waste and dispose of it at various municipal solid waste landfills located in the region.

4.18.2 Location of Solid Waste Disposal Facilities

To determine the location of solid waste disposal facilities within 1,500 meters of all runways planned to be used for piston-type aircraft and within 3,000 meters of all runways planned to be used by turbojet aircraft, information available from the Georgia EPD was reviewed and a site reconnaissance was performed. Based on information available in EPD's landfill database, one permitted landfill (Browning Ferris, Inc. [BFI] – Watts Road), located approximately 2,625 meters east of the approach end of Runway 26, ceased operations in 1987. Five additional landfills within the search radii were identified in the database; they are shown on Figure 17. No other specific information for these five landfills was present in the database. Therefore, a field reconnaissance was conducted to determine the potential for each identified landfill to attract birds and other undesirable wildlife.

During this reconnaissance, it was confirmed that the BFI facility was closed and capped. BFI continues to manage numerous compactor trucks and dumpsters onsite; however, the facility appeared well maintained and no visible trash or other debris was present at the time of the inspection. No indication of recent activities was observed at four of the other landfills identified in EPD's database. One operating construction and demolition debris (C&D) landfill (Mid-South Supply) was identified in the heavy industrial zone along the Chattahoochee River in Cobb County. No petrucible wastes or other potential bird attractants were identified during the investigation within the exclusion zone.

4.18.3 Solid Waste Impacts

The construction of the proposed aviation facilities would not lead to appreciable solid waste generation. The Proposed Project's subcomponents would temporarily generate some solid waste in the form of construction debris, which would be disposed in an appropriate construction or sanitary landfill by the construction contractor(s). Additionally, some C&D materials exist in the vicinity of the NTA. Where possible, these materials would be used as fill in the construction of the Proposed Project. Remaining materials would be sent to an approved landfill. Construction impacts are discussed in further detail in Section 4.20 (Construction Impacts).

In general, the landfills with the greatest remaining capacity are at distances greater than 20 miles from FTY, and the landfills currently being used are forecasted to reach capacity before the year 2020. In terms of direct waste hauling to landfills, it appears the required haul distance would increase as landfill capacity in the Atlanta region becomes scarce in approximately four to six

years. Additional capacity is available at other landfills within comparable distances and at comparable costs.

Occupancy and use of the facilities that would be constructed as part of the Proposed Project have the potential to cause an increase in the amount of solid waste generated at FTY. Since available landfill capacity does exist for some time, the implementation of either the Proposed Project or the No-Action Alternative would not produce a solid waste impact.

4.19 Hazardous Materials

4.19.1 Introduction

This EA addresses hazardous materials from two standpoints:

- Hazardous materials present on the site that could affect the site's future development
- Hazardous materials produced by the future development itself

This section of the EA includes an introduction to the regulations that affect hazardous waste, the results of the environmental evaluation conducted for the project area, and a discussion of the future development's potential for creating hazardous waste.

4.19.2 Regulatory Background

Various state and federal laws regulate the handling, storage, and disposal of hazardous materials. EPA designates materials as hazardous based on characteristics such as corrosivity, reactivity, toxicity, or ignitability. The following federal laws are the most relevant to the discussion of hazardous materials in an EA.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
Congress enacted CERCLA to address the growing problem of abandoned hazardous waste disposal sites, giving EPA the authority and responsibility for effective response to and remediation of abandoned hazardous waste sites. CERCLA created Superfund to help federal and state agencies pay for corrective action and cleanup projects. To recoup these costs, CERCLA authorizes the EPA to assess cleanup costs against responsible parties. CERCLA affects

hazardous waste after the fact; it does not regulate the management of waste. It is designed solely to finance cleanup costs.

Resource Conservation and Recovery Act (RCRA)

RCRA, contrary to CERCLA, is designed to manage hazardous waste by regulating the treatment, storage, and disposal of hazardous waste. RCRA created the "cradle to grave" premise as it regulates waste from its creation to its final disposal. To accomplish this, RCRA regulates hazardous waste generators, persons who arrange for the disposal of hazardous waste, the transportation of waste, and its eventual disposal.

Hazardous waste generators are classified into three categories:

- Conditionally Exempt Small Quantity Generators (CESQGs) – generates less than 100 kilograms (kg) of hazardous waste in a calendar month.
- Small Quantity Generators (SQGs) – generates between 100 and 1,000 kg of hazardous waste per calendar month.
- Large Quantity Generators (LQGs) – generates 1,000 kg or more of hazardous waste in any calendar month.

Because of the fueling and maintenance activities conducted, airports and some airport tenants fall under RCRA regulations. RCRA affects the day-to-day operations of the airport and its tenants because it regulates the generation and disposal of waste. CERCLA is only called into question if there is improperly disposed of waste.

Several tenants located on the existing FTY are regulated under RCRA. The RCRAInfo database in Envirofacts and EPA's environmental data warehouse were used to determine facilities currently on the airport that report under RCRA. These tenants include FBOs, maintenance facilities, and corporate hangars. The facilities are as follows:

- Coca-Cola Enterprises, EPA Facility ID 000009125224/Handler ID GAD984322446, located at 3931 Aero Drive. No Handler/Facility classification is available for this facility.
- Raytheon Aircraft Services Inc., EPA Facility ID/Handler ID GAD984322511, located at 3992 Aviation Circle. This facility is classified as an SQG.
- Fulton County Public Building Department, EPA Facility ID/Handler ID GAD981227804, located at 3929 Aviation Circle Brown Field. This facility is classified as an SQG.

- The Home Depot, EPA Facility ID GA0002439255/Handler ID GAR000014092, located at 4155 Airport SW. This facility is classified as an SQG.

4.19.3 Environmental Evaluation of Existing Site

An environmental evaluation report of the project area was performed to identify potential sources of environmental contamination or recognized environmental conditions associated with the Proposed Project that could impact site development. The findings are summarized below.

To fulfill the project objectives, site inspections and interviews were conducted with airport representatives on January 22 and March 1, 2002. In addition, the environmental evaluation consisted of a review of regulatory agency files, a city directory search, and evaluation of aerial photographs and historic topographic maps.

The historical use review indicates that the site was formerly owned by General Shale Products Company / Chattahoochee Brick. The site was mined by Chattahoochee Brick for clay to make bricks and tile. According to available records, the mining occurred in the late 1970s to early 1980s. Clay processing and brick manufacturing did not take place onsite. FTY acquired the property in 1989.

Construction debris, mostly blast rock, earth, concrete, and asphalt, have been placed on the Proposed Project. None of the material appeared hazardous. However, because the source of the material is unknown and the material inside the stockpiles cannot be viewed, it cannot be concluded that all of the material is inert.

The regulatory review revealed the site was listed on the Federal Mines Master Index database. The site was listed as owned by General Shale Products Company, operating as non-coal mining (SIC Code 14596), with an intermittent status. No environmental concerns were uncovered during the regulatory review.

Based on the inspection of the site, interviews with representatives knowledgeable about the property, the regulatory documentation review, and the historical records review, the following potential environmental concerns were identified:

- Potential soil contamination from the imported materials in the stockpiles.
- Potential contamination associated with the former mine operation.

Therefore, further inspection and testing is recommended for the site. The sampling should characterize and test for potential contaminants that may be associated with non-inert fill materials and the use of common petroleum or solvent-based products. Furthermore, because the property was previously used as a surface mine, the EPD requirements for surface mine reclamation should be considered. In addition, the final placement of the stockpiled material should address the EPD requirements for solid waste management and erosion and sedimentation control.

4.19.4 Hazardous Material Impacts of Future Development

The most common generators of hazardous waste on a general aviation airport are the FBOs because of the fueling and maintenance activities they conduct. The Proposed Project does not include a third FBO operation. Therefore, it is unlikely that hazardous waste would be generated by that source.

Two of the corporate hangars on the existing airport are listed as hazardous waste generators. Typically, individual corporate hangars do not perform enough aircraft maintenance to be classified as a hazardous waste generator under RCRA. However, it is possible that some of the corporate hangars in the project area would be regulated under RCRA, depending on their operations. If that should be the case, the hangar owner/operator would be responsible for all regulatory compliance.

Depending on the curriculum of the proposed aviation technical school, it is possible that aircraft maintenance could be performed and that the operation could fall under RCRA's hazardous waste requirements. If that should be the case, the facility would be responsible for following the strict regulatory requirements imposed by RCRA.

Once developed, the project area would be added to the airport's SWPPP and would be subject to the airport's BMPs. The BMPs are designed to reduce the risk associated with spills and the handling of pollutants, both hazardous and nonhazardous. The hazardous waste evaluation did not reveal any significant risk to the environment as a result of implementation of either the No-Action Alternative or the Proposed Project.

4.20 Construction Impacts

The construction impacts on the vicinity of FTY would be temporary and limited to the construction period. The impacts resulting from construction activities can be minimized through proper design and construction control techniques. The impacts would diminish as the work progresses to completion.

The construction-related impacts of concern include noise, air quality, and water quality. Adverse impacts may be caused by the noise of construction equipment, vehicle emissions, and noise and dust from the delivery of materials to the site and the movement of soil. Some fill material is available on the site, but it is unknown at this time if there is enough fill on-site or if fill would be trucked on-site. If it is necessary to bring fill from an offsite borrow source, trucks would use major roads to avoid neighborhood streets. In addition to the construction of taxiways, hangars, and training buildings, construction activities would include clearing, grading, and roadway/parking lot paving. The basic utility and storm water conveyance infrastructure for future uses of the site would be installed during this construction phase. No onsite burning would be permitted during construction. Construction impacts would be mitigated to the extent possible in accordance with the provisions of FAA Advisory Circular 150/5370-10, Standards for Specifying Construction of Airports.

4.20.1 Noise

Construction noise impacts would occur while the new facilities are under construction. These noise levels would be located in areas that are already surrounded by other sources of ambient noise such as Fulton Industrial Boulevard, US 78 (D.L. Hollowell Parkway), and the existing airport facilities. Some of the construction-related noise would be similar to the sounds emitted by the heavy commercial vehicles using the adjacent roadways. Any blasting required to complete the work would be done in accordance with applicable FAA specifications and state and local regulations, and would be done during daylight hours to minimize residential disturbance.

The noise levels would be based on construction phasing and the specific type of equipment that is used. Although construction noise levels can range approximately from 70 to 97 decibels and can be detected approximately 50 to 100 feet from construction-related activities, the noise levels produced would be temporary in duration. The closest residential use is Bankhead Courts, located 500 feet from the Proposed Project's access roadway.

4.20.2 Air Quality

Construction emissions are discussed in Section 4.5.4.

4.20.3 Water Quality

The primary water quality issue to be addressed during the construction phase of the Proposed Project would be control of any adverse effects on nearby surface water bodies from storm water runoff. Site-wide detention of storm water would be addressed during the design phase. Prior to initiation of construction, an NPDES construction permit from the DNR would be required (*Rules and Regulations for Water Quality Control, Chapter 391-3-6, Section 3901-3-6-.16, Revised June 2002*). Fulton County follows the state rules for storm water discharge.

In addition to these state requirements, water quality analysis would be required to comply with anticipated Metropolitan North Georgia Water Planning District (MNGWPD) watershed protection standards. An NPDES permit would require monitoring of the adjacent rivers. The likely minimum monitoring requirements would be for total dissolved solids (TDS) and total suspended solids (TSS). Additional monitoring requirements may be necessary, as determined by the state. It would be necessary to establish the baseline conditions for all monitoring requirements for each stream prior to the initiation of construction activities. The frequency of monitoring and reporting would be included in the NPDES permit.

This project would conform to the MRPA by protecting the 100-foot river buffer zones along the Chattahoochee River. Although the project site would intersect lands in vulnerability categories A through E, the proposed facilities were, to the maximum extent possible, targeted to areas previously disturbed by clay mining operations. A more detailed discussion of MRPA is in Section 4.11.

Construction activities would require the use of large equipment. Diesel fuel, gasoline, oil, grease, and hydraulic fluid used in this type of equipment can all pose potential water quality issues through entrainment of leak and spill residue in storm water runoff. These issues can be mitigated using BMPs in handling these compounds and verifying that all equipment is maintained in proper working order. Spill prevention and control measures to address fuel truck usage, accident response, and drum quantity storage of other potential pollutants would be included in the scope of construction services. Example BMPs include secondary containment in drum storage areas and spill kits available at all locations where a potential spill is possible.

Sedimentation and erosion from storm water runoff would likely be the greatest concern during construction. The Chattahoochee River and Sandy Creek are adjacent to the construction area and have the potential to be affected by sediment runoff. Applicable erosion and sedimentation control measures are contained in the current revision of the *Manual for Erosion and Sediment Control of Georgia*. For example, sedimentation can be controlled by silt fencing and erosion can be controlled by the use of hay bales, collection dikes (check dams), and berms. Following BMPs would mitigate potential water quality impacts.

The extension of the taxiways would require two bridges over Sandy Creek. The encroachment of the floodplain due to the bridge pilings would be mitigated during and after the construction period. Floodplain impacts are discussed in Section 4.12.

4.20.4 Cemetery

Access to the existing cemetery, located near the center of the site, would be maintained throughout the duration of the construction period. Permanent access would be included in the final design. The area of the cemetery would be protected during construction in accordance with Fulton County and state regulations.

4.21 Secondary and Cumulative Impacts

In accordance with the guidelines set forth by the Council on Environmental Quality (CEQ) and FAA Order 5050.4A (Chapter 3, par. 26), this EA considers the cumulative impacts of the Proposed Project, and the consequences of subsequent related actions. Cumulative impacts represent:

> ...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such actions. Cumulative impacts can result from individual minor but collectively significant actions taking place over a period of time.[1]

To the extent reasonable and practical, direct and indirect cumulative impacts have been assessed for the Proposed Project and other known future development. Cumulative impacts are those that

[1] CEQ Part 1508.7

result from the incremental consequences of an action when added to other previous and reasonably foreseeable future actions.

4.21.1 Land Use Patterns

Historic aerial photographs were used to evaluate previous land use conditions in the study area. With the exception of the previous Chattahoochee Brick plant and the introduction of several newer businesses, the study area has remained relatively the same over the last 30 years. The existing land use within the study area is primarily commercial/industrial. The residential areas within the study area include Bankhead Courts, Carroll Heights, Fairburn Heights, Bankhead-Bolton, Chateau Parkwest, Gordon Forest, and Westtown. Most of these residential areas appear to have been established for more than 25 years.

The Proposed Project would provide infrastructure, taxiway access, and space for further airport-related development in the NTA. As described throughout the EA, the project components include several aviation-related uses on existing airport property:

- Museum or similar community facilities
- Educational facilities/Aviation school
- T-Hangars, small and large corporate hangars and manufacturing facilities
- Other aviation uses based on future demand

To the extent practicable, these potential uses were incorporated into the assessment of direct impacts. Traffic projections used for the trip generation assumed build-out of the proposed NTA uses and were then applied in air quality and noise analyses. Similarly, full development was assumed in the analysis of floodplains, wetlands, and water quality. To view these estimated impacts in the context of other proposed development, public and private projects also were identified throughout the study area.

4.21.2 Other Proposed Development

In July 2002, a windshield survey was conducted to identify parcels of land proposed for development or for sale in the study area. The size and zoning were noted for each parcel and added into the GIS database for the EA. Approximately 25 acres within the study area were posted for sale and were considered likely to be developed (as highlighted in Figure 18). The northern portion of the study area had the greatest opportunity for future development. Most of the acreage was located within existing industrial uses or on corners of major intersections.

Review of public sector projects indicated that improvements were planned to the roadway network within or bordering the study area. There are two GDOT projects in the state's Transportation Improvement Program (TIP) within the study area (see Figure 18).

A widening and reconstruction project is proposed for 2.2 miles of Fulton Industrial Boulevard from Interchange Drive northward to US 78 (D.L Hollowell Parkway). The existing two and four-lane roadway would be widened to provide a four- and six-lane facility with a 20-foot raised median. The project would include a signal upgrade, turn lanes, and a median crossover at Aviation Circle/Old Gordon Road. Furthermore, Amber Road and Sandy Creek Road would be relocated and provided with median crossovers, and the existing bridge at Sandy Creek would be replaced.

The widening and reconstruction of Fulton Industrial Boulevard was reviewed for compliance with the Georgia Environmental Policy Act (GEPA) and 404 permit applicability in March 2001. It was determined that the project would not have any significant effects on the quality of the environment. The project would have minor impacts to storm water, air quality, and soil stability, but appropriate provisions would be made to lessen impacts. In anticipation of the construction, three houses have been relocated along Fulton Industrial Boulevard. The project is scheduled for completion in 2006.

In addition to the widening and reconstruction of Fulton Industrial Boulevard, a four-lane collector/distributor is proposed for I-285, which would involve interchange reconstruction at I-285 and US 78 (D.L. Hollowell Parkway). Relocations could be required within portions of neighborhoods backing onto the interstate right-of-way. Environmental documentation and assessment of impacts have not yet been initiated for this project. Funding, alignments, and schedule have yet to be determined by GDOT.

4.21.3 Cumulative Effects of Development

Based on the review of potential adverse and positive effects, the Proposed Project would not result in severe cumulative impacts. The primary impacts of the Proposed Project and potential impacts of other development are summarized in Table 23 and described in subsequent paragraphs.

Table 23
Summary of Cumulative Impacts
Proposed Project and Other Development in Study Area

Factor	Impact Summary
Biotic Communities	Minimal Impact due to previous land uses
Coastal Barriers and Coastal Zone Management	No Impact
Construction Impacts	Temporary impacts related to construction vehicles, maintenance of traffic, noise, and dust potential
Energy Supply and Natural Resources	No Impact
Farmland	No Impact
Floodplains	Minimal Impact – mitigated for no net loss of flood storage capacity
Hazardous Materials	Minimal Impact
Historic and Archaeological Resources	No Adverse Effect
Land Use	Minimal Impact with potential future development in the NTA and 25 acres throughout study area
Light Emissions	No Impact
Noise	No Impact
Section 303(c)/Section 6(f)	No Impact
Socioeconomic Impacts:	No Adverse Impact with potential opportunities for economic development.
Solid Waste Impacts	No Impact
Surface Transportation	No Impact
Threatened and Endangered Species	No Impact to listed species
Water Quality	Minimal Impact to Sandy Creek – bridges would span stream and buffer to minimize impacts.
Wetlands	No Impact
Wild and Scenic Rivers	No Impact

Source: Kimley-Horn and Associates, Inc., 2003.

- *Proposed Project* – the Proposed Project would include temporary construction impacts such as noise and air emissions. The potential exists for temporary water quality impacts caused by sedimentation and erosion. BMPs would be implemented to mitigate storm water-related impacts. Permanent impacts as a result of the Proposed Project include increased impervious surface, solid waste, additional vehicular traffic, and additional aircraft operations.

- *Fulton Industrial Boulevard Widening* – Temporary impacts include those from construction. The project would lead to increased impervious surface, resulting in increased storm water runoff; and decreased air emissions provided the level of service on the roadway improves.

- *Intersection Improvements* – Temporary impacts include those from construction. Permanent impacts would include improved traffic flow and level of service resulting in decreased air emissions.

- *Collector/Distributor and I-285 Interchange Modifications at US 78 (D.L. Hollowell Parkway)* – Temporary impacts would include those from construction. Permanent impacts could include potential relocations, additional impervious surface resulting in additional storm water runoff, and decreased air emissions provided the level of service at the intersection of I-285 and US 78 (D.L. Hollowell Parkway) improves.

- *Commercial/Industrial Development* – Additional commercial/industrial development in the in-fill areas surrounding the airport would include temporary impacts from construction. Permanent impacts could include increased impervious surface resulting in increased storm water runoff, increased vehicular traffic resulting in increased air emissions, increased solid waste production, and additional energy supply demands for power and natural gas.

The cumulative effects of the development would primarily consist of temporary storm water runoff, construction-related noise, and an increase in impervious surfaces. Long-term effects would include future construction of commercial or industrial uses for up to 25 acres of undeveloped land and improvements to the highway network that would improve traffic flow.

Chapter 5

Chapter 5

Agency Coordination and Public Involvement

Agency Coordination

This Environmental Assessment has been coordinated with appropriate local, state, and federal agencies. Scoping materials were prepared and mailed on December 20, 2001 to the agencies. The following agencies were invited to participate in the scoping process and/or have been consulted during the EA:

Federal Emergency Management Agency, Region IV*
U.S. Army Corps of Engineers*
U.S. Department of Agriculture, Natural Resources Conservation Service*
U.S. Department of Commerce, Ecology & Environmental Conservation Office*
U.S. Department of Health and Human Services, Centers for Disease Control
U.S. Department of Housing and Urban Development
U.S. Department of the Interior, Office of Environmental Policy and Compliance
U.S. Department of the Interior, U.S. Fish and Wildlife Service*
U.S. Environmental Protection Agency, Region IV, Office of Environmental Assessment
U.S. Senate Representatives*

Georgia Department of Natural Resources, Environmental Protection Division
    Air Protection Branch *
    Water Protection Branch*
Georgia Department of Natural Resources, Historic Preservation Division*
Georgia Department of Natural Resources, Wildlife Resources Division*

Atlanta Regional Commission*
Georgia Department of Community Affairs
Fulton County, Department of Environment and Community Development*
Fulton County Commission*

* Asterisk indicates agencies that have provided input during the project.

The EA was distributed for review by agencies on June 26, 2003. Comments to be addressed in the Final EA were requested by July 26, 2003. As of August 4, 2003 only three agencies had provided comments on the EA. The agency comments are listed on the next page with responses in italics.

- **Georgia Department of Natural Resources, Environmental Protection Division, and Air Protection Branch**—Requested analysis completed for taxi time-in-mode (TIM) to be conducted also for aircraft approach, takeoff, and climbout. This additional analysis would provide complete representation of emissions that would result from an increase in hangar capacity. *Forecast operations fall below the FAA's threshold for detailed modeling of emissions, and Air Protection Branch staff were consulted during scoping of the study. However, to respond to this request, additional data were provided to the Air Protection Branch showing estimates of emissions from aircraft approach, takeoff, and climbout for the No-Action and Proposed Project.*

- **Georgia Department of Natural Resources, Environmental Protection Division, Historic Preservation Division**—No historic properties or archaeological resources are listed are eligible for listing on the National Register of Historic Places. Sites 9FU(OSM)1, 9FU(OSM)2, and 9FU (OSM)2 are likely no longer extant and will not be affected by the project. Nelson cemetery should be surveyed and delineated by an archaeologist, and measures described in the EA should be implemented to protect the cemetery. *Statements of the SHPO's concurrence are included in the Final EA text.*

- **Department of Wildlife and Fisheries, Georgia Fish and Wildlife Biologist**—Long-term impacts should be anticipated if there is a net loss of habitat. Adjacent biotic communities would be unlikely to accommodate displaced individuals long term especially if forest does not provide mature timber. *Text has been edited in the Final EA to acknowledge the longer-term impacts and also to identify forest on the property that is being preserved after originally being proposed for development.*

Copies of the comment letters by the agencies are included in Appendix B.

Public Involvement

A public involvement plan was developed at the beginning of the master planning process for the North Terminal Area. During 1999 and 2000, a total eight public workshops were held to give local citizens an opportunity to help define the goals and alternatives for the development at FTY. As a result, consensus was reached on important facilities and environmental concerns to address. The public involvement process has continued through the completion of the EA.

Upon publication of the document, a Notice of Availability, copy of the EA, and comment forms were provided at five community facilities: the Central Fulton County Library, Bankhead Courts Public Library, Adamsville Collier Heights Public Library, Southwestern Regional Library, and Harriett G. Darnell Senior Multipurpose Facility. The comment forms requested any replies to be mailed by July 26, 2003; as of August 4, no comments had been received either at the facilities or in the mail. Copies of the Notice of Availability and comment forms are included in Appendix D.

In conjunction with publishing the EA, the consultant team attended a public meeting to announce the availability of the document and summarize the findings. The meeting included participation of the local Task Force on the Environment on June 26, 2003 from 6:30 to 8:30 PM, at the Harriett G. Darnell Senior Multipurpose Facility. The brief presentation about the NTA included an overview of the environmental topics, a summary of the environmental justice analysis, a listing of the public facilities having copies of the EA, and comment forms for citizen use. At the close of the presentation, Fulton County personnel announced the date and time of a follow-up public meeting to be held July 14, 2003 in the same room.

Fulton County officials sent email invitations to local business leaders and citizens for the meeting on July 14. Members of the original Brown Field Steering Committee were invited to participate. The meeting consisted of a 30-minute presentation on the EA followed by questions from the audience. Most of the questions focused not on the EA, but on the future phases in the project and which facilities would be included. Commissioner Emma G. Darnell presided over the questions. She encouraged input by reading aloud the summary bullets in the meeting handout and then asking for any concerns or interest in learning more about those topics. As a result, her office requested information on the following topics:

- Aircraft Emissions
- Increased Air Traffic
- Vehicle Traffic
- Solid Waste/Hazardous Waste
- Noise Impacts
- Health Risks
- Disproportionate Impacts
- Cultural Center and Training Facility
- Timeline
- Public/Private Funding for Projects
- Minority Participation

These concerns were not responses to the EA, but rather a request for more detail without citizens reviewing the EA itself. To address the concerns, the consultant team summarized the methodology and findings in a brief report to Commissioner Darnell, along with updates from the Sponsor about the proposed budgeting, phasing, and DBE participation plans in the future. *To date, no specific comments from the public have been raised about the EA or its conclusions.*

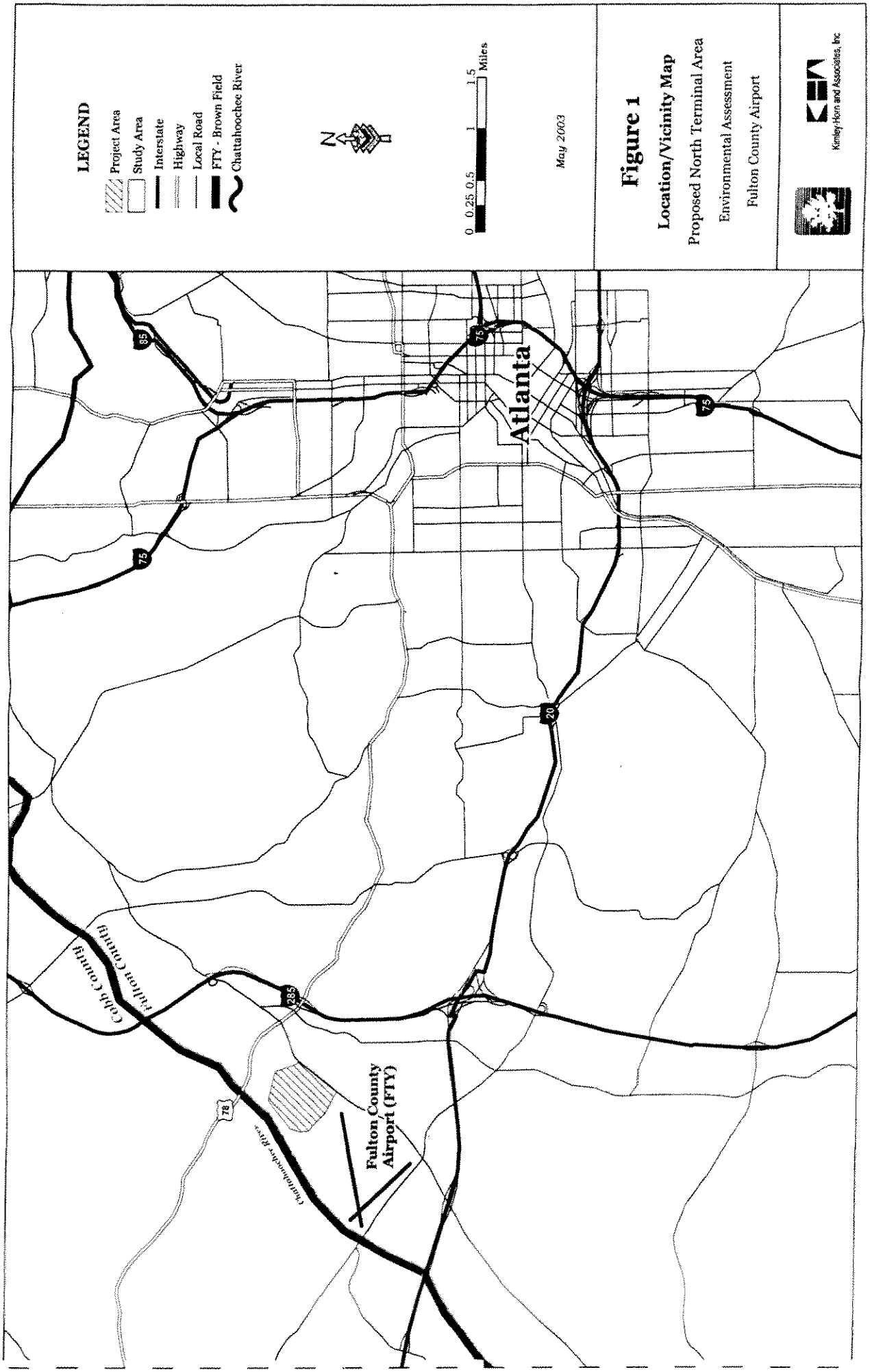
Chapter 6

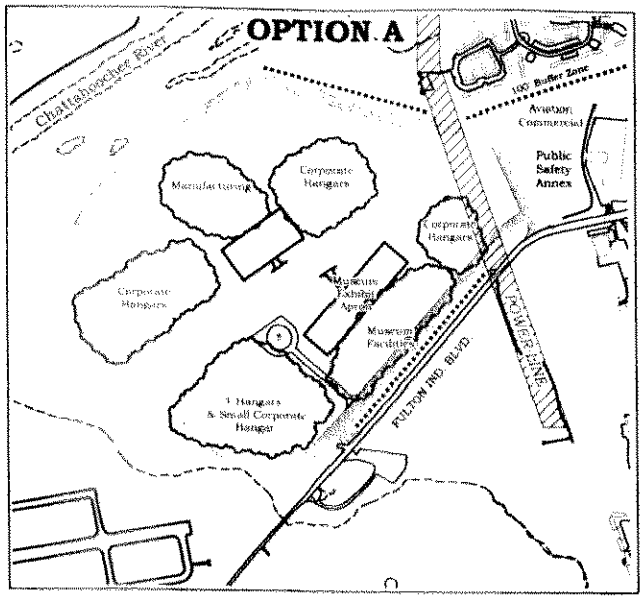
Chapter 6

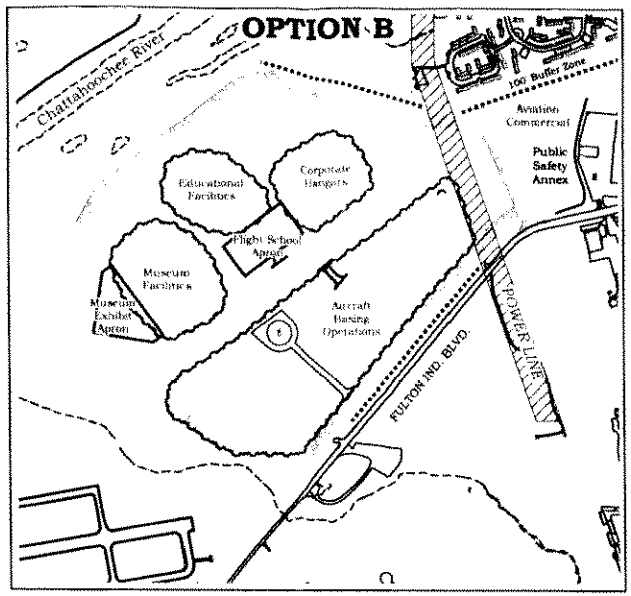
List of Preparers

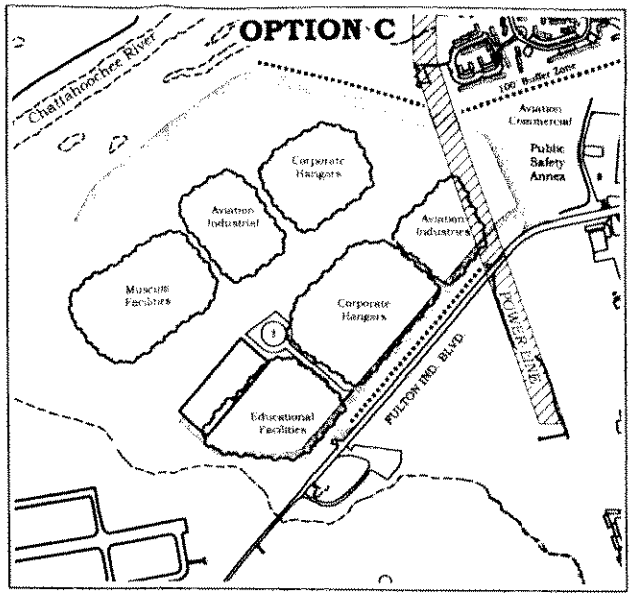
Kimley-Horn and Associates, Inc.	*Environmental Analyses / NEPA Documentation*
Todd Barker, AICP Project Manager	B.A. in English, University of North Carolina at Chapel Hill; Graduate Management Studies, North Carolina State University; 11 years of airport and highway NEPA experience.
Ray Adams	Studied Computer Graphics and Business Management, Valencia Community College; Attended, Engineering Studies, University of Kentucky; 22 years of technical experience with airport planning projects.
Craig Gresham, P.E.	B.S. and M.S. in Civil Engineering, North Carolina State University; 6 years of GIS and transportation planning experience.
Freya Thamman	B.A. in Environmental Sciences, Gustavus Adolphus College; M.A. in Geography, University of Arkansas; 4 years of NEPA experience.
Meridith Krebs	B.S. in Plant and Soil Sciences, University of Tennessee at Knoxville; Less than one year of NEPA experience.
Pegasus Associates International, Inc.	*Airport Planning – ALP Update*
Gordon Jackson	Bachelor of Aviation Management, Auburn University; M.B.A., Georgia State University; 30 years of airport planning experience.
Edwards-Pitman Environmental, Inc.	*Historic Resource Survey*
David Pearce	
Site, Inc.	*Archaeological Resource Survey*
Elisabeth Shepard Sheldon	Doctor in Philosophy and Biology, University of Alabama; M.A. in Anthropology, University of Alabama; B.S. in Biology and Anthropology, University of Alabama.

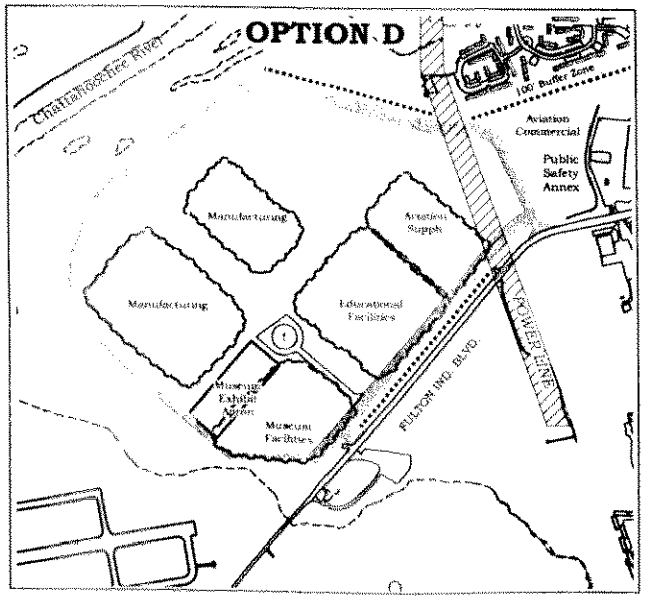
Figures

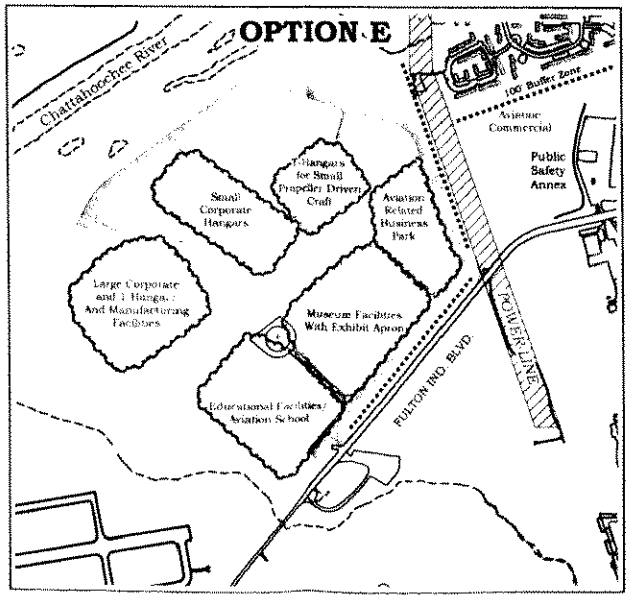

LEGEND
Project Area
Study Area
Interstate
Highway
Local Road
FTY - Brown Field
Chattahoochee River
N
0 0.25 0.5 1 1.5 Miles
May 2003
Figure 1
Location/Vicinity Map
Proposed North Terminal Area
Environmental Assessment
Fulton County Airport
Kimley-Horn and Associates, Inc.
Atlanta
Fulton County
Cobb County
Chattahoochee River
Fulton County Airport (FTY)
85
75
20
285
78











LEGEND

- Taxiway
- Perimeter Road
- Parking Apron
- Existing Runways
- Cemetery
- Cemetery Road
- Buildings
- Roads
- Streams
- Sound Barrier
- Power Line

N

0 1,000 2,000 Feet

May 2003

Data Source: R.W. Armstong, Inc.

Figure 2

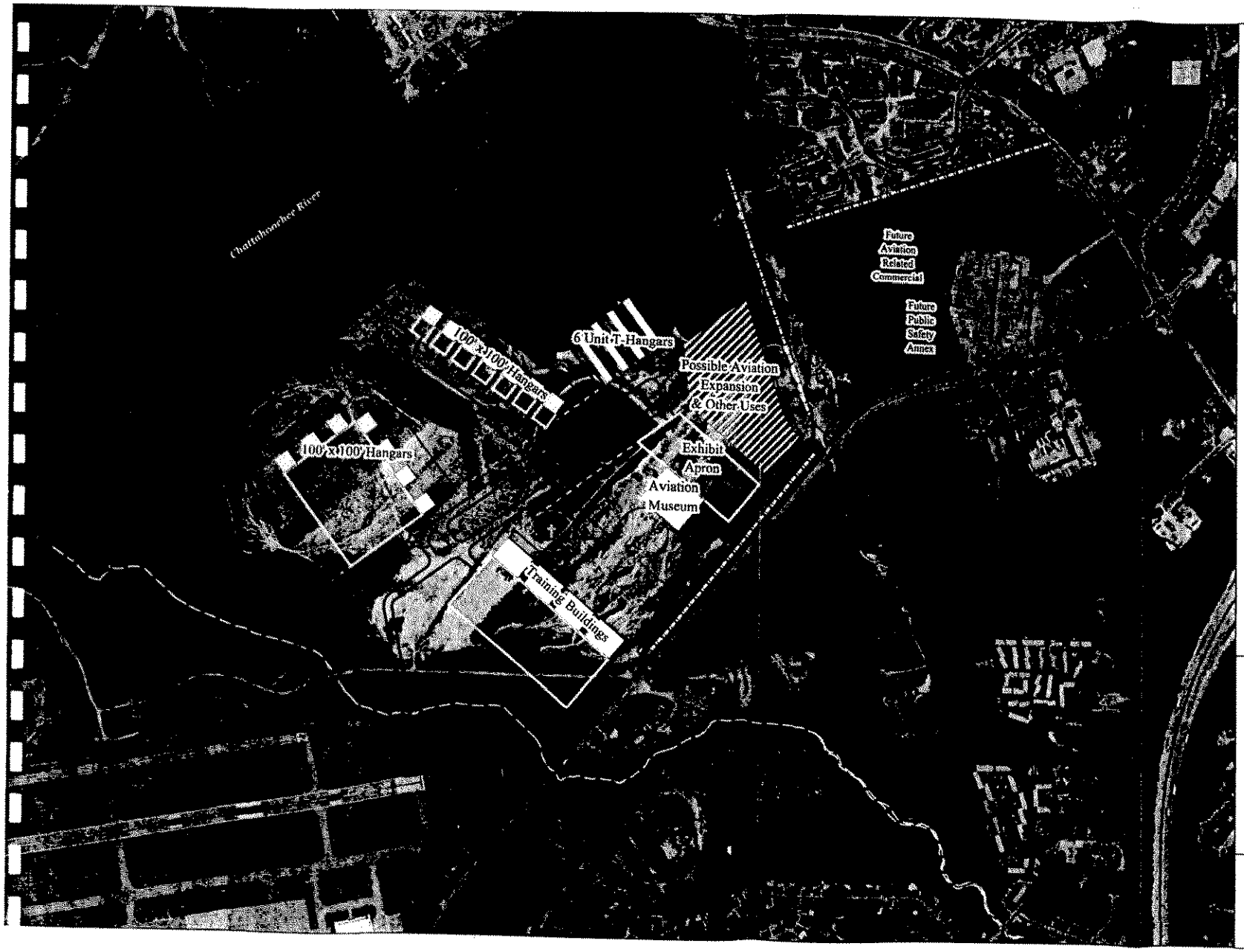
Master Plan Alternatives

Proposed North Terminal Area

Environmental Assessment

Fulton County Airport

Kimley-Horn and Associates, Inc.



LEGEND

- Taxiway
- Taxiway Object Free Area
- Apron
- Auto Access Road/Parking
- Sound Barrier
- Cemetery
- Cemetery Access
- Natural Gas Pipeline (Approx.)
- 100' Buffer Zone
- 100' x 100' Hangars
- 6 Unit T-Hangars
- Aviation Museum
- Expansion Area
- Training Buildings
- Stream

N

May 2003

Figure 3

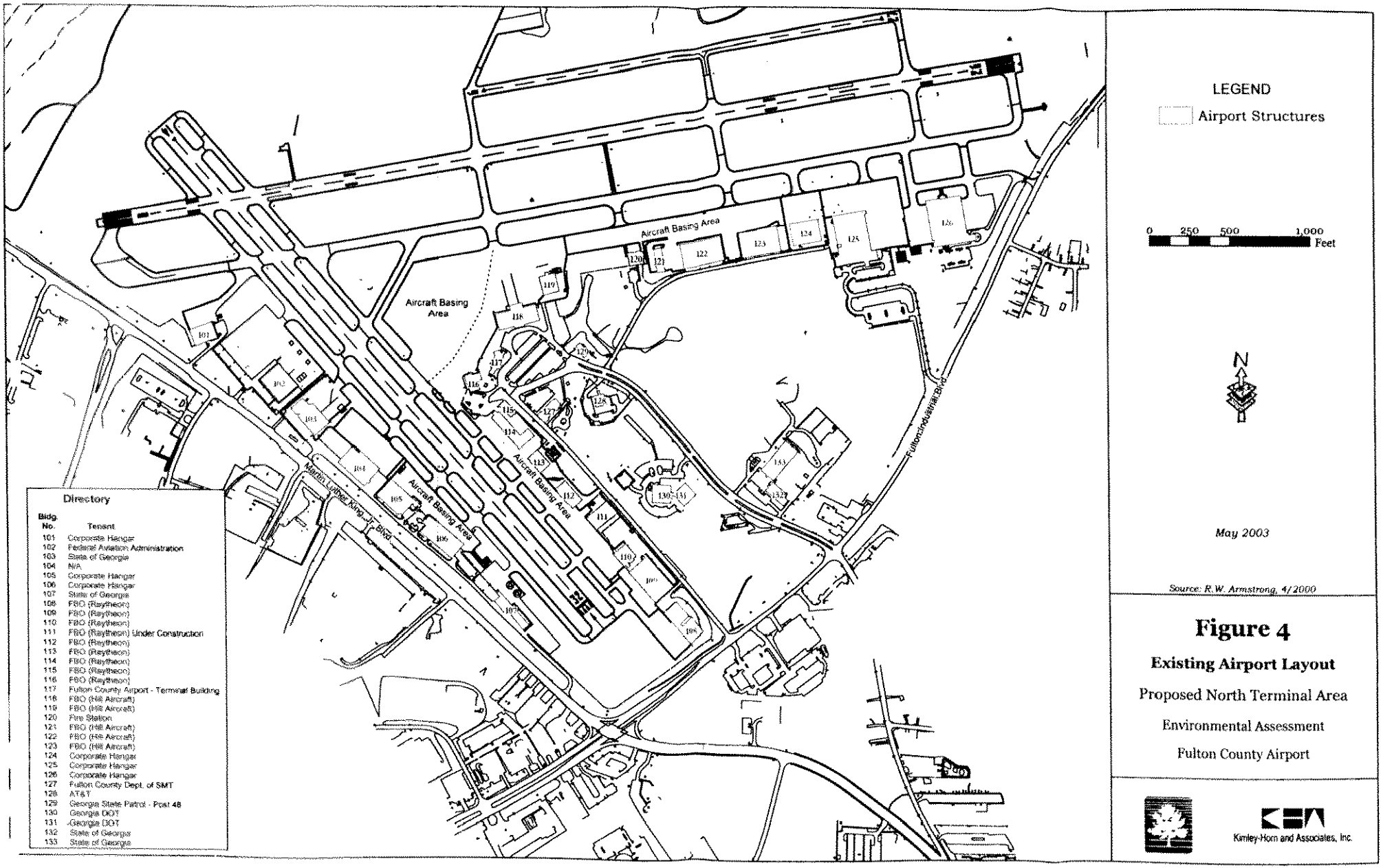
Master Plan Option E

Proposed North Terminal Area

Environmental Assessment

Fulton County Airport

Kimley-Horn and Associates, Inc.



Directory

Bldg. No.	Tenant
101	Corporate Hangar
102	Federal Aviation Administration
103	State of Georgia
104	N/A
105	Corporate Hangar
106	Corporate Hangar
107	State of Georgia
108	FBO (Raytheon)
109	FBO (Raytheon)
110	FBO (Raytheon)
111	FBO (Raytheon) Under Construction
112	FBO (Raytheon)
113	FBO (Raytheon)
114	FBO (Raytheon)
115	FBO (Raytheon)
116	FBO (Raytheon)
117	Fulton County Airport - Terminal Building
118	FBO (Hill Aircraft)
119	FBO (Hill Aircraft)
120	Fire Station
121	FBO (Hill Aircraft)
122	FBO (Hill Aircraft)
123	FBO (Hill Aircraft)
124	Corporate Hangar
125	Corporate Hangar
126	Corporate Hangar
127	Fulton County Dept. of SMT
128	AT&T
129	Georgia State Patrol - Post 48
130	Georgia DOT
131	Georgia DOT
132	State of Georgia
133	State of Georgia

Figure 4

Existing Airport Layout

Proposed North Terminal Area

Environmental Assessment

Fulton County Airport

LEGEND

Land Use (1999 Aerial)

- Airport
- Commercial/Industrial
- Institutional
- Residential
- Vacant

- Potential Development Area
- Fulton County Airport (Existing)
- Local Roads
- Interstate
- State Highway
- Chattachoochee River

0 1,000 2,000 4,000 Feet

N

May 2003

Figure 5

Land Use

Proposed North Terminal Area

Environmental Assessment

Fulton County Airport

Kimley-Horn and Associates, Inc.

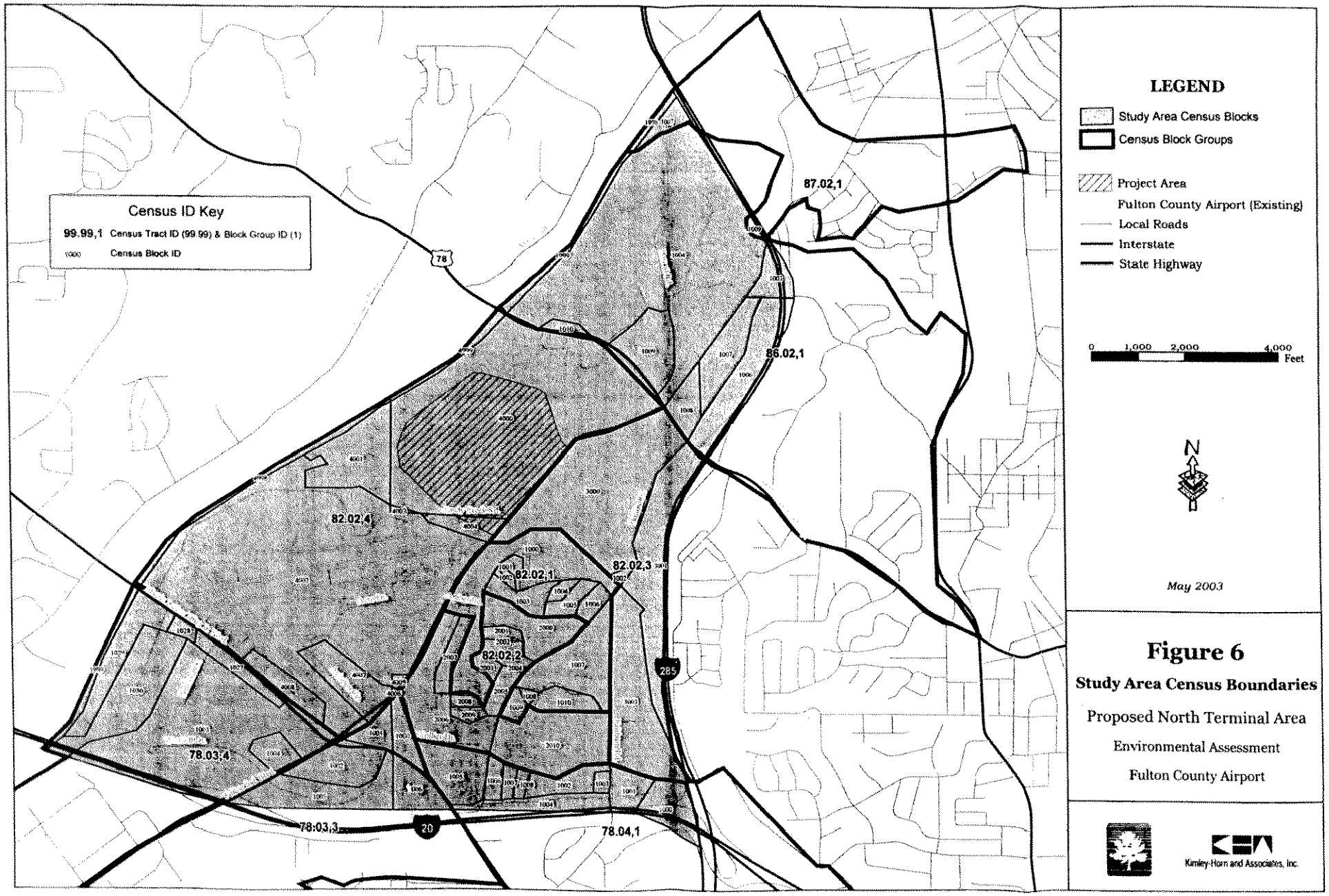


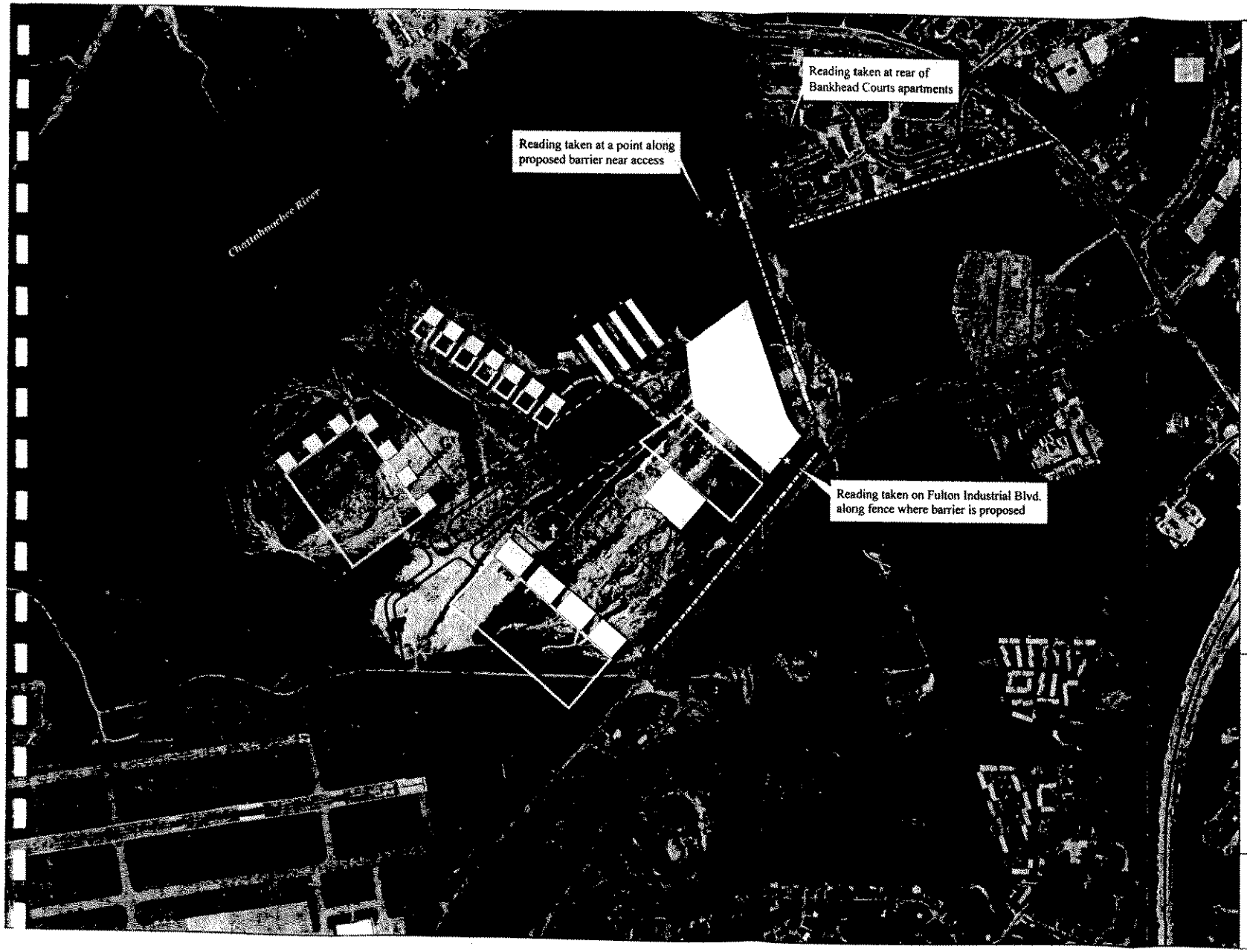
Figure 6

Study Area Census Boundaries

Proposed North Terminal Area

Environmental Assessment

Fulton County Airport



LEGEND

- ☆ Noise Reading Locations
- Taxiway
- Taxiway Object Free Area
- Apron
- Auto Access Road/Parking
- Sound Barrier
- Cemetery
- Cemetery Access
- Natural Gas Pipeline (Approx.)
- 100' Buffer Zone
- North Terminal Buildings (Proposed)

N

May 2003

Figure 7

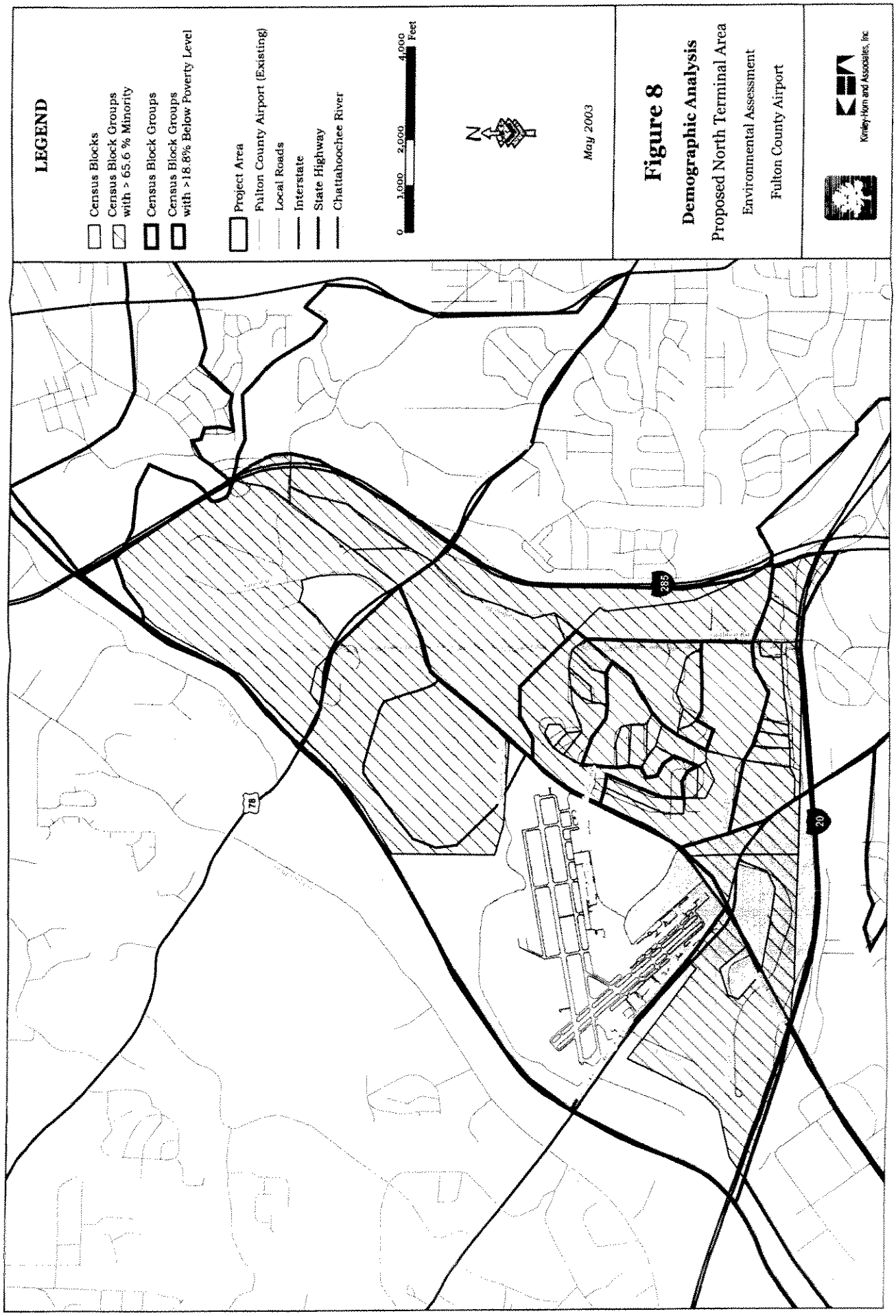
Noise Reading Locations

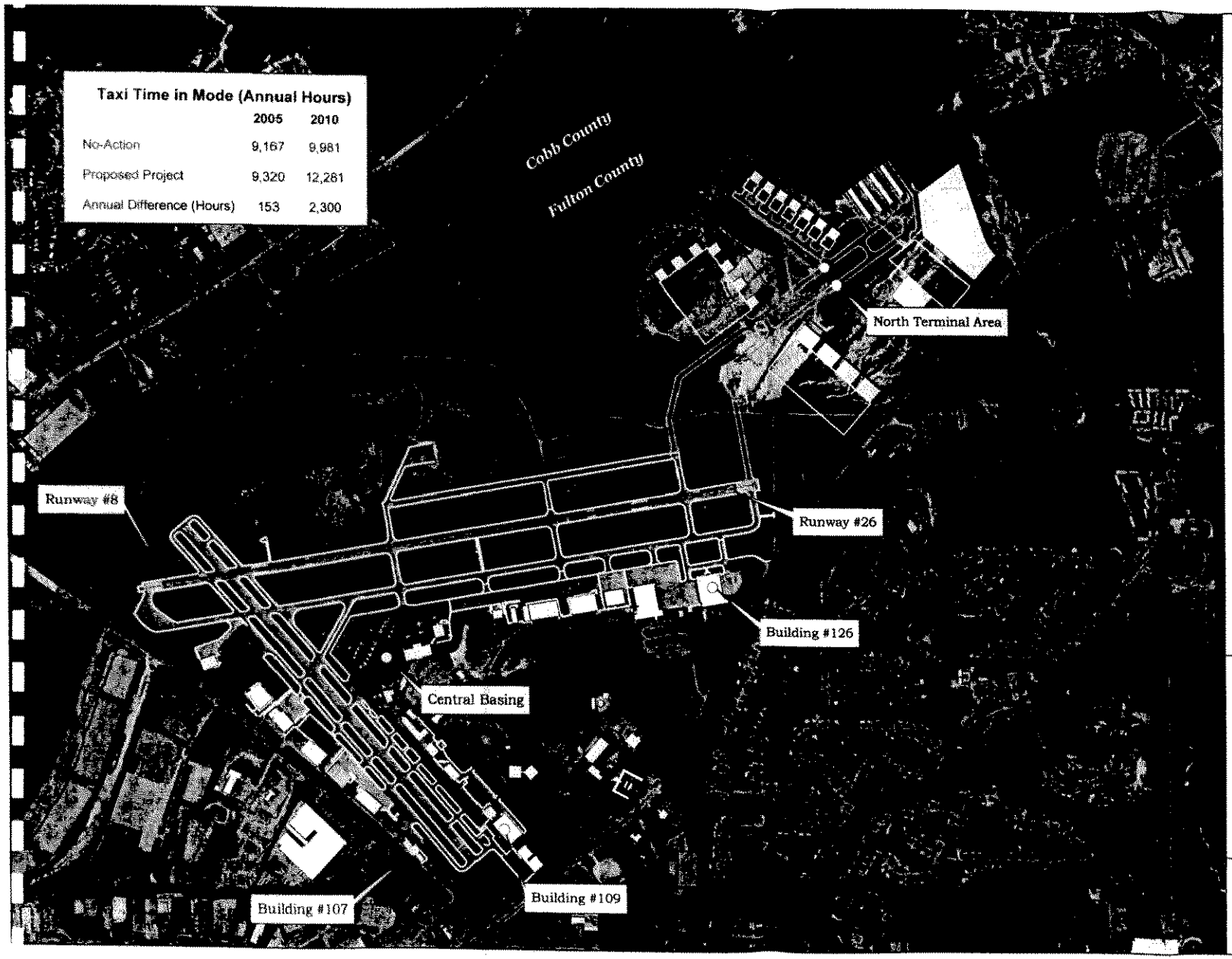
Proposed North Terminal Area

Environmental Assessment

Fulton County Airport

Kimley-Horn and Associates, Inc.


LEGEND
Census Blocks
Census Block Groups with > 65.6 % Minority
Census Block Groups
Census Block Groups with >18.8% Below Poverty Level
Project Area
Fulton County Airport (Existing)
Local Roads
Interstate
State Highway
Chattahoochee River
0
1,000
2,000
4,000
Feet
N
May 2003
Figure 8
Demographic Analysis
Proposed North Terminal Area
Environmental Assessment
Fulton County Airport
Kimley-Horn and Associates, Inc.
285
78
20



Taxi Time in Mode (Annual Hours)

	2005	2010
No-Action	9,167	9,981
Proposed Project	9,320	12,281
Annual Difference (Hours)	153	2,300

LEGEND

- TIM Measure Points
- Central Terminal Area
- North Terminal Taxiway
- North Terminal Apron
- North Terminal Access Road/Parking
- North Terminal Buildings
- Central Terminal Buildings

0 500 1,000 2,000 Feet

N

May 2003

Figure 9

Taxi Time in Mode (TIM)

Proposed North Terminal Area

Environmental Assessment

Fulton County Airport

Kimley-Horn and Associates, Inc

Figure 10

Biotic Communities

Proposed North Terminal Area

Environmental Assessment

Fulton County Airport

Bridge vs. Culvert Comparison on FTY Taxiway Pair

Factor	Bridge Option	Culvert Option
Length of Stream Crossing (Feet)	200	600
Area of Floodplain Encroachment (Cubic Yards)	9,000	172,000
Total Cost (Millions of Dollars)	$5.7	$7.1

LEGEND

- Field Delineated Wetlands
- Field Delineated Stream Banks
- FEMA Floodplains (100 Year)
- Taxiway
- Parking Apron
- Bridge/Culvert (Typ.)

N

0 50 100 200 300 Feet

May 2003

Figure 11

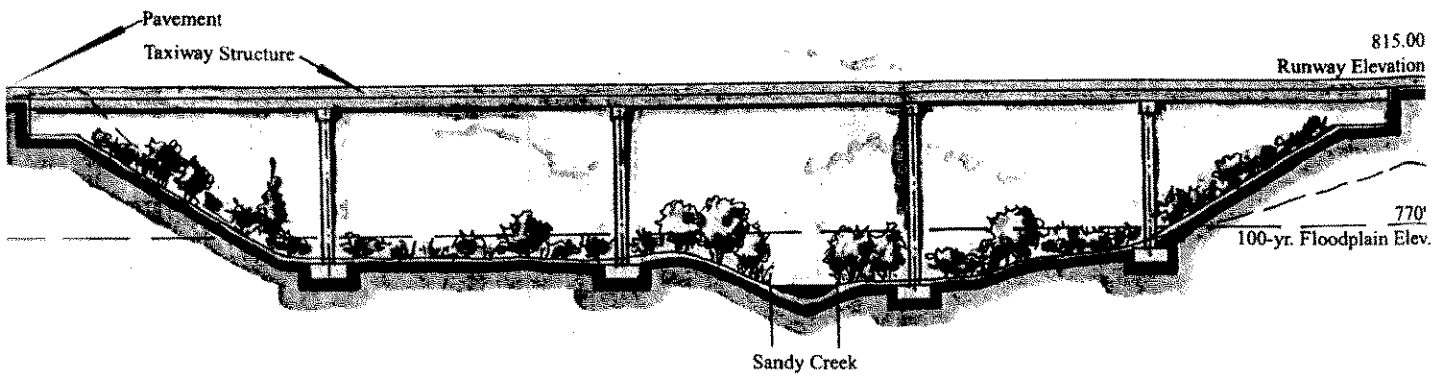
Taxiway Stream Crossings

Proposed North Terminal Area

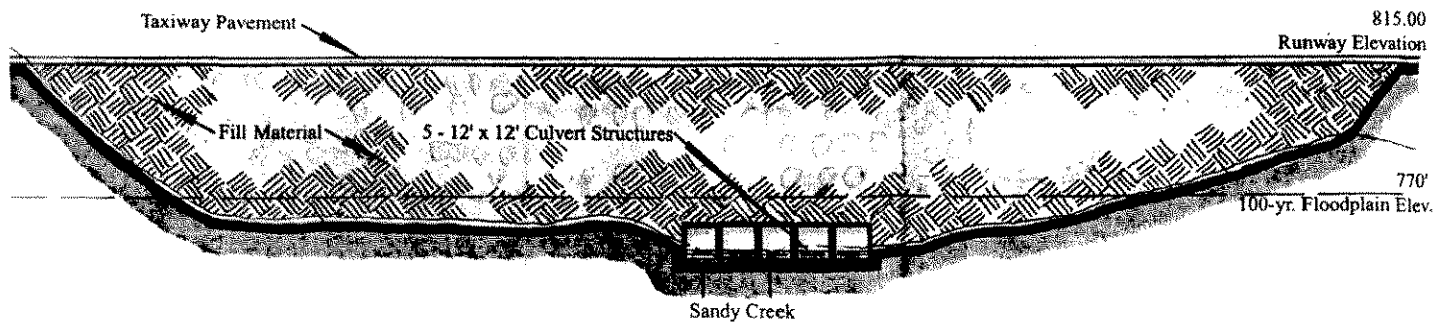
Environmental Assessment

Fulton County Airport

Kimley-Horn and Associates, Inc



Bridge Alternative



Culvert Alternative

0 40 80 160 Feet

N

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Figure 12

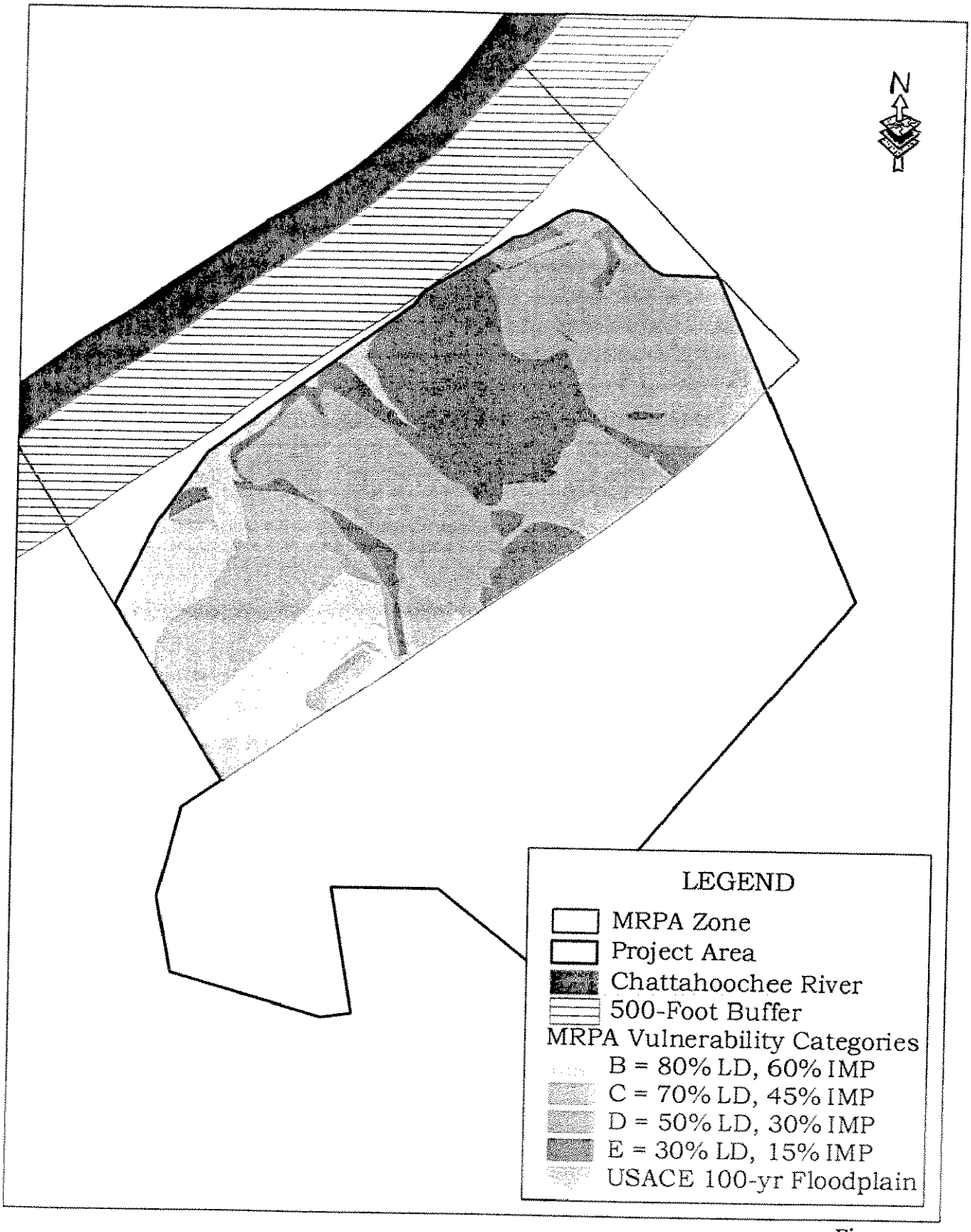
Stream Crossing Options

Proposed North Terminal Area

Environmental Assessment

Fulton County Airport

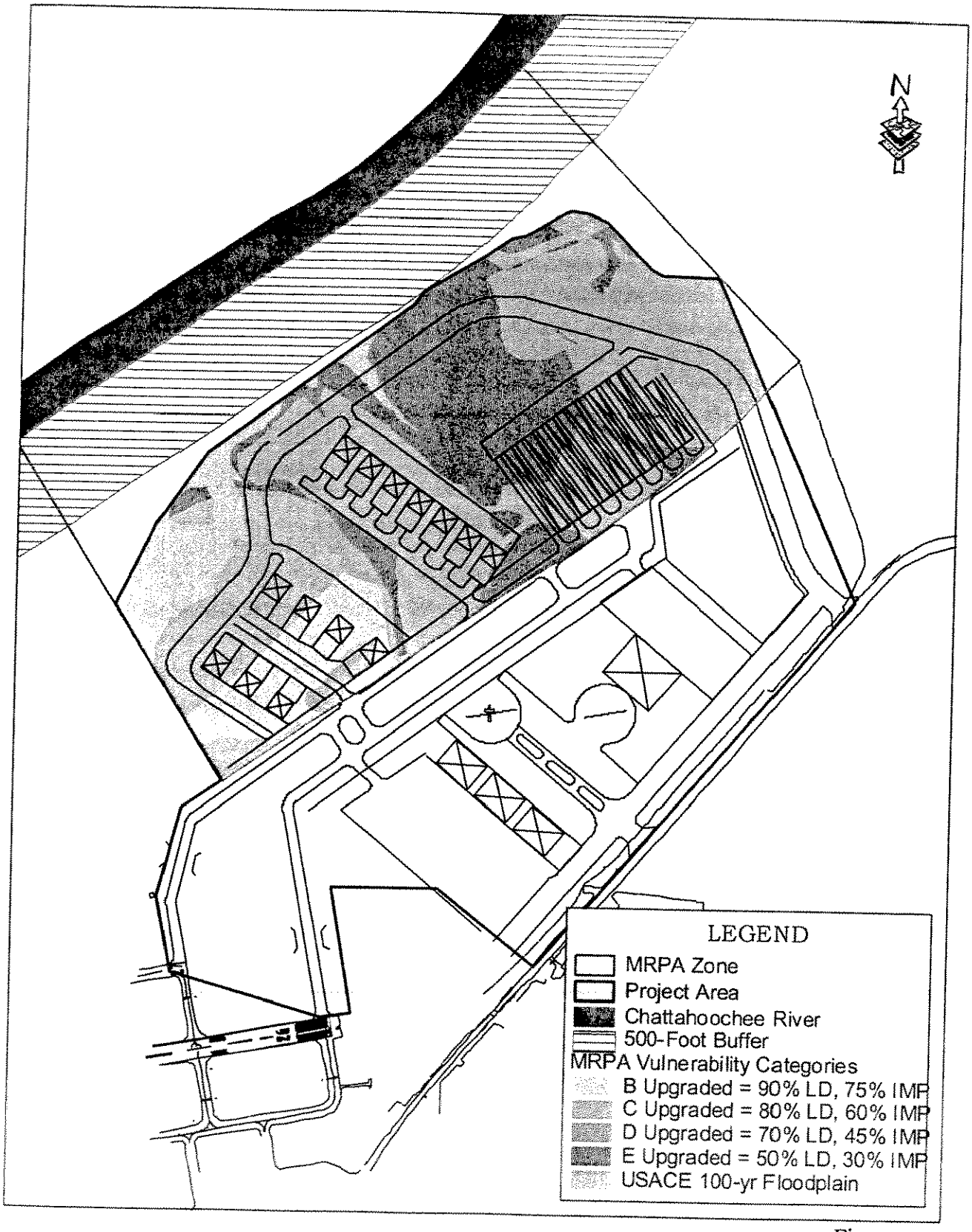
Kimley-Horn and Associates, Inc.



CDM

400 0 400 800 Feet

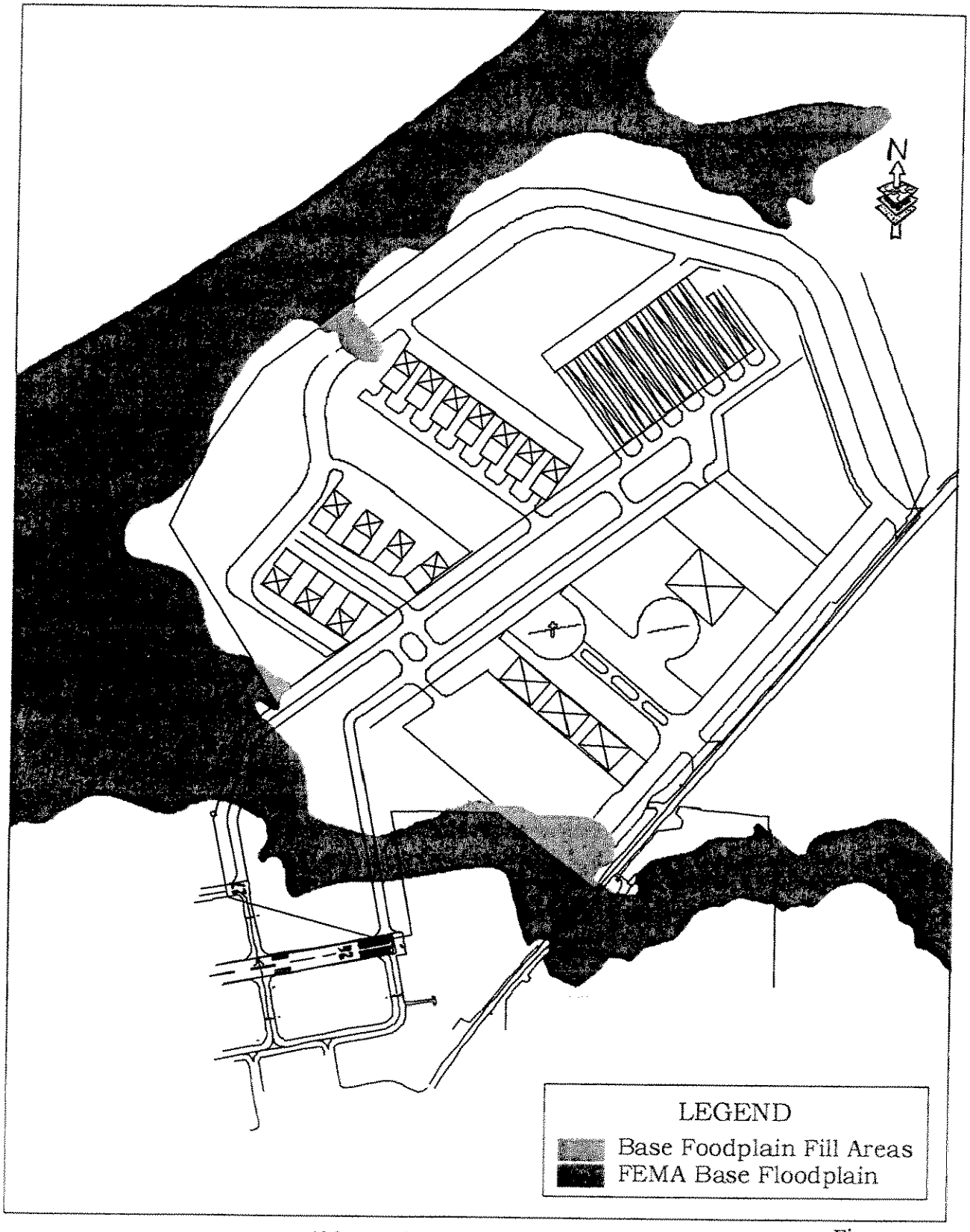
Figure 13
Proposed Project Layout with Revised
MRPA Vulnerability Categories
Proposed North Terminal Area
Fulton County Airport



CDM

400 0 400 800 Feet

Figure 14
Proposed Project Layout with Revised and Upgraded MRPA Vulnerability Categories
Proposed North Terminal Area
Fulton County Airport



400 0 400 800 Feet

CDM

Figure 15
Base Floodplain
Fill Areas
Proposed North Terminal Area
Fulton County Airport