ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No. 0008713, Gwinnett County
CSMSL-0008-00(713)
Cedars Road Park and Ride Lot

OFFICE: Program Control

DATE September 11, 2009

FROM Genetha Rice-Singleton, Program Control Administrator

TO SEE DISTRIBUTION

SUBJECT APPROVED PROJECT CONCEPT REPORT

Attached for your files is the approval for subject project.

Attachment

DISTRIBUTION:

Ron Wishon
Glenn Bowman
Ken Thompson
Michael Henry
Keith Golden
Paul Liles
Russell McMurry
Darryl VanMeter
Marlo Clowers
BOARD MEMBER

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

FILE: P.I. No. 0008713, Gwinnett County
CSMSL-0008-00(713)
Cedars Road Park and Ride Lot

OFFICE: Preconstruction

DATE: August 27, 2009

FROM: Genetha Rice-Singleton, Assistant Director of Preconstruction

TO: Gerald M. Ross, P.E., Chief Engineer

SUBJECT: ***PROJECT CONCEPT REPORT***

This project consists of constructing a park and ride lot facility on an 88.1 acre site located in Gwinnett County. The parcel is bordered by an unnamed tributary of the Alcovy River and Industrial development to the north, Cedars Road and an industrial lot to the east, Winder Highway to the south, and industrial development to the west. From 1990 to 2000, the region added more than 1 million residents for a total of 3.7 million residents. Despite significant investments in freeways and transit systems, radial and suburban cross-town corridors alike are congested. By 2025, the number of daily trips in the region will rise to 14.6 million, a 37% increase. Until recently an overall transit plan had not been developed for the region which would address the current and future transit needs. The plan, identified as the Regional Transit Action Plan (RTAP), has been developed over a two year time frame and has provided an integrated public transportation network for the region. The plan lays out a new direction in extending transit services into congested corridors through the implementation of a regional express bus program and the regional bus rapid transit system. As part of the development of such a system, locations throughout the region for supporting infrastructure are being identified. Such supporting infrastructure would include, but not be limited to, park and ride lots, new construction and existing sites, and maintenance facilities.

The construction is proposed as follows:

Area 1 consist of a proposed driveway on Winder Road, 393 commuter parking spaces, a fare system shelter and two bus pavilions near the second bus loading area. A bus service facility is also proposed which includes a 3-bay service building with an attached administration building, a fuel station, 42 bus parking spaces and 45 spaces for associated employee parking. Additionally, mass grading and retaining wall construction for the entire site will be done in phase 1.

Area 2 consists of approximately 461 additional commuter parking spaces, a fare system shelter and two bus pavilions near the bus loading.

Environmental concerns include requiring a Categorical Exclusion be prepared; a Public Information Open House will be held; time saving procedures are appropriate.

The estimated costs for this project are:

	PROPOSED	APPROVED	FUNDING	PROG DATE
Construction (includes E&C)	$ 9,234,000	$ 7,500,000	41559	2010
Right-of-way	----0----			
Utilities	$55,000			

I recommend the project concept be approved.

GRS: JDQ
Attachment

CONCUR _____
Director of Preconstruction

APPROVED _____
Gerald M. Ross, P.E., Chief Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: P.I. No. 0008713 **OFFICE:** Environment/Location

PROJECT No. CSMSL-0008-00(713) / GWINNETT County **DATE:** 7/1/09

Cedars Road Park and Ride Lot

FROM: Glenn Bowman, P.E., State Environmental/Location Engineer

TO: Genetha Rice-Singleton, Assistant Director of Preconstruction

SUBJECT: PROJECT CONCEPT REPORT REVIEW

The Concept Report for the above project has been reviewed and appears satisfactory subject to the following comments:

1. A 404 permit will be required for placement of fill in the stream.

2. Three previously recorded historic structures are noted immediately adjacent to Winder Highway (south of project). If significant impacts to historic 4(f) resources cannot be avoided, then the proposed environmental schedule must be revised significantly.

If you have any questions, please contact Glenn Bowman at (404) 699-4401.

GB:lc

cc: Ron Wishon
Angela Whitworth
Keith Golden
Angela Alexander
VanMeter, Darryl

RECEIVED
JUL 6 2009

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Innovative Program Delivery

PROJECT CONCEPT REPORT

Cedars Road Park and Ride Lot
Gwinnett County

Project Number: CSMSL-0008-00(713)
PI No. 0008713

FEDERAL ROUTE NO: US Hwy 29/Winder Highway
STATE ROUTE NO: SR 0008/Winder Highway
COUNTY ROUTE NO: CR 186/Cedars Road

Recommendation for Approval:

DATE 6/17/09 Marlo S. Clowers
Project Manager

DATE 6/18/09
State Innovative Program Delivery Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

DATE State Transportation Planning Administrator

DATE Financial Management Administrator

7/1/09 Glen Bowman
DATE State Environmental / Location Engineer

DATE Project Review Engineer

DATE State Traffic Safety and Design Engineer

DATE District Engineer

DATE State Urban Design Engineer

6-18-09

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Innovative Program Delivery

PROJECT CONCEPT REPORT

Cedars Road Park and Ride Lot
Gwinnett County

Project Number: CSMSL-0008-00(713)
PI No. 0008713

FEDERAL ROUTE NO: US Hwy 29/Winder Highway
STATE ROUTE NO: SR 0008/Winder Highway
COUNTY ROUTE NO: CR 186/Cedars Road

Recommendation for Approval:

DATE 6/17/09 Marla S. Clowers
Project Manager

DATE 6/18/09 Darryl V. Mitchell
State Innovative Program Delivery Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

DATE
State Transportation Planning Administrator

6-22-09 Angela O. Whitworth
DATE
Financial Management Administrator

DATE
State Environmental / Location Engineer

DATE
Project Review Engineer

DATE
State Traffic Safety and Design Engineer

DATE
District Engineer

DATE
State Urban Design Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Innovative Program Delivery

RECEIVED
JUL 10 2009

PROJECT CONCEPT REPORT

Cedars Road Park and Ride Lot
Gwinnett County

Project Number: CSMSL-0008-00(713)
PI No. 0008713

FEDERAL ROUTE NO: US Hwy 29/Winder Highway
STATE ROUTE NO: SR 0008/Winder Highway
COUNTY ROUTE NO: CR 186/Cedars Road

Recommendation for Approval:

DATE 6/17/09 Marlon S. Clowers
Project Manager

DATE 6/18/09
State Innovative Program Delivery Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

7/8/09
DATE — State Transportation Planning Administrator

DATE — Financial Management Administrator

DATE — State Environmental / Location Engineer

DATE — Project Review Engineer

DATE — State Traffic Safety and Design Engineer

DATE — District Engineer

DATE — State Urban Design Engineer

NOTICE OF LOCATION AND DESIGN APPROVAL

CEDARS ROAD PARK AND RIDE LOT EXPANSION
GWINNETT COUNTY

Project Number CSMSL-0008-00(713)
P. I. No. 0008713

Notice is hereby given in compliance with Georgia Code 22-2-109 that the Georgia Department of Transportation has approved the Location and Design of the above project.

Date of Location and Design Approval: SEPTEMBER 11, 2009

This project is construction of a new park and ride lot at on Cedars Road near the Winder Hwy (US 29) interchange on SR 316 in Lawrenceville, Georgia. The project lies entirely within Gwinnett County and within Land District 5, Land Lot 210.

Drawings of maps or plats of the proposed project as approved are on file and are available for inspection at the Georgia Department of Transportation.

Herald Mull, District 1/Area 5 Engineer
Department of Transportation
Lawrenceville Area Office
410 Hurricane Shoals Road, NW
Lawrenceville, Georgia 30044
(770)339-2308

Any interested party may obtain a copy of the drawings or maps or plats or portions thereof by paying a nominal fee and requesting in writing to:

Darryl D. VanMeter, P.E., Acting State Innovative Program Delivery Engineer
Department Of Transportation
One Georgia Center, Suite 2700
600 West Peachtree Street NW
Atlanta, Georgia 30308
(404) 631-1703
dvanmeter@dot.ga.gov

Any written request of communication in reference to this project or notice SHOULD include the Project and P.I. Numbers as noted at the top of this notice.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Innovative Program Delivery

PROJECT CONCEPT REPORT

Cedars Road Park and Ride Lot
Gwinnett County

Project Number: CSMSL-0008-00(713)
PI No. 0008713

FEDERAL ROUTE NO: US Hwy 29/Winder Highway
STATE ROUTE NO: SR 0008/Winder Highway
COUNTY ROUTE NO: CR 186/Cedars Road

Recommendation for Approval:

DATE 6/17/09 Marlo S. Clowers
Project Manager

DATE 6/18/09 Darryl V. Mitchell
State Innovative Program Delivery Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

DATE	State Transportation Planning Administrator
DATE	Financial Management Administrator
DATE	State Environmental / Location Engineer
DATE	Project Review Engineer
DATE	State Traffic Safety and Design Engineer
DATE	District Engineer
DATE	State Urban Design Engineer

Location Map

Project: CS**MSL-0008-00(713)** Gwinnett **PI No.:** 0008713

Description: Cedars Road Park and Ride Lot

Need and Purpose: The Atlanta region has experienced robust population growth over the last decade. Since 2000, approximately 71% of all growth in the 20-county Atlanta region has occurred within the core 10 counties of Cherokee, Clayton, Cobb, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Henry and Rockdale. Presently, over 4 million residents live in these 10 counties, with over a million more living in the external 20-county region of Barrow, Bartow, Carroll, Coweta, Forsyth, Hall, Newton Paulding, Spalding and Walton. By 2030, the population in the 20-county region is expected to surpass the 6 million mark. Over half of the population in Georgia lives within the Atlanta region.

Atlanta's development pattern has increasingly dispersed employment and has generated scattered residential suburbs throughout the region. The dispersed pattern has created suburb-to-suburb transportation needs and has decreased the percentage of the region's jobs located in one central location, downtown Atlanta (from 29% of the jobs in downtown Atlanta to 6%).

The region's road network and trip-making patterns have created corridors with high levels of traffic congestion on a daily basis. Despite significant investments in freeways and transit systems, radial and suburban cross-town corridors alike are congested. By 2025, the number of daily person trips in the region will rise to 14.6 million, a 37% increase. There are 44 congested corridors within the 13-county region, as identified by the Atlanta Regional Commission (ARC).

In recent years, the Atlanta metropolitan region has taken major steps in meeting the transportation challenges for its residents and visitors. Two comprehensive transit plans have been developed to address the current and future transit needs. The initial plan, identified as the Regional Transit Action Plan (RTAP), was developed over a two year time frame and provided an integrated public transportation network for the Atlanta region.

The RTAP concept plan was identified as the initial regional blueprint which identified the future public transportation network for the Atlanta region. The plan laid out a new direction in extending transit services into congested corridors through the implementation of a regional transit network consisting of 1) the Regional Express Bus Program and 2) the Regional Bus Rapid Transit System.

The regional express bus program included a regional express bus system, supporting circulator systems, arterial Bus Rapid Transit (BRT) corridors, and high speed BRT corridors. This identified system would provide competitive choices to the region's residents, would enhance the customer experience, would invest wisely and optimize the value of such a system, and would develop an integrated system.

The RTAP and associated projects are included in the 2030 Regional Transportation Plan (RTP), known as Envision 6, and in the 2008-2013 Transportation Improvement Program (TIP). The projects are identified as AR-375D&E, AR-5390B-GRTA, AR-604, AR-606, AR-607, AR-610, AR-612-614, AR-616, AR-619-620, AR651A-D, CO-AR-303 and AR-5307-GRTA. The RTAP was an integral transit component of the adopted 2030 RTP.

The second plan identified, Concept 3, is currently being developed by the Transit Planning Board (TPB). The TPB is a partnership that will establish and maintain a seamless, integrated transit network for the Atlanta region. Created by a joint resolution of the Atlanta Regional Commission (ARC), Metropolitan Atlanta Rapid Transit Authority (MARTA) and the Georgia Regional Transportation Authority (GRTA), the TPB will:

- Conduct an initial planning phase of at least two years during which it will develop a regional transit plan including a comprehensive financial plan;
- Work to improve regional service coordination, including integrating fares, marketing and customer information;
- Measure system performance; and,
- Advocate for increased federal funding for regional transit.

The development of Concept 3 has included an extensive outreach program and data collection effort. The plan has incorporated aspects of the RTAP and other transit studies previously completed by regional partners. One of the elements considered and incorporated into Concept 3 is the previously identified regional express program and its associated system elements. The adopted Concept 3 will be incorporated into the development of the next RTP.

The Georgia Regional Transportation Authority (GRTA), created by the Georgia Legislature in 1999, to improve Metro Atlanta's air quality and traffic congestion problems, launched the *Xpress* commuter coach service in 2004. *Xpress* provides a public transit alternative on Atlanta's interstate highways. From initiation, this has been one of the most successful transit system start-ups in the U.S. *Xpress* currently provides 27 weekday routes from 12 counties in metropolitan Atlanta, operating approximately 100 peak service time coaches primarily from suburban locations to midtown or downtown Atlanta. *Xpress* operates from a current system of 25 park & ride lots and carries a total of over 11,000 daily passengers system wide. During the month of September 2008, over 325 coach trips operated with standing room only, indicating the system's popularity and the need for further service expansion. In response, *Xpress* is beginning a major second phase expansion in 2009-2013: proposing the addition of 20 new routes, 92 new coaches at peak service times and a number of additional park & ride lots.

In the development of the regional *Xpress* system, locations throughout the region for supporting infrastructure have been identified. Such supporting infrastructure would include, but not be limited to, park and ride lots and maintenance facilities.

One identified facility is the Cedars Road Park and Ride Lot. This proposed facility is located on Winder Highway, just east of Cedars Road, in Gwinnett County, Georgia.

Description of the proposed project:

Existing Conditions and Current Service

The proposed project consists of constructing a new park and ride lot facility on a 38.1-acre site located in Gwinnett County, Georgia. The parcel is bordered by an unnamed tributary of the Alcovy River and industrial development to the north, Cedars Road and an industrial lot to the east, Winder Highway to the south, and industrial development to west. The site is currently undeveloped, but was cleared of trees within the past 10 years and is now partially covered by small pine trees. There is a wet weather stream that runs approximately south to north through the central part of the property in addition to the unnamed tributary of the Alcovy River that runs from west to east near the north property line. A portion of the property is within a FEMA 100-year flood plane and a state regulated stream buffer borders both streams. There is a Colonial Pipeline easement that runs approximately east-west across the property and sanitary sewer easements that run adjacent to both streams and the easterly portion of the pipeline easement. The land is currently owned by Gwinnett County.

Proposed Improvements

~~The project is intended as a two-phased construction of a park and ride facility.~~

- Area 1 consists of a proposed driveway on Winder Highway, 393 commuter parking spaces, a fare system shelter and two bus pavilions near the second bus loading area. A bus service facility is also proposed in Area 1, which includes a 3-bay service building with an attached administration building, a fuel station, 42 bus parking spaces and 45 spaces for associated employee parking.
- Area 2 consists of approximately 461 additional commuter parking spaces, a fare system shelter and two bus pavilions near the bus loading.
- The entire facility will also include a security camera system and site lighting.

Preliminary evaluation of the grading of the site completed during Concept Design suggests a need for retaining walls associated with both Areas. ~~Therefore, mass grading and retaining wall construction for the entire site will be done during Area 1. Detailed grading will be performed during the design phase of the project.~~

Access

Commuter vehicles and buses will both enter and exit the proposed facility via a new driveway on Winder Highway, approximately 900 feet west of the intersection of Cedars Road and Winder Highway. The driveway design includes a left turn lane for vehicles approaching the site from the west; therefore Winder Highway will be widened accordingly. A deceleration lane is also proposed for vehicles approaching from the east. The need for a new signal at the driveway is will be examined prior to PFPR. Refer to the attached Traffic Impact Study and Concept Plan for additional details pertaining to vehicular access to and from the site. The Concept Team recommends considering alternative access drive location(s). Alternative location(s) will be considered prior to PFPR.

Stormwater Detention

The Concept Plan includes two areas reserved for storm water detention facilities. These ponds will be designed to provide water quality only. Stormwater detention is not required due to the fact that the ponds discharge into the floodplain area.

Is the project located in a Non-attainment area? ☒ **Yes** ☐ **No**

PDP Classification: Major ☐, or Minor ☒

Federal Oversight: Full Oversight☐, Exempt ☒, State Funded ☐, or Other ☐

Functional Classification: Winder Highway – Rural Minor Arterial Street
Cedars Road– Rural Local Street

U.S. Route Number(s): US Hwy 29/Winder Highway
State Route Number(s): SR 0008/Winder Highway
County Route Number(s): CR 0186/Cedars Road

Existing Traffic (2007 AADT):	**Build Year Traffic (2009 AADT):**	**Design Year Traffic (2030 AADT):**
Winder Highway – 14,080	Winder Highway – 14,883	Winder Highway – 26,633
Cedars Road– 4,790	Cedars Road– 5,060	Cedars Road– 7,750

Existing design features:

- Typical Section: Winder Highway and Cedars Road are two-lane rural sections in the vicinity of this site.
- Posted speed: Winder Highway- 45 mph
  Cedar Road- 40 mph
- Minimum radius for curve: N/A
- Maximum superelevation rate for curve: N/A
- Maximum degree of curvature: N/A
- Maximum grade: N/A
- Width of right of way: Winder Highway: varies, 60 feet minimum to 100 maximum
  Cedars Road: 80 feet
- Major structures: None within the project limits
- Major interchanges or intersections: The nearby intersection of Winder Highway and Cedars Road is currently signalized.
- Existing length of roadway segment: N/A

Proposed Design Features:

- Proposed typical section(s):
  - Winder Highway will be widened to accommodate the right turn lane and left turn lane at the proposed driveway. The Concept Plan shows the limits of the widening. The determination of the typical section (rural or urban section) will be determined during preliminary design.
  - No work is proposed on Cedars Road.
- Proposed Maximum grade Side Street: N/A
- Maximum grade allowable Side Street: N/A
- Proposed Maximum grade driveway: 8% maximum since it is a bus path
- Proposed Minimum radius of curve: N/A
- Minimum Radius allowable: N/A
- Proposed Superelevation rate for curves: N/A
- Right of way:
  - Width:
    - Right-of-way acquisition may be required along Winder Highway in the widened section.
    - The rest of the project area is currently owned by Gwinnett County.
  - Easements: Temporary ☐, Permanent ☒, Utility ☐, Other ☐.
    - Permanent Drainage Easements anticipated for roadway expansions within proposed right-of-way acquisitions
  - Type of access control: Full ☒, Partial ☐, By Permit ☐, Other ☐.

- Number of parcels: TBD

Number of displacements: 0
- Business: 0
- Residences: 0
- Mobile homes: 0
- Other: 0

- Structures:
  - Bridges: None within the project limits
  - Retaining walls: Retaining walls are anticipated in Area 1 and Area 2, and additional minor retaining walls may be required in various areas along the perimeter of the site in order to allow for the parking expansion. Detailed grading for the site will be obtained during the design phase, so the proposed grades can be determined at that time.
  - Bus Pavilions: Four (4) Bus Pavilions are proposed as shown on the Concept Plan.
  - Fare System Shelter: Two (2) Fare System Shelters are proposed as shown on the Concept Plan.
  - Light Maintenance Facility: 3-bay service building with attached administration building and fuel station as shown on the Concept Plan
- Major intersections: No modifications to the existing intersection of Winder Highway and Cedars Road are anticipated. A new traffic signal is proposed at the driveway for the park and ride lot.
- Traffic control during construction: Traffic control will be required on Winder Highway while the driveway and turn lanes are constructed. All work will be constructed under traffic.
- Design Exceptions to controlling criteria anticipated:

	UNDETERMINED	YES	NO
HORIZONTAL ALIGNMENT:	☐	☐	☒
ROADWAY WIDTH:	☐	☐	☒
SHOULDER WIDTH:	☐	☐	☒
VERTICAL GRADES:	☐	☐	☒
CROSS SLOPES:	☐	☐	☒
STOPPING SIGHT DISTANCE:	☐	☐	☒
SUPERELEVATION RATES:	☐	☐	☒
HORIZONTAL CLEARANCE:	☐	☐	☒
SPEED DESIGN:	☐	☐	☒
VERTICAL CLEARANCE:	☐	☐	☒
BRIDGE WIDTH:	☐	☐	☒
BRIDGE STRUCTURAL CAPACITY:	☐	☐	☒

- Design Variances: None expected
- Environmental concerns:
  - A flood plain exists on site. The project has been design such that the flood plain will not be impacted.
  - A stream traverses the proposed site. The driveway connecting the two parking areas crosses this stream and the 25' Stream Buffer. **A Stream Buffer Variance will be required for this work.**
- Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes ☒, No ☐,
  - Categorical exclusion ☒,
  - Environmental Assessment/Finding of No Significant Impact (FONSI) ☐, or
  - Environmental Impact Statement (EIS) ☐.
- Utility involvements:

- There is a major Colonial Pipeline Easement that crosses the site. However, no improvements are planned within the easement.
- There is also a sanitary sewer easement that crosses the site along the creek. No structures will be placed within the 20-foot sewer easement.
- In addition, gas, water, and power facilities are located within the Winder Highway R/W, which may require minor modifications in the widened area.
- Lighting will be provided in the parking fields, bus pavilions and fare system shelter.

Project responsibilities:

- Design, GRTA
- Right of Way Acquisition, GDOT
- Coordination of utility impacts, GDOT
- Fire protection, Gwinnett County
- Relocation of Utilities, GDOT
- Letting to contract, GDOT
- Supervision of construction, GDOT
- Providing material pits, Contractor

Coordination

- Concept meeting date and brief summary: Concept meeting not held yet
- P. A. R. meetings, dates and results: Not required
- FEMA, USCG, and/or TVA: None to date
- Public involvement: Public meeting not required
- Local government comments: GRTA has coordinated with Gwinnett County Department of Transportation during the concept plan development. Their specific involvement in the project going forward has not yet been determined.
- Other projects in the area: refer to Traffic Impact Study (page number 8)
- Other coordination to date: None
- Railroad Coordination: Not required

Scheduling – Responsible Parties' Estimate

- Time to complete the environmental process: 2 Months
- Time to complete preliminary construction plans: 2 Months
- Time to complete right of way plans: 2 months
- Time to complete the Section 404 Permit: N/A
- Time to complete final construction plans: 1 Month
- Time to purchase right of way: 4 months
- List other major items that will affect the project schedule: None anticipated

Alternates considered:

No alternate locations for this project were considered, since it is an existing Gwinnett County owned property identified for development of transportation improvement facilities. Consideration has been given to incorporating the existing commercial lot (currently a fence company) that lies within the frontage of Cedars Road. This alternative will be further investigated prior to PFPR.

Comments:
GRTA will execute a maintenance agreement with Gwinnett County and facilitate Gwinnett County deeding the property to GDOT.

Attachments:

1. Preliminary Cost Estimate – Area 1 and Area 2
2. Notice of L&D Approval
3. Concept Meeting Minutes
4. Traffic Impact Study (report only – appendices are on file with GDOT)
5. Concept Plans
6. Land Survey

Print Form

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE PROJECT No. CSMSL000800713 , Gwinnett County **OFFICE** Innovative Program Delivery

Cedars Road Park and Ride Lot - GRTA **DATE** 6/9/09

P.I. No. 0008713

FROM Darryl D. VanMeter, P.E., Acting Innovative Program Delivery Engineer

TO Ronald E. Wishon, Project Review Engineer

SUBJECT REVISIONS TO PROGRAMMED COSTS

MNGT LET DATE January 2010

PROJECT MANAGER Marlo L. Clowers, P.E.

MNGT R/W DATE None

PROGRAMMED COST (TPro W/OUT INFLATION)		**LAST ESTIMATE UPDATE**	
CONSTRUCTION	$7,500,000.00	DATE	10/1/07
RIGHT OF WAY	$0	DATE	None
UTILITIES	$0	DATE	None

REVISED COST ESTIMATES

CONSTRUCTION*	$~~8,977,000.00~~	9,234,000
RIGHT OF WAY	$0	
UTILITIES**	$0	55,000

* Costs contain 5 % Engineering and Inspection and 3 % Construction Contingencies.

** Costs contain 0 % contingency.

REASON FOR COST INCREASE

The 10/1/07 cost estimate was a planning level estimate. The revised estimate is concept level. The additional contingencies also contributed to the cost increase.

Revised: February 9, 2009

CONTINGENCY SUMMARY

Construction Cost Estimate:	$ 8,321,000.00	(Base Estimate)
Engineering and Inspection:	$ 415,600.00	(Base Estimate x 5 %)
Construction Contingency:	$ 249,400.00	(Base Estimate x 3 %) (The Construction Contingency is based on the Project Improvement Type in TPro.)
Total Fuel Adjustment	$ 144,777.24	(From attached worksheet)
Total Liquid AC Adjustment	$ 112,290.95	(From attached worksheet)
Construction Total:	**$** 9,234,000.00	
Utility Cost Estimate:	$ 50,000.00	
Utility Contingency:	$ 5,000.00	10 %
Utility Total:	**$** 55,000.00	

REIMBURSABLE UTILITY COST

Utility Owner	Reimbursable Cost

Attachments

c: Genetha Rice-Singleton, State Program Control Administrator

COST ESTIMATE SUMMARY
Cedars Road CSMSL-0008-00(713)
Concept Report

AREA 1	$ 6,039,910.67
AREA 2	$ 2,991,195.24
Fuel AC Adjust.	$ 257,068.19
TOTAL	$ 9,288,174.10

Estimate Report for file "GRTA Cedars Road CSMSL-0008-00(713) Area 1 "

Section Pavement Items

Item Number	Quantity	Units	Unit Price	Item Description	Cost
310-1101	14454	TN	18.12	GR AGGR BASE CRS, INCL MATL	261906.48
402-3103	2167	TN	70.26	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL & H LIME	152253.42
402-3121	2723	TN	73.34	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	199704.82
402-3190	3531	TN	75.19	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME	265495.89
413-1000	2421	GL	2.83	BITUM TACK COAT	6851.43
				Section Sub Total:	**$886,212.04**

Section STRIPING ITEMS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
652-0095	10	EA	42.03	PAVEMENT MARKING, HANDICAP SYMBOL	420.30
652-0110	13	EA	48.61	PAVEMENT MARKING, ARROW, TP 1	631.93
652-0210	2	EA	67.25	PAVEMENT MARKING, WORD, TP 1	134.50
652-0260	2	EA	69.07	PAVEMENT MARKING, WORD, TP 6	138.14
652-5451	11520	LF	0.28	SOLID TRAFFIC STRIPE, 5 IN, WHITE	3225.60
652-5701	224	LF	1.91	SOLID TRAF STRIPE, 24 IN, WHITE	427.84
652-5801	165	LF	0.92	SOLID TRAF STRIPE, 8 IN, WHITE	151.80
652-9001	235	SY	2.11	TRAFFIC STRIPE, WHITE	495.85
				Section Sub Total:	**$5,625.96**

Section HARDSCAPE/BUILDING ITEMS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
763-0100	1	LS	150000.00	FARE SYSTEM SHELTER BUILDING	150000.00
763-0110	1	LS	250000.00	BUS PAVILIONS - TWO STRUCTURES	250000.00
763-xxxx	1	Lump Sum	1000000.00	BUS MAINTENANCE FACILITY	1000000.00
				Section Sub Total:	**$1,400,000.00**

Section ROADWAY ITEMS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	50000.00	TRAFFIC CONTROL - P.I. NO. 0008713	50000.00
210-0100	1	LS	925281.47	GRADING COMPLETE - CSMSL-0008-00(713)	925281.47
318-3000	150	TN	20.39	AGGR SURF CRS	3058.50
441-3340	1765	SY	37.47	CONC SIDEWALK, 4 IN	66134.55
441-6216	9116	LF	15.66	CONC CURB & GUTTER, 8 IN X 24 IN, TP 2	142756.56
441-6222	740	LF	16.15	CONC CURB & GUTTER, 8 IN X 30 IN, TP 2	11951.00
				Section Sub Total:	**$1,199,182.08**

Section UTILITY - LIGHTING AND COMMUNICATION CONDUITS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
XXX-XXXX	10	AC	28107.00	LIGHTING, POWER AND COMMUNICATION CONDUIT	281070.00
				Section Sub Total:	**$281,070.00**

Section UTILITY - WATER ITEMS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
670-1060	1650	LF	20.79	WATER MAIN, 6 IN	34303.50
670-8430	1	EA	2699.24	DBL STRAP SADDLE	2699.24
670-9732	1	EA	3009.15	INSTALL BACKFLOW PREVENTION ASSEMBLY FOR SERVICE LINE, WITH VAULT	3009.15
				Section Sub Total:	**$40,011.89**

Section SIGNS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1033	150	SF	21.44	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	3216.00
636-2070	630	LF	9.58	GALV STEEL POSTS, TP 7	6035.40
				Section Sub Total:	**$9,251.40**

Section GUARDRAIL AND FENCE

Item Number	Quantity	Units	Unit Price	Item Description	Cost
643-1152	2450	LF	15.07	CH LK FENCE, ZC COAT, 6 FT, 9 GA	36921.50
643-8010	5	EA	871.34	GATE, CHAIN LINK ZC COAT -	4356.70
				Section Sub Total:	**$41,278.20**

Section STORM DRAINAGE

Item Number	Quantity	Units	Unit Price	Item Description	Cost
XXX-XXXX	10	AC	29300.00	STORM DRAINAGE	293000.00
				Section Sub Total:	**$293,000.00**

Section EROSION CONTROL AND GRASSING

Item Number	Quantity	Units	Unit Price	Item Description	Cost
XXX-XXXX	10	AC	16605.00	EROSION CONTROL AND GRASSING	166050.00
				Section Sub Total:	**$166,050.00**

Section UTILITY - SANITARY SEWER

Item Number	Quantity	Units	Unit Price	Item Description	Cost
660-0806	810	LF	57.95	SAN SEWER PIPE, 6 IN, DUCTILE IRON	46939.50
668-3300	8	EA	2520.36	SAN SEWER MANHOLE, TP 1	20162.88
				Section Sub Total:	**$67,102.38**

Section RETAINING WALL

Item Number	Quantity	Units	Unit Price	Item Description	Cost
XXX-XXXX	15040	SF	70.00	RETAINING WALL	1052800.00
				Section Sub Total:	**$1,052,800.00**

Section SIGNAL DESIGN

Item Number	Quantity	Units	Unit Price	Item Description	Cost
647-1000	1	LS	100000.00	TRAFFIC SIGNAL INSTALLATION	100000.00
				Section Sub Total:	**$100,000.00**

Total Estimated Cost: $5,541,583.95

Subtotal Construction Cost	**$5,541,583.95**
E&C Rate 8.0 %	$443,326.72
Inflation Rate 0.0 % @ 0 Years	$0.00
Total Construction Cost	**$5,984,910.67**
Right Of Way	$0.00
ReImb. Utilities	$55,000.00

Grand Total Project Cost $6,039,910.67

Estimate Report for file "GRTA Cedars Road CSMSL-0008-00(713) Area 2 "

Section RETAINING WALL

Item Number	Quantity	Units	Unit Price	Item Description	Cost
XXX-XXXX	11254	SF	70.00	RETAINING WALL	787780.00
				Section Sub Total:	**$787,780.00**

Section LANDSCAPE

Item Number	Quantity	Units	Unit Price	Item Description	Cost
				Section Sub Total:	**$0.00**

Section Pavement Items

Item Number	Quantity	Units	Unit Price	Item Description	Cost
310-1101	9315	TN	18.12	GR AGGR BASE CRS, INCL MATL	168787.80
402-3103	1397	TN	70.26	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL & H LIME	98153.22
402-3121	624	TN	73.34	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	45764.16
402-3190	2276	TN	75.19	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME	171132.44
413-1000	1355	GL	2.83	BITUM TACK COAT	3834.65
				Section Sub Total:	**$487,672.27**

Section STRIPING ITEMS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
652-0095	10	EA	42.03	PAVEMENT MARKING, HANDICAP SYMBOL	420.30
652-0110	3	EA	48.61	PAVEMENT MARKING, ARROW, TP 1	145.83
652-0210	1	EA	67.25	PAVEMENT MARKING, WORD, TP 1	67.25
652-0260	1	EA	69.07	PAVEMENT MARKING, WORD, TP 6	69.07
652-5451	6480	LF	0.28	SOLID TRAFFIC STRIPE, 5 IN, WHITE	1814.40
652-5701	126	LF	1.91	SOLID TRAF STRIPE, 24 IN, WHITE	240.66
652-5801	45	LF	0.92	SOLID TRAF STRIPE, 8 IN, WHITE	41.40
				Section Sub Total:	**$2,798.91**

Section HARDSCAPE/BUILDING ITEMS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
763-0100	1	LS	150000.00	FARE SYSTEM SHELTER BUILDING	150000.00
763-0110	1	LS	250000.00	BUS PAVILIONS - TWO STRUCTURES	250000.00
				Section Sub Total:	**$400,000.00**

Section ROADWAY ITEMS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	10000.00	TRAFFIC CONTROL - P.I. NO. 0008713	10000.00
210-0100	1	LS	515730.65	GRADING COMPLETE - CSMSL-0008-00(713)	515730.65
318-3000	100	TN	20.39	AGGR SURF CRS	2039.00
441-3340	740	SY	37.47	CONC SIDEWALK, 4 IN	27727.80
441-6216	5090	LF	15.66	CONC CURB & GUTTER, 8 IN X 24 IN, TP 2	79709.40
				Section Sub Total:	**$635,206.85**

Section UTILITY - LIGHTING AND COMMUNICATION CONDUITS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
XXX-XXXX	6	AC	28107.00	LIGHTING, POWER AND COMMUNICATION CONDUIT	168642.00
				Section Sub Total:	**$168,642.00**

Section SIGNS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1033	85	SF	21.44	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	1822.40
636-2070	360	LF	9.58	GALV STEEL POSTS, TP 7	3448.80
				Section Sub Total:	**$5,271.20**

Section GUARDRAIL AND FENCE

Item Number	Quantity	Units	Unit Price	Item Description	Cost
643-1152	395	LF	15.07	CH LK FENCE, ZC COAT, 6 FT, 9 GA	5952.65
643-8010	1	EA	871.34	GATE, CHAIN LINK ZC COAT -	871.34
				Section Sub Total:	**$6,823.99**

Section STORM DRAINAGE

Item Number	Quantity	Units	Unit Price	Item Description	Cost
XXX-XXXX	6	AC	29300.00	STORM DRAINAGE	175800.00
				Section Sub Total:	**$175,800.00**

Section EROSION CONTROL AND GRASSING

Item Number	Quantity	Units	Unit Price	Item Description	Cost
XXX-XXXX	6	AC	16605.00	EROSION CONTROL AND GRASSING	99630.00
				Section Sub Total:	**$99,630.00**

Total Estimated Cost: $2,769,625.22

Subtotal Construction Cost	**$2,769,625.22**
E&C Rate 8.0 %	$221,570.02
Inflation Rate 0.0 % @ 0 Years	$0.00
Total Construction Cost	**$2,991,195.24**
Right Of Way	$0.00
Relmb. Utilities	$0.00
Grand Total Project Cost	**$2,991,195.24**

Xpress Operations Building Concept Cost Estimate

Date: 6/17/2009

Basis of cost per square foot estimate:
1. Concept Design Approach Document
2. Concept Building Sketches
3. Exterior brick and block surface, the 12" slab, 24' eave height, bldg exhaust system, mezzanine, stair access to mezzanine (no lift), no bus lifts

Cost per square foot: $ 185 /SF (includes cost of mezzanine above administration area)

(The cost per square foot used was established as the current conceptual cost for similar new construction buildings by a professional cost estimator through Richard-Wittschebie-Hand, a GDOT pre-qualified architecture consultant.)

Approximate Size of Building: 64 ft. (W) X 74 ft. (L) = 4736 SF

Approximate cost based on SF	$	876,160
15% Contingency	$	131,424
Concept Estimate Cost	**$**	**1,007,584**

Date 6/9/2009

P.I. Number **8713** County **Gwinnett**

Project Number **CSMSL-0008-00(713)**

Special Provision, Section 109-Measurement and Payment

FUEL PRICE ADJUSTMENT *(ENGLISH 125% MAX)*

ENTER FPL DIESEL	2.266
ENTER FPM DIESEL	5.099

ENTER FPL UNLEADED	1.812
ENTER FPM UNLEADED	4.077

http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

INCREASE ADJUSTMENT	INCREASE ADJUSTMENT
125.00%	125.00%

ROADWAY ITEMS	QUANTITY	DIESEL FACTOR	GALLONS DIESEL	UNLEADED FACTOR	GALLONS UNLEADED	REMARKS
Excavations paid as specified by Sections 205 **(CUBIC YARD)**		0.29		0.15		
Excavations paid as specified by Sections 206 **(CUBIC YARD)**		0.29		0.15		
GAB paid as specified by the ton under Section 310 **(TON)**	23769.000	0.29	6893.01	0.24	5704.56	
Hot Mix Asphalt paid as specified by the ton under Sections 400 **(TON)**		2.90		0.71		
Hot Mix Asphalt paid as specified by the ton under Sections 402 **(TON)**	12718.000	2.90	36882.20	0.71	9029.78	
PCC Pavement paid as specified by the square yard under Section 430 **(SY)**		0.25		0.20		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Bridge Excavation (CY) Section 211				8.00		1.50		
Class __Concrete (CY) Section 500				8.00		1.50		
Class __Concrete (CY) Section 500				8.00		1.50		
Class __Concrete (CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Concrete Handrail (LF) Section 500				8.00		1.50		
Concrete Barrier (LF) Section 500				8.00		1.50		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Stru Steel Plan Quantity (LB) Section 501				8.00		1.50		
Stru Steel Plan Quantity (LB) Section 501				8.00		1.50		
PSC Beams_____ (LF) Section 507				8.00		1.50		
PSC Beams_____ (LF) Section 507				8.00		1.50		
PSC Beams_____ (LF) Section 507				8.00		1.50		
Stru Reinf Plan Quantity(LB) Section 511				8.00		1.50		
Stru Reinf Plan Quantity(LB) Section 511				8.00		1.50		
Bar Reinf Steel (LB) Section 511				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Drilled Caisson,___ (LF) Section 524				8.00		1.50		
Drilled Caisson,___ (LF) Section 524				8.00		1.50		
Drilled Caisson,___ (LF) Section 524				8.00		1.50		
Pile Encasement,___(LF) Section 547				8.00		1.50		
Pile Encasement,___(LF) Section 547				8.00		1.50		

SUM QF DIESEL=	**43775.21**	**SUM QF UNLEADED=**	**14734.34**

DIESEL PRICE ADJUSTMENT($)	**$114,073.82**
UNLEADED PRICE ADJUSTMENT($)	**$30,703.42**

ASPHALT CEMENT PRICE ADJUSTMENT
(BITUMINOUS TACK COAT 125% MAX)

APPLICABLE TO CONTRACTS/PROJECTS CONTAINING THE 413 SPECIFICATION, SECTION 413.5.01 ADJUSTMENTS
ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

ENTER APL 409 **ENTER APM** 920.25

125.00%	INCREASE ADJUSTMENT

L.I.N.	TYPE	TACK (GALLONS)	TACK (TONS)	REMARKS
413-1000	PG 67-22	1395	5.9917	

TMT = 5.9917

PRICE ADJUSTMENT($)	$2,940.71

400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX

ENTER APL 409 **ENTER APM** 920.25

http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

125.00%	INCREASE ADJUSTMENT

L.I.N. / Spec Number	MIX TYPE	HMA	JMF AC%	AC	REMARKS
402-3121	25 mm SP	711	5.00	35.55	
402-3103	9.5 mm SP	1424	5.00	71.20	
402-3190	19 mm SP	2321	5.00	116.05	
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			TMT =	222.80	

PRICE ADJUSTMENT($)	$109,350.24

ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)

APPLICABLE TO CONTRACTS CONTAINING THE 413 SPEC. SECTION 413.5.01 ADJUSTMENTS ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

ENTER APL

ENTER APM

MISSING APL OR APM	MISSING APL OR APM

Use this side for Asphalt Emulsion Only

L.I.N.	TYPE	ASPHALT EMULSION (GALLONS)
TMT =		
REMARKS:		

Use this side for Asphalt Cement Only

L.I.N.	TYPE	TACK (GALLONS)
TMT =		
REMARKS:		

MONTHLY PRICE ADJUSTMENT($)	MISSING APL OR APM

ADJUSTMENT SUMMARY

FUEL PRICE ADJUSTMENT *(ENGLISH 125% MAX)*

DIESEL PRICE ADJUSTMENT($)	$114,073.82
UNLEADED PRICE ADJUSTMENT($)	$30,703.42
ASPHALT CEMENT PRICE ADJUSTMENT (BITUMINOUS TACK COAT 125% MAX)	$2,940.71
400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX	$109,350.24
ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)	MISSING APL OR APM

REMARKS:	

TOTAL ADJUSTMENTS	$257,068.19

DWM 10/08

MEMORANDUM

400 Northpark Town Center
1000 Abernathy Road, Suite 900
Atlanta, GA 30328
Phone: (678) 808-8800
Fax: (678) 808-8400

To:	Attendees - see attached list	**File:**	15284036
From:	Patrick Gallagher, PE	**Copy:**	John Oliver, URS
Date:	May 21, 2009		Charles Crowell, URS

Subject: MEETING MINUTES – Concept Team Meeting for the Cedars Road Park and Ride Lot
GDOT Project: CSMSL-0008-00(713), PI 0008713

Purpose:
The purpose of this memo is to document the Concept Team Meeting held with GDOT, Gwinnett County and GRTA on Wednesday, May 21, 2009 at GDOT headquarters.

Meeting items discussed are as follows:

1. The Needs and Purpose statement will be updated to reflect more current information.
2. References to "Phase 1" and "Phase 2" will be changed in the Proposed Improvements section and throughout the report to "Area 1" and "Area 2" to avoid confusion.
3. Regarding Access, the need for a traffic signal at the driveway intersection with US 29 is currently being examined and will be confirmed prior to PFPR.
4. The Concept Team recommended considering alternative access drive locations. Alternate locations will be considered prior to PFPR.
5. The **Functional Classification** of the adjacent roads will be confirmed and revised as needed.
6. The statement "**A Stream Buffer Variance will be required for this work"** will be highlighted in bold text in the **Proposed Design Features:** Environmental Concerns section of the report.
7. A statement indicating that lighting will be provided in the parking field, bus pavilions and fare system shelters will be added to the **Proposed Design Features:** Utility Involvements section of the report.
8. A reference to the page number in the Traffic Impact Study which lists the other projects in the area will be added to the **Coordination** Other Projects in the Area section of the report.
9. A reference to the adjacent fence company parcel will be added to the **Alternates Considered** section of the report.
10. A statement indicating that GRTA will execute a maintenance agreement with Gwinnett County and facilitate Gwinnett County deeding the property to GDOT will be added to the **Comments** section of the report.
11. A reference to the Location and Design notice will be added to the **Attachments** section of the report.
12. A reference to a draft copy of the GRTA/Gwinnett agreement will be added to the **Attachments** section of the report

13. The Cost Estimate will be revised to use 8% E&C and add asphalt index in the cost.
14. The Cost Estimate will be revised to include $55,000 for reimbursable utilities.
15. The Cost Estimate will be revised to include a combined Area 1 and Area 2 cost total.
16. The Cost Estimate will be updated to use current prices from Engineering Services.
17. URS will include these meeting minutes in the Final Concept Report, and submit it for approval.

SIGN - IN

CONCEPT MEETING 5/21/09

CEDARS ROAD P&R CSMSL - 0008-00 (713)

Patrick Gallagher	URS	pj-gallagher@urscorp.com
Phil Boyd	Gwinnett Co	phil.boyd@gwinnetttransit.com
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Todd Long	GRTA	tlong@grta.org
Nabil Raad	GDOT / TR.OP	nraad@dot.ga.gov
BRETT GARVEY	URS	brett_garvey@urscorp.com

TRAFFIC IMPACT STUDY

CEDARS ROAD PARK AND RIDE LOT

GWINNETT COUNTY, GEORGIA

prepared for:

Georgia Regional Transportation Authority
Marquis One Tower
245 Peachtree Center Avenue, NE
Suite 900
Atlanta, Georgia 30303-1223

prepared by:

URS Corporation
400 Northpark Town Center
1000 Abernathy Road, NE
Atlanta, Georgia 30328

URS Project Number 15284036

April 10, 2009

EXECUTIVE SUMMARY

The Georgia Regional Transportation Authority (GRTA) has requested a traffic impact analysis of the proposed a Park and Ride Lot to be located off of Cedars Road, just north of US 29/SR 8/Winder Highway east of Lawrenceville, Georgia in Gwinnett County. The proposed lot will consist of a total of 957 parking spaces for park and ride users, with an additional 21 employee and 22 bus spaces.

The transportation impact analysis was performed for four existing intersections in the vicinity of the proposed Park and Ride Lot. Intersections included in this study network are as follows:

- Cedars Road at SR 316;
- Cedars Road at US 29 / Winder Highway;
- US 29 / Winder Highway at SR 316; and
- Cedars Rd at Hurricane Shoals Road.

Each intersection was analyzed for the existing year, background (no-build future background) year, and build year to determine the impact of traffic generated by the proposed Park and Ride Lot. Recommendations were proposed at deficient intersections in an attempt to achieve Georgia Department of Transportation (GDOT) level-of-service (LOS) D standard.

A summary of the operations for the existing, background, and build conditions is provided in the following sections:

Existing Conditions

The analysis indicated that the intersections of Cedars Road at SR 316 and US 29 at SR 316 do not operate at the GDOT LOS D standard during both the AM and PM peak hours.

Background Conditions

The analysis indicated that the intersections of Cedars Road at SR 316 and US 29 at SR 316 will not operate at the GDOT LOS D standard during both the AM and PM peak hours. However, an acceptable LOS would be achieved if the following recommendations were to be implemented by the appropriate organizations:

- Provide exclusive left turn lanes for northbound and southbound approaches at the intersection of Cedars Road and SR 316.
- Provide two through lanes eastbound and westbound at the intersection of US 29 and SR 316. Currently there is only one through lane eastbound and westbound on US 29 thus a feasibility study is needed to determine the limits and viability of widening US 29 from two to four lanes.

Build Conditions

The analysis indicated that an unsignalized intersection at the Park and Ride access will not meet the GDOT LOS D standard during the AM and PM peak hours for the stopped movement approach. However, an acceptable LOS can be achieved with the installation of a traffic signal. The installation of a traffic signal will require a signal permit from GDOT. To obtain a signal permit, a signal warrant analysis will need to be completed and indicate sufficient warrant for signalization. In addition, analysis of the traffic volumes at the access point recommends the use of exclusive right and left turn lanes into the Park and Ride Lot from US 29.

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INTRODUCTION

This study investigates the impact to traffic operations resulting from the proposed 957 parking space Park and Ride Lot at Cedars Road and US 29/ SR 8/ Winder Highway in Gwinnett County. The proposed site location, shown in **Figure 1**, is in the northwest quadrant of that intersection and will be accessed via a full access point on US 29/SR 8/Winder Highway. Additionally, the concept plan for the parking lot expansion is provided in **Figure 2**.

Evaluation Methodology

For this study, Synchro 7.0, which utilizes Highway Capacity Manual (HCM) methodologies, was used to evaluate each intersection within the study area. The sections that follow summarize HCM methodologies for both unsignalized and signalized intersections.

For unsignalized intersections, Level of Service (LOS) is defined for the controlled movement by average control delay per vehicle which includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Several factors affect the controlled delay for unsignalized intersections, such as availability and distribution of gaps in the conflicting traffic stream, critical gaps, and follow-up time for a vehicle in the queue.

Unsignalized Level of Service	Unsignalized Average Control Delay (sec/veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Source: 2000 Highway Capacity Manual

For signalized intersections, LOS for a signalized intersection is defined in terms of average control delay per vehicle, which is composed of initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The following table presents LOS criteria for signalized intersections as they are defined by average control delay.

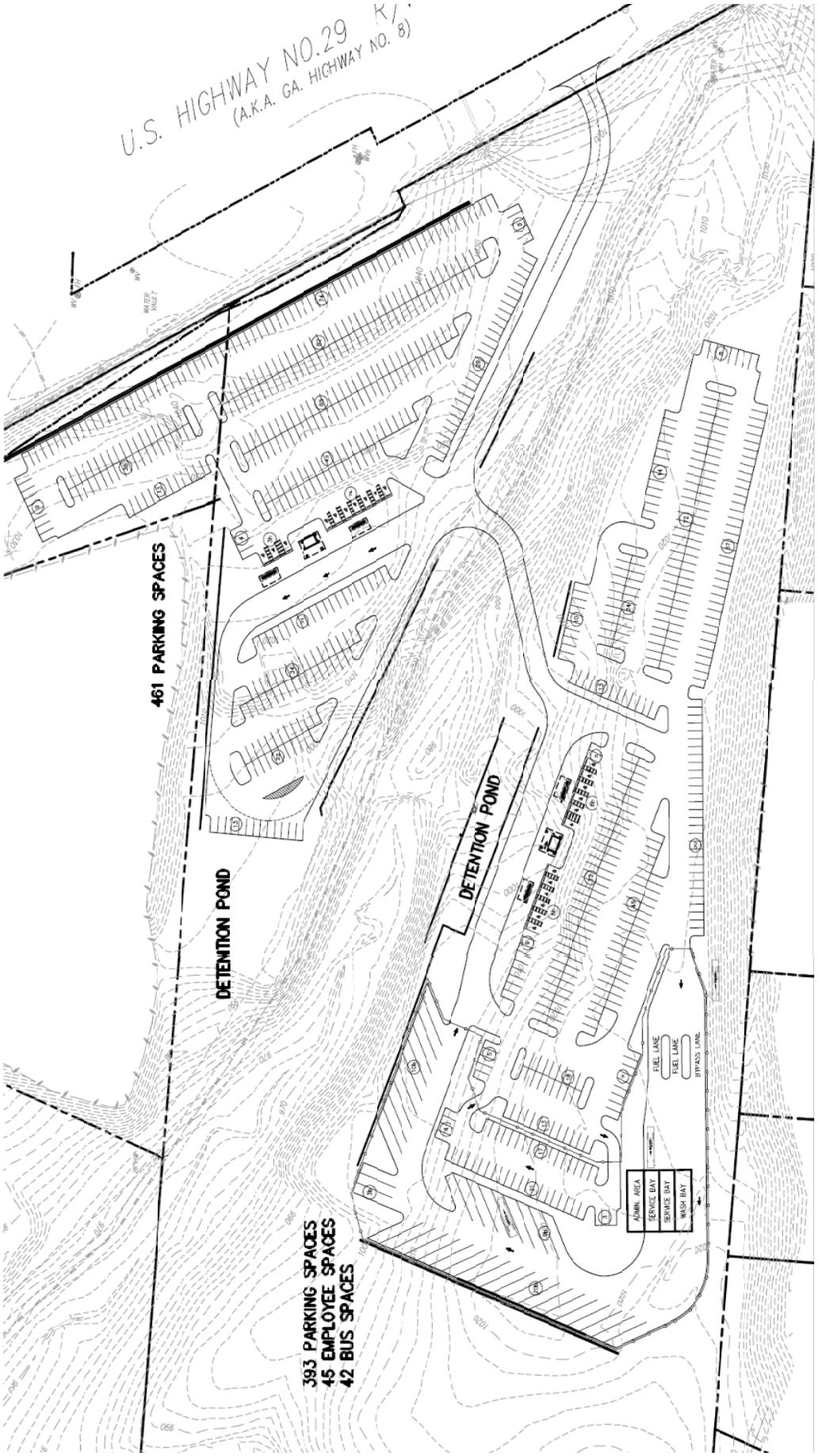
Signalized Level of Service	Signalized Average Control Delay (sec/veh)
A	≤ 10.0
B	> 10.0 and ≤20.0
C	> 20.0 and ≤35.0
D	> 35.0 and ≤55.0
E	> 55.0 and ≤80.0
F	> 80.0

Source: 2000 Highway Capacity Manual

Hurricane Shoals Road and Cedars Road could not be evaluated using HCM methodologies due to the number of lanes on stopped controlled legs at the intersection exceeding HCM limitations. For this intersection, total delay at the intersection was evaluated using SimTraffic, a microsimulation companion program to Synchro 7.0.

Figure 1 Location Map

Figure 2 Concept Plan



EXISTING CONDITIONS

Local Roadway Network

An inventory of the roadway facilities within the study area was performed. The following is a brief description of each facility. A schematic diagram of the study network is provided in **Figure 3** to more clearly depict the intersection geometries.

SR 316

SR 316 is a four lane major east-west arterial that is a major commuter facility connecting with I-85 to downtown Atlanta. A few miles west of the study area, SR 316 turns into a limited access freeway. The posted speed limit on SR 316 is 55 miles per hour (mph).

US 29/ SR 8/ Winder Highway

US 29/ SR 8/Winder Highway is a two lane arterial that provides access to downtown Lawrenceville. The proposed access point to the Park and Ride Lot will be located on US 29/SR 8/Winder Highway. The posted speed limit on US 29 is 45 mph.

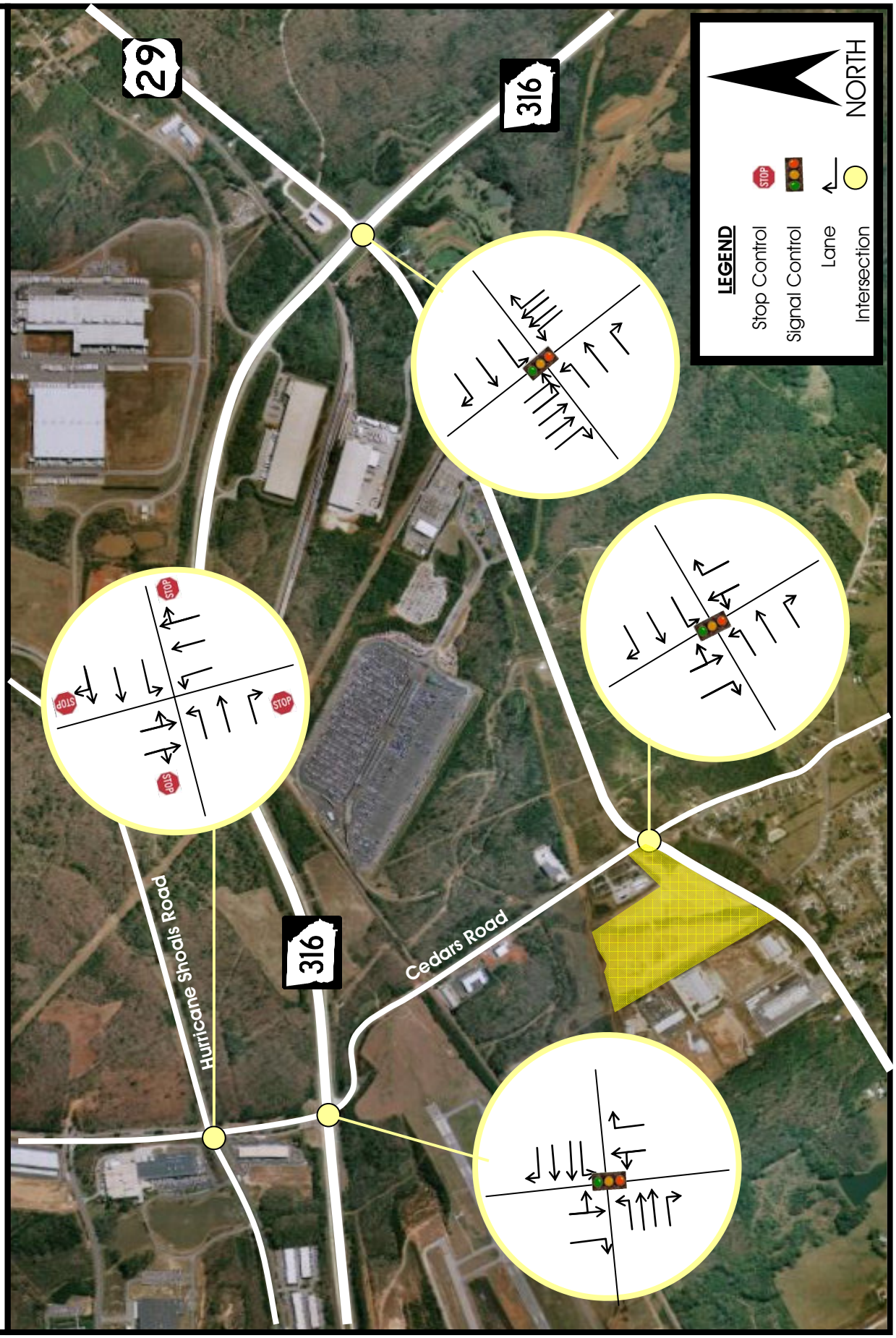
Cedars Road (CR 186)

Cedars Road is a two lane local roadway with signalized intersections at SR 316 and US 29/SR 8/Winder Highway. The posted speed limit on Cedars Road is 40 mph.

Hurricane Shoals Road (CR 1993)

To the east of Cedars Road, Hurricane Shoals Road is two lanes providing access to residential areas of Dacula. To the west of Cedars Road, Hurricane Shoals Road is a five lane roadway that provides access to local land uses. The posted speed limit on Hurricane Shoals Road is 45 mph.

Figure 3 Existing Lane Geometry



Existing Traffic Volumes

To quantify current traffic conditions, existing turning movement counts were performed in August 2008 between 7:00 a.m. and 9:00 a.m. and between 4:00 p.m. and 6:00 p.m. The four consecutive 15-minute interval volumes that summed to produce the highest volume at each intersection were then determined. These volumes make up the peak-hour traffic volumes for the intersections counted and are shown in **Figure 4** for the weekday peak hours.

Existing Traffic Operations

An evaluation with Synchro 7.0 was conducted using the existing turning movement volumes and existing lane geometry. The intersection analysis reports are provided in the **Appendix**. The results of this analysis are presented in **Table 1.**

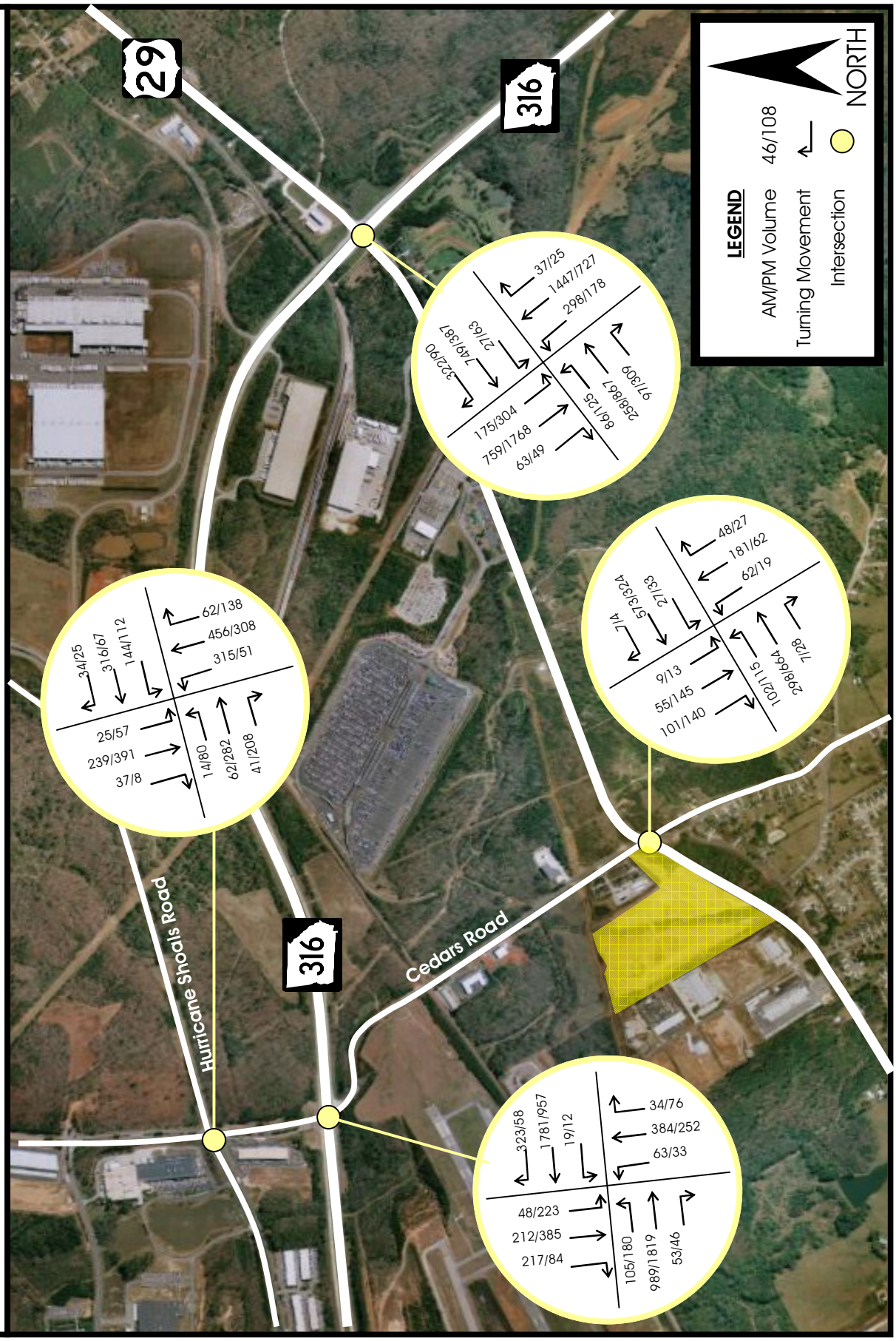
Table 1 Existing Traffic Operations

Intersection	AM		PM	
	LOS	**Delay (sec/veh)**	**LOS**	**Delay (sec/veh)**
SR 316 & Cedars Road	**F**	106.6	**F**	150.8
US 29/SR 8/Winder Highway & Cedar Road	B	14.8	B	11.3
US 29/SR 8/Winder Highway & SR 316	**E**	73.9	**F**	107.0
Hurricane Shoals Road & Cedars Road (1)	N/A	9.4	N/A	162.6

(1) Intersection LOS or delay cannot be determined by HCM as number of lanes per leg exceeds HCM limitation of two lanes per leg. Delay provided is total delay per vehicle in an hour as determined by SimTraffic micro-simulation.

As indicated by the results in Table 1, the intersections Cedars Road at SR 316 and US 29 at SR 316 currently do not operate at the GDOT LOS D standard during both AM and PM peak hours.

Figure 4 Existing AM/PM Peak Hour Volumes



BACKGROUND CONDITIONS

Background Traffic Forecast

In order to analyze the impacts of the proposed Park and Ride Lot it is necessary to project future conditions without the Park and Ride Lot. This scenario is referred to as Background Conditions. To project background traffic volumes, an analysis of historical traffic trends in the study area was conducted. As shown in **Table 2**, historical Georgia Department of Transportation (GDOT) traffic data at Count Stations 36, 38, and 252 were analyzed to determine which location showed the strongest statistical correlation to determine traffic growth rates (indicated by a R^2 of 75 percent). The strongest correlation was observed at Count Station 36 (on SR 316, west of Cedars Road), where from 1997 to 2007, a linear growth rate of 2.81 percent was observed

Table 2 Historical Traffic Trends

Count Station	Historical AADT											Trend	R2
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007		
36	10,293	10,654	10,792	11,520	13,717	13,978	13,882	13,927	14,410	13,480	14,080	2.81%	75%
38	10,197	11,985	12,140	12,940	13,664	11,890	14,008	15,187	12,990	14,690	14,190	2.36%	63%
252	22,044	37,767	37,467	48,948	50,600	48,026	48,200	49,067	49,560	41,880	34,930	2.20%	15%

This 2.81 percent linear annual growth rate was applied to the existing traffic volumes to project the 2009 (the year the Park and Ride Lot expansion will be constructed) background volumes. These traffic volumes are presented in **Figure 5**.

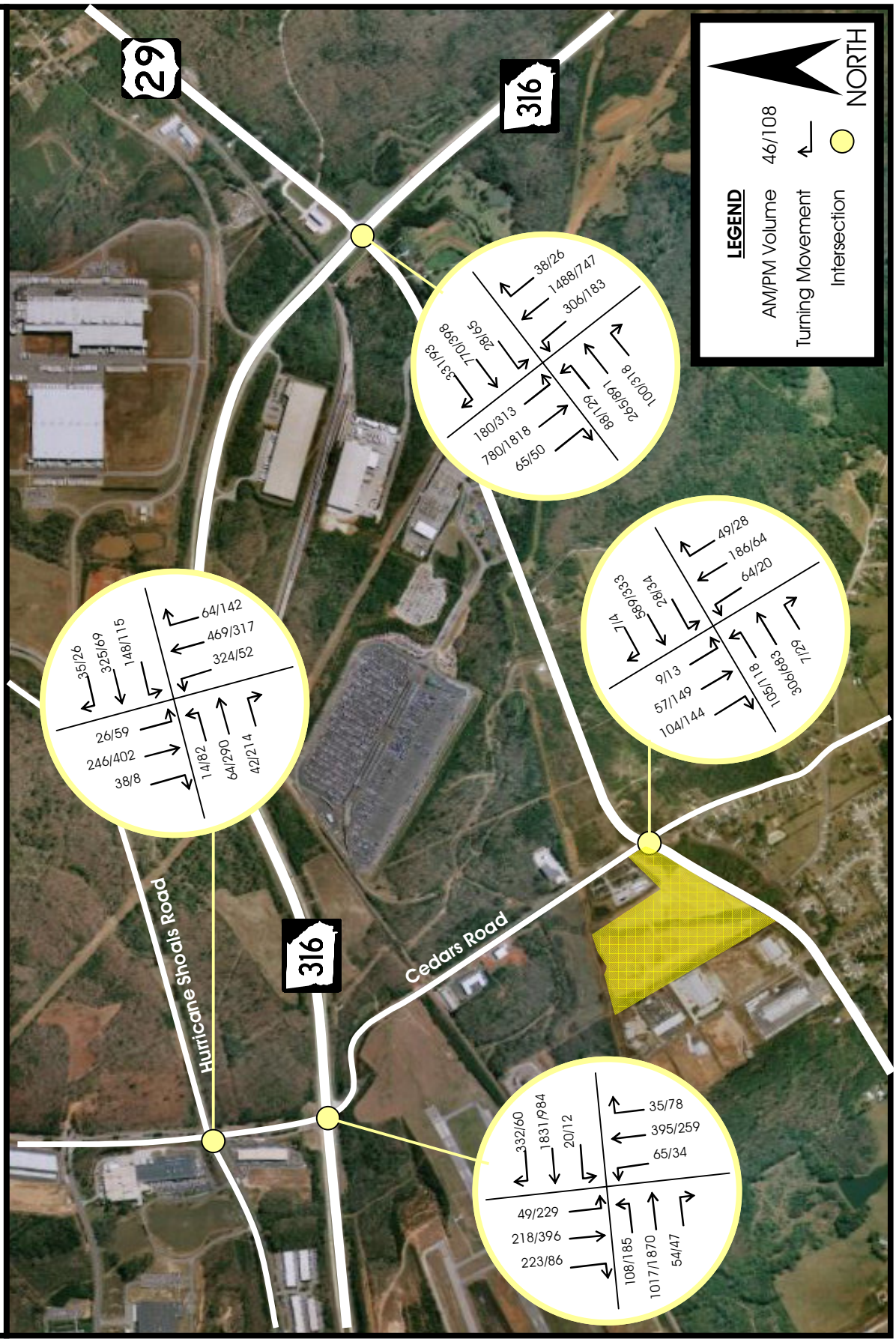
Planned Transportation Improvements

Planned transportation projects which will impact the proposed study area were identified from Atlanta Regional Commission (ARC)'s Regional Transportation Plan and its Transportation Improvements Program. The information regarding the projects' status and projected completed years are shown in **Table 3**. However, the projects are not projected to be completed until after 2009 (the projected opening year of the proposed project), and are not included in the analysis.

Table 3 Planned Transportation Improvements

ARC Project Number	Description	Status	Projected Completion Year
GW-AR-204A	Widen SR 316 from Cedars Road to Drowning Creek	Programmed	2030
GW-AR-249D	Widen SR 316 from Progress Center to Cedars Road	Long Range	2025

Figure 5 Background AM/PM Peak Hour Volumes



Background Traffic Operations

An evaluation with Synchro 7.0 was conducted using the background turning movement volumes and existing lane geometry. A summary of the results of the analysis are presented in **Table 4** with detailed Synchro analysis reports provided in the **Appendix**.

Table 4 Background Traffic Operations

Intersection	AM		PM	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
SR 316 & Cedars Road	F	115.4	F	161.3
US 29/SR 8/Winder Highway & Cedar Road	B	15.4	B	11.7
US 29/SR 8/Winder Highway & SR 316	F	82.0	F	116.2
Hurricane Shoals Road & Cedars Road (1)	N/A	6.7	N/A	316.7

(1) Intersection LOS or delay cannot be determined by HCM as number of lanes per leg exceeds HCM limitation of two lanes per leg. Delay provided is total delay per vehicle in an hour as determined by SimTraffic micro-simulation.

As indicated by the results in **Table 1**, the intersections of Cedars Road at SR 316 and US 29 at SR 316 currently do not operate at the GDOT LOS D standard during both AM and PM peak hours. However, an acceptable LOS would be achieved if the following recommendations were implemented by the appropriate organizations.

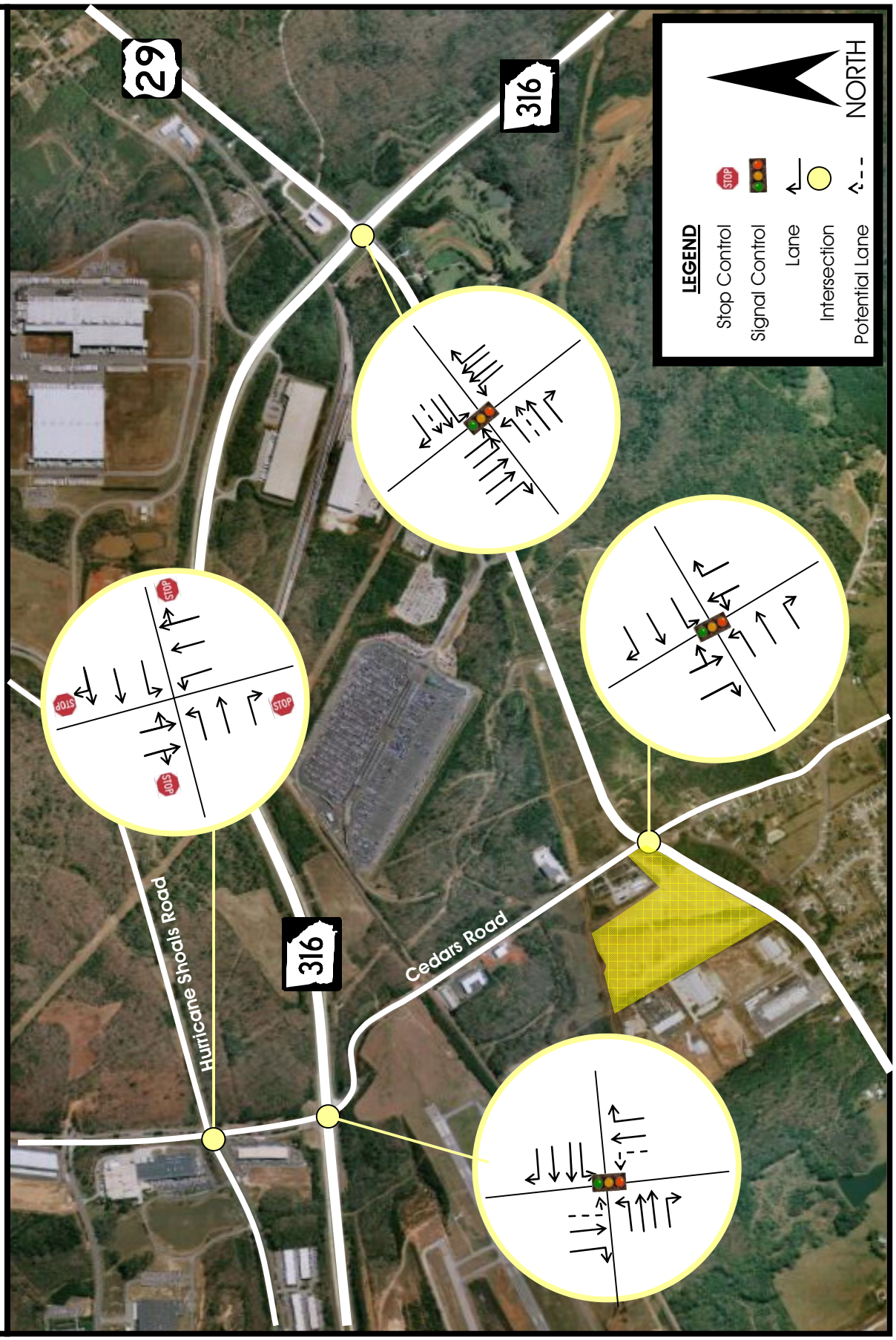
- Provide exclusive left turn lanes for northbound and southbound approaches at the intersection of Cedars Road and SR 316.
- Provide two through lanes eastbound and westbound at the intersection of US 29 and SR 316. Currently there is only one through lane eastbound and westbound on US 29 thus a feasibility study is needed to determine the limits and viability of widening US 29 from two to four lanes.

The recommended lane geometry to improve traffic operations in the background scenario is shown in **Figure 6**. The results of the background traffic operations with the recommended land geometry are presented in **Table 5**.

Table 5 Background Traffic Operations with Recommendations

Intersection	AM		PM	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
SR 316 & Cedars Road	D	38.2	D	50.2
US 29/SR 8/Winder Highway & SR 316	D	46.5	D	54.1

Figure 6 Background Transportation Recommendations



BUILD CONDITIONS

Traffic Forecast

Traffic projections for the build condition incorporate three components:

- The background traffic in the study area;
- The project traffic that will utilize the Park and Ride Lot; and
- As the Park and Ride Lot will not create 'new' trips, but rather divert trips from existing patterns, the diversion traffic incorporates changes in traffic patterns due to the expansion of the Park and Ride Lot. Specifically, this includes traffic that would otherwise be part of the background traffic but diverts to utilize the Park and Ride Lot.

Therefore, the final volumes for the future condition are calculated using the following formula:
(Background Traffic) + (Project Traffic) – (Diversion Traffic)

Project Traffic

The project traffic volumes are forecasted in two steps: (1) a trip generation and (2) trip distribution.

Trip generation for the proposed expansion was based on the following assumptions provided by GRTA:

- Peak Hour
  - Bus service every 15 minutes during the peak hour
  - Each bus serves 60 customers (57 seated, three standees) with a 90 percent single occupancy vehicle rate for bus customers utilizing the lot
  - The remaining 10 percent of bus customers are kiss and ride users
  - Three vanpools per peak hour with 15 users per vanpool
  - 15 carpools with 2 users per carpool
- Daily Use
  - 24 daily buses
  - Each bus serves 60 customers (57 seated, three standees) with a 90 percent single occupancy vehicle rate for bus customers utilizing the lot
  - The remaining 10 percent of bus customers are kiss and ride users
  - Three daily vanpools with 15 users per vanpool
  - 15 carpools daily with 2 users per carpool

The trip generation calculated for the Park and Ride Lot is presented in **Table 6**.

Trip distribution was determined based on the existing traffic patterns observed in the existing counts. The trip distribution is shown in **Figure 7**, and the projected project traffic is shown in **Figure 8**.

Table 6 Trip Generation

Trip Type	Total Trips	
	In	**Out**
AM Peak Hour		
Bus Trips	4	4
SOV Bus Customers	216	0
Kiss and Ride Bus Customers	24	24
Vanpool Trips	45	3
Carpool Trips	30	15
Total	**319**	**46**
PM Peak Hour		
Bus Trips	4	4
SOV Bus Customers	0	216
Kiss and Ride Bus Customers	24	24
Vanpool Trips	3	45
Carpool Trips	15	30
Total	**46**	**319**
Daily		
Bus Trips	24	24
SOV Bus Customers	648	648
Kiss and Ride Bus Customers	144	144
Vanpool Trips	48	48
Carpool Trips	45	45
Total	**909**	**909**

Diversion Traffic

The diversion traffic was generated in a similar way to the project traffic. Using the trip generation volumes and the background traffic patterns of bus customers, vanpool users, and carpool users that would utilize the Park and Ride Lot. As the Park and Ride Lot is primarily a commuter facility with its main orientation being the bus service offered to downtown Atlanta, all of the diversion traffic was estimated with their original patterns being oriented towards using SR 316 to I-85. **Figure 9** indicates the diversion traffic volumes. The final build traffic volumes are provided in **Figure 10**.

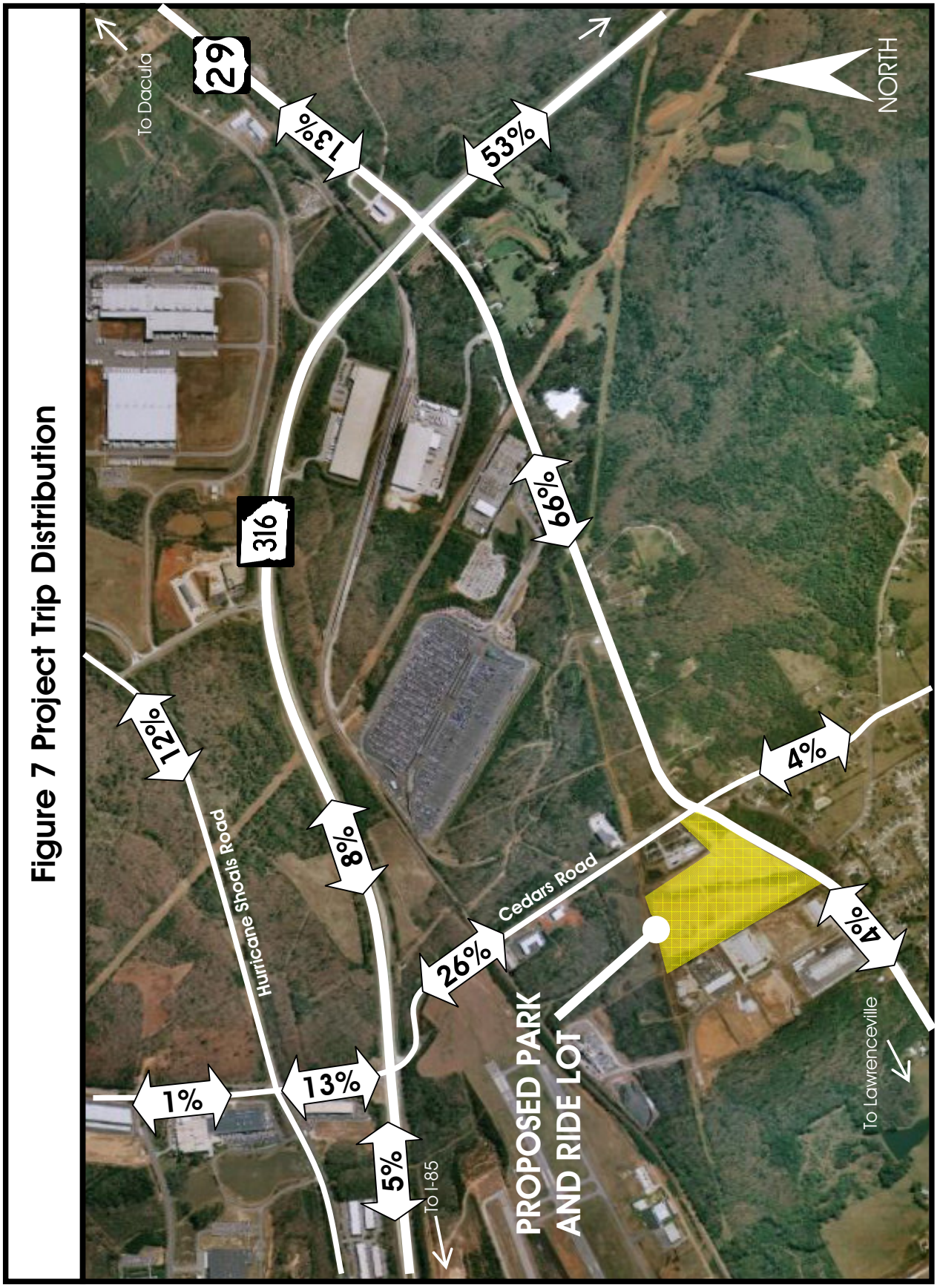


Figure 7 Project Trip Distribution

Figure 8 Project AM/PM Traffic Volumes

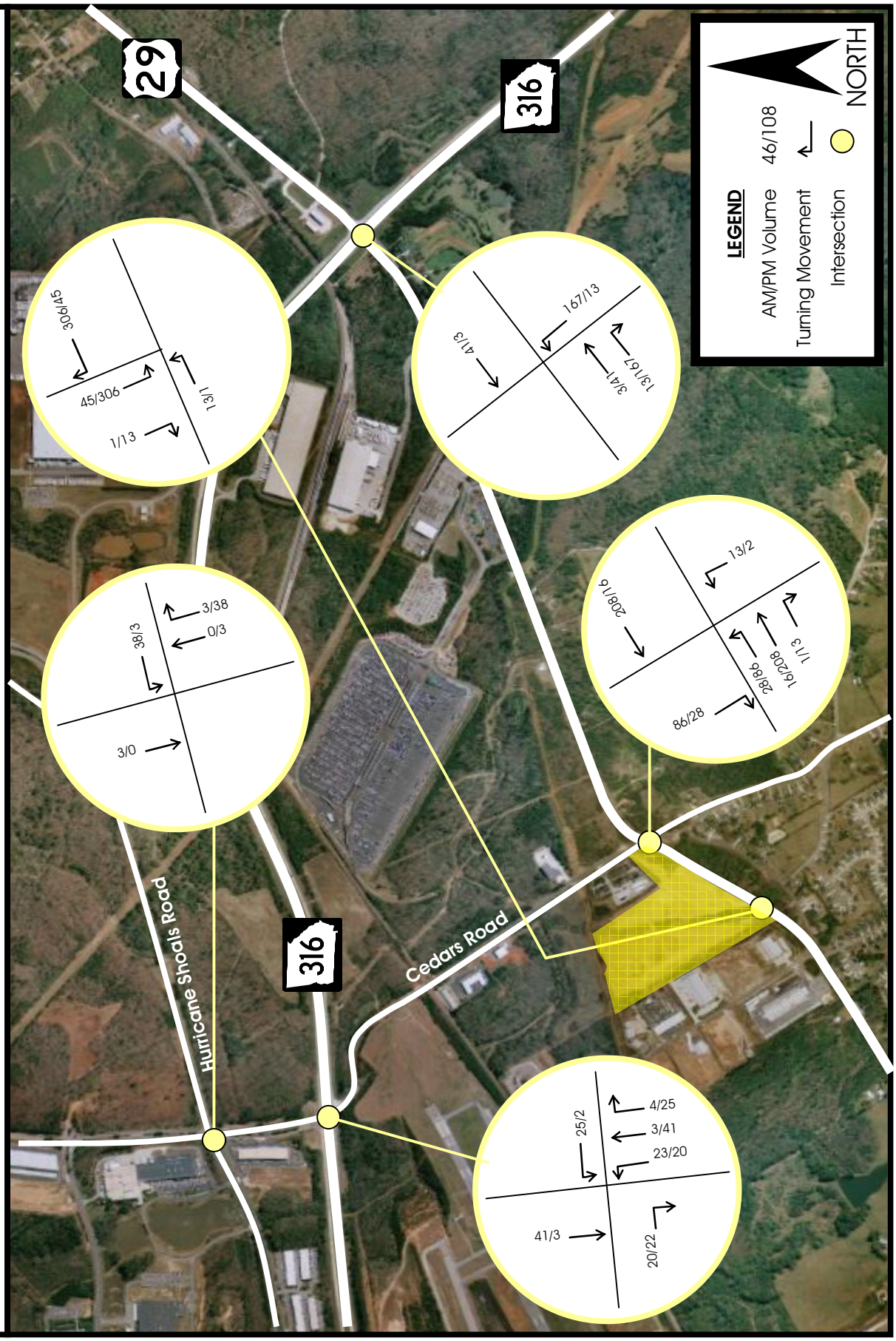


Figure 9 Diversion AM/PM Volumes

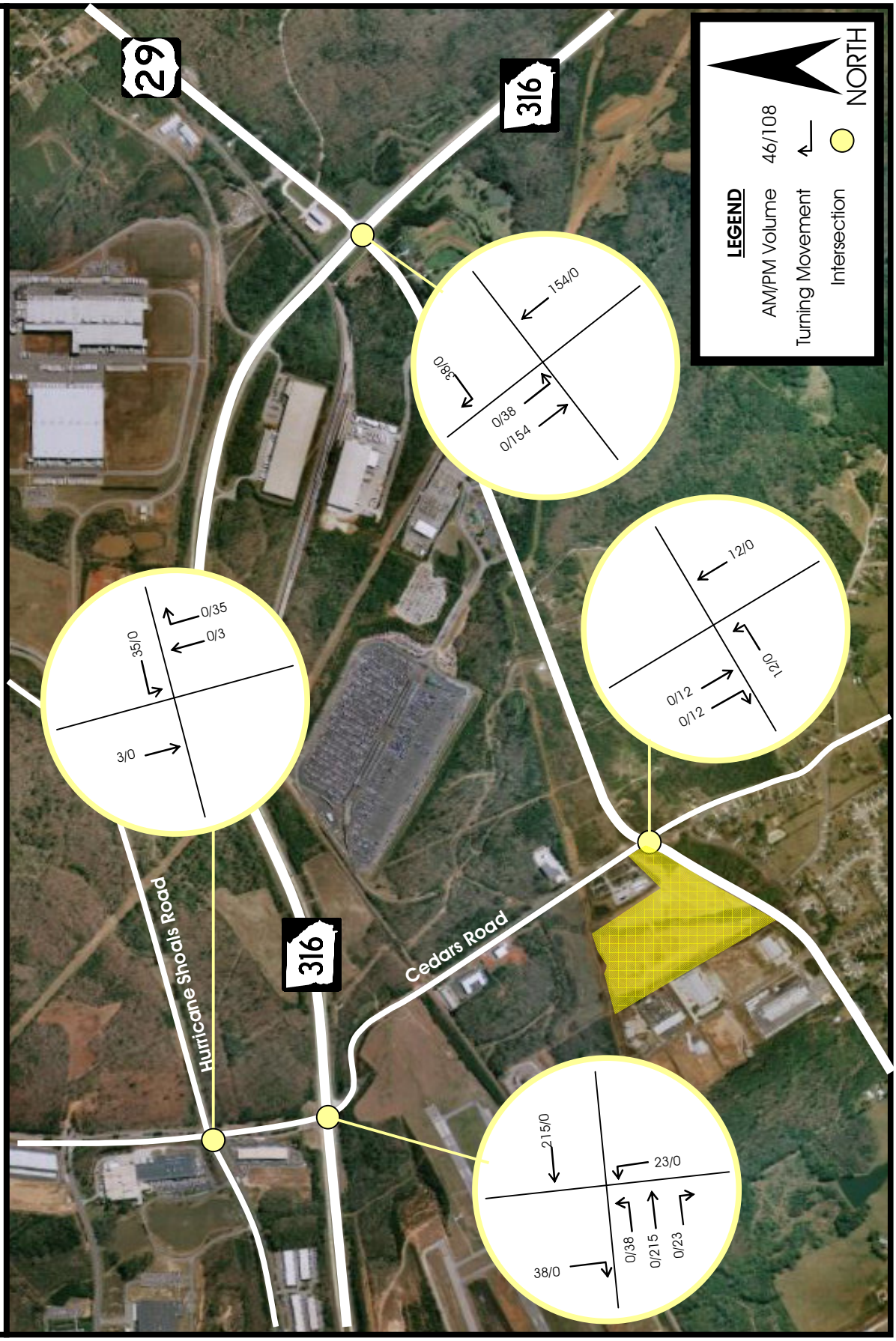
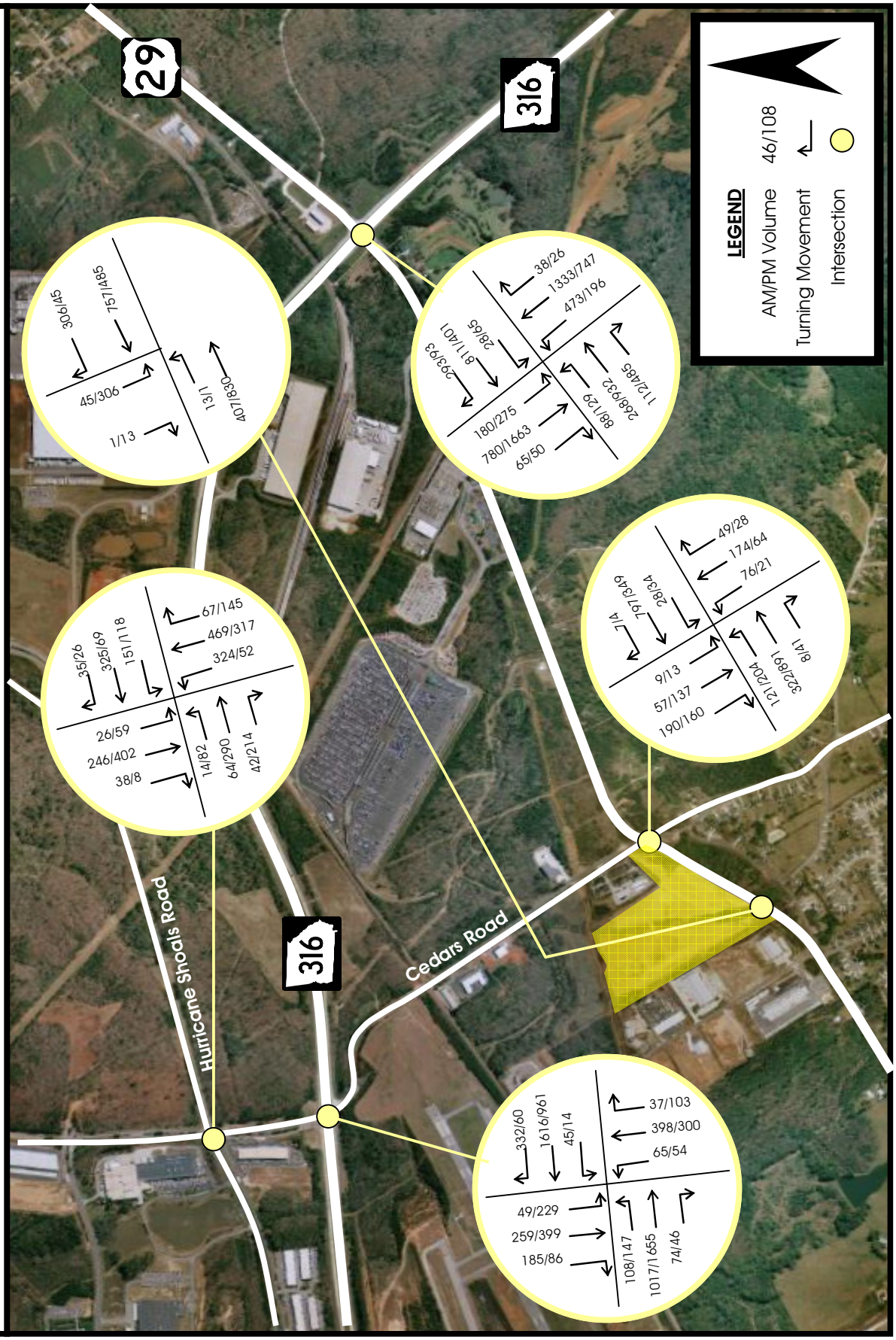


Figure 10 Build AM/PM Peak Hour Volumes



Build Traffic Operations

The first step in analyzing the build traffic operation was to determine the appropriate lane configuration at the Park and Ride access on US 29. This results of this analysis is provided in **Table 7**, utilizing criteria from the *GDOT Regulations for Driveway and Encroachment Control.*

Table 7 Park and Ride Access Point Recommendations

Approach Movement	Minimum Requirements	Source	Applicable Traffic Volume	Minimum Requirements Satisfied?	Recommendation (1)
Eastbound left from US 29 into Park and Ride	>4,000 ADT	Table 4-7 Minimum Volumes Requiring Left Turn Lanes	14,080 (2007 AADT)	Yes	Provide Exclusive Eastbound Left Turn Lane
	>200 Daily Left Turn Volume		36 Vehicles	No	
Westbound right from US 29 into Park and Ride	> 4,000 ADT or	Table 4-6 Minimum Volumes Requiring Right Turn Lanes	14,080 (2007 AADT)	Yes	Provide Exclusive Westbound Right Turn Lane
	> 150 Daily Right Turn Volume		872 Vehicles	Yes	

(1) Use GDOT Regulations for Driveway and Encroachment Control to determine appropriate auxiliary lane design

An evaluation with Synchro 7.0 was conducted using the build condition traffic volumes and the recommened background condition lane geometry with the above recommendations and the assumption of an unsignalized intersection at the Park and Ride access. A summary of the results of the analysis are presented in **Table 8** and detailed Synchro analysis reports are provided in **Appendix**.

Table 8 Build Traffic Operations – Initial Analysis

Intersection	AM		PM	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
SR 316 & Cedars Road	C	32.1	D	45.8
US 29/SR 8/Winder Highway & Cedar Road	C	28.2	B	14.9
US 29/SR 8/Winder Highway & SR 316	D	37.8	D	53.9
Hurricane Shoals Road & Cedars Road (1)	N/A	8.6	N/A	40.4
US 29/SR 8/Winder Highway & Park and Ride Access Outbound Approach	E	47.5	F	680.9

(1) Intersection LOS or delay cannot be determined by HCM as number of lanes per leg exceeds HCM limitation of two lanes per leg. Delay provided is total delay per vehicle in an hour as determined by SimTraffic micro-simulation.

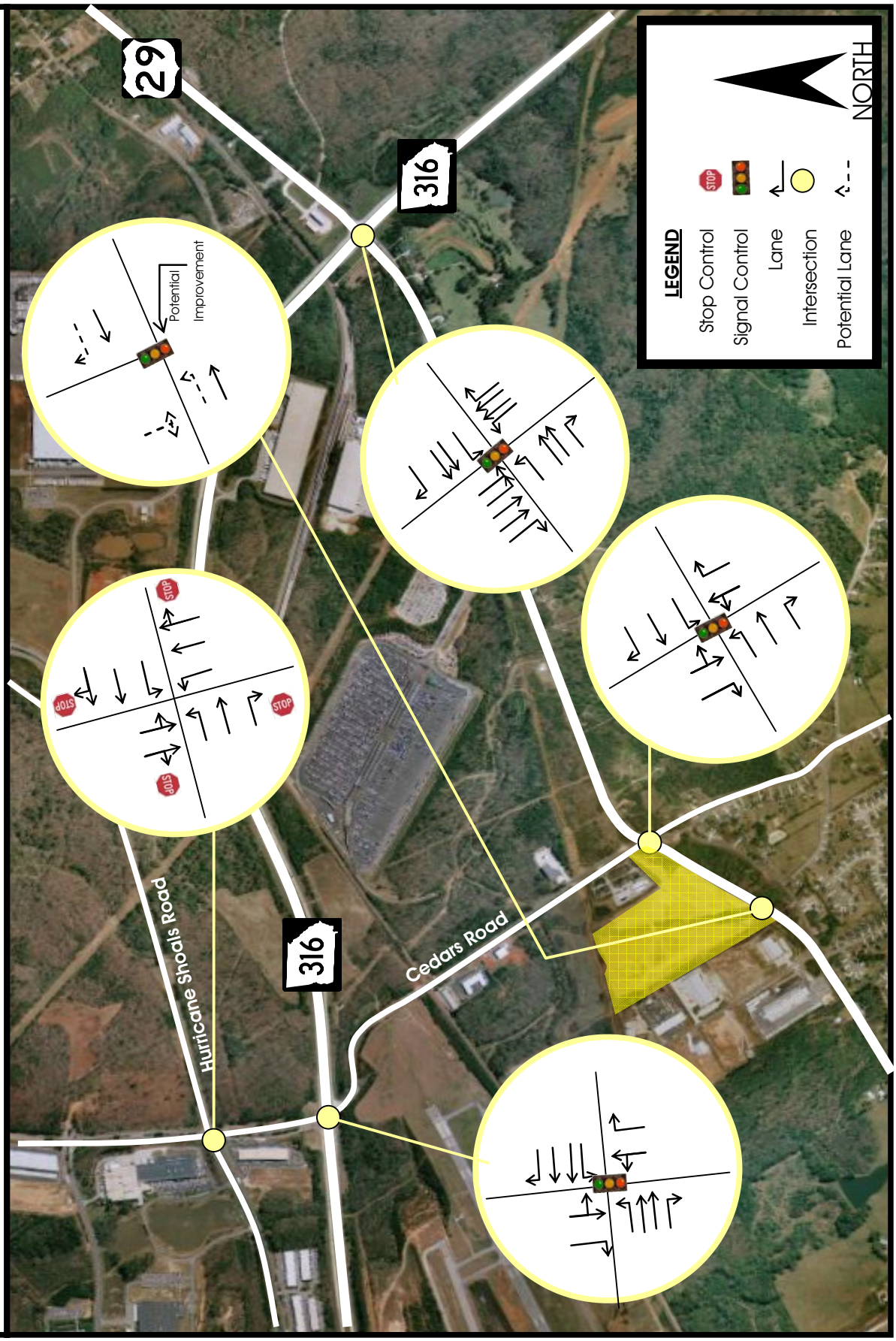
As indicated by the results in **Table 8**, the analysis indicated that an unsignalized intersection at the Park and Ride access will not meet the GDOT LOS D standard during the AM and PM peak hours for the stopped movement approach. However, an acceptable LOS can be achieved with the installation of a traffic signal. The installation of a traffic signal will require a signal permit from GDOT. To obtain a signal permit, a signal warrant analysis will need to be completed and indicate sufficient warrant for signalization.

The potential improvements are shown in **Figure 11**. The results of the build traffic operations with the proposed recommendations are presented in **Table 9**.

Table 9 Build Traffic Operations with Recommendations

Intersection	AM		PM	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
US 29/SR 8/Winder Highway & Park and Ride Access	B	10.1	B	18.9

Figure 11 Build Transportation Recommendations



CONCLUSION

The transportation impact analysis was performed for four existing intersections in the vicinity of the proposed Cedars Road Park and Ride Lot. Intersections included in this study network are as follows:

- Cedars Road at SR 316;
- Cedars Road at US 29 / Winder Highway;
- US 29 / Winder Highway at SR 316; and
- Cedars Rd at Hurricane Shoals Road.

Each intersection was analyzed for the existing year, background (no-build future background) year, and build year to determine the impact of traffic generated by the proposed Park and Ride Lot. Recommendations were proposed at deficient intersections in an attempt to achieve Georgia Department of Transportation (GDOT) level-of-service (LOS) D standard.

A summary of the operations for the existing, background, and build conditions is provided in the following sections:

Existing Conditions

The analysis indicated that the intersections of Cedars Road at SR 316 and US 29 at SR 316 do not operate at the GDOT LOS D standard during both the AM and PM peak hours.

Background Conditions

The analysis indicated that the intersections of Cedars Road at SR 316 and US 29 at SR 316 will not operate at the GDOT LOS D standard during both the AM and PM peak hours. However, an acceptable LOS would be achieved if the following recommendations were to be implemented by the appropriate organizations:

- Provide exclusive left turn lanes for northbound and southbound approaches at the intersection of Cedars Road and SR 316.
- Provide two through lanes eastbound and westbound at the intersection of US 29 and SR 316. Currently there is only one through lane eastbound and westbound on US 29 thus a feasibility study is needed to determine the limits and viability of widening US 29 from two to four lanes.

Build Conditions

The analysis indicated that an unsignalized intersection at the Park and Ride access will not meet the GDOT LOS D standard during the AM and PM peak hours for the stopped movement approach. However, an acceptable LOS can be achieved with the installation of a traffic signal. The installation of a traffic signal will require a signal permit from GDOT. To obtain a signal permit, a signal warrant analysis will need to be completed and indicate sufficient warrant for signalization. In addition, analysis of the traffic volumes at the access point recommends the use of exclusive right and left turn lanes into the Park and Ride Lot from US 29.

CONCEPT DESIGN APPROACH
Xpress Bus Satellite Operations Building

PART 1 GENERAL APPROACH

The building will consist of a maintenance area, an administration area, and a bus wash area. The design will include two (2) bus maintenance bays and one (1) bus wash bay. A mezzanine will be included over the administration area for parts storage. Each building bay will be approximately twenty (20) feet wide by seventy (70) feet deep clear. See Figures 1 - 6 for conceptual design sketches.

PART 2 SITE WORK

Utility services must include water, sanitary sewer, electric, telecommunications, and natural gas.

PART 3 SPECIALTY EQUIPMENT

The following items are considered specialty equipment, the design and specification of which will be provided by GRTA.

- Bus wash equipment
- Floor mounted lifts
- Fueling systems
- Bus fluids replenishment equipment (above ground)
- Vacuum systems
- Steam systems

PART 4 ARCHITECTURAL

4.0 GENERAL

Building shall be pre-engineered, pre-fabricated, rigid frame steel with a sloped roof consisting of straight columns and tapered rafters. Rafter height shall be as indicated in preliminary drawings. The possibility of LEED Certification will be explored.

4.1 EXTERIOR DESIGN

4.1a The exterior surface of the Building will be comprised of reinforced and insulated masonry brick veneer with brick face and Concrete Masonry Units (CMU) backing, complimentary in color and texture to the surrounding environment.

Exterior windows shall consist of fixed extruded aluminum storefront framing system with energy-efficient insulating laminated tinted glass.

4.1b Exterior man doors shall be insulated hollow metal doors in hollow metal frames. Doors and frames to be have a paint finish.

4.1c Exterior Bus Doors shall be a motor operated steel insulated roll-up doors of height and width as shown on drawings

4.1d Exterior roof draining shall consist of metal gutters and downspouts to precast concrete splash blocks.

4.2 INTERIOR DESIGN

4.2a Partitions

1) Interior partitions between the main bus maintenance area and the administration area shall consist of reinforced painted concrete block full height.

2) Interior partitions between the bus wash bay and the bus maintenance area shall consist of reinforced painted concrete block full height.

3) Interior partitions at Men & Women's toilets and office areas shall consist of steel studs and gypsum board of the appropriate gauge for the partition heights. Toilet walls shall consist of steel studs and batt insulation with water resistant gypsum board for receiving thin set ceramic tile finish. Ceramic tile finish shall be installed on all walls full height to ceiling

4) Any fire rated partitions other than the partitions in 4.2a 1) above will be block to achieve rating.

4.2b Office Rooms

1) Room exterior wall to have metal studs and gypsum board to 9'-0" in height. Studs to be insulated with batt insulation for soundproofing.

4.2c Doors & Frames

1) All Interior personnel doors shall be Hollow Metal steel doors and frames. Size shall be 3'-0" x 7'-0" high x 1-3/4" thick. Doors and frames shall be factory fabricated in accordance with SDOI SDI-100. Doors and frames shall be reinforced, drilled, and tapped to receive mortised hinges, locks, latches, and flush bolts as required. Doors and frames shall be reinforced for surface applied hardware. Door frames shall be furnished with a minimum of three jamb anchors and one floor anchor per jamb. All exterior doors shall be fully weather-stripped with exterior type aluminum thresholds.

4.2d. Ceilings

1) Interior Ceiling shall be a 2’ x 2’ acoustical layin ceiling, Type III (Non asbestos) mineral composition with factory applied standard washable painted finish. Ceiling height shall be 9’-0”. Color shall be white, Class: A, flame spread 25 or less, Pattern: Non directional fissured. Interior ceiling shall be provided in the Administrative office areas and the connecting corridors.

2) Rest Room Ceiling shall be a 2’ x 2 acoustical layin ceiling. Design Basis: Equal to Armstrong Cirrus Moisture Resistant Ceiling tiles. Ceiling heights to be 9’-0”.

3) General: Edges of ceiling tiles shall be in close contact with metal supports with each other and in true alignment.

4.2e Coffee Area Counter

1) Provide Office Area Cabinets for Coffee area and sink. Cabinet shall have be a factory finished kitchen wall and base cabinets with high pressure decorative laminate (HPDL) countertops. Counter area shall provide space for a countertop Microwave:

4.2f Floor Finishes

1) Office Administration area shall have Vinyl Composition Tile, 12 inches by 12 inches by 1/8 inch thick. Provide matching wall base 4 inches high, 0.125 inch thick.

2) Rest Room Floor shall have Unglazed Ceramic Mosaic Tile, 2” x 2” thin set on concrete floor slab. Cove wall base, 4” high.

3) Shop Area Floor shall have Clear Concrete floor sealer.

4.2g Toilet Accessories

1) Tissue Dispensers (Surface Mounted)
2) Combination Paper Tower Dispenser/Waste Receptacle Units
3) Mirror: 18” x 36”
4) Soap Dispensers
5) Seat Cover Dispenser
6) Grab Bars
7) Robe Hooks
8) Vanity sink or cabinet

4.2h Wall Paint Finish

1) Wall Paint Finish shall be two finish coats over a primer
   a. Primer shall be Interior Gypsum Board Primer.
   b. Finish Coats shall be Interior Semigloss Alkyd-Enamel.

PART 5 MECHANICAL/ELECTRICAL/PLUMBING

5.1 HVAC

5.1a The office and toilet room area shall be cooled with a split system air handler unit located in a Mechanical Room and Air Cooled Condenser unit located outside adjacent to the Mechanical Room. These areas shall be heated with a natural gas fired heated located in the air handler unit. Combustion air shall be provided from a wall mounted louver. The air handler will be a single zone, constant volume ducted air supply and ceiling plenum return. The fan shall be on during occupied periods and the cooling and heating shall be automatically controlled from a wall mounted adjustable thermostat located in the office area. The thermostat will provide for night set back with manual override.

5.1b The Bus Bay, the Repair Room and the Mezzanine Storage areas shall be heated with ceiling mounted natural gas fired Infra-red heaters. The heaters shall be automatically controlled from wall mounted adjustable thermostats.

5.1c All thermostats shall be provided with locking ventilated covers.

5.1d Exhaust ventilation shall be provided for the Toilet Rooms with an inline fan ducted to exhaust through a side wall and with the source of outside air being brought in through the Air Handler Unit. The fan shall be operated from the toilet light switches with a timed delay run time after shutoff.

5.1e Exhaust ventilation shall be provided for the Mechanical Room, the Repair Room and the Air Compressor Room with side wall mounted propeller fans with the source of outside air being from wall mounted air intake louvers. Gravity backdraft dampers shall be installed at the fan exhaust louvers. Motor operated dampers (interlocked with the fan operation) shall be provided at the air intake louvers. These fans shall be provided with automatic operation from a wall mounted adjustable thermostat with manual override.

5.1f A Diesel Smoke Removal Bus Exhaust System shall be provided. Overhead ducting and retractable hose reels shall be provided for connection to each bus when engine is operating within the Bays.

5.2 ELECTRICAL

5.2a Receptacles will be distributed throughout the Office Package and other areas for general equipment. Dedicated circuits will be provided as needed for copiers, servers, and other large equipment and appliances.

5.2b Power will be provided for the Bus Wash, Fueling, and Repair Room equipment and terminated with a disconnect switch. All system wiring downstream of each disconnect will be by equipment vendors.

5.2c Power and lighting will be provided for ancillary structures (Bus Pavilion, Fare System Shelter, Fueling Island, etc.) as needed.

5.2d Low voltage (voice/data/CATV/security) devices will be located per Owner criteria. A 4'x8' backboard will be provided for equipment (by others). Outlet boxes will be located per Owner criteria and conduit will be provided to serve each box for wiring by others.

5.2e Lighting will be provided to meet owner illumination criteria and Energy Code requirements for all areas. The Office Package and other finished areas will be served via high-efficiency 2x4 fixtures with parabolic lenses and fluorescent tube lamp and parabolic lenses. Task lighting will be provided as needed. High-bay lighting with compact fluorescent lamps will be provided for the Bus Bays. New water-proof/vapor-proof fixtures will be provided for the Bus Wash and Steam Room. General lighting for Mechanical Rooms, Storage, Mezzanine, and other unfinished utility spaces will be via 4ft or 8ft long fluorescent strip fixtures with wire guards.

5.2f Site lighting poles and building-mounted lights will be provided to meet Owner criteria for illumination. Surface-mounted canopy fixtures will be provided for the fueling island and other covered outdoor areas.

5.3 PLUMBING

5.3a Potable water shall be provided to the Toilet Rooms, the Coffee Counter Area, a Wash Sink located in the Bus Bay area, a Wash Sink located in the Repair Room, and hose bibb connections s located in the Bus Bay. The Bus Bay Hose Bibbs shall be distributed around the walls with retractable reel hose connections in the center of the Bays and on the walls. Potable hot water shall be provided to the Lavatories and Sinks with individual Instantaneous Electric Heaters.

5.3b An emergency shower/eye wash station shall be provided in the Bus Bay Area.

5.3c Sanitary sewer connections shall be provided from the Toilet Rooms to the Public Sewer System.

5.3d Floor drains in the Bus Bay Area shall be connected through an Oil/Water/Grit Separator prior to discharging to the Public Sewer System.

5.3e An air compressor dryer system shall be provided in a Compressor Room with overhead piping distribution to the Bus Bays and Repair Rooms for pneumatic

tool operation. The air hoses shall be overhead retractable reel mounted and the quantity and locations adequate to provide access to all floor areas of the spaces.

5.4 FIRE PROTECTION AND ALARM SYSTEM

5.4a A wet pipe sprinkler system shall be provided with sprinkler heads distributed throughout all portions of the facility.

5.4b A fire alarm system shall provide a local alarm at the facility based on water flow to the sprinkler system.

5.4c Fire extinguishers shall be provided.

PART 6 STRUCTURAL

6.1 GENERAL

6.1a The building shall be a Pre-engineered metal building approximately 74’ x 80’ nominal with one interior post at center and having 24’ eave height and 3 to 12 gable roof slope.

6.1b The roof shall be a Pre-engineered metal roof.

6.1c The exterior walls shall be full height masonry siding all sidewalls. Wrap around eave height masonry on endwalls with metal siding in gable areas.

6.1d The building shall include one full bay non expandable mezzanine with top of floor elevation 11’ – 8” AFF.

6.1e The building shall include one interior only stairs to mezzanine (no outside access to mezzanine level).

6.1f Both endwalls are non expandable.

6.1g No interior overhead crane is included.

6.2 ADDITIONAL CRITERIA

6.2a Floor shall be 12” concrete slab on grade for bus axle loads.

6.2b Interior columns shall be extended and base plates overpoured to provide level finished floor surface.

6.2c No pits or sumps will be incorporated into the floor slab.

6.2d No ramps shall be incorporated into the building.

6.2e Bollards shall be included at one per each side of drive through opening(s).

6.2f Vapor barrier at grade slab shall be provided in office areas only (conditioned areas only).

6.3 STRUCTURAL DESIGN SERVICES

6.3a All column and brace reactions and anchor bolt size and location are provided by the metal building manufacturer.

6.3b Foundations will consist of spread footings for column loads and stem wall with strip footing to support masonry / brick siding.

6.3c Separate fuel storage tank foundation and containment area exterior to building will be designed by others.

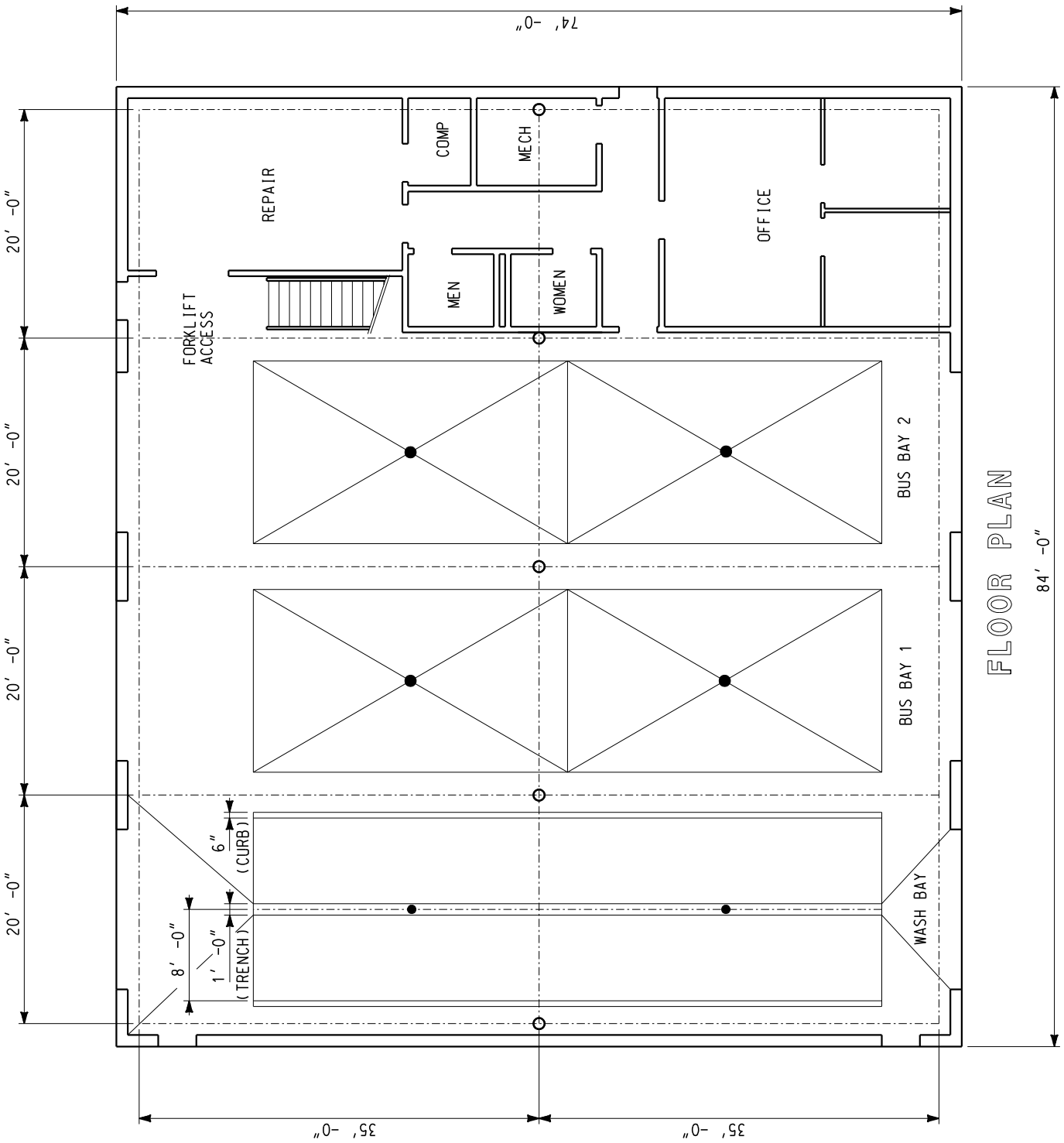

FLOOR PLAN
84' -0"
74' -0"
35' -0"
35' -0"
20' -0"
20' -0"
20' -0"
20' -0"
REPAIR
COMP
MECH
OFFICE
MEN
WOMEN
FORKLIFT ACCESS
BUS BAY 2
BUS BAY 1
WASH BAY
6" (CURB)
1' -0" (TRENCH)
8' -0"

Figure 2

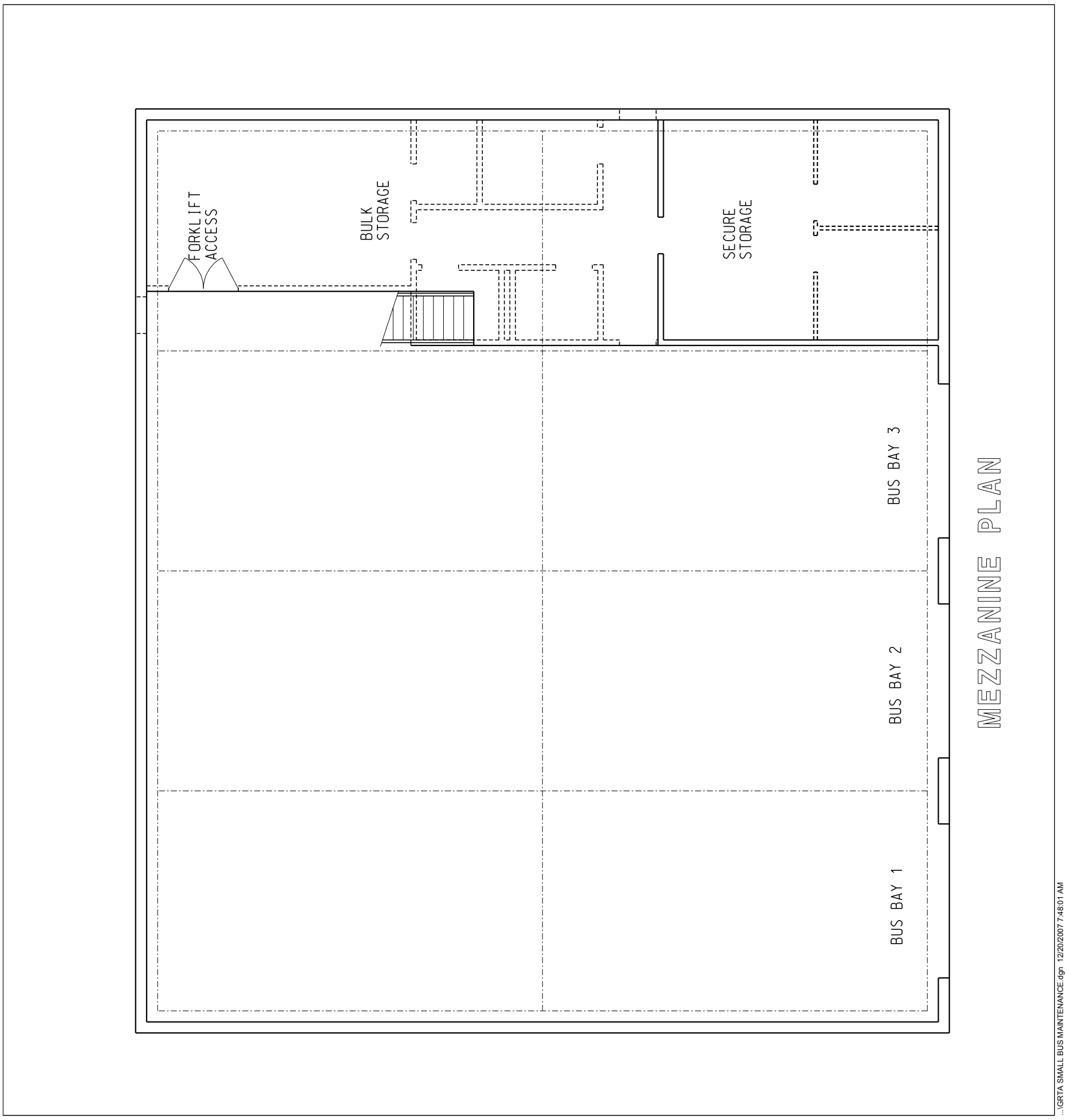

FORKLIFT ACCESS
BULK STORAGE
SECURE STORAGE
BUS BAY 3
BUS BAY 2
BUS BAY 1
MEZZANINE PLAN
...\GRTA SMALL BUS MAINTENANCE.dgn 12/20/2007 7:48:01 AM

Figure 3

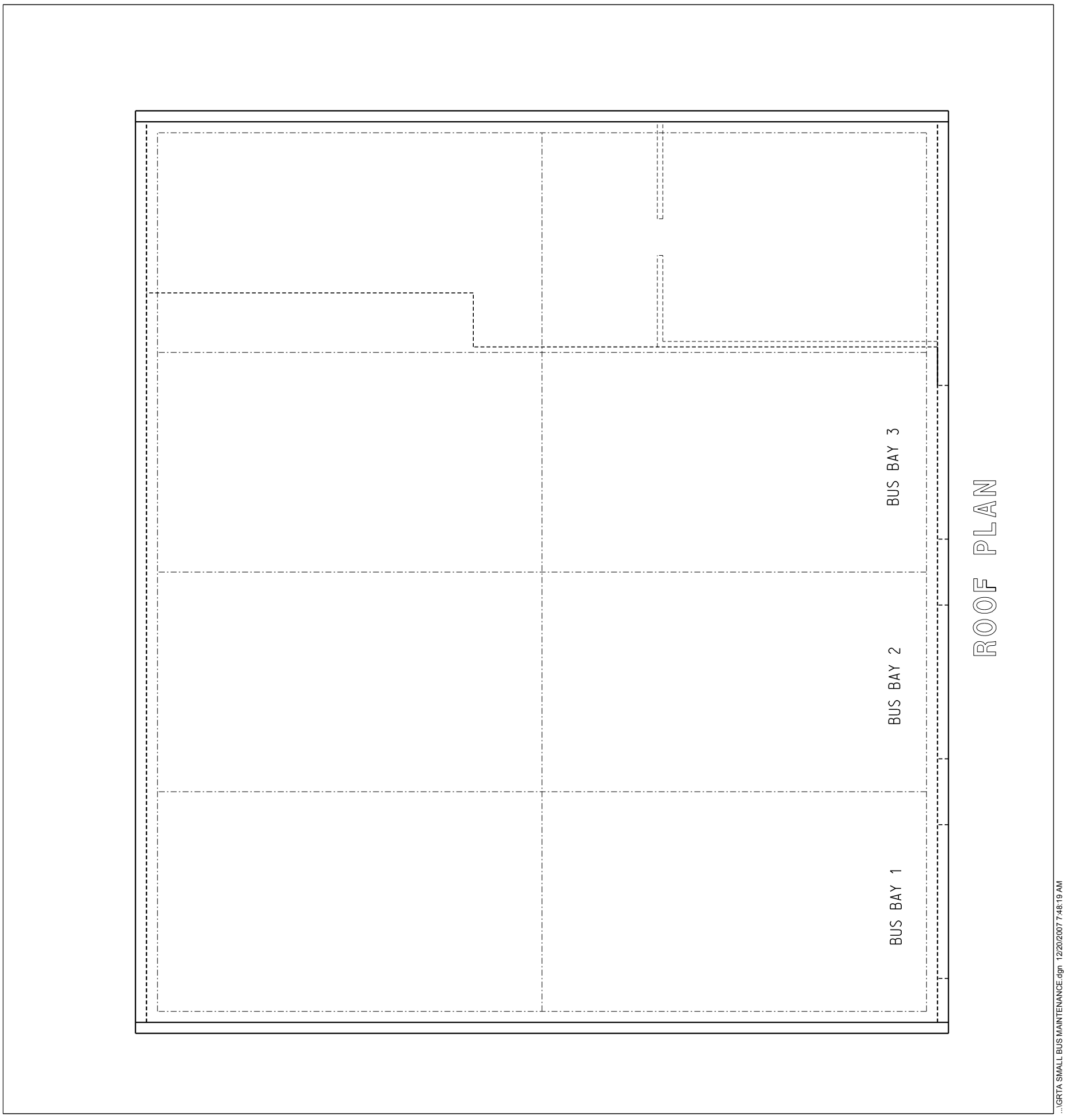
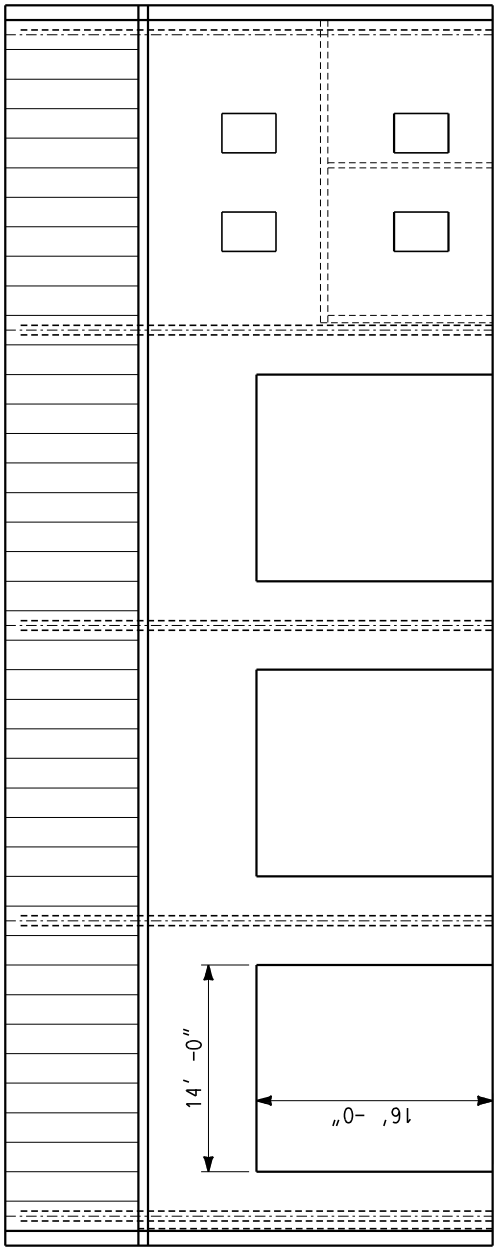
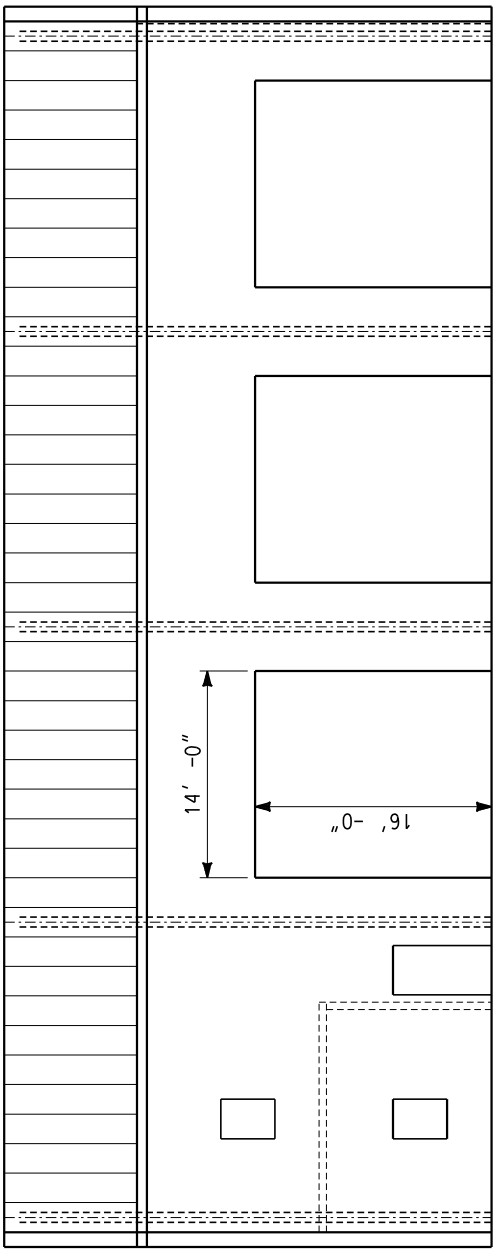

BUS BAY 3
BUS BAY 2
BUS BAY 1
ROOF PLAN
...\GRTA SMALL BUS MAINTENANCE.dgn 12/20/2007 7:48:19 AM

Figure 4

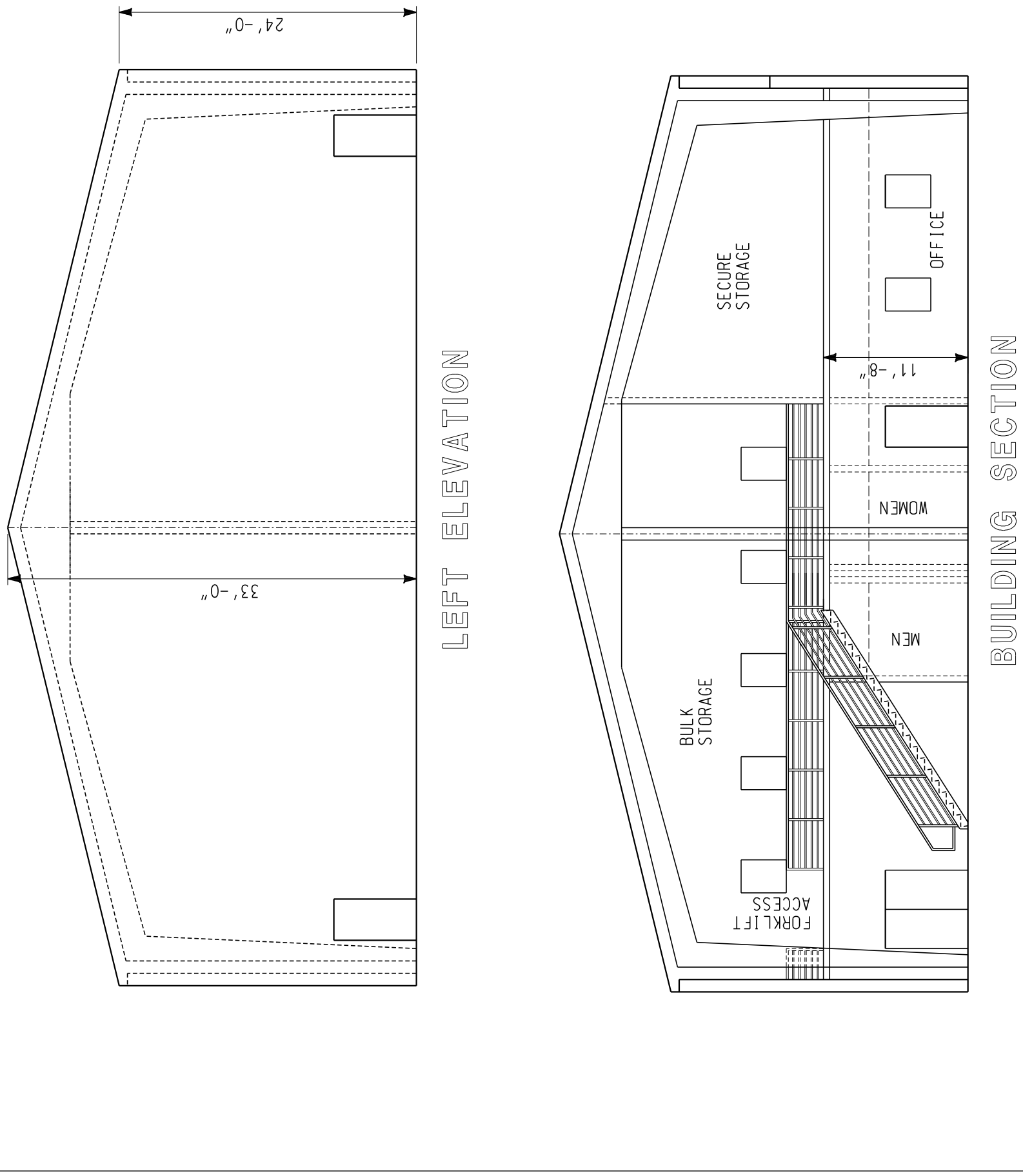


FRONT ELEVATION



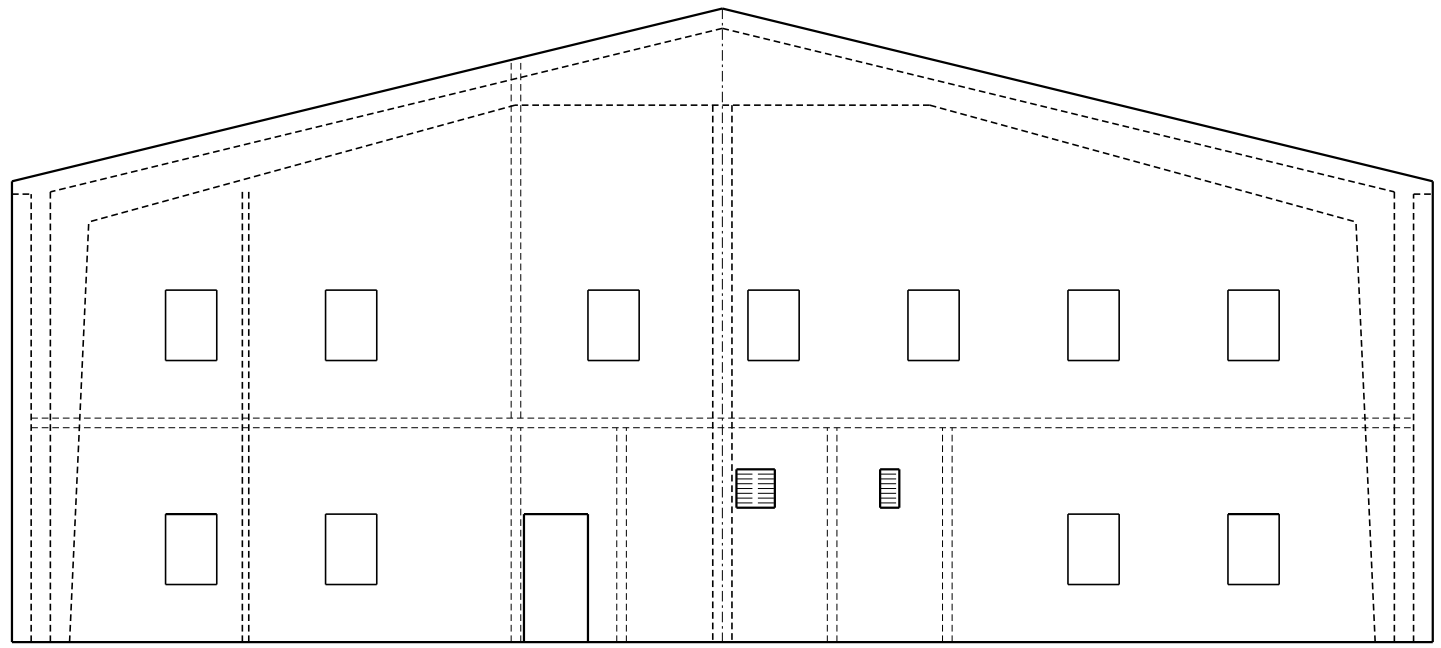
REAR ELEVATION

Figure 5



...\GRTA SMALL BUS MAINTENANCE.dgn 12/20/2007 8:05:14 AM

Figure 6



RIGHT ELEVATION

...\GRTA SMALL BUS MAINTENANCE.dgn 12/20/2007 7:50:00 AM

Figure 7

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	CSMSL-0008-00(713)	1	3

LOCATION MAP (NTS)

CONCEPT DESIGN BACKGROUND DATA SOURCES

TOPO:
- ☐ USGS QUAD MAP
- ☐ COUNTY GIS MAP
- ☒ GRADING PLAN FROM OTHERS

BOUNDARY:
- ☐ ESTIMATED
- ☐ GIS/TAX PARCEL
- ☒ BOUNDARY SURVEY (LOT SIZE = 38.1 ACRES)

EXISTING SITE FEATURES:
- ☐ COUNTY GIS/AERIAL PHOTO
- ☒ FIELD RUN SURVEY

ESTIMATED PARKING SUMMARY

AREA ONE	
STANDARD (9' x 19'):	383 SPACES
HANDICAP (9' x 19'):	10 SPACES
PARKING PROVIDED:	393 SPACES
EMPLOYEE PARKING:	45 SPACES
BUS PARKING:	42 SPACES
AREA TWO	
STANDARD (9' x 19'):	451 SPACES
HANDICAP (9' x 19'):	10 SPACES
PARKING PROVIDED:	461 SPACES
TOTAL PARKING PROVIDED:	941 SPACES

NORTH

URS
400 Northpark Town Center
1000 Abernathy Road N.E., Suite 900
Atlanta, Georgia 30328
Tel: (678) 808-6800, Fax: (678) 808-8400

GRAPHIC SCALE
100 0 50 100 200
(IN FEET)
1 inch = 100 ft.

REVISIONS

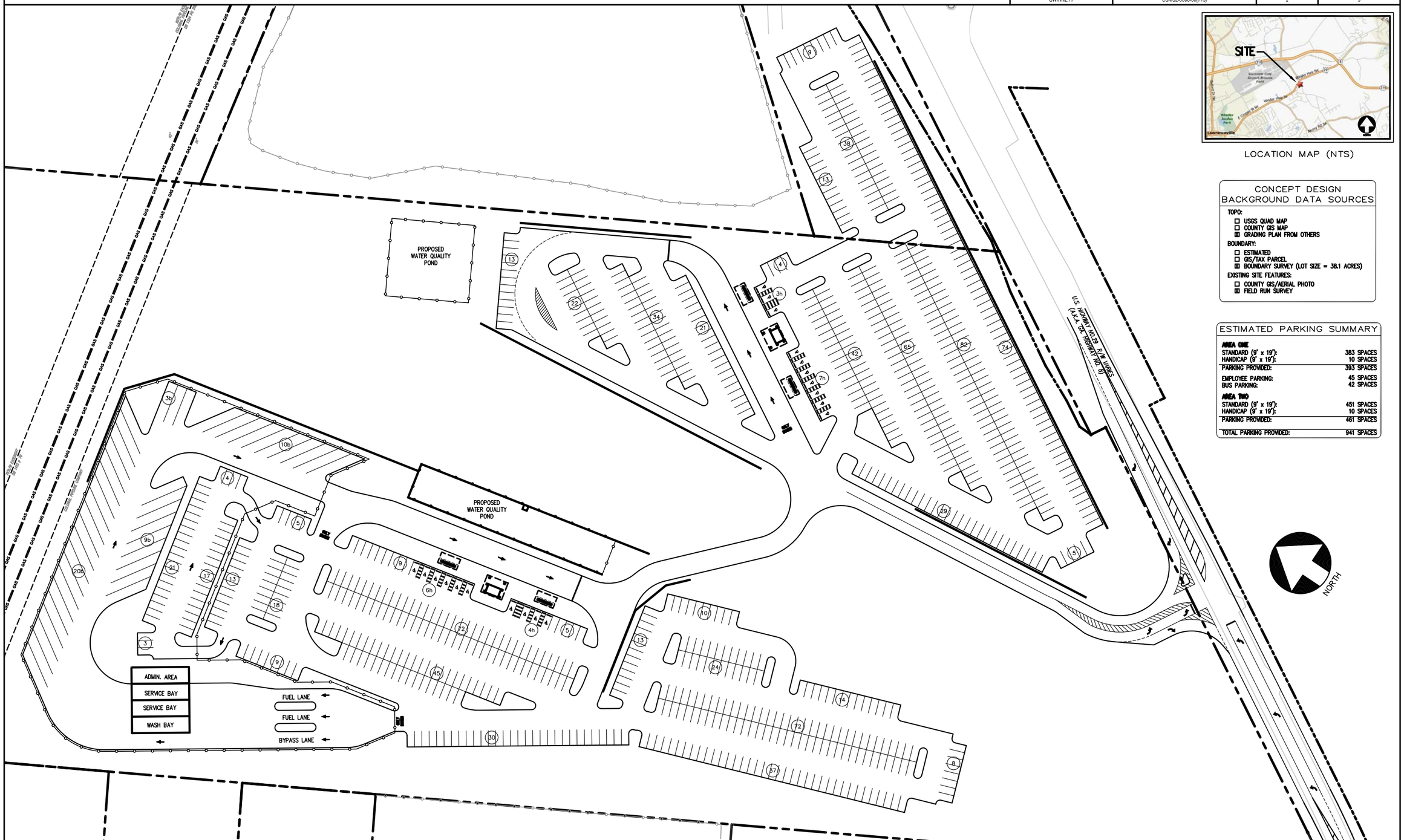
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF INNOVATIVE PROGRAM DELIVERY

OVERALL CONCEPT SITE PLAN

CEDARS ROAD
PARK AND RIDE LOT

CP-01
DRAWING No.

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	CSMSL-0008-00(713)	2	3



LOCATION MAP (NTS)

CONCEPT DESIGN BACKGROUND DATA SOURCES

TOPO:
- ☐ USGS QUAD MAP
- ☐ COUNTY GIS MAP
- ☒ GRADING PLAN FROM OTHERS

BOUNDARY:
- ☐ ESTIMATED
- ☐ GIS/TAX PARCEL
- ☒ BOUNDARY SURVEY (LOT SIZE = 38.1 ACRES)

EXISTING SITE FEATURES:
- ☐ COUNTY GIS/AERIAL PHOTO
- ☒ FIELD RUN SURVEY

ESTIMATED PARKING SUMMARY

AREA ONE	
STANDARD (9' x 19'):	383 SPACES
HANDICAP (9' x 19'):	10 SPACES
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URS
400 Northpark Town Center
1000 Abernathy Road N.E., Suite 900
Atlanta, Georgia 30328
Tel: (678) 808-8800, Fax: (678) 808-8400

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

REVISIONS

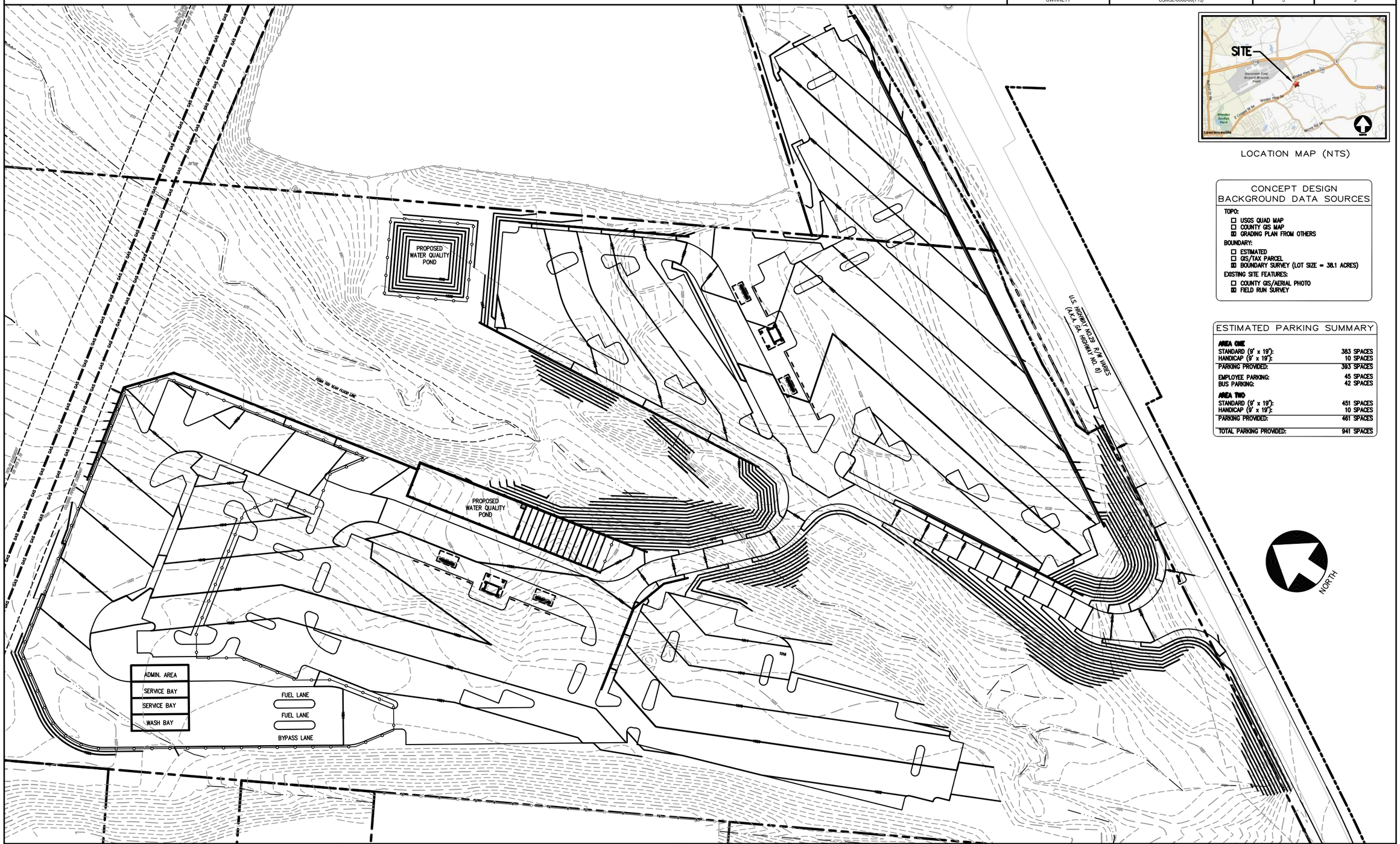
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF INNOVATIVE PROGRAM DELIVERY

CONCEPT SITE PLAN

CEDARS ROAD
PARK AND RIDE LOT

CP-02
DRAWING No.

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	CSMSL-0008-00(713)	3	3



LOCATION MAP (NTS)

CONCEPT DESIGN BACKGROUND DATA SOURCES

TOPO:

- ☐ USGS QUAD MAP
- ☐ COUNTY GIS MAP
- ☒ GRADING PLAN FROM OTHERS

BOUNDARY:

- ☐ ESTIMATED
- ☐ GIS/TAX PARCEL
- ☒ BOUNDARY SURVEY (LOT SIZE = 38.1 ACRES)

EXISTING SITE FEATURES:

- ☐ COUNTY GIS/AERIAL PHOTO
- ☒ FIELD RUN SURVEY

ESTIMATED PARKING SUMMARY

AREA ONE	
STANDARD (9' x 19'):	383 SPACES
HANDICAP (9' x 19'):	10 SPACES
PARKING PROVIDED:	393 SPACES
EMPLOYEE PARKING:	45 SPACES
BUS PARKING:	42 SPACES
AREA TWO	
STANDARD (9' x 19'):	451 SPACES
HANDICAP (9' x 19'):	10 SPACES
PARKING PROVIDED:	461 SPACES
TOTAL PARKING PROVIDED:	941 SPACES

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1000 Abernathy Road N.E., Suite 900
Atlanta, Georgia 30328
Tel: (678) 808-8800, Fax: (678) 808-8400

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

REVISIONS

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF INNOVATIVE PROGRAM DELIVERY

CONCEPT GRADING PLAN

CEDARS ROAD
PARK AND RIDE LOT

CP-03
DRAWING No.

LEGEND:

BL =BUILDING LINE
BM =BENCH MARK
CB =CATCH BASIN
CD =CROSS DRAIN
CL =CENTER LINE
DA =DRAINAGE AREA
DI =DROP INLET
EL =ELEVATION
FF =FINISHED FLOOR
FH =FIRE HYDRANT
HBC =HE-BACK CURB
HW =HEAD WALL
JB =JUNCTION BOX
LLL =LAND LOT LINE
MT =MARKED TREE
MH =MANHOLE
NSC =NAIL IN CAP
OL =ON LINE
OH =OVERHEAD
PL =PROPERTY LINE
R =RADIUS
RBF =R-BAR FOUND
R/W =RIGHT-OF-WAY
TH =TEST HOLE
TL =TRAVERSE LINE
UG =UNDERGROUND
WV =WATER VALVE
IRF =INTERMEDIATE REGIONAL FLOOD
RDP =RESIDENTIAL DRAINAGE PLAN REQUIRED
RDS =RESIDENTIAL DRAINAGE STUDY REQUIRED

CE =CONSTRUCTION EASEMENT (TEMPORARY)
CMF =CONCRETE MONUMENT FOUND
CMP =CORRUGATED METAL PIPE
CTF =CRIMP TOP TUBE FOUND
DE =DRAINAGE EASEMENT
FES =FLARED END SECTION
FIHW=FLOOD INSURANCE RATE MAP
HLP =HOUSE LOCATION PLAN REQUIRED
HTF =HOLLOW TUBE FOUND
HWL =100 YEAR HIGH WATER LEVEL
IE =INVERT ELEVATION
IPS =ONE-HALF INCH R-BAR SET
PC =POINT OF CURVATURE
PCC =POINT OF COMPOUND CURVATURE
PI =POINT OF INTERSECTION
PRC =POINT OF REVERSE CURVATURE
PT =POINT OF TANGENCY
RCP =REINFORCED CONCRETE PIPE
SE =SEWER EASEMENT
UE =UTILITY EASEMENT
----C----\ =CABLE TV LINE & POLE
----G---- =GAS LINE
----P----\ =POWER LINE & POLE
----S----● =SEWER LINE & MANHOLE
----T----\ =TELEPHONE LINE & POLE
----W----\ =WATER LINE & FIRE HYDRANT
----X---- =FENCE LINE

ACREAGE SUMMARY

TRACT NO. 1 - 31.3883 ACRES
TRACT NO. 2 - 5.0716 ACRES
TRACT NO. 3 - 1.7016 ACRES

TOTAL ACREAGE - 38.1615 ACRES

LINE CHART

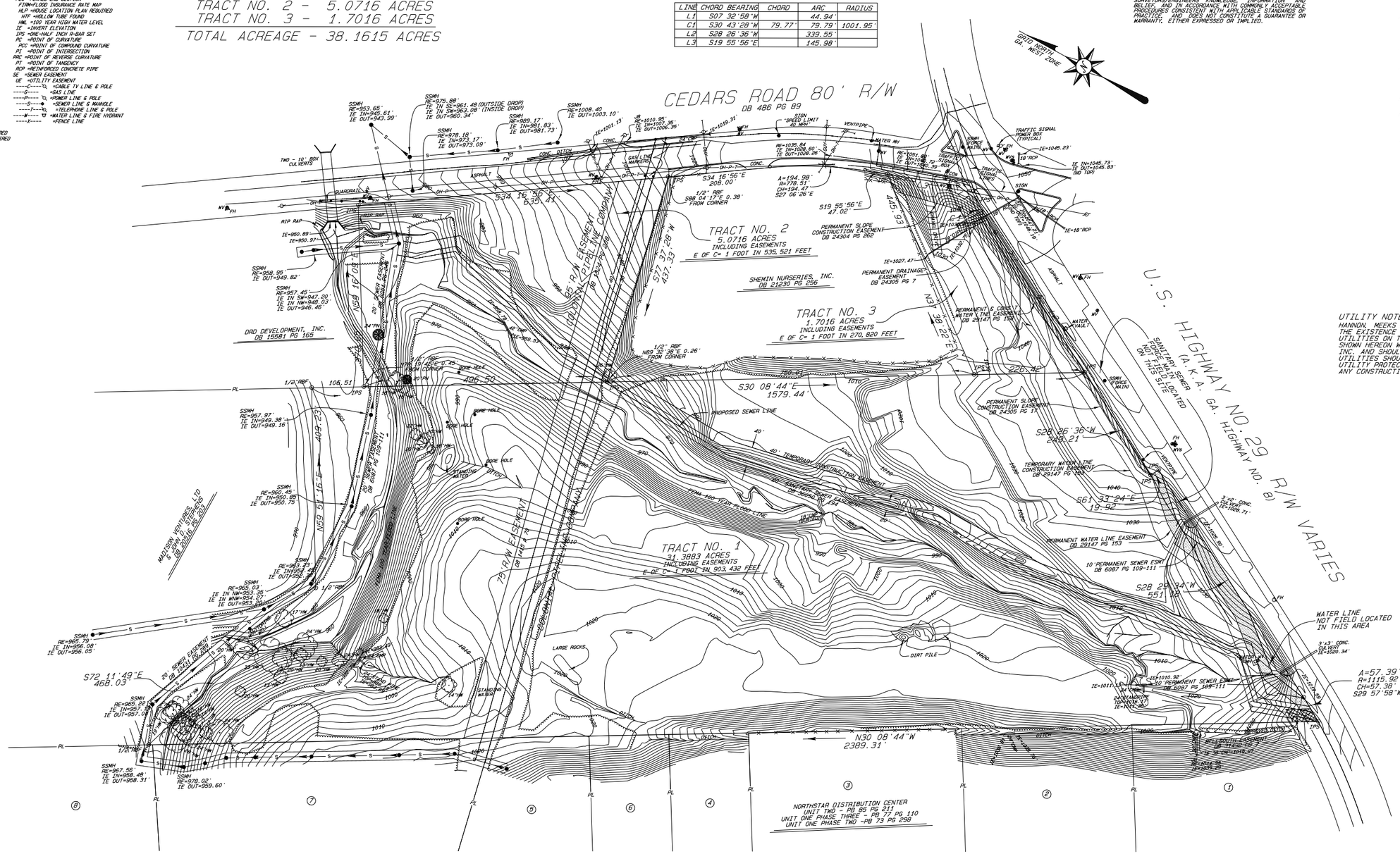
LINE	CHORD BEARING	CHORD	ARC	RADIUS
L1	S07 32'58"W		44.94'	
C1	S30 43'28"W	79.77'	79.79'	1001.95'
L2	S28 26'36"W		339.55'	
L3	S19 55'56"E		145.98'	

SPECIAL NOTICE

SURVEYING AND ENGINEERING SERVICES RELATING TO THE DEVELOPMENT, AND PRESENTATION OF THIS DRAWING, STATEMENTS AND DATA SHOWN HEREON, AS WELL AS ANY CERTIFICATIONS SHOWN HEREON, HAVE BEEN PERFORMED BY THE SURVEYOR/ENGINEER BASED UPON THE SURVEYORS/ENGINEERS KNOWLEDGE, INFORMATION AND BELIEF, AND IN ACCORDANCE WITH COMMONLY ACCEPTABLE PROCEDURES CONSISTENT WITH APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A GUARANTEE OR WARRANTY, EITHER EXPRESSED OR IMPLIED.

NOTES:

1. SURVEY PROCEDURES: THIS SURVEY BASED ON MEASUREMENTS OBTAINED USING AN INSTRUMENT CAPABLE OF READING ANGULAR MEASUREMENTS DIRECTLY TO A MINIMUM OF 5 SECONDS OF ARC AND LINEAR DIMENSIONS DIRECTLY TO 0.01 FEET.
2. THE FIELD DATA UPON WHICH THIS PLAT IS BASED HAS A MINIMUM PRECISION RATIO OF ONE FOOT IN 21,165 FEET AND AN AVERAGE ANGULAR ERROR OF 1.0 SECONDS PER ANGLE POINT, AND WAS ADJUSTED BY LEAST SQUARES.
3. DATA SHOWN ON THIS PLAT HAS BEEN CALCULATED FOR CLOSURE AND HAS A MINIMUM PRECISION RATIO AS SHOWN ON EACH TRACT.
4. THIS PROPERTY IS LOCATED ON PANEL 13032C-0250C OF THE FEMA OFFICIAL FLOOD INSURANCE RATE MAP DATED MAY 2, 1992 AND A PORTION OF THIS PROPERTY LIES WITHIN AN AREA HAVING SPECIAL FLOOD HAZARDS.
5. DATES OF FIELD SURVEY: MAY 17 - JUNE 2, 2004.
6. GRID NORTH AND ELEVATIONS WERE TAKEN FROM FIELD LOCATIONS OF GWINNETT COUNTY GIS MONUMENTS BC540 AND BC541. DISTANCES SHOWN HEREON ARE SURFACE DISTANCES.
7. REFERENCE PLATS:
   SURVEY FOR: ELLMAN-HEARN-ROGERS BY HANNON, MEEKS & BAGWELL, INC., DATED DEC. 9, 1993 AND LAST REVISED JAN. 5, 1994.
   SURVEY FOR: I.H. HEARN BY HANNON, MEEKS & BAGWELL, INC., DATED DEC. 14, 1994.



UTILITY NOTE

HANNON, MEEKS & BAGWELL, INC DOES NOT WARRANT THE EXISTENCE OR NON-EXISTENCE OF UNDERGROUND UTILITIES ON THIS SITE. UNDERGROUND UTILITIES SHOWN HEREON WERE LOCATED BY U.P. SPEC SERVICES, INC. AND SHOULD BE CONSIDERED APPROXIMATE. ALL UTILITIES SHOULD BE FIELD VERIFIED BY CALLING THE UTILITY PROTECTION SERVICE AT 1-800-282-7411 BEFORE ANY CONSTRUCTION BEGINS ON THIS SITE.

TOPOGRAPHIC SURVEY FOR:

GWINNETT COUNTY, GEORGIA

LAND LOT 210 OF THE 5TH DISTRICT

GWINNETT COUNTY, GEORGIA

38.1615 ACRES TOTAL INCLUDING EASEMENTS

DATE: JUNE 21, 2004

SCALE: 1"=100'

NO.	DATE	REVISION DESCRIPTION	NO.	DATE	REVISION DESCRIPTION

HMB Hannon, Meeks & Bagwell
Surveyors & Engineers, Inc.
4317 PARK DRIVE SUITE, SUITE 200, NORCROSS, GA 30093
TELEPHONE: (770) 963-7181.....FAX: (770) 339-7580

JOB NO. 15079-04 15079-GC-T01.PRO

CREW CHIEF: MN/ROB DRAWN BY: BTM CHECKED BY: JB

FILE NO. _____