

## APPLICATION

APPLICANT INFORMATION	OWNER INFORMATION
NAME: <u>Northlake Investment Partners c/o K.M. Zickert</u>	NAME: <u>See Attachment A</u>
ADDRESS: <u>1230 Peachtree St., NE, Ste. 3100</u>	ADDRESS: _____
CITY: <u>Atlanta</u>	CITY: _____
STATE: <u>GA</u> ZIP: <u>30309</u>	STATE: _____ ZIP: _____
PHONE: <u>404-815-3704</u>	PHONE: _____
CONTACT PERSON: <u>Kathryn M. Zickert</u> PHONE: <u>404-815-3704</u>	
CONTACT'S E-MAIL: <u>kmzickert@sgrlaw.com</u>	

APPLICANT IS THE:		
<input checked="" type="checkbox"/>	OWNER'S AGENT	<input type="checkbox"/>
<input type="checkbox"/>	PROPERTY OWNER	<input type="checkbox"/>
<input type="checkbox"/>	CONTRACT PURCHASER	
PRESENT ZONING DISTRICTS(S): <u>C-1/01</u> REQUESTED ZONING DISTRICT: _____		
Regional Center		
PRESENT LAND USE CATEGORY: _____ REQUESTED LAND USE CATEGORY: _____		
LAND DISTRICT(S): <u>18</u>	LAND LOT(S): <u>210</u>	ACREAGE: <u>8.65 +/-</u>
ADDRESS OF PROPERTY: <u>2180 and 2200 Northlake Parkway, Tucker, GA 30084</u>		
PROPOSED DEVELOPMENT: <u>Multifamily residential, office/retail/restaurant</u>		
CONCURRENT VARIANCES: _____		

RESIDENTIAL DEVELOPMENT	NON-RESIDENTIAL DEVELOPMENT
No. of Lots/Dwelling Units: <u>245</u>	No. of Buildings/Lots: <u>2 bldgs.</u>
Dwelling Unit Size (Sq. Ft.): <u>varies</u>	Total Building Sq. Ft.: <u>16,250</u>
Density: <u>30 u/a</u>	Density: _____

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**FEB 26 2018**

Community Development  
Department

SLUP-18-002

**APPLICANT'S CERTIFICATION**

THE UNDERSIGNED BELOW STATES UNDER OATH THAT THEY ARE AUTHORIZED TO MAKE THIS APPLICATION. THE UNDERSIGNED IS AWARE THAT NO APPLICATION OR REAPPLICATION AFFECTING THE SAME LAND SHALL BE ACTED UPON WITHIN 24 MONTHS FROM THE DATE OF LAST ACTION BY THE MAYOR AND CITY COUNCIL.

*Kathryn M. Zickert* by *J. M. Bl* *02-26-2018*  
\_\_\_\_\_  
Signature of Applicant Date

Kathryn M. Zickert, Esq.  
\_\_\_\_\_  
Type or Print Name and Title

*Shawna E. Avila* *2-26-18*  
\_\_\_\_\_  
Signature of Notary Public Date Notary Seal



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SLUP-18-002

**PROPERTY OWNER'S CERTIFICATION**

I do solemnly swear and attest, subject to criminal penalties for false swearing, that I am the legal owner, as reflected in the records of DeKalb County, Georgia, of the property identified below, which is the subject of the attached Land Use Petition before the City of Tucker, Georgia. As the legal owner of record of the subject property, I hereby authorize the individual named below to act as the applicant in the pursuit of the Application for Rezoning (RZ), Comprehensive Plan Amendment (CA), Special Land Use Permit (SLUP), & Concurrent Variance (CV) in request of the items indicated below.

I, PARK 786 LLC, authorize, Kathy M. Zickert,  
(Property Owner) (Applicant)

to file for SLUP, at 2180 Northlake Pkwy, Tucker, GA 30084  
(RZ, CA, SLUP, CV) (Address)

on this date February 23<sup>rd</sup>, 20 18  
(Month) (Day)

- I understand that if a rezoning is denied or assigned a zoning classification other than the classification requested in the application, then no portion of the same property may again be considered for rezoning for a period of twenty-four (24) months from the date of the mayor and city councils' final decision.
- I understand that if an application for a special land use permit affecting all or a portion of the same property for which an application for the same special land use was denied shall not be submitted before twenty-four (24) months have passed from the date of final decision by the mayor and city council on the previous special land use permit.
- I understand that failure to supply all required information (per the relevant Applicant Checklists and requirements of the Tucker Zoning Ordinance) will result in REJECTION OF THE APPLICATION.
- I understand that preliminary approval of my design plan does not authorize final approval of my zoning or signage request. I agree to arrange additional permitting separately, after approval is obtained.
- I understand that representation associated with this application on behalf of the property owner, project coordinator, potential property owner, agent or such other representative shall be binding.

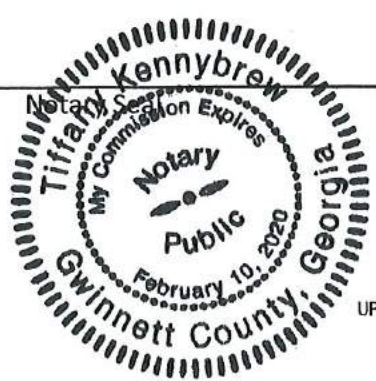
[Signature] Signature of Property Owner Date Feb 23<sup>rd</sup> 2018

Farhad Amersi  
Type or Print Name and Title

[Signature] Signature of Notary Public Date 2/23/18

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Community Development Department  
SLUP-18-002



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(Property Owner) (Applicant)

to file for SLUP, at 2200 Northlake Pkwy, Tucker, GA 30084  
(RZ, CA, SLUP, CV) (Address)

on this date February, 23<sup>rd</sup>, 20 18  
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[Signature]  
Signature of Property Owner

February 23<sup>rd</sup> 2018  
Date

Type or Print Name and Title

Tiffany Kenney 2/23/18  
Signature of Notary Public Date



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**Disclosure of Campaign Contributions**

In accordance with the Conflict of Interest in Zoning Act, O.C.G.A., Chapter 36-67A, the following questions must be answered:


Have you, the applicant, made \$250 or more in campaign contributions to a local government official within two years immediately preceding the filing of this application? \_\_\_ Yes  No

If the answer is yes, you must file a disclosure report with the governing authority of the City of Tucker showing:

1. The name and official position of the local government official to whom the campaign contribution was made.
2. The dollar amount and description of each campaign contribution made during the two years immediately preceding the filing of this application and the date of each such contribution.

Date: February 23<sup>rd</sup> 2018

Applicant / Owner: Farhad Amarsi  
Name

  
Signature and Title OWNER . Northlake Investment Partners Park 786 LLC

\*\*\*\*\*

Name and official position of the local government official to whom the campaign contribution was made	Date of Donation	Dollar Amount of Donation

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Department

SLUP-18-002

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DISCLOSURE REPORT FORM

Community Development  
Department

WITHIN THE (2) YEARS IMMEDIATELY PRECEDING THE FILING OF THIS ZONING PETITION HAVE YOU, AS THE APPLICANT OR OPPONENT FOR THE REZONING PETITION, OR AN ATTORNEY OR AGENT OF THE APPLICANT OR OPPONENT FOR THE REZONING PETITION, MADE ANY CAMPAIGN CONTRIBUTIONS AGGREGATING \$250.00 OR MORE OR MADE GIFTS HAVING AN AGGREGATE VALUE OF \$250.00 TO THE MAYOR OR ANY MEMBER OF THE CITY COUNCIL.

CIRCLE ONE: YES (if YES, complete points 1 through 4);

NO (if NO, complete only point 4)

1. CIRCLE ONE: Party to Petition (If party to petition, complete sections 2, 3 and 4 below)

In Opposition to Petition (If in opposition, proceed to sections 3 and 4 below)

2. List all individuals or business entities which have an ownership interest in the property which is the subject of this rezoning petition:

- |          |          |
|----------|----------|
| 1. _____ | 5. _____ |
| 2. _____ | 6. _____ |
| 3. _____ | 7. _____ |
| 4. _____ | 8. _____ |

3. CAMPAIGN CONTRIBUTIONS:

Name of Government Official	Total Dollar Amount	Date of Contribution	Enumeration and Description of Gift Valued at \$250.00 or more

4. The undersigned acknowledges that this disclosure is made in accordance with the Official Code of Georgia, Section 36-67A-1 et. seq. Conflict of interest in zoning actions, and that the information set forth herein is true to the undersigned's best knowledge, information and belief.

Name (print) Kathryn M. Zickert Esq.

Signature: *Kathryn Zickert*

Date: 2/26/18

SLUP 18-002 FEB 26 2018

DISCLOSURE REPORT FORM

Community Development  
Department

WITHIN THE (2) YEARS IMMEDIATELY PRECEDING THE FILING OF THIS ZONING PETITION HAVE YOU, AS THE APPLICANT OR OPPONENT FOR THE REZONING PETITION, OR AN ATTORNEY OR AGENT OF THE APPLICANT OR OPPONENT FOR THE REZONING PETITION, MADE ANY CAMPAIGN CONTRIBUTIONS AGGREGATING \$250.00 OR MORE OR MADE GIFTS HAVING AN AGGREGATE VALUE OF \$250.00 TO THE MAYOR OR ANY MEMBER OF THE CITY COUNCIL.

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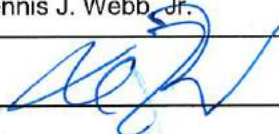
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Name (print) Dennis J. Webb, Jr.  
Signature:  Date: 2/26/18

SLUP-18-002 FEB 26 2018

### DISCLOSURE REPORT FORM

Community Development  
Department

WITHIN THE (2) YEARS IMMEDIATELY PRECEDING THE FILING OF THIS ZONING PETITION HAVE YOU, AS THE APPLICANT OR OPPONENT FOR THE REZONING PETITION, OR AN ATTORNEY OR AGENT OF THE APPLICANT OR OPPONENT FOR THE REZONING PETITION, MADE ANY CAMPAIGN CONTRIBUTIONS AGGREGATING \$250.00 OR MORE OR MADE GIFTS HAVING AN AGGREGATE VALUE OF \$250.00 TO THE MAYOR OR ANY MEMBER OF THE CITY COUNCIL.

CIRCLE ONE: YES (if YES, complete points 1 through 4);

**NO** (if NO, complete only point 4)

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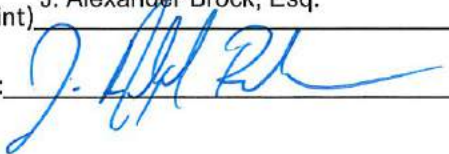
- |          |          |
|----------|----------|
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| 3. _____ | 7. _____ |
| 4. _____ | 8. _____ |

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Name (print) J. Alexander Brock, Esq.

Signature: 

Date: 2/26/18



**ATTACHMENT A  
To  
Northlake Investment Partners  
SLUP Application**

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Department

SLUP 18-002

**Owner Information:**

Northlake Investment Partners  
P.O. Box 48466  
Atlanta, Georgia 30362

Park 786 LLC  
2180 Northlake Parkway  
Tucker, Georgia 30084



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SLUP-18-002

## PRE-APPLICATION FORM

### REZONING, COMPREHENSIVE PLAN AMENDMENT, SPECIAL LAND USE PERMIT, AND CONCURRENT VARIANCE

#### Purpose & Process

A Pre-Application Meeting provides you the opportunity to present a conceptual plan and letter of intent to a representative of the Community Development Department. This meeting benefits you, the applicant, by receiving general comments on the feasibility of the plan, the process(es)/procedure(s) and fees required to process and review the application(s). Please contact Courtney Lankford at [clankford@tuckerga.gov](mailto:clankford@tuckerga.gov) to schedule an appointment. This form will be completed during the pre-application meeting. After completing the pre-application meeting, the applicant may file the Land Use Petition.

Applicant: Fairfield

Site Address: 2200 + 2180 Northlake PKWY Parcel Size: 8.65

Proposal Description: 245 Unit multi-family development

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Existing Zoning Designation and Case Number: OI + C1 (SLUP-16-005)

Proposed Zoning Designation: NA

Comprehensive Land Use Map Designation: RC

Overlay District: Northlake, Tier 2

Staff: Courtney Smith Date: 2-22-18

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Department

SLUP-18-002

**STATEMENT OF INTENT**

and

Other Material Required by  
City of Tucker Zoning Ordinance  
for a  
Special Land Use Permit

of

**NORTHLAKE INVESTMENT PARTNERS**

For

± 8.65 Acres of Land  
located in  
Land Lot 210, 18<sup>th</sup> District, DeKalb County  
Address: 2200 Northlake Parkway, Tucker, GA 30084

Submitted for Applicant by:

Kathryn M. Zickert  
Dennis J. Webb, Jr.  
J. Alexander Brock  
Smith, Gambrell & Russell, LLP  
Promenade Suite 3100  
1230 Peachtree Street, NE  
Atlanta, Georgia 30309  
404-815-3500

## **I. INTRODUCTION**

This Application seeks a Special Land Use Permit (“SLUP”) to allow for the construction of a mixed-use development with a multifamily component up to 30 units per acre, in accordance with City of Tucker Zoning Ordinance § 3.35.8. The Subject Property is a ±8.65 acre site on Northlake Parkway, Land Lot 210 of the 18th District of DeKalb County, Georgia and more particularly identified as Parcel Nos. 18-210-08-016 and 18-210-08-021 (the “Subject Property”). The Proposed Development is a mixed-use project with 245 residential apartment units (30 units per acre), a 6,250 square foot restaurant use, and 10,000 square feet of office/retail/restaurant (the “Proposed Development”)

On February 27, 2017, the Applicant was granted the unanimous approval of a SLUP (2017-01-51) and a concurrent variance (VS-16-005-01) to reduce the public space requirement<sup>1</sup> on February 27, 2017 under Ordinance 2017-01-51, for essentially the same development on a ±7.00 acre portion of the Subject Property (“2017 SLUP”). The 2017 SLUP envisioned the construction of a mixed-use project with 210 residential apartment units (30 units per acre) and a 6,250 square foot restaurant use on this smaller tract. Following the grant of the 2017 SLUP, the Applicant contracted to obtain an additional ±1.65 acre parcel at the Subject Property’s southeast corner, which is currently occupied by a segment of the

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<sup>1</sup> The City of Tucker Zoning Ordinance Sec. 3.35.13 was amended on June 28, 2017, pursuant to Ordinance 2017-06-69, to remove the word “public” from the open space requirements. As a result, a concurrent variance is not requested in the current Application.

Northlake Inn, Parcel No. 18-210-08-021 (the “Northlake Inn Parcel”). The overall Northlake Inn Parcel is ±3.15 acres in total area, ±1.95 acres of which was originally incorporated in the 2017 SLUP. The Applicant is now seeking to incorporate the remaining ±1.65 acres of the Northlake Inn Parcel in the instant Application. Moreover, the Proposed Development will remove the remaining portion of the Northlake Inn extended stay hotel, and replace it with an office/retail/restaurant building that is much more suitable and aesthetically compatible with this rapidly improving area.

The development proposed in the 2017 SLUP was well received as a favorable mixture of new development and investment in the Northlake commercial area. The current Application is substantially the same development, but merely expands the 2017 SLUP with the addition of 35 multifamily units and a 10,000 square foot commercial building on an additional ±1.65 acres.

Approximately 6.62 acres of the Subject Property will be used for the multifamily portion, ±0.97 acres will continue to be used for a ±6,250 square foot restaurant (Hickory House), and the remaining 1.03 acres will be used for a 10,000 square foot office/retail/restaurant building. The proposed residential units will be divided among three structures that are four-stories in height with some basements. The parking for the multifamily units will be a mixture of with surface and garage parking, all of which will be concealed from the street. The residential units facing

Northlake Parkway will engage the street by providing stoops and direct sidewalk access. The approximate FAR for the multi-family portion is 1.02, which is well within the 1.5 allowed by code, and the proposed density is approximately 28.3 units per acre, below the 30 units per acre which permitted under Tier 2 of the Northlake Overlay District with a SLUP. Approximately 25% open space will be provided and maintained by the multi-family owner management company. The central pool and amenities and all residential building entrances will be connected by an internal sidewalk system, which will connect to the public sidewalk and to the adjacent restaurant and retail tracts. The Proposed Development will also provide for interparcel access to the existing developments to the north and south of the Subject Property.

The Subject Property is currently zoned C-1 and O-I, located in the Northlake Overlay District, Tier 2, and designated as being within a “Regional Center” on Tucker’s Future Land Use Map. The Subject Property currently consists of two parcels. The northern parcel is used as a defunct shopping center and restaurant, while the southern parcel is used as a motel, the Northlake Inn. The restaurant and a portion of its parking will remain on the northern parcel, with the remainder of the existing uses being demolished for the development of the multi-family units and the office/retail/restaurant use.

The Subject Property is located in an area that has seen tremendous growth and redevelopment. The Subject Property, which is bounded by the west by I-285 and to the east by Northlake Parkway, is surrounded by uses compatible to those proposed. Directly across Northlake Parkway from the Subject Property is Tucker Meridian, a ±200,000 square foot shopping center. Directly to the north of the Subject Property is a smaller shopping center and directly to the south is a hair salon, Budget Car Rental, and Chevron gas station. Across I-285 from the Subject Property are offices, apartments, hotels and other commercial uses.

Tier 2 of the Northlake Overlay District envisions a 60%/30%/10% split among office, commercial and residential uses, respectively. Because the office market in the Northlake commercial district is already heavily saturated, the Subject Property would best serve the goals of the Northlake Overlay District by being redeveloped for residential and commercial uses with a section of the commercial area potentially available for office use, in the proportions proposed. The Applicant submits this document as a Statement of Intent with regard to its Application, a preservation of the Applicant's constitutional rights with respect to the Subject Property, and a written justification for the proposed SLUP as required by Tucker's Zoning Ordinance, Section 7-4-6.

## **II. CRITERIA TO BE APPLIED TO SPECIAL LAND USE PERMITS**

### **A. Adequacy of the size of the site for the use contemplated and whether or not adequate land area is available for the proposed use including**

**provision of all required yards, open space, off-street parking, and all other applicable requirements of the zoning district in which the use is proposed to be located.**

The size of the Subject Property is adequate for the proposed use. The proposed multi-family units, which will be located on  $\pm 6.62$  acres of the Subject Property, will be within the allowed density and FAR. The existing restaurant, which will remain on  $\pm 0.97$  acres, is modestly sized at 6,250 square feet, and has a FAR of 0.15. The proposed 10,000 square foot commercial office/retail/restaurant use will occupy 1.03 acres with an FAR of 0.22. The Subject Property will comply with all requirements of the C-1 district and the Northlake Overlay. Adequate parking, landscaping, open space and sidewalks will be provided.

**B. Compatibility of the proposed use with adjacent properties and land uses and with other properties and land uses in the district.**

The proposed use is fully compatible with the adjacent properties and land uses as well as those in the larger surrounding area. The proposed multi-family units will add a much-needed housing option to the Northlake commercial area and the restaurant and commercial uses will serve nearby residents and workers.

**C. Adequacy of public services, public facilities, and utilities to serve the proposed use.**

There are adequate public services, public facilities, and utilities to serve the proposed development. For those residents with school-aged children, the proposed development will be served by Midvale Elementary School, Tucker Middle School



and Tucker High School. Midvale Elementary is listed as under capacity (82% capacity), and both Tucker Middle School and Tucker High School are listed as at capacity (103% and 100%, respectively) according to DeKalb County Schools' FTE Enrolment Report, dated October 3, 2017. The impact to the local schools is anticipated to be minimal, however, since the proposed multi-family units will consist of approximately 65% one-bedroom units, which are not typically conducive to families with school-age children. Furthermore, the vast majority of anticipated residents will be young professionals without children and empty nesters.

**D. Adequacy of the public street on which the use is proposed to be located and whether or not there is sufficient traffic-carrying capacity for the use proposed so as not to unduly increase traffic and create congestion in the area.**

The proposed Restaurant should not unduly increase traffic or created congestion in the area. According to the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (Ninth Edition) (Land Use Category 221: Low-Rise Apartment), the proposed multi-family units should generate approximately 124 A.M. peak hour trips and 152 P.M. peak hour trips and the proposed 10,000 square foot office/retail/restaurant use (ITE Land Use Category 826: Specialty Retail Center) will approximately 68 A.M. peak hour trips and 50 P.M. peak hour trips.<sup>2</sup>

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<sup>2</sup> The 6,250 square foot restaurant is existing and will remain in the proposed condition resulting in no net change in trip generation and is therefore not included.

The Subject Property is located on Northlake Parkway, a four-lane minor arterial, and is in close proximity to two on-ramps to I-285, which should alleviate any impacts from the minor amount of additional trips and should not create congestion in the area.

**E. Whether or not existing land uses located along access routes to the site will be adversely affected by the character of the vehicles or the volume of traffic generated by the proposed use.**

There should be no change in the character of vehicles visiting the Subject Property if this SLUP is approved. Additionally, while there may be some addition to the volume of traffic visiting the site, this increase should be minimal in light of the Subject Property's access to major thoroughfares.

**F. Adequacy of ingress and egress to the subject property and to all proposed buildings, structures, and uses thereon, with particular reference to pedestrian and automotive safety and convenience, traffic flow and control, and access in the event of fire or other emergency.**

Adequate ingress and egress to the Subject Property will be provided, both for vehicular and pedestrian traffic. The proposed development will be served by resident traffic gate and walking gate, in addition to internal sidewalks that connect to the public sidewalk system and adjacent retail uses. The proposed development will also provide for 42 bicycle parking spaces on internal bike racks.

**G. Whether or not the proposed use will create adverse impacts upon any adjoining land use by reason of noise, smoke, odor, dust or vibration generated by the proposed use.**

The Subject Property is surrounded by commercial uses that will not be adversely impacted by the proposed development.

**H. Whether or not the proposed use will create adverse impacts upon any adjoining land use by reason of the hours of operation of the proposed use.**

The proposed hours of operation for the proposed restaurant/retail use is at worst from 7 a.m. to 9 p.m., which is similar to other use in the surrounding area. The additional 35 residential units will have an indiscernible impact from what is allowed now.

**I. Whether or not the proposed use will create adverse impacts upon any adjoining land use by reason of the manner of operation of the proposed use.**

The manner of operation of the restaurant or retail would be similar to that of the other retail services provided in the area. That is, patrons would visit for a short time period to dine in, pick up food, or shop much like patrons of the surrounding retail uses. Accordingly, the proposed use would not create adverse impacts upon any adjoining land use.

**J. Whether or not the proposed use is otherwise consistent with the requirements of the zoning district classification in which the use is proposed to be located.**

The proposed multifamily, restaurant, and office/retail/restaurant uses would

be fully compliant with the C-1 and O-I district regulations. In addition, the proposed use is compatible with the following purposes and goals of the Northlake Overlay District, Tier 2:

- Provide for the development of sidewalks and walkways in order to promote safe and convenient pedestrian access and to reduce dependence on automobile travel;
- Promote a physically attractive, environmentally safe and economically sound mixed-use community;
- Permit and encourage mixed-use developments containing both commercial and residential uses to create a pedestrian oriented community in which people can live, work and play;
- Encourage mixed-use developments that meet the goals and objectives of the Atlanta Regional Commission's Smart Growth and Livable Centers Initiatives;
- Allow and encourage development densities and land use intensities that are capable of making productive use of alternative transportation modes such as bus transit, rail transit, ridesharing, bicycling and walking;
- Encourage the formation of a well-designed, pedestrian-friendly activity center with high-density commercial and residential development that

increases vitality and choices in living environments for the citizens of the City of Tucker;

- Protect established single-family residential areas surrounding the Northlake Overlay District from encroachment of commercial, retail, office and industrial uses by providing for increased density of development within the boundaries of the Northlake Overlay District.

**K. Whether or not the proposed use is consistent with the policies of the comprehensive plan.**

The Subject Property is designated as “Regional Center” on Tucker’s Future Land Use Map. The Regional Center character area encourages commercial and higher-density residential uses such as those proposed. The proposed development is fully allowed within this character area, and promotes the following specific goals and strategies of the City’s Land Use Plan:

LUS1: Locate developments in areas with direct access to existing infrastructure.

LUS3: Encourage development within and near principal transportation corridors and activity centers.

RCCAP4: Create pedestrian scale communities that focus on the relationship between the street, buildings, streetscaping and people.

- RCCAP5: Create compact mixed use districts and reduce automobile dependency and travel to obtain basic services.
- RCCAS5: Clearly define road edges by locating buildings near the roadside with parking in the rear.
- RCCAS7: Encourage that all development and redevelopment in activity centers provide open space and/or contribute to the public realm with wider public sidewalks, pedestrian linkages and other design guidelines.
- RCCAS8: Promote healthy living in neighborhoods by incorporating a pedestrian environment that encourages socialization, walking, biking and connectivity.
- RCCAS9: Residential development should reinforce the center by locating higher density housing options adjacent to the center, targeted to a broad range of income levels.
- RCCAS10: Enhance the pedestrian-friendly environment by adding sidewalks and creating other pedestrian-friendly trail/bike routes linking to other neighborhood amenities.
- RCCAS11: Use design guidelines and regulations for aesthetic enhancements.

RCCAS13: Design new developments for increased pedestrian orientation and access.

RCCAS16: Design for each center should be pedestrian-oriented with walkable connections between different uses.

RCCAS20: Each Regional Center should include a very high-density mix of retail, office, services, and employment to serve several neighborhoods.

**L. Whether or not the proposed use provides for all required buffer zones and transitional buffer zones where required by the regulations of the zoning district in which the use is proposed to be located.**

The proposed development provides for all required buffers.

**M. Whether or not there is adequate provision of refuse and service areas.**

Adequate refuse and service areas will be provided.

**N. Whether the length of time for which the special land use permit is granted should be limited in duration.**

Because the proposed development is suitable for the Subject Property, there is no reason to limit the duration of the requested SLUP.

**O. Whether or not the size, scale and massing of proposed buildings are appropriate in relation to the size of the subject property and in relation to the size, scale and massing of adjacent and nearby lots and buildings.**

The size of the proposed four-story multi-family buildings is appropriate in light of adjacent and nearby properties. In addition, the proposed development will provide 27% of total open space.

**P. Whether the proposed use will adversely affect historic buildings, sites, districts, or archaeological resources.**

The Applicant is not aware of any historic buildings, sites, districts, or archaeological resources in the nearby or surrounding area.

**Q. Whether the proposed use satisfies the requirements contained within the supplemental regulations for such special land use permit.**

There are no supplemental regulations applicable to the requested SLUP.

**R. Whether or not the proposed use will create a negative shadow impact on any adjoining lot or building as a result of the proposed building height.**

The proposed use will not create any negative shadow impacts on adjoining properties. The multi-family units will be within the allowed 60' maximum height.

**S. Whether the proposed use would result in a disproportionate proliferation of that or similar uses in the subject character area.**

The proposed multi-family units and restaurant would not result in a disproportionate proliferation of similar uses in the subject character area. The surrounding area consists of a diverse mix of commercial, retail and residential uses, but has relatively few restaurants and apartment options in relation to other uses. The proposed development will contribute to Tier 2's goal of a 60%/30%/10% mix of office, commercial and residential uses.



**T. Whether the proposed use would be consistent with the needs of the neighborhood or the community as a whole, be compatible with the neighborhood, and would not be in conflict with the overall objective of the comprehensive plan.**

As mentioned in subsection S above, the proposed development will provide uses that are relatively lacking in the immediate area, contributing to the Northlake District Overlay's goals of creating a community where residents and workers can live, work and play. In sum, it would be consistent with the City's Zoning Ordinance and Comprehensive Plan's objectives for this area.

**III. PRESERVATION OF CONSTITUTIONAL RIGHTS**

The Applicant respectfully submits that a refusal to approve the proposed SLUP would be unlawful, arbitrary, capricious, irrational and a manifest abuse of discretion; all in violation of the Fifth Amendment and Fourteenth Amendment of the Constitution of the United States, and Article I, Section I, Paragraph I and Article I, Section III, Paragraph I of the Constitution of the State of Georgia.

A refusal to approve the proposed SLUP would amount to a taking of property, in violation of the Fifth Amendment and Fourteenth Amendment of the Constitution of the United States, and Article I, Section I, Paragraph I and Article I, Section III, Paragraph I of the Constitution of the State of Georgia.

A refusal to approve the proposed SLUP would be in violation of the Dormant Commerce Clause of the Constitution of the United States.

A refusal to approve the proposed SLUP would be unjustified from a fact-based standpoint and instead would result only from constituent opposition, which would be an unlawful delegation of authority in violation of Article IX, Section II, Paragraph IV of the Constitution of the State of Georgia.

A refusal to approve the proposed SLUP would be invalid inasmuch as the Zoning Ordinance of the City of Tucker is unlawful, null and void because its adoption and map adoption/maintenance did not and does not comply with the requirements of its predecessor ordinance and/or the Zoning Procedures Law, O.C.G.A. § 36-66-1, *et seq.*

Tucker's Zoning Ordinance lacks adequate standards for the City Council to exercise its power to review this Application. Specifically, some of the "criteria" set out in Section 7-4-6 are not sufficient to contain the discretion of the City Council and to provide the Courts with a reasonable basis for judicial review. Because the stated criteria (individually and collectively) are too vague and uncertain to provide reasonable guidance, the Zoning Ordinance is unlawful and violates, among other things, the Fifth Amendment and Fourteenth Amendment of the Constitution of the United States and Article I, Section I, Paragraphs I and II of the Constitution of the State of Georgia.

Any limitation on the time for presentation of the issues before the City Council that has the power to zone and grant SLUPs is a violation of the


guarantees of free speech under the First Amendment of the Constitution of the United States and Article I, Section I, Paragraph V of the Constitution of the State of Georgia. Further, said limitations are in violation of the right to petition and assemble, in violation of the First Amendment of the Constitution of the United States and Article I, Section I, Paragraph IX of the Constitution of Georgia, as well as the due process clauses of the U.S. and Georgia Constitutions.

#### IV. CONCLUSION

For the foregoing reasons, the Applicant respectfully asks that the proposed SLUP be approved. The Applicant also invites and welcomes any comments from City staff, officials, and other interested parties so that such recommendations or input may be considered as conditions of approval of this Application.

This 26th day of February, 2018.

**Smith, Gambrell & Russell, LLP**  
Promenade, Suite 3100  
1230 Peachtree Street, N.E.  
Atlanta, Georgia 30309  
404-815-3500

  
\_\_\_\_\_  
Kathryn M. Zickert  
Dennis J. Webb, Jr.  
J. Alexander Brock  
*Attorneys For Applicant*

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SLUP-18-002

**LEGAL DESCRIPTION: OVERALL**

*ALL THAT CERTAIN PIECE, PARCEL OR LOT OF LAND LYING AND BEING IN LAND LOT 210 OF THE 18th DISTRICT DEKALB COUNTY, GEORGIA AND BEING DESIGNATED 8.652 ACRES (376,873 SQ. FT) PREPARED BY HARDY SURVEYING GROUP LLC, AND HAS THE FOLLOWING METES AND BOUNDS TO WIT.*

**COMMENCING AT POINT AT THE SOUTHERLY SIDE OF A MITERED CURVE TO THE SOUTHERLY RIGHT-OF-WAY OF NORTHLAKE PARKWAY (VARIABLE R/W AT SAID POINT); THENCE CONTINUING ALONG THE EASTERLY RIGHT-OF-WAY TO NORTHLAKE PARKWAY SOUTH 00 DEGREES 20 MINUTES 56 SECONDS WEST (S00°20'56"W) FOR A DISTANCE OF 193.33 TO A #4 REBAR FOUND AT THE COMMON CORNER TO N/F GASM LLC. SAID POINT BEING THE TRUE POINT-OF-BEGINNING (P.O.B.)**

**FROM THE POINT-OF-BEGINNING (P.O.B.) THUS ESTABLISHED, THENCE CONTINUING ALONG THE EASTERLY RIGHT-OF-WAY TO NORTHLAKE PARKWAY (80' R/W) SOUTH 00 DEGREES 21 MINUTES 02 SECONDS WEST (S00°21'02"W) FOR A DISTANCE OF 504.58 FEET TO A CRIMPED TOP PIPE FOUND; THENCE CONTINUING ALONG SAID RIGHT-OF-WAY SOUTH 00 DEGREES 15 MINUTES 02 SECONDS WEST (S00°15'02"W) FOR A DISTANCE OF 164.63 FEET TO A POINT; THENCE TURNING AND CONTINUING SOUTH 24 DEGREES 36 MINUTES 08 SECONDS WEST (S24°36'08"W) FOR A DISTANCE OF 23.26 FEET TO A POINT; THENCE TURNING AND CONTINUING SOUTH 00 DEGREES 44 MINUTES 49 SECONDS EAST (S00°44'49"E) FOR A DISTANCE OF 54.73 FEET TO A POINT; THENCE CONTINUING ALONG SAID EASTERLY RIGHT-OF-WAY SOUTH 00 DEGREES 55 MINUTES 11 SECONDS WEST (S00°55'11"W) FOR A DISTANCE OF 34.19 FEET TO A POINT AT THE COMMON LINE TO N/F SIGGERS REAL ESTATE HOLDINGS (DB:24338 PG:622); THENCE LEAVING THE EASTERLY RIGHT-OF-WAY TO NORTHLAKE PARKWAY (VARIABLE R/W AT SAID POINT) AND CONTINUING ALONG THE COMMON LINE TO SIGGERS REAL ESTATE HOLDINGS NORTH 89 DEGREES 17 MINUTES 47 SECONDS WEST (N89°17'47"W) FOR A DISTANCE OF 463.26 FEET TO A BRASS DISC FOUND IN CONCRETE; THENCE TURNING AND CONTINUING ALONG SAID LINE SOUTH 74 DEGREES 32 MINUTES 49 SECONDS WEST (S74°32'49"W) FOR A DISTANCE OF 47.40 FEET TO A POINT; THENCE TURNING AND CONTINUING NORTH 30 DEGREES 21 MINUTES 35 SECONDS WEST (N30°21'35"W) FOR A DISTANCE OF 12.51 FEET TO A #4 REBAR FOUND AT THE WESTERLY RIGHT-OF-WAY TO INTERSTATE I-285 (300' R/W); THENCE TURNING AND CONTINUING ALONG THE WESTERLY RIGHT-OF-WAY TO INTERSTATE I-285 NORTH 06 DEGREES 20 MINUTES 13 SECONDS EAST (N06°20'13"E) FOR A DISTANCE OF 279.37 FEET TO AN ANGLE IRON FOUND; THENCE CONTINUING ALONG SAID RIGHT-OF-WAY NORTH 05 DEGREES 53 MINUTES 18 SECONDS EAST (N05°53'18"E) FOR A DISTANCE OF 506.55 FEET TO A POINT AT THE COMMON CORNER TO N/F GASM LLC (DB:16134 PG:160); THENCE TURNING AND CONTINUING ALONG THE COMMON LINE TO N/F GASM LLC SOUTH 89 DEGREES 12 MINUTES 44 SECONDS EAST (S89°12'44"E) FOR A DISTANCE OF 445.80 FEET TO A #4 REBAR FOUND, SAID REBAR BEING THE TRUE POINT-OF-BEGINNING (P.O.B.)**

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Environmental Site Analysis-2180 and 2200 Northlake Parkway

SLUP-18-002

2/23/18

2. Environmental Impacts of the Proposed Project

- a. **Wetlands-** There are no wetlands on the subject property.
- U.S. Fish and Wildlife Service, National Wetlands Inventory (<http://wetlands.fws.gov/downloads.htm>)
  - Georgia Geologic Survey (404-656-3214)
  - Field observation and subsequent wetlands delineation/survey if applicable
- b. **Floodplain-** The subject property is not located in a floodplain.
- Federal Emergency Management Agency (<http://www.fema.org>)
  - Field observation and verification
- c. **Streams/stream buffers-** No such conditions are known.
- Field observation and verification
- d. **Slopes exceeding 25 percent over a 10-foot rise in elevation-** No such conditions exist on the property.
- United States Geologic Survey Topographic Quadrangle Map
  - Field observation and verification
  - DeKalb County GIS topography
- e. **Vegetation-** No specimen trees or endangered species exist on the property. The majority of the property is developed with buildings and pavement.
- United States Department of Agriculture, Nature Resource Conservation Service
  - Field observation
- f. **Wildlife Species (including fish)-** No such conditions are located near the property.
- United States Fish and Wildlife Services
  - Georgia Department of Natural Services, Wildlife Resources Division, Natural Heritage Program
  - Field observation
- g. **Archeological/Historical Sites-**No such conditions are known.
- Historic Resources Survey
  - Georgia Department of Natural Resources, Historic Preservation Division
  - Field observation and verification

3. Project Implementation Measures

- a. **Protection of environmentally sensitive areas, i.e., floodplain, slopes exceeding 25 percent, river corridors.**

No such conditions exist on the property.

**b. Protection of Water Quality-**

We will include appropriate erosion control procedures in the project and comply with local, state, and federal water quality regulations. The existing and past developments have no facilities to treat or detain storm water. The developer will provide for a minimum of 80% TSS removal for the first 1.2 inches of rainfall, in accordance with the requirements established by the City of Tucker and DeKalb County storm water ordinance, the Georgia Stormwater Management Manual and Georgia Department of Natural Resources to meet city, county and state standards relative to runoff, flow and water quality.

**c. Minimization of negative impacts on existing infrastructure-**

The proposed use will be limited to the boundaries of the property and will, therefore, not impact any existing nearby structures. Existing infrastructure is sufficient to handle the proposed use. Sanitary sewer service and water service are provided by DeKalb County. The existing sewer is located on the west side of the property and flows north toward the Northlake Parkway interchange. Water is located in the right of way of Northlake Parkway. We have discussed capacities of both sanitary sewer and water with DeKalb County. There are no restrictions or formal limitations currently imposed by DeKalb County. The sizes of existing water mains and pressures are adequate for the proposed uses. There are structures in the roads and adjacent drainage features that currently accept stormwater runoff from the site. The stormwater facilities proposed will tie directly to this utility maintaining existing drainage patterns. Stormwater, by code, will have reduced peak rates of flow minimizing or even eliminating negative impacts on existing infrastructure. Public utilities are available and adequate at the site boundaries.

**d. Minimization on archeological/historically significant areas-**

No such conditions are known to exist on the property.

**e. Minimization of negative impacts on environmentally stressed communities where environmentally stressed communities are defined as communities exposed to a minimum of two environmentally adverse conditions resulting from public and private municipal (e.g., solid waste and wastewater treatment facilities, utilities, airports and railroads) and industrial (e.g., landfills, quarries and manufacturing facilities) uses-**

No such conditions are known to exist.

**f. Creation and preservation of green space and open space-**

The proposed project will include a preservation of green space and public open space as specified in the requirements of the City of Tucker Comprehensive Plan and the Northlake Parkway Overlay District. Compared to the existing shopping center development, greenspace will be increased.

**g. Protection of citizens from the negative impacts of noise and lighting-**

The Applicant will take reasonable measures to protect citizens from the negative impacts of noise and lighting, if any, resulting from the new use. Lighting on all buildings will be shielded to protect the adjacent properties from any potential light spillage or glare. Parking lot lighting will be shielded and will comply with all current standards. Again, significant improvement over existing conditions is expected.

**h. Protection of parks and recreational green space-**

No parks or recreational green space currently exist on the property.

**i. Minimization of impacts to wildlife habitats-**

No such conditions are known to exist on the property.

2180 and 2200 Northlake Parkway 2

U.S. Fish and Wildlife Service  
National Wetlands Inventory



This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the [Wetlands web site](#).

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National Wetlands Inventory (NWI)

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

October 24, 2016

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U.S. Fish and Wildlife Service  
**National Wetlands Inventory**



October 24, 2016

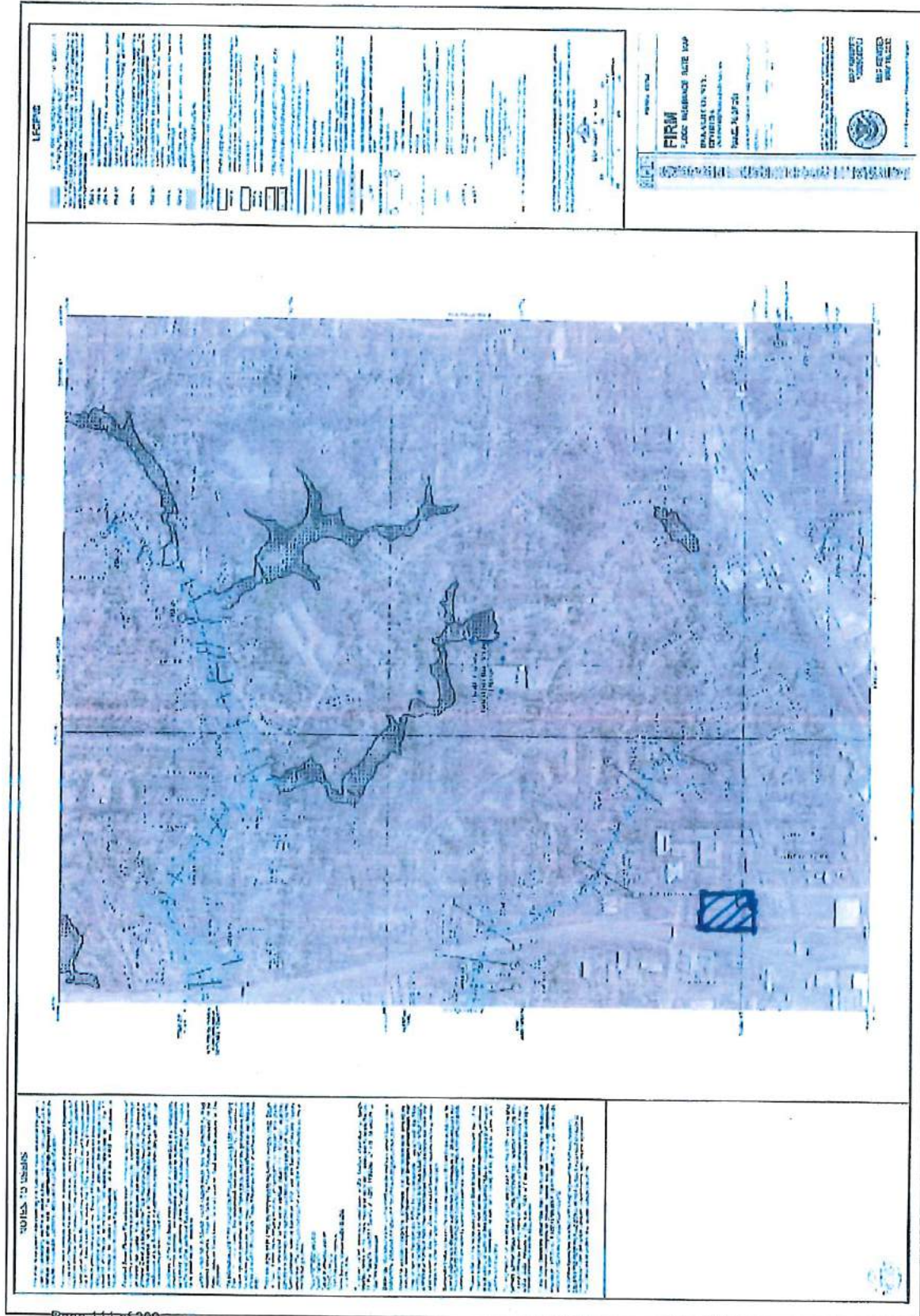
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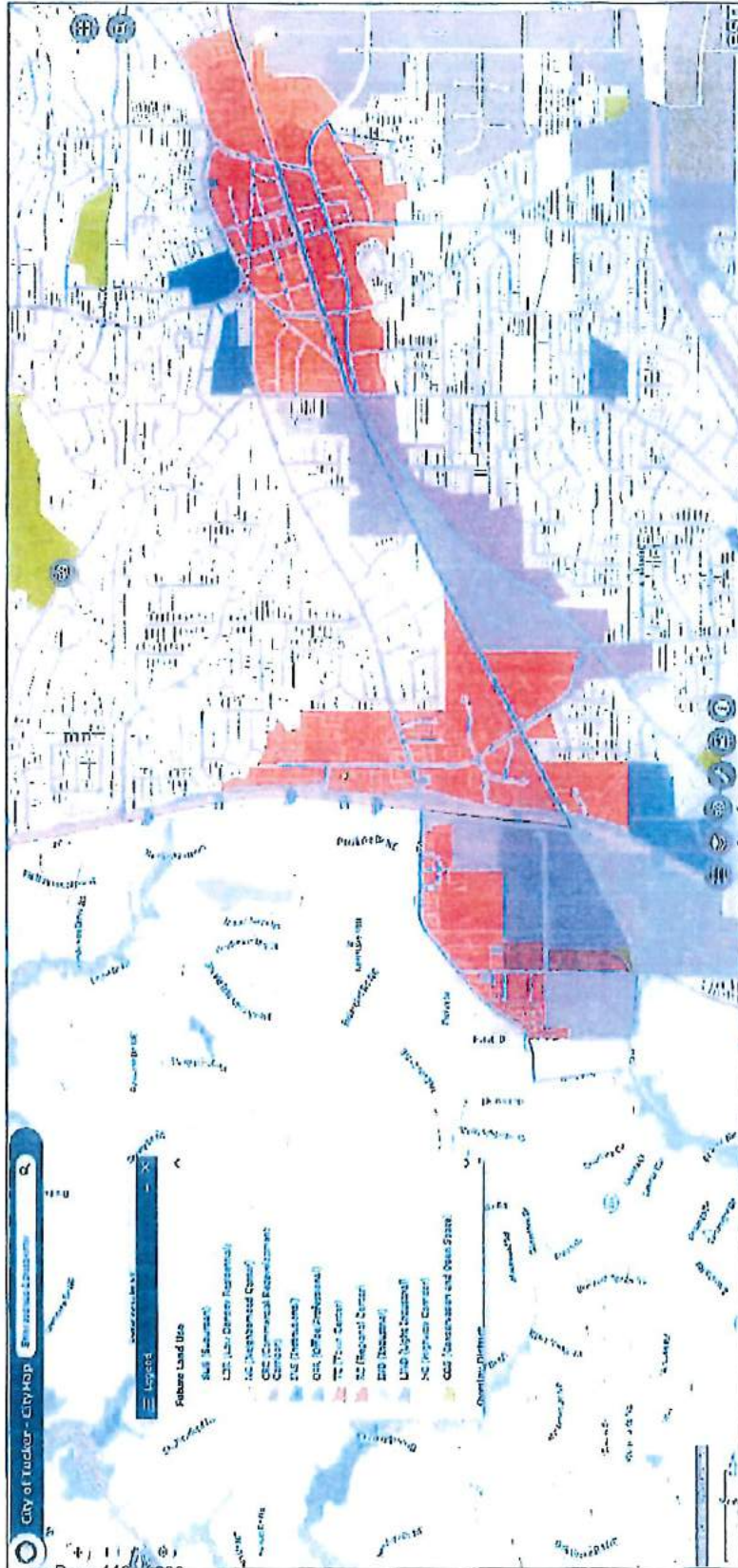
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National Wetlands Inventory (NWI)

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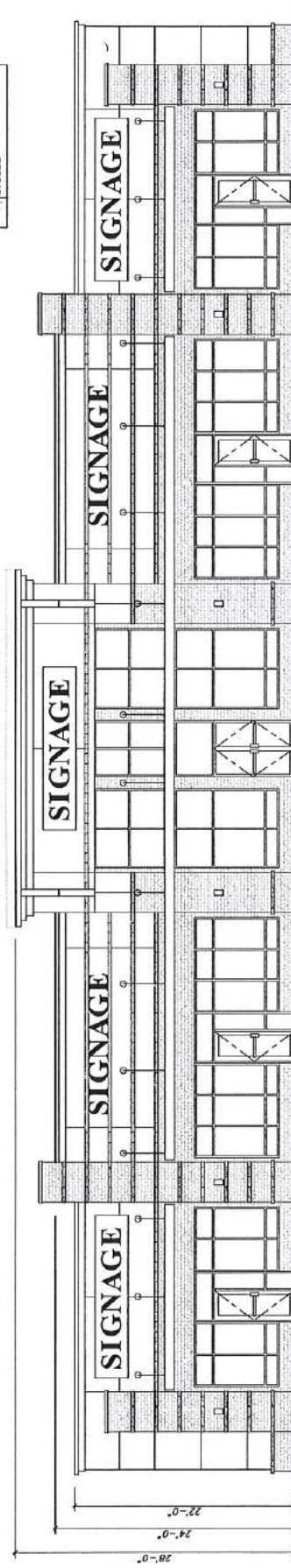
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STY-01	BRICK VENEER
STY-02	SPLIT FACED BRICK TRIM
STY-03	STUCCO



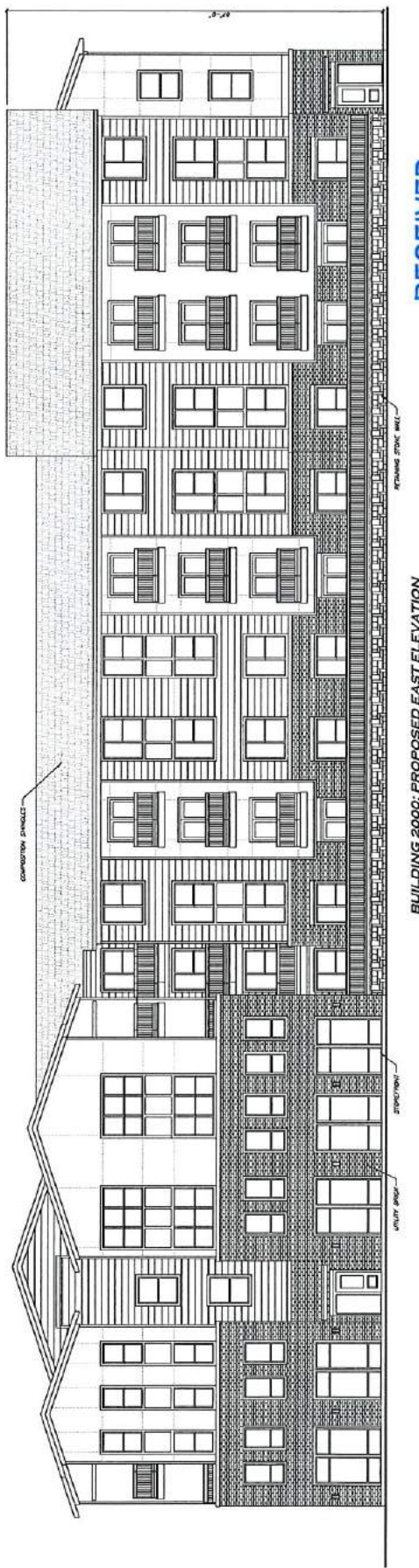
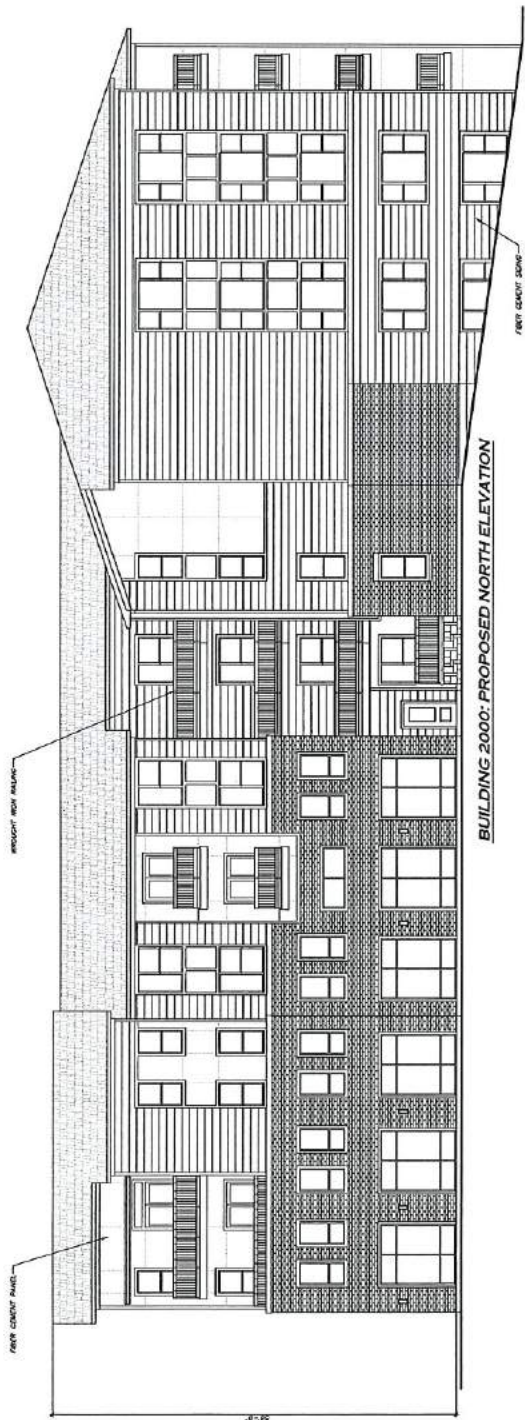
NORTHLAKE RETAIL PROPOSED ELEVATION 02/23/18

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Department SUP-18-002



## A&R Engineering Inc.

2160 Kingston Court, Suite O  
Marietta, GA 30067  
Tel: (770) 690-9255 Fax: (770) 690-9210  
www.aren.com



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SLUP-18-002

To: FF Realty III, LLC.  
From: Abdul K. Amer, PE.  
Date: February 26, 2018  
Subject: Northlake Apartments – Driveways Study

The purpose of this traffic analysis is to evaluate if a proposed single exiting lane at the main entrance to Northlake Parkway Apartments development on Northlake Parkway across from the proposed driveway to Tucker Meridian Shopping Center will operate efficiently or if two exiting lanes are needed. Tucker Meridian Shopping Center is proposing to signalize this driveway location and add a southbound left turn lane into their project.

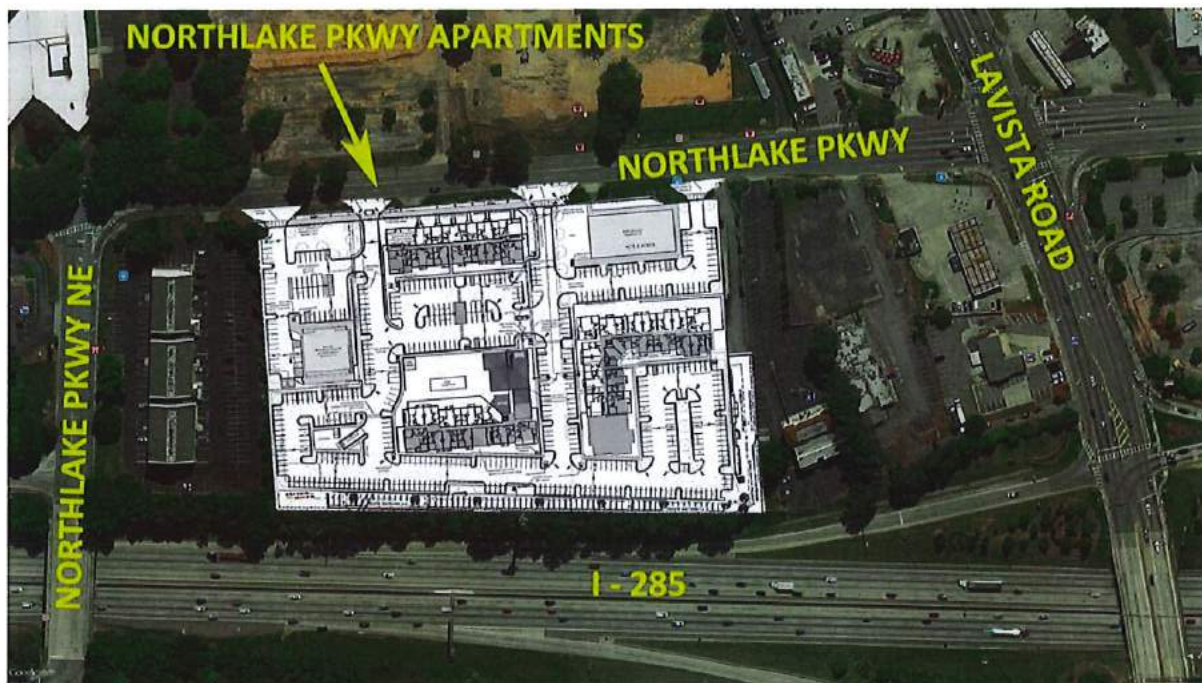


Figure 1 – Aerial of Northlake Parkway Apartments

### SITE INFORMATION

The Northlake Parkway Apartment development is located on the west side of Northlake Parkway between Lavista Road and Northlake Parkway NE. The existing office buildings and hotel building on the site will be demolished and the proposed development consisting of 245 apartments and 10,000 square feet of retail development will be built. The development will continue to use the three existing driveways. The middle full access driveway aligns across from the proposed signalized intersection of Tucker Meridian Shopping Center's main driveway with Northlake Parkway. The northern and southern full access driveways on Northlake Parkway will be converted to right-in/right-out driveways and will remain un-signalized. The site will also have inter-parcel connections with the existing restaurant in the north which also has its own full access driveway on Northlake Parkway.

## INTRODUCTION AND METHODOLOGY

In this analysis, the methodology used for evaluating the traffic operations is based on the criteria set forth in the Transportation Research Board's Highway Capacity Manual, 2010 Edition (HCM2010). Synchro software, which utilizes the HCM methodology, was used for the analysis.

In order to analyze the traffic operations at site driveways:

1. Projected Build Year 2016 peak hour traffic volumes including the projected Tucker Meridian retail development trips were obtained from the traffic study prepared by Foresite Group based on traffic counts collected by them in October 2014 on Northlake Parkway near the proposed full-access main site driveway. These projected 2016 traffic volumes were treated as existing volumes.
2. The amount of site generated traffic was calculated using statistics provided by ITE for similar land uses and added to the base volumes to calculate total future volumes.
3. Site traffic was assigned to intersection turning movements for the site driveways.
4. An analysis of anticipated average vehicle delays at the study intersections was completed using HCM methodology.

## BASE TRAFFIC VOLUMES

Foresite Group as part of their traffic study for Tucker Meridian retail development had collected AM and PM peak hour traffic volumes near their site's main driveway in October, 2014. Based on these volumes, Foresite Group developed Future Build 2016 volumes including the annual growth and their project's projected traffic volumes. These volumes were treated as existing volumes. These existing volumes were then grown by 2% for two years and used as Base 2018 volumes in our study. These volumes are shown in Figure 2.

## SITE TRIP GENERATION

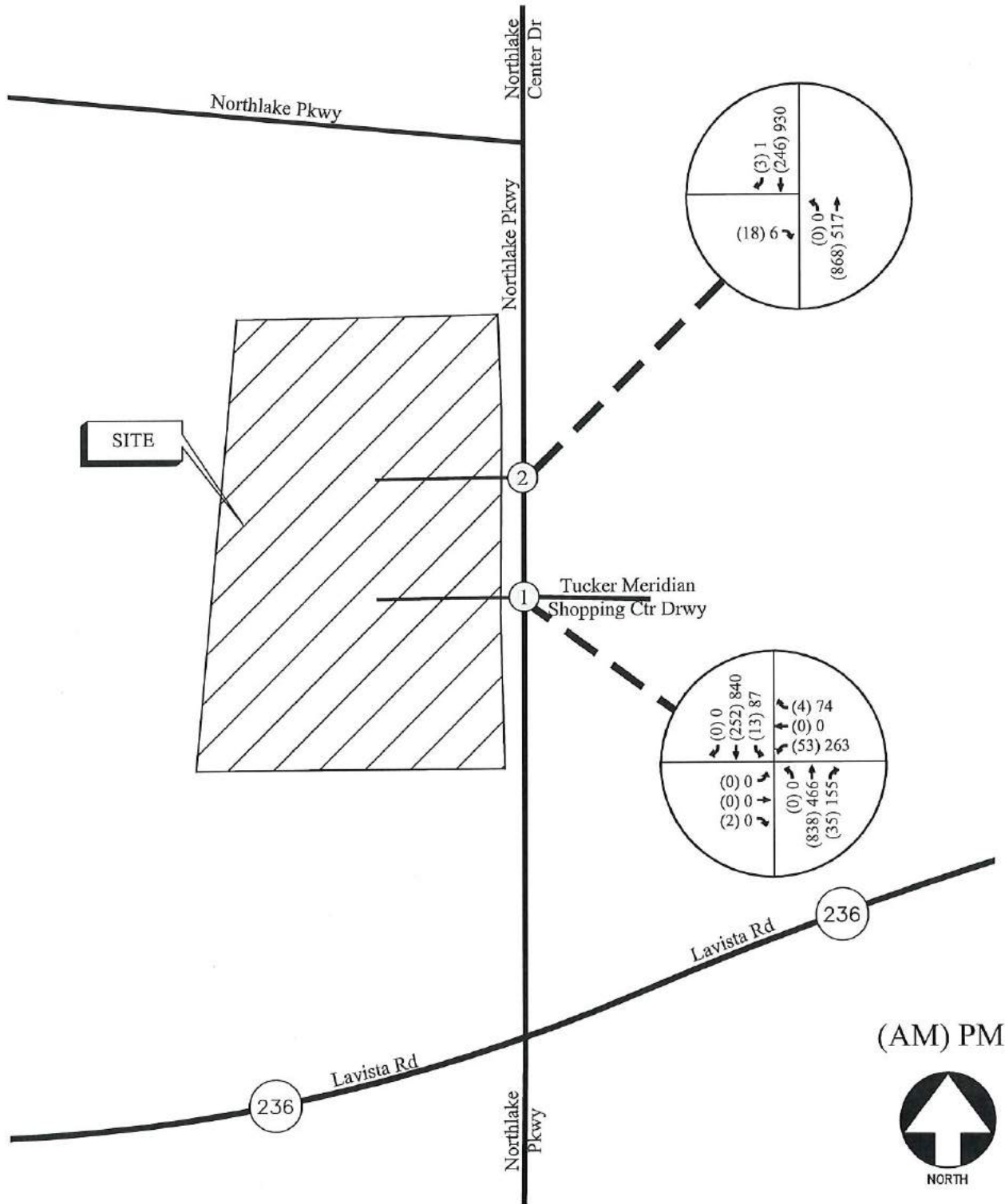
The Institute of Transportation Engineers Trip Generation report (9<sup>th</sup> edition) has published data sets for estimating traffic for various land use types. This reference contains traffic volume count data collected at similar facilities nationwide. ITE Land Use 220 (Apartment), Land Use 820 (Shopping Center), and Land Use 310 (Hotel) were used to evaluate site traffic. The trip generation for the proposed development is shown in Table 1. The trips generated from the existing 120-room hotel are deducted from total trips generated as the existing hotel will be demolished.

Land Use	Size	AM Peak Hour			PM Peak Hour			24 Hour	
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
ITE 220 – Apartment	245 Units	25	99	124	99	53	152	804	804
ITE 820 – Shopping Center	10,000 SF	24	14	38	61	67	128	760	760
<i>Total un-adjusted gross trips</i>		<b>49</b>	<b>113</b>	<b>162</b>	<b>160</b>	<b>120</b>	<b>280</b>	<b>1,564</b>	<b>1,564</b>
LESS: ITE 310 – Hotel	120 Room	-38	-26	-64	-37	-35	-72	-350	-350
<b>NET NEW TRIPS</b>		<b>11</b>	<b>87</b>	<b>98</b>	<b>123</b>	<b>85</b>	<b>208</b>	<b>1,214</b>	<b>1,214</b>



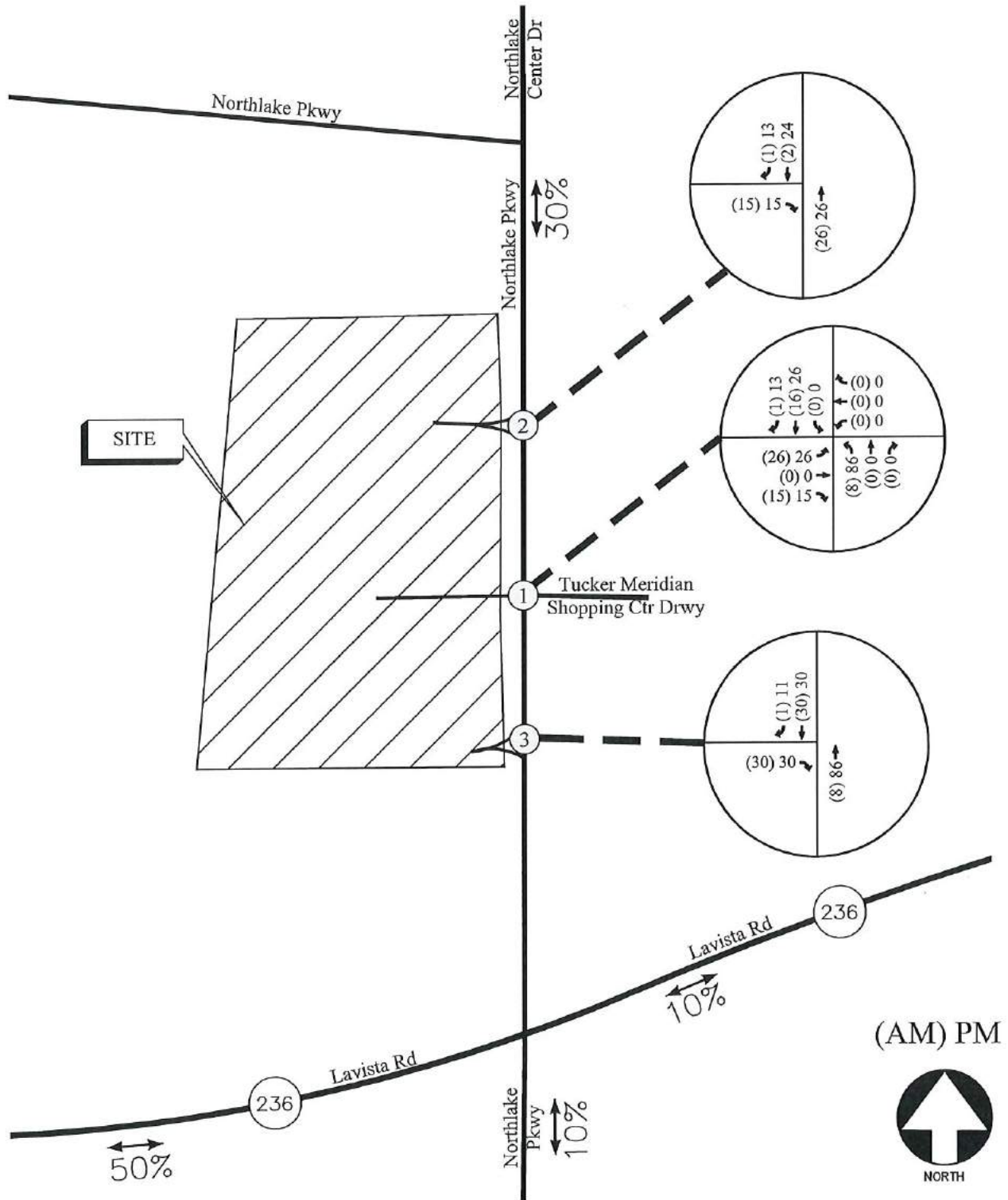
## **SITE TRIP DISTRIBUTION AND ASSIGNMENT**

The trip assignment describes how traffic arrives and departs from the site. An overall trip assignment was developed for the site based on a review of the existing travel patterns in the area and the locations of major roadways and highways that will serve the development. The site-generated peak hour traffic volumes, shown in Table 1, were assigned to the site driveway intersections based on this distribution. The outer-leg distribution and AM and PM peak hour new traffic generated by the site are shown in Figure 3.



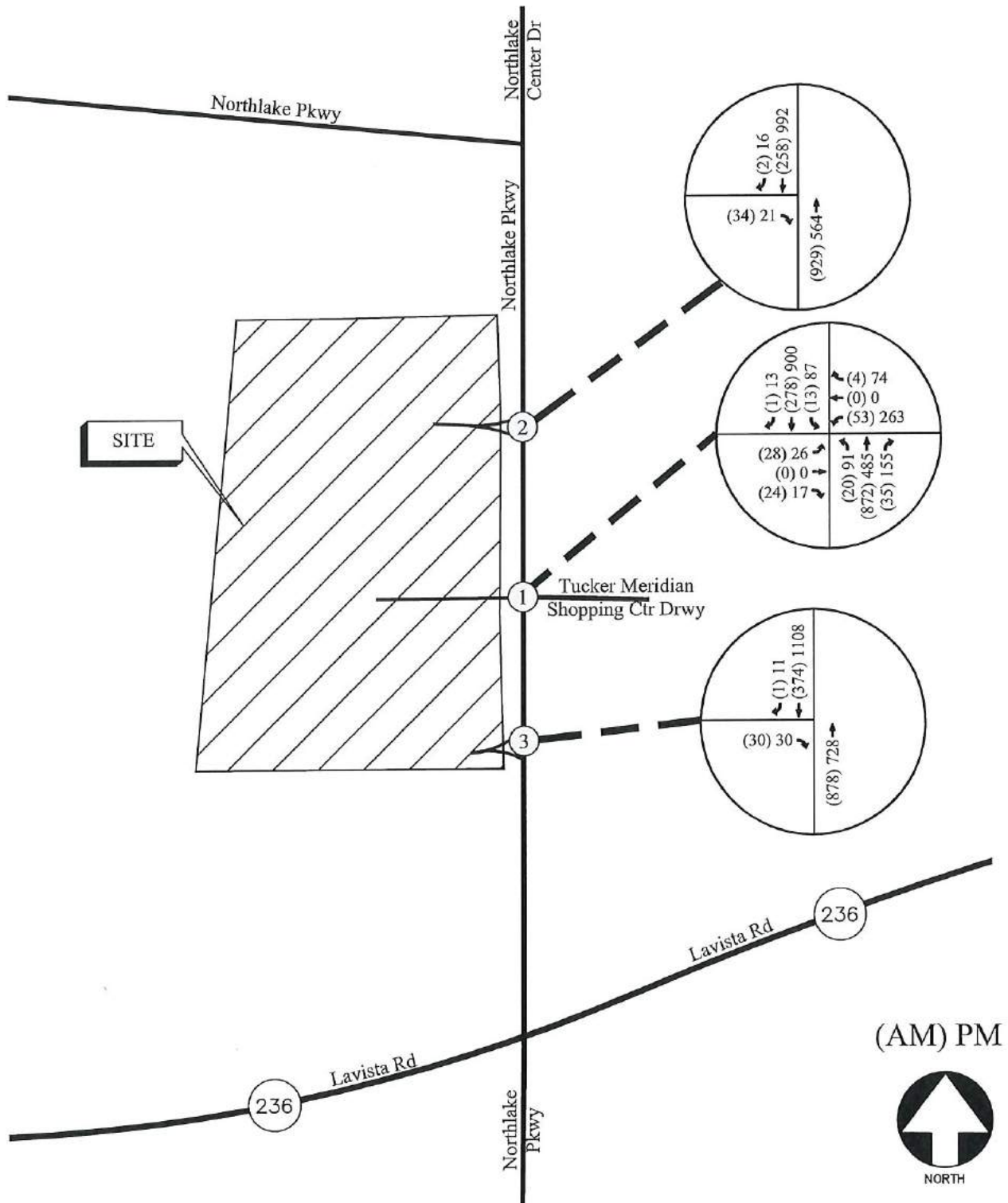
EXISTING WEEKDAY PEAK-HOUR VOLUMES

FIGURE 2  
A&R Engineering Inc.



TRIP DISTRIBUTION AND SITE-GENERATED  
WEEKDAY PEAK HOUR VOLUMES

FIGURE 3  
A&R Engineering Inc.



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 4  
A&R Engineering Inc.

## FUTURE VOLUMES

The existing volumes on Northlake Parkway (Figure 2) were grown at an annual rate of 2% for two year (up to 2018) and then added to the site generated volumes from the proposed development (Figure 3) to calculate the future traffic volumes at the site driveway intersections. These volumes are shown in Figure 4, and are used in the analysis. Details on the calculations are provided in the volume worksheets section of the Appendix.

## FUTURE CAPACITY ANALYSIS

Based on HCM methodology, future traffic operations were analyzed at the study intersections using the lane geometry from the proposed apartment site development plans of a shared Left/Through/Right exiting lane and an additional analysis for comparison purposes with a dedicated left and a shared Through/Right exiting lanes on their main driveway. We used the lane geometry of the Tucker Meridian retail development with a proposed traffic signal, a southbound left turn lane and a northbound right turn lane entering their site. The northern and southern driveways of this project are Right-in/Right-out driveways. The “Build” conditions included total future traffic as shown in Figure 4. The results of the analyses are shown in Tables 2 and 3.

Intersection		Future Conditions: LOS (Delay)			
		SCENARIO 1 - SHARED LEFT/THROUGH/RIGHT LANE		SC-2 - DEDICATED LEFT & A SHARED THROUGH/RT	
		AM Peak	PM Peak	AM Peak	PM Peak
1	<u>Drwy / Tucker Meridian Retail Main Site Drwy</u>	<b>A (6.9)</b>	<b>B (17.4)</b>	<b>A (6.9)</b>	<b>B (16.4)</b>
	-Eastbound Approach	D (53.3)	C (33.7)	D (53.2)	D (38.0)
	-Westbound Approach	E (55.7)	D (50.9)	E (56.9)	D (46.1)
	-Northbound Approach	A (2.9)	A (9.6)	A (2.8)	A (9.3)
	-Southbound Approach	A (2.2)	B (11.2)	A (2.2)	B (10.6)
2	<u>Northlake Pkwy @ Apartments RIRO Site Drwy (Northern)</u>				
	-Eastbound Approach	A (9.3)	B (12.9)	A (9.3)	B (12.9)
2	<u>Northlake Pkwy @ Apartments RIRO Site Drwy for Retail (Southern)</u>				
	-Eastbound Approach	A (9.6)	B (10.6)	A (9.6)	<b>A (9.6)</b>

Intersection		Available Storage	Future Conditions: queue length (feet)			
			SHARED LEFT/THROUGH/RIGHT LANE		DEDICATED LEFT & A SHARED THROUGH/RT	
			AM Peak	PM Peak	AM Peak	PM Peak
1	<b>Northlake Pkwy @ Apartments Main Site Drwy / Tucker Meridian Retail Main Site Drwy</b>					
	-Eastbound Left	50'	61	37	51	37
	-Eastbound Through / Right	-	0	0	0	0
	-Westbound Left	-	84	281	85	282
	-Westbound Through / Right	-	0	0	0	0
	-Northbound Left	50'	9	89	9	87
	-Northbound Through	-	125	140	123	137
	-Northbound Right	100'	8	31	8	30
	-Southbound Left	150'	7	67	7	66
-Southbound Through / Right	-	36	292	35	286	
2	<b>Northlake Pkwy @ Apartments RIRO Site Drwy (Northern)</b>	-	3	4	3	3
	-Eastbound Approach					
3	<b>Northlake Pkwy @ Apartments RIRO Site Drwy for Retail (Southern)</b>	-	3	4	3	3
	-Eastbound Approach					

Results of the HCM analysis show that all the site driveway intersections will operate at acceptable level-of-service “B” or better during both the AM and PM peak hours with lane geometry of a two-lane road as their main driveway; one entering lane and one shared left/through/right exiting lane. A comparison of a single exiting lane with two exiting lanes at their main full access driveway shows negligible or very minimal improvement in level of service, delay or queue lengths in both peak hours.

### RIGHT TURN LANE ANALYSIS PER NCHRP 457 GUIDELINES

The following right turn lane analyses were used to determine the need for dedicated turn bays at the proposed site driveway locations that are not located on State Routes.

### MEHTODOLOGY

Guidelines for determining when to provide a right-turn bay on the major road of a two-way stop-controlled intersection are provided in Hasan, T. and Stokes, R.W. "Guidelines for Right-Turn Treatments at Un-signalized Intersections and Driveways on Rural Highways" (Transportation Research Record 1579). These guidelines were based on an evaluation of the operating and collisions costs associated with the right turn maneuver relative to the cost of construction. The operating costs included those of road-user fuel and delay. Separate guidelines were developed for two-lane and four-lane roadways, which are found in the NCHRP Report 457 “Evaluating Intersection Improvements: An Engineering Study Guide”.

**RESULTS**

An evaluation of site traffic in relation to these guidelines is shown graphically in the following figures.

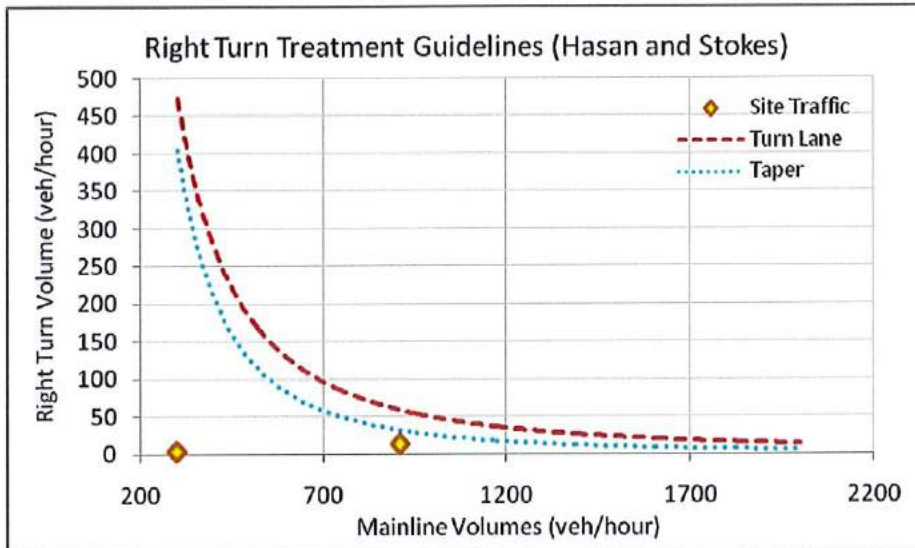


Figure 5 – NCHRP 457 Right Turn Lane Guidelines: Full-access Site Drwy

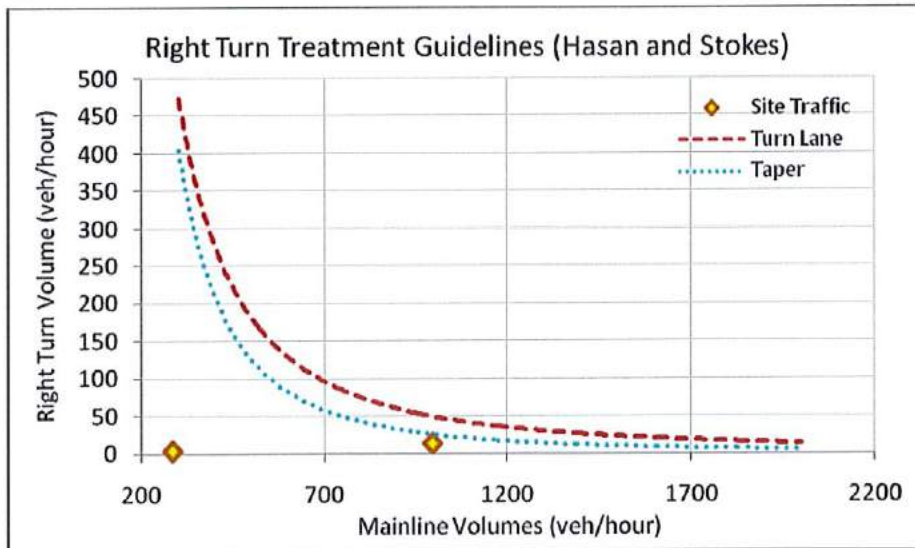


Figure 6 – NCHRP 457 Right Turn Lane Guidelines: RIRO Site Drwy (N)

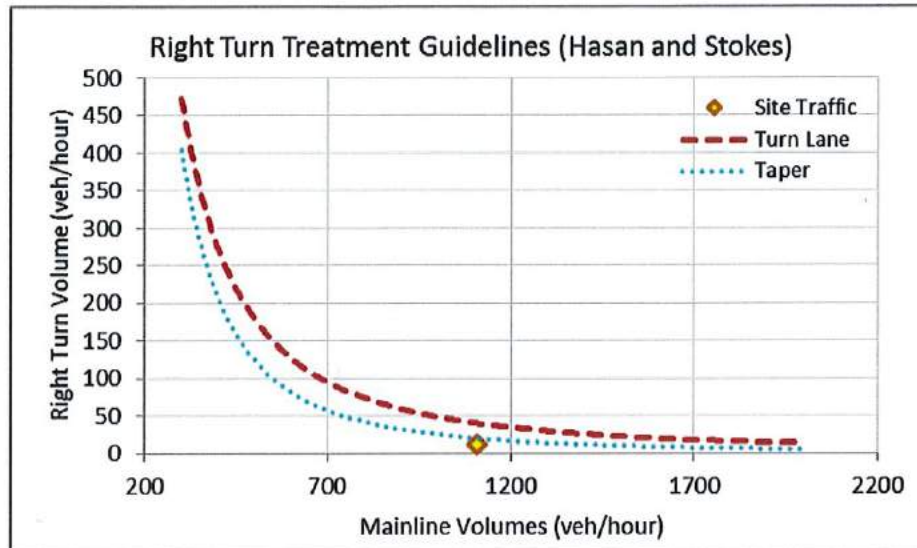


Figure 7 – NCHRP 457 Right Turn Lane Guidelines: RIRO Site Drwy (S)

## FINDINGS

The low volumes and speeds on the roadway do not warrant construction of deceleration lanes outside of the through lane at all three site driveways. Therefore, unless stopping sight distance (335 feet for 35 mph) is obstructed on the southbound approach, a right turn lane is not warranted on the mainline at both the site driveways using the criteria in the NCHRP Report 457.

## CONCLUSIONS AND RECOMMENDATIONS

Analysis of the main full access site driveway on Northlake Parkway indicates that the intersections will operate at acceptable level-of-service “B” or better during both the AM and PM peak hours with lane geometry of a two-lane road as their main driveway; one entering lane and one shared left/through/right exiting lane. A comparison of a single exiting lane with two exiting lanes at their main full access driveway shows negligible or very minimal improvement in level of service, delay or queue lengths in both peak hours. Therefore, we recommend the following:

- The full access main site driveway to have one entering and one exiting (shared Left/Through/Right) lane
- The northern right-in/right-out driveway to have one entering and one exiting (right turn) lane.
- The southern right-in/right-out driveway to have one entering and one exiting (right turn) lane.
- Since the Tucker Meridian development is installing a southbound left turn lane entering their driveway by widening the road at the proposed signalized intersection, it is recommended that the Apartment developer install a short northbound left turn lane, if feasible within the right of way limits.



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APPENDIX

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SLUP 18-002

SITE PLAN



Summit  
Engineering  
200 Galleria Parkway  
Atlanta, GA 30339  
404-412-3000

Fairfield Residential  
200 Galleria Parkway  
Atlanta, GA 30339  
404-412-3000

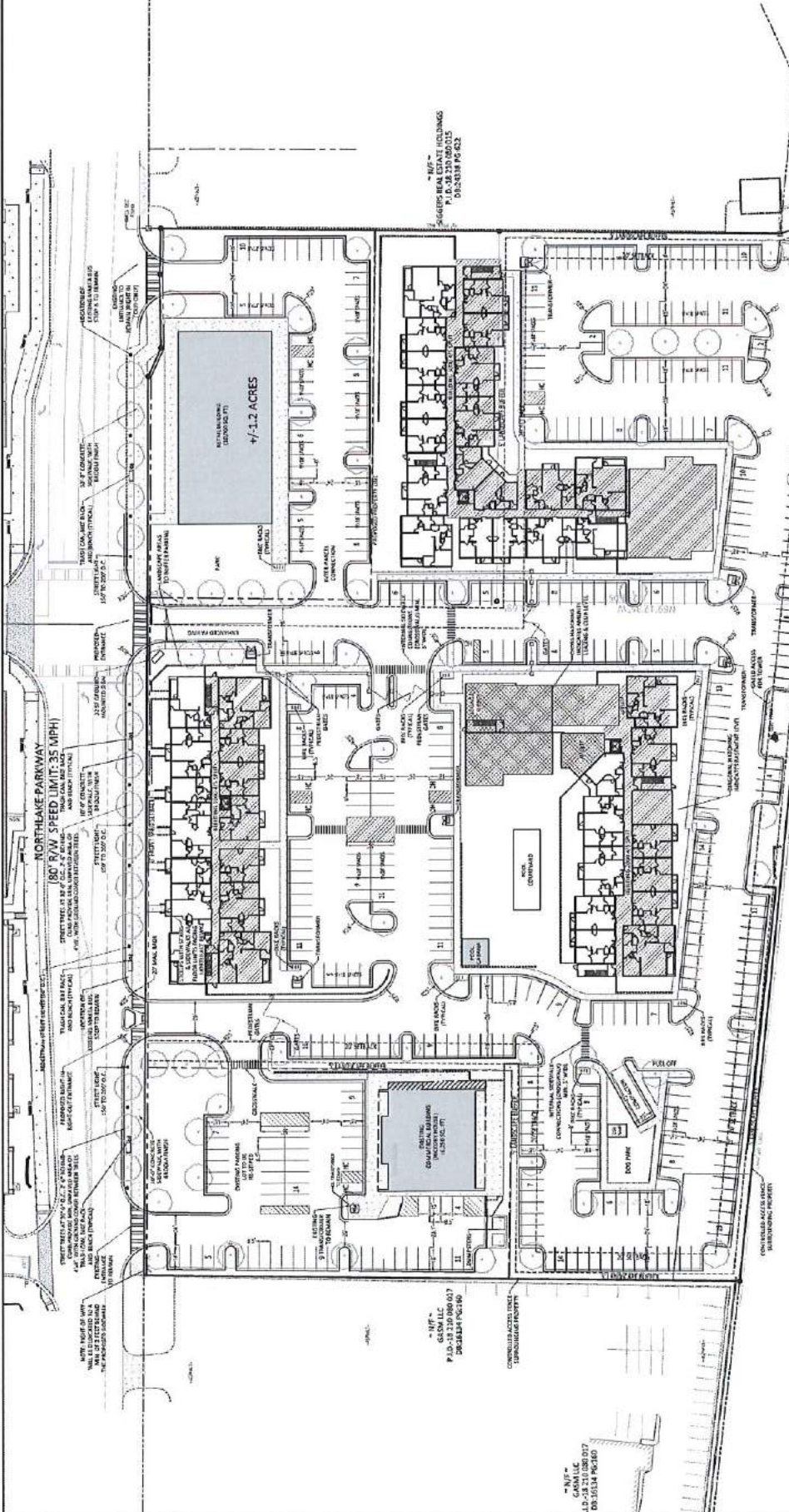
Project No.	18-002
Client	Summit
Design By	Summit
Checked By	Summit
Date	02/26/2018

DEKALB COUNTY, GEORGIA  
LAND LOT 210 - 18th DISTRICT  
2200 FAIRFIELD NORTHLAKE APARTMENTS  
ZONING SITE PLAN  
Drawing No. 20  
\$10,000.00

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THE APPLICATION HAS BEEN FOUND TO BE IN CONFORMANCE WITH THE COMMUNITY DEVELOPMENT DEPARTMENT, CITY OF TUCKER  
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COMMUNITY DEVELOPMENT DEPARTMENT, CITY OF TUCKER  
COMMUNITY DEVELOPMENT DEPARTMENT, CITY OF TUCKER



ITEM	DESCRIPTION	AMOUNT
SITE DATA	ZONING	NORTHVALE OVERLAY DISTRICT 2 (N.O.D. 2)
	LOT AREA	200,000 SQ. FT.
	DEVELOPMENT ALLOWED	RESIDENTIAL MEDIUM DENSITY (R.M.D.)
	ADDITIONAL	COMMERCIAL RETAIL (C.R.)
MULTI-FAMILY BUILDING INFORMATION	TOTAL UNITS PROVIDED	245
	NO. OF STORIES	4 STORIES W/ BASEMENT
	TYPICAL UNIT SIZE	800 SQ. FT.
	BASIS OF UNIT HEIGHT	BASEMENT, 6'0" WALK HEIGHT; FLOOR, 8'0" WALK HEIGHT
PARKING	MINIMUM REQUIRED	1 PER 1,000 SF + 10 SPACES
	COMMERICAL PROVIDED	54 SPACES
	RESTAURANT PROVIDED	54 SPACES
	TOTAL PROVIDED	108 SPACES
STREET FURNITURE SCHEDULE	STREET LIGHTS	VICTOR STANLEY 16' 0" H. LENGTH
	TRASH RECEPTACLES	VICTOR STANLEY 16' 0" H. LENGTH
	BICYCLE RACKS	DUANE INC. - LEGISLATIVE MODEL # 130-31 SURFACE MOUNT
	LANDSCAPING	LEGISLATIVE MODEL # 130-31 SURFACE MOUNT
PARKING	MINIMUM REQUIRED	1 PER 1,000 SF + 10 SPACES
	COMMERICAL PROVIDED	54 SPACES
	RESTAURANT PROVIDED	54 SPACES
	TOTAL PROVIDED	108 SPACES
STREET FURNITURE SCHEDULE	STREET LIGHTS	VICTOR STANLEY 16' 0" H. LENGTH
	TRASH RECEPTACLES	VICTOR STANLEY 16' 0" H. LENGTH
	BICYCLE RACKS	DUANE INC. - LEGISLATIVE MODEL # 130-31 SURFACE MOUNT
	LANDSCAPING	LEGISLATIVE MODEL # 130-31 SURFACE MOUNT
PARKING	MINIMUM REQUIRED	1 PER 1,000 SF + 10 SPACES
	COMMERICAL PROVIDED	54 SPACES
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	TOTAL PROVIDED	108 SPACES
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	LANDSCAPING	LEGISLATIVE MODEL # 130-31 SURFACE MOUNT

Scale: 1" = 20' - 0"

Graphic Scale

North Arrow

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SLUP-18-002

**SYNCHRO REPORTS**

Queues

Future AM (Scenario 1)

1: Northlake Pkwy & Main Site Drwy/Tucker Retail Drwy

02/28/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕	↗	↘	↗	↕	↗	↗	↕
Traffic Volume (vph)	28	0	53	0	20	872	35	13	278
Future Volume (vph)	28	0	53	0	20	872	35	13	278
Lane Group Flow (vph)	0	56	58	4	22	948	38	14	303
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	27.0	27.0	27.0	27.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	36.0	36.0	36.0	36.0	84.0	84.0	84.0	84.0	84.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio		0.37	0.43	0.01	0.02	0.32	0.03	0.03	0.10
Control Delay		36.4	60.6	0.0	2.9	3.2	1.2	3.0	2.5
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		36.4	60.6	0.0	2.9	3.2	1.2	3.0	2.5
Queue Length 50th (ft)		21	43	0	3	78	1	2	20
Queue Length 95th (ft)		61	84	0	9	125	8	7	36
Internal Link Dist (ft)		134		47		173			212
Turn Bay Length (ft)					50		100	160	
Base Capacity (vph)		382	376	515	888	2976	1337	462	2977
Starvation Cap Reductn		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.15	0.15	0.01	0.02	0.32	0.03	0.03	0.10

Intersection Summary

Cycle Length: 120

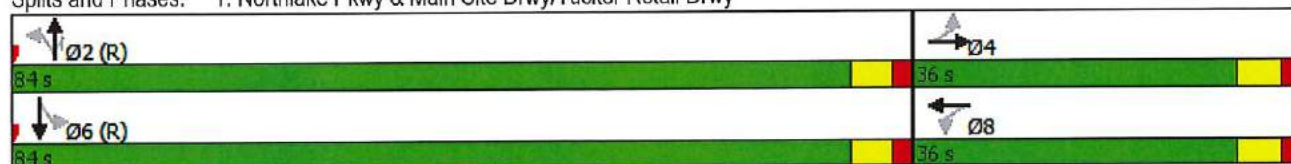
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Splits and Phases: 1: Northlake Pkwy & Main Site Drwy/Tucker Retail Drwy



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SLUP-18-002

HCM Signalized Intersection Capacity Analysis  
 1: Northlake Pkwy & Main Site Drwy/Tucker Retail Drwy

Future AM (Scenario 1)  
 02/28/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↖		↗	↕	↖	↗	↕	↖
Traffic Volume (vph)	28	0	24	53	0	4	20	872	35	13	278	1
Future Volume (vph)	28	0	24	53	0	4	20	872	35	13	278	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.94		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.97		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1700		1770	1583		1770	3539	1583	1770	3537	
Flt Permitted		0.83		0.81	1.00		0.57	1.00	1.00	0.29	1.00	
Satd. Flow (perm)		1450		1507	1583		1056	3539	1583	549	3537	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	0	26	58	0	4	22	948	38	14	302	1
RTOR Reduction (vph)	0	25	0	0	4	0	0	0	6	0	0	0
Lane Group Flow (vph)	0	31	0	58	0	0	22	948	32	14	303	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		8	8		2	2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		9.5		9.5	9.5		98.5	98.5	98.5	98.5	98.5	
Effective Green, g (s)		9.5		9.5	9.5		98.5	98.5	98.5	98.5	98.5	
Actuated g/C Ratio		0.08		0.08	0.08		0.82	0.82	0.82	0.82	0.82	
Clearance Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0		5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		114		119	125		866	2904	1299	450	2903	
v/s Ratio Prot					0.00			c0.27			0.09	
v/s Ratio Perm		0.02		c0.04			0.02		0.02	0.03		
v/c Ratio		0.27		0.49	0.00		0.03	0.33	0.02	0.03	0.10	
Uniform Delay, d1		52.0		52.9	50.9		2.0	2.6	2.0	2.0	2.1	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.3		3.1	0.0		0.1	0.3	0.0	0.1	0.1	
Delay (s)		53.3		56.0	50.9		2.0	2.9	2.0	2.1	2.2	
Level of Service		D		E	D		A	A	A	A	A	
Approach Delay (s)		53.3			55.7			2.9			2.2	
Approach LOS		D			E			A			A	

Intersection Summary		
HCM 2000 Control Delay	6.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.34	A
Actuated Cycle Length (s)	120.0	Sum of lost time (s)
Intersection Capacity Utilization	45.0%	12.0
Analysis Period (min)	15	ICU Level of Service
		A

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 2: Northlake Pkwy & RIRO Drwy

Future AM (Scenario 1)  
 02/28/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕	↕	
Traffic Volume (veh/h)	0	34	0	929	258	2
Future Volume (Veh/h)	0	34	0	929	258	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	37	0	1010	280	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	292					
pX, platoon unblocked	0.93					
vC, conflicting volume	786	141	282			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	629	141	282			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	100			
cM capacity (veh/h)	387	881	1277			
Direction, Lane #						
	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	37	505	505	187	95	
Volume Left	0	0	0	0	0	
Volume Right	37	0	0	0	2	
cSH	881	1700	1700	1700	1700	
Volume to Capacity	0.04	0.30	0.30	0.11	0.06	
Queue Length 95th (ft)	3	0	0	0	0	
Control Delay (s)	9.3	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	9.3	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.3					
Intersection Capacity Utilization	29.0%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 5: Northlake Pkwy & Comm DRWY

Future AM (Scenario 1)  
 02/28/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕	↕	
Traffic Volume (veh/h)	0	30	0	878	374	1
Future Volume (Veh/h)	0	30	0	878	374	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	33	0	954	407	1
<b>Pedestrians</b>						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				253		
pX, platoon unblocked	0.99	0.99	0.99			
vC, conflicting volume	884	204	408			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	867	181	387			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	100			
cM capacity (veh/h)	290	823	1159			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>	<b>SB 2</b>	
Volume Total	33	477	477	271	137	
Volume Left	0	0	0	0	0	
Volume Right	33	0	0	0	1	
cSH	823	1700	1700	1700	1700	
Volume to Capacity	0.04	0.28	0.28	0.16	0.08	
Queue Length 95th (ft)	3	0	0	0	0	
Control Delay (s)	9.6	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	9.6	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay	0.2					
Intersection Capacity Utilization	27.6%		ICU Level of Service	A		
Analysis Period (min)	15					



Queues

Future PM (Scenario 1)

1: Northlake Pkwy & Main Site Drwy/Tucker Retail Drwy

02/28/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕	↗	↖	↗	↕	↖	↗	↕
Traffic Volume (vph)	26	0	263	0	91	485	155	87	900
Future Volume (vph)	26	0	263	0	91	485	155	87	900
Lane Group Flow (vph)	0	46	286	80	99	527	168	95	992
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	27.0	27.0	27.0	27.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	50.0	50.0	50.0	50.0	70.0	70.0	70.0	70.0	70.0
Total Split (%)	41.7%	41.7%	41.7%	41.7%	58.3%	58.3%	58.3%	58.3%	58.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio		0.12	0.82	0.13	0.34	0.23	0.16	0.18	0.44
Control Delay		16.3	59.7	0.4	16.2	10.3	2.1	11.6	12.5
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		16.3	59.7	0.4	16.2	10.3	2.1	11.6	12.5
Queue Length 50th (ft)		11	208	0	33	84	0	28	187
Queue Length 95th (ft)		37	281	0	89	140	31	67	292
Internal Link Dist (ft)		134		47		173			212
Turn Bay Length (ft)					50		100	160	
Base Capacity (vph)		550	496	772	292	2270	1075	533	2266
Starvation Cap Reductn		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.08	0.58	0.10	0.34	0.23	0.16	0.18	0.44

Intersection Summary

Cycle Length: 120

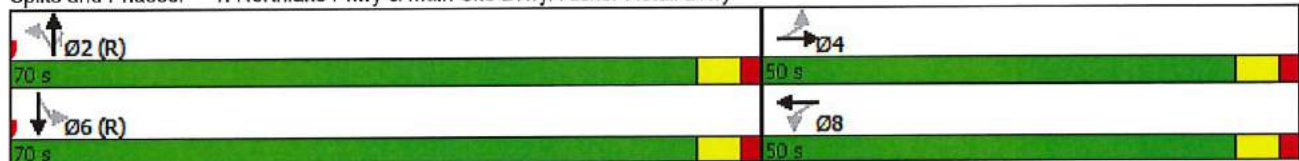
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 1: Northlake Pkwy & Main Site Drwy/Tucker Retail Drwy



HCM Signalized Intersection Capacity Analysis  
 1: Northlake Pkwy & Main Site Drwy/Tucker Retail Drwy

Future PM (Scenario 1)

02/28/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (vph)	26	0	17	263	0	74	91	485	155	87	900	13
Future Volume (vph)	26	0	17	263	0	74	91	485	155	87	900	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.95		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.97		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1712		1770	1583		1770	3539	1583	1770	3532	
Flt Permitted		0.82		0.73	1.00		0.25	1.00	1.00	0.45	1.00	
Satd. Flow (perm)		1455		1354	1583		457	3539	1583	830	3532	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	0	18	286	0	80	99	527	168	95	978	14
RTOR Reduction (vph)	0	20	0	0	59	0	0	0	60	0	1	0
Lane Group Flow (vph)	0	26	0	286	21	0	99	527	108	95	991	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		31.0		31.0	31.0		77.0	77.0	77.0	77.0	77.0	
Effective Green, g (s)		31.0		31.0	31.0		77.0	77.0	77.0	77.0	77.0	
Actuated g/C Ratio		0.26		0.26	0.26		0.64	0.64	0.64	0.64	0.64	
Clearance Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0		5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		375		349	408		293	2270	1015	532	2266	
v/s Ratio Prot					0.01			0.15			c0.28	
v/s Ratio Perm		0.02		c0.21			0.22		0.07	0.11		
v/c Ratio		0.07		0.82	0.05		0.34	0.23	0.11	0.18	0.44	
Uniform Delay, d1		33.6		41.9	33.4		9.8	9.1	8.3	8.7	10.7	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1		13.9	0.1		3.1	0.2	0.2	0.7	0.6	
Delay (s)		33.7		55.8	33.5		12.9	9.3	8.5	9.4	11.3	
Level of Service		C		E	C		B	A	A	A	B	
Approach Delay (s)		33.7			50.9			9.6			11.2	
Approach LOS		C			D			A			B	

Intersection Summary

HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 2: Northlake Pkwy & RIRO Drwy

Future PM (Scenario 1)  
 02/28/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕	↕	
Traffic Volume (veh/h)	0	21	0	564	992	16
Future Volume (Veh/h)	0	21	0	564	992	16
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	23	0	613	1078	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				292		
pX, platoon unblocked						
vC, conflicting volume	1393	548	1095			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1292	548	1095			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %						
cM capacity (veh/h)	145	481	633			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	23	306	306	719	376	
Volume Left	0	0	0	0	0	
Volume Right	23	0	0	0	17	
cSH	481	1700	1700	1700	1700	
Volume to Capacity	0.05	0.18	0.18	0.42	0.22	
Queue Length 95th (ft)	4	0	0	0	0	
Control Delay (s)	12.9	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	12.9	0.0		0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			37.9%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 5: Northlake Pkwy & Comm DRWY

Future PM (Scenario 1)  
 02/28/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕	↕	
Traffic Volume (veh/h)	0	30	0	728	1108	11
Future Volume (Veh/h)	0	30	0	728	1108	11
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	33	0	791	1204	12
<b>Pedestrians</b>						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				253		
pX, platoon unblocked	0.86	0.86	0.86			
vC, conflicting volume	1606	608	1216			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1382	225	930			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	95	100			
cM capacity (veh/h)	116	671	630			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>	<b>SB 2</b>	
Volume Total	33	396	396	803	413	
Volume Left	0	0	0	0	0	
Volume Right	33	0	0	0	12	
cSH	671	1700	1700	1700	1700	
Volume to Capacity	0.05	0.23	0.23	0.47	0.24	
Queue Length 95th (ft)	4	0	0	0	0	
Control Delay (s)	10.6	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	10.6	0.0	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			0.2			
Intersection Capacity Utilization			41.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Timings

Future AM (Scenario 2)

1: Northlake Pkwy & Main Site Drwy/Tucker Retail Drwy

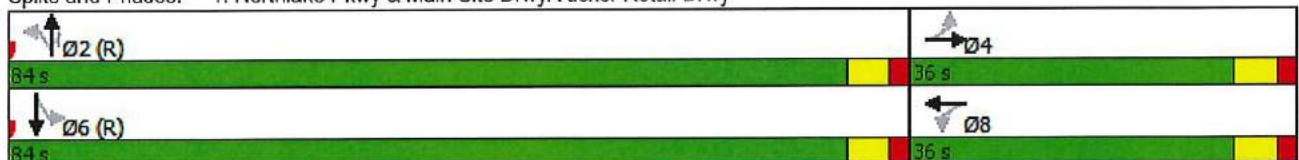
02/28/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↗	↖	↕
Traffic Volume (vph)	28	0	53	0	20	872	35	13	278
Future Volume (vph)	28	0	53	0	20	872	35	13	278
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	27.0	27.0	27.0	27.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	36.0	36.0	36.0	36.0	84.0	84.0	84.0	84.0	84.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
Act Effct Green (s)	10.5	10.5	10.5	10.5	101.1	101.1	101.1	101.1	101.1
Actuated g/C Ratio	0.09	0.09	0.09	0.09	0.84	0.84	0.84	0.84	0.84
v/c Ratio	0.24	0.04	0.48	0.01	0.02	0.32	0.03	0.03	0.10
Control Delay	54.2	0.1	64.4	0.0	2.8	3.2	1.2	2.9	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	0.1	64.4	0.0	2.8	3.2	1.2	2.9	2.5
LOS	D	A	E	A	A	A	A	A	A
Approach Delay		29.1		60.2		3.1			2.5
Approach LOS		C		E		A			A























**Intersection Summary**  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.48  
 Intersection Signal Delay: 6.4  
 Intersection LOS: A  
 Intersection Capacity Utilization 45.0%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 1: Northlake Pkwy & Main Site Drwy/Tucker Retail Drwy



HCM 2010 Signalized Intersection Summary  
 1: Northlake Pkwy & Main Site Drwy/Tucker Retail Drwy

Future AM (Scenario 2)  
 02/28/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	0	24	53	0	4	20	872	35	13	278	1
Future Volume (veh/h)	28	0	24	53	0	4	20	872	35	13	278	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	30	0	26	58	0	4	22	948	38	14	302	1
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	0	118	142	0	118	927	2920	1307	493	2986	10
Arrive On Green	0.07	0.00	0.07	0.07	0.00	0.07	0.83	0.83	0.83	0.83	0.83	0.83
Sat Flow, veh/h	1407	0	1583	1379	0	1583	1072	3539	1583	568	3618	12
Grp Volume(v), veh/h	30	0	26	58	0	4	22	948	38	14	148	155
Grp Sat Flow(s),veh/h/ln	1407	0	1583	1379	0	1583	1072	1770	1583	568	1770	1861
Q Serve(g_s), s	2.4	0.0	1.9	5.0	0.0	0.3	0.5	7.7	0.5	0.7	1.9	1.9
Cycle Q Clear(g_c), s	2.7	0.0	1.9	6.8	0.0	0.3	2.4	7.7	0.5	8.4	1.9	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	162	0	118	142	0	118	927	2920	1307	493	1460	1535
V/C Ratio(X)	0.19	0.00	0.22	0.41	0.00	0.03	0.02	0.32	0.03	0.03	0.10	0.10
Avail Cap(c_a), veh/h	408	0	396	383	0	396	927	2920	1307	493	1460	1535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	0.0	52.2	55.4	0.0	51.5	2.2	2.5	1.9	3.5	2.0	2.0
Incr Delay (d2), s/veh	0.5	0.0	0.9	1.9	0.0	0.1	0.0	0.3	0.0	0.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	0.0	1.5	3.5	0.0	0.2	0.3	6.9	0.4	0.2	1.7	1.8
LnGrp Delay(d),s/veh	53.3	0.0	53.1	57.3	0.0	51.6	2.3	2.8	1.9	3.6	2.1	2.1
LnGrp LOS	D		D	E		D	A	A	A	A	A	A
Approach Vol, veh/h		56			62			1008				317
Approach Delay, s/veh		53.2			56.9			2.8				2.2
Approach LOS		D			E			A				A
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		105.0		15.0		105.0		15.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		78.0		30.0		78.0		30.0				
Max Q Clear Time (g_c+l1), s		9.7		4.7		10.4		8.8				
Green Ext Time (p_c), s		18.9		0.4		18.9		0.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			6.9									
HCM 2010 LOS			A									

**Intersection**

Int Delay, s/veh 0.3

**Movement** EBL EBR NBL NBT SBT SBR

Lane Configurations		↑		↑↑	↑↑	
Traffic Vol, veh/h	0	34	0	929	258	2
Future Vol, veh/h	0	34	0	929	258	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	37	0	1010	280	2

**Major/Minor** Minor2 Major1 Major2

Conflicting Flow All	-	141	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	881	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	881	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

**Approach** EB NB SB

HCM Control Delay, s	9.3	0	0
HCM LOS	A		

**Minor Lane/Major Mvmt** NBTEBLn1 SBT SBR

Capacity (veh/h)	-	881	-	-
HCM Lane V/C Ratio	-	0.042	-	-
HCM Control Delay (s)	-	9.3	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

**Intersection**

Int Delay, s/veh 0.2

**Movement** EBL EBR NBL NBT SBT SBR

Lane Configurations		↑		↑↑	↑↑	
Traffic Vol, veh/h	0	30	0	933	351	1
Future Vol, veh/h	0	30	0	933	351	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	33	0	1014	382	1

**Major/Minor** Minor2 Major1 Major2

Conflicting Flow All	-	191	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	818	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	818	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

**Approach** EB NB SB

HCM Control Delay, s	9.6	0	0
HCM LOS	A		

**Minor Lane/Major Mvmt** NBTEBLn1 SBT SBR

Capacity (veh/h)	-	818	-	-
HCM Lane V/C Ratio	-	0.04	-	-
HCM Control Delay (s)	-	9.6	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-



Queues

Future PM (Scenario 2)

1: Northlake Pkwy & Main Site Drwy/Tucker Retail Drwy

02/28/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↑↑	↗	↖	↑↗
Traffic Volume (vph)	26	0	263	0	91	485	155	87	900
Future Volume (vph)	26	0	263	0	91	485	155	87	900
Lane Group Flow (vph)	28	18	286	80	99	527	168	95	992
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases			4		8		2		6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	27.0	27.0	27.0	27.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	49.0	49.0	49.0	49.0	71.0	71.0	71.0	71.0	71.0
Total Split (%)	40.8%	40.8%	40.8%	40.8%	59.2%	59.2%	59.2%	59.2%	59.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.08	0.04	0.81	0.13	0.33	0.23	0.16	0.18	0.43
Control Delay	31.3	0.2	59.8	0.4	15.6	10.0	2.0	11.2	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	0.2	59.8	0.4	15.6	10.0	2.0	11.2	12.1
Queue Length 50th (ft)	17	0	209	0	32	82	0	27	183
Queue Length 95th (ft)	37	0	282	0	87	137	30	66	286
Internal Link Dist (ft)		134		47		173			212
Turn Bay Length (ft)	50				50		100	160	
Base Capacity (vph)	470	631	498	765	297	2290	1083	537	2287
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.03	0.57	0.10	0.33	0.23	0.16	0.18	0.43

Intersection Summary

Cycle Length: 120

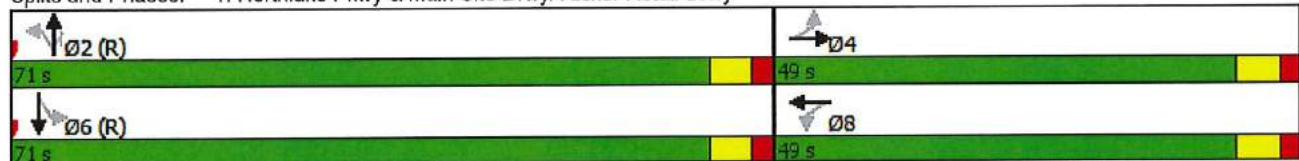
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 1: Northlake Pkwy & Main Site Drwy/Tucker Retail Drwy



HCM 2010 Signalized Intersection Summary  
 1: Northlake Pkwy & Main Site Drwy/Tucker Retail Drwy

Future PM (Scenario 2)  
 02/28/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↑↑	
Traffic Volume (veh/h)	26	0	17	263	0	74	91	485	155	87	900	13
Future Volume (veh/h)	26	0	17	263	0	74	91	485	155	87	900	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	28	0	18	286	0	80	99	527	168	95	978	14
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	0	376	378	0	376	363	2345	1049	511	2367	34
Arrive On Green	0.24	0.00	0.24	0.24	0.00	0.24	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1313	0	1583	1389	0	1583	565	3539	1583	747	3572	51
Grp Volume(v), veh/h	28	0	18	286	0	80	99	527	168	95	484	508
Grp Sat Flow(s),veh/h/ln	1313	0	1583	1389	0	1583	565	1770	1583	747	1770	1854
Q Serve(g_s), s	2.1	0.0	1.1	24.0	0.0	4.9	11.8	7.1	4.8	6.9	15.3	15.3
Cycle Q Clear(g_c), s	7.0	0.0	1.1	25.1	0.0	4.9	27.1	7.1	4.8	14.0	15.3	15.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	318	0	376	378	0	376	363	2345	1049	511	1173	1228
V/C Ratio(X)	0.09	0.00	0.05	0.76	0.00	0.21	0.27	0.22	0.16	0.19	0.41	0.41
Avail Cap(c_a), veh/h	477	0	567	546	0	567	363	2345	1049	511	1173	1228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	0.0	35.3	45.0	0.0	36.8	15.7	8.0	7.6	10.8	9.4	9.4
Incr Delay (d2), s/veh	0.1	0.0	0.1	3.7	0.0	0.3	1.9	0.2	0.3	0.8	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.4	0.0	0.8	14.7	0.0	3.9	3.7	6.3	4.0	2.8	12.3	12.8
LnGrp Delay(d),s/veh	39.7	0.0	35.4	48.6	0.0	37.0	17.5	8.2	8.0	11.6	10.5	10.4
LnGrp LOS	D		D	D		D	B	A	A	B	B	B
Approach Vol, veh/h		46			366			794			1087	
Approach Delay, s/veh		38.0			46.1			9.3			10.6	
Approach LOS		D			D			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		85.5		34.5		85.5		34.5				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		65.0		43.0		65.0		43.0				
Max Q Clear Time (g_c+I1), s		29.1		9.0		17.3		27.1				
Green Ext Time (p_c), s		23.8		1.6		28.5		1.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				16.4								
HCM 2010 LOS				B								

**Intersection**

Int Delay, s/veh 0.2

**Movement** EBL EBR NBL NBT SBT SBR

Lane Configurations		↑		↑↑	↑↑	
Traffic Vol, veh/h	0	21	0	564	992	16
Future Vol, veh/h	0	21	0	564	992	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	0	613	1078	17

**Major/Minor** Minor2 Major1 Major2

Conflicting Flow All	-	548	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	480	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	480	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

**Approach** EB NB SB

HCM Control Delay, s	12.9	0	0
HCM LOS	B		

**Minor Lane/Major Mvmt** NBT EBLn1 SBT SBR

Capacity (veh/h)	-	480	-	-
HCM Lane V/C Ratio	-	0.048	-	-
HCM Control Delay (s)	-	12.9	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	
Traffic Vol, veh/h	0	30	0	933	351	1
Future Vol, veh/h	0	30	0	933	351	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	33	0	1014	382	1

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	191	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	818	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	818	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	818	-	-
HCM Lane V/C Ratio	-	0.04	-	-
HCM Control Delay (s)	-	9.6	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

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VOLUME WORKSHEETS

**16-135 Northlake Apartments**  
**Traffic Volumes**  
**Future Conditions**

A&R Engineering  
 February 2018

1 Northlake Pkwy@Main Site Drwy

**A.M. Peak Hour**

Condition	Northbound			Southbound			Eastbound			Westbound				
	L	T	R	L	T	R	L	T	R	L	T	R		
Existing:	12	838	35	13	252	0	2	0	9	11	53	0	4	57
Growth Factor (%):	0	2	0	0	2	0	0	0	0	0	0	0	0	0
Base Condition:	12	872	35	13	262	0	2	0	9	11	53	0	4	57
Total New Trips	8	0	0	0	16	1	17	0	15	41	0	0	0	0
Future Traffic Volumes:	20	872	35	13	278	1	292	28	0	24	53	0	4	57

**P.M. Peak Hour**

Condition	Northbound			Southbound			Eastbound			Westbound				
	L	T	R	L	T	R	L	T	R	L	T	R		
Existing:	5	466	155	87	840	0	0	0	2	2	263	0	74	337
Growth Factor (%):	0	2	0	0	2	0	0	0	0	0	0	0	0	0
Base Condition:	5	485	155	87	874	0	961	0	2	2	263	0	74	337
Total New Trips	86	0	0	0	26	13	39	26	0	15	0	0	0	0
Future Traffic Volumes:	91	485	155	87	900	13	1000	26	0	17	263	0	74	337

**16-135 Northlake Apartments**  
 Traffic Volumes  
 Future Conditions

A&R Engineering  
 February 2018

2 Northlake Pkwy@RIRO Drwy

A.M. Peak Hour

Condition	Northbound			Southbound			Eastbound			Westbound			
	L	T	Tot	L	T	Tot	L	T	Tot	L	T	Tot	
Existing:	0	868	1	246	1	248	0	0	18	1	0	1	2
Growth Factor (%):	2	2	2	2	2	2	2	2	2	2	2	2	2
Base Condition:	0	903	1	256	1	258	0	0	19	1	0	1	2
Total New Trips	0	26	0	2	1	3	0	0	15	0	0	0	0
Future Traffic Volumes:	0	929	1	258	2	261	0	0	34	1	0	1	2

P.M. Peak Hour

Condition	Northbound			Southbound			Eastbound			Westbound			
	L	T	Tot	L	T	Tot	L	T	Tot	L	T	Tot	
Existing:	0	517	4	930	3	937	0	0	6	4	0	4	8
Growth Factor (%):	2	2	2	2	2	2	2	2	2	2	2	2	2
Base Condition:	0	538	4	968	3	975	0	0	6	4	0	4	8
Total New Trips	0	26	0	24	13	37	0	0	15	0	0	0	0
Future Traffic Volumes:	0	564	4	992	16	1012	0	0	21	4	0	4	8

**16-135 Northlake Apartments**  
 Traffic Volumes  
 Future Conditions

A&R Engineering  
 February 2018

3 Northlake Pkwy@CommRIRO S

**A.M. Peak Hour**

Condition	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing:	0	836	0	0	331	0	0	0	0	0	0	0
Growth Factor (%):	2	2	2	2	2	2	2	2	2	2	2	2
Base Condition:	0	870	0	0	344	0	0	0	0	0	0	0
Total New Trips	0	8	0	0	30	1	0	0	30	0	0	0
Future Traffic Volumes:	0	878	0	0	374	1	0	0	30	0	0	0

**P.M. Peak Hour**

Condition	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing:	0	617	0	0	1036	0	0	0	0	0	0	0
Growth Factor (%):	2	2	2	2	2	2	2	2	2	2	2	2
Base Condition:	0	642	0	0	1078	0	0	0	0	0	0	0
Total New Trips	0	86	0	0	30	11	0	0	30	0	0	0
Future Traffic Volumes:	0	728	0	0	1108	11	0	0	30	0	0	0