ENVIRONMENTAL COMMITMENTS/REQUIREMENTS

Project Information

Project No. : CSNHS-0006-00(043)

County : Cherokee

P.I. No. : 0006043

Status: Final EA/FONSI

Date Updated : April 15, 2009

Project Manager Review

☑ I have reviewed these commitments and verified their feasibility.

☑ All delineations are marked on the plans.

PM Signature

Specialist Review

404	lw
Air/Noise	AR/DBR
Archaeology	TW
Ecology	CM
History	BS

COMMITMENT/REQUIREMENT *Please separate out commitments by PI#*	DOCUMENT STIPULATED IN	RESPONSIBLE OFFICE	PLACE ON PLANS? (Yes or No)	REQUIRES A SPECIAL PROVISION? (Yes or No)	STATUS (Complete/Incomplete) (During Construction- Signature Required) *See below for instructions*
Pre-Construction Commitments					
A detailed barrier analysis will be conducted to further determine whether or not the proposed noise barriers would be effective.	Environmental Assessment (EA)	Office of Environment and Location (OEL) & Office of Innovative Program Delivery (IPD)	Yes	No	Complete
Public outreach regarding the noise barrier locations and effectiveness will be conducted once the barrier design is completed.	EA	OEL and IPD	No	No	Complete
Staging will be conducted so that the grading and construction of the noise walls would occur as early as possible during project implementation so as to minimize construction noise impacts to residences in the area. Where feasible, construction would take place primarily during the less noise sensitive daylight hours to avoid impact during the hours associated with sleep.	EA	IPD	Yes	Yes	Incomplete*
All waters of the US will be delineated and labeled on the plans.	EA	IPD	Yes	No	Incomplete

*Special Provision 999 to be attached upon completion.

ENVIRONMENTAL COMMITMENTS/REQUIREMENTS

Project Information

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[signature]

PM Signature

Specialist Review

404 [initials]

Air/Noise [initials]

Archaeology [initials]

Ecology [initials]

History [initials]

COMMITMENT/REQUIREMENT *Please separate out commitments by PI#*	DOCUMENT STIPULATED IN	RESPONSIBLE OFFICE	PLACE ON PLANS? (Yes or No)	REQUIRES A SPECIAL PROVISION? (Yes or No)	STATUS (Complete/Incomplete) (During Construction- Signature Required) *See below for instructions*
A Nationwide 14 USACE Section 404 permit with a Pre-construction Notification will be obtained for impacts to waters of the US.	EA	OEL	No	No	Incomplete
Special Provision 107.23g for the protection of the Cherokee darter would be adhered to during project implementation (see special provision attached).	EA	OEL	Yes	Yes	Incomplete
Stream buffers will be delineated on the plans.	EA	IPD	Yes	No	Incomplete
The culvert at Stream 5 will be designed to retain the natural stream substrate and allow for long term aquatic species passage.	EA	OEL and IPD	Yes	Yes	Incomplete*
In order to assist the Deer Run Community in completing construction of the new ball field prior to closing the existing ball field so that full use of the field is not lost, survey information will be provided to Michael Douglas, Douglas Property Management, as soon as it is available.	EA	IPD	No	No	Complete
Access to construction on I-575 via the remainder of the ball field parcel, through temporary construction easements, would be avoided or minimized to the greatest extent possible.	EA	IPD	Yes, staging	Yes	Incomplete*

*Special Provision 999 to be attached upon completion.

ENVIRONMENTAL COMMITMENTS/REQUIREMENTS

Project Information

Project No. : CSNHS-0006-00(043)

County : Cherokee

P.I. No. : 0006043

Status: Final EA/FONSI

Date Updated : April 15, 2009

Project Manager Review

☑ I have reviewed these commitments and verified their feasibility.

☑ All delineations are marked on the plans.

Rebecca M Cathe

PM Signature

Specialist Review

404 [signature]

Air/Noise AR/[signature]

Archaeology [signature]

Ecology [signature]

History [signature]

COMMITMENT/REQUIREMENT *Please separate out commitments by PI#*	DOCUMENT STIPULATED IN	RESPONSIBLE OFFICE	PLACE ON PLANS? (Yes or No)	REQUIRES A SPECIAL PROVISION? (Yes or No)	STATUS (Complete/Incomplete) (During Construction- Signature Required) *See below for instructions*
A "No Outlet" sign will be provided at the entrance of the Brookshire sub-division.	EA	IPD	Yes	No	Incomplete

During Construction Commitments

ECB signature required for all During Construction Commitments for Ecological Resources.
Construction or Area Engineer signature required for all other During Construction Commitments.

A NPDES permit will be obtained after the project is let to design-build contract and prior to land disturbing activities.	EA	IPD/GDOT Office of Construction	No	Yes	ECB Signature upon Completion*
Special Provision 107.23g for the protection of the Cherokee darter would be adhered to during project implementation (see special provision attached). Per the conditions of the special provision, an Environmentally Sensitive Area sign will be posted in the area of Stream 5.	EA	GDOT Office of Construction	Yes	Yes	ECB Signature upon Completion
Staging will be conducted so that the grading and construction of the noise walls would occur as early as possible during project implementation so as to minimize construction noise impacts to residences in the area.	EA	GDOT Office of Construction	Yes	No	Construction Signature upon Completion

*Special Provision 999 will be attached upon completion.

ENVIRONMENTAL COMMITMENTS/REQUIREMENTS

Project Information

Project No. : CSNHS-0006-00(043)

County : Cherokee

P.I. No. : 0006043

Status: Final EA/FONSI

Date Updated : April 15, 2009

Project Manager Review

☑ I have reviewed these commitments and verified their feasibility.

☑ All delineations are marked on the plans.

Rebecca M Cobb

PM Signature

Specialist Review

404 [signature]

Air/Noise [signature]

Archaeology [signature]

Ecology [signature]

History [signature]

COMMITMENT/REQUIREMENT *Please separate out commitments by PI#*	DOCUMENT STIPULATED IN	RESPONSIBLE OFFICE	PLACE ON PLANS? (Yes or No)	REQUIRES A SPECIAL PROVISION? (Yes or No)	STATUS (Complete/Incomplete) (During Construction- Signature Required) *See below for instructions*
A "No Outlet" sign will be provided at the entrance of the Brookshire subdivision.	EA	GDOT Office of Construction	Yes	No	Construction Signature upon Completion

Post Construction Commitments

In accordance with Special Provision 107.23g for the protection of the Cherokee darter, no herbicides, pesticides or fertilizers will be used within the established ESA for Stream 5 (see special provision attached).	EA	Maintenance	No	No	Not applicable, perpetual commitment

ENVIRONMENTAL COMMITMENTS/REQUIREMENTS

Date: February 28, 2008

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

SPECIAL PROVISION

PROJECT: CSNHS-0006-00(043), CHEROKEE COUNTY, PI #0006043

Section 107 – Legal Regulations and Responsibility to the Public

Add the following to Subsection 107.23:

G. Protection of Federally Threatened and/or Endangered Species

The following conditions are intended as a minimum to protect the Cherokee darter (*Etheostoma scotti*) and its habitat during any activities involving the unnamed perennial tributary to Little River (Stream 5). This includes any soil disturbing work along the creek banks of Stream 5.

1. The Contractor shall advise all project personnel employed to work on this project about the presence, appearance, and habitat of the federally protected Cherokee darter and that there are civil and criminal penalties for harming, harassing, or killing the Cherokee darter which is protected under the Endangered Species Act of 1973. The Contractor shall ensure that all workers implementing environmental protection measures, designed to minimize take, are fully informed as to the site sensitivity and legal responsibilities of non-conformity to these measures.

2. Provisions of the erosion control plan shall be implemented to the extent possible prior to major grading operations.

3. Work shall not be allowed in Stream 5 March 1st through June 15th.

4. Temporary erosion control devices shall be installed before any other work will be allowed to be performed.

5. Existing vegetation and forested areas will be preserved to the extent possible. The contractor will be allowed to only clear and grub within the construction limits of the project and other areas necessary for access, staging and mobility within the project area as is delineated on the plans.

6. All slopes will be covered with erosion control mats and planted with a fast-growing grass mixture, in accordance to GDOT's standard specifications. Stockpiled materials shall be placed to prevent rain runoff from washing the materials into the creek. A double row of silt fence will be placed along the construction limits. A double row of Type C and a single row of Type A silt fence will be placed between the construction limits and the designated stream buffers prior to the commencement of clearing and grubbing.

7. A 25-foot wide buffer zone will be maintained on either side of Stream 5 and all delineated streams located in the plans. Orange fencing will be placed around the stream buffer. All clearing and grubbing will be kept to a minimum.

ENVIRONMENTAL COMMITMENTS/REQUIREMENTS

8. All erosion control devices shall be closely monitored. When one-third of the capacity of any device has been reached, the device shall be immediately cleaned out. As maintenance is performed on silt fences, silt gates, slope drains, filtration ponds, and other erosion control devices, the materials removed shall be placed in such a manner to prevent these materials from entry into the creek.

9. Seepage or drips into Stream 5 shall be kept to a minimum. Immediately prior to placing any concrete for the construction of the new structure, all forms shall be positively sealed to minimize seepage or drips into the creek during construction of the culvert extension.

10. The Contractor's worksite erosion control supervisor (WECS) shall monitor all erosion control devices on a daily basis. When a visible increase in turbidity is observed in the creek that cannot be attributed to a rainfall event or construction activity associated with the Stream 5 culvert, construction shall be stopped until the source can be determined. Immediate corrective measures shall be taken before work will be allowed to continue.

11. The Contractor will be expected to immediately modify the erosion control plan to correct any circumstances that may cause or allow pollutants from the worksite to enter Stream 5 or damage the creek's habitat.

12. Prohibit the use of borrow sites or stockpiling of dirt within 200 feet of the stream banks or elsewhere where runoff from the site would increase stream sedimentation.

13. Equipment staging areas and equipment maintenance areas (particularly for oil changes) shall be located at least 200 feet from stream banks to minimize the potential for wash water, petroleum products, or other contaminants from construction equipment entering the river.

14. In order to protect the habitat of the Cherokee darter the Contractor shall not use pesticides, herbicides (including those for Right-of–Way maintenance), or fertilizers within 200 feet of Stream 5 during and after construction activities.

    The Contractor shall fabricate and erect 4 signs labeled with the lettering "ESA" (indicating Ecologically Sensitive Areas) which will advise the Department's Maintenance crew not use chemicals (i.e., pesticides or fertilizers) in the area indicated by the signs. The Contractor shall place signs along the boundaries of the stream buffer at Stream 5 at four locations as designated on the plans. The distance from the edge of pavement will be determined according to MUTCD standards and must be within view from the road. Metal signs, which are 12 inches wide by 12 inches high, shall be fabricated for this purpose as depicted in the Sign Detail included in this package (Figure 1). The signs shall be mounted on metal posts, the bottom edge of the sign being positioned five feet high relative to the ground surface. The signs shall be in accordance with Sections 636, 910, 912, and 913 of the current Georgia Standard Specifications. The signs shall have white, reflecterized lettering and graphics with green, reflecterized background (see Sections 636, 910, 912, and 913 of the Georgia Standard Specifications).

15. In the event any incident occurs that causes harm to the Cherokee darter or that could be detrimental to the continued existence of the Cherokee darter along the project corridor, the Contractor shall report the incident immediately to the Project Engineer who in turn will notify:

    a. U.S. Fish and Wildlife Service, Athens Field Office at (706) 613-9493;

    b. Federal Highway Administration, Georgia Division at (404) 562-3630;

    c. Glenn Bowman, P.E., Georgia Department of Transportation, Office of Environment/Location at (404) 699-4401 or (404) 326-5871.

    In the event of possible harm to the Cherokee darter, all activity shall cease pending Section 7 consultation by the Department with the U. S. Fish and Wildlife Service and the lead Federal Agency.

16. Following project completion, a report summarizing any incidents with the above listed species shall be submitted by the Contractor to the:
    a. the Project Engineer;
    b. U.S. Fish and Wildlife Service, 105 West Park Drive, Suite D, Athens, GA 30606;

c. Federal Highway Administration, 61 Forsyth Street, S.W., Suite 17T100, Atlanta, GA 30303;
d. Nongame/Endangered Wildlife Program, Georgia Department of Natural Resources, 115 Rum Creek Dr, Forsyth, GA 31029 and;
e. Georgia Department of Transportation, Office of Environment/Location, 3993 Aviation Circle, Atlanta, GA 30336.

17. All costs pertaining to any requirement contained herein shall be included in the overall bid submitted unless such requirement is designated as a separate Pay Item in the Proposal.

FEDERAL HIGHWAY ADMINISTRATION

FINDING OF NO SIGNIFICANT IMPACT

FOR

GEORGIA PROJECT CSNHS-0006-00(043)
Cherokee County
P.I. Number 0006043

The Proposed Construction of the Ridgewalk Parkway Interchange

An Environmental Assessment of the referenced project has been prepared by the Georgia Department of Transportation in consultation with the Federal Highway Administration. The document was made available for public inspection as announced in a public notice, and comments were invited from all interested parties. Subsequent to the availability of the Draft Environmental Assessment and the comment period, a Final Environmental Assessment was prepared and has been furnished to the Federal Highway Administration by the Georgia DOT with the recommendation for a "Finding of No Significant Impact."

The Federal Highway Administration, after reviewing the Environmental Assessment, finds that the project will have no significant impact on the human environment.

The Finding of No Significant Impact is based on the Environmental Assessment, which has been evaluated by FHWA and determined to adequately and accurately discuss the environmental issues and effects of the proposed project. The Environmental Assessment also provides sufficient evidence and analysis for determining that an environmental impact statement is not required. The Federal Highway Administration takes full responsibility for the accuracy, scope and content of the attached Environmental Assessment.

04/29/2009
DATE

Katy J. Allen, P.E.
FOR: MR. RODNEY N. BARRY, P.E.
DIVISION ADMINISTRATOR
FEDERAL HIGHWAY ADMINISTRATION

Certificate of Compliance

Project CSNHS-0006-00(043), Cherokee County

P.I. No. 0006043

I hereby certify that the Georgia Department of Transportation has considered the social, economic and environmental effects of the project and has fulfilled the requirements of 23 USC 128 relating to public hearing requirements.

Georgia Department of Transportation

By: Glen Bramlett

Title: State Environmental/Location Engineer

Date: April 14, 2009

Project CSNHS-0006-00(043)

Cherokee County

P.I. Number 0006043

The Proposed Construction of the I-575/Ridgewalk Parkway Interchange

ENVIRONMENTAL ASSESSMENT

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

GEORGIA DEPARTMENT OF TRANSPORTATION

SUBMITTED PURSUANT TO 42 USC 4321 et. seq.

NEPA DATE

Glenn Bowman, P.E. DATE
Environmental/Location Engineer

APPROVAL FOR ADVANCEMENT TO AVAILABILITY/PUBLIC HEARING PHASE

August 14, 2008
DATE

Please refer to original signature page dated 08.14.08 (FHWA).
FOR: RODNEY N. BARRY, P.E.
DIVISION ADMINISTRATOR
FEDERAL HIGHWAY ADMINISTRATION

****

Michelle McIntosh 04-10-09
NEPA DATE

Glenn Bowman April 14, 2009
Glenn Bowman, P.E. DATE
Environmental/Location Engineer

APPROVAL OF ENVIRONMENTAL ASSESSMENT

4/29/09
DATE

Katey J. Allen, P.E
FOR: RODNEY N. BARRY, P.E.
DIVISION ADMINISTRATOR
FEDERAL HIGHWAY ADMINISTRATION

GDOT Project Number CSNHS-0006-00(043)

CHEROKEE COUNTY

P.I. Number 0006043

The Proposed Construction of the Ridgewalk Parkway Interchange

ENVIRONMENTAL ASSESSMENT

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

AND

GEORGIA DEPARTMENT OF TRANSPORTATION

SUBMITTED PURSUANT TO 42 USC 4321 et. seq.

APPROVAL FOR ADVANCEMENT TO AVAILABILITY/PUBLIC HEARING PHASE

8/14/2008
DATE

Katy L. Allen, P.E.
FOR: RODNEY N. BARRY, P.E.

APPROVAL OF ENVIRONMENTAL ASSESSMENT

4/29/09
DATE

Katy L Allen, P.E.
FOR: RODNEY N. BARRY, P.E.
DIVISION ADMINISTRATOR
FEDERAL HIGHWAY ADMINISTRATION

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I. NEED AND PURPOSE

A. Introduction

The Selected Alternative would construct the Ridgewalk Parkway Interchange, a new full-diamond interchange where Ashland Parkway/Ridgewalk Parkway currently overpasses Interstate 575 (I-575) approximately 2.1 miles north of the Towne Lake Parkway interchange and approximately 1.3 miles south of the Sixes Road interchange. The existing Ashland Parkway/Ridgewalk Parkway bridge over I-575 would be widened to accommodate the proposed typical section. The Selected Alternative would also realign the portion of existing Old Rope Mill Road located north of Ashland Parkway/Ridgewalk Parkway approximately 400 feet to the east of its current location to form a four-way intersection with Woodstock Parkway and Ashland Parkway/Ridgewalk Parkway. Also, two 12-foot auxiliary lanes, one in each direction, would be added to I-575 between the new interchange and the existing I-575/Towne Lake Parkway interchange. The total project length would be approximately 9,300 feet (1.76 miles) (see Figure 1, Project Vicinity Map).

The primary purpose of the project is to provide additional access between I-575 and areas east of historic downtown Woodstock. Currently, access from I-575 to areas east of Woodstock is primarily via Towne Lake Parkway and Arnold Mill Road, which is currently constrained by capacity limitations and restricted turning movements at the intersection of Towne Lake Parkway and Main Street/Canton Highway/Old SR 5 in the historic downtown area. After project implementation, additional access to I-575 from areas east and northeast of Woodstock would be provided traveling along East Cherokee Drive west to Main Street/Canton Highway/Old SR 5 and following that road south to Ashland Parkway/Ridgewalk Parkway. The additional connection would also supplement the existing travel route for vehicles traveling west on Arnold Mill Road. Travelers on Arnold Mill Road could access the new interchange by taking Mill Creek Road northbound to East Cherokee Drive and continuing as previously stated, or they can follow Arnold Mill Road to Dobbs Road and travel Dobbs Road west to Main Street/Canton Highway/Old SR 5, then north to Ashland Parkway/Ridgewalk Parkway.

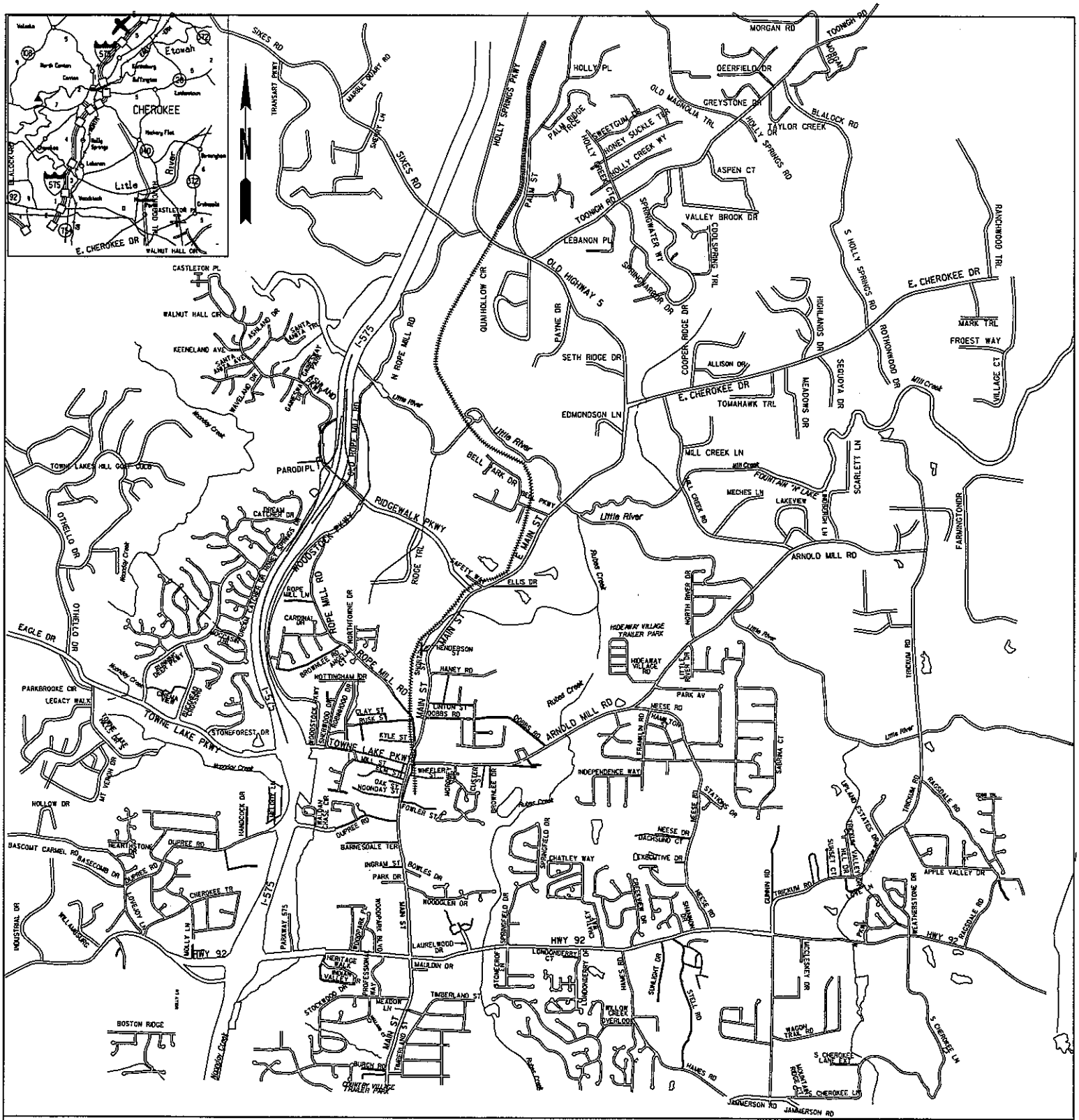


FIGURE 1- PROJECT VICINITY MAP

——— = PROPOSED IMPROVEMENTS

GDOT PROJECT CSNHS-0006-00(043)
P.I. NO. 0006043
CHEROKEE COUNTY, GEORGIA

SCALE: N.T.S.	DATE: 02/25/08
JOB NO.: 0719	DRAWN BY: JPS

Vehicles could also take Old Rope Mill Road from Main Street/Canton Highway/Old SR 5 to Ashland Parkway/Ridgewalk Parkway. The reduced traffic to and from I-575 on Towne Lake Parkway would result in better traffic operations at the I-575/Towne Lake Parkway interchange allowing Towne Lake Parkway to better serve regional traffic flows to and from the west, while the proposed interchange at Ashland Parkway/Ridgewalk Parkway would serve regional traffic flow to and from the east. Finally, the Selected Alternative would improve safety in the project area by relieving congestion on I-575 and Towne Lake Parkway, as well as in downtown Woodstock.

B. Planning Basis for the Action

The Selected Alternative is located within the limits of the City of Woodstock in Cherokee County, Georgia. Cherokee County is located north of the Cities of Atlanta in Fulton County and Marietta in Cobb County. The Atlanta region has experienced high growth over the past 25 years, making it one of the fastest growing regions in the United States. Within the Atlanta region, southern Cherokee County has experienced high growth between 1990 and 2000, with census tracts near Woodstock and along the SR 400 and SR 140 corridors among the top thirty highest in the region for population growth. Cherokee County is one of the fastest growing counties in the nation. Cherokee County population was estimated to be approximately 189,100 people in 2006, an approximate 33.3% growth rate from the estimated population of approximately 141,903 in 2000. The Atlanta Regional Commission (ARC) estimates the Cherokee County population to be approximately 355,854 in 2030, a projected growth rate of approximate 150.8% between 2000 and 2030. In addition to substantial past and projected population growth in Cherokee County, substantial employment growth has occurred and is projected to continue in the county. Cherokee County employment was estimated to be approximately 44,008 jobs in 2005, an approximate 23.1% growth rate from the approximate 35,750 estimated jobs in 2000. The ARC further estimates the Cherokee County employment base to be approximately 121,699 in 2030, a projected growth rate of approximately 240.4% between 2000 and 2030.

The anticipated population and employment growth in Cherokee County is expected to cause a corresponding increase in travel demand. The I-575 corridor is expected to experience a significant portion of the anticipated travel growth, with person trips between Cobb and Cherokee Counties becoming a substantial portion of travel demand in the area. The I-575 corridor is key to satisfying the growing trip demand between Cherokee County and Cobb County, as well as other counties in the Atlanta region.

Due to the existing and projected congestion in the area, the I-575 corridor has been identified in the Atlanta Regional Congestion Management System (1999 update). As part of the Congestion Management System (CMS), several investments were recommended to improve the identified deficiency of congestion caused by heavy peak period volumes. These investments include the installation of auxiliary lanes along various sections, implementation of high occupancy vehicle (HOV) lanes, and installation of an additional interchange at I-575 and Woodstock Parkway.

The City of Woodstock and surrounding areas exert strong travel demands between Cherokee County and the remainder of metropolitan Atlanta to the south. The primary route for satisfying this north-south demand is I-575, which connects Cherokee County with I-75, north of Marietta. Providing effective connections to and from the I-575 corridor is important for serving overall regional travel needs. The I-575 corridor is surrounded by a network of arterial roads that serve traffic traveling to and from I-575. The I-575 corridor in Cherokee County, like the entire Atlanta region, is experiencing substantial population and employment growth. The challenges associated with accommodating the metropolitan Atlanta growing transportation needs includes providing good regional connectivity to accommodate existing and future travel demands.

The Selected Alternative is included in the ARC's current Regional Transportation Plan (RTP), Envision6, and current Transportation Improvement Program (TIP), Fiscal Year 2008 – 2013, as project number CH-AR-225. The project is listed in both plans as a new interchange at I-575 and the Rope Mill Connector.

In addition to being consistent with regional transportation planning, the Selected Alternative is consistent with local planning needs. The City of Woodstock is interested in providing access to growing areas east of I-575, while reducing the traffic impacts in historic downtown Woodstock. The Selected Alternative is the primary mechanism for achieving reduction in traffic pressure in Woodstock. Implementation of the proposed interchange project supports development trends in the City of Woodstock and east Cherokee County. The current Cherokee County Comprehensive Plan identifies focused areas of growth around the I-575 corridor, which has been and is expected to continue to be a high growth corridor. The Selected Alternative is included in and consistant with the draft Comprehensive Plan that is currently underway for Cherokee County and the City of Woodstock, the existing Land Use Map for the City of Woodstock, the draft Future Development Map for City of Woodstock, and the draft plan documents for the Greenprints Project, a comprehensive park, trail and open space initiative for the City of Woodstock.

Since the Selected Alternative is located in the Atlanta Metropolitan Area, the proposed interchange spacing is sufficient to meet American Association of State Highway and Transportation Officials (AASHTO) interchange spacing requirements. Sixes Road is an urban collector street located 1.3 miles north of the proposed interchange and Towne Lake Parkway is an urban minor arterial located 2.1 miles south of the proposed interchange. Per AASHTO standards, minimum interchange spacing is 1 mile in urban areas and 2 miles in rural areas.

Other projects located in the area listed in the RTP/TIP are shown in Figure 2 – Other Projects in the Area and described in Table 1 – Other Projects in the Area.

Table 1 – Other Projects in the Area

ARC #	Short Title	Service Type	Current Schedule
AR-H-006	I-575 HOV lanes from Sixes Road to SR 20 in Cherokee County	HOV Lanes	R/W – LR 2012-2020 Cst. – LR 2021-2030
CH-167	Arnold Mill Road Extension/Connector from Main Street to Arnold Mill Road (new location roadway)	Roadway Capacity	R/W – LR 2014-2020 Cst. – LR 2014-2020

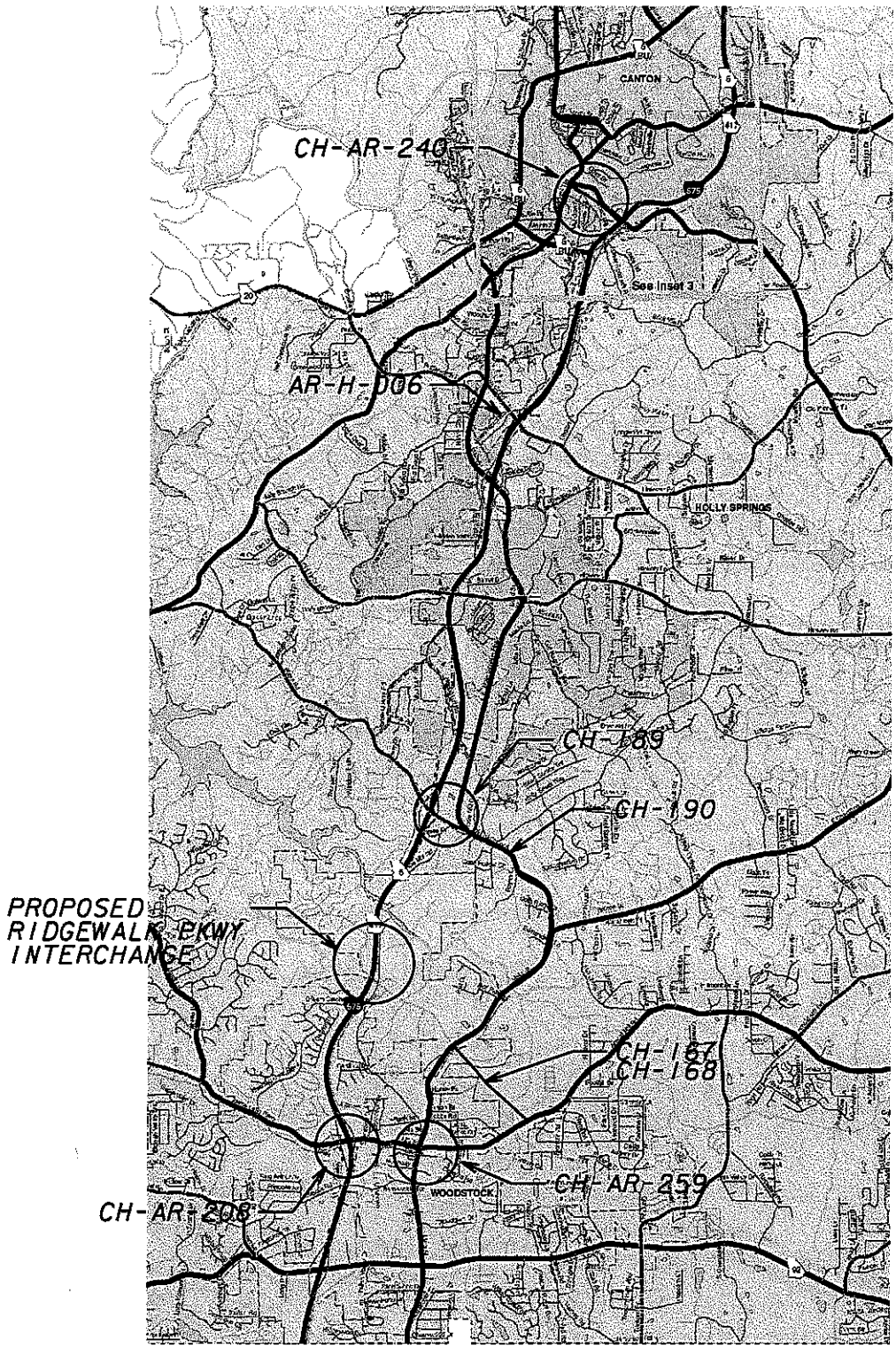


FIGURE 2 - OTHER PROJECTS IN THE AREA

SCALE: N.T.S.	DATE: 02/25/08
JOB NO.: 0719	DRAWN BY: JPS

GDOT PROJECT CSNHS-0006-00(043)
P.I. NO. 0006043
CHEROKEE COUNTY, GEORGIA

Table 1 Continued – Other Projects in the Area			
ARC Project #	Short Title	Service Type	Current Schedule
CH-168	Arnold Mill Road Extension/Connector from Main Street to Arnold Mill Road (widening from 2 to 4 lanes)	Roadway Capacity	R/W – LR 2012-2020 Cst. – LR 2021-2030
CH-189	Sixes Road at I-575	Bridge Capacity	R/W – 2009 Cst. – LR 2014-2020
CH-190	Sixes Road from I-575 to Old SR 5 (widening from 2 to 4 lanes)	Roadway Capacity	R/W – Authorized Cst. – 2008
CH-208	Towne Lake Parkway Signal Interconnection and Coordination (at 13 locations within 0.5 mile of the I-575 interchange)	ITS-Other	R/W – N/A Cst. – 2008
CH-AR-240	Hickory Flat Road from I-575 to Marietta Road	Pedestrian Facility	R/W – Authorized Cst. – 2008
CH-AR-259	Main Street from Towne Lake Parkway to Serenade Lane	Pedestrian Facility	R/W – Authorized Cst. – 2008

HOV = High Occupancy Vehicle; R/W = right-of-way; Cst = Construction; LR = Long Range

C. Analysis Methodology and Data

Studies have been conducted to determine the existing traffic conditions in the Selected Alternative area as well as the future traffic conditions under the no-build and build conditions.

A traffic analysis has been conducted for the Selected Alternative area to determine the average daily traffic (ADT) in the project area, as well as projected ADT under the build and no-build conditions. The traffic diagrams can be found in Appendix B and the summary of the traffic analysis results are shown in Table 2.

Table 2 – Existing & Projected ADT in the Selected Alternative Area					
Roadway Segment	Existing ADT	2010 No-build ADT	2010 Build ADT	2030 No-build ADT	2030 Build ADT
Towne Lake Parkway westbound from I-575 to Main St./Canton Hwy/Old SR 5	9,750	10,050	8,730	13,690	11,570
Towne Lake Parkway eastbound from I-575 to Main St./Canton Hwy/Old SR 5	9,350	10,050	8,730	13,690	11,570
Ridgewalk Parkway westbound from I-575 to Main St./Canton Hwy/Old SR 5	4,500	5,160	6,020	6,300	8,900

Table 2 Continued – Existing & Projected ADT in the Selected Alternative Area					
Ridgewalk Parkway eastbound from I-575 to Main St./Canton Hwy/Old SR 5	4,410	5,050	5,300	6,180	9,000
Main St./Canton Hwy./Old SR 5 from Towne Lake Parkway to Ridgewalk Parkway.	14,270	17,050	16,550	24,590	24,120
Towne Lake Parkway Northbound On-ramp	6,250	7,350	6,470	10,010	7,470
Towne Lake Parkway Northbound Off-ramp	16,700	19,640	18,020	26,760	22,570
Towne Lake Parkway Southbound On-ramp	1,850	21,860	20,020	29,770	25,110
Towne Lake Parkway Southbound Off-ramp	6,730	7,910	6,670	10,780	8,050
Ridgewalk Parkway Northbound On-ramp	NA	NA	2,620	NA	4,300
Ridgewalk Parkway Northbound Off-ramp	NA	NA	1,310	NA	5,180
Ridgewalk Parkway Southbound On-ramp	NA	NA	1,220	NA	4,460
Ridgewalk Parkway Southbound Off-ramp	NA	NA	2,130	NA	3,690

NA = Not Applicable

A capacity analysis within the project area was also performed for the existing 2005 and future no-build traffic conditions to determine deficiencies with the existing traffic system. The analysis took into account anticipated and known developments in the general project area. Using procedures based on the Highway Capacity Manual, this analysis determines the operating level-of-service (LOS) for roadway sections and intersections. Level of service is a qualitative system of measurement that measures the effect of speed and travel time, traffic interruptions or restrictions, freedom to maneuver, safety, driving comfort and convenience, and economy. Traffic speed is the major factor used in identifying the LOS. The ratio of service volume to capacity is a second accompanying factor. Six LOS are defined for each type of facility for which analysis procedures are available. The LOS are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. A LOS A describes an operating condition of free flow with low volumes and high speed. A LOS B describes an operating condition of stable flow with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and driving lane. A LOS C describes an operating condition still in the range of stable flow; however, speed and maneuverability are more closely controlled by the higher volume of traffic. A LOS D describes an operating condition of high density and is approaching unstable flow. Tolerable operating speeds are maintained though considerably affected by changes in operating conditions. A LOS E describes an operating condition at or near the capacity level with unstable flow and short stops.

Driver frustration is generally high. A LOS F describes an operating condition of forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount of traffic that can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop and go waves and are extremely unstable. For intersections, the LOS is determined based on intersection delay for each approach. For freeway sections and ramps, LOS is based on the projected density of traffic flow (vehicles per lane, per mile). The results of the capacity analysis are shown in Table 3.

Table 3 – Existing & Projected Level-of-service in the Selected Alternative Area

Roadway Segment	Existing LOS	2010 No-build LOS	2010 Build LOS	2030 No-build LOS	2030 Build LOS
Towne Lake Parkway from I-575 to Main St./Canton Hwy/Old SR 5	D	F	C	F	F
Ridgewalk Parkway from I-575 to Main St./Canton Hwy/Old SR 5	B	B	C	B	B
Main St./Canton Hwy./Old SR 5 from just south of Towne Lake Parkway to just north of Ridgewalk Parkway	C	F	D	F	F
Towne Lake Parkway Northbound On-ramp	AM – A PM – B	AM – A PM – B	AM – A PM – B	AM – A PM – F	AM – A PM – A
Towne Lake Parkway Northbound Off-ramp	AM – C PM – F	AM – C PM – F	AM – C PM – F	AM – F PM – F	AM – C PM – F
Towne Lake Parkway Southbound On-ramp	AM – F PM – A	AM – F PM – A	AM – F PM – A	AM – F PM – F	AM – F PM – A
Towne Lake Parkway Southbound Off-ramp	AM – F PM – B	AM – F PM – B	AM – B PM – A	AM – F PM – F	AM – F PM – B
Ridgewalk Parkway Northbound On-ramp	NA	NA	AM – C PM – F	NA	AM – F PM – F
Ridgewalk Parkway Northbound Off-ramp	NA	NA	AM – A PM – B	NA	AM – B PM – C
Ridgewalk Parkway Southbound On-ramp	NA	NA	AM – B PM – B	NA	AM – F PM – F
Ridgewalk Parkway Southbound Off-ramp	NA	NA	AM – B PM – B	NA	AM – C PM – B

NB = Northbound; SB = Southbound; NA = Not Applicable

Accident data for 2004 through 2006, the most recent consecutive three-year period for which data is available, has been analyzed on Towne Lake Parkway from just west of I-575 to Main St./Canton Hwy/Old SR 5. Accident rates per 100 million vehicle miles traveled (MVMT) have been determined and compared with the statewide accident rates

for similar type roadways for the same years, 2004 through 2006. The results of the analysis can be found below in Table 4.

Table 4 – Accident Data in the Selected Alternative Area Towne Lake Parkway from just west of I-575 to Main St./Canton Hwy/Old SR 5			
	2004	2005	2006
Accident Rate/Statewide Accident Rate	1,820/509	2,718/554	1,107/548
Injury Rate/Statewide Injury Rate	518/127	723/140	258/137
Fatality Rate/Statewide Fatality Rate	0/1.44	0/1.63	0/2.95

D. Logical Termini, Independent Utility, & Constraints on Other Transportation Projects

On Ashland Parkway/Ridgewalk Parkway, the Selected Alternative would begin approximately 775 feet west of the proposed I-575 southbound ramps and would end approximately 650 feet east of the proposed I-575 northbound ramps, just east of Old Rope Mill Road and Woodstock Parkway. These termini are considered logical because they are in the immediate vicinity of the proposed interchange and would provide adequate length along Ashland Parkway/Ridgewalk Parkway to tie the new facility into the existing transportation network while still meeting AASHTO standards. In addition, the eastern terminus would occur just east of the Ashland Parkway/Ridgewalk Parkway intersections with Woodstock Parkway, a significant traffic generator for Ashland Parkway/Ridgewalk Parkway.

On I-575, the Selected Alternative would begin just north of the existing I-575 southbound exit ramp at Towne Lake Parkway and would end approximately 2,600 feet north of the existing Ashland Parkway/Ridgewalk Parkway bridge over I-575. The southern terminus is considered logical because it provides just enough room to add the proposed southbound auxiliary lane between the new interchange and the existing I-575/Towne Lake Parkway interchange. The northern terminus is considered logical because it is in the immediate vicinity of the new interchange and provides just enough length to construct the new I-575 southbound exit ramp and the new I-575 northbound access ramp for the proposed interchange while still meeting AASHTO standards. The provision of auxiliary lanes between the proposed interchange at Ashland

Parkway/Ridgewalk Parkway and the existing interchange at Towne Lake Parkway would improve the operation of the interchanges and, subsequently, the operation of I-575 between the two interchanges.

The proposed interchange would function effectively within the existing transportation network, even if no other improvements in the RTP are constructed. The traffic analysis indicates that Ashland Parkway/Ridgewalk Parkway would operate at acceptable level of service with the construction of the proposed interchange and no additional improvements would be forced on Ashland Parkway/Ridgewalk Parkway as a result of the proposed interchange. Although access to the proposed I-575 interchange with Ashland Parkway/Ridgewalk Parkway may eventually be improved with the proposed construction of the Arnold Mill Road extension, adequate access to the proposed interchange would be provided within the existing transportation network via the East Cherokee Drive to Main Street/Canton Highway/Old SR 5 to Ashland Parkway/Ridgewalk Parkway corridor, the Arnold Mill Road to Mill Creek Road to East Cherokee Drive to Main Street/Canton Highway/Old SR 5 to Ashland Parkway/Ridgewalk Parkway corridor, the Arnold Mill Road to Dobbs Road to Main Street/Canton Highway/Old SR 5 to Ashland Parkway/Ridgewalk Parkway corridor, or the Arnold Mill Road to Main Street/Canton Highway/Old SR 5 to Old Rope Mill Road to Ashland Parkway/Ridgewalk Parkway corridor. Many minor deviations from these main travel routes would also provide access to the new interchange. As a result of planned future development along Ashland Parkway/Ridgewalk Parkway, it is anticipated that Ashland Parkway/Ridgewalk Parkway would function at a LOS F by the design year 2030 if it were to remain a two-lane roadway. However, the City of Woodstock Comprehensive Plan has programmed a local project that would widen the Ashland Parkway/Ridgewalk Parkway corridor to four lanes. The plan requires that the developers improve the corridor to four lanes as a condition of development. Therefore, the development along the corridor would not occur without the corridor improvements. A LOS B is anticipated for the corridor assuming the planned development and subsequent improvements would occur. The City of Woodstock approved the plan for the widening of the Ashland Parkway/Ridgewalk Parkway corridor by future developers April 14, 2008. The proposed

improvements to the Ashland Parkway/Ridgewalk Parkway corridor by the City of Woodstock and developers along the corridor are not part of the RTP.

E. Deficiencies in the Existing System

Corridor between I-575 and Areas East of Woodstock:

The only existing direct routes from areas east of the City of Woodstock to I-575 are through historic downtown Woodstock. As such, all regional traffic from the area east of Woodstock must travel through downtown Woodstock, experiencing delays and constraints caused by capacity limitations at the intersection of Towne Lake Parkway and Main Street/Canton Highway/Old SR 5. The intersection of Towne Lake Parkway and Main Street/Canton Highway/Old SR 5 currently operates at LOS D and is expected to operate at a LOS F by 2010 under the no-build condition. Through downtown Woodstock and west to I-575, Towne Lake Parkway is a two-lane, undivided, roadway. The location of historic buildings and rail lines at the intersection of Towne Lake Parkway and Main Street/Canton Highway/Old SR 5 physically constrain the roadway's ability to provide access to the interstate system. Furthermore, no left turn movements from eastbound Towne Lake Parkway to northbound Main Street/Canton Highway/Old SR 5 are allowed, exacerbating the traffic conditions during the PM peak period.

According to the accident data, the Towne Lake Parkway corridor experienced an average accident rate of approximately 1,882 accidents per 100 million vehicle miles traveled from 2004 through 2006, which was approximately 3.5 times greater than the statewide average accident rate for minor arterials of 537 accidents per 100 million vehicle miles traveled for the same years. The data also indicates that most of the Towne Lake Parkway interchange related rear-end accidents are occurring along Towne Lake Parkway indicating substantial congestion along that stretch of roadway. In addition, the Towne Lake Parkway corridor experienced an average injury rate of approximately 500 injury accidents per 100 million vehicle miles traveled from 2004 through 2006, which was approximately 3.7 times greater than the statewide average accident rate for minor arterials of 135 accidents per 100 million vehicle miles traveled for the same years. The average fatality rate of 0 for those same years was much lower

than the statewide average fatality rate of approximately 2.0 fatalities per 100 million vehicle miles traveled.

I-575/Towne Lake Parkway Interchange:

Capacity analysis techniques were used to determine the existing LOS for the ramp termini intersections, as well as ramp merge and diverge areas at the Towne Lake Parkway interchange. The existing I-575 interchange at Towne Lake Parkway currently operates at LOS F for at least one turning movement during peak hours. Current PM peak hour deficiencies at the I-575 and Towne Lake Parkway interchange result in the northbound exit ramp backing onto the freeway during many PM peak periods. Under the no-build condition, all turning movements but one would operate at LOS F by the design year 2030.

F. Advantages of the Proposed Improvements

The capacity analysis within the project area was performed for the existing 2005 and future 2030 build and no-build traffic conditions to determine the advantages of the proposed improvements with the Selected Alternative.

Corridor between I-575 and Areas East of Woodstock:

The Selected Alternative would provide additional access between I-575 and areas east of Woodstock without travel through historic downtown Woodstock by providing access north of Woodstock and connecting with the proposed interchange at I-575 and Ashland Parkway/Ridgewalk Parkway. Ashland Parkway/Ridgewalk Parkway, between the proposed I-575 interchange and Main St/Canton Hwy/Old SR 5, would function would function at a LOS C under the build condition in 2010 and at a LOS B under the build condition design year 2030. The LOS is expected to improve between 2010 and 2030 because the analysis assumes two lanes on Ashland Parkway/Ridgewalk Parkway in 2010 and four lanes in 2030. The widening of Ashland Parkway/Ridgewalk Parkway from two lanes to four lanes is a local project programmed by the City of Woodstock.

The Selected Alternative would improve safety on Towne Lake Parkway and Main Street/Canton Highway/Old SR 5/Sixes Road from north of Towne Lake Parkway through the I-575/Sixes Road interchange by reducing the amount of congestion and the potential for rear-end and side-swipe type collisions associated with congested conditions.

I-575 Interchanges:

The proposed interchange ramps at Ashland Parkway/Ridgewalk Parkway are projected to provide a LOS C or better during the AM peak hour and LOS F for the northbound PM peak hour in year 2010. During design year 2030, all movements are projected to experience LOS F conditions during the PM peak hour and most are projected to experience LOS F during the AM peak hour. The interchange on-ramps are projected to provide LOS F during both AM and PM peak hours in design year 2030. However, the construction of the proposed new I-575 interchange at Ashland Parkway/Ridgewalk Parkway results in substantial volume reductions at adjacent interchanges, during most time periods. By design year 2030 under the build condition, the proposed interchange is projected to draw approximately 210 vehicles per hour from the Towne Lake Parkway southbound on-ramp during AM peak hours, an approximate reduction of 8%. By design year 2030 under the build condition, the proposed interchange is projected to draw approximately 360 vehicles per hour from the Towne Lake Parkway northbound off-ramp during PM peak hours, an approximate reduction of 15%. By design year 2030 under the build condition, the proposed interchange is projected to draw approximately 90 vehicles per hour from the Sixes Road southbound on-ramp during AM peak hours, an approximate reduction of 6%. It is not anticipated that project implementation would draw vehicles from the Sixes Road northbound off-ramp during PM peak hours.

The Selected Alternative would provide minor improvements in LOS at the existing Towne Lake Parkway and Sixes Road interchanges between the build and no-build conditions for both the 2010 opening year and the design year 2030; however, the majority of the ramps within the study area for the design year 2030 is LOS F, due primarily to high volumes on I-575 (refer back to Table 3 – Existing & Projected Level-of-

service in the Selected Alternative Area). During design year 2030, all movements are projected to experience LOS F conditions the PM peak hour and most are projected to experience LOS F during the AM peak hour. The proposed interchange on-ramps are projected to provide LOS F during the AM and PM peak hours in design year 2030. However, these failures are due to the high volumes of traffic on I-575 and not a result of the ramp configurations. Ramp diverge and merge LOS analsyis, using the Highway Capacity Manual (HCM) methodology, is based on density and is strongly influenced by the freeway volume for the outermost two lanes. I-575 is a four lane freeway segment with two lanes in each direction, therefore the total freeway volume is considered. The area of influence upstream of a diverging traffic flow and downstream of a merge has a maximum desirable flow of 4700 personal cars per hour at a free flow speed of 65 mph. If this capacity is exceeded the LOS analysis will result in LOS F, regardless of whether the capacity of the ramp has been exceeded. Freeway segment volumes exceed capacity within the study area and are the determining factor resulting in the majority of ramps operating at a LOS F under the build condition. The maximum capacity of a single lane ramp with a travel speed of between 30 and 40 mph is 2000 personal cars per hour. The capacity of the ramps under the 2010 and 2030 scenarios is not exceeded and is therefore not the determining factor in the failing LOS. Thus, if freeway volumes were reduced or additional freeway capacity provided, the ramp LOS would improve. In addition, since the freeway threshold values have been surpassed, improvements to the acceleration and deceleration length or number of ramp lanes is not effective in improving the calculated LOS.

G. Summary/Conclusion

The Selected Alternative would provide an alternate route from the east to I-575 that would avoid the downtown Woodstock area and would improve regional connectivity between I-575 and residential areas to the east. The Selected Alternative would also draw traffic from the existing over-burdened I-575 interchange at Towne Lake Parkway. Finally, the Selected Alternative would improve safety in the project area by relieving congestion at the I-575 and Towne Lake Parkway interchange and in downtown Woodstock.

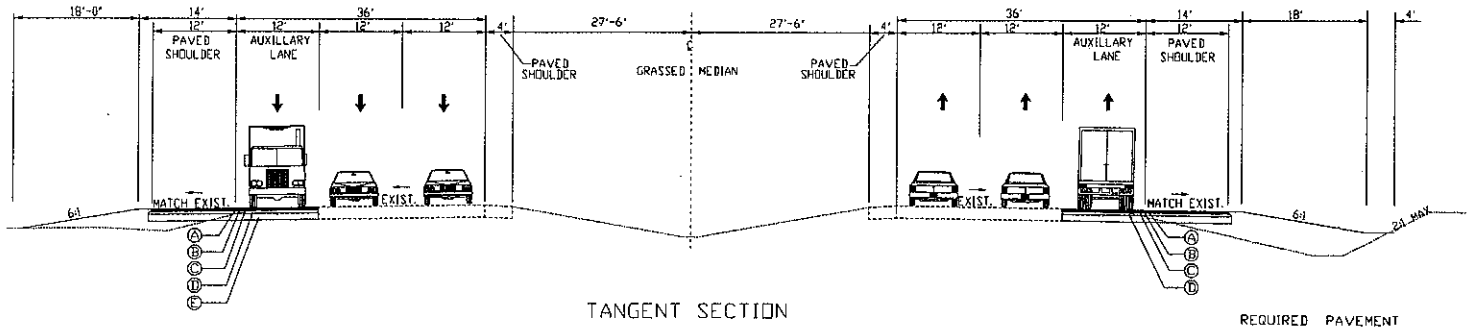
II. DESCRIPTION OF ALTERNATIVES

A. The Selected Alternative

The Selected Alternative would construct a new, full-diamand interchange approximately 2.1 miles north of the existing Towne Lake Parkway interchange and approximately 1.3 miles south of the existing Sixes Road interchange where Ashland Parkway/Ridgewalk Parkway (signed as Old Rope Mill Road under the existing bridge) currently overpasses I-575 (refer back to Figure 1 – Project Vicinity Map). In addition, new auxiliary lanes would be constructed between the new interchange and the Towne Lake Parkway interchange and Old Rope Mill Road would be realigned approximately 400 feet to the east of its current location to form a four way intersection with Woodstock Parkway and Ashland Parkway/Ridgewalk Parkway (see Figure 3 – Selected Alternative on Aerial Photography). The total project length would be approximately 9,300 feet (1.76 miles).

Existing I-575 in the project area is variable width with 2-3 travel lanes northbound and 2-3 travel lanes southbound separated by an approximate 55-foot depressed, grassed median. The existing shoulders are 12-foot with 10-foot paved. There is one existing 12-foot truck lane located on southbound I-575 that tapers off just south of Ashland Parkway/Ridgewalk Parkway. Also, there is an existing 12-foot acceleration lane located on I-575 that tapers off approximately 4,900 feet north of Towne Lake Parkway. Project implementation would widen I-575 to extend the two 12-foot auxiliary lanes, one in each direction, the full length between the existing Towne Lake Parkway and proposed Ashland Parkway/Ridgewalk Parkway interchanges. The proposed typical section on I-575 would consist of two 12-foot travel lanes plus one 12-foot auxiliary lane, 12-foot outside paved shoulders and 4-foot inside paved shoulders each for both northbound and southbound lanes with a 55-foot median (see Figure 4a – Typical Cross Section for I-575 and Interchange Ramps). The proposed access and exit ramps for the new interchange would each consist of one 16-foot travel lane with 8-foot inside shoulders, 6.5-foot paved, and 6-foot outside shoulders, 4-foot paved (refer again to Figure 4a – Typical Cross Section for I-575 and Interchange Ramps).


BEGIN SOUND BARRIER
WOODSTOCK PARKWAY
TOWNE PKWY
OLD ROPE MILL
MAIN ST/ OLD SR 5
ARNOLD MILL RD



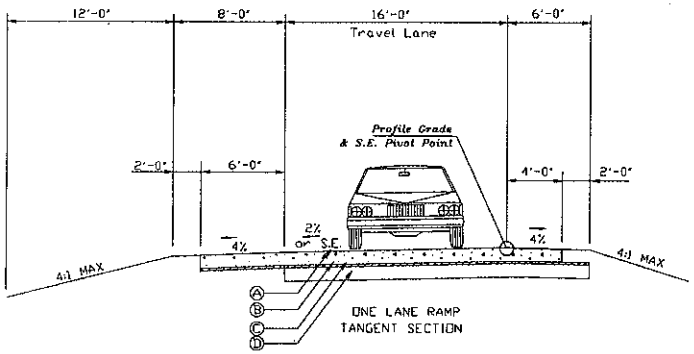
TANGENT SECTION

TYPICAL SECTION #1

I-575

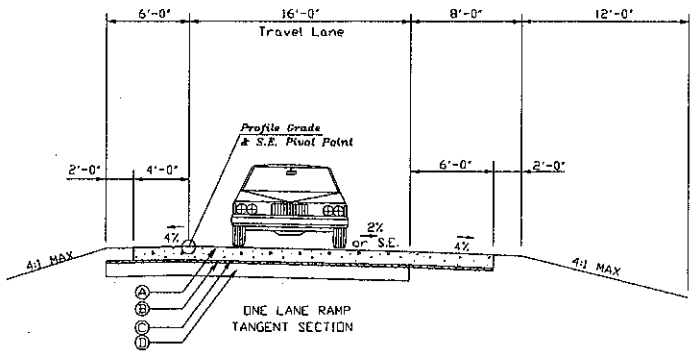
REQUIRED PAVEMENT

Ⓐ ASPHALTIC CONCRETE 12.5mm SUPERPAVE, 165 LB/SY
Ⓑ ASPHALTIC CONCRETE 19mm SUPERPAVE, 330 LB/SY
Ⓒ ASPHALTIC CONCRETE 25mm SUPERPAVE, 440 LB/SY
Ⓓ GRADED AGGREGATE BASE, 14.5"



TYPICAL SECTION #2

Northbound On and Off Ramps



TYPICAL SECTION #3

Southbound On and Off Ramps

FIGURE 4A

TYPICAL SECTIONS

RIDGEWALK PARKWAY INTERCHANGE

NOT TO SCALE

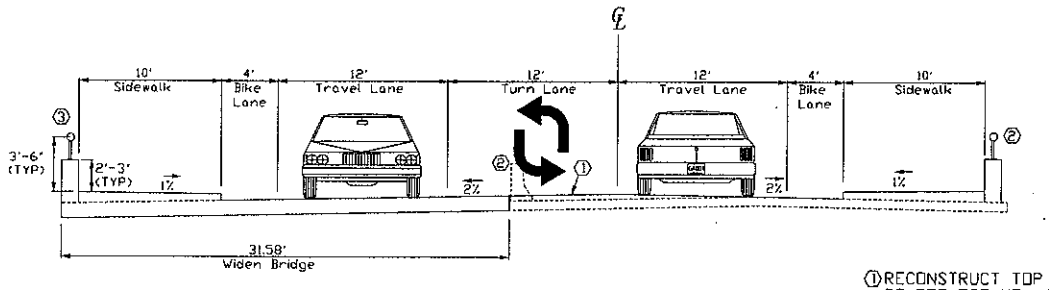
DRAWING NO 5-01

The existing Ashland Parkway/Ridgewalk Parkway bridge over I-575 is a 35 by 328-foot, two-lane bridge with 4-foot shoulders and 1.5-foot Jersey style concrete safety barriers on both sides of the bridge. The bridge has one bent located in the I-575 median. The existing bridge would be widened to accommodate two 12-foot travel lanes, a 12-foot left turn lane, 4-foot bike lanes, 10-foot sidewalks and 1.5-foot parapet walls (see Figure 4b – Typical Cross Section for Ashland Parkway/Ridgewalk Parkway). The proposed interchange bridge would be approximately 78 by 328-foot. The existing bridge would remain open to traffic during project implementation and an off-site detour would not be required.

The existing typical cross section on Ashland Parkway/Ridgewalk Parkway beyond the limits of the bridge consists of two travel lanes, one in each direction, with approximate 4-foot shoulder, two-foot paved. No improvements to Ashland Parkway/Ridgewalk Parkway beyond the limits of the bridge are proposed.

The existing typical cross section on Old Rope Mill Road consists of two 10-foot travel lanes, one in each direction, with grassed shoulders. Old Rope Mill Road would be realigned to intersect with Ashland Parkway/Ridgewalk Parkway approximately 400 feet east of the existing intersection to form a four-way intersection with Ashland Parkway/Ridgewalk Parkway and Woodstock Parkway. Old Rope Mill Road would consist of two 12-foot travel lanes, one in each direction, separated by a 14-foot two-way, center left turn lane with 4-foot bike lanes, curb, gutter, and 5-foot sidewalks. The total shoulder width would be 14 feet. The Selected Alternative would include the obliteration of existing Old Rope Mill Road.

The existing right-of-way on Ashland Parkway/Ridgewalk Parkway is variable between 100 and 130 feet. Approximately 20 feet of additional right-of-way would be required on Ashland Parkway/Ridgewalk Parkway for a total required right-of-way of approximately 150 feet. Approximately 70 feet of right-of-way would be required for the relocation of Old Rope Mill Road. The existing right-of-way on I-575 in the area of the Selected Alternative is approximately 400 feet. Approximately 280 feet of additional right-of-way

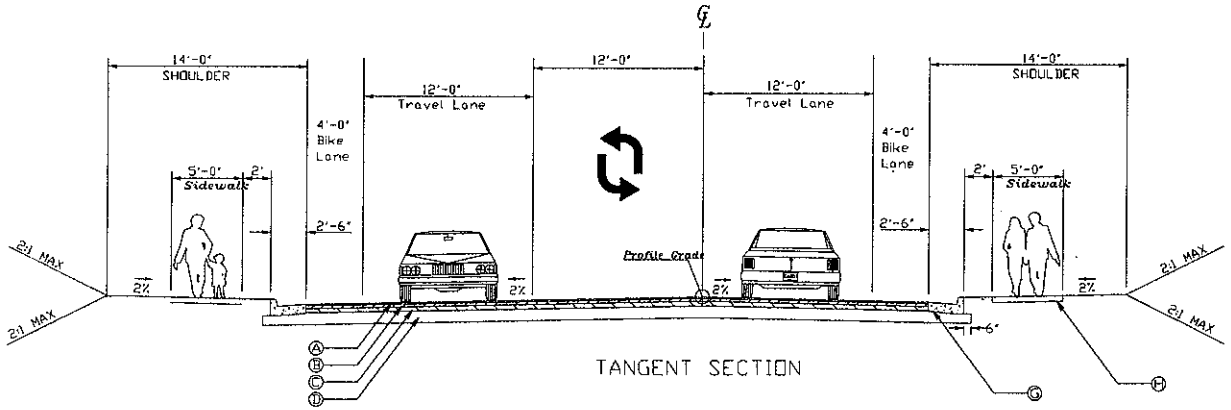


①RECONSTRUCT TOP LAYER OF CONCRETE TO REFLECT NEW PROFILE GRADE

②CONSTRUCT GDOT STD. 3626 HANDRAIL ON TOP OF NEW PARAPETS.

TYPICAL SECTION #4
ASHLAND/RIDGEWALK PARKWAY BRIDGE
(FORMERLY OLD ROPE MILL ROAD)
SECTION OVER I-575

REQUIRED PAVEMENT
- Ⓐ ASPHALTIC CONCRETE 12.5mm SUPERPAVE, 165 lb/yd²
- Ⓑ ASPHALTIC CONCRETE 19mm SUPERPAVE, 330 lb/yd²
- Ⓒ ASPHALTIC CONCRETE 25mm SUPERPAVE, 440 lb/yd²
- Ⓓ GRADED AGGREGATE BASE, 14 1/2 "
- Ⓖ 8"x30" CONC. CURB & GUTTER, GA. STD. 9032 B. TYPE 2
- Ⓗ 4"x5' CONC. SIDEWALK, DETAIL A-3



TANGENT SECTION

TYPICAL SECTION #5
ASHLAND/RIDGEWALK PARKWAY
FROM I-575 SOUTH BOUND RAMPS TO BRIDGE
FROM BRIDGE TO NORTH WOODSTOCK PARKWAY

FIGURE 4B

TYPICAL SECTIONS
RIDGEWALK PARKWAY INTERCHANGE
NOT TO SCALE
DRAWING NO 5-02

would be required for the construction of the northbound interchange ramps and approximately 290 feet of additional right-of-way would be required for construction of the southbound interchange ramps for a total of approximately 570 feet of additional right-of-way and a total required right-of-way of approximately 970 feet.

B. The No-Build Alternative

Under this alternative, no action would be taken to construct a new interchange at I-575 in the City of Woodstock area. Under this alternative, east-west mobility in Cherokee County would not be improved and efforts would not be made to alleviate congestion at the existing I-575 interchanges with Sixes Road and Towne Lake Parkway and in downtown Woodstock.

C. Alternatives No Longer Under Consideration

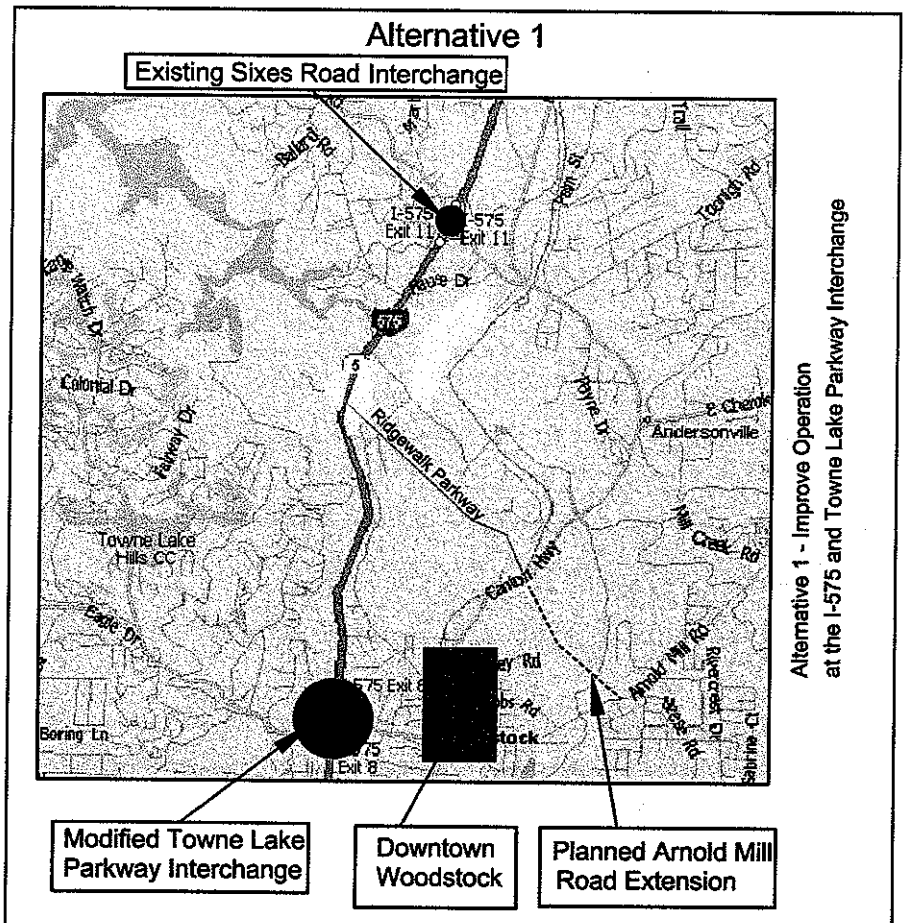
Several alternatives were considered during the early planning stages of project development. However, because the Selected Alternative would result in considerably less impacts to the environment while satisfying the need and purpose of the project, these alternatives are no longer under consideration.

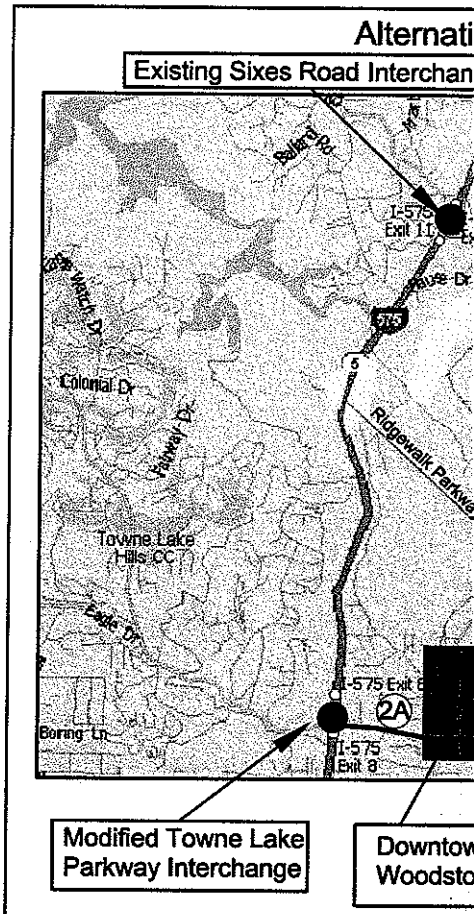
Alternative 1:

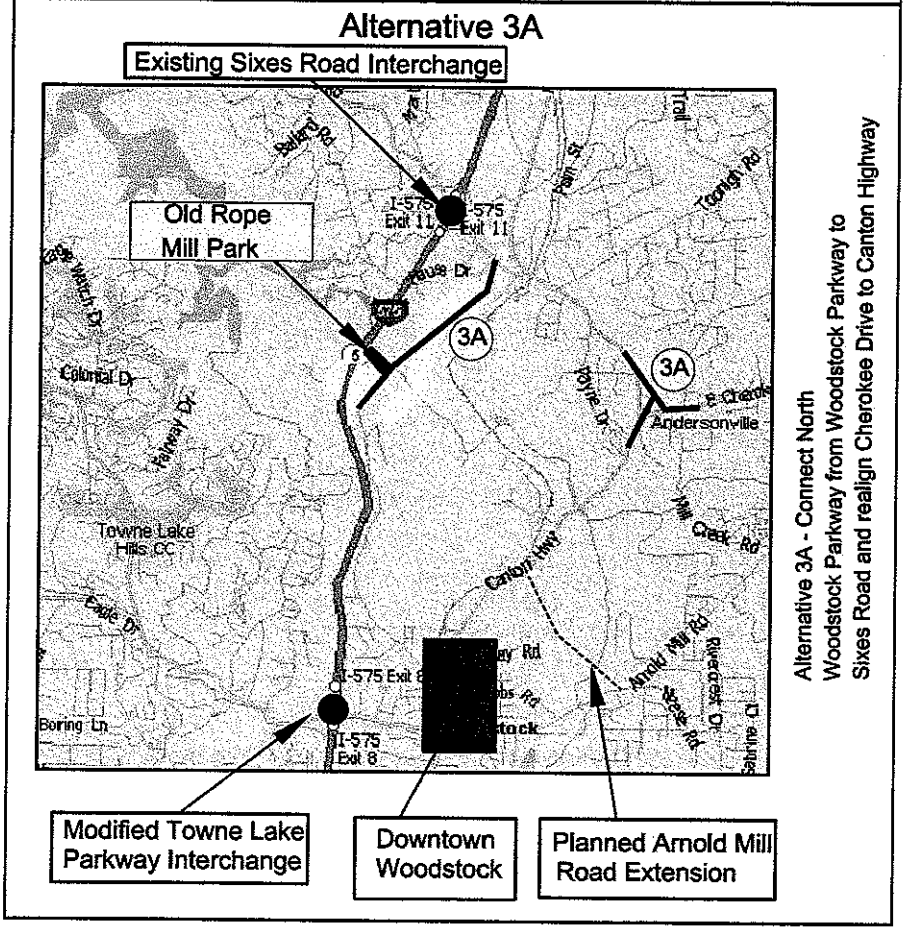
Alternative 1 would improve the operations of the existing I-575/Towne Lake Parkway interchange. Alternative 1 would replace the existing I-575 bridge over Towne Lake Parkway, widen Towne Lake Parkway to allow four through lanes and four left turn lanes, provide four travel lanes plus an eastbound right turn lane west of the interchange, and provide four travel lanes with a westbound shared right turn lane for a short distance east of the interchange (see Figure 5a – Alternatives No Longer Under Consideration).

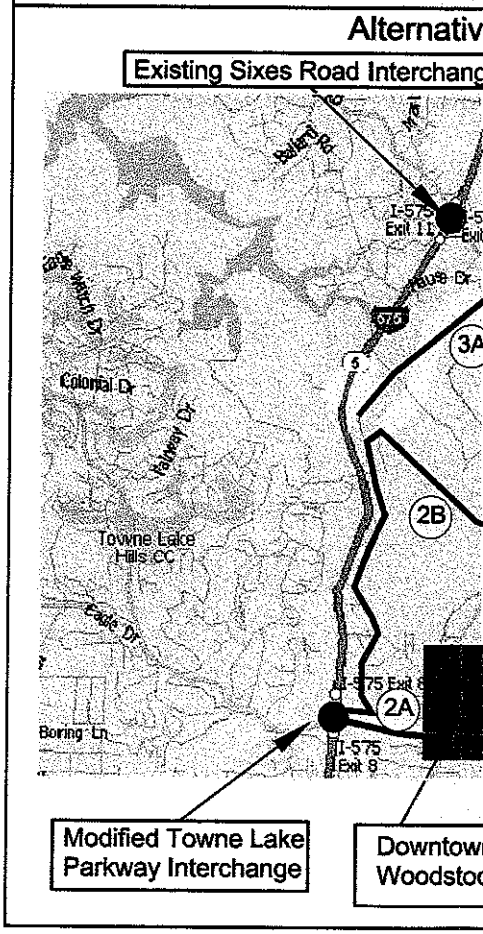
Alternative 1 is no longer under consideration because it would not meet the primary need and purpose of the project to provide additional access between I-575 and the areas east of historic downtown Woodstock and alleviating congestion on Towne Lake Parkway.

FIGURE 5A - ALTERNATIVES NO L









Alternative 2A:

Alternative 2A would widen Towne Lake Parkway from two to four through lanes, two in each direction, from I-575 through historic downtown Woodstock to Arnold Mill Road and would upgrade the existing interchange at I-575 and Towne Lake Parkway as described in Alternative 1 (refer back to Figure 5a – Alternatives No Longer Under Consideration).

Alternative 2A is no longer under consideration because it would result in impacts to downtown historic Woodstock, a resource protected under Section 4(f) of the U.S. Department of Transportation (USDOT) Act.

Alternative 2B:

Alternative 2B would widen both Woodstock Parkway and Ashland Parkway/Ridgewalk Parkway from two to four travel lanes. Four travel lanes, two in each direction, would be provided on Woodstock Parkway from Towne Lake Parkway to Ashland Parkway/Ridgewalk Parkway. Four travel lanes, two in each direction, would also be provided on Ashland Parkway/Ridgewalk Parkway from Woodstock Parkway to Main Street/Canton Highway/Old SR 5 (refer back to Figure 5a – Alternatives No Longer Under Consideration).

Alternative 2B is no longer under consideration because it would cost far more than Selected Alternative and, since the majority of all traffic from areas east of Woodstock would be still be funneled to the I-575/Towne Lake Parkway interchange, Alternative 2B would result in substantially more congestion at the I-575/Towne Lake Parkway interchange.

Alternative 3A:

Alternative 3A would widen and extend Old Rope Mill Road northerly so that it would provide a continuous four-lane roadway from Ashland Parkway/Ridgewalk Parkway to Sixes Road. This alternative would also include the upgrade of the existing I-575/Towne Lake Parkway interchange as described in Alternative 1 and would reconstruct and improve the existing intersection at East Cherokee Drive and Main Street/Canton

Highway/Old SR 5. This alternative would provide direct access between I-575 and areas east of Woodstock without travel through historic downtown Woodstock by providing access north of Woodstock and connecting with the existing interchange at I-575 and Sixes Road (refer back to Figure 5a – Alternatives No Longer Under Consideration).

Alternative 3A is no longer under consideration because it would result in impacts to Old Rope Mill Park and U.S Army Corps of Engineers (USACE) property along the Little River, resources protected under Section 4(f) of the USDOT Act. Alternative 3A would also result in environmental impacts and costs associated with the bridging of the Little River.

Alternative 3B:

Alternative 3B is a combination of Alternatives 1, 2A, 2B and 3A. Alternative 3B would widen Woodstock Parkway from two lanes to four lanes, two in each direction, from Towne Lake Parkway to Ashland Parkway/Ridgewalk Parkway and would widen and extend Old Rope Mill Road northerly from Ashland Parkway/Ridgewalk Parkway to Sixes Road so that the alternative would provide a continuous four-lane roadway from Towne Lake Parkway to Sixes Road. This alternative would also include the upgrade of the existing I-575/Towne Lake Parkway interchange as described in Alternative 1, would widen Towne Lake Parkway from two to four travel lanes, two in each direction from I-575 to Arnold Mill Road, would widen Ashland Parkway/Ridgewalk Parkway from two to four travel lanes, two in each direction, from Woodstock Parkway to Main Street/Canton Highway/Old SR 5, and would reconstruct and improve the existing intersection at East Cherokee Drive and Main Street/Canton Highway/Old SR 5 (refer back to Figure 5a – Alternatives No Longer Under Consideration).

Alternative 3B is no longer under consideration because it would result in impacts to downtown historic Woodstock, Old Rope Mill Park and USACE property along the Little River, resources protected under Section 4(f) of the USDOT Act. Alternative 3B would also result in environmental impacts and costs associated with the bridging of the Little

River and would cost far more than Selected Alternative for the same approximate benefits.

Alternative 3C:

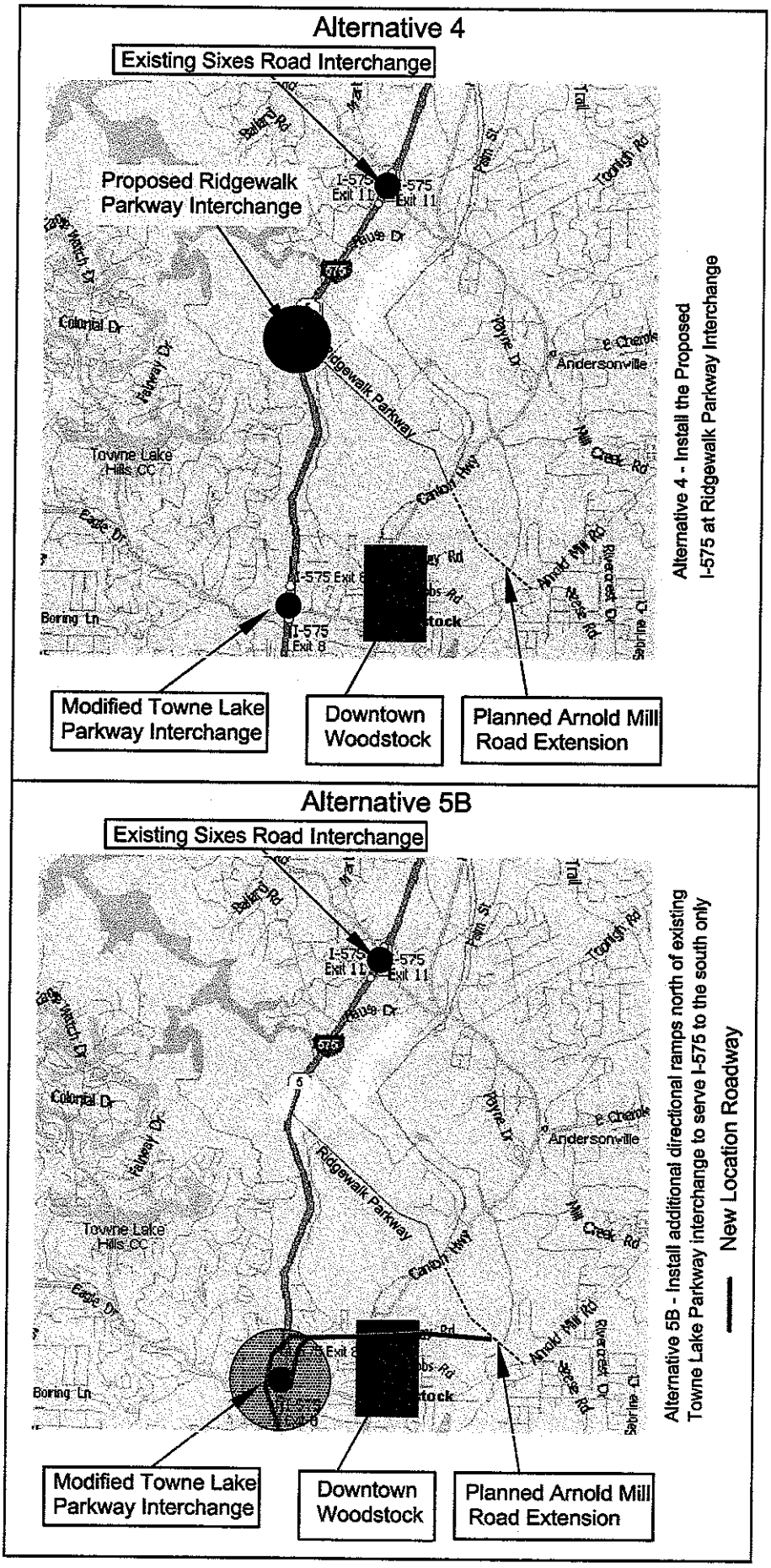
Alternative 3C is a combination of Alternatives 1, 2B and 3A and is similar to Alternative 3B except that it does not include the widening of Towne Lake Parkway. Alternative 3C would widen Woodstock Parkway from two lanes to four lanes, two in each direction, from Towne Lake Parkway to Ashland Parkway/Ridgewalk Parkway and would widen and extend Old Rope Mill Road northerly from Ashland Parkway/Ridgewalk Parkway to Sixes Road so that the alternative would provide a continuous four-lane roadway from Towne Lake Parkway to Sixes Road. This alternative would also include the upgrade of the existing I-575/Towne Lake Parkway interchange as described in Alternative 1, would widen Ashland Parkway/Ridgewalk Parkway from two to four travel lanes, two in each direction, from Woodstock Parkway to Main Street/Canton Highway/Old SR 5, and would reconstruct and improve the existing intersection at East Cherokee Drive and Main Street/Canton Highway/Old SR 5 (refer back to Figure 5a – Alternatives No Longer Under Consideration).

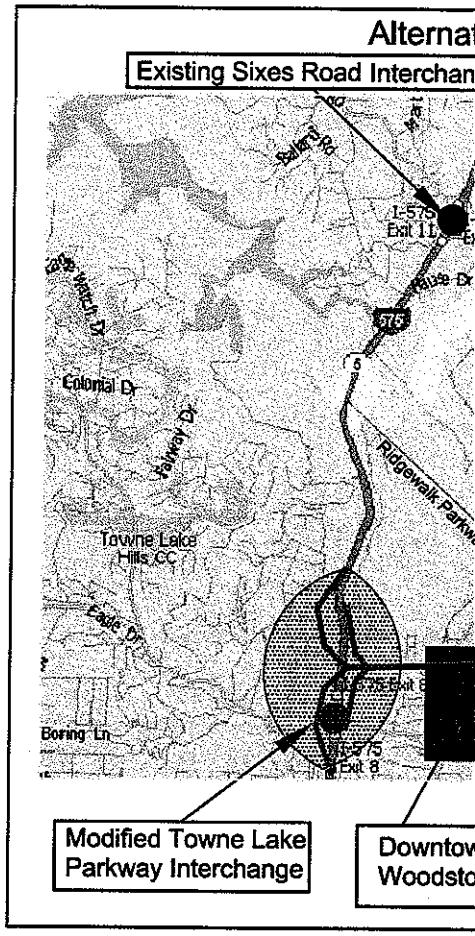
Alternative 3C is no longer under consideration because it would result in impacts to Old Rope Mill Park and the USACE property along the Little River, resources protected under Section 4(f) of the USDOT Act. Alternative 3C would also result in environmental impacts and costs associated with the bridging of the Little River. This alternative variation would cost far more than Selected Alternative for the same approximate benefits.

Alternative 4:

Alternative 4 is similar to the Selected Alternative; however, this alternative would not provide auxiliary lanes on I-575 between Towne Lake Parkway and the proposed Ridgewalk Parkway interchange (see Figure 5b – Alternatives No Longer Under Consideration). Alternative 4 is no longer under consideration because the Preferred

FIGURE 5B - ALTERNATIVES NO L





Alternative would provide considerably more benefits to the transportation system in the project area with minimal additional impacts and cost.

Alternative 5A:

Alternative 5A would install additional directional ramps north of the existing Towne Lake Parkway interchange to serve I-575 to the north and south of the interchange. This alternative would construct new interchange ramps oriented to and from the north and south on I-575 and would provide a connector roadway to tie into Arnold Mill Road north of the downtown Woodstock area (refer back to Figure 5b – Alternatives No Longer Under Consideration).

Alternative 5A is no longer under consideration because it would result in impacts to the JJ Biello Park, a resource protected under Section 4(f) of the USDOT Act. This alternative would also result in the displacement of approximately 30 residences and would have substantially more impacts to wetlands and streams than the Selected Alternative. Finally, this alternative would not have independent utility from the proposed Arnold Mill Road extension.

Alternative 5B:

Alternative 5B would construct additional directional ramps north of the existing Towne Lake Parkway interchange to serve I-575 to the south only. This alternative would also provide a connector road to tie into Arnold Mill Road north of the downtown Woodstock area (refer back to Figure 5b – Alternatives No Longer Under Consideration).

Alternative 5B is no longer under consideration because it would result in impacts to the JJ Biello Park and other resources protected under Section 4(f) of the USDOT Act. This alternative would also result in the displacement of approximately 30 residences, would impact schools located in the area of the connector road, and would have substantially more impacts to wetlands and streams than the Selected Alternative. Finally, this alternative would not have independent utility from the proposed Arnold Mill Road extension.

Alternative 5H:

Alternative 5H would improve the operation of the existing Towne Lake Parkway interchange with I-575 by constructing a split-diamond interchange between Towne Lake Parkway and the realignment of Ashland Parkway/Ridgewalk Parkway and improving local roads in the area of the interchange. Alternative 5H would construct a southbound access road just west of and parallel to I-575, provide access to Woodstock Parkway via the existing I-575 northbound access ramp, re-stripe and re-sign Woodstock Parkway as a northbound only roadway, provide an overpass approximately 2,000 feet south of the existing Ashland Parkway/Ridgewalk Parkway overpass to provide access between the proposed southbound access road west of I-575 and the proposed northbound access road east of I-575, realign portions of Woodstock Parkway, Ashland Parkway/Ridgewalk Parkway and Old Rope Mill Road, and widen approximately 3,200 feet of existing Ashland Parkway/Ridgewalk Parkway from the proposed new location tie-in to SR 5/East Cherokee Drive (refer back to Figure 5b – Alternatives No Longer Under Consideration).

Alternative 5H is no longer under consideration because the Selected Alternative would provide the same benefits at far less cost and because of the extensive public controversy and opposition associated with the alternative. The City of Woodstock conducted public meetings that presented this alternative to the public and invited public comment on December 14, 2004, December 21, 2004, and January 11, 2005 (see Appendix C – Public Involvement Records). Many property owners to the west of I-575 opposed Alternative 5H because they opposed the proposed access road on the west side of I-575, which they felt would result in substantial right-of-way, noise, and community impacts. Also, property owners and developers on the east side of Woodstock Parkway opposed the alternative because they opposed making Woodstock Parkway a one-way pair.

A summary of the alternatives no longer under consideration and the reasons that they are no longer under consideration are summarized in Table 5.

Table 5 – Alternatives No Longer Under Consideration	
Alternative	**Reasons no longer considered**
Alternative 1 – Improvements to the existing Towne Lake Pkwy interchange	Would not satisfy need and purpose of project to provide additional access to I-575 while avoiding the intersection of Towne Lake Pkwy and Main St. and alleviating congestion on Towne Lake Pkwy. and in downtown Woodstock.
Alternative 2A – Improvements to the existing Towne Lake Pkwy interchange & the widening of Towne Lake Pkwy from I-575 to Arnold Mill Rd.	Would result in extensive impacts to historic, downtown Woodstock, a resource protected under Section 4(f) of the USDOT Act.
Alternative 2B – Widen Ridgewalk Pkwy. and Woodstock Pkwy. from 2 to 4 lanes.	Would cost far more than the Selected Alternative and would not alleviate congestion at the Towne Lake Pkwy interchange.
Alternative 3A – Reconnect the 2 segments of Old Rope Mill Rd. across the Little River, widen Old Rope Mill Rd. (from 2 lanes to 4 lanes) from Ridgewalk Pkwy to Sixes Rd., upgrade the existing I-575/Towne Lake Pkwy interchange, and improve the existing intersection of East Cherokee Dr. and Main St./Canton Hwy./Old SR 5.	Would result in impacts to Old Rope Mill Park and the USACE property along the Little River (resources protected under Section 4(f) of the USDOT Act).
Alternative 3B – Combination of Alternatives 1, 2A, 2B, and 3A.	Would not satisfy need and purpose of project to provide additional access to I-575 while avoiding the intersection of Towne Lake Pkwy and Main St. and alleviating congestion on Towne Lake Pkwy. and in downtown Woodstock, would cost far more than the Selected Alternative, would not alleviate congestion at the Towne Lake Pkwy interchange, and would result in impacts to historic downtown Woodstock, Old Rope Mill Park and the USACE property along the Little River (resources protected under Section 4(f) of the USDOT Act).
Alternative 3C – Combination of Alternatives 1, 2B and 3A.	Would not satisfy need and purpose of project to provide additional access to I-575 while avoiding the intersection of Towne Lake Pkwy and Main St. and alleviating congestion on Towne Lake Pkwy. and in downtown Woodstock, would cost far more than the Selected Alternative, would not alleviate congestion at the Towne Lake Pkwy interchange, and would result in impacts to Old Rope Mill Park and the USACE property along the Little River (resources protected under Section 4(f) of the USDOT Act).

Table 5 Continued – Alternatives No Longer Under Consideration	
Alternative	**Reasons no longer considered**
Alternative 4 – Construct a new interchange at I-575 and Ashland Pkwy/Ridgewalk Pkwy, without the addition of auxiliary lanes on I-575 between the new interchange and the I-575/Towne Lake Pkwy interchange.	Would result in less efficient operations of the new Ridgewalk Pkwy. interchange, the Towne Lake Pkwy. interchange, and the I-575 corridor between the 2 interchanges with minimal additional impacts and cost.
Alternative 5A – Install additional directional ramps north of the existing Towne Lake Pkwy interchange that extend from I-575 to the proposed Arnold Mill Road extension.	Would result in impacts to the JJ Biello Park (protected under Section 4(f) of the USDOT), would result in the displacement of approximately 30 residences, would have substantially more impacts to wetlands and streams than the Selected Alternative, and would not have independent utility from the proposed Arnold Mill Road extension.
Alternative 5B – Install additional directional ramps north of the existing Towne Lake Pkwy interchange to serve I-575 to the south only.	Would result in impacts to the JJ Biello Park (protected under Section 4(f) of the USDOT Act), would result in the displacement of approximately 30 residences, would impact schools located in the area of the connector road, would have substantially more impacts to wetlands and streams than the Selected Alternative, and would not have independent utility from the proposed Arnold Mill Road extension.
Alternative 5H – Reconstruct the existing Towne Lake Pkwy interchange by constructing a split-diamond interchange between Towne Lake Pkwy and Ridgewalk Pkwy, realigning Ridgewalk Pkwy,	Would provide the same benefits as the Selected Alternative but with far greater cost and received substantial public opposition.

D. Alternative Development

The alignment for the Selected Alternative was developed by the Office of Urban Design, which, as a standard procedure, includes environmental parameters as a part of the location investigation prior to laying out a proposed alignment. Basic data of the corridor is gathered and studied. Data for this project included, at a minimum, aerial photography, topographical maps, traffic (existing and projected), previous studies, wetland inventory maps, soil survey maps, floodplain maps, and Georgia Department of Natural Resources (GDNR) historic resource survey maps.

Wetland or hydric soil boundaries, floodplains, parks and recreational facilities, known or suspected historical and archaeological sites, existing rights-of-way, possible underground storage tanks (UST's), landfills, hazardous waste sites, and areas of possible endangered species habitat were delineated on the aerial photography prior to laying out an alignment. Also identified on the aerial photography are other "controls" such as churches, cemeteries, schools, hospitals, and any other noise sensitive areas.

Only at this point was the proposed alignment developed with every attempt being made to avoid sensitive ecological, historic and archaeological areas. In the event that avoidance was not possible, every attempt was made to minimize harm to such resources. The proposed alignment, once laid out on aerial photography, was then field checked and additional refinements were made to further minimize harm to both the natural and built environment.

III. ENVIRONMENTAL CONSEQUENCES

The Council of Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR §1500-1508) requires that not only direct impacts, but indirect and cumulative effects (ICE) also be evaluated. Per the CEQ regulations, direct, indirect, and cumulative effects can be defined as follows: Direct effects are caused by, and coincide in time and place, with the action. Indirect effects are caused by the action and are later in time, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. Cumulative effects are the impacts on the environment that result from the incremental impact of the proposed action, which when added to other past, present, and reasonably foreseeable future actions, can result from individually minor but collectively significant actions taking place over a period of time. As per regulatory guidance, cumulative effects are not analyzed for resources that would not be directly or indirectly affected by the project.

The area of potential indirect effects, and therefore cumulative effects, has been extended outside the project corridor (see Figure 6 – Boundary for Indirect and Cumulative Effects Analysis). This project is located on I-575, in the area of the City of Woodstock, and will improve access between I-575 and areas east of downtown, historic Woodstock to the east. The area of potential indirect effects includes the areas east of I-575 and the City of Woodstock, where traffic patterns are expected to deviate from existing traffic patterns as a result of project implementation. The area of potential indirect effects west of I-575 includes the entire Deer Run community since the Selected Alternative would directly impact the eastern fringe of the community which could indirectly affect the remainder of the community. The existing community on Ashland Parkway west of I-575, the Brookshire subdivision, is also included in the area of potential indirect effects since project implementation construction activities could affect access to that

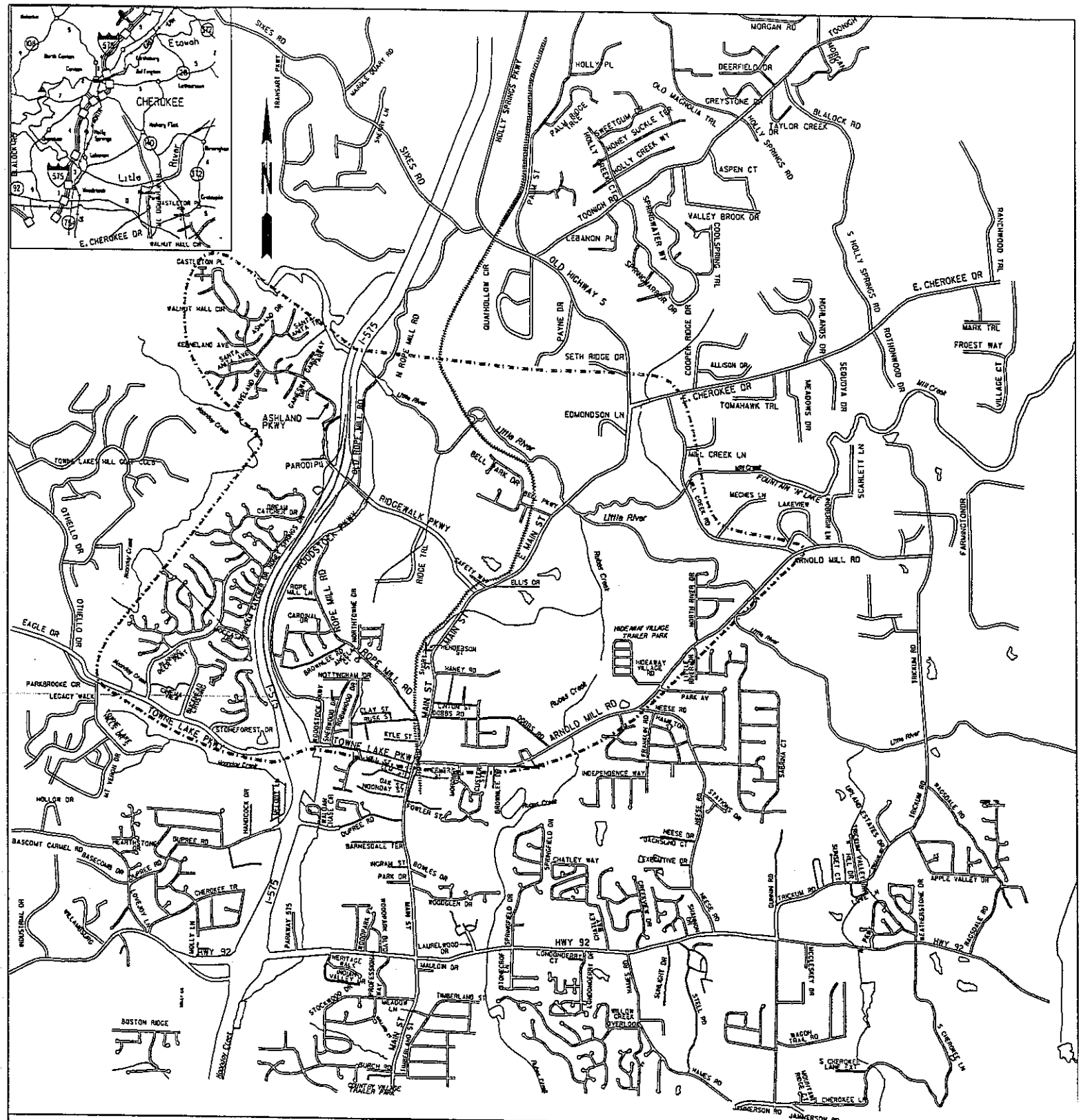


FIGURE 6 - BOUNDARY OF INDIRECT & CUMULATIVE EFFECTS (ICE) ANALYSIS

——— = PROPOSED IMPROVEMENTS
- - - = BOUNDARY OF ICE ANALYSIS

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GDOT PROJECT CSNHS-0006-00(043)
P.I. NO. 0006043
CHEROKEE COUNTY, GEORGIA

community. The identified area for potential indirect effects lies almost completely within the City of Woodstock.

The boundary for potential indirect effects as shown in Figure 6 represents the maximum limit for potential indirect, and therefore cumulative, effects for *most* resources; however, the boundary for potential indirect effects to certain resources may be smaller. Also, this general ICE boundary would not apply to aquatic resources since the potential for indirect effects to aquatic resources would include the entire watershed.

Past actions that have occurred in the project area that are relevant and useful in conducting a cumulative effects analysis to the resources in the project area vary depending on the specific resource. Generally, these past actions consist of the construction of I-575 and subsequent major construction activities that have occurred in the area as result of the construction of I-575 including the construction of Woodstock Parkway, the Deer Run subdivision, and concentrated development on Towne Lake Parkway in the area of I-575. Construction of I-575 in the project area began in 1981 and the corridor was opened to traffic in 1985. As such, the general baseline for analysis of past actions is considered to be 1981 and only resources in existence before 1981 would be affected by past actions. In addition to these major construction activities, the extensive acquisition and protection of green space and ecological resources in the project area by federal, county and city officials is relevant and useful in conducting a cumulative effects analysis and is included in the identified past actions to be considered. It should be noted that these identified past actions may not necessarily affect certain resources that have a smaller ICE boundary than the general ICE limits.

Present actions are those actions that are currently under construction. Present actions occurring in the project area, that are relevant and useful in conducting a cumulative effects analysis to resources in the project area, vary depending on the specific resource. Present actions identified within the general ICE boundary include the construction of a 68 home subdivision, located on the north side of Ridgewalk Parkway just east of Woodstock Parkway, which is currently under construction (see Figure 7,

Photograph Showing Subdivision Currently under Construction) and the construction of a 300,000 square foot retail center and a mixed-use community on the south side of Ashland Parkway/Ridgewalk Parkway, just east of Woodstock Parkway (see Figure 8, Photograph Showing Signs for Planned Future Development). It should be noted that these identified present actions may not necessarily affect certain resources that have a smaller ICE boundary than the general ICE limits.

Figure 7, Photograph Showing Subdivision Currently under Construction

Figure 8, Photograph Showing Signs for Current Development

The Federal Highway Administration (FHWA) 2003 memorandum entitled, *Interim Guidance: Questions and Answers Regarding Indirect and Cumulative Impact Considerations in the NEPA Process*, defines reasonably foreseeable actions as actions which are probable, not merely possible. In accordance with FHWA's guidance and the CEQ's previous guidance, *Questions and Answers About the NEPA Reg, March 23, 1981*, this document will focus on indirect and cumulative impacts that are reasonably foreseeable. For the purposes of this study, all actions which are included in city, county or regional plans are assumed to be probable, not merely possible, and are therefore considered reasonably foreseeable. Reasonably foreseeable actions within the identified area of potential indirect effects (refer back to Figure 6) include the construction of I-575 HOV lanes from Sixes Road to SR 20, the construction and widening of the Arnold Mill Road extension, signal interconnection and coordination on Towne Lake Parkway in the area of I-575, and the construction of pedestrian facilities on Main Street/Canton Hwy/Old SR 5 from Towne Lake Parkway to Serenade Lane (refer

back to Table 1 and Figure 2, Other Projects in the Area). Also, a Young Men's Christian Association (YMCA) facility is planned on the north side of Ashland Parkway/Ridgewalk Parkway, approximately 1,000 feet west of Main St/Canton Hwy/Old SR 5. It should be noted that these identified future actions may not necessarily affect certain resources that have a smaller ICE boundary than the general ICE limits.

A. Effects on the Social Environment

The project area is located in a fairly heavily developed and populated portion of Cherokee County. There are many residential communities and social resources located within the project's area of direct and indirect effects (see Figure 9, Social Resources Location Map).

1. Land Use Changes

Existing land use in the area of the Selected Alternative is mixed commercial and residential with some unused land (see Figure 10, Existing Land Use Map). The land use in the project area is described more specifically below by areas west and east of I-575.

West of I-575, in the area adjacent to the project, the land use is primarily residential and the nearby neighborhoods are newer, master-planned communities with a mixture of housing types and private community facilities. The USACE owns a substantial amount of property just west and north of the residential development (shown in green on Figure 10, Existing Land Use Map and shown in pink on Figure 9, Social Resources Location Map).

On the east side of I-575, the existing land use is primarily mixed-use commercial and residential. The existing and developing nearby neighborhoods east of I-575 are also primarily newer, master-planned communities with a mixture of housing types and private community facilities. The USACE owns a substantial amount of property north of the project area, primarily along the Little River (shown in green on Figure 10, Existing

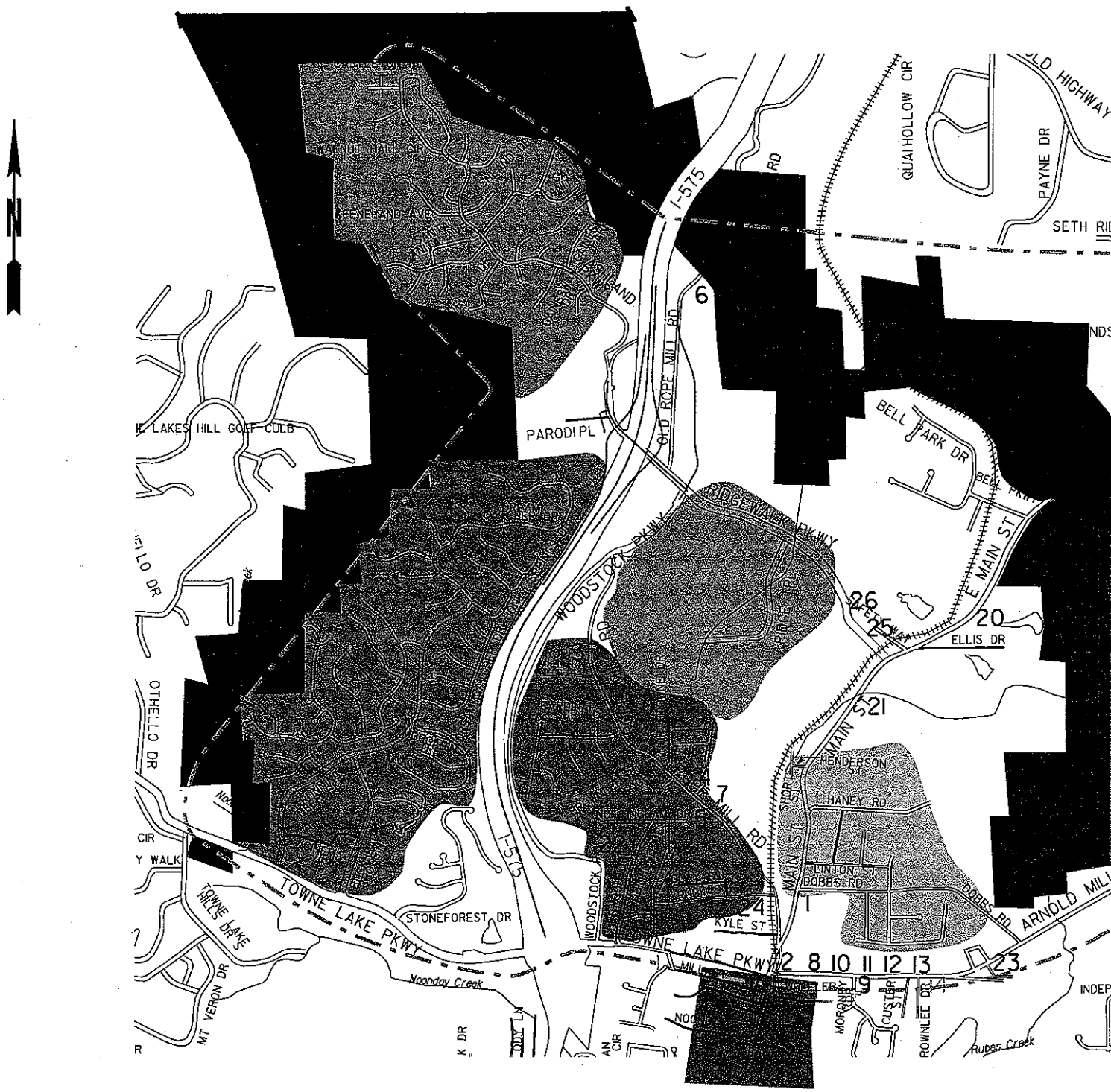

FIGURE 9 - SOCIAL RESOU

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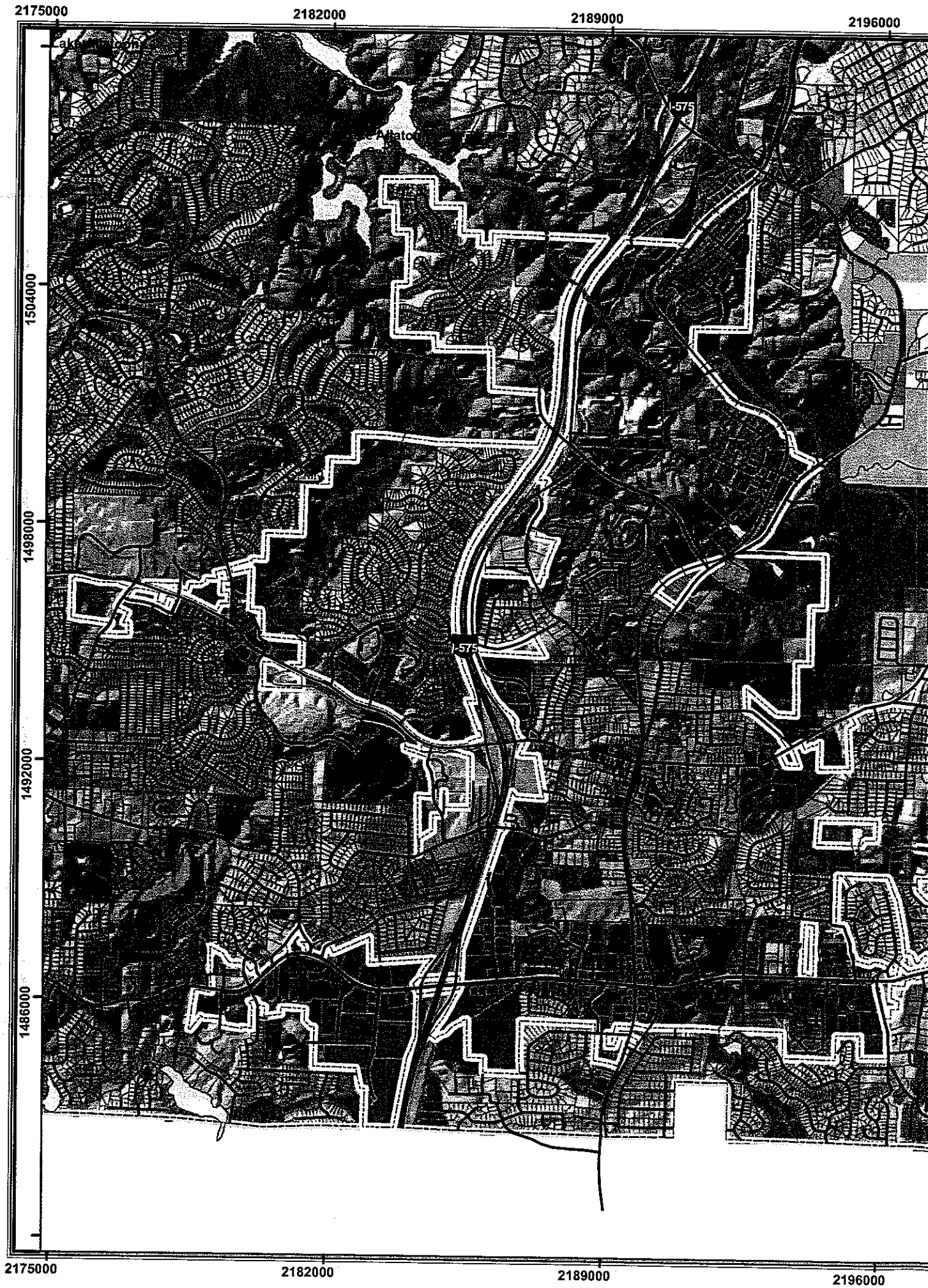
——— = PROPOSED IMPROVEMENTS

— - — = BOUNDARY OF ICE ANALYS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I-575

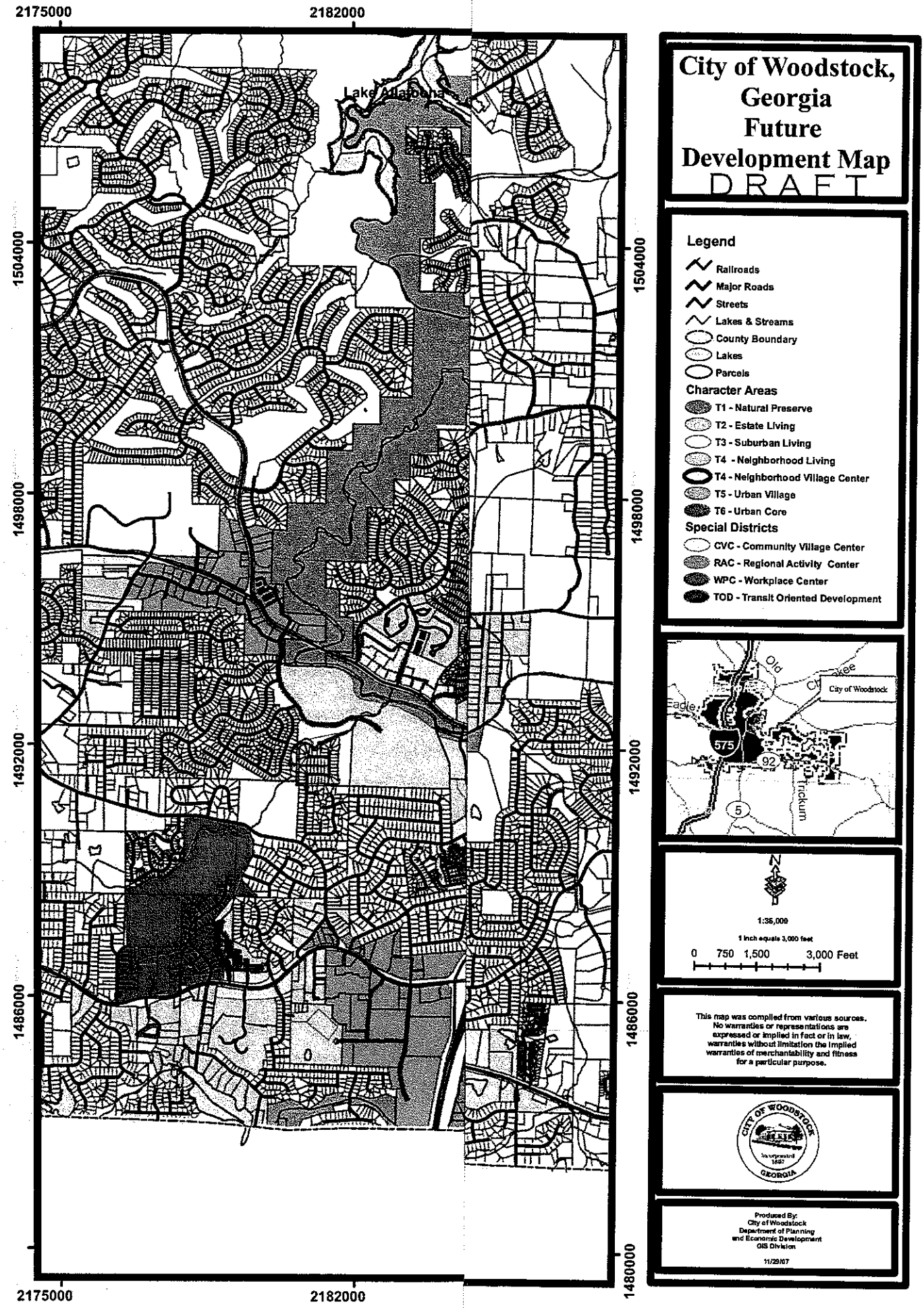
Land Use Map and shown in pink on Figure 9, Social Resources Location Map). Additionally, the City of Woodstock and Cherokee County own a substantial amount of green space, parks and recreational areas, within the project area. A City of Woodstock park, Old Rope Mill Park, is also located on the east side of I-575 just north of the project limits at the northern terminus of existing Old Rope Mill Road adjacent to the Little River and the county owned JJ Biello Park, located between the Little River and Arnold Mill Road, are two important land uses in the area (refer back to Figure 9, Social Resources Location Map).

It is anticipated that future land use in the project area would be similar to the existing land use since existing land use and the currently planned development account for the majority of land in the project area (see Figure 11, Draft Future Development Map). The USACE owns a substantial amount of property west, north and east of the project area. Consequently, there is minimal land remaining for additional development and the majority of developable land west of I-575 in the project area has been developed. East of I-575, the entire area adjacent to Ashland Parkway/Ridgewalk Parkway and east of I-575 is zoned with an overlay district that limits the number of residential units to 2,000. Of these 2,000 units, 819 units have already been built and 650 have been planned for development, some of which are already under construction. This leaves approximately 531 additional units available for development within the Ashland Parkway/Ridgewalk Parkway corridor without a change in the current zoning category (see Appendix A, Correspondence).

As such, the existing and currently planned development in the project area accounts for approximately 73% of developable land in the project area under the current zoning category and land use constraints.

Direct Effects:

The majority of the proposed improvements would occur within existing transportation right-of-way; however, approximately 11.6 acres of land would be converted to


2175000
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Lake Allatoona
City of Woodstock, Georgia Future Development Map
DRAFT
Legend
Railroads
Major Roads
Streets
Lakes & Streams
County Boundary
Lakes
Parcels
Character Areas
T1 - Natural Preserve
T2 - Estate Living
T3 - Suburban Living
T4 - Neighborhood Living
T4 - Neighborhood Village Center
T5 - Urban Village
T6 - Urban Core
Special Districts
CVC - Community Village Center
RAC - Regional Activity Center
WPC - Workplace Center
TOD - Transit Oriented Development
City of Woodstock
Eagle
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1 inch equals 3,000 feet
0 750 1,500 3,000 Feet
This map was compiled from various sources. No warranties or representations are expressed or implied in fact or in law, warranties without limitation the implied warranties of merchantability and fitness for a particular purpose.
CITY OF WOODSTOCK
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Produced By:
City of Woodstock
Department of Planning and Economic Development
GIS Division
11/29/07

FIGURE 11

transportation right-of-way for the construction of the new interchange ramps and the realignment of Old Rope Mill Road.

Currently, the land that would be converted to transportation right-of-way is primarily unused land, adjacent to existing transportation right-of-way. However, a portion of the land required for the southbound on-ramp west of I-575 would relocate a private baseball field owned by the Deer Run Homeowner's Association. Also, a small portion of the land required east of I-575 for the relocation of Old Rope Mill Road would be required from the parking area of a business and from the fringes of a residential subdivision currently under development; however, both the business and the residential subdivision were recently constructed in coordination with the proposed realignment of Old Rope Mill Road. The transportation project is being developed in close coordination with residential developers in the area. Use of land would not be required from Old Rope Mill Park or the USACE property along the Little River. The project is consistent with the current land use plan and would not precipitate land use changes or change development patterns.

Implementation of the Selected Alternative would have a minimal effect on the visual context of this part of Cherokee County. The proposed improvements would be constructed adjacent to the existing I-575 facility and existing Ashland Parkway/Ridgewalk Parkway overpass. Also, as previously discussed, current and proposed development in the area of the interchange accounts for approximately 73% of developable land in the area of the interchange.

This project is located on I-575, in the area of the City of Woodstock, and will improve access between I-575 and areas east of downtown, historic Woodstock to the east. The area of potential indirect effects includes the areas east of I-575 and the City of Woodstock, where traffic patterns are expected to deviate from existing traffic patterns as a result of project implementation.

Indirect Effects:

Because changes in traffic patterns have the potential to affect development and land use, the area of potential ICE to land use is the same as shown in Figure 6, Boundary for Indirect and Cumulative Effects Analysis, which delineates the area where traffic patterns may change as a result of project implementation.

A transportation facility, in and of itself, does not create induced land development; however, it does have the potential to influence land use and land development patterns based on a number of factors. These include the type of access it provides to land available for development, the developable area of available land, and local government development regulations affecting land development. Growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on social, cultural, natural and physical environmental resources are anticipated in the project area, particularly along Ashland Parkway/Ridgewalk Parkway where development is currently planned in anticipation of the proposed interchange. However, the growth inducing effects within the overall land use ICE boundary is somewhat constrained. As previously discussed, the USACE owns a substantial amount of property in the project area and the majority of developable land area has been developed. Approximately 27% of the land in the immediate project area is considered developable. Furthermore, the ICE boundary for potential land use changes is located almost completely within the City of Woodstock and, according to the Community Assessment Report prepared for Cherokee County, only 200 acres of land within the City of Woodstock is considered vacant or underutilized. For these reasons, and because the project is consistent with the current land use plan, project implementation would not precipitate exorbitant land use changes or exorbitantly change existing development patterns. Consequently, minimal indirect effects to land use are anticipated as a result of the Selected Alternative.

Cumulative Effects:

Cumulative effects to land use within the area of direct and indirect effects from past, present and future actions have been analyzed. All past, present and future actions

identified within the general ICE boundary (refer back to the Environmental Consequences introduction of this document) could have a cumulative effect on land use in the area.

The cumulative land use effects in the area are primarily due to the identified past actions. Prior to these developments, the project area was largely agricultural and forested with sparse residential development. The land use changes occurred to accommodate the residential and transportation needs of the growing population in Cherokee County and the City of Woodstock. Also, the land use changes occurred with the reduction of agricultural production in the area, as agricultural properties were sold to developers.

Land use changes as a result of present and future actions are expected to be relatively minor, primarily due to the planning involved with these actions and because of the land use constraints. As previously stated, approximately 27% of the land in the immediate project area is considered developable and only 200 acres of land within the City of Woodstock is considered vacant or underutilized. Land use impacts associated with the proposed HOV project would be minimal since implementation of the HOV project in the area of the Selected Alternative would take place within the existing I-575 median and within existing transportation right-of-way.

2. Community Cohesion

Effects to community cohesion are analyzed by considering the effects to the characteristics and/or places that serve to unite a group of people that reside in the same geographical area, often a subdivision. Identified communities in the project area of direct effects and ICE boundary include the Deer Run subdivision, the Brookshire subdivision, the Old Rope Mill Road and Sherwood Forest residential area, and the residential area along, and east of, Main St/Canton Hwy/Old SR 5, north of Arnold Mill Road (refer back to Figure 9, Social Resources Location Map). In addition, many community facilities have been identified in the project area (refer back to Figure 9, Social Resource Location Map).

Direct Effects:

Direct impacts to the Brookshire subdivision and the Deer Run subdivision would occur as a result of project implementation. However, the impacts would have no impacts on the cohesion of the Brookshire subdivision and impacts to the cohesion of the Deer Run community are considered minor. Implementation of the Selected Alternative would not directly impact any of the other community areas or community resources identified in the project area.

There are no Brookshire community facilities located in the immediate project area; however, the community is located west of I-575, around Ashland Parkway/Ridgewalk Parkway (refer back to Figure 9, Social Resources Location Map). The Ashland Parkway/Ridgewalk Parkway corridor and existing overpass of I-575 is the only existing access to and from the community. Although the community would not be physically impacted by implementation of the Selected Alternative, access to and from the community would be temporarily affected during construction activities by reduced travel speeds and other unavoidable inconveniences. However, construction activities would be conducted in a manner that would maintain access and minimize conflict with traffic. The safety and convenience of the general public and residents of the area would be provided for at all times. Consequently, these impacts would not affect the characteristics and/or places that serve to unite the Brookshire community members and no impacts to the cohesion of the Brookshire community are anticipated.

Deer Run is located immediately west of I-575 and extends from Towne Lake Parkway to just south of Ashland Parkway/Ridgewalk Parkway (refer back to Figure 9, Social Resources Location Map). Community facilities in the immediate project area include residences along the east side of the community and parallel to I-575 and a private baseball field owned by the Deer Run community and located immediately west of I-575 and approximately 650 feet south of Ashland Parkway/Ridgewalk Parkway. A variable width between 150 feet and 300 feet currently exists between the residences along the

along the eastside of the community and I-575. Approximately 150 feet currently exists between the baseball field and I-575.

In the area of Deer Run, project implementation would consist of constructing southbound auxiliary lanes and a noise barrier along I-575 and the construction of a southbound access ramp to I-575. Construction of the auxiliary lane along I-575 roadway would encroach approximately 12 feet west of the current I-575 edge of pavement and closer to the homes located along the eastern edge of the Deer Run community. No residences would be displaced and no additional right-of-way would be required from any of the residential parcels. Furthermore, noise barriers are proposed between the residences and I-575 to reduce and/or avoid potential noise impacts to the community. Construction of the southbound access ramp to I-575 would require property owned by the Deer Run Homeowner's Association and would result in the relocation of the Deer Run community's private baseball field, batting cages, water fountain and storage shed. However, there is sufficient room on the same parcel to relocate the baseball facilities, should the community choose to do so with the right-of-way reimbursement that would be provided.

Community cohesion may be affected during construction activities should the relocation of the baseball facilities result in a period of time that the baseball facilities are not available. According to the home owner's association, the baseball facilities are used almost daily, year round. Every effort would be made to avoid or minimize the amount of time that the ball field is unavailable during the relocation process. No other construction activities that may affect the cohesion of the Deer Run community have been identified.

No direct effects to additional community resources located within the project area, beyond the community resources discussed within the Brookshire and Deer Run communities, are anticipated as a result of the Selected Alternative.

Indirect Effects:

The area of potential ICE to community cohesion is the same as shown in Figure 6, Boundary for Indirect and Cumulative Effects Analysis, which delineates the area where traffic patterns may change as a result of project implementation. At least seven churches, five schools or day care centers, one public library, four county and city government facilities, one cemetery, and one nursing home have been identified within the Selected Alternative's ICE boundary for community resources (refer back to Figure 9, Social Resources Location Map).

Changes in traffic patterns have the potential to affect air quality in areas that experience an increase of traffic; consequently, air quality for community resources identified within the ICE boundary could be affected by implementation of the Selected Alternative. Potential impacts to air quality include concentrations of ozone, carbon monoxide, Mobile Source Air Toxics (MSATs), and particulate matter less than 2.5 microns (PM 2.5). Because traffic would be drawn to the proposed interchange from various routes, the concentration of traffic generated by project implementation would decrease with distance from the proposed interchange and, consequently, increases in the concentrations of ozone, carbon monoxide, MSATs, and PM 2.5 would also decrease with distance from the proposed interchange. Therefore, indirect impacts to air quality in the area of community resources within the ICE boundary would be less than the direct impacts to air quality in the area of the proposed interchange, which have been determined not to be substantial.

Changes in traffic patterns could result in an increase of traffic generated noise; consequently, community resources identified within the ICE boundary could experience an increase in traffic generated noise caused by implementation of the Selected Alternative. Because traffic would be drawn to the proposed interchange from various routes, the concentration of traffic generated by project implementation would decrease with distance from the proposed interchange and, consequently, increases in traffic generated noise caused by project implementation would also decrease with distance

from the proposed interchange. For these reasons, increases in traffic generated noise, in the area of community resources within the ICE boundary would not be substantial.

Cumulative Effects:

Cumulative effects to the cohesion of communities located within the area of direct and indirect effects from past, present and future actions have been analyzed. All present and future actions identified within the general ICE boundary (refer back to the Environmental Consequences introduction of this document) could have a cumulative effect on community cohesion in the area. Past actions that have occurred in the project area, that could affect certain community resources within the ICE boundary, include the construction of I-575 and concentrated development on Towne Lake Parkway in the area of I-575. However, the majority of the community resources within the ICE boundary were constructed after 1981 and would not have been affected by past actions. Approximately six of the twenty-six community resources within the ICE boundary appear to have been constructed prior to 1981 (shown as resources 3, 10, 11, 12, 14, and 24 on Figure 9, Social Resources Location Map).

The identified past, present and future actions would impact these resources cumulatively by generating traffic in the area, which affects air quality and increases traffic generated noise in the area of the resources. However, impacts to these resources, as previously discussed in the direct and indirect effects sections, address the aggregated impacts to air quality and noise to date, as well as anticipated effects modeled from all future improvements in the TIP. As such, no additional impacts to these resources as a result of the identified past actions, beyond those impacts previously discussed, are anticipated.

No additional cumulative impacts to the Deer Run baseball facilities, beyond the direct effects anticipated with the construction of the Selected Alternative, have been identified since the construction of I-575 and the Deer Run subdivision precluded the construction of the baseball facilities.

The construction of pedestrian facilities on Main Street/Canton Hwy/Old SR 5 from Towne Lake Parkway to Serenade Lane could also affect certain community resources within the ICE boundary for community areas or resources. One church and one public library would be affected by the identified future action (shown as resources 1 and 21 on Figure 9, Social Resources Location Map). Construction of the pedestrian facilities in the area of these resources would improve pedestrian access to the resources. Construction activities may result in air quality and noise impacts to these resources, as well as affect access to the resources; however, these effects related to construction activities would be minor and temporary.

3. Relocations

Direct Effects:

No relocations, other than the Deer Run baseball facilities previously discussed, would occur as a result of the Selected Alternative. No residences, businesses or non-profit organizations would be displaced.

4. Churches and Institutions

Direct Effects:

No churches or institutions are located within the Selected Alternative's area of direct effects.

Indirect Effects:

Because changes in traffic patterns have the potential to indirectly affect churches and institutions, the area of potential ICE to churches and institutions is the same as shown in Figure 6, Boundary for Indirect and Cumulative Effects Analysis, which delineates the area where traffic patterns may change as a result of project implementation. Several churches are located within the potential ICE boundary for these type resources and are located throughout the ICE boundary (refer back to Figure 9 – Social Resources Location Map). Several institutions are also located within the potential ICE boundary for these type resources including the Appalachian Technical College, Woodstock Elementary School, two Woodstock Municipal Buildings, two county facilities, Johnston

Elementary School, and the public library (refer back to Figure 9 – Social Resources Location Map).

Changes in traffic patterns have the potential to indirectly affect churches and institutions located within the Selected Alternative's boundary for potential ICE effects for these type resources, specifically the indirect effects associated with air quality and the potential increase of traffic generated noise. Potential indirect impacts to churches and institutions within the Selected Alternative's potential ICE boundary for churches and institutions are the same as those described for community resources (refer back to Community Cohesion section). For these reasons, air quality impacts and increases in traffic generated noise to churches and institutions within the potential ICE boundary for churches and institutions would not be substantial.

Cumulative Effects:

Cumulative effects to the churches and institutions located within the area of direct and indirect effects from past, present and future actions have been analyzed. All past actions identified within the general ICE boundary (refer back to the introduction of the Environmental Consequences section) could have a cumulative affect on churches and institutions in the project area since they presumably resulted in changes to traffic patterns. None of the present actions identified within the general ICE boundary would affect churches and institutions since there are no churches and institutions located in the area of the present actions. All future actions identified within the general ICE boundary could have a cumulative affect on churches and institutions in the project area since they could result in changes to traffic patterns.

The identified past, present and future actions could impact churches and institutions cumulatively by generating traffic in the area, which affects air quality and increases traffic generated noise in the area of the resource. However, impacts to these resources, as previously discussed in the direct and indirect effects sections, address the aggregated impacts to air quality and noise to date, as well as anticipated effects modeled from all future improvements in the TIP. As such, no additional impacts to

these resources as a result of the identified past and future actions, beyond those impacts previously discussed, are anticipated.

The construction of pedestrian facilities on Main Street/Canton Hwy/Old SR 5 from Towne Lake Parkway to Serenade Lane could improve pedestrian access to cultural resources in the area. Construction activities may result in air quality and noise impacts to these resources, as well as affect access to the resources; however, these effects related to construction activities would be minor and temporary.

5. Community Impacts/Environmental Justice

In accordance with Executive Order 12898, the Selected Alternative has been analyzed to avoid disproportional adverse effects to minority and low income populations and communities. Minority persons include citizens or lawful, permanent residents of the U.S. who are African-Americans, Hispanic, Asian-American, American Indian or Alaskan Native. Low income persons are defined as those whose median household income is below the U.S. Department of Health and Human Services poverty guidelines for 2007 of $20,650 for a household based on a family of four. However, household income data is generated by the Census Bureau in ranges; therefore, the threshold of $24,999 was used to determine whether a household should be classified as low income. Minority or low income communities are groups of minority or low income persons who live in reasonably close proximity to one another.

Table 6 below shows 2000 Census data for the census tracts located within the Selected Alternative's area of direct effects or within the identified ICE boundary.

Table 6, Census Data in the Project Area		
Demographic Area	**Percentage of Minorities**	**Percentage of Low Income Households (make less than $25,000/yr)**
Georgia	34.9%	28.3%
Cherokee County	7.6%	14.0%
Census Tract 090701	4.5%	11.0%
Census Tract 090801	3.7%	11.8%
Census Tract 090901	5.4%	7.9%
Census Tract 090903	10.4%	13.6%
Census Tract 091001	11.1%	25.1%
Census Tract 091004	6.0%	4.3%
Average for Census Tracts	6.85%	12.28%

There are no identified minority communities within the Selected Alternative's area of direct effects or within the identified ICE boundary for potential community impacts. According to the 2000 Census data, the census tracts located in the project's area of direct effect and potential ICE boundary have an average minority population of 6.85%, somewhat lower than Cherokee County's average minority population of 7.6% and considerably lower than Georgia's average minority population of 34.9%. Field surveys substantiated that there does not appear to be any minority communities within the Selected Alternative's area of direct effects or within the identified ICE boundary.

There are no identified low income communities within the Selected Alternative's area of direct effects or within the identified ICE boundary for potential community impacts. According to the 2000 Census data, the census tracts located in the project's area of direct effect and potential ICE boundary have an average low income population of 12.28%, somewhat lower than Cherokee County's average low income population of 14.0% and considerably lower than Georgia's average low income population of 28.3%. Field surveys substantiated that there are no identified low income communities within the Selected Alternative's area of direct effects or within the identified ICE boundary for potential community impacts.

Because no minority or low income populations are present within the proposed action's area of potential direct or indirect effect, the proposed action will have no disproportionately high or adverse effects to minority or low income populations.

6. Economic Consequences

Direct Effects:

The amount of additional right-of-way needed to implement the Selected Alternative would be minimal and would not result in significant effects on the tax bases for Cherokee County or the City of Woodstock. Sales volumes for some area businesses may temporarily drop during the actual construction of the project; however, following construction, area businesses should benefit from the expected improvement in access to and from I-575 and increase in traffic volumes. Newly planned developments would be provided with appropriate access to the facilities.

Indirect Effects:

Because changes in traffic patterns have the potential to affect economic development, the area of potential ICE to economic development is the same as shown in Figure 6, Boundary for Indirect and Cumulative Effects Analysis, which delineates the area where traffic patterns may change as a result of project implementation.

A new interchange is a major action that could have indirect effects upon the local economy extending beyond the construction impacts on existing businesses. Changes in traffic patterns resulting in more traffic for a particular area could result in more opportunity for economic development in that particular area since access to transportation affects where people live and work and where new businesses and institutions are located. However, the existing and currently planned development in the project area accounts for approximately 73% of developable land in the project area under the current zoning category and land use constraints (refer back to the Land Use section for more information). Implementation of the Selected Alternative could increase the rate of development for the remaining 27% of developable land in the project area and improving the tax base for the City of Woodstock. Implementation of the Selected

Alternative could also affect the types of businesses that develop in the remaining 27% of developable land in the project area.

Implementation of the Selected Alternative would provide additional access between I-575 and areas east of Woodstock that would avoid the downtown area, if desired. Project implementation may result in the reduction of business to businesses that depend on drive-thru traffic; however, this effect is expected to be off-set by the effects from the reduction of through traffic, which would help to alleviate congestion for those travelers whose destination is downtown Woodstock and would improve the convenience of shopping in the downtown area for both drive-thru traffic and destination shoppers.

Cumulative Effects:

Cumulative effects to economic development within the area of direct and indirect effects from past, present and future actions have been analyzed. All past, present and future actions identified within the general ICE boundary (refer back to the Envionrmental Consequences introduction of this document) could cumulatively effect economic development in the area.

Cumulative impacts to the tax base of Cherokee County and the City of Woodstock from the identified past, present and future actions in the project area are considered positive. Past, present, and future commercial and residential development in the project area lead to increased sales tax revenues. However, the increased sales tax revenues are offset by the loss of property tax revenues by the acquisition of transportation right-of-way. Any substantial gains or losses in tax revenue over the years would have occurred or will occur over a long period of time so as to minimize the effects of the gain or loss. Substantial new developments in the project area, beyond those that have been identified in the reasonably foreseeable future, are not anticipated due to land use constraints in the area of the Selected Alternative.

7. Controversy Potential/Public Involvement

Controversy potential was anticipated during early project development and the selection of a Selected Alternative (refer back to Alternatives No Longer Under Consideration, Alternative 5H, and see Appendix C, Public Involvement Records). However, the potential for controversy has not been identified as a result of the Selected Alternative.

A Public Information Open House (PIOH) was held for the Selected Alternative on April 13, 2006 at the Woodstock Community Center, located at 108 Arnold Mill Road, Woodstock, Georgia. A total of 209 people attended the Public Information Open House held for the subject project and a total of 44 comments were received during the meeting and the ten day comment period that followed. Of the 44 comments received, 2 were in opposition of the Selected Alternative, 35 were in support of the Selected Alternative, 5 were uncommited and 2 were conditionally in support of the Selected Alternative (see Appendix C, Public Involvement Records).

All comments received at the PIOH and in the ten day comment period that followed were responded to by letter dated September 13, 2006. Major concerns expressed included a concern that the Selected Alternative would not address the traffic problem by alleviating congestion at the I-575/Towne Lake Parkway interchange and a concern that the project is not scheduled to commence soon enough. In response to these major concerns, commentors were informed that the Selected Alternative would provide an alternate route from the east to I-575 that would avoid the downtown Woodstock area. The proposed improvements would enhance regional connectivity east of I-575 by providing additional access to I-575 that does not require travel through historic, downtown Woodstock. Commentors were also informed of the project schedule at that time, which anticipated the completion of final design by June, 2007. Commentors were informed that the schedule for right-of-way acquisition and construction had not yet been determined. It was emphasized that the schedule is subject to change during project development.

A meeting with the Deer Run Homeowner's Association (HOA) was held for the Selected Alternative on March 5, 2008 at the Deer Run Lodge. In addition to city and state representatives, seven representatives for the HOA were in attendence. The following concerns were expressed:

- There is an approximate 30 foot drop into a wooded area that may contain wetlands, just north and northwest of the ball field. Relocating the ball field may result in wetland and stream buffer impacts and a Nationwide USACE permit and mitigation may be required to relocate the field. As such, agency coordination may affect the HOA's schedule in relocating the ball field.

- The HOA is planning to hire a sports engineering company to determine the feasibility of relocating the ball field and preparing the design plans for the relocation. The survey information was requested by Michael Douglas, Douglas Property Management, as soon as it is available so that they can begin getting price quotes so that down time while the field is being relocated can be minimized. The field is heavily used year round and so down time during construction is a concern for the community. The HOA would prefer to complete construction of the new ball field prior to closing the existing ball field so that full use of the field is not lost. The HOA also has concerns regarding access to the proposed construction activities, via the ball field parcel.

- The attendees from the Deer Run Homeowner's Association emphasized the desire to have the proposed noise walls located along the west side of I-575, beginning at the ball field parcel and extending to the existing I-575 off-ramp to Towne Lake Parkway.

No additional concerns were identified by the HOA during the comment period that followed the meeting (see Appendix C, Public Involvement Records). As a result of the

meeting and in order to assist the community to complete construction of the new ball field prior to closing the existing ball field so that full use of the field is not lost, a commitment has been added to the Environmental Commitments table ensuring that the survey information will be provided to Michael Douglas, Douglas Property Management, as soon as it is available. Also, since the Deer Run community has indicated that they intend to reconstruct the ball field on the remainder of the current ball field parcel that would remain in the association's ownership, temporary construction easements to provide access to the proposed construction activities on I-575 via the the remainder of the ball field parcel, will be avoided or minimized to the greatest extent possible to further assist the community in maintaining use of the ball field and remaining parcel during construction.

A total of 136 people attended the September 30, 2008 Public Hearing Open House (PHOH) held for the subject project at the Cherokee Recreation Center South Annex Gymnasium located at 7545 Main Street, Woodstock, Georgia (see Appendix C – Public Involvement Records). From those attending, 84 comment forms, 2 letters and 1 verbal statement were received. Two additional comment forms were received during the ten-day comment period following the PHOH for a total of 89 comments summarized as follows: 6 opposed, 81 in support, and 2 conditional. No uncommitted comments were received.

The attendees of the PHOH and those persons sending in comments during the ten day comment period raised the following questions and concerns. The GDOT prepared one response to most of the comments so that everyone could be aware of the concerns raised and the responses given. Comments received were responded to in a letter dated January 9, 2009 (see Appendix C – Public Involvement Records). The comments, concerns, and questions are listed below, in italics, along with their response.

- *Request for apartment complex owners to provide traffic signals outside of the project area.*

  The intersections of Ridgewalk Parkway and Ridge Trail and the rear entrance of the Alta Ridgewalk Apartments are located outside of the proposed project area. Although such improvements cannot be included under this project, your concerns will be forwarded to the Woodstock City Planner, Richard McLeod, for further consideration.

- *Request for noise walls near the Brookshire subdivision, adjacent to the proposed I-575 southbound exit ramp.*

  Guidelines adopted by the GDOT ensure that the maximum number of people benefit from each dollar that is spent on noise abatement. However, where the cost exceeds the maximum allowable, as in this case, the wall is not considered a reasonable use of public funds and no abatement is proposed. Because these guidelines are not met in the area of the proposed I-575 southbound exit ramp, no abatement is proposed at that location.

- *The proposed sound barrier needs to be constructed first.*

  As one of the commitments in the environmental assessment, staging will be conducted so that the grading and construction of the noise walls would occur as early as possible during construction.

- *The realignment of Old Rope Mill Road to provide access to the park seems un-necessary and expensive.*

The realignment of Old Rope Mill Rd is necessary to provide the required distance between Old Rope Mill Rd and the proposed I-575 northbound on-ramp. Additionally, Old Rope Mill Rd is proposed to be aligned with the existing intersection of Woodstock Parkway in order to prevent conflicting traffic movements.

- *Concerns that the project will not be implemented soon. Project is needed now.*

  Federal procedures require that the environmental process be completed prior to beginning right-of-way acquisition and that the right-of-way acquisition be completed prior to beginning construction. As currently proposed, the GDOT anticipates construction to begin in the Spring of 2010. However, the GDOT is currently in the process of reprioritizing all of its projects statewide as a result of current funding constraints. As such, the project schedule may be affected.

- *Request to widen I-575 and provide public transportation to relieve congestion on the I-575 corridor.*

  Additional projects to improve the I-575 corridor and provide additional transit services in the area are currently programmed by the GDOT and MARTA to help alleviate congestion along the I-575 corridor.

- *The proposed bridge over I-575 does not seem big enough to accommodate the anticipated traffic the commercial development would bring to the area.*

  The proposed bridge over I-575 would be wide enough to accommodate a future widening of Ridgewalk Parkway.

- *Loss of road frontage will destroy my future development potential.*

During the right-of-way acquisition process, property owners will be offered the fair market value of the part of their property to be acquired plus damages accruing to the remaining property, if any.

- *A traffic light, rather than a stop sign, is needed at the end of the Brookshire subdivision.*

  A stop sign is currently proposed at the end of the proposed I-575 southbound off-ramp. East-west through movements on Ashland Parkway would not be affected.

  All intersections along the project corridor have been evaluated for compliance with GDOT policies concerning the installation of a traffic signal. These policies are derived from provisions in the Manual on Uniform Traffic Control Devices (MUTCD). The MUTCD is the nationally accepted standard and must be followed by GDOT as required by state law. The warrants, or justifications, for a traffic signal contained in the MUTCD have been developed by many years of research and application and provide for the safest and most efficient operation of roadways and intersections.

  Many of the warrants are guided by sustained and significant traffic volumes. Additionally, a minimum spacing between traffic signals, which takes into account vehicle speeds and sight distance. All of these criteria ensure that a signal is only installed at a location where the safety and efficiency of the roadway is enhanced and its benefits are maximized.

  Although a signal is not warranted at this time, the intersection has been designed to easily accommodate traffic signals when the warrants are met in the future.

- *Will there be a traffic light at Old Rope Mill Road and Woodstock Parkway?*

A traffic signal is currently proposed at the proposed four-way intersection of Old Rope Mill, Woodstock Parkway, and Ashland Parkway/Ridgewalk Parkway.

- *Request for a "No Outlet" sign for Brookshire subdivision to help reduce misdirected traffic.*

  A "No Outlet" sign will be provided at the entrance of the Brookshire subdivision.

In addition to the above responses, a specific response to Comment 86 was provided in a letter dated January 9, 2009 (see Appendix C – Public Involvement Records). Comment 86 expressed concerns that the proposed project would not alleviate regional traffic needs. The individualized response to this comment included the following additional information:

> The proposed project would improve access to I-575 from locations east of Woodstock. The project was programmed and designed within the context of the regional plan; however, traffic data indicates that the proposed project would function effectively within the existing transportation network. Concerns regarding regional traffic issues and suggestions will be forwarded to Steve Walker of the GDOT Office of Planning for further consideration.

In addition to the above responses, specific letters dated March 31, 2009 were provided to the Brookshire homeowner's association and the commentor from the Brookshire subdivision who specifically requested a noise wall in that area (see Appendix C – Public Involvement Records). The letter clarified that, as determined in the detailed noise wall analysis, no audible impacts are anticipated for any of the residences in the Brookshire subdivision and, for that reason, noise abatement is not proposed in the Brookshire area.

Specific letters dated March 31, 2009 were also provided to the nine residences along the west side of Ravenwood Drive (see Appendix C – Public Involvement Records). Earlier in project development, it was anticipated that the nine residences located on the west side of

Ravenwood Drive would be audibly impacted by project implementation, that a noise wall may be appropriate in the area, and that a more detailed analysis later in the design process would be required to determine the feasibility of a noise wall at that location. After the detailed analysis was completed, a letter was sent to the nine residences on Ravenwood Drive who were previously thought to be impacted by the project. The letter clarified that, as determined in the detailed noise wall analysis, only one audible impact is now anticipated for the residences on the west side of Ravenwood Drive. Consequently, noise abatement would not be considered cost effective and a noise wall is no longer being considered in the area of Ravenwood Drive.

B. Effects on the Cultural Environment

1. Cultural Resources

In compliance with Section 106 of the National Historic Preservation Act of 1966 and amendments thereto, the Selected Alternative has been surveyed for archaeological and historic resources, especially those on or eligible for inclusion in the National Register of Historic Places (NRHP). The purpose of the survey was to locate, identify and evaluate the significance of any historic and archaeological resources within the project corridor. The survey boundary and methodology were established using the Georgia Department of Transportation (GDOT)/FHWA Cultural Resource Survey Guidelines. These guidelines were established as a result of past interaction with the State Historic Preservation Officer (SHPO) and his staff and were agreed upon by the FHWA and the SHPO.

Direct Effects:

a. Historic Resources

The GDNR's 1988 Cherokee County survey for historic resources was consulted in preliminary identification of historic resources. Lists of current and pending NRHP properties were checked and aerial photographs along the length of the Selected Alternative were consulted. A field survey for potentially eligible historic resources was also conducted along the project corridor. In addition, the ARC and the Cherokee

County Historical Society were contacted for their assistance in identifying known historic resources.

No existing or eligible NRHP historic properties were identified in the area of direct effects for the Selected Alternative. It is concluded, therefore, that the Selected Alternative would not directly impact existing or eligible NRHP historic properties. For more information regarding the survey for historic resources in the project area, refer to the No Historic Properties Affected Report for the Selected Alternative.

b. Archaeological Resources

An archaeological survey was conducted within the project corridor in accordance with GDOT Archaeological Survey Guidelines" developed by the GDOT Staff Archaeologists in consultation with GDNR Historic Preservation Section Staff and concurred in by FHWA and the SHPO. These guidelines provide general survey boundaries and methodological approaches to archaeological surveys based on the type and scope of proposed highway projects and are followed during the initial identification of archaeological resources.

No existing or eligible NRHP archaeological resources were located in the area of direct effect for the Selected Alternative. It is concluded, therefore, that the Selected Alternative would not directly impact existing or eligible NRHP archaeological resources. For more information regarding the survey for archaeological resources in the project area, refer to the GDOT Archaeological Report Short Form for Negative Findings for the Selected Alternative.

c. Cemeteries

No cemeteries have been identified in the area of direct effect for the Selected Alternative. It is concluded, therefore, that the Selected Alternative would not directly impact cemeteries.

d. Historic Markers

No historic markers have been identified in the area of the Selected Alternative. It is concluded, therefore, that the Selected Alternative would not directly impact historic markers in the area of the Selected Alternative.

e. Section 106 Coordination

No historic or archaeological resources eligible for inclusion in the NRHP have been identified in the APE of the Selected Alternative. By agreement, because no resources fifty years of age or older were found within the Area of Potential Effects of this project, no concurrence from the SHPO is required for historic resources. The SHPO concurred with the finding that no archaeological resources are located within the Selected Alternative's APE in correspondence dated May 1, 2006 (see Appendix A – Correspondence).

Indirect Effects:

Because changes in traffic patterns have the potential to indirectly affect cultural resources, the area of potential ICE to cultural resources is the same as shown in Figure 6, Boundary for Indirect and Cumulative Effects Analysis, which delineates the area where traffic patterns may change as a result of project implementation. Several historic resources potentially eligible for the NRHP are located within the potential ICE boundary for cultural resources including the City of Woodstock's downtown, historic district, another historic district located along Main St/Canton Hwy/Old SR 5, north of Arnold Mill Road and Towne Lake Parkway, and several other older homes and churches. One other cultural resource, in addition to historic resources, has been identified within the Selected Alternative's potential ICE boundary for cultural resources, the Enon Cemetery (shown as resource 25 on Figure 9, Social Resources Location Map). No historic markers have been identified within the area of potential ICE to cultural resources.

Changes in traffic patterns have the potential to indirectly affect cultural resources located within the Selected Alternative's boundary for potential ICE effects for cultural resources, specifically the indirect effects associated with air quality and the potential

increase of traffic generated noise. Potential indirect impacts to cultural resources within the Selected Alternative's potential ICE boundary for cultural resources are the same as those described for community resources (refer back to Community Cohesion section). For these reasons, air quality impacts and increases in traffic generated noise to cultural resources within the potential ICE boundary for cultural resources would not be substantial.

Cumulative Effects:

Cumulative effects to the cultural resources located within the area of direct and indirect effects from past, present and future actions have been analyzed. All past actions identified within the general ICE boundary (refer back to the introduction of the Environmental Consequences section) could have a cumulative affect on cultural resources in the project area since they presumably resulted in changes to traffic patterns. None of the present actions identified within the general ICE boundary would affect cultural resources since there are no cultural resources located in the area of the present actions. All future actions identified within the general ICE boundary could have a cumulative affect on cultural resources in the project area since they could result in changes to traffic patterns.

The identified past, present and future actions could impact cultural resources cumulatively by generating traffic in the area, which affects air quality and increases traffic generated noise in the area of the resource. However, impacts to these resources, as previously discussed in the direct and indirect effects sections, address the aggregated impacts to air quality and noise to date, as well as anticipated effects modeled from all future improvements in the TIP. As such, no additional impacts to these resources as a result of the identified past and future actions, beyond those impacts previously discussed, are anticipated.

The construction of pedestrian facilities on Main Street/Canton Hwy/Old SR 5 from Towne Lake Parkway to Serenade Lane could improve pedestrian access to cultural resources in the area. Construction activities may result in air quality and noise impacts

to these resources, as well as affect access to the resources; however, these effects related to construction activities would be minor and temporary.

2. Parklands/Recreation Areas/Wildlife Refuges

There are no wildlife refuges or publicly owned recreation areas of state, local or national significance located within the area of the Selected Alternative. There is one publicly owned park located in the general project area, owned by the City of Woodstock and located at the northern end of existing Old Rope Mill Road (refer back to Figure 9, Social Resources Location Map). The USACE also owns a significant amount of land in the project area, along the Little River, that serves as green space and a recreational area (refer back to Figure 9, Social Resources Location Map).

There is also one privately owned recreational area located within the area of the Selected Alternative, a baseball field located just west of I-575 and just south of Ashland Parkway/Ridgewalk Parkway (refer back to Figure 9, Social Resources Location Map). There are also batting cages, a water fountain, and storage shed associated with the baseball field. The baseball facilities are owned by the Deer Run subdivision homeowner's association. The field is used almost daily, year round. The field functions as an alternate location for Hobgood Park, a Cherokee County park, as long as it is reserved and used by a resident of Deer Run. The recreational facility is not made available to the public and the Deer Run community does not participate in a baseball or other league that is open to the public.

Direct Effects:

The Selected Alternative would provide improved access to Old Rope Mill Park and the USACE property along the Little River by providing pedestrian facilities along realigned Old Rope Mill Road. No other direct effects to Old Rope Mill Park or the USACE property along the Little River would occur as a result of the Selected Alternative.

Implementation of the Selected Alternative would relocate the privately owned baseball facilities located in the project area. Implementation of the Selected Alternative would

displace the batting cages, water fountain, storage shed, and almost half of the ball field. However, there would be adequate space remaining on the same parcel to reconstruct/replace the baseball facilities should the subdivision choose to do so. The Deer Run HOA would be compensated for all rights-of-way and improvements from within the required right-of-way in accordance with applicable laws and regulations. Should the homeowner's association choose to relocate the baseball facilities on the same parcel, a noise wall is proposed just west of the proposed I-575 southbound access ramp that would minimize potential audible effects to the recreational area. For more information regarding impacts to the private baseball facilities, refer back to the Controversy Potential/Public Involvement section of this document.

Indirect Effects:

Because changes in traffic patterns have the potential to indirectly affect parks, recreational areas, and wildlife refuges, the area of potential ICE to these resources is the same as shown in Figure 6, Boundary for Indirect and Cumulative Effects Analysis, which delineates the area where traffic patterns may change as a result of project implementation. No wildlife refuges have been identified within the boundary for potential ICE to parks, recreational areas and wildlife refuges. Parks identified within the potential ICE to parks boundary include Old Rope Mill Park, a Woodstock City Park, and JJ Biello Park (refer back to Figure 9, Social Resources Location Map). Recreational areas identified within the potential ICE to recreational areas boundary include Deer Run's private baseball facility, the USACE property along the Little River and Noonday Creek, a Boy Scout facility, the recreation center at JJ Biello Park, a south Cherokee County recreation center, a gymnasium, and a planned YMCA facility (refer back to Figure 9, Social Resources Location Map).

Changes in traffic patterns have the potential to indirectly affect parks and recreational areas located within the Selected Alternatives boundary for potential ICE effects for parks and recreational facilities, specifically the indirect effects associated with air quality and the potential increase of traffic generated noise. Potential indirect impacts to parks and recreation areas within the Selected Alternative's potential ICE boundary for parks

and recreation areas are the same as those described for community resources (refer back to Community Cohesion section). For these reasons, air quality impacts and increases in traffic generated noise to parks and recreation areas within the potential ICE boundary for parks and recreation areas would not be substantial.

The Selected Alternative would provide access between the existing I-575 corridor and the existing Ashland Parkway/Ridgewalk Parkway corridor. The additional access to and from I-575 would reduce the necessary travel route from I-575 to Old Rope Mill Park and the adjacent USACE property.

Cumulative Effects:

Cumulative effects to the parks and recreation areas located within the area of direct and indirect effects from past, present and future actions have been analyzed. All past actions identified within the general ICE boundary (refer back to the introduction of the Environmental Consequences section) could have a cumulative affect on parks and recreation areas in the project area, particularly the extensive acquisition and protection of green space and ecological resources in the project area by federal, county and city officials. None of the present actions identified within the general ICE boundary would affect parks and recreational areas since there are no parks or recreational areas located in the area of the present actions. Future actions identified within the general ICE boundary that could have a cumulative affect on parks and recreational areas include the construction of pedestrian facilities on Main St/Canton Hwy/Old SR 5, the construction and widening of the Arnold Mill Road extension, and the proposed construction of a YMCA facility.

The identified past, present and future actions could impact parks and recreational areas cumulatively by generating traffic in the area, which affects air quality and increases traffic generated noise in the area of the resource. However, impacts to these resources, as previously discussed in the direct and indirect effects sections, address the aggregated impacts to air quality and noise to date, as well as anticipated effects modeled from all future improvements in the TIP. As such, no additional impacts to

these resources as a result of the identified past and future actions, beyond those impacts previously discussed, are anticipated.

The construction of pedestrian facilities on Main Street/Canton Hwy/Old SR 5 from Towne Lake Parkway to Serenade Lane would improve pedestrian access to the parks and recreational facilities along Main Street/Canton Hwy/Old SR 5. The addition of pedestrian facilities on the realignment of Old Rope Mill Road would improve pedestrian access to Old Rope Mill Road and the USACE property along the Little River. The extensive acquisition and protection of green space and ecological resources in the project area by federal, county and city officials has had substantial, positive effects to the amount of parks and recreational facilities in the project area.

3. Section 4(f) Applicability

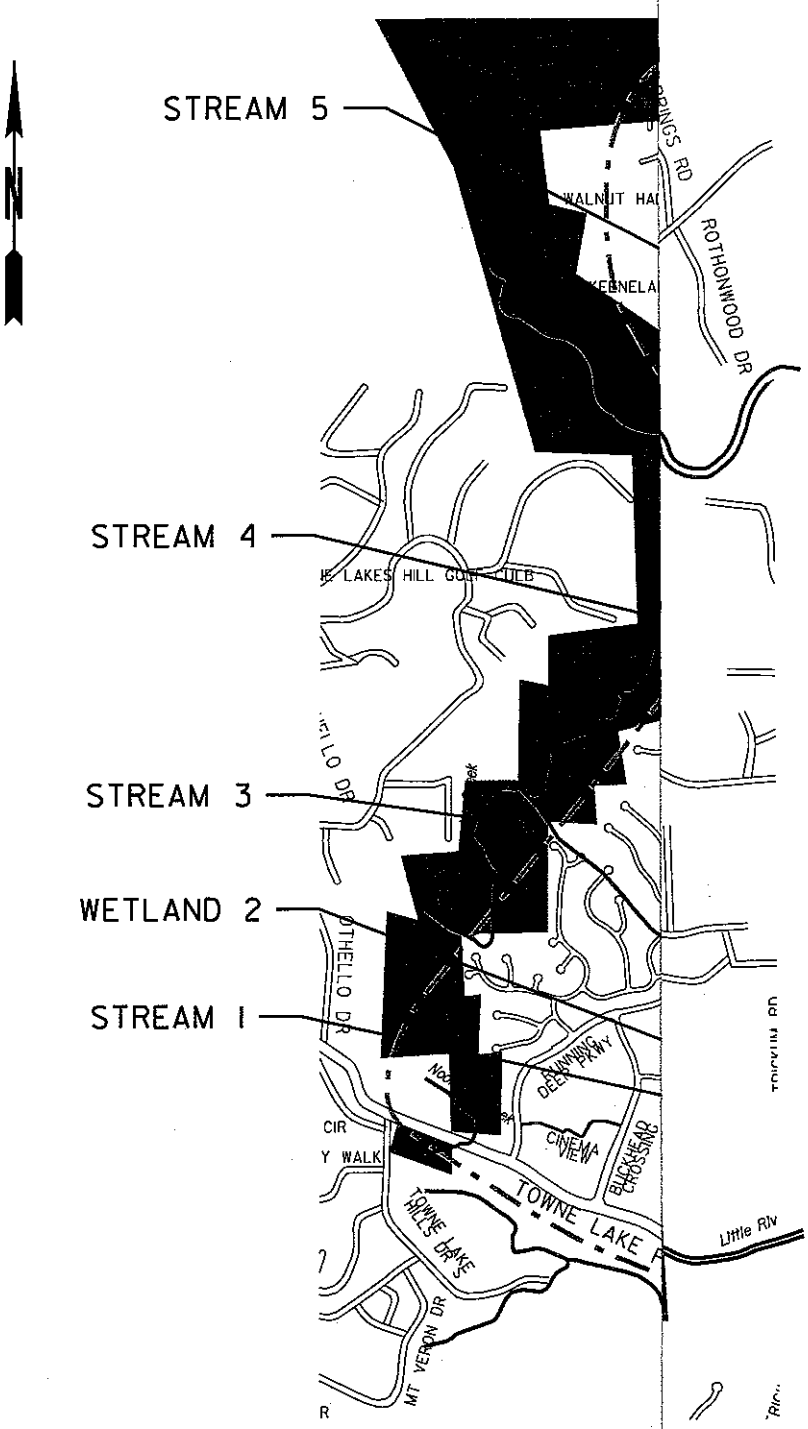
Section 4(f) refers to the temporary and/or permanent use and constructive use of land from a significant publicly owned public park, recreation area, or wildlife and waterfowl refuge, or any significant historic site. Although there are several publicly owned parks and recreational facilities located in the general project area, investigation of the project corridor has identified no use of such lands or sites. Therefore, no Section 4(f) Evaluation is required.

One recreational area, a private baseball facility, would be directly affected by the Selected Alternative. It is owned and used only by members of the Deer Run subdivision and use of the facilities is not available to the general public; consequently, the recreational area is not protected under Section 4(f) and a Section 4(f) evaluation is not required for the use of land from the recreational area.

C. Effects on the Natural Environment

1. Water Quality

There are four streams and one wetland located in the vicinity of the Selected Alternative (see Figure 12, Waters of the U.S. Location Map). The streams are located within the Coosa River Basin in the Etowah Hydrologic Unit Code (HUC) #03150104, the Etowah



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watershed. Water quality within the Coosa River Basin is considered to be generally good. The only surface water intakes in Cherokee County are located in the Etowah River, far outside of the area of the Selected Alternative.

Streams in the project area have been classified as fishing streams by the GDNR. None of the four streams in the project area are identified on the GDNR, Environmental Protection Division (EPD) 303(d) list of streams that do not support, or partially do not support, their designated uses. Consequently, no known 303(d) streams would be impacted by the Selected Alternative. Although over 450 miles of streams in the Etowah watershed have been evaluated for impairment, these streams in the Selected Alternative's area of direct effects have not been evaluated.

Direct Effects:

Implementation of the Selected Alternative would not result in a substantial increase of impervious surface area due to the small footprint of the project. An approximate 12' travel lane would be added to I-575 northbound and southbound and four access/exit ramps would be constructed in the area of the existing overpass. The improvements on realigned Old Rope Mill Road would also result in an increase of impervious surface area to accommodate the addition of sidewalks. The Selected Alternative would include the removal of the old roadbed, minimizing the increase of impervious surface areas as a result of project implementation.

Measures have been included in the Selected Alternative to minimize direct effects to water quality during construction. Provisions in the construction contract would require the contractor to exercise every reasonable precaution during construction to prevent the pollution of streams in the project vicinity. Where possible, early re-vegetation of disturbed areas would be accomplished so as to hold soil movement to a minimum. Dumping of chemicals, fuels, lubricants, bitumens, raw sewage, or other harmful wastes into or alongside of streams or impoundments, or natural or manmade channels leading thereto, would be prohibited.

Additional contract provisions would require the use of temporary erosion control measures as shown on the construction plans or as deemed necessary during construction. These temporary measures may include the use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods, as applicable. These provisions are coordinated with the permanent erosion control features insofar as practical to assure economical, effective, and continuous erosion control throughout the construction and post-construction periods and are in accordance with the 23 CFR, Part 650, Subpart B.

Either an embedded or a bottomless culvert would be utilized at the proposed perennial stream crossing, Stream 5. During the design phase of the project, an analysis will be conducted at each stream crossing to determine if it is beneficial and feasible to provide for fish passage. The type of culvert to be constructed would be based on the height of fill and type of materials to be placed above the culvert. The culvert type would then be designed for capacity based on the results of the hydrology study.

Additional provisions have been added to further minimize impacts at Stream 5, potential habitat for the Cherokee darter, a federally protected threatened species. Several of these measures would also protect water quality in the area of Stream 5, such as designing the culvert at Stream 5 to retain the natural stream substrate and allow for long term aquatic species passage, using a double row of silt fence along the construction limits, maintaining a 25-foot wide buffer zone on either side of Stream 5 and prohibiting the use of pesticides, herbicides and fertilizers by contractors and GDOT maintenance personnel in the area of Stream 5. For a complete list of additional provisions to further minimize impacts at Stream 5, see Appendix D – Special Provision 107.23.

Measures have been included in the Selected Alternative to minimize impacts to water quality after construction. After project implementation, surface water run-off would be collected in curb and gutter and would be carried to drainage structures such as catch basins or drop inlets and released to natural drainage areas. The water released from catch basins or drop inlets will be treated for water quality and channel protection

measures shall be put in place to prevent erosion downstream of the proposed storm sewer system. Depending on the outcome of the hydrology analysis later in project development, a water quality detention pond may be an appropriate measure for minimizing water quality impacts. The water will then be discharged into natural swales near low points along the roadway profile.

Indirect Effects:

The area of potential ICE to water quality as a result of project implementation includes all areas within the Etowah watershed and downstream of the Selected Alternative area.

An increase of impervious surface area could affect water quality in the potential area of ICE for water quality under Selected Alternative, the Etowah watershed. According to the Georiga Comprehensive State-wide Water Management Plan approved by the Water Council on January 8, 2008, a key part of addressing non-point source pollution, which causes the majority of water quality problems in the state, is addressing the impact that changing land use can have on water quality. When pervious land cover, such as forests and other natural areas, are paved over or otherwise converted to impervious surfaces, rainwater is no longer able to infiltrate into the soil. Stormwater washes across surfaces and into nearby streams, washing mud, oil, chemicals, and bacteria into creeks and rivers. Impervious surfaces increase the volume of stormwater and stormwater-associated pollution, which streams are unable to assimilate. The volume and velocity of streamflows during wet weather is also greatly increased, which often causes erosion and sedimentation.

An increase in traffic volumes could affect water quality in the potential area of ICE for water quality under Selected Alternative. Also, increased traffic in the area of the interchange could increase the amount of vehicular pollutants in the run-off. However, implementation of the Selected Alternative is expected to only draw traffic from other transportation corridors within the watershed and is not expected to result in a net increase of vehicular traffic within the watershed.

The proposed measures to reduce direct impacts to water quality in the project area, described in the direct effects section for water quality above, are expected to substantially minimize the potential for indirect effects to water quality in the watershed.

Cumulative Effects:

Cumulative effects to water quality within the area of direct and indirect effects from past, present and future actions have been analyzed. All past, present and future actions identified within the general ICE boundary (refer back to the introduction of the Environmental Consequences section) could have a cumulative affect on water quality in the Etowah watershed.

Information regarding the specific impacts of the identified past actions, including the construction of I-575, is not readily available. However, the current water quality in the project area and the Etowah watershed, represents the cumulative effects of past actions to water quality. The water quality within the Coosa River basin is generally considered to be good; however, it can be assumed that the identified past actions have affected water quality in the Etowah watershed since the streams and wetlands located in the project area are considered low quality. The primary source of pollution that affects water quality in the Coosa River Basin and Etowah watershed results from non-point sources. Non-point source pollution is diffuse contamination including sediment, litter, bacteria, nutrients, metals, oils, grease, chemicals and other pollutants entering bodies of water. Non-point source pollution may be transmitted by stormwater runoff, precipiation, atmospheric deposition, drainage, and/or seepage. Stormwater itself may also detrimentally alter a stream's hydrology, flow rate, temperature, and other physical and biological charactersistics. These problems result from the cumulative effects of activities from many individual land owners or managers.

No streams in the area of the Selected Alternative have been surveyed or listed on the EPD's 303(d) list of streams that do not support, or partially do not support, their designated uses; however, the streams in the area of the Selected Alternative drain into Noonday Creek and the Little River, both of which have been identified in on the EPD's

303(d) list of streams that do not support, or partially do not support, their designated uses. Noonday Creek, from the confluence with Little Noonday Creek to Lake Allatoona, is considered not supporting of its designated use of fishing due to violations of the fecal coliform bacteria criterion and biological criterion from impacted biota. Additionally, Noonday Creek, from its headwaters to the confluence with Little Noonday Creek, is considered partially supporting of its designated use of fishing due to violation of the biological criterion. The Little River is considered partially supporting of its designated use of fishing due to violations of the fecal coliform criterion.

The extensive acquisition and protection of green space and ecological resources in the project area by federal, county and city officials has had a positive effect to water quality in the project area (refer back to Figure 9, Social Resources Location Map, and Figure 10, Existing Land Use Map). Green infrastructure planning, land conservation, and open space protection help to manage impervious surfaces and to increase infiltration of stormwater, which helps to maintain infiltration and groundwater recharge and reduce or eliminate the adverse impacts of stormwater. According to the approved Georgia Comprehensive State-wide Water Management Plan, these practices are critical elements of effective management of non-point source pollution and protection of Georgia's waters.

The impacts to water quality in the Etowah watershed, as a result of the identified past actions, would not be substantially exacerbated by the identified present or future actions. All present and future actions in the reasonably foreseeable future would be required to comply with the EPD, US Environmental Protection Agency (USEPA), and other agency programs to protect water quality. As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources (discrete conveyances such as pipes or man-made ditches) that discharge pollutants into waters of the U.S. On a state level, the EPD implements water quality management policy through its current statutory authority and rules related to setting water quality standards, controlling water pollution and issuing discharge permits. The EPD is also responsible for developing Total Maximum Daily

Loads (TMDL) where ongoing actions are not sufficient to achieve water quality standards. The water quality management policies manage point and non-point source pollution on a watershed basis in order to protect clean waters and restore impaired waters. Effective management of stormwater and the impacts of impervious surfaces on a watershed basis can reduce the adverse effects of runoff.

2. Waters of the U.S.

The Selected Alternative has been surveyed with respect to involvement with waters of the U.S., as required by the provisions of Executive Order 11990 and subsequent federal regulations. For more information regarding Waters of the US in the project area, refer to the Ecology Assessment/Description of Jurisdictional Wetlands, Non-wetland Waters of the US, and Protected Species Report prepared for the Selected Alternative.

a. Wetlands Finding

Direct Effects:

Although wetlands were given special consideration during the location of this project, one wetland impact site was identified during environmental field surveys (refer back to Figure 12, Waters of the U.S. Location Map). This wetland site, identified as Wetland 2, displayed the characteristics required for wetland definition as given in the 1987 Corps of Engineers Wetlands Delineation Manual:

- prevalence of hydrophytic vegetation,
- hydric soils, and
- permanent or periodic inundation or saturation.

The wetland impact area is described in Table 7.

Table 7 – Wetland Impact Area

Wet-land	Classifi-cation	Hydrologic Regime	Drainage Criteria	Description	Dominant Vegetation	Value	Impact Area (ac.)
2	PF01	Seasonal-ly flooded	Noonday Creek	Small, palustrine, forested wetland, located at the head of Stream 1.	Red maple, silky dogwood, no herbaceous vegetation was present due to winter survey.	Low quality	0.03 acre of temporary impact during construct-ion

Wetland 2 is considered a low quality wetland. The functions provided by Wetland 2 are the provision of wildlife habitat, nutrient/sediment retention, some dissipation of erosive forces, and overflow for Noonday Creek and the unnamed tributaries of the Noonday Creek. The maximum acreage of potential wetland impact, determined by measuring within the proposed right-of-way, is approximately 0.03 acre of temporary impact. The entire 0.03 acre wetland is located within existing I-575 right-of-way and outside of the proposed construction limits. However, impacts were determined on a worst case scenario basis and temporary impacts related to soil erosion, sedimentation, and possible interstate/roadway runoff has been assumed. No permanent impact to Wetland 2 would occur as a result project implementation.

Alternatives were considered in order to avoid wetland impacts and impacts to this wetland are not anticipated. However, impacts are calculated based on a worse case scenario from right-of-way to right-of-way. Since the proposed project is design-build, construction limits would not be defined prior to project implementation and, since Wetland 2 is located within the existing right-of-way of I-575, a worst case scenario of 0.03 acre of impact has been determined even though no impacts are actually anticipated.

This project would be expected to produce some increased siltation within the wetland and stream crossings during the construction phase. Environmental harm would be minimized by standard construction erosion and sedimentation control devices. Measures to minimize harm to wetlands, water quality, wildlife, and fish and game habitat include:

1. Preservation of roadside vegetation beyond the limits of construction, where possible;
2. Early re-vegetation of disturbed areas so as to minimize soil erosion;
3. The use of slope drains, detention/retention structures, surface, sub-surface and cross drains, designed as appropriate or needed, so that discharge would occur in locations and in such a manner that

surface and sub-surface water quality would not be affected (the outlets may require aprons, bank protection, silt basins and energy dissipaters);

4. Inclusion of construction features for the control of predicted erosion and water pollution in the plans, specifications and control pay items (GDOT Standard Specification 715 identifies the pollution control measures which may be used);
5. The dumping of chemicals, fuels, lubricants, bitumens, raw sewage, or other harmful wastes into or alongside streams or impoundments, or into natural or manmade channels leading thereto, would be prohibited.

Because the anticipated impacts to Wetland 2 are temporary and less than 0.1 acre, compensatory mitigation would not be required.

Based on the above considerations, the proposed action includes all practicable measures to minimize harm to wetlands and no construction within wetland areas is anticipated.

Indirect Effects:

The area of potential ICE to wetlands as a result of the Selected Alternative includes all areas within the Etowah watershed and downstream of the Selected Alternative area. Figure 12 shows all Waters of the US identified within the Selected Alternative's area of direct effects, as well as potential wetland areas within the general project area. Potential wetlands for the entire watershed are not shown; however, it is understood that they exist and that they could be indirectly affected by the Selected Alternative.

Potential wetlands within the general project area were ascertained by consulting National Wetland Inventory (NWI), existing land use, and topographical maps of the area. Windshield surveys confirmed the potential for wetlands occurring in the identified potential wetland areas. The NWI maps identified the presence of no wetlands north of

Towne Lake Parkway to just north of the Little River. However, the USACE property in the area surrounds portions of the Little River and Noonday Creek and includes their buffers and floodplain areas. Windshield surveys confirmed the potential for wetlands in the area. Consequently, the entire USACE property has been identified as a potential wetland area. In addition, potential wetland areas along Rubes Creek and the unnamed tributary of Rubes Creek were identified during initial field surveys for the Arnold Mill Road extension. No other potential wetland areas have been identified within the Selected Alternative area.

Implementation of the Selected Alternative could indirectly affect wetlands in the Etowah watershed. The indirect impacts of project implementation to wetlands in the watershed would primarily be the same as those indirect affects previously discussed to water quality in the Etowah watershed as a result of project implementation (refer back to the Water Quality section of this document).

Indirect effects to wetlands within the Etowah watershed, as a result of improved access to potential wetland areas as a result of the Selected Alternative, would be minimal. The Selected Alternative would provide access between the existing I-575 corridor and the existing Ashland Parkway/Ridgewalk Parkway corridor. The additional access to and from I-575 would reduce the necessary travel route from I-575 to the Little River and the potential wetlands on the adjacent USACE property. Also, the provision of pedestrian facilities along realigned Old Rope Mill Road would improve pedestrian access to the Little River and the potential wetlands on the adjacent USACE property.

It is not anticipated that implementation of the Selected Alternative would indirectly affect wetlands in the Etowah watershed by causing additional actions to be taken by others that may result in wetland impacts. None of the currently planned actions (refer back to Table 1, Other Projects in the Area) are dependent in any way upon the construction of the project.

Cumulative Effects:

Cumulative effects to wetlands within the area of direct and indirect effects from past, present and future actions have been analyzed. All past, present and future actions identified within the general ICE boundary (refer back to the introduction of the Environmental Consequences section) could cumulatively affect wetlands in the Etowah watershed.

Information regarding the specific impacts from the identified past actions to wetlands in the Etowah watershed, including the construction of I-575, is not readily available. However, we do know that over 229 acres of wetland impacts were permitted from Coosa River Basin from the beginning of the 1900's through August of 2004 and that almost 48 acres of those impacts occurred in Cherokee County. Approximately 49 acres of those impacts occuring in Cherokee County were mitigated, minimizing the effects of past actions to wetlands within the Etowah watershed.

The impacts to wetlands in the Etowah watershed, as a result of the identified past actions, would not be substantially exacerbated by the identified present or future actions. Cumulative effects to wetlands in the Etowah watershed from the majority of the identified present and future actions would primarily be the same as those cumulative effects previously discussed regarding water quality in the Etowah watershed (refer back to the Water Quality section of this document). However, additional direct impacts to wetlands are also anticipated as a result of the proposed construction and widening of the Arnold Mill Road extension. In accordance with the required USACE permit for the project, every effort would be made to avoid or minimize impacts to wetlands in the project area.

b. Streams

Four streams have been identified in the area of the Selected Alternative (refer back to Figure 12, Waters of the U.S. Location Map).

Stream 1 is a small, low quality unnamed intermittent tributary of Noonday Creek with a wetted channel approximately 1 to 4 feet wide and 1 inch to 3 feet deep (most areas <4 inches). Trickle low flow was present at the time of survey and the stream was clear. The substrate consisted of mud and detritus/organics. The stream channel was fairly straight (i.e. low sinuosity) and bank stability was poor with areas of severe erosion and bank sloughing. Bankfull height was approximately 1 to 2 feet and top of bank height was 1 to 6 feet entrenched. Bankfull width ranged from 1 to 8 feet.

Stream 3 is a small, poor quality unnamed perennial tributary to Noonday Creek with wetted channel approximately 3 to 6 feet wide and 1 to 18 inches deep. Low to normal base flow was present at the time of survey and the stream was clear. Bank stability is moderate and sedimentation was fairly severe. The substrate consists primarily of sand and gravel with some silt and cobble. The stream channel has a somewhat natural meander pattern and bank stability was moderate with some areas of erosion and bank sloughing. Bankfull height is 2 to 2.5 feet and top of bank height is 3 to 6.5 feet entrenched. Bankfull width ranges from 4 to 7 feet.

Stream 4 is a small, poor quality unnamed perennial tributary to Noonday Creek with a wetted channel approximately 1 to 5 feet wide and 1 inch to 3.5 feet deep (most areas ≤4 inches). Low to normal base flow was present at the time of survey. The stream was deeply incised, 3 to 8 feet. Bank erosion is severe with bank sloughing prevalent and excessive sediment present in the stream channel. The substrate consists primarily of sand, silt and some gravel. The presence of iron-oxidizing bacteria precipitate is evident in the channel, as it stains a majority of the available substata. The meander of the stream channel appears natural and sinuosity is moderate. Bankfull height is 2 to 2.5 feet and top of bank height is 3 to 6.5 feet entrenched. Bankfull width ranges from 4 to 7 feet.

Stream 5 is a small, medium to high quality unnamed perennial tributary to the Little River with a wetted channel approximately 1 to 6 feet wide and 1 to 18 inches deep (most areas <6 inches). Normal base flow was present at the time of survey and the

stream was clear. The substrate consists of a mixture of primarily cobble, gravel, sand and silt. The stream channel has a natural meander pattern and sinuosity is low to moderate. Bankfull height is 2 to 2.5 feet and top of bank height is 3 to 6.5 feet entrenched. Bankfull width ranges from 4 to 7 feet. Stream 5 has been determined to be potential habitat for the Cherokee darter, a federally protected threatened species.

Direct Effects:

The Selected Alternative would have no direct impact, permanent or temporary, to Streams 1, 3 and 4. Approximately 79 feet of channel loss would occur to Stream 5, as a result of culverting. These impacts have been determined based on proposed right-of-way width, stream sinuosity, and the approximate angle of stream channel to the proposed right-of-way. The Selected Alternative would have no temporary impact to Stream 5. Table 8 summarizes the anticipated impacts to streams as a result of the Selected Alternative.

Table 8 – Summary of Riverine Systems Impacts

Stream Site	Name of Stream	Type of Impact	Linear Feet of Impacts
Stream 5	Unnamed tributary to the Little River	Culvert Placement	79 feet
Total Impacts			**79 feet**

Either an embedded or a bottomless culvert would be utilized at the proposed perennial stream crossing, Stream 5. During the design phase of the project, an analysis will be conducted at each stream crossing to determine if it is beneficial and feasible to provide for fish passage. The type of culvert to be constructed would be based on the height of fill and type of materials to be placed above the culvert. The culvert type would then be designed for capacity based on the results of the hydrology study.

Measures have been considered to avoid or minimize impacts to Stream 5. Stream 5 hooks and meanders to the south immediately west of the proposed roadway crossing

and extends eastward immediately east of the proposed crossing (refer back to Figure 9, Waters of the U.S. Location Map). Any minor shifts to the west would result in a non-perpendicular crossing of Stream 5 and an encroachment on its vegetative buffer, requiring a Stream Buffer Variance prior to project implementation. A more extreme shift west to avoid the stream entirely would place the proposed roadway too close to the proposed northbound access ramp and would not meet AASHTO safety standards. Because Stream 5 is linear in nature, any minor shifts east would not avoid the stream. Because Stream 5 is so small, approximately 1 to 6 feet wide, bridging to avoid impact is not prudent. Because the anticipated impacts to Stream 5 are less than 100 linear feet, compensatory mitigation would not be required.

Additional provisions have been added to further minimize impacts at Stream 5, potential habitat for the Cherokee darter, a federally protected threatened species. Several of these measures would also minimize impacts to Stream 5. For more information regarding these measures, refer back to the direct effects discussion in the Water Quality section of this document and Appendix D – Special Provision 107.23.

Indirect Effects:

The area of potential ICE to streams as a result of the Selected Alternative includes all areas within the Etowah watershed and downstream of the Selected Alternative area. Figure 12 shows all streams identified within the Selected Alternative's area of direct effects, as well as other known streams located within the general project area. All streams within the Etowah watershed are not shown; however, it is understood that they exist and that they could be indirectly affected by the Selected Alternative. Substantial streams located within the Etowah watershed and located relatively close to the general project area include the Little River, Noonday Creek, Rubes Creek and Mill Creek.

Implementation of the Selected Alternative could indirectly affect streams in the Etowah watershed. The indirect impacts of project implementation to streams in the watershed would primarily be the same as those indirect affects previously discussed to water

quality in the Etowah watershed as a result of project implementation (refer back to the Water Quality section of this document).

Indirect effects to streams within the Etowah watershed, as a result of improved access to streams, would be minimal. The Selected Alternative would provide access between the existing I-575 corridor and the existing Ashland Parkway/Ridgewalk Parkway corridor. The additional access to and from I-575 could reduce the necessary travel route from I-575 to the Little River and other streams in the area. Also, the provision of pedestrian facilities along realigned Old Rope Mill Road would improve pedestrian access to the Little River.

Cumulative Effects:

Cumulative effects to streams within the area of direct and indirect effects from past, present and future actions have been analyzed. All past, present and future actions identified within the general ICE boundary (refer back to the introduction of the Environmental Consequences section) could cumulatively affect streams in the Etowah watershed.

Information regarding the specific impacts from the identified past actions to streams in the Etowah watershed, including the construction of I-575, is not readily available. However, we do know that 18,279 linear feet of stream impacts were permitted from Coosa River Basin from the beginning of the 1900's through August of 2004 and that 7,105 linear feet of those impacts occurred in Cherokee County. Approximately 5,765 linear feet of those impacts occuring in Cherokee County were mitigated, somewhat minimizing the effects of past actions to streams within the Etowah watershed.

The impacts to streams in the Etowah watershed, as a result of the identified past actions, would not be substantially exacerbated by the identified present or future actions. Cumulative effects to streams in the Etowah watershed from the majority of the identified present and future actions would primarily be the same as those cumulative effects previously discussed regarding water quality in the Etowah watershed (refer back

to the Water Quality section of this document). However, additional stream impacts are also anticipated as a result of the proposed construction and widening of the Arnold Mill Road extension and the construction of a 300,000 square foot retail center and mixed use community on the south side of Ashland Parkway/Ridgewalk Parkway, just east of Woodstock Parkway. In accordance with the required USACE permit for the project, every effort would be made to avoid or minimize impacts to streams in the area of the projects.

c. Open Waters

Direct Effects:

No open waters, other than the streams previously discussed, have been identified in the area of direct effects for the Selected Alternative (refer back to Figure 12, Waters of the US Location Map).

Indirect Effects:

The area of potential ICE to open waters as a result of the Selected Alternative includes all areas within the Etowah watershed and downstream of the Selected Alternative area. No other open waters, other than the streams previously identified, have been identified in the area general project area; however, it is understood that they exist within the ICE boundary for aquatic resources and that they could be indirectly affected by the Selected Alternative. Substantial open waters located within the Etowah watershed include the Allatoona Reservoir; however, the reservoir is located upstream of the Selected Alternative and indirect affects to the reservoir are not anticipated.

Implementation of the Selected Alternative could indirectly affect open waters in the Etowah watershed. The indirect impacts of project implementation to open waters in the watershed would primarily be the same as those indirect affects previously discussed to water quality in the Etowah watershed as a result of project implementation (refer back to the Water Quality section of this document).

Indirect effects to open waters within the Etowah watershed, as a result of improved access to the resources, are not anticipated. Because there are no identified open waters in close proximity to the proposed improvements, implementation of the Selected Alternative is not expected to affect access to open waters within the watershed.

Cumulative Effects:

Cumulative effects to open waters within the area of direct and indirect effects from past, present and future actions have been analyzed. All past, present and future actions identified within the general ICE boundary (refer back to the introduction of the Environmental Consequences section) could cumulatively affect open waters in the Etowah watershed.

Information regarding the specific impacts from the identified past actions to open waters in the Etowah watershed, including the construction of I-575, is not readily available. Cumulative effects to open waters in the Etowah watershed from the majority of the identified present and future actions would primarily be the same as those cumulative effects previously discussed regarding water quality in the Etowah watershed (refer back to the Water Quality section of this document). No additional impacts to open waters within the watershed are anticipated as a result of the identified past, present, and future actions.

d. Coordination

The findings regarding impacts to waters of the U.S. have been coordinated with the U.S. Fish and Wildlife Service (USFWS) and the GDNR (see Appendix A - Correspondence). Coordination under the Fish and Wildlife Coordination Act (FWCA) has also been conducted for the channel loss due to the placement of a new location culvert at Stream 5 (see Appendix A – Correspondence).

3. Floodplains

Direct Effects:

A survey of the project corridor for floodplains as required by provisions of Executive Order 11988 has identified 100-year floodplains or regulatory floodways have been identified in the area of direct effects for the Selected Alternative. No direct impacts to regulatory floodways would occur. Project implementation would not require the placement of fill within floodplains. No regulatory floodway encroachment would occur; however, Procedures for Coordinating Highway Encroachments on Floodplains with the Federal Emergency Management Agency would be followed. Cherokee County and the City of Woodstock are members of the Regular Program of the National Flood Insurance Program.

Indirect Effects:

The area of potential ICE to floodplains, as a result of the Selected Alternative, includes all areas within the Etowah watershed and downstream of the Selected Alternative area. Figure 13, Floodplain Location Map, shows the location of floodplains identified within the Selected Alternative's potential area of ICE for floodplains that are located in the general project area. All floodplains within the Etowah watershed are not shown; however, it is understood that they exist and that they could be indirectly affected by the Selected Alternative. Regulatory floodways located within the Etowah watershed and located relatively close to the general project area include regulatory floodways for the Little River, Noonday Creek, Rubes Creek and Mill Creek.

Implementation of the Selected Alternative could indirectly affect floodplains and regulatory floodways in the Etowah watershed. A substantial increase in runoff discharge due to increased impervious surface areas could indirectly impact floodplains and regulatory floodways. However, implementation of the Selected Alternative would not result in a substantial increase of impervious surface area due to the small footprint of the project. An approximate 12' travel land would be added to I-575 northbound and southbound and four access/exit ramps would be constructed in the area of the existing overpass. The improvements on realigned Old Rope Mill Road would also result in an

FIGURE 13 - FLOOD PLAIN

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increase of impervious surface area to accommodate the addition of sidewalks. The Selected Alternative would include the removal of the old roadbed, minimizing the increase of impervious surface areas as a result of project implementation. Furthermore, the proposed measures to reduce direct impacts to water quality in the project area, described in the direct effects section for water quality above, are expected to substantially minimize the potential for indirect effects to floodplains in the watershed.

Cumulative Effects:

Cumulative effects to floodplains and regulatory floodways within the area of direct and indirect effects from past, present and future actions have been analyzed. All past, present and future actions identified within the general ICE boundary (refer back to the introduction of the Environmental Consequences section) could cumulatively affect floodplains and regulatory floodways in the Etowah watershed.

Information regarding the specific impacts from the identified past actions to open waters in the Etowah watershed, including the construction of I-575, is not readily available. However, it can be assumed that these impacts are somewhat substantial due to the substantial amount of development that has occurred within the watershed in recent decades. As previously discussed in the water quality section, when pervious land cover, such as forests and other natural areas, are paved over or otherwise converted to impervious surfaces, rainwater is no longer able to infiltrate into the soil. Stormwater washes across surfaces and into nearby streams, washing mud into creeks and rivers. Impervious surfaces increase the volume of stormwater and stormwater-associated runoff, which streams are unable to assimilate. The volume and velocity of streamflows during wet weather is also greatly increased, which often causes erosion and sedimentation.

The extensive acquisition and protection of green space and ecological resources in the project area by federal, county and city officials has helped protect floodplains and regulatory floodways in the project area (refer back to Figure 9, Social Resources Location Map, and Figure 10, Existing Land Use Map). The majority of the acquisitions

have occurred within the identified floodplains and regulatory floodway areas, limiting the amount of infrastructure in those areas.

The impacts to floodplains and regulatory floodways in the Etowah watershed, as a result of the identified past actions, would not be substantially exacerbated by the identified present or future actions. All present and future actions in the reasonably foreseeable future would be required to comply with the EPD, USEPA, and other agency programs to protect water quality (refer back to the Water Quality section of this document). These programs to protect water quality would also help to minimize effects on floodplains and regulatory floodways by minimizing runoff, and subsequent erosion and sedimentation, within the watershed. The extensive acquisition and protection of green space and ecological resources in the project area by federal, county and city officials would continue to protect floodplains and regulatory floodways in the project area (refer back to Figure 9, Social Resources Location Map, and Figure 10, Existing Land Use Map) during the implementation of the identifed present and future actions.

Encroachment of the floodplains and regulatory floodways associated with the Little River and Noonday Creek is anticipated as a result of the future construction of HOV lanes on I-575. Also, encroachment of the floodplain and regulatory floodway associated with Rubes Creek is anticipated as a result of the future construction and later widening of the Arnold Mill Road extension. It is anticipated that the construction of these projects would require the placement of fill material in the floodplain. The projects would be designed in such a way that they would have no significant encroachment on floodplains, would not represent a significant risk to life or property, would not have a significant impact on natural and beneficial floodplain values, would not support incompatible floodplain development, and would not interrupt or terminate a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route. The projects would be designed to minimize encroachment on the regulatory floodways. Procedures for Coordinating Highway Encroachments on Floodplains with the Federal Emergency Management Agency would be followed.

4. Farmland

Direct Effects:

The Selected Alternative would not involve farmland or potential farmland as defined in the Farmland Protection Policy Act, 7 CFR Part 658. No farmland or potential farmland has been identified in the area of the Selected Alternative.

Indirect Effects:

Induced land use changes have the potential to indirectly affect farmland. Consequently, the area of potential ICE to farmland is the same as shown in Figure 6, Boundary for Indirect and Cumulative Effects Analysis, which delineates the area where project implementation could result in induced land use changes (refer back to the Land Use section of this document). Farmland has been identified within the potential ICE boundary for farmland. Some agricultural properties were identified along the Arnold Mill Road corridor, in the area of the Little River, during windshield surveys of the area of potential ICE for farmland. In addition, the Community Assessment Report prepared by Cherokee County has identified approximately 132 acres of property within downtown Woodstock that is considered either unused or underutilized. According the report, most of the unused/underutilized land is an existing horse farm. The exact acreage of the farm is unknown.

Potential indirect impacts to farmland within the Selected Alternative's potential ICE boundary for farmland are the same as the indirect affects of the Selected Alternative to land use in the area (refer back to the Land Use section). As previously discussed, the USACE owns a substantial amount of property in the project area and the majority of developable land area has been developed. Approximately 27% of the land in the immediate project area is considered developable. Furthermore, the ICE boundary for potential land use changes is located almost completely within the City of Woodstock and, according to the Community Assessment Report prepared for Cherokee County, only 200 acres of land within the City of Woodstock is considered vacant or underutilized. For these reasons, and because the project is consistent with the current land use plan, project implementation would not precipitate exorbitant land use changes

or exorbitantly change development patterns. Consequently, indirect effects to farmland, as a result of land use changes induced by project implementation, would be minimal.

Cumulative Effects:

Cumulative effects to farmland within the area of direct and indirect effects from past, present, and future actions have been analysed. All past, present and future actions identified within the general ICE boundary (refer back to the introduction of the Environmental Consequences section) could cumulatively affect farmland within the ICE boundary for farmland.

The cumulative land use effects in the area, and therefore farmland effects, are primarily due to the identified past actions. Prior to these developments, the project area was largely agricultural and forested with sparse residential development. The land use changes occurred to accommodate the residential and transportation needs of the growing population in Cherokee County and the City of Woodstock. Also, the land use changes occurred with the reduction of agricultural production in the area, as agricultural properties were sold to developers.

Land use changes, and therefore effects to farmland, as a result of present and future actions are expected to be relatively minor, primarily due to the planning involved with these actions and because of the land use constraints. As previously stated, approximately 27% of the land in the immediate project area is considered developable and only 200 acres of land within the City of Woodstock is considered vacant or underutilized. Land use impacts associated with the proposed HOV project would be minimal since implementation of the HOV project in the area of the Selected Alternative would take place within the existing I-575 median and within existing transportation right-of-way.

5. Threatened and Endangered Species

Surveys have been conducted the area of the Selected Alternative and coordination has been completed to determine the presence of protected species or suitable habitat for

those species in the area of the Selected Alternative. Federally listed and otherwise federally protected species known to occur in Cherokee County include the bald eagle (*Haliaeetus leucocephalus*), the amber darter (*Percina antesella*), the Etowah darter (*Etheostoma etowahae*), and the Cherokee darter (*Etheostoma scotti*). The federally listed species known to occur in Cherokee County and information regarding their federal status, habitat, and anticipated impacts as a result of the Selected Alternative can be found on Table 9.

Table 9 - Federally Listed Species Known to Occur in Cherokee County

Common Name	Scientific Name	Federal Status	Habitat	Habitat Available	Species Impact Expected
Faunal Species					
Bald eagle	*Haliaeetus leucoce-phalus*	Protected under various acts.	Inland waterways and estuarine areas in Georgia.	No	No Effect
Amber darter	*Percina antesella*	Endangered	Riffle habitats with moderate to swift currents over gravel and cobble, often with patches of sand and riverweed; commonly occur in depths ranging from about 7.9 inches to over 24 inches.	No	No Effect
Cherokee darter	*Etheostoma etowahae*	Threatened	Shallow water (0.3 – 1.6 feet) in small to medium warm water creeks (3 – 50 feet wide) with mostly rocky bottoms and usually with reduced current.	Yes	May affect – not likely to adversely affect.
Etowah darter	*Etheostoma etowahae*	Endangered	Riffles, typically in moderate to strong current, over gravel and cobble sub-strata.	No	No Effect
Floral Species - None					

The USFWS removed the bald eagle (*Haliaeetus leucocephalus*) as threatened under the Endangered Species Act on August 8, 2007, and published May 2007, National Bald Eagle Management Guidelines (Eagle Guidelines) to assist the public in understanding protections afforded to and prohibitions related to the bald eagle under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) (Eagle Act), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Lacey Act (16 U.S.C. 3371-3378). The Eagle Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking"

bald eagles, including their parts, nests, or eggs. The Eagle Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

In Georgia, the bald eagle finds habitat along inland waterways and estuarine areas, selecting areas with low human disturbance, suitable forest structure, and abundant prey. The bald eagle typically nests in the largest tree in its chosen territory. Nest sites along rivers are typically close to the shores with large aquatic areas and little forest edge. Lake nest sites are usually near water, with large individual trees, and little overall human disturbance. This species prefers nest sites within 0.5 miles of water and a clear path to that water. The bald eagle usually forages within approximately 1.0 mile of its nest site during breeding season.

No eagle nests or eagles were seen during the field survey. Lake Allatoona Reservoir is the nearest known potential bald eagle habitat; however, the reservoir is located approximately 4.5 miles from the proposed interchange. The Selected Alternative would not "take" bald eagles, as defined by the Bald and Golden Eagle Protection Act.

Because the bald eagle was formerly listed as threatened, informal Section 7 consultation was initiated between the FHWA and USFWS. The USFWS concurred in a letter dated July 23, 2007 that the Selected Alternative would have no effect to the bald eagle under Section 7 of the Endangered Species Act (see Appendix A – Correspondence).

The amber darter is a federally listed endangered species. The amber darter is endemic to the upper Coosa River system in Georgia and southeastern Tennessee. This species is known to occur in the main channel of the Conasauga River in Georgia and Tennessee. A small population is believed to exist in the main-stem of the Etowah River above Lake Allatoona in Cherokee County; however, survey efforts in the Etowah River and Shoal Creek have failed to collect this species since 1980. Amber darters prefer riffle habitats with moderate to swift currents, typically and approximately 1 to 3 feet per second, over gravel and cobble, often with patches of sand and riverweed. Individuals commonly occur in depths ranging from about 7.9 inches to over 24 inches.

The Cherokee darter is a federally listed threatened species that is known from numerous tributaries to the Etowah River and their drainage systems. Populations are found above and below the Allatoona Reservoir. Streams with known populations in Cherokee County include, but are not limited to, Shoal Creek, Sweetwater Creek, Jug Creek, Puckett Creek, Hickory Log Creek, Sharp Mountain Creek, Smithwick Creek, Edward Creek, Riggin Creek, Canton Creek, and Allatoona Creek. Cherokee darters also have been reported from the Little River system, but it appears that this species has been extirpated from this system, except for in the extreme headwaters near the eastern edge of Cherokee County. Cherokee darters generally inhabit shallow water (0.3 – 1.6 feet) in small to medium warm water creeks (3 – 50 feet wide) with predominately rocky bottoms and are usually found in sections with reduced current, typically runs above and below riffles at the ecotones of riffles and backwaters. This species is often associated with large gravel, cobble and small boulder substrates and is rarely found in association with areas comprised mostly of bedrock, fine gravel, or sand. The Cherokee darter is a species that is relatively intolerant of moderate to heavy silt deposition and impoundment, is usually most abundant in streams with clear water and clean substrates.

The Etowah darter is a federally listed endangered species. This species occurs only in Georgia where it is restricted to the Etowah River system upstream from the Allatoona Reservoir. Preferred habitat for the Etowah darter is riffles, typically in moderate to strong current, over gravel and cobble substata.

Six state protected species, the bluestripe shiner (*Cyprinella callitaenia*), the frecklebelly madtom (*Noturus nocturnus*), the freckled darter (*Percina lenticula*), the bay star-vine (*Schisandra glabra*), and the Indian olive (*Nestronia umellula*) have a range that includes the area of the Selected Alternative. It is GDOT policy to notify the GDNR Freshwater Wetlands and Heritage Inventory Program of any possible impacts to these species. Although these species are not protected under Section 7 of the Endangered Species Act of 1973, potential effects to these species were considered during the ecology

assessment for the project. None of the six state protected species were identified within the project's area of environmental effect. Correspondence from the GDNR Freshwater Wetlands and Heritage Inventory Program indicated that none of the six state protected species have been located within a three mile radius of the project (see Appendix A, Correspondence). One special concern species, the southern brook lamprey (*Ichthyomyzon gagei*), has been identified approximately two miles southeast of the project in Rubes Creek.

Direct Effects:

Habitat in the area of the Selected Alternative is unsuitable for bald eagle nesting and foraging due to the high level of human disturbance and the lack of large water bodies. No bald eagles were observed during field surveys of the Selected Alternative. The Selected Alternative would have no effect on the federally protected bald eagle.

There is no suitable habitat within the area of the Selected Alternative for the amber darter due to the small size and degraded condition of the streams and no amber darters were collected during the aquatic survey of the project corridor. Consequently, the Selected Alternative would have no effect on the federally protected amber darter.

Habitat in the area of the Selected Alternative is unsuitable for Etowah darters, primarily due to the small size and degraded condition of the streams. No Etowah darters were collected during the aquatic survey of the Selected Alternative. Consequently, the Selected Alternative would have no effect on the federally protected Etowah darter.

Surveys of the project corridor identified one small area of suitable habitat for the Cherokee darter in the lower section of Stream 5 at the proposed stream crossing. Specimens of the species were not identified during the aquatic survey. Consequently, a finding of "may affect but not likely to adversely affect" has been determined for this species.

Measures have been considered to avoid impacts to Stream 5, the potential habitat for the Cherokee darter identified in the area of the Selected Alternative. Stream 5 hooks and meanders to the south immediately west of the proposed roadway crossing and extends eastward immediately east of the proposed crossing (refer back to Figure 12, Waters of the U.S. Location Map). Stream 5 and its buffer flow through a natural wooded area to the Little River and, therefore, connects to areas that serve as wildlife habitat. Any minor shifts to the west would result in a non-perpendicular crossing of Stream 5 and an encroachment on its vegetative buffer, requiring a Stream Buffer Variance prior to project implementation. A more extreme shift west to avoid the stream entirely would place the proposed roadway too close to the proposed northbound access ramp and would not meet AASHTO safety standards. Because Stream 5 is linear in nature, any minor shifts east would not avoid the stream. Because Stream 5 is so small, approximately 1 to 6 feet wide, bridging to avoid impact is not considered prudent.

Measures have been considered to minimize impacts to Stream 5, the potential habitat for the Cherokee darter identified in the area of the Selected Alternative. Either an embedded or a bottomless culvert would be utilized at the proposed perennial stream crossing, Stream 5. The culvert at Stream 5 will be designed to retain the natural stream substrate and allow for long term aquatic species passage. The type of culvert to be constructed would be based on the height of fill and type of materials to be placed above the culvert. The culvert type would then be designed for capacity based on the results of the hydrology study.

Additional provisions have been added to further minimize impacts at Stream 5, potential habitat for the Cherokee darter, a federally protected threatened species. Several of these measures would also minimize impacts to Stream 5. For more information regarding these measures, refer back to the direct effects discussion in the Water Quality section of this document and Appendix D – Special Provision 107.23.

In summary, it has been determined that the Selected Alternative would not directly affect these species in the area of the Selected Alternative and a determination of "may

affect but not likely adversely affect" has been made for the Cherokee darter. Refer back to Table 9 for a summary of anticipated impacts to threatened and endangered species from implementation of the Selected Alternative. The findings regarding threatened and endangered species have been coordinated with the USFWS, the GDNR and the FHWA (see Appendix A - Correspondence). Concurrence with the determinations was received from the FHWA District 6 Transportation Engineer via e-mail on June 5, 2007 and an undated concurrence letter was received by the GDOT Office of Environment and Location on July 23, 2007 (see Appendix A - Correspondence).

For more information regarding threatened and endangered species in the project area, refer to the Ecology Assessment/Description of Jurisdictional Wetlands, Non-wetland Waters of the US, and Protected Species Report prepared for the Selected Alternative.

Indirect Effects:

The area of potential ICE to the protected aquatic species as a result of project implementation includes all areas within the Etowah watershed and downstream of the Selected Alternative area that would provide potential habitat to the protected aquatic species. Because changes in traffic patterns have the potential to indirectly bald eagle habitat, the area of potential ICE to bald eagles is the same as shown in Figure 6, Boundary for Indirect and Cumulative Effects Analysis, which delineates the area where traffic patterns may change as a result of project implementation. However, no potential bald eagle habitat exists within the defined area of potential ICE. Therefore, indirect effects to bald eagles, as a result of the Selected Alternative, are not anticipated.

Implementation of the Selected Alternative could indirectly affect protected aquatic species if potential habitat for those species located within the Etowah watershed, downstream of the Selected Alternative area. The indirect impacts of project implementation to protected aquatic species and their potential habitat would primarily be the same as those indirect effects previously discussed to water quality in the Etowah watershed (refer back to the Water Quality section of this document).

An increase in traffic volumes could affect protected species and suitable habitat for those species in the potential area of ICE for protected species under Selected Alternative. Also, increased traffic in the area of the interchange could increase the amount of vehicular pollutants in the run-off. However, implementation of the Selected Alternative is expected to only draw traffic from other transportation corridors within the watershed and is not expected to result in a net increase of vehicular traffic within the watershed.

Indirect effects to potential habitat for protected aquatic species, as a result of improved access to streams, would be minimal. The Selected Alternative would provide access between the existing I-575 corridor and the existing Ashland Parkway/Ridgewalk Parkway corridor. The additional access to and from I-575 could reduce the necessary travel route from I-575 to the Little River and other streams in the area. Also, the provision of pedestrian facilities along realigned Old Rope Mill Road would improve pedestrian access to the Little River.

The proposed measures to reduce direct impacts to water quality in the project area, described in the direct effects discussions in the Water Quality section and the Threatened and Endangered Species section above are expected to substantially minimize the potential for indirect effects to potential habitat for protected aquatic species.

Cumulative Effects:

Cumulative effects to protected species and suitable habitat for those species within the area of direct and indirect effects from past, present and future actions have been analyzed. Because the Selected Alternative would not result in direct or indirect impacts to the bald eagle, the Selected Alternative would not cumulatively affect the bald eagle with other past, present or future actions. All past, present and future actions identified within the boundary for potential ICE to protected aquatic species could have a cumulative affect on protected aquatic species (the Amber darter, Cherokee darter and

Etowah darter) and potential habitat for those species. The amber darter is endemic to the upper Coosa River system in Georgia and a small population is believed to exist in the main-stem of the Etowah River above Lake Allatoona in Cherokee County; however, survey efforts in the Etowah River has failed to collect this species since 1980. The Cherokee darter is known from numerous tributaries to the Etowah River and their drainage systems. Populations are found above and below the Allatoona Reservoir. Streams with known populations in Cherokee County include, but are not limited to, Shoal Creek, Sweetwater Creek, Jug Creek, Puckett Creek, Hickory Log Creek, Sharp Mountain Creek, Smithwick Creek, Edward Creek, Riggin Creek, Canton Creek, and Allatoona Creek. Cherokee darters also have been reported from the Little River system, but it appears that this species has been extirpated from this system, except for in the extreme headwaters near the eastern edge of Cherokee County. The Etowah darter occurs only in Georgia where is restricted to the Etowah River system, upstream from the Allatoona Reservoir. The past, present and future threats to all three of the protected aquatic species are habitat loss due to dam and reservoir construction, habitat degradation and poor water quality.

Implementation of the Selected Alternative could cumulatively affect protected aquatic species if potential habitat for those species located within the Etowah watershed, downstream of the Selected Alternative area. The cumulative impacts of project implementation to protected aquatic species and their potential habitat would primarily be the same as those cumulative effects previously discussed to water quality in the Etowah watershed (refer back to the Water Quality section of this document).

Information regarding the specific impacts of the identified past actions to protected aquatic species and potential habitat for those species, including the construction of I-575, is not readily available. However, the current status of the species represents the cumulative effects of past actions to those species. The provision of federal protection and the current limited range of the species are indicators of the effects from past actions to the species.

The extensive acquisition and protection of green space and ecological resources in the project area by federal, county and city officials has had a positive effect to protected aquatic species and potential habitat for those species in the project area (refer back to Figure 9, Social Resources Location Map, and Figure 10, Existing Land Use Map). Green infrastructure planning, land conservation, and open space protection help to manage impervious surfaces and to increase infiltration of stormwater, which helps to maintin infiltration and groundwater recharge and reduce or eliminate the adverse impacts of stormwater. According to the approved Georiga Comprehensive State-wide Water Management Plan, these practices are critical elements of effective management of non-point source pollution and protection of Georgia's waters. As such, these practices would have a positive effect to protected species and the potential habitat for protected species within the watershed.

The impacts to protected aquatic species in the Etowah watershed, as a result of the identified past actions, would not be substantially exacerbated by the identified present or future actions. All present and future actions in the reasonably foreseeable future would be required to comply with the EPD, USEPA, and other agency programs to protect water quality. As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources (discrete conveyances such as pipes or man-made ditches) that discharge pollutants into waters of the U.S. On a state level, the EPD implements water quality management policy through its current statutory authority and rules related to setting water quality standards, controlling water pollution and issuing discharge permits. The EPD is also responsible for developing Total Maximum Daily Loads (TMDL) where ongoing actions are not sufficient to achieve water quality standards. The water quality management policies manage point and non-point source pollution on a watershed basis in order to protect clean waters and restore impaired waters. Effective management of stormwater and the impacts of impervious surfaces on a watershed basis can reduce the adverse effects of runoff and reduce impacts to potential habitat for protected aquatic species.

6. Invasive Species

In accordance with Executive Order 13112, a survey for populations of invasive species that may be spread during construction was conducted for this project. The invasive species for which the survey was conducted are those, which have been, identified by the GDOT as having the highest priority due to environmental and economic impacts. Both the selected species and the management practices will be re-evaluated and revised as more information is obtained.

The following invasive species were observed in the vicinity of the Selected Alternative: Johnsongrass (*Sorghum halepense*), Japanese honeysuckle (*Lonicera japonica*), mimosa (*Albizia julibrissin*), kudzu (*Pueraria montana*), and Chinese privet (*Ligustrum sinense*).

During the construction process, the GDOT will take measures to prevent or minimize the spread of these species as appropriate for the time of the year. These measures will include removal and disposal of vegetative parts in the soil that may reproduce by root raking, burning on site any such parts and aboveground parts that bear fruit, controlling or eradicating infestations prior to construction, and cleaning of vehicles and other equipment prior to leaving the infested site. The measures used will be those which are appropriate for the particular species and the specific site conditions which exist on the project, as described in Georgia Standard Specifications Section 201, Clearing and Grubbing of Right-Of-Way.

7. Neotropical and Migratory Birds

In accordance with Executive Order 13186, in furtherence of the Migratory Bird Treaty Act (16 U.S.C. 703-711), actions must be taken to avoid or minimize impacts to migratory bird resources and to prevent or abate the detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The GDOT has adopted a policy of identifying tracts of contiguous habitat of 100 or more acres, which would be impacted by a project. The threshold of 100 acres was chosen

based on guidance from the Georgia Committee on Migratory Birds. The committee indicated that 100 acres is the smallest area that could support species that are sensitive to predation and parasitism. One hundred acres is considered sufficient size to allow the sensitive species to avoid predation and parasitism from species that will only penetrate a certain distance within a given habitat. In addition, the GDOT has begun surveying under bridges and large culverts that would be reconstructed or removed as part of the Selected Alternative. If birds such as the barn swallow are observed nesting under the bridge or culvert, demolition or reconstruction of that structure would be scheduled to take place at a time when the nests are not being used.

Direct Effects:

The area of the Selected Alternative has been previously disturbed by rapidly growing residential and commercial developments in Cherokee County and no contiguous tracts of 100 acres or more exist within or adjacent to the area of the Selected Alternative. The fragmented forested habitat surrounding the project site is poor foraging and breeding habitat for neotropical and migratory bird species. No bridges or culverts would be reconstructed or removed as part of the Selected Alternative. Due to the nature of the area, it is unlikely that neotropical bird species, migratory bird species, or habitat for these species would be directly impacted by the Selected Alternative.

Indirect Effects:

Induced land use changes have the potential to indirectly affect neotropical and migratory birds by affecting potential habitat through induced land use changes, the area of potential ICE to these species is the same as shown in Figure 6, Boundary for Indirect and Cumulative Effects Analysis, which delineates the area where project implementation could result in induced land use changes (refer back to the Land Use section of this document.

The area within the Selected Alternative's boundary for potential ICE has been previously disturbed by rapidly growing residential and commercial developments in Cherokee County and no contiguous tracts of 100 acres or more exist within the

boundary for potential ICE. The fragmented forested habitat within the boundary for potential ICE is poor foraging and breeding habitat for neotropical and migratory bird species. Due to the nature of the area, it is unlikely that neotropical bird species, migratory bird species, or habitat for these species would be indirectly impacted by the Selected Alternative.

Cumulative Effects:

Cumulative effects to neotropical and migratory birds and their potential habitat within the area of direct and indirect effects from past, present, and future actions have been analysed. All past actions identified within the general ICE boundary (refer back to the introduction of the Environmental Consequences section) have cumulatively affected neotropical and migratory birds and their potential habitat within the ICE boundary for farmland. Because there is no longer any appropriate habitat for neotropical and migratory birds located within the ICE boundary for neotropical and migratory birds, none of the identified present and future actions would cumulatively affect neotropical and migratory birds. As such, the Selected Alternative would not result in an incremental, cumulative increase in affects to neotropical or migratory birds or their potential habitat.

The cumulative land use effects in the area, and therefore effects to neotropical and migratory birds, are primarily due to the identified past actions. Prior to these developments, the project area was largely agricultural and forested with sparse residential development; however, the area within the Selected Alternative's boundary for potential ICE has been previously disturbed by rapidly growing residential and commercial developments in Cherokee County and no contiguous tracts of 100 acres or more exist within the boundary for potential ICE. Consequently, the fragmented forested habitat within the boundary for potential ICE is poor foraging and breeding habitat for neotropical and migratory bird species.

D. Effects on the Physical Environment

1. Noise

All information included in this section has been derived from the Noise Impact Assessment, Noise Wall Analysis and Noise Wall Addendum completed for the Selected Alternative.

Direct Effects:

Two methods are used for predicting a noise impact. The first is a comparison of predicted noise levels to the noise abatement criteria established by 23 CFR Part 772. A 67 dBA L_{eq} criterion has been established for schools, libraries, residences, churches, playgrounds and recreational areas and a 72 dBA L_{eq} criterion has been established for commercial activities. Any predicted noise level that approaches or exceeds the applicable noise abatement criterion is considered an impact. For the purpose of this study, approach means within 1 dBA of the noise abatement criterion. Affected sites along the project corridor would have a maximum predicted L_{eq} noise level of 76.0 decibels (design year build condition). Also, in addition to using the noise prediction model, noise measurements were taken to determine existing ambient noise levels. Field measurements were taken at five representative locations in the project area to represent clusters of noise sensitive sites having similar characteristics.

The modeled measurements ranged from 61.2 L_{eq} to 72.9 L_{eq} and the field measurements taken, ranged from 53.7 L_{eq} to 65.5 L_{eq}. The results from the field and modeled measurements are summarized in Table 10, Noise Impact Analysis and are depicted in Figure 14, Noise Receptor Readings, Noise Impact, and Noise Barrier Map. Due to the decreasing effectiveness of the modeling with distance, it is GDOT policy to only assess impacts to structures within 500 feet of the proposed improvements. Since there would be no receptors within 500 feet of the proposed improvements on the northwest quadrant of the proposed interchange, no receptors are shown in this area. Also, due to the juxtaposition and close proximity of the residences located along the I-575 corridor, representative sites were modeled at approximately every fifth house.


BEGIN SOUND BARRIER
R25
R23
R22
R21
R20
R19
R13
R12
R9
R8
WOODSTOCK PARKWAY
R27
R26
OLD ROPE MILL
RESIDENTIAL AREA
SHERWOOD FOREST
SUBDIVISION
OLD ROPE MILL ROAD
TOWNE PKWY
MAIN ST/ OLD SR 5
ARNOLD MILL RD

Based on the representative modeled sites being impacted, it is assumed that adjacent properties would also be impacted. Using this assumption, approximately 100 residential sites on the west side of I-575 would be impacted and approximately seven sites on the east side of I-575 and Woodstock Parkway would be impacted. As such, approximately one-hundred and seven sites would be impacted on the basis of approaching (within 1 dBA) or exceeding the 67 dBA Leq exterior residential noise abatement criterion. No businesses would be impacted on the basis of their 72 dBA Leq exterior noise abatement criterion.

Table 10, Noise Impact Analysis
(Noise levels are presented in dBA Leq)

Receivers	Existing Noise Level		Build Noise Level	No-Build Noise Level	Existing/Build Difference	Existing/No-Build Difference	Impact?	
	Field	Modeled					Yes	No
R1 Baseball Field	63.5	72.9	76	75.7	RW Take	2.8		X
R2 Residential		71.7	74.8	74.5	3.1	2.8	X	
R3 Residential	56.1	71.2	74.3	74.1	3.1	2.9	X	
R4 Residential		71.5	74.6	74.3	3.1	2.8	X	
R5 Residential		71.4	74.5	74.3	3.1	2.9	X	
R6 Residential		72.6	75.6	75.4	3	2.8	X	
R7 Residential		72.4	75.5	75.3	3.1	2.9	X	
R8 Residential		72.4	75.4	75.2	3	2.8	X	
R9 Residential 1		72.2	75.2	75	3	2.8	X	
R10 Residential		71.4	74.5	74.3	3.1	2.9	X	
R11 Residential		69.7	72.7	72.5	3	2.8	X	
R12 Residential	53.7	70.8	73.9	73.7	3.1	2.9	X	
R13 Residential		68.5	71.6	71.4	3.1	2.9	X	
R14 Residential		69.7	72.8	72.5	3.1	2.8	X	
R15 Residential		72.2	75.3	75.1	3.1	2.9	X	
R16 Residential		72	75.1	74.9	3.1	2.9	X	
R17 Residential	54.5	70.6	73.7	73.4	3.1	2.8	X	
R18 Residential		70	73.1	72.9	3.1	2.9	X	
R19 Residential		71.2	74.2	74	3	2.8	X	
R20 Residential		68.8	71.9	71.6	3.1	2.8	X	
R21 Residential		69.6	72.7	72.5	3.1	2.9	X	
R22 Residential		69.7	72.8	72.6	3.1	2.9	X	
R23 Residential		71.1	74.2	74	3.1	2.9	X	
R24 Residential		72.2	75.3	75.1	3.1	2.9	X	
R25 Residential		70.7	73.8	73.6	3.1	2.9	X	
R26 Commercial		63.1	66.1	65.9	3	2.8		X

Table 10, Noise Impact Analysis Continued (Noise levels are presented in dBA Leq)								
Receivers	Existing Noise Level		Build Noise Level	No-Build Noise Level	Existing/Build Difference	Existing/No-Build Difference	Impact?	
	Field	Modeled					Yes	No
R27 Commercial		65.6	68.7	68.5	3.1	2.9		X
R28 Residential	65.6	63.5	66.5	66.3	3	2.8		X
R29 Residential		62.0	64.5	64.3	2.5	2.3		X
R30 Residential		62.1	63.9	64.0	1.8	1.9		X
R31 Residential		62.1	65.8	65	3.7	2.9	X	
R32 Residential		61.2	64.9	64.1	3.7	2.9		X
R33 Residential		62.8	66.4	65.6	3.6	2.8	X	
R34 Residential		62.4	66.1	65.3	3.7	2.9	X	
R35 Commercial		56.4	59.8	59.2	3.4	2.8		X
R36 Commercial		65.6	68.7	68.4	3.1	2.8		X
R37 Residential		59.0	61.8	61.9	2.8	2.9		X

The second method of determining noise impacts involves the amount of increases from the existing noise levels to the predicted future noise levels. An impact occurs when there is a substantial increase from existing levels. Noise increases of 10 dBA or more are considered a substantial increase. These types of impacts are more commonly associated with realignment and new location projects. The existing L_{eq} noise levels in decibels (dBA) along I-575 within the study area range from 56.4 to 72.09 dBA and they are predicted to increase by 3.0 to 3.4 dBA under the design year build condition. Consequently, no impacts of this type are predicted.

Noise abatement measures such as acquisition of rights-of-way, alteration of horizontal and vertical alignments, traffic management measures, acquisition of real property or interests therein, noise insulation of public use or nonprofit institutional structures, and noise barriers were considered. However, only noise barriers were found to be reasonable and feasible. Acquisition of rights-of-way or alteration of the horizontal or vertical alignment of I-575 would result in disruptive relocations. Traffic management measures such as exclusive lane designations, signing for prohibition of certain vehicle types, and modified speed limits would prevent the project from serving its intended purpose. The acquisition of real property or interests therein, predominantly unimproved property, to serve as a buffer zone to preempt development is not feasible because there

is not an adequate amount of property available to create an effective buffer zone between the proposed roadway and the impacted receivers. Noise insulation of public use or non-profit institutional structures would not be appropriate for this project since no such structures exist in the project area.

Noise abatement barriers have been considered and found feasible for the Selected Alternative. Among the most common are earth berms and freestanding walls. Earth berms would not be considered feasible for this project because it would require large amounts of additional right-of-way on along I-575 and would result in disruptive relocations. The optimum situation for the use of free-standing noise barriers results when a dense concentration of impacted sites lies directly adjacent to and parallel with the highway right-of-way. In these instances, one barrier can protect many people at a relatively low cost per impacted site. Guidelines adopted by the GDOT to ensure that the maximum number of people benefit from each dollar spent on noise abatement limit the cost of barriers to $50,000 per impacted residence. Where cost per unit for an effective noise barrier, one that would reduce noise levels by at least five decibels, would exceed this amount, the wall is not considered a reasonable use of public funds and no abatement is proposed. The evaluations are based on a barrier cost of $15 per square foot.

A preliminary evaluation was done to determine the feasibility of constructing noise barriers along the I-575 corridor to mitigate noise impacts. Because there is over 1,600 feet distance between Receptor 30 and Receptor 31, including that distance in the abatement cost calculations would skew the study and render noise barriers infeasible along the entire east side of the corridor. Consequently, the noise wall feasibility and abatement cost calculations were considered separately for each cluster of receptors. The results of the evaluation are shown in Table 11.

Table 11 – Preliminary Noise Wall Evaluation

	Location	Barrier Dimensions	Total Barrier Cost/Cost per impact	# of Impacted Sites	Reasonable
Wall 1	West side of I-575	7100' long, 12' high	$1,278,000/$12,000	100	Yes
Wall 2	East side of I-575	1700' long, 12' high	$306,000/$34,000	9	Yes

Based on the preliminary cost analysis, it was determined that it would be feasible to construct two noise barriers. The cost per impact site for Wall 1 is approximately $12,000 and well below the limit of $50,000 per impacted site. As such, the number of additionally benefited receptors was not calculated in the cost feasibility analysis since they would not affect the determinations reached in the analysis. There were no additionally benefited receptors identified in the area of Wall 2 due to the distance of the structures from the proposed improvements.

Following the preliminary noise wall evaluation, a detailed barrier analysis was conducted to further determine the effectiveness of the proposed noise barriers. In the area of Wall 2, the topography indicates that the modeled impacted receivers near the beginning and middle of Wall 2 would actually be shielded by a 30-foot earth berm. Furthermore, commercial structures consisting of multi-story buildings have been constructed along Woodstock Parkway in the area of the impacted receivers providing a shield in addition to the earth berm. The noise prediction model was reapplied in this area to account for the earth berm and new commercial structures. As a result, eight of the receptors previously considered audible impacts are no longer considered impacts. Since there would only be one impacted receptor in the area, Wall 2 has been determined to be unreasonable to construct. Also, since there would now be only seven impacted sites on the east side of I-575, the Selected Alternative would result in one hundred and seven impacted sites on the basis of approaching or exceeding the 67 dBA Leq exterior residential noise abatement criterion.

For these reasons, only Wall 1 is now proposed (refer back to Figure 14, Noise Receptor Readings, Noise Impact, and Noise Barrier Location Map). Accordingly, only Wall 1 was presented during the PHOH held for the Selected Alternative. In addition, correspondence dated March 31, 2009 was sent to the property owners on Ravenwood Drive to inform them of the latest impact information and inform them that a noise wall is no longer under consideration at that location. For more information regarding the correspondence, refer back to the Potential/Public Involvement discussion in Section III, Environmental Consequences on page 61 of this document and Appendix C – Public Involvement Records.

For more information regarding the direct impacts anticipated under the Selected Alternative, refer to the complete Noise Study Assessment, Noise Wall Analysis and Noise Wall Addendum prepared for the Selected Alternative.

Indirect Effects:

Because changes in traffic patterns have the potential to indirectly affect traffic generated noise in particular areas, the area of potential ICE to these resources is the same as shown in Figure 6, Boundary for Indirect and Cumulative Effects Analysis, which delineates the area where traffic patterns may change as a result of project implementation. Resources within the identified boundary for potential ICE for noise impacts include community areas and resources, economic consequences, cultural resources, parks, and recreational areas. Refer back to the discussion of indirect effects from noise impacts for each of the specific resources.

Cumulative Effects:

Resources within the identified boundary for potential ICE for noise impacts include community areas and resources, economic consequences, cultural resources, parks, and recreational areas. Refer back to the discussion of cumulative effects from noise impacts for each of the specific resources.

2. Air

All information included in this section has been derived from the Air Quality Impact Assessment completed for the Selected Alternative.

Direct Effects:

a. Ozone

This project is in an area where the State Implementation Plan (SIP) contains Transportation Control measures (TCM's) for serious ozone non-attainment for air quality. The Selected Alternative is included in the current, conforming 2008-2013 TIP and RTP adopted for the Atlanta region and, therefore, conforms to the SIP. The project is identified in the TIP as Project Code CL 041. The TCM's in the SIP were last approved by the USEPA on November 10, 1983.

This project was evaluated for its consistency with state and federal air quality goals. Results indicated that the project is consistent with the State Implementation Plan for the attainment of clean air quality in Georgia and is in compliance with both state and federal air quality standards.

b. Carbon monoxide

For this project, the predicted peak one-hour concentration of carbon monoxide, 3.0 parts per million (ppm), was below state and federal standards for one-hour averaging time (35 ppm). Also, because this concentration was less than the eight-hour standard of 9 ppm, an eight-hour concentration was not calculated.

In addition to the criteria air pollutants for which there are National Ambient Air Quality Standards (NAAQS), USEPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners) and stationary sources (e.g., factories or refineries).

c. Mobile Source Air Toxics (MSATs)

MSATs are a subset of the 188 air toxics defined by the Clean Air Act. The MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

The USEPA is the lead Federal Agency for administering the Clean Air Act and has certain responsibilities regarding the health effects of MSATs. The USEPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources. 66 FR 17229 (March 29, 2001). This rule was issued under the authority in Section 202 of the Clean Air Act. In its rule, USEPA examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline (RFG) program, its national low emission vehicle (NLEV) standards, its Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and its proposed heavy duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. Between 2000 and 2020, FHWA projects that even with a 64 percent increase in VMT, these programs will reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 57 percent to 65 percent, and will reduce on-highway diesel PM emissions by 87 percent.

A basic analysis of the likely MSAT emission impacts of this project has been conducted. However, available technical tools do not enable prediction of project-specific health impacts of the emission changes associated with the project. Due to these limitations, the following discussion is included in accordance with CEQ regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information:

Evaluating the environmental and health impacts from MSATs on a proposed highway project would involve several key elements, including emissions modeling, dispersion modeling in order to estimate ambient concentrations resulting from the estimated

emissions, exposure modeling in order to estimate human exposure to the estimated concentrations, and then final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the MSAT health impacts of this project.

1. Emissions: The USEPA tools to estimate MSAT emissions from motor vehicles are not sensitive to key variables determining emissions of MSATs in the context of highway projects. While MOBILE 6.2 is used to predict emissions at a regional level, it has limited applicability at the project level. MOBILE 6.2 is a trip-based model--emission factors are projected based on a typical trip of 7.5 miles, and on average speeds for this typical trip. This means that MOBILE 6.2 does not have the ability to predict emission factors for a specific vehicle operating condition at a specific location at a specific time. Because of this limitation, MOBILE 6.2 can only approximate the operating speeds and levels of congestion likely to be present on the largest-scale projects, and cannot adequately capture emissions effects of smaller projects. For particulate matter, the model results are not sensitive to average trip speed, although the other MSAT emission rates do change with changes in trip speed. Also, the emissions rates used in MOBILE 6.2 for both particulate matter and MSATs are based on a limited number of tests of mostly older-technology vehicles. Lastly, in its discussions of PM under the conformity rule, USEPA has identified problems with MOBILE 6.2 as an obstacle to quantitative analysis.

   These deficiencies compromise the capability of MOBILE 6.2 to estimate MSAT emissions. MOBILE 6.2 is an adequate tool for projecting emissions trends, and performing relative analyses between alternatives for very large projects, but it is not sensitive enough to capture the effects of travel changes tied to smaller projects or to predict emissions near specific roadside locations.

2. Dispersion. The tools to predict how MSATs disperse are also limited. The USEPA's current regulatory models, CALINE3 and CAL3QHC, were developed

and validated more than a decade ago for the purpose of predicting episodic concentrations of carbon monoxide to determine compliance with the NAAQS. The performance of dispersion models is more accurate for predicting maximum concentrations that can occur at some time at some location within a geographic area. This limitation makes it difficult to predict accurate exposure patterns at specific times at specific highway project locations across an urban area to assess potential health risk. The NCHRP is conducting research on best practices in applying models and other technical methods in the analysis of MSATs. This work also will focus on identifying appropriate methods of documenting and communicating MSAT impacts in the NEPA process and to the general public. Along with these general limitations of dispersion models, FHWA is also faced with a lack of monitoring data in most areas for use in establishing project-specific MSAT background concentrations.

3. Exposure Levels and Health Effects. Finally, even if emission levels and concentrations of MSATs could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis preclude reaching meaningful conclusions about project-specific health impacts. Exposure assessments are difficult because it is difficult to accurately calculate annual concentrations of MSATs near roadways, and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over a 70-year period. There are also considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to

weigh this information against other project impacts that are better suited for quantitative analysis.

Research into the health impacts of MSATs is ongoing. For different emission types, there are a variety of studies that show that some either are statistically associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings) or that animals demonstrate adverse health outcomes when exposed to large doses.

Exposure to toxics has been a focus of a number of USEPA efforts. Most notably, the agency conducted the National Air Toxics Assessment (NATA) in 1996 to evaluate modeled estimates of human exposure applicable to the county level. While not intended for use as a measure of or benchmark for local exposure, the modeled estimates in the NATA database best illustrate the levels of various toxics when aggregated to a national or State level.

The USEPA is in the process of assessing the risks of various kinds of exposures to these pollutants. The USEPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The following toxicity information for the six prioritized MSATs was taken from the IRIS database Weight of Evidence Characterization summaries. This information is taken verbatim from USEPA's IRIS database and represents the Agency's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures:

- Benzene is characterized as a known human carcinogen.
- The potential carcinogenicity of acrolein cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- Formaldehyde is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- 1,3-butadiene is characterized as carcinogenic to humans by inhalation.

- Acetaldehyde is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.
- Diesel exhaust (DE) is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases.
- Diesel exhaust also represents chronic respiratory effects, possibly the primary noncancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

There have been other studies that address MSAT health impacts in proximity to roadways. The Health Effects Institute, a non-profit organization funded by USEPA, FHWA, and industry, has undertaken a major series of studies to research near-roadway MSAT hot spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years.

Some recent studies have reported that proximity to roadways is related to adverse health outcomes, particularly respiratory problems. Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria and other pollutants. The FHWA cannot evaluate the validity of these studies, but more importantly, they do not provide information that would be useful to alleviate the uncertainties listed above and allow performance of a more comprehensive evaluation of the health impacts specific to this project.

Because of the uncertainties outlined above, a quantitative assessment of the effects of air toxic emissions impacts on human health cannot be made at the project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger projects, the amount of MSAT emissions from each of the project alternatives and MSAT concentrations or exposures created by each of the project alternatives cannot be predicted with enough accuracy to be useful in estimating health

impacts. (As noted above, the current emissions model is not capable of serving as a meaningful emissions analysis tool for smaller projects.) Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether the project would have "significant adverse impacts on the human environment."

The FHWA has provided a qualitative assessment and has acknowledged that the proposed alternative may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated.

As discussed above, technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable estimates of MSAT emissions and effects of this project. However, even though reliable methods do not exist to accurately estimate the health impacts of MSATs at the project level, it is possible to qualitatively assess the levels of future MSAT emissions under the project. Although a qualitative analysis cannot identify and measure health impacts from MSATs, it can give a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the project. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives.

For each alternative in this environmental assessment, the amount of MSAT's emitted would be proportional to the vehicle miles traveled (VMT), assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for the No-build Alternative is higher than the Selected Alternative along the Woodstock Parkway corridor because higher levels of regional MSAT are not expected from the Selected Alternative compared to the No-build Alternative since the new interchange will provide an alternate route to I-575 (see Table 12). Since the estimated VMT under the Selected Alternative is greatly reduced along Woodstock Parkway, it is expected that there would be a

decrease in overall MSAT emissions for the Selected Alternative. Also, regardless of the alternative chosen, emissions would likely be lower than present levels in the design year as a result of USEPA's national control programs that are projected to reduce MSAT emissions by 57 to 87 percent from 2000 to 2020. Local conditions may differ from these national projections in terms of fleet mix and ternover, VMT growth rates, and local control measures. However, the magnitude of the USEPA-projected reductions is so great (even after accounting for the VMT growth) that MSAT emissions in the study area are likely to be lower in the future in virtually all locations.

Table 12 - Travel Characteristics

Annual Average Daily Traffic

I-575 & Rope Mill Rd Interchange	Existing	Selected Alternative		No-build Alternative	
	2005	2010	2030	2010	2030
Rope Mill Rd – Brookshire Subdivision to I-575	4440 vpd	4700 vpd	5800 vpd	5030 vpd	6120 vpd
Rope Mill Rd – I-575 to Woodstock Pkwy	4440 vpd	7849 vpd	15020 vpd	5030 vpd	6120 vpd
Woodstock Pkwy – Rope Mill Rd to Towne Lake Pkwy	11470 vpd	12860 vpd	10560 vpd	13060 vpd	15960 vpd
Towne Lake Pkwy – Woodstock Pkwy to I-575	19100 vpd	17460 vpd	23140 vpd	20100 vpd	27380 vpd
I-575 – Rope Mill Rd to Towne Lake Pkwy	75300 vpd	85520 vpd	156500 vpd	84180 vpd	145200 vpd

Daily Vehicle-Miles of Travel (VMT per day)

I-575/Rope Mill Interchange	VMT=ADT*Length	Existing	Preferred Alt.		No-build Alternative	
	Segment Length	2006	2010	2030	2010	2030
Rope Mill Rd – Brookshire Subdivision to I-575	.35 mile	1540	1645	2030	1760.5	2142
Rope Mill Rd – I-575 to Woodstock Pkwy	.19 mile	386	1489.6	2853.8	955.7	1162.8
Woodstock Pkwy – Rope Mill Rd to Towne Lake Pkwy	1.73 miles	19843.1	22247.8	18268.8	22593.8	27610.8
I-575/Rope Mill Interchange	**VMT=ADT*Length**	**Existing**	**Preferred Alt.**		**No-build Alternative**	
	Segment Length	**2006**	**2010**	**2030**	**2010**	**2030**
Towne Lake Pkwy – Woodstock Pkwy to I-575	.26 mile	4966	4539.6	6016.4	5226	7118.8
I-575 – Rope Mill Rd to Towne Lake Pkwy	1.76 miles	132528	150515.2	275449	181156.8	255552

Because of the specific characteristics of the Selected Alternative (i.e. new connector roadway), under this alternative there may be localized areas where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. The localized increases in MSAT emissions would likely be most pronounced along the proposed interchange ramps. However, even if increases do occur, they too would be substantially reduced in the future due to implementation of USEPA's vehicle and fuel regulations.

In summary, under the Selected Alternative in the design year it is expected there would be reduced MSAT emissions in the immediate area of the project, relative to the No-build Alternative, due to the reduced VMT associated with more direct routing, and due to USEPA's MSAT reduction programs. In comparing the project alternatives, MSAT levels could be higher in some locations than others, but current tools and science are not adequate to quantify them. However, on a regional basis, USEPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

The existing interchange at I-575 and Towne Lake Parkway currently operates at LOS F during peak hours. The only existing direct routes from areas east of the City of Woodstock to I-575 are through historic downtown Woodstock. As such, all regional traffic from the area east of Woodstock must travel through downtown Woodstock, experiencing delays and constraints caused by capacity limitations at the intersection of Towne Lake Parkway and Main Street. East of the city, Towne Lake Parkway is a two-lane, undivided roadway as it travels through historic downtown Woodstock. The location of historic buildings and rail lines at the intersection of Towne Lake Parkway and Main Street physically constrain the roadway's ability to provide access to the interstate system. The intersection of Towne Lake Parkway and Main Street currently operates at LOS D during the AM peak hours and LOS E during the PM peak hours. A LOS D describes an operating condition of high density and is approaching unstable flow.

Tolerable operating speeds are maintained though considerably affected by changes in operating conditions. A LOS E describes an operating condition at or near the capacity level with unstable flow and short stoppages. Driver frustration is generally high. The Selected Alternative would provide an alternative route from the east to I-575 that would avoid the downtown Woodstock area. The proposed improvements are proposed to enhance regional connectivity east of I-575 and provide a direct route to I-575 that does not require travel through historic downtown Woodstock.

All phases of construction operations would temporarily contribute to air pollution. Particulates would increase slightly in the corridor as dust from construction collects in the air surrounding the project. The construction equipment would also produce slight amounts of exhaust emissions. The Rules and Regulations for Air Quality Control outlined in Chapter 391-3-1, Rules of Georgia Department of Natural Resources' Environmental Protection Division, would be followed during the construction of the project. These include covering earth-moving trucks to keep dust levels down, watering haul roads, and refraining from open burning, except as may be permitted by local regulations. Although there is no practical way to reduce emissions from construction vehicles or other machinery, these impacts should be slight and have short duration.

d. Particulate Matter Smaller Than 2.5 Microns (PM 2.5)

A quantitative PM 2.5 assessment is only required for projects of air quality concern within the PM 2.5 nonattainment area. USEPA is presently developing guidance for completion of quantitative (hot spot) analysis of PM 2.5. In accordance with 40 CFR 93.123 (b) (1) projects of air quality concern are identified as highway and transit projects that involve significant levels of diesel traffic, or any project that may be identified in the state implementation plan (SIP) as a project local concern for PM 2.5.

Based on examples provided in the preamble of the updated regulations, a qualitative analysis for this project is not required. This project was reviewed by an Interagency Group consisting of representatives from the USEPA, FHWA, EPD, and the local Metropolitan Planning Organization(s) (MPO). Interagency has determined that this

project is not a project of air quality concern under 40 CFR 93.123(b)(1). The Clean Air Act and 40 CFR 93.116 requirements were met without a hot spot analysis. The PM 2.5 determination was coordinated with an inter-agency committee and the committee concurred with the determination via e-mail on November 2, 2006 (see Appendix A, Correspondence).

Indirect Effects:

Because changes in traffic patterns have the potential to indirectly affect traffic air quality in particular areas, the area of potential ICE to these resources is the same as shown in Figure 6, Boundary for Indirect and Cumulative Effects Analysis, which delineates the area where traffic patterns may change as a result of project implementation. Resources within the identified boundary for potential ICE for air quality include community areas and resources, economic consequences, cultural resources, parks, and recreational areas. Refer back to the discussion of indirect effects to air quality for each of the specific resources.

Cumulative Effects:

Resources within the identified boundary for potential ICE to air quality include community areas and resources, economic consequences, cultural resources, parks, and recreational areas. Refer back to the discussion of cumulative effects to air quality for each of the specific resources.

3. Energy/Mineral Resources

No energy generators or mineral resources have been identified in the Selected Alternatives' area of direct or indirect effects. Consequently, it is not anticipated that the Selected Alternative would directly or indirectly impact energy generators or mineral resources in the area of the Selected Alternative.

4. Construction/Utilities

Construction of the Selected Alternative would create unavoidable inconveniences to motorists, but construction activities would be conducted in a manner that would

maintain access and minimize conflict with traffic. The safety and convenience of the general public and residents of the area would be provided for at all times.

Any necessary relocation of utilities i.e., water, sewer, telephone, etc. would be accomplished with no long term interruption of services. All other required construction functions would be accomplished in a timely and orderly fashion so as to keep disruptions minimal, for short duration and so as not to compromise safety.

Noise caused by construction activities would cause a temporary impact on the adjoining communities. The most prevalent construction noise source is equipment powered by internal combustion engines, usually diesel. Construction equipment would be required to have factory-installed mufflers or their equivalents in good working order during the life of the construction contracts. Construction would take place primarily during the less noise sensitive daylight hours, where feasible, to avoid impacts during the hours associated with sleep. Staging would be conducted so that the grading and construction of the noise walls would occur as early as possible during project implementation so as to minimize construction noise impacts to residences in the area.

5. Underground Storage Tanks (UST's)/Hazardous Waste Sites

A survey for sites which may contain hazardous materials, including soil and/or water contaminated by leaking UST's, has been conducted for this project. No sites were found. Consequently, the Selected Alternative would not directly impact UST's or hazardous waste sites.

E. Permits/Variances

1. U.S. Coast Guard Permit

A U.S. Coast Guard Permit is not required for this project because no waters under Coast Guard jurisdiction are involved, directly or indirectly.

2. Forest Service/USACE Land

No U.S. Forest Service or USACE land would be directly impacted by the Selected Alternative. A large tract of USACE land has been identified to the north, west and east of the area of the Selected Alternative (refer back to Figure 9, Social Resources Location Map, and Figure 10, Existing Land Use Map). However, the USACE land is not located within the area of direct effects for the Selected Alternative.

3. Section 404

The placement of fill material in waters of the United States requires a permit from the USACE under Section 404 of the Clean Water Act of 1977. There are three levels of this permit, and the determination of the appropriate one is based primarily on the type of fill activity and the amount and location of fill involved. The Selected Alternative would result in a maximum of 0.03 acre of temporary wetland impact (worst case scenario), no permanent wetland impact, and approximately 79 linear feet of stream impacts. Consequently, a Nationwide 14 USACE Section 404 permit would be required.

4. National Pollutants Discharge Elimination System (NPDES) Permit

As authorized by the Clean Water Act, the NPDES permit program controls water pollution by regulating point sources (discrete conveyances such as pipes or man-made ditches) that discharge pollutants into waters of the U.S. A NPDES permit will be required for project implementation.

5. Tennessee Valley Authority

The Selected Alternative is not located in or near the Tennessee River Valley. Therefore, coordination with the Tennessee Valley Authority is not required.

6. Stream Buffer Variance

It is not anticipated that a Stream Buffer Variance would be required for the Selected Alternative. The Selected Alternative would not longitudinally impact the vegetative buffer of any streams identified in the area. All streams in the project area would be crossed perpendicularly.

7. Coastal Zone Management Coordination

The Selected Alternative is not located within the designated thirteen-county Coastal Zone Management Area.

IV. PUBLIC HEARING, COMMENTS AND COORDINATION

A location and design PHOH was held for the proposed project on September 30, 2008 from 4:00 p.m. to 7:00 p.m. at the Cherokee Recreation Center South Annex Gymnasium located at 7545 Main Street, Woodstock, Georgia. All of the 136 citizens attending the PHOH were given an opportunity to comment on the project. Also, written comments were accepted until October 14, 2008. From those attending and those responding during the ten-day comment period following the PHOH, a total of 89 comments were received. Of those commenting, 81 gave general support, 6 were opposed, 0 were uncommitted, and 2 conditionally supported the project.

All of the issues and comments raised during the public comment period were either answered at the PHOH or sent to the appropriate office with the GDOT for further attention. All comments received have been made part of the official transcript (see Appendix C – Public Involvement Records). For more information regarding the comments received and responses given, refer back to the discussion in A. Effects on the Social Environment, 7. Controversy Potential/Public Involvement, in the Environmental Consequences section of this document. Also, a complete set of the comments are on file and open for public inspection at the GDOT's Office of Environment and Location, 3993 Aviation Circle, Atlanta, Georgia.

The Environmental Assessment was also made available to the USACE, the Office of Planning and Budget, and City of Woodstock officials for review.

After review of the comments received during the comment period, a decision has been made by the responsible officials to proceed with the selected build alternative.

APPENDICES

APPENDIX A

Correspondence

Allen, Katy <FHWA>

From: Allen, Katy
Sent: Monday, March 16, 2009 4:05 PM
To: Allen, Katy; Chris Coppola; Lisa Westberry; Pete Pattavina (Pete Pattavina)
Subject: Request for FWCA Coordination 0 Project CSNHS-0006-00(042) PI 0006043 Cherokee County, Ridgewalk Parkway Interchange at I-575

The proposed construction of a new interchange at Ridgewalk Parkway in Woodstock at I-575 would require the realignment of Old Rope Mill Road. An Ecology Report was prepared in 2006. Approximately 79 linear feet of Stream 5, a medium to high quality perennial stream that comprises potential Cherokee darter habitat, would result from a new location culvert to accommodate the proposed relocated roadway. The proposed culvert would be embedded to allow for aquatic species passage. We believe that the proposed action is necessary to the project and that GDOT has considered measures to avoid or minimize the impacts to this stream that were found to be infeasible or not prudent. We request to initiate coordination as required by the Fish and Wildlife Coordination Act regarding these impacts.

If you have any questions, feel free to contact me.

Thank you for your consideration.

Katy Allen, P.E.
Environmental Team Leader
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Brunswick, Georgia 31520

MAR 2 5 2009

Mr. Rodney Barry, P.E.
Division Administrator
Federal Highway Administration, Georgia Division
61 Forsyth Street, SW
Suite 17T100
Atlanta, Georgia 30303
ATTN: Ms. Katy Allen, P.E.

RE: USFWS Log# 41460-2009-FA-0623, GDOT P.I. No. 0006043

Dear Mr. Barry:

Thank you for your March 16, 2009, electronic mail regarding Georgia Department of Transportation (GDOT) project CSNHS-0006-00(043). We submit the following comments under provisions of the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 *et. seq.*).

The referenced project proposes to construct a new interchange at Ridgewalk Parkway and I-575, in Cherokee County, Georgia. As a result of project implementation, impacts would occur to Stream # 5, an unnamed, perennial tributary to the Little River, as detailed in GDOT's July 26, 2006, ecology report.

GDOT investigated options to minimize and avoid impacts to Stream #5. However, GDOT deemed further avoidance and/or minimization of impacts impracticable. No mitigation is required for stream impacts because less than 100 feet of stream channel would be displaced. The new culvert would be embedded to allow passage of aquatic organisms.

We concur with your determination, that impacts to streams along the corridor are unavoidable and necessary to implement the proposed project. GDOT's proposal satisfies your agency's responsibilities under FWCA. No additional compensation is necessary.

If you have any questions or require further information, please contact staff biologist Pete Pattavina, at 706-613-9493, ext. 236.

Sincerely,

FOR Sandra S. Tucker
Field Supervisor

cc: Rich Williams, GDOT
file

United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

105 West Park Drive, Suite D
Athens, Georgia 30606

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

Coastal Sub Office
4270 Norwich Street
Brunswick, Georgia 31520

JUL 2 3 2007

RECEIVED

AUG 0 6 2007

CROY ENGINEERING, LLC

Mr. Rodney N. Barry, P.E.
Division Administrator
Federal Highway Administration, Georgia Division
61 Forsyth Street, SW
Suite 17T100
Atlanta, Georgia 30303-3104
ATTN: Ms. Christy Poon-Atkins, P.E.

RE: CSNHS-0006-00(43), Cherokee, GDOT P.I. No. 0006043

Dear Mr. Farr:

Thank you for your June 5, 2007, electronic mail regarding Georgia Department of Transportation (GDOT) project CSNHS-0006-00(43). We submit the following comments under provisions of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

The referenced project proposes to construct a diamond interchange at I-575 and Ashland Parkway/Ridgewalk Parkway. During the course of environmental studies, a GDOT contractor observed marginally-suitable habitat for the threatened Cherokee darter (*Etheostoma scotti*) within Stream #5.

An aquatic survey of Stream #5 determined that Cherokee darters did not occupy the length of stream located within the project's area of potential effect. Based on this and other information contained in GDOT's October 19, 2006, consultation package, we concur with your determination that the proposed project is not likely to adversely affect the Cherokee darter

Obligations of section 7(a)(2) of the Act have been satisfied, and formal consultation is not required. However, obligations under the Act must be reconsidered if: (1) the project is modified in a manner not considered by this assessment; (2) a new species is listed or critical habitat is determined that may be affected by the project; or (3) new information indicates that the project may affect listed species or critical habitat in a manner not previously considered.

Sincerely,

Sandra S. Tucker

Sandra S. Tucker
Field Supervisor

cc: Rich Williams, GDOT
file

Michelle McIntosh

From: Poon-Atkins, Christy <FHWA> [Christy.Poon-Atkins@fhwa.dot.gov]
Sent: Tuesday, June 05, 2007 1:25 PM
To: Gold, Laura; Pete_Pattavina@fws.gov
Subject: CSNHS-0006-00(043), PI 0006043, Cherokee County, Woodstock Parkay Interchange.

Georgia DOT, as FHWA's designated non-federal representative, initiated informal section 7 consultation regarding the potential for the proposed action to designate a biological "no effect" determination for three federally protected species and a biologically "may affect – not likely to adversely affect" for one federally protected species in Cherokee County by letter dated October 19, 2006.

The purpose of this message is to indicate that FHWA concurs with the determinations of effect to federally listed species, candidate species, or critical habitat made in the July 26, 2006 "Ecology Assessment / Description of Jurisdictional Wetlands, Non-Wetland Waters of the U.S., and Protected Species Survey". We believe that the proposed action of no effect on the bald eagle, amber darter, and the Etowah darter and may affect – not likely to adversely affect the Cherokee darter.

Thank you,

Christy L. Poon-Atkins, P.E.
District 6, Transportation Engineer
Federal Highway Administration, Georgia Division
61 Forsyth Street, S.W. Suite 17T100
Atlanta, GA 30303
Phone: (404) 562-3638 Fax: (404) 562-3703

City of Woodstock

103 Arnold Mill Road, Woodstock, Georgia 30188
770-926-8852 • 770-926-1375 (Fax)
www.woodstockga.gov

March 20, 2007

Ms. Michelle McIntosh
Croy Engineering, LLC
200 North Cobb Parkway
Building 400, Suite 413
Marietta, GA 30062

Dear Ms. McIntosh,

This information is in response to your request regarding planning information adjacent to the proposed interchange at I-575 and Ridgewalk Parkway. The city is aware of two projects in the immediate area. They are:

- A proposed 300,000 square foot retail center located on the southern side of Ridgewalk Parkway at the intersection of Woodstock Parkway.
- A 68 lot single family subdivision on 21.86 acres which is currently under development.

In addition to these developments, the entire area adjacent to Ridgewalk Parkway east of I-575 is zoned with an overlay district which limits the number of residential units to 2,000. Of these 2,000 units, 819 units have already been built and 650 have been developed in an area not immediately adjacent to the interchange corridor. This leaves approximately 450 additional units available for development within the Ridgewalk Parkway corridor without a change in the current zoning category.

The city is in the process of updating the land use map and will forward a copy to you as soon as it is adopted.

If you need any further information, please do not hesitate to contact me at 770.592.6057.

Sincerely,

Brian Stockton
Senior Planner
City of Woodstock
Department of Planning and
Economic Development

cc: Jim Gleason, City Manager
Jarvis Middleton, Director of Public Works
Richard McLeod, Director of Planning

Michelle McIntosh

From: Benjamin.Lynorae@epamail.epa.gov
Sent: Thursday, November 02, 2006 4:44 PM
To: Wade, Kelly
Cc: Wood.Amanetta@epamail.epa.gov; Edwards, Andrew; Wilkinson, Christa; Cook, Cora; james_kelly@dnr.state.ga.us; Granell, Jessica; jmchenry@hallcounty.org; jon_morton@mail.dnr.state.ga.us; Lear, Katina; Allen, Katy; Rish, Laura; Hester, Michael; rgoodwin@grta.org; Shakshuki, Soli; Knudson, Susan; Tracy Clymer (E-mail)
Subject: Re: PM Determinations, Atlanta nonattainment area
Attachments: Cherokee 0006043.doc; Bartow 0001574.doc

Hi Kelly,

Thanks for sending these for our review. We have completed our review and agree that these projects do NOT appear to be "Projects of Concern," and thus meets the regulatory and statutory requirements for PM2.5 hotspots without a qualitative analysis.

I hope your day is going well.

Lynorae Benjamin, Environmental Engineer
U.S. Environmental Protection Agency, Region 4
Air, Pesticides and Toxics Management Division
61 Forsyth Street, S.W.
Atlanta, Georgia 30303
email: benjamin.lynorae@epa.gov
phone: (404) 562-9040
fax: (404) 562-9019

"Wade, Kelly" <Kelly.Wade@fhwa.dot.gov> 11/01/2006 09:13 AM

To: Lynorae Benjamin/R4/USEPA/US@EPA, "Cora Cook (E-mail)" <Cora.Cook@dot.state.ga.us>, "Edwards, Andrew" <Andrew.Edwards@fhwa.dot.gov>, "Hester, Michael" <Michael.Hester@dot.state.ga.us>, james_kelly@dnr.state.ga.us, jmchenry@hallcounty.org, jon_morton@mail.dnr.state.ga.us, "Lear, Katina" <Katina.Lear@dot.state.ga.us>, rgoodwin@grta.org, "Shakshuki, Soli" <Soli.Shakshuki@dot.state.ga.us>, susan.knudson@dot.state.ga.us, "Tracy Clymer (E-mail)" <tclymer@atlantaregional.com>, Amanetta Wood/R4/USEPA/US@EPA,

"Granell, Jessica"
<Jessica.Granell@fhwa.dot.gov>,
"Rish, Laura"
<Laura.Rish@dot.state.ga.us>,
"Allen, Katy"
<Katy.Allen@fhwa.dot.gov>,
"Wilkinson, Christa"
<Christa.Wilkinson@dot.state.ga.u
s>

cc

Subject
PM Determinations, Atlanta
nonattainment area

Hello Interagency,

PM 2.5 Determinations for two in the Atlanta nonattainment area are attached. FHWA has determined that these projects are NOT projects of air quality concern and is requesting concurrence from the Interagency consultation group.

An Environmental Assessment will be prepared for PI 0006043 in Cherokee County and Public involvement will be handled through the NEPA process.

<<Cherokee 0006043.doc>>

PI 0001574 in Bartow County is being evaluated as a Categorical Exclusion and public involvement on this PM determination is not anticipated.

<<Bartow 0001574.doc>>

Please review and provide comments back by COB Wednesday 11/15/06.

No feedback will be construed as concurrence. Thanks in advance for responding quickly.

Kelly Wade

Environmental Coordinator

Federal Highway Administration

61 Forsyth Street, SW

Suite 17T100

Atlanta, GA 30303

Phone: 404-562-3584

Fax: 404-562-3703

Kelly.Wade@fhwa.dot.gov(See attached file: Cherokee 0006043.doc)(See attached file: Bartow 0001574.doc)

Determination of Project Categorization for PM2.5 Hotspot Requirements for Cherokee County Area

Project Name: Woodstock Parkway Interchange in Cherokee County
Project Number: CSNHA-0006-00(043), Cherokee County, PI# 0006043
Location: Cherokee County, Metro Atlanta non-attainment area
Document Type: Environmental Analysis
Project Status: PE FY 2007; LR ROW & CST (FY 2021-2030)
FHWA Contact: Jessica Granell
GDOT NEPA Planner: Laura Rish

Description: The proposed project would construct a new full diamond interchange where Ashland Parkway/Ridgewalk Parkway (signed as Old Rope Mill Road under the existing bridge) currently overpasses I-575 between the existing interchanges at Towne Lake Parkway and Sixes Road. The new interchange would be located approximately 2.1 miles north of the Towne Lake Parkway interchange and approximately 1.3 miles south of the Sixes Road interchange. In addition, new auxiliary lanes would be constructed between the new interchange and the Towne Lake Parkway interchange. The proposed project would also realign Old Rope Mill Road approximately 400 feet to the east of its current location to form a four way intersection with Woodstock Parkway and Ashland Parkway/Ridgewalk Parkway. The realigned roadway would be called North Woodstock Parkway and is shown as North Woodstock Parkway on the project location map. The total project length would be approximately 9,300 feet (1.76 miles).

Is this project in a conforming Plan/TIP? **Yes.** This project is identified in the Atlanta Regional Commission's Mobility 2030 Regional Transportation Plan. The reference number in the TIP is **CH-AR-225.**

Is the project on a new or expanded highway or expressway that serves a significant volume of diesel truck traffic, such as a facility with greater than 125,000 annual average daily traffic (AADT) and 8% or more of such AADT is diesel truck traffic? **No.**

Ridgewalk Pkwy/Ashland Pkwy at I-575

	2005	2030 Build	2030 No-Build
AADT (vehicles per day)	4,440	15,200	6,120
Trucks per day	133	456	184
Percent Trucks	3%	3%	3%

Does the project construct new exit ramps or other highway facility improvements that connect a highway or expressway to a major freight, bus, or intermodal terminal? **No.**

Does the project expand an existing highway or other facility that affects a congested intersection (Operates at LOS D, E, or F) that has a significant increase in the number of diesel trucks? **No.**

Does the highway project involve a significant increase in the number of diesel transit buses and / or diesel trucks? **No.**

Based on the above, a qualitative PM2.5 hotspot analysis is not required for this project, since it is NOT a project of local air quality concern under 40 CFR 93.123(b)(1). The Clean Air Act and 40CFR 93.116 requirements were met without a hotspot analysis, since this project has been found not to be of air quality concern under 40CFR 93.123(b)(1). Therefore, the project meets statutory and regulatory transportation conformity requirements without a hot-spot analysis.

GDOT ARCHAEOLOGICAL REPORT SHORT FORM FOR NEGATIVE FINDINGS

Report Title Phase I Archeological Resources Survey
Woodstock Parkway Interchange

Prime Consultant: CROY-MSE

GDOT Project No. CSNHS-0006-00 (043) **P.I. No.** 0006043

GA SHPO HP # 060302-001

Draft Report Submitted on: 3 / 8 / 2006

Final Report Submitted on: / /

PROJECT LOCATION AND AREA OF POTENTIAL EFFECT

County(ies)

Cherokee

USGS Quadrangle(s)

South Canton and Kennesaw , GA

Project Description

The proposed project would construct a new full diamond interchange on I-575 between the existing interchanges at Towne Lake Pkwy (Exit 8) and Sixes Road (Exit 11) at the existing Woodstock Pkwy overpass. In addition, new auxiliary lanes will be constructed between the new interchange and the Towne Lake Pkwy interchange. The new lanes will cover the full extent between the two interchanges on the south bound side and the north 1/3 (approximately 2000 feet) of the distance between the two interchanges on the north bound side. The proposed project would also realign Old Rope Mill Road to intersect with Ridgewalk Pkwy approximately 525 feet to the east of the existing intersection to accommodate the proposed interchange ramps. A new road, Parodi Place, will be constructed off Woodstock Pkwy. The total project length would be approximately 9,300 feet (1.76 miles).

Area of Potential Effect

Because of the nature and scope of the undertaking, the geographic area of potential effects (APE) will be limited to the existing right-of-way (ROW) of I-575 and the proposed ROW and viewshed of the interchange ramps, realignment corridor of Old Rope Mill Road, and Parodi Place corridor within which construction and ground disturbing activity would be confined (refer to attached location map).

SURVEY CONDITIONS

Soil Descriptions:

Soil Survey of Cherokee, Gilmer, and Pickens Counties, Georgia (USDA 1973) - see attached (Table 1).

Topography:

Rolling hills, ridges, and upland flats that have been modified by development.

Land Use/Vegetation/Ground Cover

Interstate highway, surface roads, some commercial development, fallow fields with young pines and weeds, pine forest with forest litter.

Survey Limitations and Disturbance(s)

No shovel testing was conducted in areas covered in asphalt roadbed and and graded road shoulders. The existing I-575 ROW has been severely disturbed by grading, road construction, and landscaping. The proposed ramp areas, Old Rope Mill realignment corridor, and the Parodi Place corridor are in severely eroded areas. There are no undisturbed areas within the project corridors.

Survey Methods

Shovel tests were conducted along the center line of the new corridors at 15 to 30 m intervals. Discretionary shovel tests were placed on either side of the center line in wooded areas. The area adjacent to the location of previously recorded Site 9CK1050 (I-575 road shoulders) was selectively shovel tested (no cultural remains). All corridor segments, including existing roads and graded shoulders were walked and visually inspected. Selected views of the project corridors were taken with 35 mm color film. See Figure 2 for survey coverage and photo key.

No. of STs: 50 No. of Transects: 6

ARCHAEOLOGICAL BACKGROUND RESEARCH

Previously Recorded Sites

Sixteen previously recorded archaeological sites are within 1 km of the project APE. These include: 9CK7, 9CK391, 9CK392, 9CK394, 9CK395, 9CK404, 9CK409, 9CK410, 9CK416, 9CK468, 9CK505, 9CK683, 9CK1033, 9CK1097, 9CK1050, and 9CK1151. Information regarding these sites is located in Table 2 (see attachment). Only one site, 9CK1050, lies immediately adjacent to the APE (see Survey Methods above).

Previous Surveys

None within APE.

Ref: State Archeological Site Files, Athens, Georgia
Historic Preservation Division, Atlanta, Georgia; see attached for additional references.

CONSULTANT INFORMATION

Archaeological Consultant: R.S. Webb & Associates

Address: 2800 Holly Springs Parkway, Suite 200, P.O. Drawer 1319
Holly Springs, GA 30142

Phone No.: 770-345-0706

Principal Investigator: Mary Elizabeth Gantt

PI Signature: Mary Elizabeth Gantt

Project Archaeologist: Mary Elizabeth Gantt

PA Signature: Mary Elizabeth Gantt

ATTACHMENT CHECKLIST

- ☑ 1. Project Location Map
- ☑ 2. USGS Topographic Map
- ☑ 3. References Cited
- ☑ 4. VITA
- ☑ 5. Photograph(s)

CONSULTANT CERTIFICATION

I, the Principal Investigator: Mary Elizabeth Gantt do hereby certify that the Area of Potential Effect (as described on page 1 of this form) for GDOT Project CSNHS-0006-00(043), Cherokee County has been thoroughly surveyed for archaeological resources and that no such resources were located or identified.

Comments:

REVIEW

GDOT Archaeologist: Eric Anthony Duff **Date:** 04 / 11 / 06

Comments:

Copies of the project file, the report, field notes and other relevant documentation will be maintained at the Georgia Department of Transportation, Office of Environment/Location, 3993 Aviation Circle, Atlanta, Georgia, 30336. A copy of the Short Form report will be permanently curated at the Antonio J. Waring, Jr. Laboratory at the University of West Georgia.

Draft Accepted as Final ☑

Concur: **Date:** 5 / 1 / 2006
Dr. W. Ray Luce, Director and Deputy SHPO

HP# 060302-001

Cc: Alabama-Coushatta Tribe of Texas, Chickasaw Nation, Eastern Band of Cherokee Indians of North Carolina, Muscogee (Creek) Nation, Poarch Band of Creek Indians, Seminole Nation of Florida, Thlopthlocco Tribal Town, United Keetoowah Band of Indians
Mr. Robert M. Callan, P.E., FHWA, (Attn: Katy Allen)

Noel Holcomb, Commissioner

Georgia Department of Natural Resources

Historic Preservation Division

W. Ray Luce, Division Director and Deputy State Historic Preservation Officer
34 Peachtree Street, Suite 1600, Atlanta, Georgia, 30303
Telephone (404) 656-2840 Fax (404) 657-1040 http://www.gashpo.org

MEMORANDUM

TO: Harvey D. Keepler
State Environmental/Location Administrator
Office of Environment & Location
Georgia Department of Transportation

FROM: Elizabeth Shirk
Transportation Projects Coordinator
Historic Preservation Division

RE: Receipt of Early Coordination Information

Project Title: PI 0006043; CSNHS-0006-00(043)
Construct Full Diamond Interchange on I-575 at Woodstock Parkway

Project Number: HP-060302-001

County: Cherokee

DATE: March 16, 2006

The Historic Preservation Division has received the early coordination information required by Section 106 of the National Historic Preservation Act and the Georgia Environmental Policy Act (GEPA). Thank you for submitting this information, and we look forward to working with you in the future as this project progresses.

ES:mcv

cc: Michelle Brouillette McIntosh, CROY-MSE, LLC

Georgia Department of Natural Resources
Wildlife Resources Division

Noel Holcomb, Commissioner
Dan Forster, Division Director

Georgia Natural Heritage Program
2117 U.S. Hwy. 278 S.E., Social Circle, Georgia 30025-4714
(770) 918-6411, (706) 557-3032

December 13, 2004

Michelle Brouillette McIntosh
Senior Planner
Mayes, Sudderth and Etheredge Inc.
2217 Roswell Rd., Suite C-100
Marietta, GA 30062

Subject: **Known or Potential Occurrences of Special Concern Plant and Animal Species on or near Road Improvements I-575/Towne Lake Pkwy Interchange, Cherokee, Georgia**

Dear Ms. Brouillette McIntosh:

This is in response to your request of October 21, 2004. According to our records, within a three mile radius of the project site (-84.53331, 34.10592; NAD27), there is the following special concern species occurrence:

Ichthyomyzon gagei (Southern Brook Lamprey) in Rubes Creek, approx. 2.0 mi. SE of site

Enclosed are lists of plant and animal species potentially occurring in Cherokee County that should aid in assessing the potential for rare species occurrences within the area of concern. Please keep in mind the limitations of our database. The data collected by the Georgia Natural Heritage Program comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Georgia Natural Heritage Program can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. **Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.**

If you know the location of populations of special concern species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (http://www.georgiawildlife.com) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,

Greg Krakow
Data Manager

enclosures

IR 9585

Report Generated 19 January 2001

Special Concern Animals Potentially Occurring in Cherokee County, Georgia

Georgia Natural Heritage Program, 2117 US Hwy 278 SE, Social Circle, GA 30025, (770) 918-6411

Species Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat
Aimophila aestivalis BACHMAN'S SPARROW	G3	S3		R	Open pine or oak woods; old fields; brushy areas
Ammodramus henslowii HENSLOW'S SPARROW	G4	S3			Wet shrubby fields and weedy meadows
Coccyzus erythropthalmus BLACK-BILLED CUCKOO	G5	S3?			Forest edges; open woods; old fields
Cyprinella callitaenia BLUESTRIPE SHINER	G2G3	S2		T	Flowing areas in large creeks and medium-sized rivers over rocky substrates
Desmognathus aeneus SEEPAGE SALAMANDER	G3G4	S3			Moist ravines; forested wetlands
Etheostoma coosae COOSA DARTER	G4	S3			Medium-sized streams to rivers in flowing runs or riffles over gravel to cobble substrate
Etheostoma etowahae ETOWAH DARTER	G1	S2	LE	T	Small to medium-sized streams over cobble to gravel in areas of swift current
Etheostoma jordani GREENBREAST DARTER	G4	S2S3			Medium-sized creeks to rivers in riffle areas over gravel to bedrock substrate
Etheostoma rupestre ROCK DARTER	G4	S2S3			Swift rocky riffles often associated with attached vegetation such as Podostemum
Etheostoma scotti CHEROKEE DARTER	G2	S2	LT	T	Small to medium-sized creeks with moderate current and rocky substrates
Hemidactylium scutatum FOUR-TOED SALAMANDER	G5	S2			Swamps; boggy streams & ponds; wet woods
Hybopsis lineapunctata LINED CHUB	G3	S3			Upland creeks over sandy substrate with gentle current
Ichthyomyzon castaneus CHESTNUT LAMPREY	G4	S3			Reservoirs, rivers, and medium to large streams.
Ichthyomyzon gagei SOUTHERN BROOK LAMPREY	G5	S3			Creeks to small rivers with sand or sand and gravel substrate
Lampetra aepyptera LEAST BROOK LAMPREY	G5	S3			Smaller streams with sand and gravel substrate
Lythrurus lirus MOUNTAIN SHINER	G4	S3			Cool, clear streams in flowing water over sandy to rocky substrates
Macrhybopsis sp. 1	G3G4	S3			Swift currents over gravel substrates
Macrhybopsis storeriana SILVER CHUB	G5	S1S2			Large rivers over sandy or silty substrate
Moxostoma carinatum RIVER REDHORSE	G4	S2		R	Swift waters of medium to large rivers
Myotis austroriparius SOUTHEASTERN MYOTIS	G3G4	S3			Caves & buildings near water
Neotoma floridana haematoreia SOUTHERN APPALACHIAN WOODRAT	G5T4Q	S3			High-elevation forests; rock ledges

Report Generated 22 January 2001

Special Concern Plants Potentially Occurring in Cherokee County, Georgia

Georgia Natural Heritage Program, 2117 US Hwy 278 SE, Social Circle, GA 30025, (770) 918-6411

Species Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat
Aesculus glabra OHIO BUCKEYE	G5	S2			Mesic forests in circumneutral soil
Amorpha nitens SHINING INDIGO-BUSH	G3?	S1?			Rocky, wooded slopes; alluvial woods
Amorpha schwerinii SCHWERIN INDIGO-BUSH	G3	S2			Rocky upland woods
Arabis georgiana GEORGIA ROCKCRESS	G2	S1	C	T	Rocky or sandy river bluffs and banks, in circumneutral soil
Arabis missouriensis MISSOURI ROCKCRESS	G4G5Q	S2			Granite and amphibolite outcrops
Asplenium ruta-muraria WALL RUE SPLEENWORT	G5	S1			Limestone outcrops
Aster georgianus GEORGIA ASTER	G2G3	S2	C		Upland oak-hickory-pine forests; especially with Echinaceae laevigata
Berberis canadensis AMERICAN BARBERRY	G3	S1			Cherty, thinly wooded slopes
Buchnera americana BLUEHEARTS	G5?	S1			Wet meadows; seasonally moist barrens and limestone glades
Calystegia catesbiana ssp. sericata SILKY BINDWEED	G3T2T3	S2S3			Openings in montane oak-hickory-pine forests
Carex eburnea BLACK-SEED SEDGE	G5	S1			Limestone outcrops and ledges
Carex prasina DROOPING SEDGE	G4	S3			Forested seepage slopes
Carex purpurifera PURPLE SEDGE	G4?	S2		T	Mesic hardwood forests over limestone
Castanea dentata AMERICAN CHESTNUT (NUT-BEARING ONLY)	G4	S3			Upland mixed oak or oak-hickory forests
Celastrus scandens BITTERSWEET	G5	S2?			Open, rocky areas in thickets and deciduous forests
Chaerophyllum procumbens SPREADING CHERVIL	G5	S2			Low rich woods in circumneutral soil
Clematis ochroleuca CURLY-HEADS	G4	S2			Dry woods in circumneutral soil
Collinsonia tuberosa STONEROOT	G3G4	S3			Mesic woods over basic rock
Corydalis flavula YELLOW CORYDALIS	G5	S1?			Rocky floodplain forests; hardwood ravines over amphibolite or limestone
Cypripedium acaule PINK LADYSLIPPER	G5	S4		U	Upland oak-hickory-pine forests; piney woods
Cypripedium calceolus var. parviflorum SMALL-FLOWERED YELLOW LADYSLIPPER	G5	S2		U	Upland oak-hickory-pine forests; mixed hardwood forests
Cypripedium calceolus var. pubescens LARGE-FLOWERED YELLOW LADYSLIPPER	G5	S3		U	Upland oak-hickory-pine forests; mixed hardwood forests

Report Generated 22 January 2001

Special Concern Plants Potentially Occurring in Cherokee County, Georgia

Georgia Natural Heritage Program, 2117 US Hwy 278 SE, Social Circle, GA 30025, (770) 918-6411

Species Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat
Quercus palustris PIN OAK	G5	SH			Floodplain forests; margins of sag ponds
Rhododendron flammeum OCONEE AZALEA	G3	S3			Bluff forests and mesic woods
Rhus michauxii DWARF SUMAC	G2	S1	LE	E	Open forests over ultramafic rock
Ribes curvatum GRANITE GOOSEBERRY	G4	S2			Rocky upland forests; bouldery mesic slopes
Rudbeckia grandiflora LARGEFLOWER CONEFLOWER	G5	SH			Limestone glades and barrens
Sabatia capitata CUMBERLAND ROSE GENTIAN	G2	S2		R	Meadows over sandstone or shale
Schisandra glabra BAY STARVINE	G3	S2		T	Rich woods on stream terraces and lower slopes
Silphium radula ROSINWEED	G4	SH			Rocky hardwood forests
Thalictrum debile TRAILING MEADOWRUE	G2	S1		T	Mesic hardwood forests over limestone
Trillium lancifolium LANCELEAF TRILLIUM	G3	S2S3			Floodplain forests; also lower rocky slopes over basic soils
Waldsteinia lobata PIEDMONT BARREN STRAWBERRY	G2	S2		T	Stream terraces and adjacent gneiss outcrops
Zanthoxylum americanum NORTHERN PRICKLY-ASH	G5	S1?			Rocky, openly wooded slopes; river banks and terraces

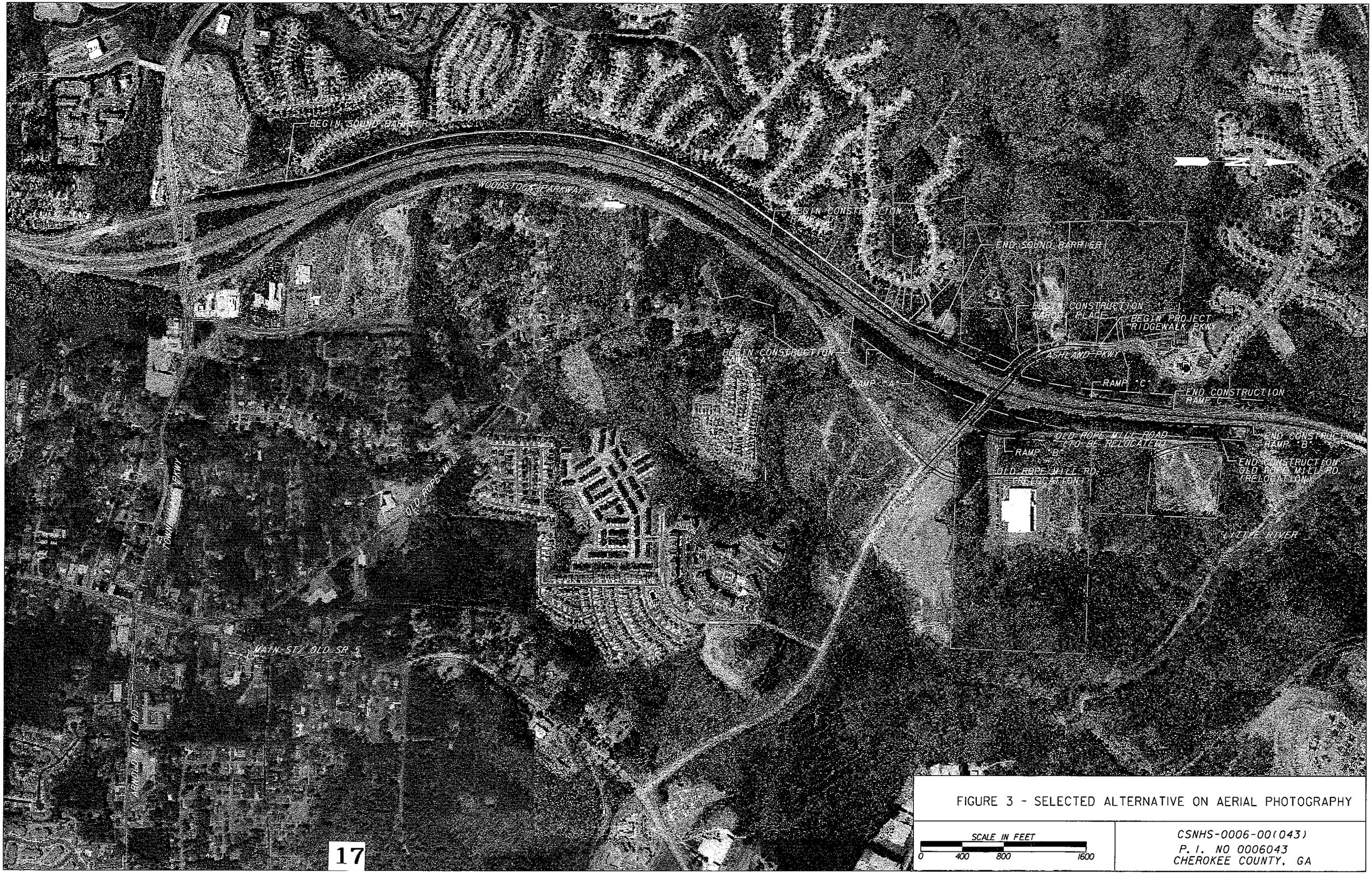


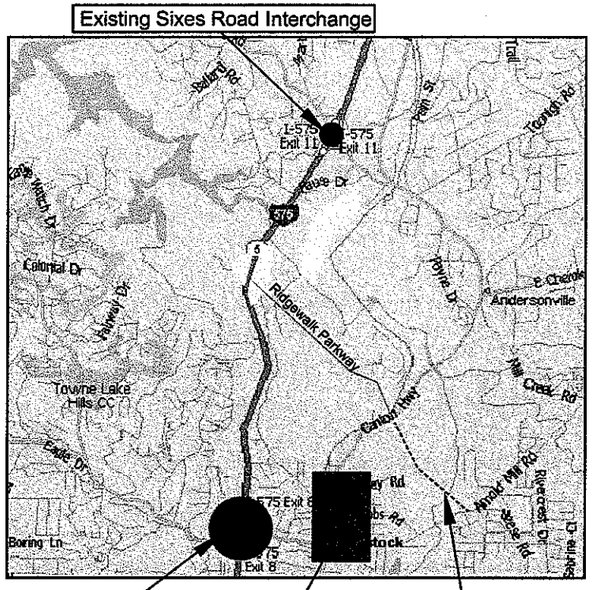
FIGURE 3 - SELECTED ALTERNATIVE ON AERIAL PHOTOGRAPHY

SCALE IN FEET
0 400 800 1600

CSNHS-0006-00(043)
P. I. NO 0006043
CHEROKEE COUNTY, GA

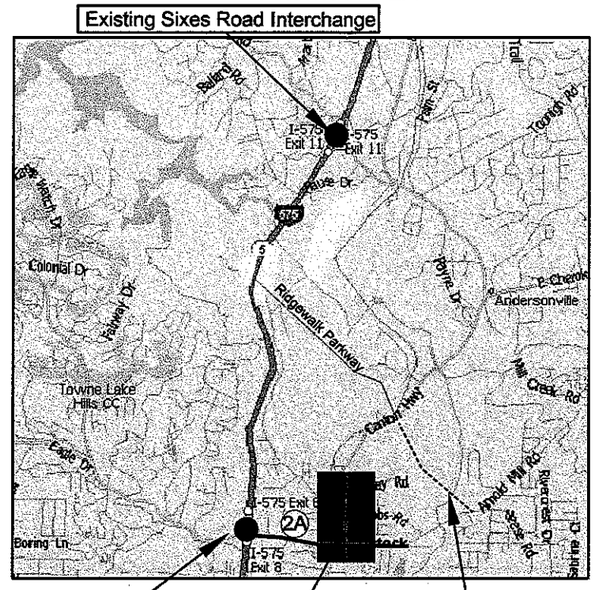
FIGURE 5A - ALTERNATIVES NO LONGER UNDER CONSIDERATION

Alternative 1



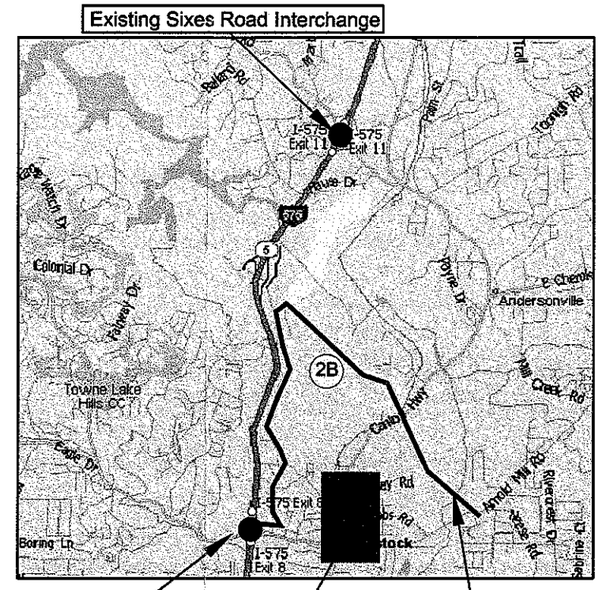
Alternative 1 - Improve Operation at the I-575 and Towne Lake Parkway Interchange

Alternative 2A



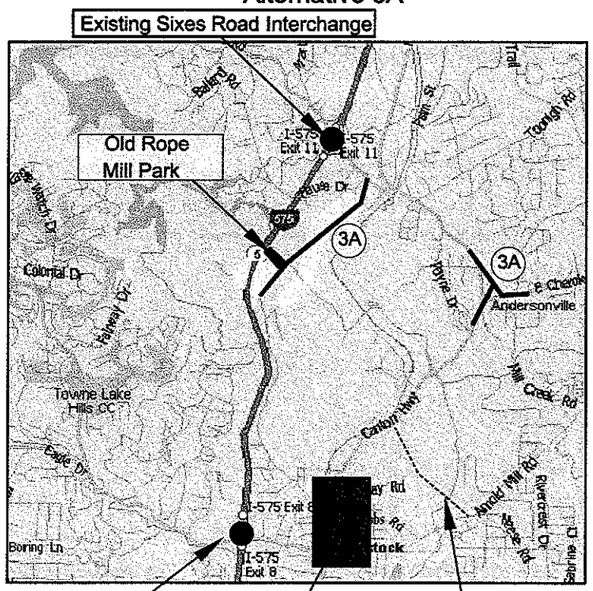
Alternative 2A - Widen Towne Lake Parkway to four lanes through downtown Woodstock

Alternative 2B



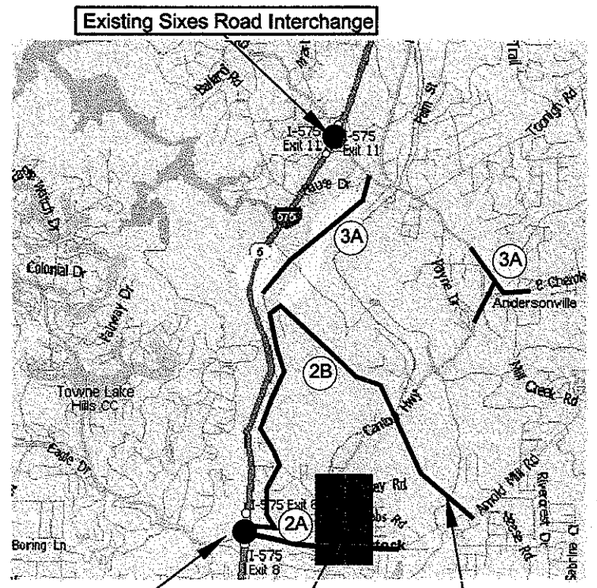
Alternative 2B - Widen South Woodstock Parkway and Woodstock Parkway to provide four through lanes

Alternative 3A



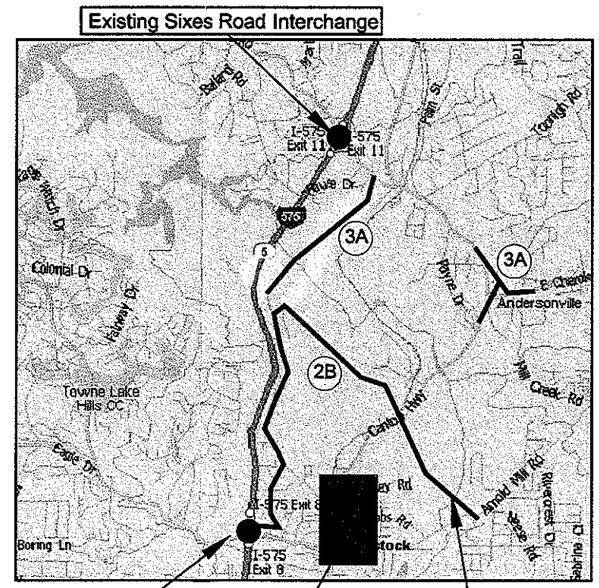
Alternative 3A - Connect North Woodstock Parkway from Woodstock Parkway to Sixes Road and realign Cherokee Drive to Canton Highway

Alternative 3B



Alternative 3B - Connect North Woodstock Parkway from Woodstock Parkway to Sixes Road and realign Cherokee Drive to Canton Highway, along with widen Towne Lake Parkway to four lanes through downtown Woodstock and widen South Woodstock Parkway and WoodstockParkway to provide four through lanes

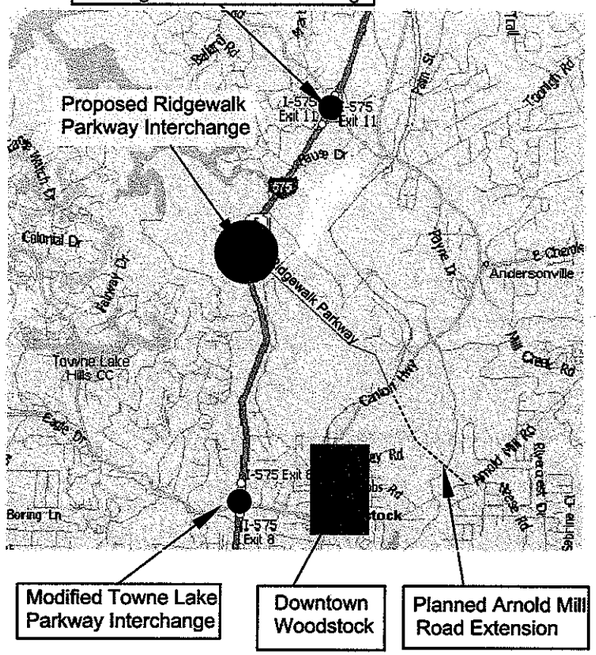
Alternative 3C



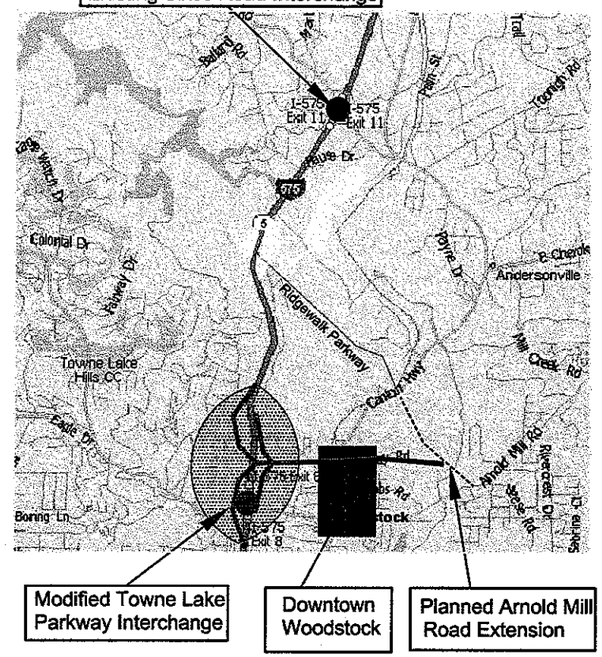
Alternative 3C - Connect North Woodstock Parkway from Woodstock Parkway to Sixes Road and realign Cherokee Drive to Canton Highway, and widen South Woodstock Parkway and Woodstock Parkway to provide four through lanes. (same as 3B with no widening through downtown Woodstock.)

FIGURE 5B - ALTERNATIVES NO LONGER UNDER CONSIDERATION

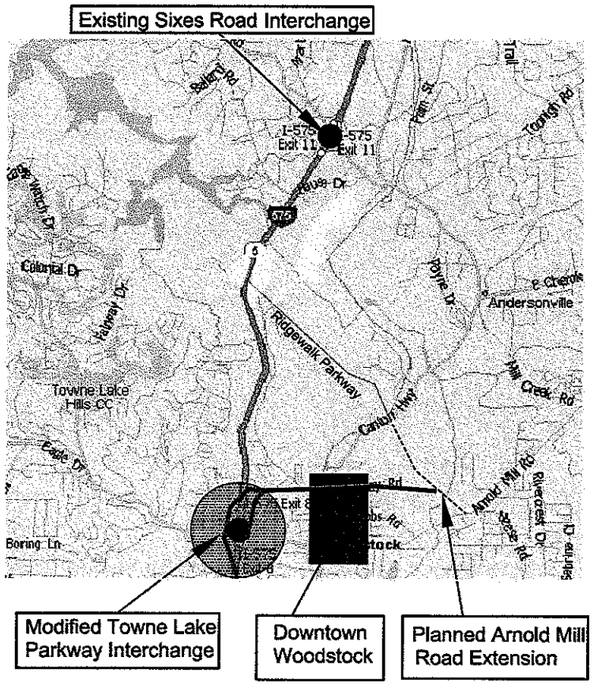
Alternative 4

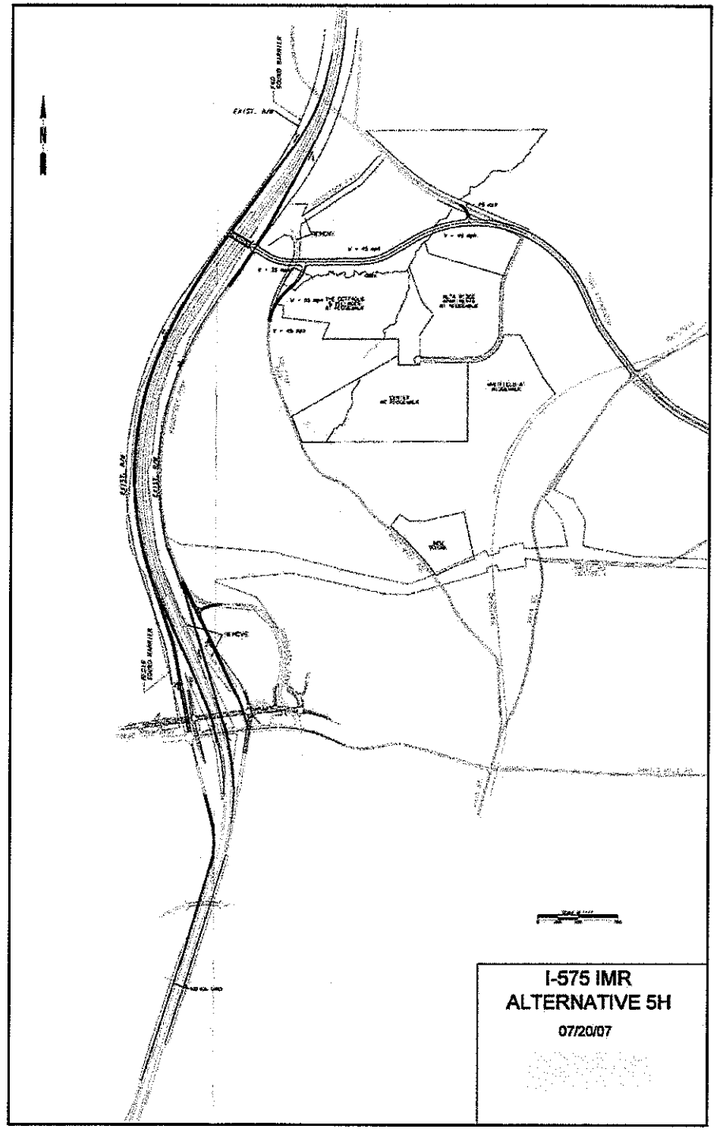


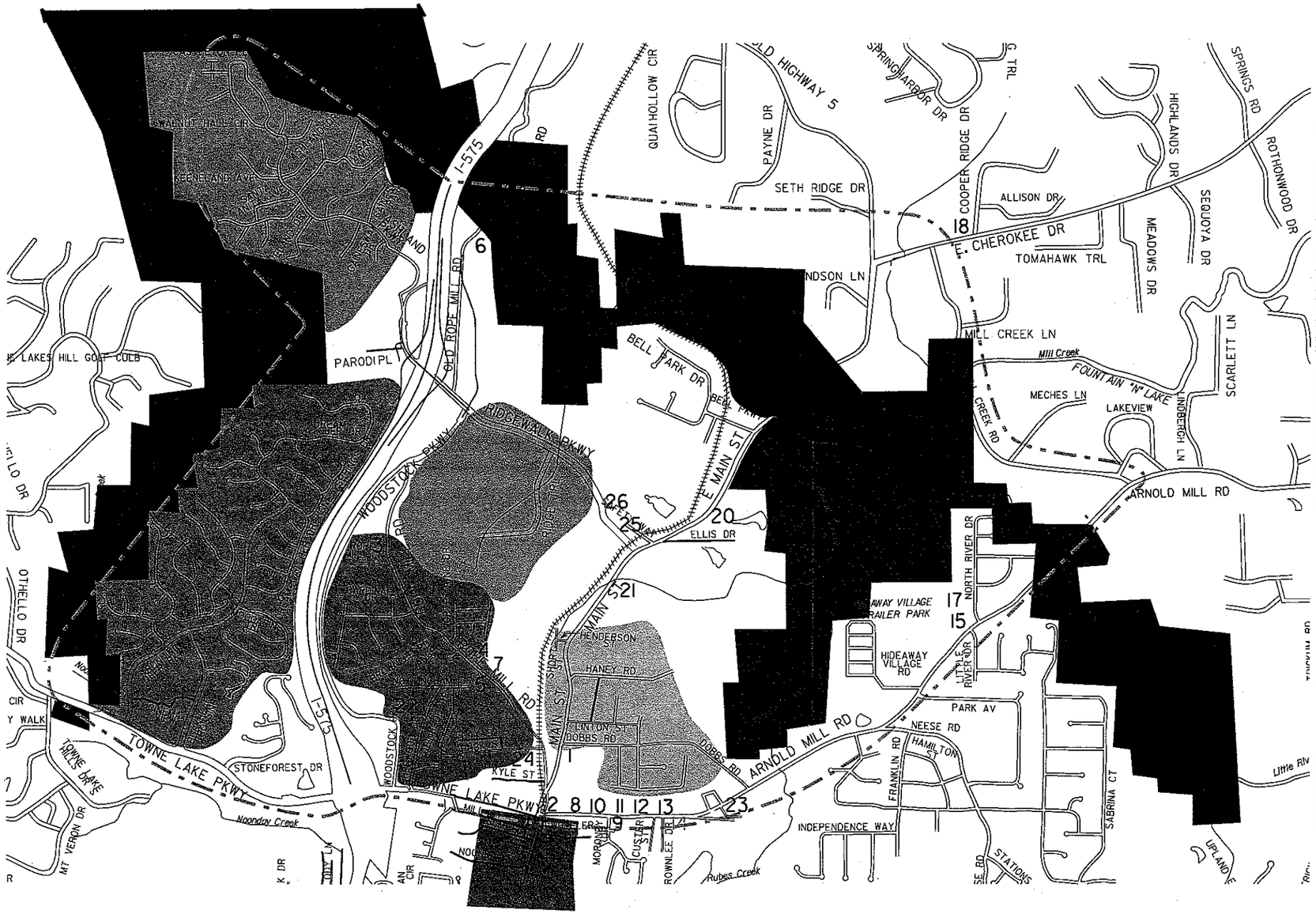
Alternative 5A



Alternative 5B







RESOURCE LEGEND

1. APPALACHIAN TECHNICAL COLLEGE
2. WOODSTOCK CITY PARK
3. CHURCH
4. WOODSTOCK ELEMENTARY SCHOOL
5. CHURCH/DAYCARE
6. OLD ROPE MILL PARK
7. BOY SCOUT FACILITY
8. WOODSTOCK MUNICIPAL BUILDING
9. COMMUNITY CENTER
10. NURSING HOME
11. CHURCH
12. CHURCH
13. WOODSTOCK MUNICIPAL BUILDING
14. CHURCH
15. COUNTY FACILITIES
16. RECREATIONAL CENTER
17. CHURCH
18. JOHNSTON ELEMENTARY SCHOOL
19. SOUTH CHEROKEE RECREATIONAL ASSOCIATION
20. COUNTY FACILITIES
21. PUBLIC LIBRARY
22. DAY CARE
23. GYM
24. CHURCH
25. CEMETERY
26. PLANNED YMCA

COMMUNITY AREA LEGEND

USACE PROPERTY
RESIDENTAL CONSTRUCTION
JJ BIELLO PARK
MAIN ST. RESIDENTIAL AREA
HISTORIC DOWNTOWN WOODSTOCK
OLD ROPE MILL RD/ SHERWOOD FOREST RESIDENTIAL AREA
DEER RUN SUB-DIVISION
BROOKSHIRE SUB-DIVISION

FIGURE 9 - SOCIAL RESOURCES LOCATION MAP

SCALE: N.T.S.
JOB NO.: 0719
DATE: 02/25/08
DRAWN BY: JPS

——— = PROPOSED IMPROVEMENTS
— - — = BOUNDARY OF ICE ANALYSIS

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P.I. NO. 0006043
CHEROKEE COUNTY, GEORGIA

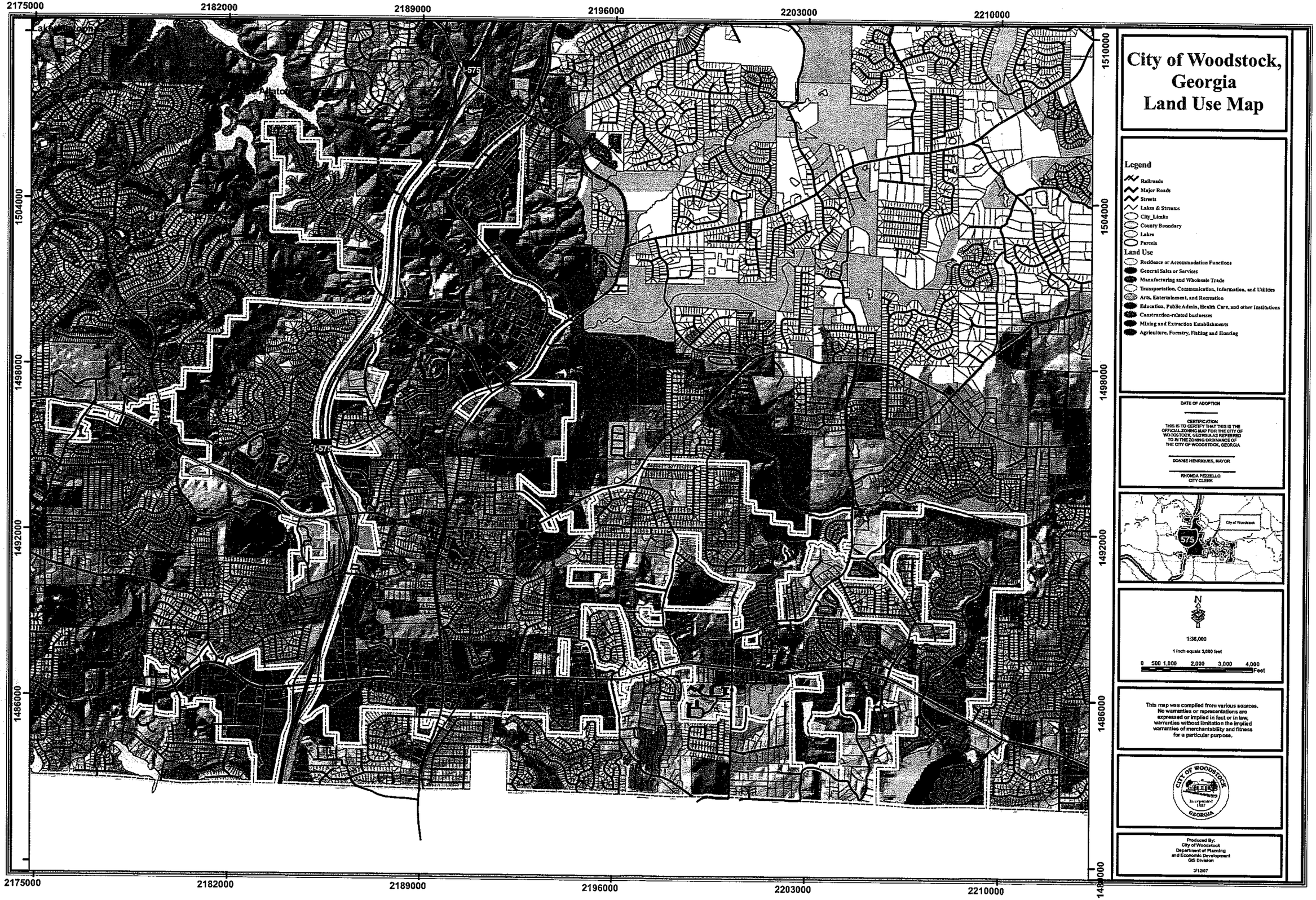
2175000
2182000
2189000
2196000
2203000
2210000
1510000
1504000
1498000
1492000
1486000
1480000
I-575
Acworth
Allatoona
City of Woodstock, Georgia
Land Use Map
Legend
Railroads
Major Roads
Streets
Lakes & Streams
City_Limits
County Boundary
Lakes
Parcels
Land Use
Residence or Accommodation Functions
General Sales or Services
Manufacturing and Wholesale Trade
Transportation, Communication, Information, and Utilities
Arts, Entertainment, and Recreation
Education, Public Admin, Health Care, and other Institutions
Construction-related businesses
Mining and Extraction Establishments
Agriculture, Forestry, Fishing and Hunting
DATE OF ADOPTION
CERTIFICATION
THIS IS TO CERTIFY THAT THIS IS THE OFFICIAL ZONING MAP FOR THE CITY OF WOODSTOCK, GEORGIA AS REFERRED TO IN THE ZONING ORDINANCE OF THE CITY OF WOODSTOCK, GEORGIA
DONNIE HENRIQUES, MAYOR
RHONDA PEZZELLO
CITY CLERK
City of Woodstock
575
N
1:36,000
1 inch equals 3,000 feet
0 500 1,000 2,000 3,000 4,000
Feet
This map was compiled from various sources. No warranties or representations are expressed or implied in fact or in law, warranties without limitation the implied warranties of merchantability and fitness for a particular purpose.
CITY OF WOODSTOCK
GEORGIA
Produced By:
City of Woodstock
Department of Planning
and Economic Development
GIS Division
3/12/07

FIGURE 10

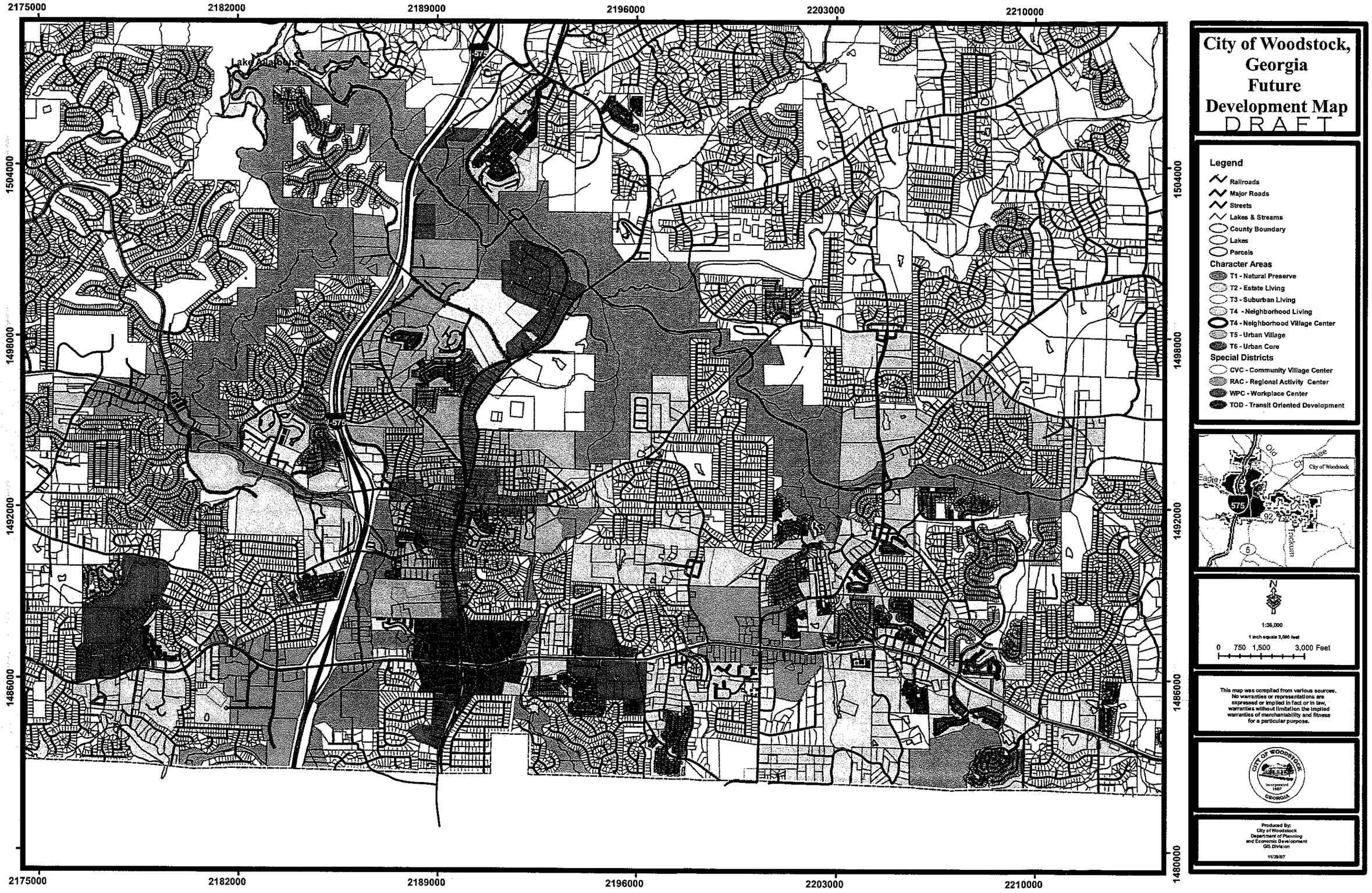
2175000
2182000
2189000
2196000
2203000
2210000
1504000
1498000
1492000
1486000
1480000
Lake Allatoona
575
City of Woodstock, Georgia
Future Development Map
DRAFT
Legend
Railroads
Major Roads
Streets
Lakes & Streams
County Boundary
Lakes
Parcels
Character Areas
T1 - Natural Preserve
T2 - Estate Living
T3 - Suburban Living
T4 - Neighborhood Living
T4 - Neighborhood Village Center
T5 - Urban Village
T6 - Urban Core
Special Districts
CVC - Community Village Center
RAC - Regional Activity Center
WPC - Workplace Center
TOD - Transit Oriented Development
City of Woodstock
Eagle
575
92
5
Trickum
1:36,000
1 inch equals 3,000 feet
0 750 1,500 3,000 Feet
This map was compiled from various sources. No warranties or representations are expressed or implied in fact or in law, warranties without limitation the implied warranties of merchantability and fitness for a particular purpose.
Produced By:
City of Woodstock
Department of Planning
and Economic Development
GIS Division
11/29/07

FIGURE 11

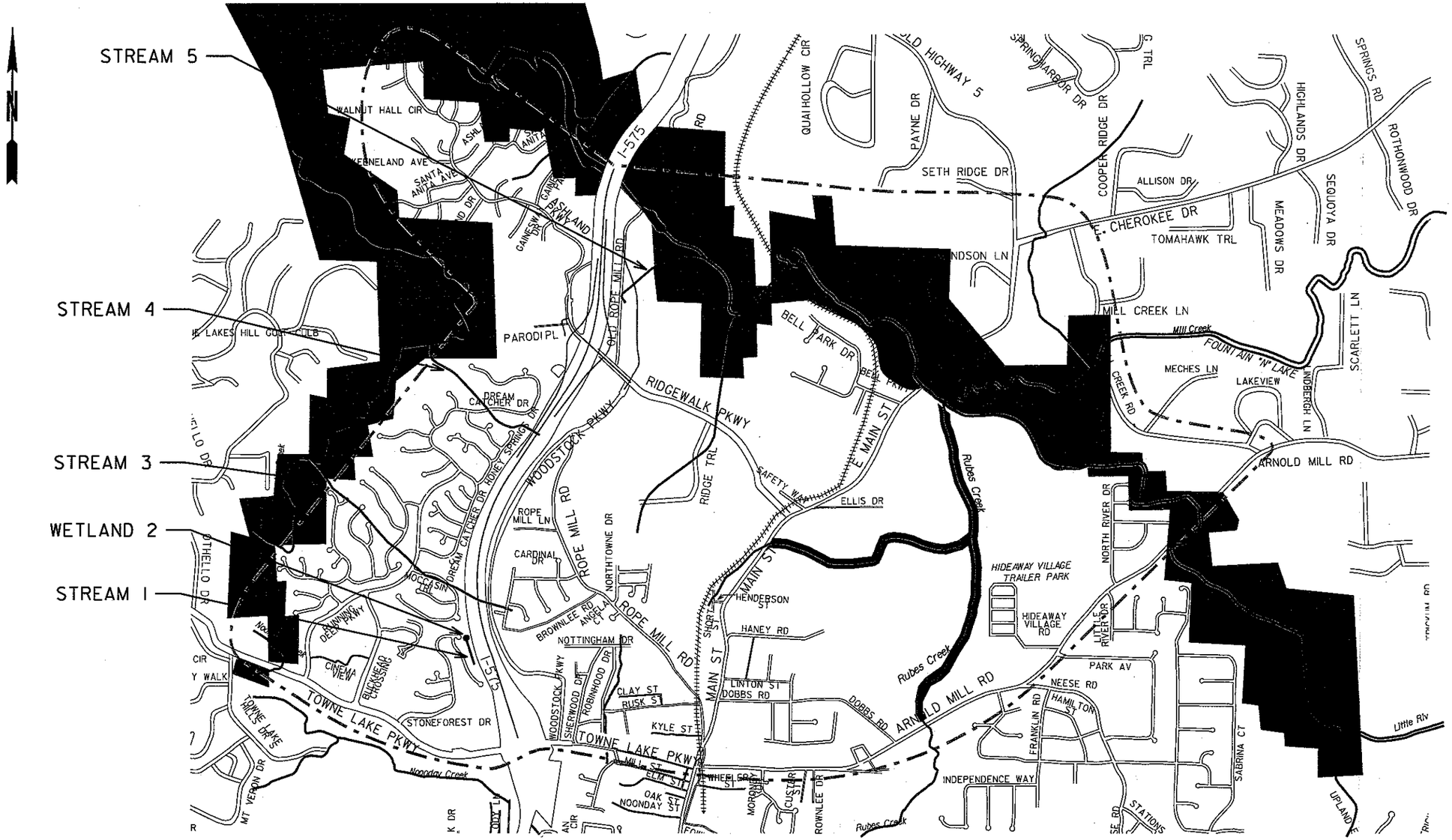

FIGURE 12 - WATERS OF THE U.S.

SCALE: N.T.S.
JOB NO.: 0719
DATE: 02/25/08
DRAWN BY: JPS

—— = PROPOSED IMPROVEMENTS
— - = BOUNDARY OF ICE ANALYSIS
—— = WATERS OF THE U.S.
■ = POTENTIAL WETLAND AREA

GDOT PROJECT CSNHS-0006-00(043)
P.I. NO. 0006043
CHEROKEE COUNTY, GEORGIA

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100 year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

ZONE A — No Base Flood Elevations determined.

ZONE AE — Base Flood Elevations determined.

ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR — Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

513 — Base Flood Elevation line and value; elevation in feet*

(EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A — Cross section line

23 — 23 — Transect line

46° 02' 08", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

4368000 FT — 5000-foot grid ticks: Georgia State Plane coordinate system, West zone (FIPS Zone 1002), Transverse Mercator

1000-meter Universal Transverse Mercator grid values, zone 16

Bench mark (see explanation in Notes to Users section of this FIRM panel)

• M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
JULY 16, 1996

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

SEPTEMBER 29, 2006 - to add Special Flood Hazard Areas, roads and road names; to increase Base Flood Elevations; to change Special Flood Hazard Area; to update corporate limits and map format; to incorporate previously issued Letters of Map Revision; and to reflect updated topographic information.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

FIGURE 13 - FLOOD PLAIN LOCATION MAP

SCALE: N.T.S. JOB NO.: 0719	DATE: 2/25/08 DRAWN BY: JPS	—— PROJECT AREA OF DIRECT EFFECTS

GDOT PROJECT CSNHS-0006-00(043)
P.I. NO. 0006043
CHEROKEE COUNTY, GEORGIA

FIGURE 14 - NOISE RECEPTOR READINGS, NOISE IMPACT, AND NOISE BARRIER LOCATION MAP

GDOT PROJECT CSNHS-0006-00(043)
P. I. NO 0006043
CHEROKEE COUNTY, GA