Mayor & City Council
Special Called Meeting Agenda

Monday, February 28, 2022, 7:00 PM
Tucker City Hall
1975 Lakeside Pkwy, Ste 350B, Tucker, GA 30084

Members:

Frank Auman, Mayor
Roger W. Orlando, Council Member District 1, Post 1
Cara Schroeder, Council Member District 2, Post 1
Alexis Weaver, Council Member District 3, Post 1
Virginia Rece, Council Member District 1, Post 2
Anne Lerner, Council Member District 3, Post 2
Noelle Monferdini, Council Member District 2, Post 2

ZOOM link: https://us02web.zoom.us/j/85413527280 or Phone: 888 788 0099 (Toll Free) Webinar ID: 854 1352 7280

Pages

A. CALL TO ORDER

B. ROLL CALL

C. MAYOR'S OPENING REMARKS

C.1. UGA Tucker Graduates

D. NEW BUSINESS

D.1. Ordinance O2021-10-22 — Kylie.Thomas — 2

Second Read and Public Hearing of an Ordinance to the Mayor and Council for a Special Land Use Permit (SLUP-21-0004) to allow a drive-through restaurant with three concurrent variances for inter-parcel access (CV-21-0002), setbacks (CV-21-0003), and drive-through (CV-21-0004) at location 4435 Hugh Howell Road.

D.2. Contract Amendment C2020-018-SA-001 — Carlton.Robertson — 189

Consideration of the approval for a pool operations contract amendment

E. EXECUTIVE SESSION

As required for personnel, litigation and/or real estate.

F. ACTION AFTER EXECUTIVE SESSION

As needed.

G. ADJOURNMENT

MEMO

To: Honorable Mayor and City Council Members

From: Courtney Smith, Planning and Zoning Director

CC: Tami Hanlin, City Manager

Date: Jan. 18, 2022

RE: SLUP-21-0004 to allow a drive-through restaurant with three concurrent variances for inter-parcel access, setbacks, and drive-through location

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Issue:

The applicant, Chick-fil-A, Inc., is requesting a Special Land Use Permit (SLUP) with three concurrent variances for the property located at 4435 Hugh Howell Road, for a restaurant with a drive-through configuration. The subject property is 2.05 acres and is developed with a single structure, previously occupied by The Greater Good BBQ.

These applications were previously deferred from the Nov. 8, 2021 and Dec. 13, 2021 City Council meetings in order to study the potential closure of Rosser Terrace. A public meeting was held on Jan. 18, 2022 regarding the possibility of closing Rosser Terrace. As more than 60 days have passed since the initial first read, we are required to repeat the 1st and 2nd read. The 1st read is on Jan. 24, 2022 and the 2nd read is on Feb. 15, 2022.

Recommendation:

Staff recommends APPROVAL of Land Use Petition SLUP-21-0004, DENIAL of CV-21-0002, DENIAL of CV-21-0003, and APPROVAL of CV-21-0004, subject to the conditions in the staff report.

At its September 17, 2021 public hearing, the Planning Commission recommends APPROVAL WITH CONDITIONS of SLUP-21-0004, DENIAL of CV-21-0002, DENIAL of CV-21-0003, and APPROVAL of CV-21-0004 subject to the amended staff conditions in the staff report.

Background:

The subject property is located at the southwestern intersection of Hugh Howell and Rosser Terrace, across from 'The Centre on Hugh Howell' shopping center. The subject property is zoned DT-2 (Downtown Corridor Zone), which allows restaurants without drive-throughs by right, however restaurants with a drive-through configuration require a SLUP.

The applicant is requesting relief from the requirement prohibiting drive-through facilities between the public street and building (CV-21-0002), relief from the maximum building setback along Rosser Terrace (CV-21-0003), and relief from the requirement to provide inter-parcel access (CV-21-0004). The proposed drive-through restaurant will be a relocation of the existing Chick-fil-A, which is currently located at 4340 Hugh Howell Road. The applicant is proposing a relocation to a larger site that provides adequate space for Chick-fil-A's new design standards for drive-through facilities.

The applicant is proposing removing the existing buildings and billboard and constructing a new ±4,978-square foot restaurant with three lanes, two drive-through lanes and one bypass lane, as well as order and pick up canopies. The proposed restaurant

will be located in the northeastern corner of the parcel. The submitted site plan shows that the proposed drive-through lanes would be constructed in front of the building. Pursuant to Section 46-1166, supplemental regulations for restaurants with drive-through facilities, drive-through lanes shall be located to the side or rear of the building. The applicant is asking for a variance for this requirement (CV-21-0002).

The submitted site plan shows 62 proposed parking spaces, which meets the minimum off-street parking requirements for restaurants with seating for patrons of one space per 250 sq.ft. of floor area. The site plan also allows room for 32 stacking spaces across the two drive-through lanes. The existing Chick-fil-A at 4340 Hugh Howell Road has stacking for 18 vehicles and the existing Chick-fil-A at 4071 Lavista has stacking for 17 spaces. While our code only requires stacking for 10 vehicles, Chick-fil-A generates more traffic than the majority of other drive-through facilities. The peak stacking for Chick-fil-A during COVID has averaged around 20-25 cars. Pre-COVID stacking numbers were closer to 18-20.

Summary:

While the proposed use is not completely consistent with the Downtown Character Area, staff does not believe this use would cause a disproportionate proliferation of drive-through facilities, as the proposed Chick-fil-A would be a relocation of an existing Chick-fil-A located just north of the subject property. Potential impacts can be mitigated by transportation improvements and the adherence of the 50' transitional buffer.

LANDSCAPE NOTES

SOUTHEAST

1. Landscape Contractor to read and understand the Landscape Specifications (sheet L-102) prior to finalizing bids. The Landscape Specifications shall be adhered to throughout the construction process.
2. Contractor is responsible for locating and protecting all underground utilities prior to digging.
3. Contractor is responsible for protecting existing trees from damage during construction.
4. All tree protection devices to be installed prior to the start of land disturbance, and maintained until final landscaping.
5. All tree protection areas to be protected from sedimentation.
6. All tree protection fencing to be inspected daily, and repaired or replaced as needed.
7. No parking, storage or other construction activities are to occur within tree protection areas.
8. All planting areas shall be cleaned of construction debris (ie. concrete, rock, rubble, building materials, etc) prior to adding and spreading of the topsoil.
9. General Contractor is responsible for adding a min of 4" clean friable topsoil in all planting beds and all grassed areas. Graded areas to be held down the appropriate elevation to account for topsoil depth. See Landscape Specifications for required topsoil characteristics.
10. In all parking lot islands, the General Contractor is responsible to remove all debris, fracture/loosen subgrade to a min. 24" depth. Add topsoil to a 6"-8" bermed height above island curbing; refer to landscape specifications and landscape island detail.
11. Prior to beginning work, the Landscape Contractor shall inspect the subgrade, general site conditions, verify elevations, utility locations, irrigation, approve topsoil provided by the General Contractor and observe the site conditions under which the work is to be done. Notify the General Contractor of any unsatisfactory conditions, work shall not proceed until such conditions have been corrected and are acceptable to the Landscape Contractor.
12. Any deviations from the approved set of plans are to be approved by the Landscape Architect.
13. Landscaping shall be installed in conformance with ANSI Z60.1 the "American Standard for Nursery Stock" and the accepted standards of the American Association of Nurserymen.
14. Existing grass in proposed planting areas shall be killed and removed. Hand rake to remove all rocks and debris larger than 1 inch in diameter, prior to adding topsoil and planting shrubs.
15. Soil to be tested to determine fertilizer and lime requirements prior to laying sod.
16. Annual and perennial beds: add min. 4 inch layer of organic material and till to a min. depth of 12 inches. Mulch annual and perennial beds with 2-3 inch depth of mini nuggets.
17. All shrubs beds (existing and new) to be mulched with a min. 3 inch layer of mulch (double shredded hardwood mulch).
18. Planting holes to be dug a minimum of twice the width of the root ball, for both shrub and tree. Set plant material 2-3" above finish grade. Backfill planting pit with topsoil and native excavated soil.
19. Sod to be delivered fresh (Cut less than 24 hours prior to arriving on site), laid immediately, rolled, and watered thoroughly immediately after planting. Edge of sod at planting beds are to be "V" trenched; see Landscape Details.
20. Any existing grass disturbed during construction to be fully removed, regraded and replaced. All tire marks and indentions to be repaired.
21. Water thoroughly twice in first 24 hours and apply mulch immediately.
22. The Landscape Contractor shall guarantee all plants installed for one full year from date of acceptance by the owner. All plants shall be alive and at a vigorous rate of growth at the end of the guarantee period. The Landscape Contractor shall not be responsible for acts of God or vandalism. See Landscape Specifications for Warranty requirements/expectations.
23. Any plant that is determined dead, in an unhealthy, unsightly condition, lost its shape due to dead branches, or other symptoms of poor, non-vigorous growth, shall be replaced by the Landscape Contractor. See Landscape Specifications for warranty requirements/expectations.
24. Site to be 100% irrigated in all planting beds and grass area by an automatic underground Irrigation System. See Irrigation Plan L-200 for design. Irrigation as-built shall be provided to the Landscape Architect within 24 hours of irrigation install completion.
25. Stake all evergreen and deciduous trees as shown in the planting detail and as per the Landscape Specifications.
26. Remove stakes and guying from all trees after one year from planting.

LANDSCAPE REQUIREMENTS

A. SITE DENSITY

REQUIRED

1. 30 tree density units per acre, excluding buffer areas
   1.43 AC x 30 units = 42.9 units required
2. 15% of site to be open space
   62,266 SF x 15% = 9,340 SF of open space required
3. (1) tree per 2,000 SF of required open space
   13,383 SF / 2,000 SF = 7 trees required

PROVIDED

1. | QTY | Species | TDU | | Total |
   |---|---|---|---|---|
   | 20 | Nellie R. Stevens Holly | 0.5 | = | 10 |
   | 34 | Waxmyrtle | 0.4 | = | 13.6 |
   | 11 | Cherry | 0.5 | = | 5.5 |
   | 10 | Willow Oak | 0.7 | = | 7 |
   | 10 | Princeton Elm | 0.7 | = | 7 |
   | | Total | | = | 43.1 units provided |
2. Open space = 11,360 SF of open space provided
3. 7 elm = 7 trees provided

B. STREET TREES

REQUIRED

1. Screen drive-thru from public view with a hedge row installed at 36" height
2. (1) tree per 30 LF
   Hugh Howel Road: 154 LF / 30 LF = 5 street trees required
   Rosser Terrace: 250 LF / 30 LF = 9 street trees required

PROVIDED

1. Needlepoint holly planted at 36" height
2. Hugh Howel Road: 2 cherry, 3 elm = 5 street trees provided
   Rosser Terrace: 3 cherry, 5 Nellie, 4 elm = 12 street trees provided

C. PARKING LOT

REQUIRED

1. 10% of the total lot area of the parking lot shall be landscaped
   21,169 SF x 10% = 2,117 SF of landscape required
2. (1) tree per 8 parking spaces
   61 spaces / 8 spaces = 8 parking lot trees required

PROVIDED

1. Parking lot landscape = 2,200 SF of landscape provided
2. 6 oak, 2 elm = 8 parking lot trees provided

D. TREE PRESERVATION

REQUIRED

1. 120 inches per acre or 25% of existing significant trees per acre shall be preserved on site
   597 inches existing x 25% = 150 inches required

PROVIDED

1. Existing inches to remain = 597 inches to be preserved

D. BUFFER LANDSCAPE

REQUIRED

1. 6' height fence and 50' buffer required along property line adjacent to residential zoning

PROVIDED

1. 6' height fence and 50' buffer provided

PLANT LIST

Qty	Botanical Name	Common Name	Scheduled Size	Remarks
	Trees			
12	Cryptomeria japonica 'Yoshino'	Yoshino Cryptomeria	8' Hgt.	Full to ground
31	Ilex x Nellie R Stevens	Nellie Stevens Holly	3" Cal	B & B
11	Magnolia grandiflora	Southern Magnolia	8' Hgt.	Full to ground
61	Myrica cerifera	Southern Waxmyrtle	2" Cal	Tree form; full to ground
11	Prunus 'Okame'	Okame Cherry	3" Cal	B & B; single straight leader
4	Quercus nuttallii	Nuttall Oak	2" Cal; 10' Hgt.	B & B; single straight leader
10	Quercus phellos	Willow Oak	4" Cal; 14' Hgt.	B & B; single straight leader
12	Ulmus americana 'Princeton'	Princeton Elm	4" Cal; 14' Hgt.	B & B
	Shrubs			
158	Azalea indica 'Red Encore'	Red Encore Azalea	3 Gal.	
16	Buxus microphylla	English Boxwood	3 Gal.	
76	Ilex cornuta 'Needlepoint'	Needlepoint Holly	36" Hgt.	
37	Illicum parviflorum	Yellow Anise	3 Gal.	
87	Loropetalum chinense	Loropetalum	3 Gal.	
113	Panicum virgatum 'Heavy Metal'	Switch Grass	3 Gal.	
	Groundcovers			
559	Hypericum calycinum	St. John's Wort	1 Gal.	
123	Rudbeckia fulgida sullivantii 'Goldsturm'	Black-eyed Susan	1 Gal.	
	Other			

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

manley LAND DESIGN
Landscape Architecture
770.442.8171 tel
770.442.1123 fax
Manley Land Design, Inc.
51 Old Canton Street
Alpharetta, Georgia 30009
manleylanddesign.com

STATE OF GEORGIA
STEVE L. MANLEY
REGISTERED LANDSCAPE ARCHITECT
CERTIFICATE NO. 638

CHICK-FIL-A
RELO TUCKER STATION FSU
4431 HUGH HOWEL ROAD
TUCKER, GA 30084

FSU# 04959

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

MLD PROJECT #	2021227
PRINTED FOR	PERMIT
DATE	01.12.22
DRAWN BY	KCN

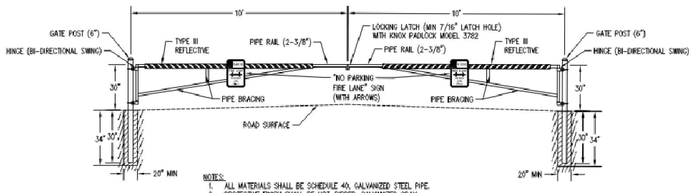
SHEET

PERMIT

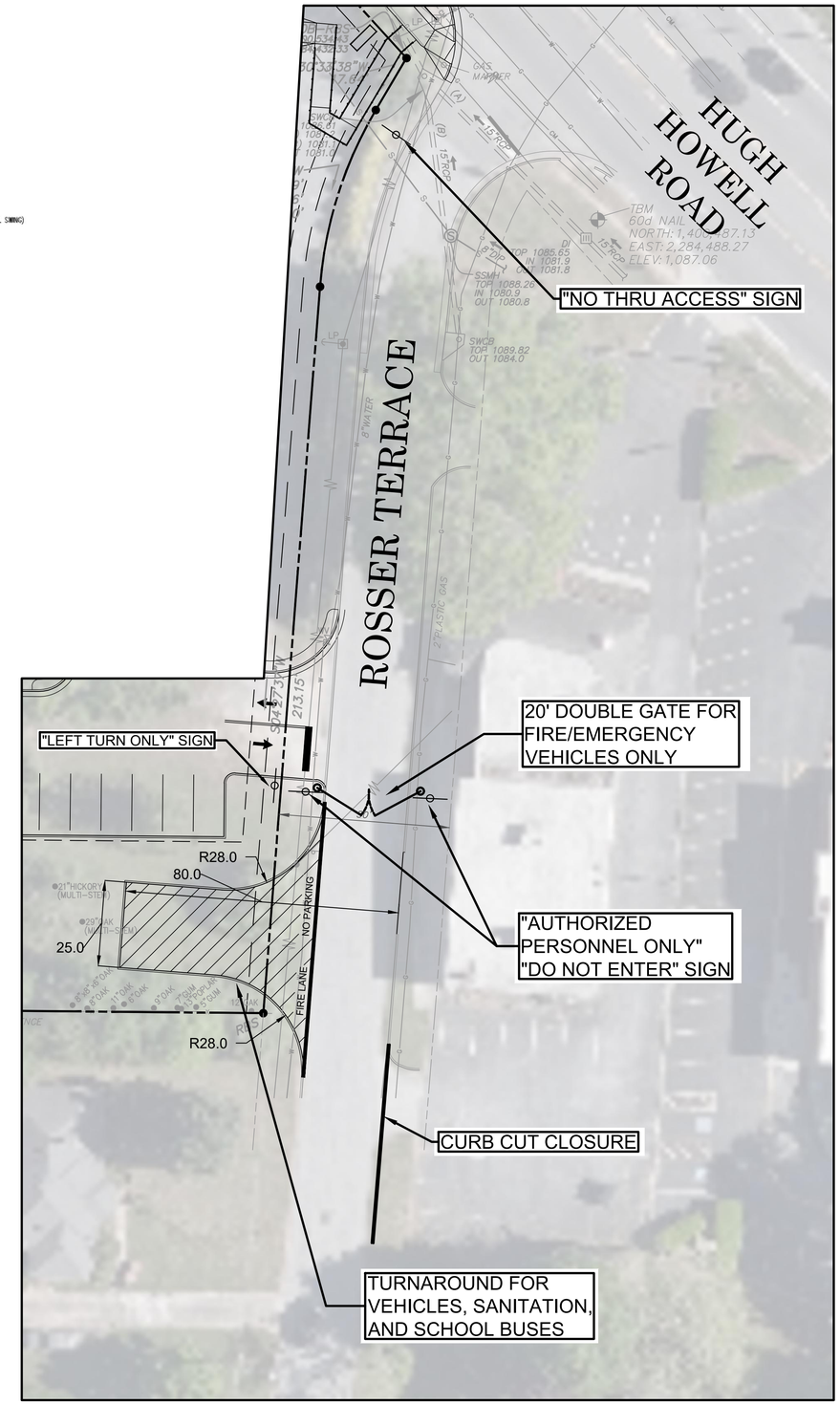
Landscape Plan

SHEET NUMBER

L-100



NOTES:
1. ALL MATERIALS SHALL BE SCHEDULE 40, GALVANIZED STEEL PIPE.
2. PROTECTIVE FINISH SHALL BE HOT-DIPPED, GALVANIZED GRAY.
3. CONTRACTOR TO INSTALL NO PARKING, FIRE LANE SIGN ON EACH SIDE OF GATE MEETING THE REQUIREMENTS OF GFC D103.6 AS AMENDED BY CITY OF HILLSBORO IAMC 18.28.010.
4. CONTRACTOR TO INSTALL TYPE III REFLECTIVE STRIPING ON BOTH SIDES OF GATE. STRIPING SHALL BE ALTERNATING RED/WHITE STRIPES, 6" WIDE & AT 45° ANGLE.
5. CONCRETE SHALL BE 3,000 PSI.
6. COORDINATE INSTALLATION OF KNOX PADLOCK WITH CITY OF HILLSBORO FIRE & RESCUE.



GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

GEORGIA811
www.Georgia811.com

8 December 2021
File Path:V:\120005 - Chick-Fil-A\120005-01-049 (ENG) - Tucker, GA (Hugh Howell Rd) #04959\Engineering\Engineering Plans\X-Refs\Sketches\120005-01-049 - PBASE (Gate-Turnaround).dwg

Chick-fil-A
5200 BUFFINGTON RD
Atlanta, Georgia 30349-2998

Bowman
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950 North Point Parkway, Suite 200
Alpharetta, GA 30005
Phone: (678) 374-6887
www.bowmanconsulting.com

CHICK-FIL-A
RELO TUCKER STATION FSU
4435 HUGH HOWELL ROAD
TUCKER, GA 30084

FSU#04959

BUILDING TYPE / SIZE: P13-SE-LRG

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT #	120005-01-049
PRINTED FOR	PCR
DATE	December 8, 2021
DRAWN BY	BCG

SHEET
ROSSER GATE EXHIBIT

SHEET NUMBER
EX.3

Land Use Petitions: SLUP-21-0004, CV-21-0002, CV-21-0003, & CV-21-0004
Date of Staff Recommendation Preparation: August 23, 2021
Planning Commission: September 16, 2021
Mayor and City Council, 1st Read: October 12, 2021
Mayor and City Council, 2nd Read: November 8, 2021

PROJECT LOCATION:	4435 Hugh Howell Road
DISTRICT/LANDLOT(S):	18th District, Land Lot 214
ACREAGE:	±2.05
EXISTING ZONING	DT-2 (Downtown Corridor Zone)
EXISTING LAND USE	Former Restaurant
CURRENT FUTURE LAND USE DESIGNATION:	Downtown
OVERLAY DISTRICT:	N/A
APPLICANT:	Chick-fil-A, Inc. c/o Jennifer Santelli
OWNER:	John Poulakis
PROPOSED DEVELOPMENT:	SLUP to allow a drive-through restaurant with three concurrent variances for inter-parcel access, setbacks, and drive-through location
STAFF RECOMMENDATION:	**APPROVAL with conditions of SLUP-21-0004** (restaurant with drive-through) **DENIAL of CV-21-0002** (drive-through locational requirements) **DENIAL of CV-21-0003** (setback requirements) **APPROVAL of CV-21-0004** (inter-parcel access requirements)

BACKGROUND

The applicant, Chick-fil-A, Inc., is requesting a Special Land Use Permit (SLUP) with three concurrent variances for the property located at 4435 Hugh Howell Road, for a restaurant with a drive-through configuration. The subject property is 2.05 acres and is developed with a single structure, previously occupied by The Greater Good BBQ.

PROJECT DATA

The subject property is located at the southwestern intersection of Hugh Howell and Rosser Terrace, across from 'The Centre on Hugh Howell' shopping center. The subject property is zoned DT-2 (Downtown Corridor Zone), which allows restaurants without drive-throughs by right, however restaurants with a drive-through configuration require a SLUP.

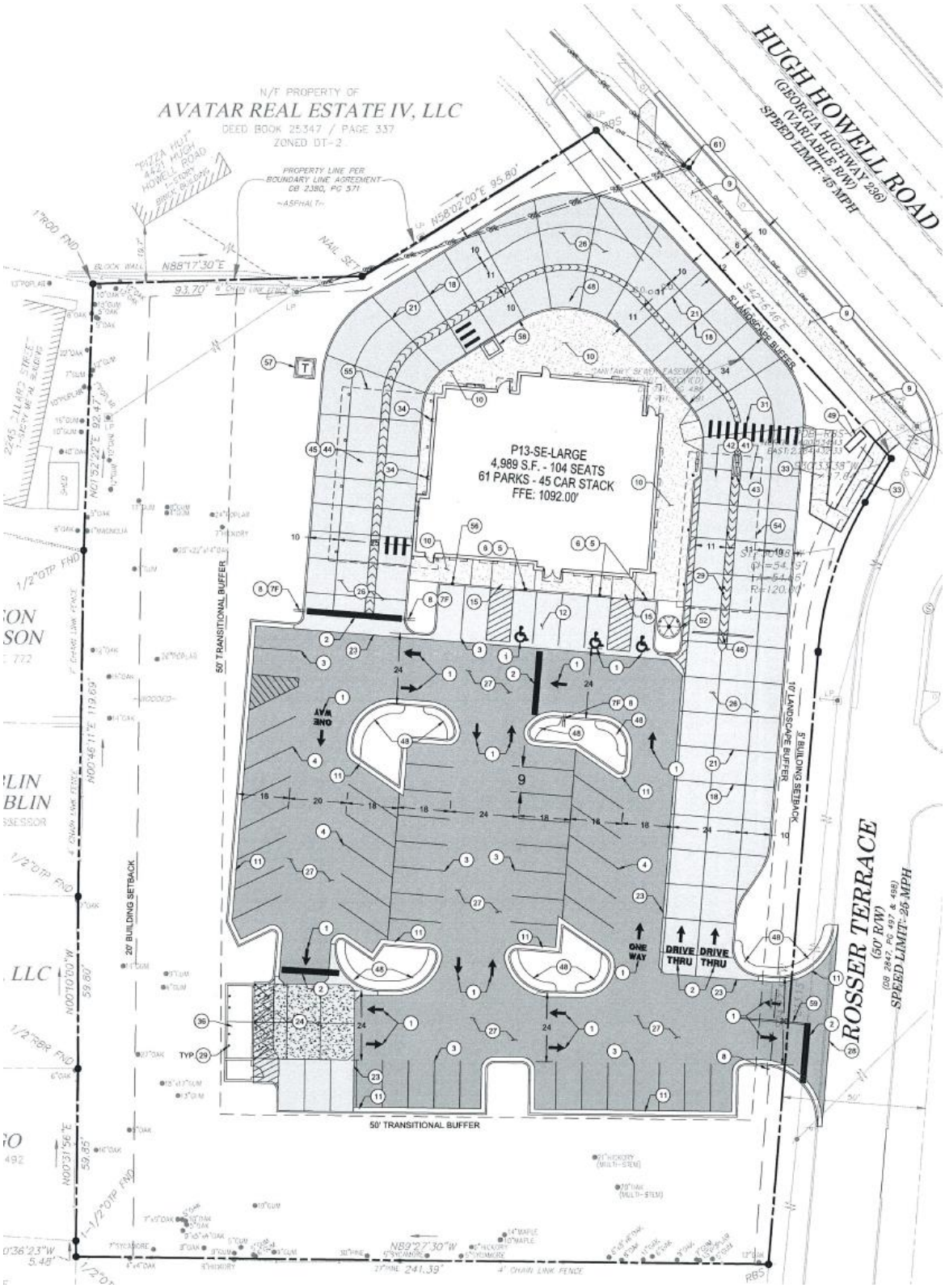
The applicant is requesting relief from the requirement prohibiting drive-through facilities between the public street and building (CV-21-0002), relief from the maximum building setback along Rosser Terrace (CV-21-0003), and relief from the requirement to provide inter-parcel access (CV-21-0004). The proposed drive-through restaurant will be a relocation of the existing Chick-fil-A, which is currently located at 4340 Hugh Howell Road. The applicant is proposing a relocation to a larger site that provides adequate space for Chick-fil-A's new design standards for drive-through facilities.

The applicant is proposing removing the existing buildings and billboard and constructing a new ±4,978-square foot restaurant with three lanes, two drive-through lanes and one bypass lane, as well as order and pick up canopies. The proposed restaurant will be located in the northeastern corner of the parcel. The submitted site plan shows that the proposed drive-through lanes would be constructed in front of the building. Pursuant to Section 46-1166, supplemental regulations for restaurants with drive-through facilities, drive-through lanes shall be located to the side or rear of the building. The applicant is asking for a variance for this requirement (CV-21-0002).

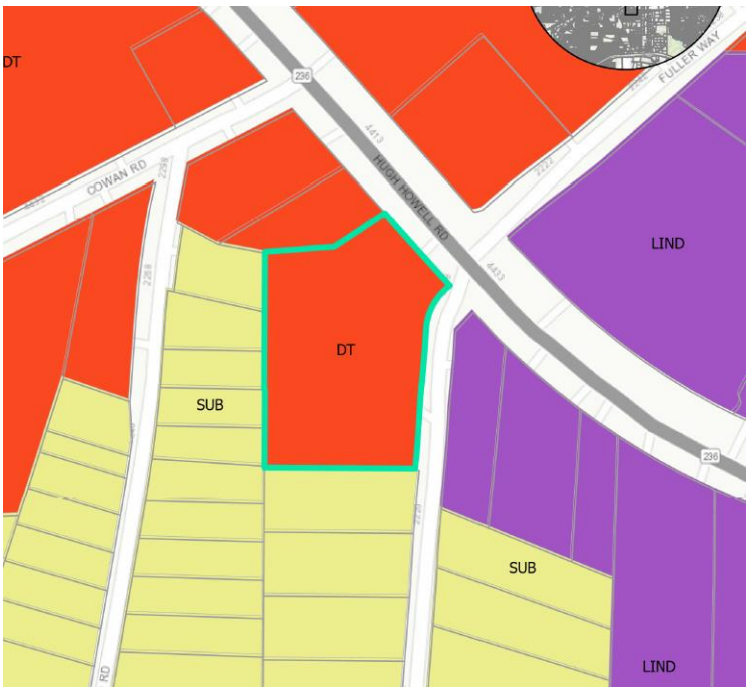
The submitted site plan shows 62 proposed parking spaces, which meets the minimum off-street parking requirements for restaurants with seating for patrons of one space per 250 sq.ft. of floor area. The site plan also allows room for 32 stacking spaces across the two drive-through lanes. The existing Chick-fil-A at 4340 Hugh Howell Road has stacking for 18 vehicles and the existing Chick-fil-A at 4071 Lavista has stacking for 17 spaces. While our code only requires stacking for 10 vehicles, Chick-fil-A generates more traffic than the majority of other drive-through facilities. The peak stacking for Chick-fil-A during COVID has averaged around 20-25 cars. Pre-COVID stacking numbers were closer to 18-20.

The Downtown Tucker Zoning Districts transitional buffer regulations require that any DT district adjoining an RE, RLG, R-100, R-85, R-75, or R-60 district, must have a 50-foot transitional buffer zone. The subject property abuts residentially zoned properties to the south and west and the site plan shows the proposed 50-foot buffers along the property lines will be maintained.

The site plan also shows a 6-foot sidewalk and 5-foot landscape strip along Hugh Howell Road, which complies with the regulations in *Section 46-994 Streets and sidewalks* for the Downtown Tucker Zoning Districts. These improvements are not shown along Rosser Terrace but are required by code.


HUGH HOWELL ROAD
(GEORGIA HIGHWAY 236)
(VARIABLE R/W)
SPEED LIMIT- 45 MPH
N/F PROPERTY OF
AVATAR REAL ESTATE IV, LLC
DEED BOOK 25347 / PAGE 337
ZONED OT-2
PROPERTY LINE PER
BOUNDARY LINE AGREEMENT
DB 2380, PG 571
N88°17'30"E
93.70'
N58°02'00"E 95.80'
P13-SE-LARGE
4,989 S.F. - 104 SEATS
61 PARKS - 45 CAR STACK
FFE: 1092.00'
50' TRANSITIONAL BUFFER
20' BUILDING SETBACK
10' LANDSCAPE BUFFER
5' BUILDING SETBACK
ONE WAY
DRIVE THRU
DRIVE THRU
ROSSER TERRACE
(50' R/W)
SPEED LIMIT- 25 MPH
50' TRANSITIONAL BUFFER
N89°27'30"W
241.39'
4' CHAIN LINK FENCE

CHARACTER AREA (Future Land Use)



The subject property is located within the Downtown Character Area on the future land use map. Character Areas are generally used as a visioning guide for an area that identifies items such as primary land uses, development strategies, and design considerations. Character Areas speak to the adopted vision of the community as it continues to grow and develop over time. The Downtown Character Area encourages the following commercial land uses: various residential uses, retail and service commercial, office, vertical mixed use, incubator start-ups and shared tenant spaces, and civic uses. One of the development strategies of the Downtown Character Area is to "encourage new development and redevelopment that preserves downtown's special small-town qualities, keeps Main Street wide and open, and is designed to complement the size and style of Tucker's older buildings." Staff finds the special land use request for a drive-through is not consistent with the comprehensive plan, however, it will not cause a disproportionate proliferation of drive throughs in the Downtown Character Area, as the proposed development would be a relocation of an existing Chick-fil-A northwest of the subject property.

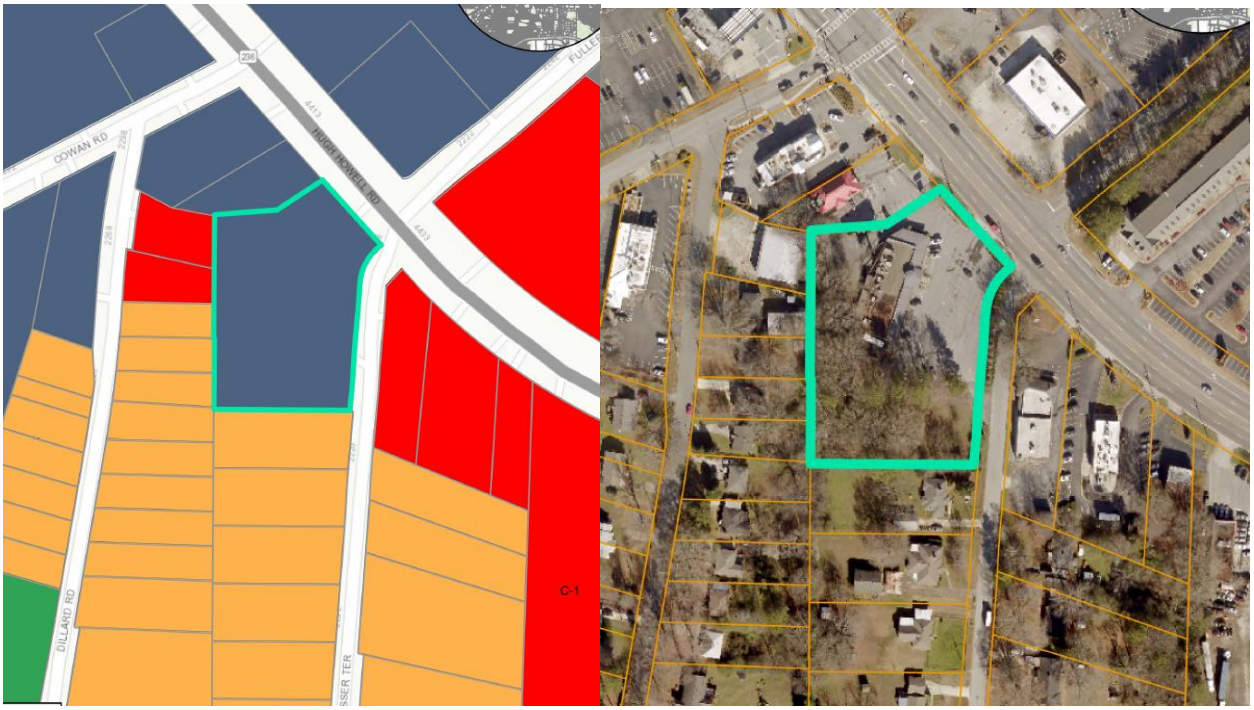
PUBLIC PARTICIPATION PLAN REPORT

The applicant hosted a community meeting at the subject property on May 25, 2021 after mailing a letter and site plan explaining the proposed project to all property owners within 500 feet of the subject parcel. There were 25 people in attendance including the applicant, owner, representatives of Chick-fil-A, and community members. The applicant's report listed concerns and questions regarding traffic, access, trash, a traffic signal, speed bumps, and Rosser Terrace being a cut through to Hwy 78. It does not appear that any changes were made to the site plan as a result of the Public Participation Meeting.

NEARBY/SURROUNDING LAND ANALYSIS & ZONING

Adjacent & Surrounding Properties	Zoning (Petition Number)	Existing Land Use
Nearby: North	DT-2 (Downtown Corridor Zone)	Tucker Plaza Shopping Center
Adjacent: Northwest	DT-2 (Downtown Corridor Zone)	Drive-through Zaxby's and empty commercial space (formerly Pizza Hut)
Adjacent: South	R-75	Single-family detached homes

Adjacent: East (across Rosser Terrace)	C-1 (Local Commercial)	Commercial & drive-through Wendy's
Adjacent: West	C-1 (Local Commercial) ; and R-75 (Residential Medium Lot – 75)	Commercial and residential single-family detached homes



Zoning and Aerial Exhibits showing surrounding land uses.

SLUP-21-0004: Restaurant with drive through

CRITERIA TO BE APPLIED – SPECIAL LAND USE PERMIT

Criteria (standards and factors) for special land use decisions are provided in Section 46-1594 of the City of Tucker Zoning Ordinance. The applicant is required to address these criteria (see application); below are staff's findings which are independent of the applicant's responses to these criteria.

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 subject site is approximately 2.05 acres. The applicant meets the requirements for transitional buffers and off-street parking based on the submitted site plan. Additionally, the applicant meets the required 20- foot rear setback; however, they are seeking a variance for the required side corner setback along Rosser Terrace. While the applicant is requesting three concurrent variances, none are a direct impact of the size of the site.

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

The proposed development is compatible with the commercial land uses and commercial development of adjacent properties as there are two other drive-through restaurants within 500 feet of the subject property, however, it is not compatible with the adjacent residential zoning to the west and south. The 50' transitional buffer helps to minimize the impact to these residential properties.

C. Adequacy of public services, public facilities, and utilities to serve the proposed use.
Schools. There will be no impact on public school facilities.

Stormwater management. No comments.

Water and sewer. No comments. Sewer capacity approval has already been obtained for this project.

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 project site is located at the southwestern intersection of Hugh Howell Road and Rosser Terrace. Hugh Howell, a major arterial road, has four travel lanes and a center turn lane. Rosser Terrace is a two-lane local road. The applicant provided a Traffic Impact Study that was conducted in June 2021. The study found that the site would benefit from a right turn lane from northbound Rosser Terrace onto eastbound Hugh Howell Road. While the Traffic Impact Study recommended this additional right turn lane, it has not shown on the submitted site plan and could impact the property at 4445 Hugh Howell. The curb cut for the proposed drive-through facility has been placed on Rosser Terrace to minimize impact to a major arterial as the consolidation of curb cuts on major roads helps to reduce potential traffic accidents.

While the drive-through lanes begin immediately to the north when you enter the site, stacking for 32 cars has been provided across two lanes which should limit any cars queuing on Rosser Terrace. The addition of a deceleration lane would also limit any impact to vehicles traveling Rosser Terrace.

A traffic signal at the intersection of Hugh Howell and Rosser Terrace would not be permitted by GDOT due to the close proximity of the signal at Hugh Howell and Cowan Road.

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.

The subject property abuts residential lots along the southern and western property lines. During their neighborhood meeting, residents who live along Rosser Terrace expressed concern that the

introduction of a Chick-fil-A would increase the traffic queue to turn onto Hugh Howell Road from Rosser Terrace. The applicant conducted a traffic study that found the addition of a right turn lane from northbound Rosser Terrace on to eastbound Hugh Howell Road would help mitigate some of the traffic. The study also found that the intersection of Hugh Howell Road and Rosser Terrace would experience an overall increase in delay, even with the addition of the right turn lane.

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.

There is one full access curb cut being proposed on Rosser Terrace. The City Engineer has reviewed the site plan and suggested the developer construct a southbound deceleration lane on Rosser Terrace at the new entrance. The applicant is requesting a concurrent variance for relief from the requirement to have inter-parcel access due to the limited options for connectivity from the shape of the parcel at the north and the residential uses to the west and south. The submitted site plan shows that the only pedestrian access being provided is from an ADA ramp that connects to the proposed sidewalk on Rosser Terrace. A sidewalk on Rosser Terrace will be required for the proposed development to meet the districts streetscape dimensional requirements. Dekalb Fire Department has no comments for the proposed project.

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 proposed development will not generate excessive noise, nor will it emit smoke, odor, dust or vibration. The proposed use includes a restaurant with a drive-through facility. No adverse impacts by reason of noise, smoke, odor, dust, or vibration are anticipated. The ordering canopy and pick up canopy are located at the north of the site, away from the residential properties.

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 application states the restaurant will operate Monday through Saturday from 6 AM – 10 PM. The hours of operation are consistent with the other commercial uses along Hugh Howell.

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.

If developed in accordance with the recommended conditions, including transportation improvements, land uses along Rosser Terrace and Hugh Howell Road will not be adversely affected by the manner or operation of the development.

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 drive-through restaurant does not specifically comply with the downtown zoning district classification, as it does not add to the Main Street atmosphere, create a dynamic development, or add to the walkability of the area. However, it should be noted that this is the relocation of an existing Chick-fil-A, also located in the DT-2 zoning classification, rather than a new fast-food restaurant with a drive-through configuration. The proposed location is located on the far east edge of the Downtown Districts.

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

The proposed development is not consistent with the adopted comprehensive plan. The subject property is designated Downtown on the Future Land Use Map. Downtown primary land uses include retail and service commercial uses provided to the community. The Comprehensive Plan primary land uses are silent on specifics such as drive-throughs. The proposed drive-through does not comply with all of the relevant development strategy and design considerations as it does not preserve the downtown's special small-town qualities, complement the style of Tucker's older buildings, transform parking, or promote walkability. It should be noted that although this use is not specifically referenced in the Comprehensive Plan, the proposed development would be a relocation of an existing Chick-fil-A with a drive-through configuration that is also designated Downtown on the Future Land Use Map.

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 submitted site plan shows the existing 50-foot transitional buffers along the southern and western property lines, adjacent to residentially zoned properties, as being maintained.

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

The site plan shows a proposed dumpster and its enclosure in the southwestern corner of the parking lot, at the rear of the site. Section 46-1339 requires all dumpster must be screened from view on all four sides so as to not be visible from adjacent properties and the public street.

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

Staff does not recommend any limits on the length of time of the special land use permit (if granted), so long as the applicant obtains all local licensing requirements including compliance with approved conditions and annual occupational tax certificate renewal.

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.

It is staff's opinion that the building size, mass, and scale will be appropriate in relation to surrounding land uses.

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

The proposed site is not near any historic buildings, sites, districts, or archaeological resources.

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

The applicant does not meet all of the requirements in the supplemental regulations, Sec. 46-1166 - Drive-through facility restaurant, as shown below.

Restaurants with drive-through services shall meet the following requirements:

A. **Drive-through facilities shall not be located within sixty (60) feet of a residentially zoned property, as measured from any menu or speaker box to the property line of adjacent residential property.**

Although the property abuts residentially zoned properties, the drive-through facilities are not located within sixty feet of them.

B. **No drive-through facility shall be located on a property less than ten thousand (10,000) square feet in area. Stacking spaces for queuing of cars shall be provided for the drive-through area as required in Article 6.**

The property is ±2.05 acres. There is stacking for approximately 32 cars in the queue, which complies with Article 6 of the Zoning Ordinance.

C. **Drive-through lanes and service windows shall be located to the side or rear of buildings. If on a corner lot, only the pickup window may be located on the side between the principal structure and a public street.**

The subject property is a corner lot, with frontage along Rosser Terrace and Hugh Howell Road. The submitted site plan shows the proposed drive-through lanes along both streets and located in front of the building. A requirement of a drive-through facility is that its lanes and service windows should be located to the side or rear of the building. While corner lots may have the pickup window located on the side of the building, between the principal structure and a public street, the proposal is for the menu/ordering canopy and drive through lanes to be located between the building and the public street. A concurrent variance has been requested.

D. **Drive-through canopies and other structures, where present, shall be constructed from the same materials as the primary building and with a similar level of architectural quality and detailing.**

A full review to ensure compliance of the drive-through canopy, building, and other structures will be conducted by staff when building permits are submitted.

E. **Speaker boxes shall be pointed away from adjacent residential properties. Speaker boxes shall not play music but shall only be used for communication for placing orders.**

The speaker box is pointed towards Rosser Terrace, away from adjacent residential properties. A full review to ensure compliance of the drive-through speaker box(es) will be conducted by staff when building permits and sign permits are submitted.

F. **Stacking spaces shall be provided for any use having a drive-through facility or areas having drop-off and pick-up areas in accordance with the following requirements. Stacking spaces shall be a minimum of ten (10) feet wide and twenty-five (25) feet long. Stacking spaces shall begin at the last service window for the drive-through lane (typically the "pick-up" window).**

The proposed stacking spaces appear to be in compliance.

G. **Financial institutions with drive-through windows, car washes (automated or staffed facilities), drive- through coffee sales facilities, and any other uses with drive-through facilities with the exception of restaurants with drive-through facilities, shall provide three stacking spaces for each window or drive-through service facility.**

Not applicable.

H. **Restaurants with drive-through facilities shall provide ten (10) stacking spaces per lane for each window or drive-through service facility.**

The application is in compliance. 32 stacking spaces are provided.

I. **The following general standards shall apply to all stacking spaces and drive-through facilities:**

a. **Drive-through lanes shall not impede on and off-site traffic movements, shall not cross or pass through off-street parking areas, and shall not create a potentially unsafe condition where crossed by pedestrian access to a public entrance of a building.**

The drive-through lanes being located in front of the building creates a potentially unsafe condition for pedestrians. The site plan illustrates an ADA ramp that gives pedestrians access from the sidewalk on Hugh Howell Road to the building's front entrance. Pedestrians will have to cross three lanes of traffic in order to reach the building.

b. **Drive-through lanes shall be separated by striping or curbing from off-street parking areas. Individual lanes shall be striped, marked or otherwise distinctly delineated.**

The application is in compliance.

c. **All drive-through facilities shall include a bypass lane with a minimum width of ten (10) feet, by which traffic may navigate around the drive-through facility without traveling in the drive-through lane. The bypass lane may share space with a parking access aisle.**

The application is in compliance.

J. **Drive-through lanes must be set back five (5) feet from all lot lines and roadway right-of-way lines.**

The application is in compliance.

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 produce an adverse shadow effect.

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

The proposed development will be a relocation of the existing Chick-fil-A, located at 4340 Hugh Howell Road. The applicant has stated the current location will close when the proposed Chick-fil-A (4435 Hugh Howell Road) opens. The proposed use will not increase the number restaurants with drive-through configurations being offered in the vicinity, however, there are three other drive-through facilities in the area. Zaxby's is located approximately 90' to the northwest; Wendy's is located approximately 135' to the southeast; and Cook Out is located approximately 535' to the southeast. The applicant has stated the existing Chick-fil-A at 4340 Hugh Howell will be demolished if this SLUP is approved, resulting in no net increase in drive-through facilities.

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.

Downtown Character Area. While the proposal is in conflict with the intent of the Downtown Character Area to create a more walkable downtown core and enhance downtown's special small-town qualities, it does comply with the other standards as this is the relocation of an existing drive-through facility and thus would not be in conflict with the strategies of the Downtown Character Area to encourage redevelopment.

CONCLUSION

While the proposed use is not completely consistent with the Downtown Character Area, staff does not believe this use would cause a disproportionate proliferation of drive-through facilities, as the proposed Chick-fil-A would be a relocation of an existing Chick-fil-A located just north of the subject property. Potential impacts can be mitigated by transportation improvements and the adherence of the 50' transitional buffer.

CONCURRENT VARIANCE (CV-21-0002) – LOCATIONAL REQUIREMENTS

The City of Tucker Zoning Ordinance includes Supplemental Regulations for restaurants with drive-through facilities. Section 46-1166(3) states "drive-through lanes and service windows shall be located to the side or rear of buildings. If on a corner lot, only the pickup window may be located on the side between the principal structure and a public street." The site plan shows the menu/ordering canopy between the building and Rosser Terrace and the drive-through lanes are located between the building

and Hugh Howell. **A concurrent variance has been requested to allow a drive-through facility to be located between two public streets and the building.**

Criteria for variance approval are provided in Section 46-1633 of the City of Tucker Zoning Ordinance.

CRITERIA TO BE APPLIED – CONCURRENT VARIANCE

1. **By reason of exceptional narrowness, shallowness, or shape of a specific lot, or by reason of exceptional topographic and other site conditions (such as, but not limited to, floodplain, major stand of trees, steep slopes), which were not created by the owner or applicant, the strict application of the requirements of this chapter would deprive the property owner of rights and privileges enjoyed by other property owners in the same zoning district.**

   While the subject property is not unusual in size, narrowness, or shallowness, it is somewhat unusual in shape. Development options are limited with the corner lot and the high number of stacking spaces required by Chick-fil-A. The applicant has made modifications to their standard menu/ordering canopy to improve aesthetics along the frontage.

2. **The requested variance does not go beyond the minimum necessary to afford relief, and does not constitute a grant of special privilege inconsistent with the limitations upon other properties in the zoning district in which the subject property is located.**

   The requested variance does go beyond the minimum necessary to afford relief by allowing the drive-through to be located in front of the building. The other drive-through restaurants located along Hugh Howell, including the existing Chick-fil-A at 4340 Hugh Howell Road, have their drive-through facilities located on the side and rear of the buildings. Section 46-1166 (3) states that drive-through lanes and service windows shall be located to the side or rear of the buildings.

3. **The grant of the variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the zoning district in which the subject property is located.**

   The granting of the variance may be detrimental to the public welfare, per Section 46-1166(9)a which states, “drive-through lanes shall not create a potentially unsafe condition where crossed by pedestrian access to a public entrance of a building.” S

4. **The literal interpretation and strict application of the applicable provisions or requirements of this chapter would cause undue and unnecessary hardship.**

   The literal interpretation and strict application of the applicable provisions or requirements of this chapter would not cause undue and unnecessary hardship as there is space to locate the drive-through lanes behind the building, however, it would push the building back away from Hugh Howell which is not in line with the Downtown Zoning District.

5. **The requested variance would be consistent with the spirit and purpose of this chapter and the Comprehensive Plan text.**

   The proposed variance would not be in line with the Downtown Character Area's intent to promote walkability with design elements that privilege pedestrian and bicyclist over the automobile and incentivize new walkway connectivity. The proposed location of the drive-through in front of the building does not privilege pedestrians and bicyclists over the automobile. The submitted site plan shows only one pedestrian access from Hugh Howell Road. Pedestrians would then have to cross three lanes to enter the building. However, the installation of streetscape requirements along both frontages does improve pedestrian elements within the city.

   Conclusion: Staff recommends **DENIAL of CV-19-0002.**

CONCURRENT VARIANCE (CV-21-0003) – SETBACK REQUIREMENTS

The City of Tucker Zoning Ordinance includes dimensional requirements for the Downtown Districts which includes a 5' minimum setback/no maximum setback along Hugh Howell and a 0' minimum/20' maximum along Rosser Terrace. Section 46-986 *Dimensional requirements* for Downtown Districts explains that a maximum front setback can be increased when an open space, such as a park or plaza, is provided between the respective building and the adjacent street. The applicant's submitted site plan does not meet this provision for an increased setback.

A concurrent variance has been requested to increase the maximum building setbacks along Rosser Terrace to 65'.

Criteria for variance approval are provided in Section 46-1633 of the City of Tucker Zoning Ordinance.

CRITERIA TO BE APPLIED – CONCURRENT VARIANCE

1. **By reason of exceptional narrowness, shallowness, or shape of a specific lot, or by reason of exceptional topographic and other site conditions (such as, but not limited to, floodplain, major stand of trees, steep slopes), which were not created by the owner or applicant, the strict application of the requirements of this chapter would deprive the property owner of rights and privileges enjoyed by other property owners in the same zoning district.**

   While the subject property is not unusual in size, narrowness, or shallowness, it is somewhat unusual in shape; however, the parcel could be developed with the building pushed closer to Rosser Terrace. The need for two drive-through lanes and a by-pass lane pushes the building past the 20' maximum front building setback along Rosser Terrace.

2. **The requested variance does not go beyond the minimum necessary to afford relief, and does not constitute a grant of special privilege inconsistent with the limitations upon other properties in the zoning district in which the subject property is located.**

The requested variance does not go beyond the minimum necessary to afford relief by allowing the proposed restaurant to be setback more than the maximum along Rosser Terrace as the applicant is only asking to increase the maximum setback to 65'.

3. **The grant of the variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the zoning district in which the subject property is located.**

   The granting of the variance may be detrimental to improvements in the zoning district. The Downtown Character Area encourages developments be built closer to the street to create a better pedestrian experience. The applicant is asking for this variance in order to place drive-through lanes between the building and Rosser Terrace. This creates a potential unsafe condition for pedestrians.

4. **The literal interpretation and strict application of the applicable provisions or requirements of this chapter would cause undue and unnecessary hardship.**

   The literal interpretation and strict application of the applicable provisions or requirements of this chapter would not cause undue and unnecessary hardship as Section 46-986 states that when a maximum front setback applies it may be increased when an open space, such as park or plaza, is provided between the respective building and the adjacent street. The applicant is requesting to increase the maximum setback in order to locate drive-through lanes between the building and street. It should be noted that there is no setback maximum for Hugh Howell Road.

5. **The requested variance would be consistent with the spirit and purpose of this chapter and the Comprehensive Plan text.**

   The intent for the Downtown Character Area of the Comprehensive Plan is to encourage greater density, including allowances for zero-lot line development for both commercial and residential uses. The design considerations for the Downtown Character Area encourage buildings to be closer to street frontage and require parking in the rear. While the proposed site plan meets the parking standards, the requested variance for increased setbacks would not be in line with the Comprehensive Plan.

Conclusion: Staff recommends **DENIAL of CV-19-0003.**

CONCURRENT VARIANCE (CV-21-0004) – REQUIRED INTER-PARCEL ACCESS

The City of Tucker Zoning Ordinance requires inter-parcel access for all new developments in the Downtown Tucker Zoning Districts. Section 46-989 (b) states "Inter-parcel access for vehicles between abutting and nearby properties must be provided so that access to individual properties can be achieved between abutting and nearby developments as an alternative to forcing all movement onto highways and public roads, unless the community development director during the land disturbance

permitting process determines that it is unnecessary to provide inter-parcel access due to the unlikelihood of patrons traveling among abutting or nearby sites, or due to inability after reasonable efforts by the property owner to obtain legal permission." **A concurrent variance has been requested for relief from the requirement to provide inter-parcel access.**

Criteria for variance approval are provided in Section 46-1633 of the City of Tucker Zoning Ordinance.

CRITERIA TO BE APPLIED – CONCURRENT VARIANCE

1. **By reason of exceptional narrowness, shallowness, or shape of a specific lot, or by reason of exceptional topographic and other site conditions (such as, but not limited to, floodplain, major stand of trees, steep slopes), which were not created by the owner or applicant, the strict application of the requirements of this chapter would deprive the property owner of rights and privileges enjoyed by other property owners in the same zoning district.**

   While the subject property is not unusual in size, narrowness, or shallowness, it is somewhat unusual in shape. Inter-parcel access to the west is not possible because of how the properties are developed with buildings at the rear. Connectivity to the northwest is challenged due to the shape and limited size of the parcel.

2. **The requested variance does not go beyond the minimum necessary to afford relief, and does not constitute a grant of special privilege inconsistent with the limitations upon other properties in the zoning district in which the subject property is located.**

   The requested variance does not go beyond the minimum necessary to afford relief by allowing the parcel to be developed without inter-parcel access due to the challenges with the commercial properties to the northwest and west and the remaining residential properties.

3. **The grant of the variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the zoning district in which the subject property is located.**

   The granting of the variance may be detrimental to the public welfare, as it will force all movements onto Hugh Howell and Rosser Terrace. However, transportation improvements such as a deceleration lane and right turn lane will help limit the impact.

4. **The literal interpretation and strict application of the applicable provisions or requirements of this chapter would cause undue and unnecessary hardship.**

   The literal interpretation and strict application of the applicable provisions or requirements of this chapter could cause undue and unnecessary hardship given the challenges with interparcel connectivity with the surrounding parcels.

5. **The requested variance would be consistent with the spirit and purpose of this chapter and the Comprehensive Plan text.**

   While the spirit and purpose of the proposal may be consistent with much of the comprehensive plan text, the regulation regarding inter-parcel access is to allow access for vehicles between properties as an alternative to forcing all movement onto highways.

   Conclusion: Staff recommends **APPROVAL of CV-19-0004.**

Staff Recommendation

Based on the findings and conclusions herein, Staff recommends **APPROVAL** of Land Use Petition **SLUP-21-0004, DENIAL** of **CV-21-0002, DENIAL** of **CV-21-0003,** and **APPROVAL** of **CV-21-0004, subject to the following conditions**.

1. The property should be developed in general conformance with the site plan submitted on August 9, 2021, with revisions to meet these conditions.

2. A landscape plan shall be submitted with the Land Disturbance Permit, subject to the review and approval of the Planning and Zoning Director.

3. A mix of trees, shrubs, and ground cover shall be planted in the landscape strip between the drive-through restaurant and both Hugh Howell Road and Rosser Terrace to screen the appearance of the drive-through lanes from the street.

4. The drive-through canopies, windows, and lanes shall comply with the requirements of Section 46-995 and Section 46-1166.

5. Outdoor dining shall meet the requirements outlined in Section 46-998.

6. The drive-through establishment shall close no later than 10:00 p.m.

7. The Special Land Use Permit shall not be able to be transferred to another business.

8. Owner/ Developer shall provide direct pedestrian entrances from Hugh Howell Road and Rosser Terrace. The required pedestrian entrances must face the public street and provide ingress and egress.

9. Owner/Developer shall remove the existing billboard located on the northwestern portion of the property.

10. Inter-parcel access is not required (CV-21-0004).

11. Owner/Developer shall install six foot (6') wide sidewalk with a five foot (5') wide landscape strip along the entire frontage of Rosser Terrace and Hugh Howell Road.

12. The development shall be limited to one (1) full access driveway on Rosser Terrace. Curb cut locations are subject the sight distance requirements and the approval of the City Engineer.

13. Owner/Developer shall construct a northbound right turn lane on Rosser Terrace at the intersection of Hugh Howell Road, subject to the approval of the City Engineer and the Georgia Department of Transportation.

14. Owner/Developer shall construct a southbound deceleration lane on Rosser Terrace at the new entrance, subject to the approval of the City Engineer.

15. Owner/Developer shall dedicate at no cost to the City of Tucker such additional right-of-way as required to construct the above improvements and have a minimum of two feet (2') from the back of the future sidewalk.

16. Owner/Developer shall provide ADA compliant pedestrian connectivity between the sidewalks along both frontages and the building entrance.

17. Owner/Developer shall comply with Section 14-39 of the City of Tucker Code of Ordinances concerning tree protection and replacement. A minimum tree density of thirty (30) units/acre shall be required. Any specimen trees removed during the redevelopment shall require additional tree replacement units as required in the ordinance.

18. Owner/Developer shall provide stormwater management in compliance with Tucker's Post Construction Stormwater Management Ordinance.

PLANNING COMMISSION RECOMMENDATION

Based upon the findings and conclusions herein, at its September 17, 2021 public hearing, the Planning Commission recommends **APPROVAL WITH CONDITIONS** of **SLUP-21-0004, DENIAL** of **CV-21-0002,**

DENIAL of **CV-21-0003,** and **APPROVAL** of **CV-21-0004** subject to the following amended staff conditions: (additions = **bold**; deletions = ~~strikethrough~~).

1. The property should be developed in general conformance with the site plan submitted on August 9, 2021, with revisions to meet these conditions.

2. A landscape plan shall be submitted with the Land Disturbance Permit, subject to the review and approval of the Planning and Zoning Director.

3. A mix of trees, shrubs, and ground cover shall be planted in the landscape strip between the drive-through restaurant and both Hugh Howell Road and Rosser Terrace to screen the appearance of the drive-through lanes from the street.

4. The drive-through canopies, windows, and lanes shall comply with the requirements of Section 46-995 and Section 46-1166.

5. Outdoor dining shall meet the requirements outlined in Section 46-998.

6. The drive-through establishment shall close no later than 10:00 p.m.

7. The Special Land Use Permit shall not be able to be transferred to another business.

8. Owner/ Developer shall provide direct pedestrian entrances from Hugh Howell Road and Rosser Terrace. The required pedestrian entrances must face the public street and provide ingress and egress.

9. Owner/Developer shall remove the existing billboard located on the northwestern portion of the property.

10. Inter-parcel access is not required (CV-21-0004).

11. Owner/Developer shall install six foot (6') wide sidewalk with a five foot (5') wide landscape strip along the entire frontage of Rosser Terrace and Hugh Howell Road.

12. The development shall be limited to one (1) full access driveway on Rosser Terrace. Curb cut locations are subject the sight distance requirements and the approval of the City Engineer.

13. Owner/Developer shall construct a northbound right turn lane on Rosser Terrace at the intersection of Hugh Howell Road, subject to the approval of the City Engineer and the Georgia Department of Transportation. **Further evaluation of transportation-traffic-safety features will be undertaken to provide additional guidelines with respect to the condition.**

14. Owner/Developer shall construct a southbound deceleration lane on Rosser Terrace at the new entrance, subject to the approval of the City Engineer. **Further evaluation of transportation-**

traffic-safety features will be undertaken to provide additional guidelines with respect to the condition.

15. Owner/Developer shall dedicate at no cost to the City of Tucker such additional right-of-way as required to construct the above improvements and have a minimum of two feet (2') from the back of the future sidewalk.

16. Owner/Developer shall provide ADA compliant pedestrian connectivity between the sidewalks along both frontages and the building entrance.

17. Owner/Developer shall comply with Section 14-39 of the City of Tucker Code of Ordinances concerning tree protection and replacement. A minimum tree density of thirty (30) units/acre shall be required. Any specimen trees removed during the redevelopment shall require additional tree replacement units as required in the ordinance.

18. Owner/Developer shall provide stormwater management in compliance with Tucker's Post Construction Stormwater Management Ordinance.

DEPARTMENT COMMENTS

DEKALB COUNTY DEPARTMENT OF WATERSHED MANAGEMENT

No comments. Sewer capacity approval has already been obtained for this project.

DEKALB COUNTY FIRE MARSHAL OFFICE

No comments.

DEKALB COUNTY SCHOOL SYSTEM

Not applicable.

CITY ENGINEER

1. The development shall be limited to one (1) full access driveway on Rosser Terrace. Curb cut locations are subject the sight distance requirements and the approval of the City Engineer.
2. Owner/Developer shall install a 5' sidewalk along the entire frontage of Rosser Terrace.
3. Owner/Developer shall construct a northbound right turn lane on Rosser Terrace at the intersection of Hugh Howell Road, subject to the approval of the City Engineer and the Georgia Department of Transportation.
4. Owner/Developer shall construct a southbound deceleration lane on Rosser Terrace at the new entrance, subject to the approval of the City Engineer.
5. Owner/Developer shall dedicate at no cost to the City of Tucker such additional right-of-way as required to construct the above improvements and have a minimum of two feet (2') from the back of the future sidewalk.
6. Owner/Developer shall provide ADA compliant pedestrian connectivity between the sidewalks along both frontages and the building entrance.
7. Owner/Developer shall comply with Section 14-39 of the City of Tucker Code of Ordinances concerning tree protection and replacement. A minimum tree density of thirty (30) units/acre shall be required. Any specimen trees removed during the redevelopment shall require additional tree replacement units as required in the ordinance.
8. Owner/Developer shall provide stormwater management in compliance with Tucker's Post Construction Stormwater Management Ordinance.

Planning and Zoning
1975 Lakeside Parkway, Suite 350
Tucker, GA 30084
Phone: 678-597-9040
Email: permits@tuckerga.gov
Website: www.tuckerga.gov

Land Use Petition Application

Type of Application: ☐ Rezoning ☐ Comprehensive Plan Amendment ☒ Special Land Use Permit ☒ Concurrent Variance ☐ Modification

APPLICANT INFORMATION

Applicant is the: ☐ Property Owner ☐ Owner's Agent ☒ Contract Purchaser

Name: Chick-fil-A, Inc.

Address: 5200 Buffington Road

City: Atlanta | State: GA | Zip: 30349

Contact Name: Jennifer Santelli

Phone: 770-324-5282 | Email: jenn.santelli@cfacorp.com

OWNER INFORMATION

Name: John Poulakis

Address: 1610 DeKalb Avenue

City: Atlanta | State: GA | Zip: 30307

Contact Name: John Poulakis

Phone: 404-536-7601 | Email: cookiepoulakis@hotmail.com

PROPERTY INFORMATION

Property Address: 4435 Hugh Howell Road Tucker, GA 30084

Present Zoning District(s): DT-2 | Requested Zoning District(s):

Present Land Use Category: Downtown Corridor | Requested Land Use Category:

Land District: 18 | Land Lot(s): 214 | Acreage: 2.05

Proposed Development: Chick-fil-A Restaurant

Concurrent Variance(s): N/A

RESIDENTIAL DEVELOPMENT

No. of Lots/Dwelling Units: | Dwelling Unit Size (Sq. Ft.): | Density:

NON-RESIDENTIAL DEVELOPMENT

No. of Buildings/Lots: 1 | Total Building Sq. Ft.: 4,989 | Density: .056

RECEIVED
City of Tucker
AUG 09 2021
Community Development Department

SLUP-21-0004, CV-21-0002, CV-21-0003, CV-21-0004

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.

J Santelli — August 5, 2021

Signature of Applicant **(Date**

Jennifer Santelli, Principal Development Lead

Type or Print Name and Title

ERIKA GIDDENS NOTARY PUBLIC DEKALB COUNTY GEORGIA EXPIRES APR. 18, 2023

Erika Giddens — August 5, 2021

Signature of Notary Public **Date** **Notary Seal**

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Community Development Department

CV-21-0004
SLUP-21-0004, CV-21-0002, CV-21-0003

Planning and Zoning
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Tucker, GA 30084
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Land Use Petition Application

Type of Application: ☐ Rezoning ☐ Comprehensive Plan Amendment ☒ Special Land Use Permit ☒ Concurrent Variance ☐ Modification

APPLICANT INFORMATION		
Applicant is the: ☐ Property Owner ☐ Owner's Agent ☐ Contract Purchaser		
Name: Bowman Consulting		
Address: 950 North Point Parkway Suite 200		
City: Alpharetta	State: GA	Zip: 30005
Contact Name: Bridgette Ganter		
Phone: (678) 606-5278	Email: bganter@bowman.com	

OWNER INFORMATION		
Name: John Poulakis		
Address: 1610 DeKalb Avenue		
City: Atlanta	State: GA	Zip: 30307
Contact Name: John Poulakis		
Phone: 404-536-7601	Email: cookiepoulakis@hotmail.com	

PROPERTY INFORMATION		
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Present Land Use Category: Downtown Corridor	Requested Land Use Category:	
Land District: 18	Land Lot(s): 214	Acreage: 2.05
Proposed Development: Chick-fil-A Restaurant		
Concurrent Variance(s): N/A		

RESIDENTIAL DEVELOPMENT		
No. of Lots/Dwelling Units:	Dwelling Unit Size (Sq. Ft.):	Density:

NON-RESIDENTIAL DEVELOPMENT		
No. of Buildings/Lots: 1	Total Building Sq. Ft.: 4,989	Density: .056

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AUG 09 2021
Community Development Department

SLUP-21-0004, CV-21-0002, CV-21-0003, CV-21-0004

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.

Bridgette Ganter 8/13/21

Signature of Applicant Date

Bridgette Ganter, Branch Manager

Type or Print Name and Title

8-13-21

Signature of Notary Public Date

MATTHEW ROBERTS
NOTARY PUBLIC
Cherokee County
State of Georgia
My Comm. Expires July 29, 2022

Notary Seal

RECEIVED
City of Tucker
AUG 09 2021
Community Development Department

SLUP-21-0004, CV-21-0002, CV-21-0003, CV-21-0004

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), Modification (M) & Concurrent Variance (CV) in request of the items indicated below.

I, John Poulakis (Property Owner), authorize, Chick-fil-A, Inc. (Applicant),

to file for SLUP (RZ, CA, SLUP, M, CV), at 4435 Hugh Howell Road (Address)

on this date 8 (Month) 11 (Day), 20 21

- 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 of Property Owner — Date 8/11/21

John Poulakis

Type or Print Name and Title

Signature of Notary Public — Date 08-11-2021

PAMELA L. BUTTERSNITZ
Notary Public, Georgia
Dekalb County
My Commission Expires
April 5, 2023

Notary Seal

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DISCLOSURE REPORT FORM

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) Jennifer Santelli

Signature: Jennifer Santelli Date: August 5, 2021

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City of Tucker
AUG 09 2021
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DISCLOSURE REPORT FORM

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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Name (print) Bridgette Ganter

Signature: Bridgette Ganter Date: 8/13/21

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City of Tucker
AUG 09 2021
Community Development Department

SLUP-21-0004, CV-21-0002, CV-21-0003, CV-21-0004

DISCLOSURE REPORT FORM

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:

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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) John Pouklakis

Signature: _____ Date: 8/11/21

Bowman

August 13, 2021

City of Tucker
Planning and Zoning Department
1975 Lakeside Parkway, Suite 350
Tucker, GA 30084

RE: Special Land Use Permit Application – Proposed Chick-fil-A Tucker 4435 Hugh Howell Road Tucker, GA 30084

Dear Ms. Thomas,

Bowman is submitting this application for a Special Land Use Permit with three concurrent variances on behalf of Chick-fil-A, Inc. The existing Chick-fil-A at 4340 Hugh Howell Road is located on a site that does not provide adequate drive-through facilities. The size of the lots precludes an in-place re-design according to Chick-fil-A's new standards, which include an isolated drive-through with two full lanes, as well as order and pick up canopies. Implementation of this re-design is necessitated by the popularity of Chick-fil-A, growing traffic concerns at the existing restaurant, and Chick-fil-A's desire to serve customers in a safer and more efficient manner. This new site layout is being implemented across the country.

Chick-fil-A is proposing to relocate the existing restaurant to a larger parcel at 4435 Hugh Howell Road in order to implement the re-design of the drive-through. The existing Chick-fil-A will close when the new Chick-fil-A opens. The proposed ±4,978 SF restaurant with drive-through, associated parking, drives, and utilities will be located on a ±2.05-acre parcel at the southwest corner of Hugh Howell Road and Rosser Terrace. The larger site provides adequate area for two drive-through lanes plus a bypass lane with adequate length to maintain on-site queuing, as well as order point and pick up canopies. The drive-through is isolated from the parking area to provide safe and efficient service to customers.

Bowman is submitting the enclosed information in support of an application for a Special Land Use Permit to allow for the operation of a drive-through restaurant in the DT-2 (Downtown Corridor) zoning district.

Along with the Special Land Use Permit, Chick-fil-A is requesting three concurrent variances:

Variance #1: Relief from requirement prohibiting drive-through facilities between public street and building.
Variance #2: Relief from maximum building setbacks along Hugh Howell Road and Rosser Terrace.
Variance #3: Relief from requirement to provide inter-parcel access.

Additional information is included in the application materials. Please let us know if anything else is needed. Please feel free to reach out to myself at Bowman or Jennifer Santelli, Chick-fil-A development manager, if there are any questions.

950 North Point Parkway, Suite 200, Alpharetta, GA 30005
bowmanconsulting.com

SLUP-21-0004, CV-21-0002, CV-21-0003, CV-21-0004

Sincerely,

Bridgette Ganter

Bridgette Ganter
bganter@bowmanconsulting.com
678-606-5278
Bowman

Bowman

Special Land Use Permit Criteria

Chick-fil-A Tucker
4435 Hugh Howell Road
Tucker, GA 30084

PERMIT REQUEST: OPERATION OF FAST-FOOD RESTAURANT WITH DRIVE-THROUGH

Section 46-985 and Table 3.1 of the City of Tucker municipal code require a Special Land Use Permit for a proposed use of restaurant with a drive-through configuration in the DT-2 Downtown Corridor zoning district.

Criteria in support of Chick-fil-A's proposed use of restaurant with drive-through facility:

1. *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 subject site is ±2.05 acres and consistent with the size parcel required by Chick-fil-A to construct a ±4,989 SF restaurant with adequate parking facilities and a dual lane drive-through of sufficient length to prevent queue spill on to adjacent roads.

   The site provides 43% open space, which exceed the requirement of 20% open space for non-residential uses in the DT-2 Downtown Corridor zoning district.

   Required number of parking spaces is based on building square footage, at a minimum rate of one space per 150 square feet of building area with a maximum of 1 space per 75 square feet. The site provides 62 spaces, which meets the minimum requirement of 33 spaces, while not exceeding the maximum requirement of 66 spaces.

   The maximum building setbacks from both the Hugh Howell Road and Rosser Terrace right-of-ways is 20 feet. The applicant will pursue a variance for relief from this requirement, due to proposed drive-through design to provide maximum stack, as well as pedestrian safety.

   The rear maximum building setback of 20-feet is met.

   A 50-feet transitional buffer adjacent to residential uses is required and provided. Additionally, drive-through facilities must be located a minimum of 60 feet from residential uses. The site layout also supports this requirement.

   A 10-feet landscape buffer is required and provided to screen parking areas.

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bowmanconsulting.com

2. *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 fast-food restaurant. Several fast-food restaurants are in the vicinity, including an existing Chick-fil-A restaurant approximately 0.3 miles from the proposed site. The existing Chick-fil-A will be closed when the new restaurant opens.

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

   All necessary utilities (water, sewer, power, and natural gas) are available either on-site or in the adjacent Hugh Howell Road right-of-way. DeKalb County has approved sewer capacity for a fast-food restaurant at this site.

4. *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 site is located at the unsignalized intersection of Hugh Howell Road, a four-lane arterial road with center two-way left turn lane, and Rosser Terrance, a two-lane feeder street. A traffic study, conducted in June 2021, determined that the intersection would benefit from a right turn lane from northbound Rosser Terrace on to eastbound Hugh Howell Road. The addition of the right turn lane will move traffic more expediently through the intersection to minimize congestion.

5. *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.*

   Existing land use along Hugh Howell Road are similar in character to the proposed use of a fast-food restaurant, and includes a variety of retail, as well as restaurant uses. Since the existing Chick-fil-A restaurant, which is located 0.3 miles away and also accessed via Hugh Howell Road, is closing upon the opening of the new Chick-fil-A, no adverse effects and additional traffic are anticipated.

6. *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.*

   Vehicle ingress and egress will be provided from Rosser Terrace. Site layout provides adequate drive aisles for access and circulation through the site for customers, as well as fire and delivery vehicles.

   Pedestrian access is provided via a proposed sidewalk connection to a proposed sidewalk in the Hugh Howell Road right-of-way.

   Chick-fil-A is designing new sites, included this site, with an isolated drive-through for the purpose of providing pedestrian safety in parking areas. Dine in customers do not need to cross the drive-through lanes at any point to enter the restaurant.

7. *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.*

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The existing land use is a restaurant. Chick-fil-A will also operate restaurant. The drive-through is located as far as possible from adjacent non-commercial uses and is operationally designed in a manner to move vehicles through the site expediently. No adverse impacts to the adjoining land use by reason of noise, smoke, odor, dust, or vibration are anticipated.

8. *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 Chick-fil-A restaurant will operate Monday through Saturday from 6 AM – 10 PM, similar to the existing use, as well as nearby uses and is not expected to have an adverse impact on adjoining properties.

9. *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.*

   Chick-fil-A will operate a drive-through restaurant which will not create adverse impacts on any adjoining land uses. Several drive-through restaurants operate in the nearby vicinity.

10. *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 site is located in the DT-2 Downtown Corridor zoning district which promotes a variety of mixed uses, including restaurants. The site will provide sidewalk access to Hugh Howell Road and nearby patio seating, which is consistent with the intent to provide walkability to this corridor.

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

    City of Tucker adopted a Downtown Master Plan in December 2020 to have a blueprint for growth and redevelopment of Tucker's downtown for the next 20 years. Future land use in the Downtown District is intended to include a mix of retail and office uses. Its goal is to improve walkability and neighborhood connections. The development of Chick-fil-A will provide two areas of patio seating steps from sidewalk access to Hugh Howell Road and Rosser Terrace. Additionally, Chick-fil-A will provide streetscape enhancements for Hugh Howell Road with sidewalks and landscaping. Finally, this development supports the goal of bolstering economic base, as it repurposes a vacant commercial development, has a strong history of economic success, and a reputation and track record of investment in the community and its residents.

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

    The maximum building setbacks from both Hugh Howell Road and Rosser Terrace right-of-way is 20 feet. The applicant will pursue a variance for relief from this requirement, due to drive-through design to provide maximum stack, as well as pedestrian safety.

    The rear maximum building setback of 20-feet is met.

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A 50-feet transitional buffer adjacent to residential uses is required and provided. Additionally, drive-through facilities must be located a minimum of 60 feet from residential uses. This requirement is met.

A 10-feet landscape buffer is required and provided to screen parking areas.

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

    A double dumpster and enclosure are provided at the rear of the site. Additional trash receptacles are available at patio areas.

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

    The special land use permit is necessary for lifetime of the restaurant.

15. *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 Chick-fil-A building is single story and approximately 20 feet tall. It is similar in height and scale to nearby buildings.

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

    The proposed site is not near historic buildings, sits, districts, or archaeological resources.

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

    Supplemental regulations for drive-through restaurants requiring a Special Land Use Permit are not provided. Drive-through facilities for restaurants in the City of Tucker are regulated by Section 46-116. The proposed Chick-fil-A drive-through is located 60 feet from residentially zoned properties; is not less than 10,000 SF; will be constructed in the same materials as the building; minimally uses speaker boxes, but will direct these away from residential properties and they will not play music; and will have stacking spaces that are 10 feet by 25 feet. The drive-though is, however, located between the building and the street, due to the geometry of the parcel, as well to provide a design that maximizes drive-through stack and minimizes pedestrian crossings.

18. *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 Chick-fil-A building is single story and approximately 20 feet tall. It is similar in height and scale to nearby buildings and is located near Hugh Howell Road, so is not expected to have an adverse shadow impact on adjoining properties.

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

    An existing Chick-fil-A restaurant is located 0.3 miles from the site and will close when the new restaurant opens. There will be no net difference in the number of fast-food restaurants in the area.

20. *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.*

    Chick-fil-A has a reputation and history of being active participants in improving and serving in the communities in which they are located. They employ local residents and serve as mentors to youth in the area.

    The proposed site provides sidewalk connectivity to the downtown connector, as well as two outdoor patios near the street for outdoor dining to engage the community.

SLUP-21-0004, CV-21-0002, CV-21-0003, CV-21-0004

Bowman

Concurrent Variance Criteria

Chick-fil-A Tucker
4435 Hugh Howell Road
Tucker, GA 30084

VARIANCE #1 REQUEST: ALLOW DRIVE-THROUGH FACILTY BETWEEN STREET AND BUILDING

Section 46-1166 of the City of Tucker municipal code prohibits the locations of drive-through restaurant facilities between the building and the street in the DT-2 Downtown Corridor zoning district.

Criteria in support of Chick-fil-A's site layout, which locates drive-through facilities between the building and Hugh Howell Road, as well as Rosser Terrace Road:

a. *By reason of exceptional narrowness, shallowness, or shape of a specific lot, or by reason of exceptional topographic and other site conditions (such as, but not limited to, floodplain, major stand of trees, steep slope), which were not created by the owner or applicant, the strict application of the requirements of this division would deprive the property owner of rights and privileges enjoyed by other property owners in the same zoning district.*

   The subject parcel abuts Hugh Howell Road to the north, Rosser Terrace to the east and residentially zoned properties to the west and south. Section 46-1166 requires that drive-through restaurant facilities be located a minimum of 60 feet from residentially zoned parcels. Since the lot is rectangular, the available area for the drive-through is confined to a narrow section in the center of the parcel. This configuration does not provide adequate space for vehicles to circulate and greatly diminishes the available length for drive-through queue. The geometry of the parcel and the zoning designation of the adjacent parcels were not created by the owner or applicant. Strict application of these requirements will deprive Chick-fil-A of an efficient drive-through operation, which is enjoyed by nearby property owners whose businesses are not located at street intersections and do not abut residential properties.

b. *The requested variance does not go beyond the minimum necessary to afford relief, and does not constitute a grant of special privilege inconsistent with the limitations upon other properties in the zoning district in which the subject property is located.*

   Request of this variance does not go beyond the minimum necessary to afford relief since drive-through design is adhering to City of Tucker ordinance requirements as much as possible. The proposed drive-through facilities are a minimum of 60 feet from residentially zoned adjacent properties and provide a bypass lane, in addition to the extra lane design employed by Chick-fil-A. Chick-fil-A will provide a vegetative screen designed to block vehicles from view, while keeping the building visible. Special privilege is not being granted.

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c. *The grant of the variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the zoning district in which the subject property is located.*

Grant of this variance to allow drive-through facilities between the building and streets will not be detrimental to the public, however it will allow drive-through operations to proceed expediently according to the design principles Chick-fil-A has researched and is implementing across the country to ensure that adequate stack is provided in drive-through lanes and that vehicles may enter, be served, and exit as quickly as possible without queue spill over into adjacent roadways. Chick-fil-A has a history and reputation for maintaining properties to very high standards and will be an asset to the community.

d. *The literal interpretation and strict application of the applicable provisions or requirements of this division would cause undue and unnecessary hardship.*

Literal interpretation and strict application of the requirement that prohibits drive-through facilities between the building and street would prohibit Chick-fil-A from operating a drive-through on this parcel.

e. *The requested variance would be consistent with the spirit and purpose of this division and the comprehensive plan text.*

The requested variance is the minimum necessary to afford relief, while maintaining the spirit and purpose of the DT-2 zoning district intent to provide a mixed-use community, with a focus on walkability and pedestrian access. Chick-fil-A proposes to locate drive-through facilities as far as possible from adjacent residential parcels and is proposing two patio areas near the street with sidewalk connectivity to the street to promote community and walkability.

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VARIANCE #2 REQUEST: RELIEF FROM MAXIMUM BUILDING SETBACKS FROM HUGH HOWELL ROAD AND ROSSER TERRACE

Section 46-986 and Table 3.2 of the City of Tucker municipal code require a maximum building setback of 20 feet from Hugh Howell Road and Rosser Terrance in the DT-2 Downtown Corridor zoning district.

Criteria in support of Chick-fil-A's site layout proposing a building setback of 45 feet from Hugh Howell Road and 65 feet from Rosser Terrace:

a. *By reason of exceptional narrowness, shallowness, or shape of a specific lot, or by reason of exceptional topographic and other site conditions (such as, but not limited to, floodplain, major stand of trees, steep slope), which were not created by the owner or applicant, the strict application of the requirements of this division would deprive the property owner of rights and privileges enjoyed by other property owners in the same zoning district.*

   Due to the geometry of the parcel and adjacent residential parcels, the proposed drive-through is located between the building and both Hugh Howell Road and Rosser Terrace. Chick-fil-A's dual lane drive-through design serves customers efficiently and prevents queue spill on to adjacent roadways. The dual lane drive-throughs are a minimum of 20 feet in width. In addition, Section 46-1166 requires that all drive-through restaurant facilities provide an additional bypass lane. The extra lane, in addition to a 5 feet landscape buffer prohibit movement of the building closer to Hugh Howell Road.

   Likewise, the same drive-through lanes travel between the building and Rosser Terrace. The building setback is greater in this instance because a patio and sidewalk are provided for street connectivity.

   The geometry of the parcel and the zoning designation of the adjacent parcels were not created by the owner or applicant. Strict application of these requirements will deprive Chick-fil-A of an efficient drive-through operation, which is enjoyed by nearby property owners who do have locations at street intersections and abut residential properties.

b. *The requested variance does not go beyond the minimum necessary to afford relief, and does not constitute a grant of special privilege inconsistent with the limitations upon other properties in the zoning district in which the subject property is located.*

   Request of this variance does not go beyond the minimum necessary to afford relief as drive-through design is adhering to City of Tucker ordinance requirements as much as possible. The proposed drive-through facilities are a minimum of 60 feet from residentially zoned adjacent properties and provide a bypass lane, in addition to the extra lane design employed by Chick-fil-A. Chick-fil-A is proposing two patios near the streets in keeping with the spirit and intent of the ordinance to promote community, walkability, and connection to the City streets.

c. *The grant of the variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the zoning district in which the subject property is located.*

   Granting of this variance to exceed the maximum building setbacks will not be detrimental to the public, however it will allow drive-through operations to proceed expediently according to the design

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principles Chick-fil-A has researched and is implementing across the country to ensure that adequate stack is provided in drive-through lanes and that vehicles may enter, be served, and exit as quickly as possible to avoid queue spill over into adjacent roadways. Chick-fil-A is providing two outdoor dining patios with sidewalk connectivity to the Hugh Howell streetscape to promote community and walkability.

d. *The literal interpretation and strict application of the applicable provisions or requirements of this division would cause undue and unnecessary hardship.*

Literal interpretation and strict application of the requirement would severely diminish drive-through efficiency due to decreased stack length if the drive-through lanes were to be located at the interior of the site. Spatially, two drive-through lanes, a bypass lane, and landscape buffer will not fit into a 25 feet setback, so strict adherence would force diminished drive-through efficiency.

e. *The requested variance would be consistent with the spirit and purpose of this division and the comprehensive plan text.*

The requested variance is the minimum necessary to afford relief, while maintaining the spirit and purpose of the DT-2 zoning district intent to provide a mixed-use community, with a focus on walkability and pedestrian access. Chick-fil-A proposes to locate drive-through facilities as far as possible from adjacent residential parcels and is proposing two patio areas near the street with sidewalk connectivity to the street to promote community and walkability.

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VARIANCE #3 REQUEST: RELIEF FROM INTERPARCEL ACCESS

Section 46-989 of the City of Tucker municipal code requires inter-parcel access between abutting properties in the DT-2 Downtown Corridor zoning district

Criteria in support of Chick-fil-A's site layout, which does not provide inter-parcel access with abutting parcel.

a. *By reason of exceptional narrowness, shallowness, or shape of a specific lot, or by reason of exceptional topographic and other site conditions (such as, but not limited to, floodplain, major stand of trees, steep slope), which were not created by the owner or applicant, the strict application of the requirements of this division would deprive the property owner of rights and privileges enjoyed by other property owners in the same zoning district.*

   Due to the geometry of the parcel and adjacent residential parcels, the proposed drive-through is located between the building and both Hugh Howell Road and Rosser Terrace. Chick-fil-A's dual lane, isolated drive-through design serves customers efficiently and prevents queue spill on to adjacent roadways. Since the parcel is rectangular with the smallest length frontage along Hugh Howell Road, space does not exist for a drive to provide inter-parcel access outside of the drive-through lanes. Due to the geometry of the parcel, inter-parcel access would need to be achieved by allowing vehicles to enter the drive-through near the order pick up point, which would greatly dimmish drive-through efficiency. Inter-parcel access currently does not exist on this site. The constraints of the lot were not created by the owner or the applicant. Strict adherence to the requirement for inter-parcel access deprives Chick-fil-A of an efficient drive-through.

b. *The requested variance does not go beyond the minimum necessary to afford relief, and does not constitute a grant of special privilege inconsistent with the limitations upon other properties in the zoning district in which the subject property is located.*

   Request of this variance does not go beyond the minimum necessary to afford relief as drive-through design is adhering to City of Tucker ordinance requirements as much as possible. The proposed drive-through facilities are a minimum of 60 feet from residentially zoned adjacent properties and provide a bypass lane, in addition to the extra lane design employed by Chick-fil-A.

c. *The grant of the variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the zoning district in which the subject property is located.*

   Granting of this variance for relief from inter-parcel access will not be detrimental to the public, however it will allow drive-through operations to proceed expediently according to the design principles Chick-fil-A has researched and is implementing across the country to ensure that adequate stack is provided in drive-through lanes and that vehicles may enter, be served, and exit as quickly as possible to avoid queue spill over into adjacent roadways Inter-parcel access does not currently exist. Additionally, the current access off Rosser Terrace moves Chick-fil-A trips off Hugh Howell Road. If inter-parcel access were provided at the west adjacent parcel, vehicles bound for Chick-fil-A could enter the site from Hugh Howell Road through the adjacent parcel.

CV-21-0002 ; CV-21-0003 ; CV-21-0004

d. *The literal interpretation and strict application of the applicable provisions or requirements of this division would cause undue and unnecessary hardship.*

Literal interpretation and strict application of the requirement would severely diminish drive-through efficiency due to decreased stack length if the drive-through lanes were to be located at the interior of the site. Spatially, two drive-through lanes, a bypass lane, and landscape buffer will not fit into the frontage provided on Hugh Howell Road, so strict adherence would force diminished drive-through efficiency.

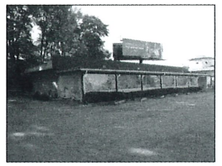
e. *The requested variance would be consistent with the spirit and purpose of this division and the comprehensive plan text.*

The requested variance maintains the spirit and purpose of the DT-2 zoning district intent through proposed patio areas and sidewalk and street connectivity for pedestrians. Relief from the requirement to provide inter-parcel access allows Chick-fil-A to operate an efficient drive-through that avoids queue migration to adjacent parcels and roadways.

CV-21-0002, CV-21-0003, CV-21-0004

SITE PHOTOGRAPHS


1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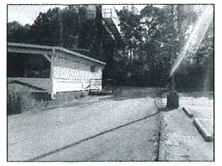
3


4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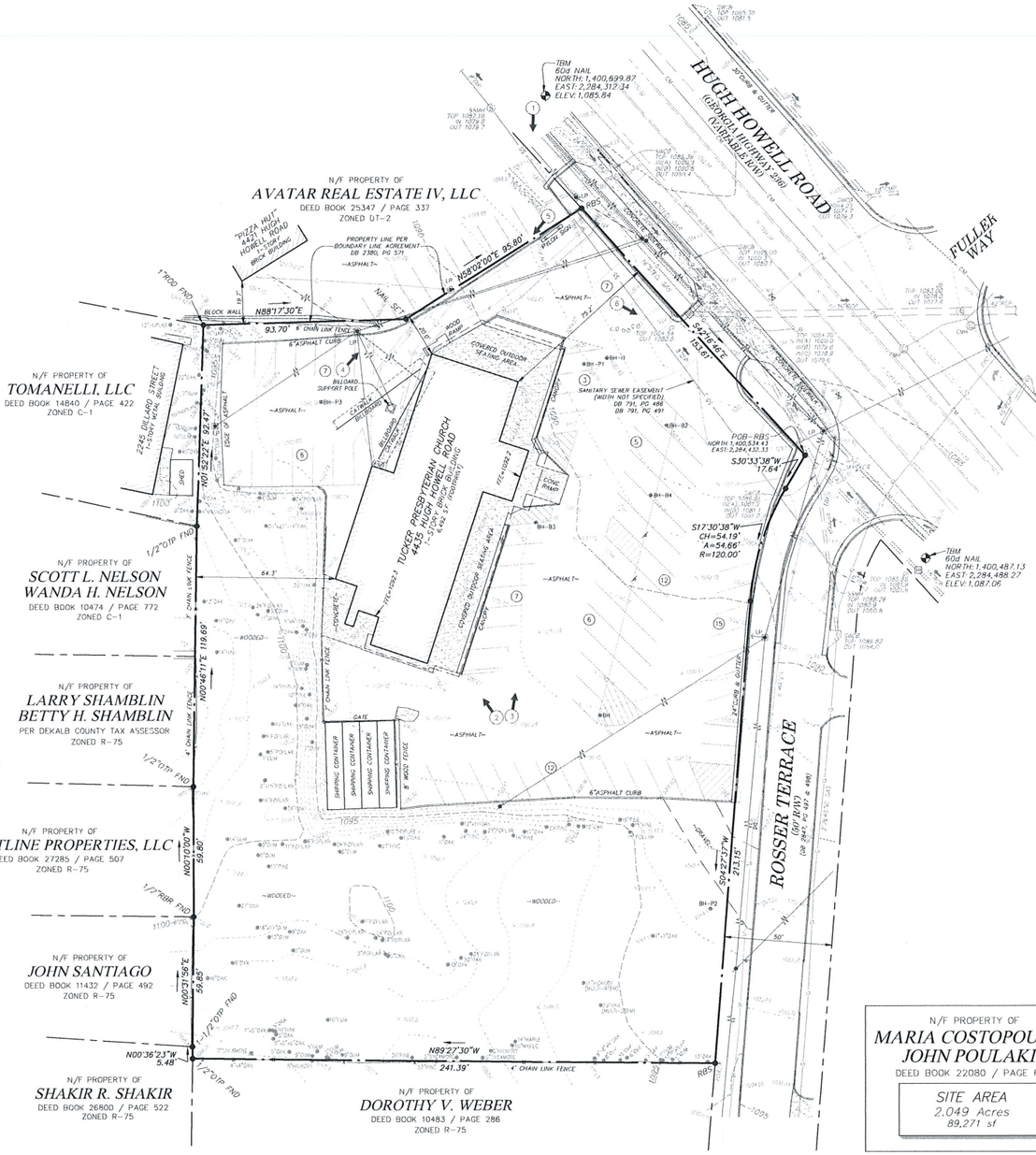
6



UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON LOCATION OF MARKINGS PROVIDED BY:

UTILITY MARKING, LLC
3042 GALA TRAIL
SNELLVILLE, GA 30036
(678) 357-1946

UTILITY MARKING, LLC UTILIZED SEVERAL TECHNIQUES INCLUDING, BUT NOT LIMITED TO, ELECTROMAGNETIC, MAGNETIC LOCATION FOR FERROUS METALS, ACOUSTIC AND PASSIVE FREQUENCIES TO DESIGNATE AND MARK BURIED UTILITIES ON THE SURFACE WITH PAINT AND FLAGS COVERING THE ENTIRE AREA OF THE PROJECT.

THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. UNDERGROUND UTILITIES NOT OBSERVED OR LOCATED UTILIZING THIS TECHNIQUE MAY EXIST ON THIS SITE BUT NOT BE SHOWN, AND MAY BE FOUND UPON EXCAVATION. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.

INFORMATION REGARDING MATERIAL AND SIZE OF UTILITIES IS BASED ON RECORDS ACQUIRED FROM THE UTILITY OWNERS.

LEGEND

STANDARD ABBREVIATIONS		STANDARD SYMBOLS	
AC	AIR CONDITIONER		OVERHEAD TRAFFIC SIGNAL LIGHT
BH	BORE HOLE		POWER POLE
BSL	BUILDING SETBACK LINE		GUY WIRE
CI	CURB INLET		POWER LINE
CMP	CORRUGATED METAL PIPE	LP	LIGHT POLE
CMF	CONCRETE MONUMENT FND		
CO	SANITARY CLEANOUT		ELECTRIC TRANSFORMER
CPED	COMMUNICATION PEDESTAL		
CTP	CRIMPED TOP PIPE		WATER VAULT
DI	DROP INLET		
DIP	DUCTILE IRON PIPE		
DWCB	DOUBLE WING CATCH BASIN		GAS VALVE
FNC	FENCE		GAS METER
FND	FOUND		WATER VALVE
GM	GAS METER		WATER METER
INV	INVERT		FIRE HYDRANT
JB	JUNCTION BOX		
MH	MANHOLE	E	UNDERGROUND ELECTRIC LINE
OCS	OUTLET CONTROL STRUCTURE	G	UNDERGROUND GAS LINE
OTP	OPEN TOP PIPE	C	UNDERGROUND COMMUNICATION LINE
PM	POWER METER		
PKS	PK NAIL SET	W	UNDERGROUND WATER LINE
POB	POINT OF BEGINNING	1	PHOTO POSITION INDICATOR
POC	POINT OF COMMENCEMENT		
RCP	REINFORCED CONCRETE PIPE	XX	REGULAR PARKING SPACE COUNT
RBR	IRON REINFORCING BAR		
RBS	5/8"RBR SET CAPPED LSF 621		HANDICAP PARKING SPACE
SS	SANITARY SEWER		
SWCB	SINGLE WING CATCH BASIN		TREE POSITION INDICATOR
TRANS	ELECTRIC TRANSFORMER		SIGN

CLOSURE STATEMENT

THE FIELD CLOSURE UPON WHICH THIS PLAT IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 29,091', AND WAS ADJUSTED USING THE LEAST SQUARES METHOD. A TRIMBLE S-6 TOTAL STATION AND TRIMBLE TSC-3 DATA COLLECTOR WERE USED TO COLLECT THIS FIELD DATA.

THIS PLAT HAS BEEN CALCULATED FOR CLOSURE AND WAS FOUND TO BE ACCURATE WITHIN ONE FOOT IN 222,068 FEET. JTN INIT.

IF YOU DIG

811 Know what's **below.** **Call** before you dig.
Dial 811
Or Call 800-282-7411

TITLE EXCEPTIONS

THE FOLLOWING EXCEPTIONS ARE LISTED IN SCHEDULE B, SECTION 2, OF A COMMITMENT FOR TITLE INSURANCE, AS PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, COMMITMENT NO. 2106756A, EFFECTIVE DATE MARCH 26, 2021.

13. Easement from T. F. Holt to Georgia Power Company date May 28, 1935, filed June 26, 1935, and recorded in Deed Book 414, Page 415, DeKalb County, Georgia records.
MAY AFFECT SITE – VAGUE DESCRIPTION OF BLANKET EASEMENT – NOT PLOTTABLE
14. Easements contained in, and property conveyed by, that certain Right of Way Deed from T. F. Holt to the State Highway Board of Georgia, dated January 9, 1937, filed February 13, 1937, and recorded in Deed Book 447, Page 211, aforesaid records.
AFFECTS SITE – BLANKET EASEMENT FOR DRAINAGE, CUTS, & FILLS – NOT PLOTTABLE
15. Easement from C.W. Cunningham to Georgia Power Company dated September 9, 1942, filed December 28, 1942, and recorded in Deed Book 576, Page 6, aforesaid records
MAY AFFECT SITE – VAGUE DESCRIPTION OF BLANKET EASEMENT – NOT PLOTTABLE
16. Sanitary Sewer Easement from John F. Cunningham to DeKalb County, Georgia, dated May 3, 1949, filed January 26, 1950, and recorded in Deed Book 791, Page 486, aforesaid records.
AFFECTS SITE AS SHOWN
17. Sanitary Sewer Easement from T.S. Holt to DeKalb County, Georgia, dated January XX, 1950, filed January 26, 1950, and recorded in Deed Book 791, Page 491, aforesaid records.
AFFECTS SITE AS SHOWN
18. Easement from T.S. Holt to Georgia Power Company dated August 5, 1950, filed August 29, 1950, and recorded in Deed Book 831, Page 420(b) aforesaid records.
AFFECTS SITE – BLANKET EASEMENT – NOT PLOTTABLE
19. Permit to Cut or Trim Trees from T.S. Holt to Georgia Power Company dated December 13, 1955, filed January 9, 1956, and recorded in Deed Book 1711, Page 25, aforesaid records.
MAY AFFECT SITE – LOCATION OF TREES TO BE TRIMMED NOT SPECIFIED IN DOCUMENT
20. Permit for Anchors, Guy Poles and Wires from T.S. Holt to Georgia Power Company dated December 12, 1955, filed January 9, 1956, and recorded in Deed Book 1171, Page 26, aforesaid records.
MAY AFFECT SITE – LOCATION OF ANCHOR AND GUY POLE NOT SPECIFIED IN DOCUMENT
21. Right of Way Deed from Julian Burns to DeKalb County, Georgia, dated June 19, 1972, filed July 13, 1972, and recorded in Deed Book 2847, Page 497, aforesaid records.
AFFECTS SITE – BLANKET EASEMENT FOR DRAINAGE, CONSTRUCTION, & MAINTENANCE – NOT PLOTTABLE
22. Right of Way Deed from The Citizens and Southern National Bank and Jeanne Newton McCord, as Co-Executors under the Will of Thomas A. McCord, and Julian Burns to DeKalb County, Georgia, dated June 12, 1972, filed July 13, 1972, and recorded in Deed Book 2847, Page 498, aforesaid records.
AFFECTS SITE – BLANKET EASEMENT FOR DRAINAGE, CONSTRUCTION, & MAINTENANCE – NOT PLOTTABLE
23. Boundary Line Agreement between Mrs. Jeanne Newton McCord and the Citizens and Southern National Bank, Executors under the Last Will and Testament of Thomas A. McCord, & Julian Burns and Peoples Financial Corporation dated June 3, 1972, filed June 12, 1972, and recorded in Deed Book 2830, Page 571, aforesaid records.
DOES NOT AFFECT SITE – LOCATION OF BOUNDARY LINE AGREEMENT SHOWN
24. Boundary Line Agreement between Mrs. Jeanne Newton McCord and the Citizens and Southern National Bank, Executors under the Last Will and Testament of Thomas A. McCord, & Julian Burns and Dorothy V. Weber dated May 20, 1972, filed June 12, 1972, and recorded in Deed Book 2830, Page 577, aforesaid records
DOES NOT AFFECT SITE – LOCATION OF BOUNDARY LINE AGREEMENT SHOWN

PROPERTY DESCRIPTION

All that tract or parcel of land lying or being in Land Lot 214, 18th District, City of Tucker, DeKalb County, Georgia, and being more particularly described as follows:

Beginning at a 5/8 inch rebar set at the intersection of the Southwesterly right-of-way of Hugh Howell Road (Georgia Highway 236) (variable right-of-way) with the Westerly right-of-way of Rosser Terrace (50 foot right-of-way); thence along said right-of-way of Rosser Terrace South 30 degrees 33 minutes 38 seconds West, a distance of 17.64 feet to a point; thence along a curve to the left, said curve having an arc length of 54.66 feet with a radius of 120.00 feet, being subtended by a chord bearing of South 17 degrees 30 minutes 38 seconds West, a distance of 54.19 feet to a point; thence South 04 degrees 27 minutes 37 seconds West, a distance of 213.15 feet to a 5/8 inch rebar set; thence leaving said right-of-way North 89 degrees 27 minutes 30 seconds West, a distance of 241.39 feet to a 1/2 inch open top pipe found; thence North 00 degrees 36 minutes 23 seconds West, a distance of 5.48 feet to a 1-1/2 inch open top pipe found; thence North 00 degrees 31 minutes 58 seconds East, a distance of 59.85 feet to a 1/2 inch rebar found; thence North 00 degrees 10 minutes 00 seconds West, a distance of 59.80 feet to a 1/2 inch open top pipe found; thence North 00 degrees 46 minutes 17 seconds East, a distance of 119.69 feet to a 1/2 inch open top pipe found; thence North 01 degrees 52 minutes 22 seconds East, a distance of 92.47 feet to a 1 inch rod found; thence North 88 degrees 17 minutes 30 seconds East, a distance of 93.70 feet to a nail set; thence North 58 degrees 02 minutes 00 seconds East, a distance of 95.80 feet to a 5/8 inch rebar set on the Southwesterly right-of-way of Hugh Howell Road; thence along said right-of-way South 42 degrees 16 minutes 46 seconds East, a distance of 153.61 feet to a 5/8 inch rebar set, said point being the True Point of Beginning.

Said tract of land contains 2.049 Acres.

SURVEYOR CERTIFICATION (ALTA/NSPS)

To: Chick-fil-A, Inc.
Fidelity National Title Insurance Company

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 5, 6(a), 6(b), 7(a), 7(b-1), 8, 9, 11, 13, 16, 17, & 19 of Table A thereof. The field work was completed on April 26, 2021.

Date: April 26, 2021

John T. Newman
Georgia Professional Land Surveyor # 3324

GEORGIA REGISTERED PROFESSIONAL NO. 3324 LAND SURVEYOR JOHN T. NEWMAN

SURVEYOR CERTIFICATION (GEORGIA)

This plat is a retracement of an existing parcel or parcels of land and does not subdivide or create a new parcel or make any changes to any real property boundaries. The recording information of the documents, maps, plats, or other instruments which created the parcel or parcels are stated hereon. RECORDATION OF THIS PLAT DOES NOT IMPLY APPROVAL OF ANY LOCAL JURISDICTION. AVAILABILITY OF PERMITS, COMPLIANCE WITH LOCAL REGULATIONS OR REQUIREMENTS, OR SUITABILITY FOR ANY USE OR PURPOSE OF THE LAND. Furthermore, the undersigned land surveyor certifies that this plat complies with the minimum technical standards for property surveys in Georgia as set forth in the rules and regulations of the Georgia Board of Registration for Professional Engineers and Land Surveyors and as set forth in O.C.G.A. Section 15-6-67.

John T. Newman
Georgia Professional Land Surveyor # 3324

VICINITY MAP

SITE LOCATION – LATITUDE: 33° 51' 00" LONGITUDE: 84° 12' 26"

GENERAL NOTES

THIS SURVEY HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF THE PERSON OR ENTITIES NAMED HEREON. NO EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE INFORMATION SHOWN HEREON IS TO BE EXTENDED TO ANY PERSONS OR ENTITIES OTHER THAN THOSE SHOWN HEREON.

REVISIONS LISTED ON THIS SURVEY APPLY ONLY TO THE SPECIFIC CHANGES REFERENCED, AND DO NOT CONSTITUTE AN UPDATE OF OTHER DATA ON THIS SURVEY. THE "SURVEY DATE" SHOWN HEREON IS THE APPLICABLE DATE AS RELATED TO PROVISIONS OF STATUTES OF LIMITATION UNLESS SPECIFICALLY NOTED OTHERWISE.

THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA BASED ON THE FLOOD INSURANCE RATE MAP FOR THIS AREA. THE MAP NUMBER FOR THIS AREA IS 13089C0077L, AND THE DATE OF SAID MAP IS AUGUST 15, 2019. THIS DETERMINATION WAS MADE BY GRAPHICALLY DETERMINING THE POSITION OF THIS SITE ON SAID FIRM MAPS UNLESS OTHERWISE NOTED.

PLEASE NOTE: TREES 4-INCH DBH (DIAMETER AT BREAST HEIGHT) AND LARGER WERE LOCATED FOR THIS SURVEY.

RIGHT-OF-WAY LINES SHOWN ON THIS SURVEY THAT ARE NOT ACTUAL BOUNDARIES OF THE SUBJECT TRACT(S) ARE DEPICTED GRAPHICALLY AND ARE SHOWN APPROXIMATELY FOR INFORMATIONAL PURPOSES ONLY. SAID RIGHT-OF-WAY LINES SHOULD NOT BE UTILIZED FOR DESIGN PURPOSES.

THE DATUM FOR THIS SITE WAS ESTABLISHED UTILIZING GLOBAL POSITIONING SYSTEMS, AND BASED ON POSITIONAL VALUES FOR THE VIRTUAL REFERENCE STATION NETWORK DEVELOPED BY eGPS SOLUTIONS. THE HORIZONTAL REFERENCE FRAME IS NORTH AMERICAN DATUM OF 1983(2011)–STATE PLANE COORDINATE SYSTEM OF GEORGIA–WEST ZONE. THE VERTICAL REFERENCE FRAME IS NORTH AMERICAN VERTICAL DATUM OF 1988. ANY DIRECTIONS OR DIMENSIONS SHOWN ARE A RECTANGULAR, GROUND LEVEL PROJECTION OF THE STATE PLANE COORDINATE SYSTEM.

NO ZONING REPORT OR ZONING LETTER WAS PROVIDED TO THE SURVEYOR. THE SITE IS ZONED "OT-2" (DOWNTOWN CORRIDOR DISTRICT) AS SHOWN ON THE ZONING MAP OF THE CITY OF TUCKER. PLEASE NOTE: ZONING AND SETBACKS SHOULD BE CONFIRMED AND VERIFIED BY PLANNING AND ZONING PRIOR TO DESIGN OR CONSTRUCTION ACTIVITIES.

NO EVIDENCE OF THE SITE BEING USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL WAS OBSERVED DURING THE TIME FIELD WORK WAS PERFORMED ON THE SUBJECT PARCEL.

ALL MATTERS SHOWN ON RECORDED PLATS PROVIDED TO THE SURVEYOR ARE SHOWN ON THE SURVEY.

AT THE DATE OF THIS SURVEY, THE SUBJECT PROPERTY HAD ACCESS TO AND FROM A DULY DEDICATED PUBLIC RIGHT-OF-WAY, HUGH HOWELL ROAD AND ROSSER TERRACE. THE SURVEYOR MAKES NO CERTIFICATION AS TO WHETHER OR NOT THESE ACCESS POINTS HAVE BEEN APPROVED OR PERMITTED BY JURISDICTIONAL AUTHORITIES.

THE SUBJECT PROPERTY IS CONTIGUOUS WITH ADJACENT RIGHT-OF-WAYS WITHOUT GAPS, GORES, OR OVERLAPS.

ENCROACHMENTS:
SEVERAL FENCES MEANDER ACROSS THE SUBJECT PROPERTY LINE AS SHOWN. PARKING LOT IMPROVEMENTS OF THE NORTHERN ADJOINER ARE LOCATED ON THE SUBJECT PROPERTY AS SHOWN. THE SURVEYOR MAKES NO CERTIFICATION AS TO WHETHER OR NOT THESE FENCES AND IMPROVEMENTS HAVE BEEN PERMITTED OR ALLOWED BY CURRENT OR PREVIOUS PROPERTY OWNERS. NO OTHER VISIBLE ABOVE-GROUND ENCROACHMENTS WERE OBSERVED AT THE DATE OF SURVEY.

ALTA CERTIFICATION TABLE "A" NOTES:
Item 16 *– No evidence of current earth moving work, building construction or building additions was observed at the date of survey.*
Item 17 *– No evidence was observed indicating changes in street right of way lines either completed or proposed.*

GeoSurvey
Land Surveying • 3D Laser Scanning
1660 Barnes Mill Road
Marietta, Georgia 30062
Phone: (770) 795-9900
Fax: (770) 795-8880
www.geosurvey.com
EMAIL: info@geosurvey.com
Certificate of Authorization #LSF-000621

ALTA/NSPS LAND TITLE SURVEY

4435 Hugh Howell Road

FOR

Chick-fil-A, Inc.

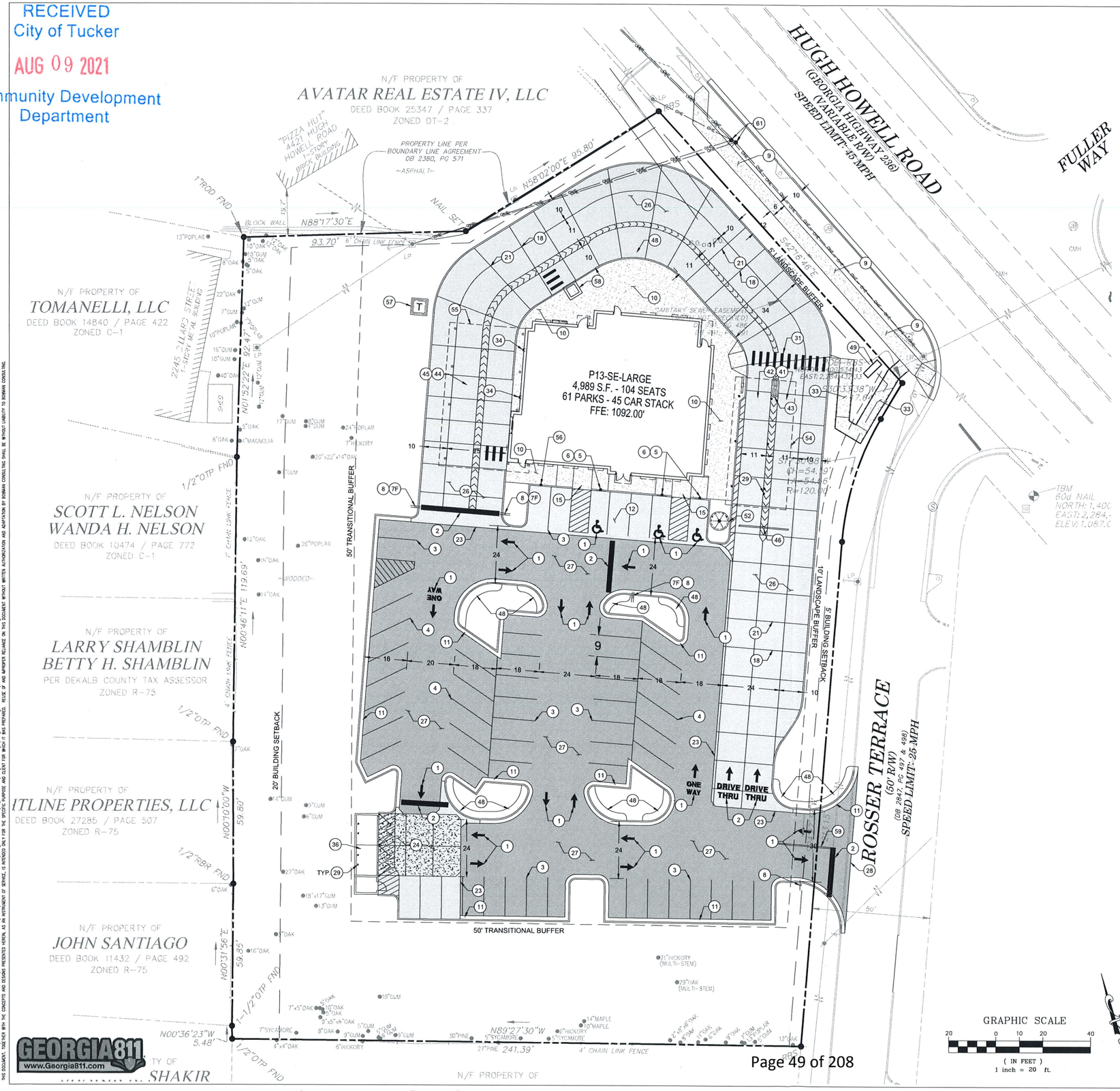
Fidelity National Title Insurance Company

GS JOB NO:	20216960	DRAWING SCALE:	1"= 30'
FIELD WORK:	SA	CITY:	TUCKER
PROJ MGR:	JTN	COUNTY:	DEKALB STATE: GA
REVIEWED:	DLH	LAND LOT:	214
DWG FILE:	20216960-01.dwg	DISTRICT:	18TH

SURVEY DATE: 04-26-2021

REVISIONS (SEE GENERAL NOTES)

No.	Date	Description



SITE SUMMARY

ZONING	DT-2 (DOWNTOWN CORRIDOR) 4435 HUGH HOWELL RD, TUCKER, GA
PROJECT AREA	89,220 - 2.05 AC (100%)
TOTAL IMPERVIOUS AREA PAVING / SIDEWALK AREA BUILDING AREA	50,442 - 0.998 AC (56.54%) 45,453 SF - 1.04 AC (50.95%) 4,989 SF - 0.115 AC (5.59%)
TOTAL PERVIOUS AREA (GREEN SPACE)	38,778 SF - 0.89 AC (43.46%)
BUILDING	P13-SE-LARGE
SIZE	4,989
PARKING	
MINIMUM REQUIRED	1 PER 150 SF = 33
MAXIMUM REQUIRED	1 PER 75 SF = 66
PROPOSED REG SPACES	59
HANDICAP SPACES	3
STALL SIZE	9' x 18'
TOTAL SPACES	62

SITE PLAN DESIGN NOTES

1. PAVEMENT MARKINGS (ACCESSIBILITY SYMBOL & DIRECTIONAL ARROWS) (1 C-4.0)
2. PAVEMENT MARKINGS (DRIVE-THRU & STOP BAR) (2 C-4.0)
3. 90° PARKING STRIPING (3 C-4.0)
4. 60° PARKING STRIPING (4 C-4.0)
5. BOLLARD MOUNTED SIGN (5 C-4.0)
6. ACCESSIBILITY PARKING SIGN (6 C-4.0)
7. DIRECTIONAL SIGNAGE (REFER TO SIGN PACKAGE FOR MORE DETAILS) (7 C-4.0)
   - 7A. CIRCLE BUILDING FOR DRIVE-THRU (NOT USED)
   - 7B. LEFT TURN ONLY (NOT USED)
   - 7C. RIGHT TURN ONLY (NOT USED)
   - 7D. PEDESTRIAN CROSSWALK (NOT USED)
   - 7E. ONE WAY (NOT USED)
   - 7F. DO NOT ENTER
   - 7G. CURBSIDE DELIVERY
   - 7H. LANES MERGE (NOT USED)
8. STOP SIGN (R1-1 36"X36") (8 C-4.0)
9. CONCRETE SIDEWALK (9 C-4.1)
10. SIDEWALK WITH CURB & GUTTER (10 C-4.1)
11. CONCRETE CURB & GUTTER (11 C-4.1)
12. CONCRETE PAVEMENT (12 C-4.1)
13. CURB RAMP WITH SHORT FLARED SIDES (NOT USED) (13 C-4.1)
14. CURB RAMP WITH FLARED SIDES (NOT USED) (14 C-4.1)
15. SIDEWALK ACCESSIBLE RAMP (15 C-4.1)
16. DETECTABLE WARNING DEVICE (NOT USED) (16 C-4.1)
17. RETURNED CURB ACCESSIBLE RAMP (NOT USED) (17 C-4.1)
18. EXPANSION JOINT (18 C-4.1)
19. TRANSVERSE & LONGITUDINAL DOWELED CONSTRUCTION JOINT (19 C-4.1)
20. KEYED CONSTRUCTION JOINT (20 C-4.1)
21. CONTRACTION JOINT (21 C-4.1)
22. TRANSVERSE & LONGITUDINAL CONTRACTION JOINT (22 C-4.1)
23. PAVEMENT EDGE DETAIL (23 C-4.1)
24. CONCRETE APRON AT REFUSE ENCLOSURE (24 C-4.1)
25. LONGITUDINAL BUTT JOINT (NOT USED) (25 C-4.1)
26. ~~CONCRETE PAVEMENT DRIVE-THRU LANE~~ (26 C-4.2)
27. TYPICAL HMAC PAVEMENT SECTION (27 C-4.2)
28. BUTT JOINT (28 C-4.2)
29. CONCRETE BOLLARD (29 C-4.2)
30. MULTI-LANE DIRECTIONAL GRAPHICS (NOT USED) (30 C-4.2)
31. CROSSWALK MARKINGS (31 C-4.2)
32. ALUMINUM HANDRAIL (NOT USED) (32 C-4.2)
33. TYPICAL ADA RAMP & HANDRAIL (33 C-4.2)
34. BUILDING DOWNSPOUT CONNECTION (34 C-4.2)
35. CLEAN-OUT OUTSIDE OF BUILDING (35 C-4.2)
36. TYPICAL SECTION AT BASINS (36 C-4.2)
37. ENTRY DOOR FROST SLAB (NOT USED) (37 C-4.3)
38. SCREENED REFUSE ENCLOSURE (NOT USED) (38 C-4.3)
39. SCREENED REFUSE ENCLOSURE (ALT) (WITHOUT ROOF) (39 C-4.3)
40. SCREENED REFUSE ENCLOSURE (DRAINAGE ALT) (NOT USED) (40 C-4.3)
41. MENU BOARD LOOP DETECTION SYSTEM (41 C-4.3)
42. MENU BOARD LOOP DETECTION SYSTEM (ISO) (42 C-4.3)
43. DRIVE-THRU ORDER POINT ISLAND (43 C-4.3)
44. DRIVE-THRU LANDING(PLAN) (44 C-4.3)
45. DRIVE-THRU LANDING (ISO) (45 C-4.3)
46. DRIVE-THRU CLEARANCE BAR (46 C-4.3)
47. ROLLOVER/MOUNTABLE CURB (NOT USED) (47 C-4.3)
48. LANDSCAPE & IRRIGATION PROTECTOR (48 C-4.3)
49. CHICK-FIL-A SIGN (REFER TO SIGN PACKAGE)
50. CHICK-FIL-A 'ENTER' SIGN (REFER TO SIGN PACKAGE)
51. CHICK-FIL-A 'EXIT' SIGN (REFER TO SIGN PACKAGE)
52. 50' FLAG POLE (REFER TO SIGN PACKAGE)
53. LIGHT POLE AND BASE (REFER TO PHOTOMETRICS PLAN)
54. F2F ORDERING CANOPY (REFER TO ARCH)
55. OUTSIDE MEAL DELIVERY CANOPY (REFER TO ARCH)
56. BOLLARD FOR FUTURE CURB SIDE MEAL DELIVERY SIGN
57. TRANSFORMER PAD
58. CASH BOX
59. 4" YELLOW DOUBLE LINE
60. 4" WHITE LINE
61. RELOCATED POWER POLES & OVERHEAD LINES

- BITUMASTIC EXPANSION JOINT, TYP. INSTALL EXPANSION JOINT BETWEEN ALL CONCRETE PAVEMENT INTERFACE WITH BUILDING, CURB & GUTTER, AND OTHER CONSTRAINED OBJECTS, TYP.
- SITE CONTRACTOR SHALL REFER TO ARCHITECT PLANS FOR THE EXACT DIMENSIONS OF THE BUILDING AND THE LOCATION OF DOORWAYS, UTILITIES, ETC.
- GATES TO BE INSTALLED BY BUILDING CONTRACTOR WITH DUMPSTER STRUCTURE COORDINATE WITH PAVEMENT INSTALLATION.
- SAWCUT EXISTING CURB & GUTTER AS NECESSARY TO COMPLETE NEW CURB & GUTTER CONNECTION. PROVIDE EXPANSION JOINT BETWEEN INTERFACE.
- THE CONTRACTOR SHALL INSTALL NECESSARY TRAFFIC CONTROL, SAFETY BARRICADES, LIGHTING, AND OTHER REQUIRED CONTROL MEASURES TO SECURE THE WORK AREA FROM EXISTING TRAFFIC AND TO ENSURE PUBLIC SAFETY.

Chick-fil-A
5200 BUFFINGTON RD
Atlanta, Georgia 30349-2998

Bowman
Certificate of Authorization License No. PEF.005755
950 North Glebe Road, Suite 200
Alpharetta, GA 30005
Phone: (678) 374-6687
www.BowmanConsulting.com
© Bowman Consulting Group, Ltd

CHICK-FIL-A
RELO TUCKER STATION FSU
4435 HUGH HOWELL ROAD
TUCKER, GA 30084

FSU#04959

BUILDING TYPE / SIZE: P13-SE-LRG

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT #	120005-01-049
PRINTED FOR	PCR
DATE	August 6, 2021
DRAWN BY	BCG

SHEET

SITE PLAN

SHEET NUMBER

C-2.0

SLUP-21-0004, CV-21-0002, CV-21-0003, CV-21-0004

EXTERIOR FINISHES

BR-A
BRICK VENEER
COLOR: DARK BROWN
SIZE: MODULAR

EC-1
PREFINISHED METAL COPING
COLOR: DARK BRONZE

BR-B
BRICK VENEER
COLOR: LIGHT BROWN
SIZE: MODULAR

PT-113
EXTERIOR PAINT
COLOR: DARK BRONZE
FINISH: SEMI-GLOSS

ST-1
STOREFRONT
COLOR: DARK BRONZE

PERSPECTIVE VIEW - FRONT RIGHT

PERSPECTIVE VIEW - REAR LEFT

PERSPECTIVE VIEW - REAR RIGHT

PERSPECTIVE VIEW - FRONT LEFT

ATTACHED CANOPY SCHEDULE

Mark	Description	Count	Overall Width	Overall Depth	Tie Back Mounting (Offset From Top)	Integral Lighting
C1-C	Exterior Canopy	9	6'-4"	1'-0"	0"	No
C1-D	Exterior Canopy	1	8'-4"	1'-0"	0"	No
C4-B	Exterior Canopy	1	5'-4"	4'-0"	2'-4"	Yes
C4-G	Exterior Canopy	1	7'-0"	4'-0"	2'-4"	Yes
C5-A	Exterior Canopy	1	10'-0"	5'-0"	2'-4"	Yes
Grand total		13				

HUGH HOWELL ROAD (NORTH)

EXTERIOR ELEVATION
1" = 10'-0"

WEST

EXTERIOR ELEVATION
1" = 10'-0"

SOUTH

EXTERIOR ELEVATION
1" = 10'-0"

ROSSER TERRACE (EAST)

EXTERIOR ELEVATION
1" = 10'-0"

TOTAL AREA TO ROOF = 1145 SF 100%
GLAZING = 379 SF 33%
BRICK = 766 SF 67%

TOTAL AREA = 1381 SF 100%
GLAZING = 379 SF 27%
BRICK = 1002 SF 73%

OP CANOPY FINISHES

CP-1
PREFINISHED METAL
COLOR: DARK BRONZE

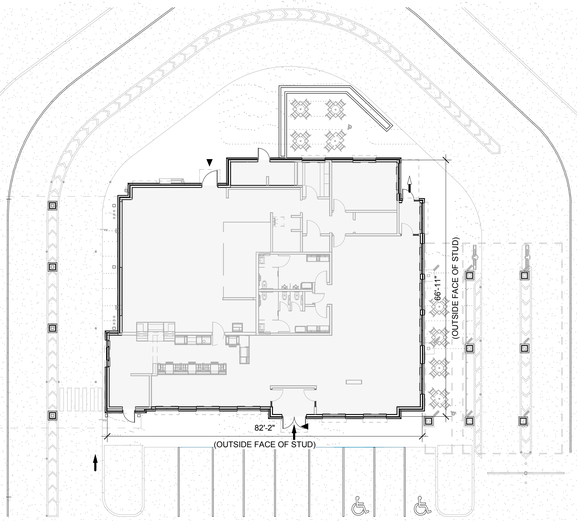
CP-2
METAL DECKING
COLOR: WHITE

BUILDING NOT SHOWN FOR CLARITY

PERSPECTIVE VIEW

PATIO SEATING SCHEDULE

Mark	Type	Count	Manufacturer	Model	Width	Depth	Height	Material	Finish
1	Patio Chair	32	Benchmark Design Group	BAJA SIDE STACK (2012)					
2	Patio Table - 4 Top	6	Benchmark Design Group	TAB3055-3636-AAL-WJ-UH-BDT	3'-0"	3'-0"	2'-5 1/4"	Aluminim - Dark Bronze	RAL 49/66220 (C34 Bronze One Coat)
3	Patio Table - 4 Top - ADA	2	Benchmark Design Group	TAB3055-3644-AAL-WJ-UH-BDT	3'-8"	3'-0"	2'-5 1/4"	Aluminim - Dark Bronze	RAL 49/66220 (C34 Bronze One Coat)
5	Patio Umbrella	4	Tuuci	OCEAN MASTER PARASOL					



SITE PLAN
1/16" = 1'-0"

SE - LRG

CANOPY AREA
1403 SF

BUILDING FOOTPRINT (OUTSIDE FACE OF STUD)
5046 SF

PROJECT DATA

Exterior Finish Type: (Acceptable Values: TOWER,BRICK; TOWER STUCCO; TOWER BOARD; ARMY BRICK, ARMY STUCCO)	TOWER BRICK	Playground (Acceptable Values: YES, NO)	NO
Wall Framing Type: (Acceptable Values: WOOD STUD; WOOD STUD - PREFAB; METAL STUD; METAL STUD - PREFAB; STEEL FRAME; CMU; SOLID METAL MODULAR; ...)	WOOD STUD	Landscaping Type (Acceptable Values: STANDARD)	STANDARD
Kitchen Type: (Acceptable Values: CENTERLINE)	CENTERLINE	LEED Rating (Acceptable Values: NOT CERTIFIED; CERTIFIED; SILVER; GOLD; PLATINUM)	NOT CERTIFIED
Water Filtration Type: (Acceptable Values: TYPE A, TYPE A+B, TYPE A+C, TYPE A+B+C, ETC)	TYPE A	Drive Thru Stack Count: (Acceptable Values: (Digits))	45
Drive-Thru: (Acceptable Values: YES, NO)	YES	Drive Thru Bypass Lane: (Acceptable Values: YES, NO)	YES
Industrialized Construction: (Acceptable Values: YES, NO)	YES	Drive Thru Number of Fulfillment Lanes: (Acceptable Values: (Digits))	2
Number of Parking Spaces: (Acceptable Values: (Digits))	59	Drive Thru Number of Pickup Lanes: (Acceptable Values: (Digits))	2
Number of Accessible Parking Spaces: (Acceptable Values: (Digits))	3	Drive Thru Number of Order Point Pylons: (Acceptable Values: (Digits))	2
Cross Parking: (Acceptable Values: YES, NO)	YES	Drive Thru Number of Pickup Windows: (Acceptable Values: (Digits))	1
Menu Board - Interior: (Acceptable Values: YES, NO)	YES	Drive Thru Door: (Acceptable Values: YES, NO)	YES
Menu Board - Interior - Count: (Acceptable Values: (Digits))	5	Square Footage: (Acceptable Values: (Digits))	4998
Menu Board - Interior - Type: (Acceptable Values: DIGITAL, STATIC, OTHER)	DIGITAL	Seat Count - Interior: (Acceptable Values: (Digits))	104
Menu Board - Walk-up: (Acceptable Values: YES, NO)	NO	Seat Count - Exterior: (Acceptable Values: (Digits))	0
Menu Board - Walk-up - Count: (Acceptable Values: (Digits))	N/A	Canopy Type - Order Point: (Acceptable Values: DOUBLE, SINGLE)	DOUBLE
Menu Board - Walk-up - Type: (Acceptable Values: DIGITAL, STATIC, OTHER)	N/A	Canopy Type - Meal Delivery:	DOUBLE
Menu Board - Order Point: (Acceptable Values: YES, NO)	YES	Number of Registers: (Acceptable Values: (Digits))	7
Menu Board - Order Point - Count: (Acceptable Values: (Digits))	4		
Menu Board - Order Point - Type: (Acceptable Values: DIGITAL, STATIC, OTHER)	DIGITAL		

PROJECT NOTES

*Record any personal notes with text, views, or schedules.

DESIGN APPROVAL

SUP SD DD CD

NOT APPROVED - REVISE AND RESUBMIT
APPROVED AS NOTED - REVISE AND RESUBMIT
APPROVED FOR DESIGN INTENT

INITIAL: DATE:

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

PROTOTYPICAL SET

NOT FOR REGULATORY APPROVAL, BIDDING, OR CONSTRUCTION

CHICK-FIL-A TUCKER STATION

4431 HUGH HOWELL ROAD
TUCKER, GA 30084

FSR#04959

BUILDING TYPE / SIZE: P13 SE
RELEASE: 21.02

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # ####
PRINTED FOR PROJECT STATUS
DATE MM/DD/YY
DRAWN BY Author

SHEET
DESIGN DEVELOPMENT

SHEET NUMBER
X-900

Bowman

August 5, 2021

City of Tucker
Planning and Zoning Department
1975 Lakeside Parkway, Suite 350
Tucker, GA 30084

Re: Environmental Site Analysis Plan

1. Conformance with the Comprehensive Plan

Proposed Project
Chick-fil-A is proposing a 4,989+/- SF restaurant with a drive-through, associated parking, drives, and utilities on a ± 2.05-acre site at the southwest corner of Hugh Howell Road and Rosser Terrace. The site is in the City of Tucker with the address of 4435 Hugh Howell Road (Parcel ID 18 214 04 086). The site is currently developed with a vacant building and associated paving, parking, and landscaping.

Nearby/Surrounding Land Analysis

Adjacent Properties	Zoning	Overlay District	Existing Land Use
North	DT-2		Restaurant
South	R-75		Residential 1 family
West	C-1, R-75		Office Building – Low Rise
East (across Hugh Howell Road)	DT-2		Community Shopping Center

Conformity to Plan
Future Land Use for the site is designated as "Downtown". City of Tucker adopted a Downtown Master Plan in December 2020 to have a blueprint for growth and redevelopment of Tucker's downtown for the next 20 years. Future land use in the Downtown District is intended to include a mix of retail and office uses. Its goal is to improve walkability and neighborhood connections. The development of Chick-fil-A will provide two areas of patio seating steps from sidewalk access to Hugh Howell Road and Rosser Terrace. Additionally, Chick-fil-A will provide streetscape enhancements for Hugh Howell Road with sidewalks and landscaping. Finally, this development supports the goal of bolstering economic base, as it repurposes a vacant commercial development, has a strong history of economic success, and a reputation and track record of investment in the community and its residents.

2. Environmental Impacts of the Proposed Project

Wetlands
There are no wetlands or riparian zones located on or near the site.

Floodplains
This is site is not located in a floodplain. The site is in Zone X, according to Map 13089C0077L eff. 8/15/2019.
Streams/stream buffers
There are no streams or stream buffers on this site.

950 North Point Parkway, Suite 200, Alpharetta, GA 30005
bowmanconsulting.com

Slopes exceeding 25 percent over a 10-foot rise in elevation
This site does not have slopes exceeding 25 percent over a 10-foot rise in elevation.

Vegetation
The site is consistent with other commercial locations on the street. Once developed, the site will be compliant with landscaping and planting requirements.

Wildlife Species (including fish)
There is no pond or lake located on site. There is no wildlife on site, as the site was previously developed.

Archeological/Historical Sites
This site is not located on an archeological or historic site.

3. Project Implementation Measures

a. This development is not located in an environmentally sensitive area.

b. Although, this development is not located in a region with poor water quality, stormwater runoff will be treated prior to release into the municipal stormwater system.

c. This site is previously developed, and development will not have any negative impacts on existing infrastructure.

d. This development is not located on an archeological or historic site.

e. This development is not located in an environmentally stressed community.

f. This development will meet or exceed all green space and open space requirements.

g. Chick-fil-A will operate from 6AM-10PM Monday-Saturday and will be closed on Sunday. Site is previously developed so no additional noise or lighting is anticipated.

h. This development is not located within a park or recreational green space.

i. This development is not located in a wildlife habitat.

Sincerely,

Bridgette Ganter
Bridgette Ganter
bganter@bowmanconsulting.com
678-606-5278
Bowman

TRAFFIC IMPACT STUDY

Chick-fil-A # 04959 Tucker
4431 Hugh Howell Rd,
Tucker, Georgia

June 25, 2021

Prepared for:
Chick-fil-A, Inc.

Bowman

Traffic Impact Study

Chick-fil-A # 04959 Tucker

4431 Hugh Howell Rd,
Tucker, Georgia

Prepared June 25, 2021

Prepared for:
Chick-fil-A, Inc.
5200 Buffington Road
Atlanta, GA 30349
Phone: 404.214.9934

Prepared by:

Bowman Consulting Group
Certificate of Authorization License No. 30462
4450 W. Eau Gallie Blvd., Suite 144
Melbourne, FL 32934
Phone: (321) 255-5434
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Analysts: Daniela Jurado
Rodrigo Meirelles

Project Manager: Andrew Petersen, PE

06/25/2021
Bowman Job # 120005-01-049

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Appendices

Executive Summary

This report summarizes the findings of the Traffic Impact Study performed by Bowman Consulting (BC) for the proposed 4,989 SF Chick-fil-A development with 44 Car Stack Chick-fil-A development to be located at the Southwest corner of the intersection of Hugh Howell Rd and Rosser Terrace in the City of Tucker, Georgia.

Access to the site will be provided by one (1) full-access driveway along Rosser Terrace.

The purpose of this study is threefold: to determine the number of expected trips generated by the proposed site; to determine the potential impact, if any, of the proposed development on the surrounding roadway network; and to propose improvements to mitigate the impact of the proposed development, if required.

A Traffic Impact Analysis Methodology Statement was prepared and shared with representatives from the City of Tucker and the Georgia Department of Transportation.

Turning movement counts were collected for the morning and evening peak hours at the intersections of Hugh Howell Rd & Cowan Rd, Hugh Howell Rd & Rosser Terrace, and Hugh Howell Rd & Tucker Industrial Rd.

Based on the results of the trip generation assessment prepared by Bowman Consulting, the proposed development is expected to generate a total of 261 trips during the morning peak hour and 285 trips during the evening peak hour. It is anticipated that during the morning peak hour 128 of these are existing trips, the remaining 133 are expected to be primary trips. During the evening peak hour, it is anticipated that 143 are existing trips and 142 are new trips.

For the purposes of this analysis, it is anticipated that the proposed development will be constructed and fully operational by the year 2022.

The following scenarios were evaluated as part of this study: 2022 No Build, 2022 Build and 2022 Build with Improvements.

The results of the No Build Vs Build conditions capacity analysis indicate the following:

- <u>During the morning peak hour:</u>
  All intersections are projected to operate at an acceptable overall LOS B or better during the No Build and Build Conditions, with minimal increases in the overall delay.

  The northbound and southbound approaches of the intersections of Hugh Howell Rd with Cowan Rd and with Tucker Industrial Rd are expected to operate at LOS E. The eastbound and westbound left-turning lanes of the intersection with Tucker Industrial Rd are expected to operate at a LOS F during both No Build and Build Conditions; no increases in delays are expected for the above-mentioned failing approaches under Build Conditions. All other approaches are expected to operate at acceptable LOS C or better during both No Build and Build Conditions.

The queue results show 95th% queue lengths are not expected to exceed the available of the turn lanes for the morning peak hour, with a HCM 95% Percentile queue of 1.5 vehicles.

- <u>During the evening peak hour:</u>
  All intersections are projected to operate at an acceptable overall LOS B or better during the No Build and Build Conditions. The intersection of Hugh Howell Rd and Rosser Terrace is expected to experience a 3.7 second increase in the overall delay; minimal increases in the overall delay are expected at all other intersections with the inclusion of the proposed development.

  The northbound and southbound approaches of the intersections of Hugh Howell Rd with Cowan Rd and with Tucker Industrial Rd are expected to operate at LOS E for both No Build and Build Conditions. The eastbound and westbound left-turning movements of the intersection with Tucker Industrial Rd are expected to operate at a LOS F during both No Build and Build Conditions, minimal increases in delays are expected at the above-mentioned turning movements and approaches.

  The northbound approach of the intersection of Hugh Howell Rd and Rosser Terrace is expected to degrade from LOS D to LOS F from No Build to Build conditions, with an increase in delay of 30.7 seconds. All other approaches are expected to operate at acceptable LOS C or better during both No Build and Build Conditions.

  The queue results for the northbound approach of the intersection of Hugh Howell Rd and Rosser Terrace show 95th% queue lengths of approximately 5 vehicles.

- The following improvements are proposed:
  - Intersection of Hugh Howell Rd and Rosser Terrace: provide northbound right-turn lane.

The results of the No Build Vs Build Improved conditions capacity analysis indicate the following:

- The intersection of Hugh Howell Rd and Rosser Terrace is expected to experience acceptable overall LOS A under Build Improved conditions with an increase in the overall delay of 1.7 seconds for the morning peak hour and 2.4 seconds for the evening peak hour.

  For the morning peak hour all approaches are expected to maintain acceptable LOS with minimal increases in the overall delay with the inclusion of the proposed development. During the evening peak hour, the northbound approach of the intersection of Hugh Howell Rd and Rosser Terrace is expected to operate at LOS E under Build with Improvements conditions, with an increase in the delay of 10.6 seconds. These capacity constraints are typical at unsignalized approaches connecting to a major road such as Hugh Howell Rd.

- The 95th% queue results for the morning peak hour show a 3-vehicle queue is expected for the evening peak hour at the northbound approach with the proposed right-turn lane.

Based on the results of the capacity analysis the proposed development is not expected to adversely impact the surrounding roadway network with the inclusion of the proposed improvements.

1. Introduction

This report summarizes the findings of the Traffic Impact Study performed by Bowman Consulting (BC) for the proposed Chick-fil-A development to be located at the Southwest corner of the intersection of Hugh Howell Rd and Rosser Terrace in the City of Tucker, Georgia.

The purpose of this study is threefold: to determine the number of expected trips generated by the proposed site; to determine the potential impact, if any, of the proposed development on the surrounding roadway network; and to propose improvements to mitigate the impact of the proposed development, if required.

2. Background Information

The proposed development entails a 4,989 SF Chick-fil-A development with 44 Car Stack to be constructed at 4431 Hugh Howell Rd, in the City of Tucker, Georgia. **Figure 1** depicts the site location.

Figure 1. Site location.

Access to the development will be provided by one (1) full-access driveway along Rosser Terrace, no access driveways are proposed on Hugh Howell Rd. The latest Concept Plan is presented in **Appendix A**.

Traffic Impact Analysis Methodology

A Traffic Impact Analysis Methodology Statement was prepared and shared with representatives from the City of Tucker and the GDOT DeKalb County Division. A copy of the approved Traffic Impact Analysis Methodology Statement and proof of the coordination is contained in **Appendix B.**

To assess the traffic operation at the study Intersections, the following tasks were undertaken:

- Turning movement counts were collected during an average weekday for the morning (7:00 AM – 9:00 AM) and evening (4:00 PM – 6:00 PM) peak periods.
- Trip generation Assessment for Chick-Fil-a (CFA) facilities.
- Trip Distribution for the proposed development.
- Capacity and queuing analyses at study intersections.

3. Roadway Network

Hugh Howell Rd (GA 236): Within the identified study area is a State-maintained four-lane Minor Arterial according to the Georgia Department of Transportation State Functional Classification Map Online. Hugh Howell Rd has a continuous two-way left-turn lane (TWLTL), a southeast-northwest alignment and a posted speed limit of 45 miles per hour.

Rosser Terrace: Within the identified study area is a city-maintained two-lane undivided roadway identified as a Local road according to the City of Tucker 2019, Strategic Transportation Master Plan. Rosser Terrace has a north-south alignment and a posted speed limit of 25 miles per hour.

Tucker Industrial Rd: Within the identified study area is a city-maintained two-lane undivided roadway identified as a Local Road according to the City of Tucker Strategic 2019, Transportation Master Plan. Tucker Industrial Rd has a north-south alignment with a posted speed limit of 35 miles per hour.

Cowan Rd: Within the identified study area is a city-maintained two-lane undivided roadway identified as a Local Road according to the City of Tucker 2019, Strategic Transportation Master Plan. Cowan Rd has a northeast-southwest alignment with a posted speed limit of 25 miles per hour.

Intersection Characteristics

1. Intersection of Hugh Howell Rd and Cowan Rd/The Centre Driveway

This intersection is currently a four-legged signalized intersection where Hugh Howell Rd has a southeast-northwest alignment and Cowan Rd has a northeast-southwest alignment.

The northwest approach (Hugh Howell Road eastbound) consists of one exclusive left-turn lane, one exclusive through lane, and one shared through/right-turn lane. The southeast approach (Hugh Howell Road westbound) consists of one exclusive left-turn lane, two exclusive

through lanes, and one exclusive right-turn lane. The southwest approach (Cowan Road Northbound) consists of one shared left-turn/through/right-turn lane. The northeast approach (Publix Driveway southbound) consists of one exclusive left-turn lane, and one shared through/right-turn lane.

2. Intersection of Hugh Howell Rd and Rosser Terrace/Fuller Way

This intersection is currently a four-legged unsignalized intersection where Hugh Howell Rd has a southeast-northwest alignment and Rosser Terrace and Fuller way have a north-south alignment.

The northwest approach (Hugh Howell Road eastbound) consists of an exclusive through lane, one shared through/right-turn lane and a continuous TWLTL. The southeast approach (Hugh Howell Road westbound) consists of two exclusive through lanes, one exclusive right-turn lane and a continuous TWLTL. The northbound approach (Rosser Terrace) consists of one shared left-turn/through/right-turn lane. The southbound approach (Fuller Way) consists of one shared left-turn/through/right-turn lane.

3. Intersection of Hugh Howell Rd and Tucker Industrial Rd

This intersection is currently a four-legged signalized intersection where Hugh Howell Rd has an east-west alignment and Tucker Industrial Rd has a north-south alignment.

The eastbound and westbound approaches consist of one exclusive left-turn lane, one exclusive through lane, and one shared through/right-turn lane. The northbound and southbound approaches have one shared left-turn/through/right-turn lane.

Proposed conditions.

As mentioned before, access to the development will be provided by one (1) full-access driveway along Rosser Terrace. No access is proposed on Hugh Howell Road.

4. Data Collection

For the purposes of this study the following data was collected:

- Inspections were conducted to obtain an inventory of existing roadway geometry, traffic control devices, and location of existing and proposed driveways.
- Published GDOT AADT counts and functional classification information.
- Turning movement counts were collected at the following intersections:
  - Hugh Howell Rd and Cowan Rd
  - Hugh Howell Rd and Rosser Terrace
  - Hugh Howell Rd and Tucker Industrial Rd

The traffic counts were completed during an average weekday, Tuesday, June 15, 2021 for the morning (7:00 AM – 9:00 AM) and evening (4:00 PM – 6:00 PM) peak periods. These counts were used to identify peak hours, determine traffic patterns, and evaluate intersection Levels of Service. The turning movement counts are presented in **Appendix C.**

5. Traffic Forecast and Background Traffic

For the purposes of this analysis, it is anticipated that the proposed development will be constructed and fully operational by the year 2022. The following scenarios were evaluated as part of this study:

- Future Conditions (2022) without the proposed development (No Build)
- Future Conditions (2022) with the proposed development (Build)
- Improved Future Conditions (2022) with the proposed development (Build with Improvements)

The 2021 Existing Turning Movement Counts are presented in **Appendix D**, **Exhibit 1**

To develop the 2022 traffic volumes, the first step was to determine a background growth rate applicable for the study area roadway segments. For each roadway segment, the annual growth rate was calculated using the historical AADT information provided by the GDOT Average Annual Daily Traffic & Historical Counts 2015-2019 information. A 0.5% minimum average annual growth rate was used for all traffic in the study area.

The historical study area roadway AADT information, as well as the applied growth rates utilized for the analysis, are presented in **Table 1.**

Table 1 Historical AADT and Annual Growth Rates

Roadway	From	to	2015	2016	2017	2018	2019	2016	2017	2018	2019	Avg Growth rate	Applied Growth rate
Hugh Howell Rd	Lawrenceville Hwy	Mountain Industrial Blvd	21,700	22,400	25,600	25,600	24,400	3.2%	14.3%	0.0%	-4.7%	3.2%	3.2%
Rosser Terrace	N/A	N/A	-	-	-	-	-	-	-	-	-	No Data	0.5%
Tucker Industrial Rd	N/A	N/A	-	-	-	-	-	-	-	-	-	No Data	0.5%
Cowan Rd	N/A	N/A	-	-	-	-	-	-	-	-	-	No Data	0.5%

Source: GDOT Average Annual Daily Traffic & Historical Counts 2015-2019

These growth rates were applied to the 2021 Existing Turning Movement to develop the 2022 No Build Traffic Volumes, depicted on **Exhibit 2** in **Appendix D.**

6. Trip Generation

The applicant is proposing to develop the site with the following land uses generating site traffic:

- 4,989 SF Chick-fil-A Restaurant with drive-thru window (Proposed)

Considering Chick-fil-A fast-food restaurants generate larger number of trips than ITE comparable land uses. BC conducted a Trip Generation Assessment based on trip generation data provided by the Atlanta Department of Transportation for three similar Chick-fil-A facilities. The trip generation assessment is presented **Appendix E**.

Table 2 displays the trip generation for the proposed development and includes the morning and evening peak hour.

Table 2 Site Trip Generation

Land Use	Land Use Code[1]	AADT of Adjacent Street	Daily Trips	Period	Peak Hour Trips[2]			Pass by[3]			Primary		
					In	Out	Total	In	Out	Total	In	Out	Total
Fast Food restaurant with Drive thru	934	24,400	1,893	AM	133	128	261	65	63	128	68	65	133
				PM	148	137	285	74	69	143	74	68	142

(1) Based on the Institute of Transportation Engineers Trip Generation, 10th Edition

(2) Based on BC 2021 Trip Generation Assessment for Chick-Fil-A facilities

(3) Pass-By rates of 49% were extracted from the Institute of Transportation Engineers Trip Generation Handbook, 3rd Edition

The proposed development is expected to generate a total of 261 trips during the morning peak hour and 285 trips during the evening peak hour. It is anticipated that during the morning peak hour 128 of these are existing trips, the remaining 133 are expected to be primary trips. During the evening peak hour, it is anticipated that 143 are existing trips and 142 are new trips.

7. Trip Distribution

The proposed trip distribution for the site was developed based on the AADT information of the surrounding roadway network. The trip distribution for this site is presented in **Figure 2**.

Figure 2. Trip Distribution

The Primary and Pass-By trip distribution are presented in **Exhibits 3** and **4** in **Appendix D**.

The Primary and Pass-By trips are presented in **Exhibits 5** and **6** in **Appendix D**.

The CFA Site Trips are presented in **Exhibits 7** in **Appendix D**.

The CFA Site Trips were added to the 2022 No Build Traffic Volumes to yield the 2022 Build Traffic Volumes presented in **Exhibit 8** in **Appendix D**.

8. Capacity Analysis

The study intersections were analyzed for each scenario following the Highway Capacity Manual (HCM 6th edition) methodologies using the computer software Synchro 10. The analysis uses capacity, Level of Service, and control delay as the criteria for the performance of the driveways.

Capacity, as defined by the HCM, is a measure of the maximum number of vehicles in an hour that can travel through an intersection or section of roadway under typical conditions. Level of Service (LOS) is a marker of the driving conditions and perception of drivers while traveling during the given time period. LOS ranges from LOS A which represents free flow conditions, to LOS F which represents breakdown conditions. **Table 3** shows the LOS for unsignalized intersections as defined by the HCM.

Table 3 HCM Level of Service Criteria

Level of Service (LOS)	**Unsignalized Intersections** Average Control Delay (sec/veh)	**Signalized Intersections** Average Control Delay (sec/veh)
A	≤10	≤10
B	10 - 15	10 - 20
C	15 - 25	20 - 35
D	25 - 35	35 - 55
E	35 - 50	55 - 80
F	>50	>80

Control delay is a measure of the total amount of delay experienced by an individual vehicle and includes delay related to deceleration, queue delay, stopped delay, and acceleration. **Table 3** displays the amount of control delay (in seconds per vehicle) that corresponds to the LOS for signalized and unsignalized intersections.

Capacity Analysis Comparison – No Build vs Build Conditions (Year 2022)

Capacity Analyses were conducted for the No Build and Build conditions (year 2022). The primary purpose for this approach was to compare the results to identify areas impacted by the proposed development. The capacity results are included in **Appendix F**.

The capacity results for morning peak hour are summarized in **Table 4.**

Table 4 2022 AM Peak Hour Capacity Analysis

2022 CONDITIONS - (AM)				No Build		Build	
Intersection		Approach	Movement	DELAY (S)	LOS	DELAY (S)	LOS
1	Hugh Howell Rd & Cowan Rd/The Centre Driveway	EB	L	4.4	A	4.6	A
			T	5.7	A	5.9	A
			TR	5.7	A	5.9	A
			Approach	5.5	A	5.8	A
		WB	L	5.0	A	5.2	A
			T	0.3	A	0.3	A
			R	0.1	A	0.1	A
			Approach	0.4	A	0.4	A
		NB	Approach	78.7	E	78.6	E
		SB	L	68.2	E	67.7	E
			TR	65.2	E	64.4	E
			Approach	66.3	E	65.7	E
		Intersection	-	8.4	A	8.7	A
2	Hugh Howell Rd & Rosser Terrace	EB	L	9.7	A	9.6	A
			T	0.0	A	0.0	A
			TR	0.0	A	0.0	A
			Approach	0.6	A	0.5	A
		WB	L	0.0	A	8.6	A
			T	0.0	A	0.0	A
			R	0.0	A	0.0	A
			Approach	0.0	A	0.7	A
		NB	Approach	13.6	B	18.5	C
		SB	Approach	11.2	B	11.1	B
		Intersection	-	0.7	A	2.6	A
3	Hugh Howell Rd & Tucker Industrial Rd	EB	L	100.8	F	96.0	F
			T	0.3	A	0.3	A
			TR	0.3	A	0.3	A
			Approach	1.6	A	2.1	A
		WB	L	103.2	F	103.2	F
			T	5.2	A	5.5	A
			TR	5.2	A	5.5	A
			Approach	9.7	A	9.9	A
		NB	Approach	74.8	E	74.6	E
		SB	Approach	67.0	E	66.7	E
		Intersection	-	13.4	B	13.6	B

Based on the results of the capacity analysis during the morning peak hour, all intersections are projected to operate at an acceptable overall LOS B or better during the No Build and Build Conditions, with minimal increases in the overall delay.

The northbound and southbound approaches of the intersection of Hugh Howell Rd and Cowan Rd and the intersection of Hugh Howell Rd and Tucker Industrial Rd are expected to operate at LOS E during both No Build and Build Conditions. The eastbound and westbound left-turning movements of the intersection with Tucker Industrial Rd are expected to operate at a LOS F during both No Build and Build Conditions, minimal increases in delays are expected at the above-mentioned turning movements and approaches.

The queue results show 95th% queue lengths are not expected to exceed the available of the turn lanes for the morning peak hour, with a HCM 95% Percentile queue of 1.5 vehicles.

The capacity results for evening peak hour are summarized in **Table 5.**

Table 5 2022 PM Peak Hour Capacity Analysis

2022 CONDITIONS - (PM)				No Build		Build	
	Intersection	Approach	Movement	DELAY (S)	LOS	DELAY (S)	LOS
1	Hugh Howell Rd & Cowan Rd/The Centre Driveway	EB	L	9.4	A	9.5	A
			T	16.3	B	16.9	B
			TR	16.3	B	16.8	B
			Approach	15.5	B	16.1	B
		WB	L	11.7	B	12.2	B
			T	0.4	A	0.4	A
			R	0.2	A	0.2	A
			Approach	1.1	A	1.2	A
		NB	Approach	74.2	E	74.1	E
		SB	L	57.6	E	57.5	E
			TR	56.1	E	55.7	E
			Approach	56.7	E	56.4	E
		Intersection	-	17.5	B	17.7	B
2	Hugh Howell Rd & Rosser Terrace	EB	L	10.0	A	9.8	A
			T	0.0	A	0.0	A
			TR	0.0	A	0.0	A
			Approach	0.2	A	0.2	A
		WB	L	11.7	B	13.1	B
			T	0.0	A	0.0	A
			R	0.0	A	0.0	A
			Approach	0.0	A	1.1	A
		NB	Approach	25.3	D	56.0	F
		SB	Approach	11.9	B	11.7	B
		Intersection	-	0.6	A	4.3	A
3	Hugh Howell Rd & Tucker Industrial Rd	EB	L	117.2	F	108.3	F
			T	1.6	A	1.7	A
			TR	1.6	A	1.7	A
			Approach	2.0	A	2.3	A
		WB	L	103.1	F	103.1	F
			T	7.9	A	8.3	A
			TR	7.9	A	8.3	A
			Approach	14.8	B	15.0	B
		NB	Approach	77.5	E	77.8	E
		SB	Approach	59.7	E	59.3	E
		Intersection	-	14.6	B	14.8	B

Based on the results of the capacity analysis during the evening peak hour, all intersections are projected to operate at an acceptable overall LOS B or better during the No Build and Build Conditions. The intersection of Hugh Howell Rd and Rosser Terrace is expected to experience a 3.7 second increase in the overall delay; minimal increases in the overall delay are expected at all other intersections with the inclusion of the proposed development.

Based on the results of the capacity analysis during the evening peak hour, the northbound and southbound approaches of the intersection of Hugh Howell Rd and Cowan Rd are expected to operate at LOS E during both No Build and Build Conditions. The northbound and southbound approaches of the intersection of Hugh Howell Rd and Tucker Industrial Rd are expected to operate at LOS E; the eastbound and westbound left-turning lanes are expected to operate at a LOS F during both No Build and Build Conditions, minimal increases in delays are expected at the above-mentioned turning movements and approaches.

The northbound approach of the intersection of Hugh Howell Rd and Rosser Terrace is expected to degrade from LOS D to LOS F from No Build to Build conditions, with an increase in delay of 30.7 seconds. All other approaches are expected to operate at acceptable LOS C or better during both No Build and Build Conditions.

The queue results for the northbound approach of the intersection of Hugh Howell Rd and Rosser Terrace show 95th% queue lengths of approximately 5 vehicles.

Capacity Analysis Comparison – No Build vs Build Improved Conditions

A Capacity Analyses comparison was conducted for the No Build and Build Improved conditions (year 2022). The primary purpose for this approach was to compare the results in order to evaluate proposed improvements. The capacity results are included in **Appendix F**.

The capacity results for morning peak hour are summarized in **Table 6**.

Table 6 2022 Morning Peak Hour Capacity Analysis Comparison No Build vs Improved Conditions

2022 CONDITIONS - (AM)				No Build		Build Improvements	
Intersection		Approach	Movement	DELAY (S)	LOS	DELAY (S)	LOS
2	Hugh Howell Rd & Rosser Terrace	EB	L	9.7	A	9.6	A
			T	0.0	A	0.0	A
			TR	0.0	A	0.0	A
			Approach	0.6	A	0.5	A
		WB	L	0.0	A	8.6	A
			T	0.0	A	0.0	A
			R	0.0	A	0.0	A
			Approach	0.0	A	0.7	A
		NB	Approach	13.6	B	16.2	C
		SB	Approach	11.2	B	11.1	B
		Intersection	-	0.7	A	2.4	A

Based on the results of the capacity analysis, during the morning peak hour, the intersection of Hugh Howell Rd and Rosser Terrace is expected to experience acceptable overall LOS A under Build Improved conditions with an increase in the overall delay of 1.7 seconds. All approaches are expected to maintain acceptable LOS with minimal increases in the overall delay with the inclusion of the proposed development.

The 95th% queue results for the morning peak hour show a 2-vehicle queue is expected at the northbound approach with the proposed right-turn lane.

The capacity results for evening peak hour are summarized in **Table 7**.

Table 7 2022 Evening Peak Hour Capacity Analysis Comparison No Build vs Improved Conditions

2022 CONDITIONS - (PM)				No Build		Build Improvements	
Intersection		Approach	Movement	DELAY (S)	LOS	DELAY (S)	LOS
2	Hugh Howell Rd & Rosser Terrace	EB	L	10.0	A	9.8	A
			T	0.0	A	0.0	A
			TR	0.0	A	0.0	A
			Approach	0.2	A	0.2	A
		WB	L	11.7	B	13.1	B
			T	0.0	A	0.0	A
			R	0.0	A	0.0	A
			Approach	0.0	A	1.1	A
		NB	Approach	25.3	D	35.9	E
		SB	Approach	11.9	B	11.7	B
		Intersection	-	0.6	A	3.0	A

Based on the results of the capacity analysis, during the evening peak hour, the intersection of Hugh Howell Rd and Rosser Terrace is expected to experience acceptable overall LOS A under Build Improved conditions with an increase in the overall delay of 2.4 seconds.

The northbound approach of the intersection of Hugh Howell Rd and Rosser Terrace is expected to operate at LOS E under Build with Improvements conditions, with an increase in the delay of 10.6 seconds. These capacity constraints are typical at unsignalized approaches connecting to a major road such as Hugh Howell Rd.

The 95th% queue results for the evening peak hour show a 3-vehicle queue is expected at the northbound approach with the proposed right-turn lane.

Based on the results of the capacity analysis the proposed development is not expected to adversely impact the surrounding roadway network with the inclusion of the proposed improvements.

9. Conclusions and Recommendations

Based on the results of the trip generation assessment prepared by Bowman Consulting, the proposed development is expected to generate a total of 261 trips during the morning peak hour and 285 trips during the evening peak hour. It is anticipated that during the morning peak hour 128 of these are existing trips, the remaining 133 are expected to be primary trips. During the evening peak hour, it is anticipated that 143 are existing trips and 142 are new trips.

The results of the No Build Vs Build conditions capacity analysis indicate the following:

- <u>During the morning peak hour:</u>
  All intersections are projected to operate at an acceptable overall LOS B or better during the No Build and Build Conditions, with minimal increases in the overall delay.

  The northbound and southbound approaches of the intersections of Hugh Howell Rd with Cowan Rd and with Tucker Industrial Rd are expected to operate at LOS E. The eastbound and westbound left-turning lanes are expected to operate at a LOS F during both No Build and Build Conditions; no increases in delays are expected for the above-mentioned failing approaches under Build Conditions. All other approaches are expected to operate at acceptable LOS C or better during both No Build and Build Conditions.

  The queue results show 95th% queue lengths are not expected to exceed the available of the turn lanes for the morning peak hour, with a HCM 95% Percentile queue of 1.5 vehicles.

- <u>During the evening peak hour:</u>
  All intersections are projected to operate at an acceptable overall LOS B or better during the No Build and Build Conditions. The intersection of Hugh Howell Rd and Rosser Terrace is expected to experience a 3.7 second increase in the overall delay; minimal increases in the overall delay are expected at all other intersections with the inclusion of the proposed development.

  The northbound and southbound approaches of the intersections of Hugh Howell Rd with Cowan Rd and with Tucker Industrial Rd are expected to operate at LOS E for both No Build and Build Conditions. The eastbound and westbound left-turning movements of the intersection with Tucker Industrial Rd are expected to operate at a LOS F during both No

Build and Build Conditions, minimal increases in delays are expected at the above-mentioned turning movements and approaches.

The northbound approach of the intersection of Hugh Howell Rd and Rosser Terrace is expected to degrade from LOS D to LOS F from No Build to Build conditions, with an increase in delay of 30.7 seconds. All other approaches are expected to operate at acceptable LOS C or better during both No Build and Build Conditions.

The queue results for the northbound approach of the intersection of Hugh Howell Rd and Rosser Terrace show 95th% queue lengths of approximately 5 vehicles.

The following improvements are proposed:

- Intersection of Hugh Howell Rd and Rosser Terrace: provide northbound right-turn lane.

The results of the No Build Vs Build Improved conditions capacity analysis indicate the following:

- The intersection of Hugh Howell Rd and Rosser Terrace is expected to experience acceptable overall LOS A under Build Improved conditions with an increase in the overall delay of 1.7 seconds for the morning peak hour and 2.4 seconds for the evening peak hour.

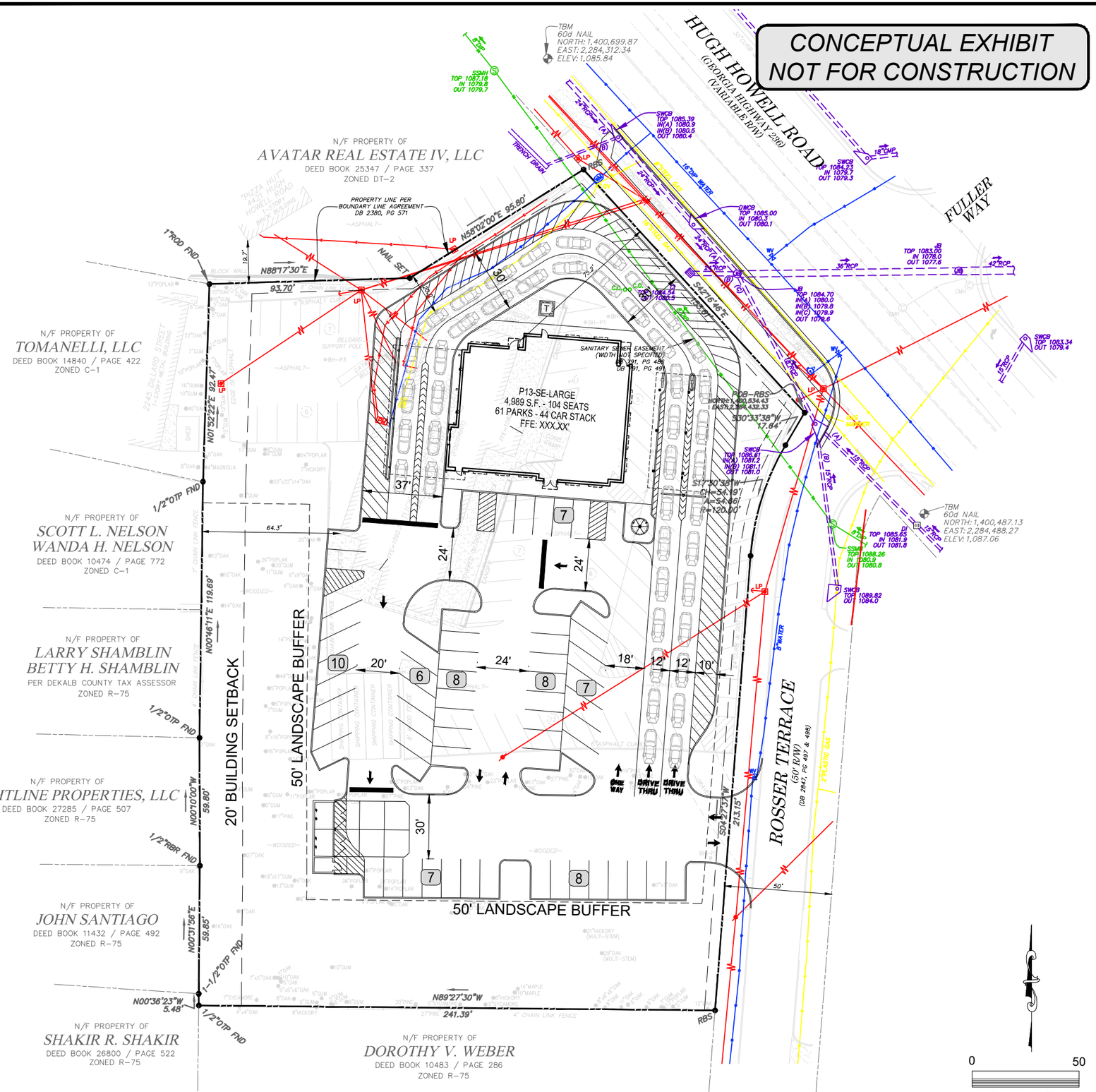
  For the morning peak hour all approaches are expected to maintain acceptable LOS with minimal increases in the overall delay with the inclusion of the proposed development. During the evening peak hour, the northbound approach of the intersection of Hugh Howell Rd and Rosser Terrace is expected to operate at LOS E under Build with Improvements conditions, with an increase in the delay of 10.6 seconds. These capacity constraints are typical at unsignalized approaches connecting to a major road such as Hugh Howell Rd.

- The 95th% queue results for the morning peak hour show a 3-vehicle queue is expected for the evening peak hour at the northbound approach with the proposed right-turn lane.

Based on the results of the capacity analysis the proposed development is not expected to adversely impact the surrounding roadway network with the inclusion of the proposed improvements.

APPENDIX A

CONCEPTUAL EXHIBIT
NOT FOR CONSTRUCTION



SITE DATA TABLE			
ADDRESS	4431 HUGH HOWELL RD, TUCKER, GA 30084		
PARCEL ID	18 214 04 086		
JURISDICTION	CITY OF TUCKER		
ZONING	DT-2 (DOWNTOWN CORRIDOR)		
PROPOSED CFA AREA	89,271 SF	2.049 AC	100.0%
IMPERVIOUS AREA	50,345 SF	1.158 AC	56.4%
OPEN SPACE AREA	38,926 SF	0.894 AC	43.6%

PARKING CALCULATIONS		
USE	RATIO	REQUIRED
TOTAL REQUIRED	1 PER 150 SF	33 MIN
TOTAL PROPOSED	61 SPACES	

BUILDING SETBACKS		
YARD	REQUIRED	PROPOSED
NORTH	5'	11'
EAST	5'	15'
WEST	20'	163'
SOUTH	0'	239'

LANDSCAPE BUFFERS		
YARD	REQUIRED	PROPOSED
NORTH	0'	0'
EAST	10'	10
WEST	50'	50'
SOUTH	50'	50'

VARIANCES & ISSUES

PROPOSED LEGEND

- PROPERTY LINE
- BUILDING SETBACK LINE
- BUFFER
- 1 — PARKING COUNT

0 50

Scale: 1"=50'

OVERLAY EXHIBIT

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

Bowman Consulting Group, Ltd.
950 North Point Pkwy
Suite 200
Alpharetta, GA 30005
Phone: (470) 206-8030
www.bowmanconsulting.com

CONCEPTUAL DESIGN
TUCKER, HUGH HOWEL RD, GA
CHICK-FIL-A
HUGH HOWELL RD &
ROSSER TERRACE

Bowman CONSULTING
Certificate of Authorization License No. 4523

JD DSGN	JD DRAWN	JD CHKD

SCALE: 1" = 50'

VERSION 1.0

APPENDIX B

Rodrigo Meirelles

From: Ken Hildebrandt <KHildebrandt@Tuckerga.gov>
Sent: Wednesday, June 9, 2021 5:23 PM
To: Daniela Jurado
Cc: Andrew Petersen; Rodrigo Meirelles
Subject: [EXTERNAL] RE: [External]RE: [External]RE: Chick-fil-A Tucker Methodology Coordination

Yes, these will be a good representation.

City of Tucker

KEN HILDEBRANDT, PE, PTOE
CITY ENGINEER
M: 770-865-5645
E: khildebrandt@tuckerga.gov **W:** tuckerga.gov

From: Daniela Jurado <djurado@bowman.com>
Sent: Wednesday, June 9, 2021 4:15 PM
To: Ken Hildebrandt <KHildebrandt@Tuckerga.gov>
Cc: Andrew Petersen <apetersen@bowman.com>; Rodrigo Meirelles <rmeirelles@bowman.com>
Subject: [External]RE: [External]RE: Chick-fil-A Tucker Methodology Coordination

Good Afternoon Ken,

We received some trip generation information today of some CFA locations in the Great Atlanta area, average weekday (M-Th) information from 2 months in 2019 and February 2021 when school was in session. The locations are the following:

1- 2580 Piedmont Rd
2- 2340 N Druid Hills Rd
3- 1100 Northside Dr

Sincerely,

DANIELA JURADO
Project Manager | **BOWMAN**
4450 W Eau Gallie Boulevard, Suite 144, Melbourne, FL 32934
O: (321) 270-8905 | D: (321) 270-8977 | M: (786) 370-2762
djurado@bowman.com | bowman.com

From: Ken Hildebrandt <KHildebrandt@Tuckerga.gov>
Sent: Wednesday, June 9, 2021 8:23 AM
To: Daniela Jurado <djurado@bowman.com>

Cc: Andrew Petersen <apetersen@bowman.com>; Rodrigo Meirelles <rmeirelles@bowman.com>
Subject: [EXTERNAL] RE: [External]RE: Chick-fil-A Tucker Methodology Coordination

What is the ADT on the street in Miami?
Is it a comparable site?

KEN HILDEBRANDT, PE, PTOE
CITY ENGINEER
M: 770-865-5645
E: khildebrandt@tuckerga.gov **W:** tuckerga.gov

From: Daniela Jurado <djurado@bowman.com>
Sent: Tuesday, June 8, 2021 2:21 PM
To: Ken Hildebrandt <KHildebrandt@Tuckerga.gov>
Cc: Andrew Petersen <apetersen@bowman.com>; Rodrigo Meirelles <rmeirelles@bowman.com>
Subject: [External]RE: Chick-fil-A Tucker Methodology Coordination

Good Afternoon Ken,

For the trip generation of the CFA we have conducted a trip generation study for a CFA in the Miami Dade area. Is it possible for us to use this trip generation study results to evaluate the trip generation for this site?

Thank you,

DANIELA JURADO
Project Manager | **BOWMAN**
4450 W Eau Gallie Boulevard, Suite 144, Melbourne, FL 32934
O: (321) 270-8905 | D: (321) 270-8977 | M: (786) 370-2762
djurado@bowman.com | bowman.com

From: Daniela Jurado
Sent: Tuesday, June 8, 2021 8:47 AM
To: Ken Hildebrandt <KHildebrandt@Tuckerga.gov>
Subject: RE: Chick-fil-A Tucker Methodology Coordination

Thank you,

DANIELA JURADO
Project Manager | **BOWMAN**
4450 W Eau Gallie Boulevard, Suite 144, Melbourne, FL 32934
O: (321) 270-8905 | D: (321) 270-8977 | M: (786) 370-2762
djurado@bowman.com | bowman.com

From: Ken Hildebrandt <KHildebrandt@Tuckerga.gov>
Sent: Tuesday, June 8, 2021 8:36 AM
To: Daniela Jurado <djurado@bowman.com>
Subject: [EXTERNAL] Chick-fil-A Tucker Methodology Coordination

DeKalb County maintains our traffic signals. You may be able to get this information from Demetria Allen.
dfchambliss@dekalbcountyga.gov

City of Tucker

KEN HILDEBRANDT, PE, PTOE
CITY ENGINEER
M: 770-865-5645
E: khildebrandt@tuckerga.gov **W:** tuckerga.gov

From: Daniela Jurado <djurado@bowman.com>
Sent: Tuesday, June 8, 2021 8:28 AM
To: Ken Hildebrandt <KHildebrandt@Tuckerga.gov>; Rodrigo Meirelles <rmeirelles@bowman.com>; Courtney Smith <CSmith@Tuckerga.gov>; Kylie Thomas <kthomas@tuckerga.gov>
Cc: Andrew Petersen <apetersen@bowman.com>
Subject: [External]RE: [External]RE: [External]RE: Chick-fil-A Tucker Methodology Coordination

Good Morning Ken,

Is there a way we can get the signal phasing and timings for the intersections of Hugh Howell Rd and Tucker Industrial Rd and Hugh Howell Rd and Cowan Rd?

Thank you,

DANIELA JURADO
Project Manager | **BOWMAN**
4450 W Eau Gallie Boulevard, Suite 144, Melbourne, FL 32934
O: (321) 270-8905 | D: (321) 270-8977 | M: (786) 370-2762
djurado@bowman.com | bowman.com

From: Ken Hildebrandt <KHildebrandt@Tuckerga.gov>
Sent: Monday, June 7, 2021 3:21 PM
To: Daniela Jurado <djurado@bowman.com>; Rodrigo Meirelles <rmeirelles@bowman.com>; Courtney Smith <CSmith@Tuckerga.gov>; Kylie Thomas <kthomas@tuckerga.gov>
Cc: Andrew Petersen <apetersen@bowman.com>
Subject: [EXTERNAL] RE: [External]RE: [External]RE: Chick-fil-A Tucker Methodology Coordination

No further comments at this time.

KEN HILDEBRANDT, PE, PTOE
CITY ENGINEER
M: 770-865-5645
E: khildebrandt@tuckerga.gov **W:** tuckerga.gov

From: Daniela Jurado <djurado@bowman.com>
Sent: Monday, June 7, 2021 3:18 PM
To: Ken Hildebrandt <KHildebrandt@Tuckerga.gov>; Rodrigo Meirelles <rmeirelles@bowman.com>; Courtney Smith <CSmith@Tuckerga.gov>; Kylie Thomas <kthomas@tuckerga.gov>
Cc: Andrew Petersen <apetersen@bowman.com>
Subject: [External]RE: [External]RE: Chick-fil-A Tucker Methodology Coordination

Thank you Ken,

We will start working on the best locations to get this data collected. Besides the trip generation, is there any other comments on the proposed methodology?

Sincerely,

DANIELA JURADO
Project Manager | **BOWMAN**
4450 W Eau Gallie Boulevard, Suite 144, Melbourne, FL 32934
O: (321) 270-8905 | D: (321) 270-8977 | M: (786) 370-2762
djurado@bowman.com | bowman.com

From: Ken Hildebrandt <KHildebrandt@Tuckerga.gov>
Sent: Monday, June 7, 2021 12:46 PM
To: Daniela Jurado <djurado@bowman.com>; Rodrigo Meirelles <rmeirelles@bowman.com>; Courtney Smith <CSmith@Tuckerga.gov>; Kylie Thomas <kthomas@tuckerga.gov>
Cc: Andrew Petersen <apetersen@bowman.com>
Subject: [EXTERNAL] RE: [External]RE: Chick-fil-A Tucker Methodology Coordination

Again, I think that a Chick fil-A is a different animal and is not accurately represented in this trip generation category.

KEN HILDEBRANDT, PE, PTOE
CITY ENGINEER
M: 770-865-5645
E: khildebrandt@tuckerga.gov **W:** tuckerga.gov

From: Daniela Jurado <djurado@bowman.com>
Sent: Monday, June 7, 2021 9:53 AM
To: Ken Hildebrandt <KHildebrandt@Tuckerga.gov>; Rodrigo Meirelles <rmeirelles@bowman.com>; Courtney Smith <CSmith@Tuckerga.gov>; Kylie Thomas <kthomas@tuckerga.gov>
Cc: Andrew Petersen <apetersen@bowman.com>
Subject: [External]RE: Chick-fil-A Tucker Methodology Coordination

Good Morning Ken,

Would it be possible for us to use the ITE mean values plus one standard deviation. That would leave the following trip generation:

Mean

Land Use	Land Use Code(1)	Size	Daily Trips	Period	Peak Hour Trips			Pass by(2)		
					In	Out	Total	In	Out	To
Fast Food restaurant with Drive thru	934	4.989	1893	AM	103	98	201	50	48	9
				PM	85	78	163	42	38	8

(1) Based on the Institute of Transportation Engineers Trip Generation, 10th Edition
(1) Pass-By rates of 49% were extracted from the Institute of Transportation Engineers Trip Generation Handbook, 3rd Edition

Mean +1 std dev

Land Use	Land Use Code(1)	Size	Daily Trips	Period	Peak Hour Trips			Pass by(2)		
					In	Out	Total	In	Out	To
Fast Food restaurant with Drive thru	934	4.989	1893	AM	175	169	344	86	83	16
				PM	131	121	252	64	59	12

(1) Based on the Institute of Transportation Engineers Trip Generation, 10th Edition
(1) Pass-By rates of 49% were extracted from the Institute of Transportation Engineers Trip Generation Handbook, 3rd Edition

Would you agree with this approach?

Thank you,

DANIELA JURADO
Project Manager | **BOWMAN**
4450 W Eau Gallie Boulevard, Suite 144, Melbourne, FL 32934
O: (321) 270-8905 | D: (321) 270-8977 | M: (786) 370-2762
djurado@bowman.com | bowman.com

From: Ken Hildebrandt <KHildebrandt@Tuckerga.gov>
Sent: Monday, June 7, 2021 8:18 AM
To: Rodrigo Meirelles <rmeirelles@bowman.com>; Courtney Smith <CSmith@Tuckerga.gov>; Kylie Thomas <kthomas@tuckerga.gov>
Cc: Daniela Jurado <djurado@bowman.com>; Andrew Petersen <apetersen@bowman.com>
Subject: [EXTERNAL] Chick-fil-A Tucker Methodology Coordination

Rodrigo,
A Chick fil-A restaurant is rather unique and does not fit in the mold of Code 934 for a Fast Food Restaurant. Actual trip generation will be significantly higher. A more accurate estimate would be to provide counts at an existing comparably sized Chick fil-A.
You can call me at the number below with any questions.

KEN HILDEBRANDT, PE, PTOE
CITY ENGINEER
M: 770-865-5645
E: khildebrandt@tuckerga.gov **W:** tuckerga.gov

From: Rodrigo Meirelles <rmeirelles@bowman.com>
Sent: Thursday, June 3, 2021 10:18 AM
To: Ken Hildebrandt <KHildebrandt@Tuckerga.gov>; Courtney Smith <CSmith@Tuckerga.gov>; Kylie Thomas <kthomas@tuckerga.gov>
Cc: Daniela Jurado <djurado@bowman.com>; Andrew Petersen <apetersen@bowman.com>
Subject: [External]Chick-fil-A Tucker Methodology Coordination

Good Morning Ken, Courtney, and Kylie,

I am contacting you regarding a Chick-fil-A project at 4431 Hugh Howell Rd, Tucker, GA. The site will be replacing the existing Presbyterian Church. Attached you will find a Methodology Statement with the Trip Generation for this site and a Current Site Plan.

We want to schedule a meeting with the City of Tucker to verify that our methodology for this Traffic Impact Study is acceptable. Could you reply to this email with the best time for you to discuss this project?

Thank you in advance.

Sincerely,

RODRIGO MEIRELLES VAN VLIET
Engineer I | **BOWMAN**
4450 W Eau Gallie Boulevard, Suite 144, Melbourne, FL 32934
O: (321) 270-8905
rmeirelles@bowman.com | bowman.com

Rodrigo Meirelles

From: Rodrigo Meirelles
Sent: Wednesday, June 9, 2021 10:48 AM
To: Mathis, Renaldo M
Cc: Daniela Jurado; Andrew Petersen
Subject: RE: Chick-fil-A Tucker Methodology Coordination - GDOT

That will work, thank you very much Renaldo. Can you please include Daniela Jurado (djurado@bowman.com) and Andrew Petersen (apetersen@bowman.com) to the meeting invite as well?

Sincerely,

RODRIGO MEIRELLES VAN VLIET
Engineer I | **BOWMAN**
O: (321) 270-8905
rmeirelles@bowman.com

From: Mathis, Renaldo M <RMathis@dot.ga.gov>
Sent: Wednesday, June 9, 2021 10:35 AM
To: Rodrigo Meirelles <rmeirelles@bowman.com>
Subject: [EXTERNAL] RE: Chick-fil-A Tucker Methodology Coordination - GDOT

I will set the meeting on Microsoft teams for Tuesday at 1.

Thanks,

Renaldo M. Mathis
Civil Engineer II
Serving City of Atlanta & DeKalb County

Georgia Department of Transportation

District 7 Office of *Traffic Operations*
5025 New Peachtree Road
Chamblee, GA, 30341
770.216.3993 office
404.655.8946 mobile

From: Rodrigo Meirelles <rmeirelles@bowman.com>
Sent: Wednesday, June 9, 2021 10:20 AM
To: Mathis, Renaldo M <RMathis@dot.ga.gov>
Cc: Daniela Jurado <djurado@bowman.com>; Andrew Petersen <apetersen@bowman.com>
Subject: RE: Chick-fil-A Tucker Methodology Coordination - GDOT

Hello Renaldo,

Sorry for misspelling your name at first. Either one of these days will work for us. Let us know what time works best for you and your manager.

Thank you,

RODRIGO MEIRELLES VAN VLIET
Engineer I | **BOWMAN**
O: (321) 270-8905
rmeirelles@bowman.com

From: Mathis, Renaldo M <RMathis@dot.ga.gov>
Sent: Wednesday, June 9, 2021 9:35 AM
To: Rodrigo Meirelles <rmeirelles@bowman.com>
Subject: [EXTERNAL] RE: Chick-fil-A Tucker Methodology Coordination - GDOT

Good morning Rodrigo,

I can set a meeting for sometime early next week if that works for you. I m going to speak with my manager to see what times work best based on the day you prefer. I'm thinking sometime Monday or Tuesday. How does these dates sound to you?

Thanks,

Renaldo M. Mathis
Civil Engineer II
Serving City of Atlanta & DeKalb County

GDOT Georgia Department of Transportation

District 7 Office of *Traffic Operations*
5025 New Peachtree Road
Chamblee, GA, 30341
770.216.3993 office
404.655.8946 mobile

From: Rodrigo Meirelles <rmeirelles@bowman.com>
Sent: Wednesday, June 9, 2021 9:12 AM
To: Mathis, Renaldo M <RMathis@dot.ga.gov>
Cc: Andrew Petersen <apetersen@bowman.com>; Daniela Jurado <djurado@bowman.com>
Subject: RE: Chick-fil-A Tucker Methodology Coordination - GDOT

Good Morning Ronaldo,

I wanted to follow up on my previous email and see if you received my previous email with the attached methodology for this project, and if there is any additional information you require for the TIA of this project.

Please do not hesitate to contact us.

Thank you in advance,

RODRIGO MEIRELLES VAN VLIET
Engineer I | **BOWMAN**
O: (321) 270-8905
rmeirelles@bowman.com

From: Rodrigo Meirelles
Sent: Thursday, June 3, 2021 2:06 PM
To: rmathis@dot.ga.gov
Cc: Andrew Petersen <apetersen@bowman.com>; Daniela Jurado <djurado@bowman.com>
Subject: Chick-fil-A Tucker Methodology Coordination - GDOT

Good Morning Ronaldo,

I am contacting you regarding a Chick-fil-A project at 4431 Hugh Howell Rd, Tucker, GA. The site will be replacing the existing Presbyterian Church. Attached you will find a Methodology Statement with the Trip Generation for this site and the most recent Site Plan.

We want to schedule a meeting with the GDOT to verify that our methodology for this Traffic Impact Study is acceptable. Could you reply to this email with the best time for you to discuss this project?

Thank you in advance.

Sincerely,

RODRIGO MEIRELLES VAN VLIET
Engineer I | **BOWMAN**
4450 W Eau Gallie Boulevard, Suite 144, Melbourne, FL 32934
O: (321) 270-8905
rmeirelles@bowman.com | bowman.com

TRAFFIC IMPACT STUDY CHICK-FIL-A, TUCKER, GA
SCOPING/METHODOLOGY STATEMENT

Scoping Meeting Date: Electronic Coordination

Applicant's Consultant: Bowman Consulting Group

Applicant's Contact information: Andrew J Petersen (321 -270 - 8987 / apetersen@bowman.com)

Daniela Jurado (321 -270 - 8977 / djurado@bowman.com)

(1) LOCATION OF PROPOSED PROJECT: **4431 Hugh Howell Rd, Tucker, GA 30084, See Figure 1.**

Municipality: City of Tucker, GA

County DeKalb County

(2) DESCRIPTION OF PROPOSED PROJECT:

The proposed development comprises a 4,989 square feet Fast-food restaurant with drive-thru window with 44 car stack, located at 4431 Hugh Howell Rd in the city of Tucker, Georgia. Access to the development will be provided by one (1) full-access driveway along Rosser Terrace.

Trip generation rates were extracted from the Institute of Transportation Engineers 10th Edition. The trip generation is presented in **Table 1.** The proposed Trip Distribution is presented in **Figure 2**.

(3) PURPOSE OF THE ASSESSMENT:

The purpose for the study is threefold: to determine the number of trips generated by the proposed site; to determine the potential impact, if any, of the proposed development on the roadway network; to propose improvements, if required.

Capacity analyses will be prepared for the No Build, Build conditions, and Build Conditions with Improvements (if required). Turn lane warrant analyses will be completed at the intersection of Hugh Howell Rd and Rosser Terrace. The results of the study will be summarized in a report document with graphics and back up data.

(4) DEVELOPMENT SCHEDULE:

Anticipated Opening Date: 2022

Analysis Date: 2022

(5) STUDY INTERSECTIONS (See Figure 2):

-Hugh Howell Rd and Rosser Terrace (Unsignalized Intersection)
-Hugh Howell Rd and Tucker Industrial Rd (Signalized Intersection)
-Hugh Howell Rd and Cowan Rd (Singalized Intersection)

(6) STUDY AREA TYPE: Urban: **x** Rural: _____

(7) ANALYSIS PERIODS AND TIMES:

AM Peak hour	7:00 AM - 09:00 AM
PM Peak hour	4:00 PM - 06:00 PM

(8) TRAFFIC ADJUSTMENT FACTORS:

(a) Seasonal Adjustment: To be determined upon coordination

(b) Annual Base Traffic Growth: See Table 2 Source: Approximate Growth average from AADT's GDOT Traffic Count Data online

(9) OTHER PROJECTS WITHIN STUDY AREA TO BE ADDED TO BASE TRAFFIC:

To be determined upon coordination

(10) APPROVAL OF DATA COLLECTION ELEMENTS AND METHODOLOGIES:

Proposed Location	Period (Avg Day)	Type
-Hugh Howell Rd and Rosser Terrace	AM/PM	Turning Movement Counts
-Hugh Howell Rd and Tucker Industrial Rd	AM/PM	Turning Movement Counts
-Hugh Howell Rd and Cowan Rd	AM/PM	Turning Movement Counts

(11) CAPACITY/LOS ANALYSIS

Location	Period (Avg Day)	Type
-Hugh Howell Rd and Rosser Terrace	AM/PM	Synchro (HCS)
-Hugh Howell Rd and Tucker Industrial Rd	AM/PM	Synchro (HCS)
-Hugh Howell Rd and Cowan Rd	AM/PM	Synchro (HCS)

(12) ROADWAY IMPROVEMENTS/MODIFICATIONS BY OTHERS TO BE INCLUDED:

To be determine upon coordination

(13) OTHER NEEDED ANALYSES:

(a) Signal Warrant Analysis:
No

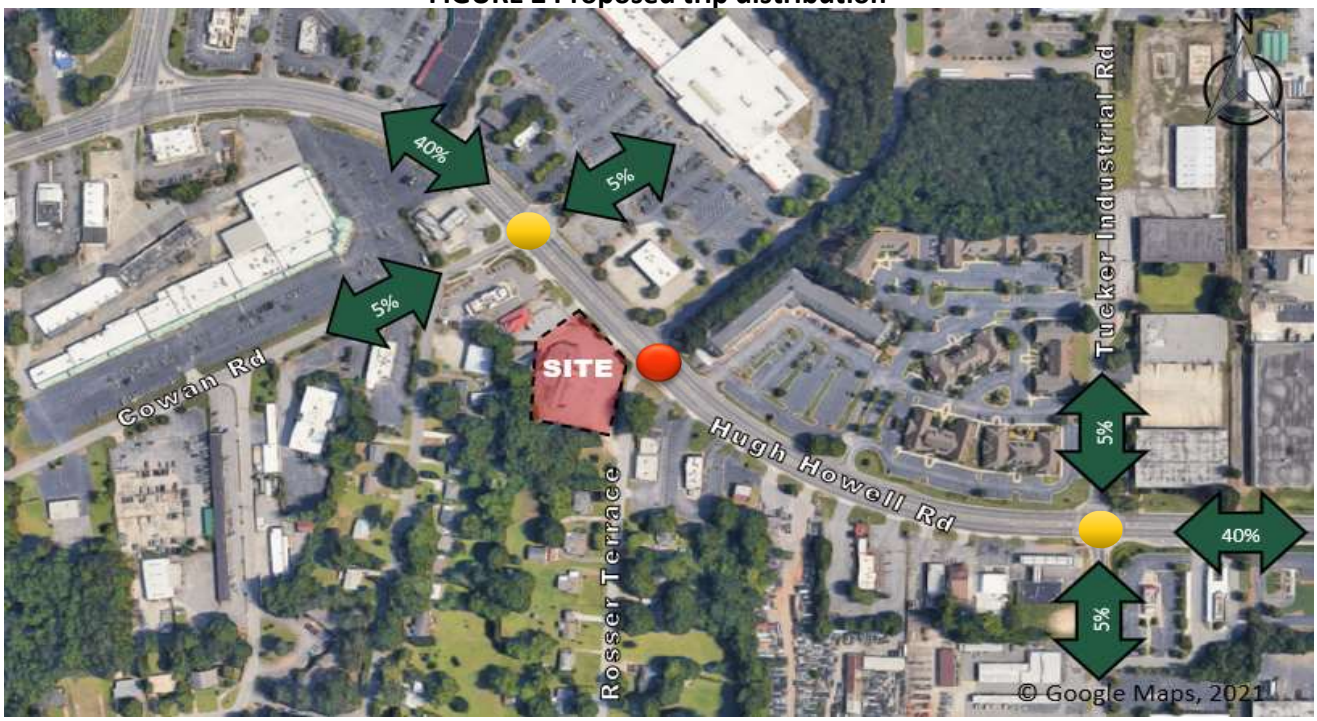
(b) Required Signal Phasing/Timing Modifications:
TBD

(c) Analysis of the Need for Turning Lanes:
-Hugh Howell Rd and Rosser Terrace (Unsignalized Intersection)

(d) Turning Lane Lengths:
95th Percentile Synchro Queue

(14) ADDITIONAL COMMENTS OR RECOMMENDATIONS RELATIVE TO THE SCOPE OF THIS PROJECT:

FIGURE 2 Proposed trip distribution



TRAFFIC IMPACT STUDY
SCOPING/METHODOLOGY STATEMENT

TABLE 1

Land Use	Land Use Code[1]	Size	Daily Trips	Period	Peak Hour Trips			Pass by[2]			Primary		
					In	Out	Total	In	Out	Total	In	Out	Total
Fast Food restaurant with Drive thru	**934**	**4,989 SF**	2,350	**AM**	102	99	201	50	49	99	52	50	102
				PM	85	78	163	43	39	82	42	39	81
(1) Based on the Institute of Transportation Engineers Trip Generation, 10th Edition													
(1) Pass-By rates of 49% for the AM Peak Hour and 50% for the PM Peak Hour were extracted from the ITE Trip Generation Handbook, 3rd Edition													

TABLE 2

Roadway	From	to	2015	2016	2017	2018	2019	2016	2017	2018	2019	Avg Growth rate	Applied Growth rate
Hugh Howell Rd	Lawrenceville Hwy	Mountain Industrial Blvd	21,700	22,400	25,600	25,600	24,400	3.2%	14.3%	0.0%	-4.7%	3.2%	3.2%
Rosser Terrace	N/A	N/A	-	-	-	-	-	-	-	-	-	No Data	0.5%
Tucker Industrial Rd	N/A	N/A	-	-	-	-	-	-	-	-	-	No Data	0.5%
Cowan Rd	N/A	N/A	-	-	-	-	-	-	-	-	-	No Data	0.5%

Source: Approximate Growth average from 2015-2019 AADT's GDOT Traffic Count Database System (TCDS). https://gdottrafficdata.drakewell.com/publicmultinodemap.asp

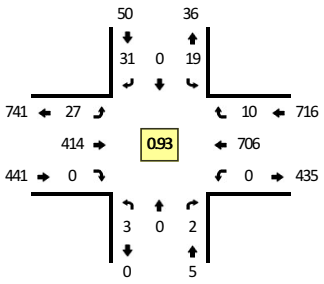
A 0.5% minimum growth rate for the roads was assumed based on the City of Tucker population growth rate.

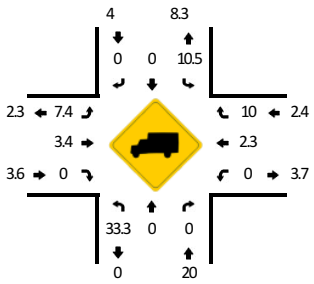
APPENDIX C

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

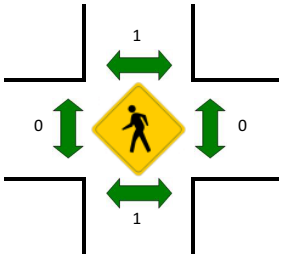
LOCATION: Rosser Ter -- Hugh Howell Rd | **QC JOB #:** 15488401
CITY/STATE: Tucker, GA | **DATE:** Tue, Jun 15 2021

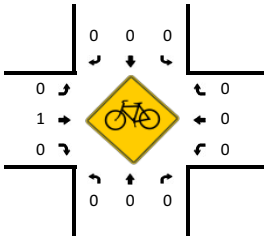
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:30 AM -- 8:45 AM

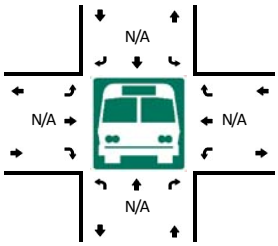


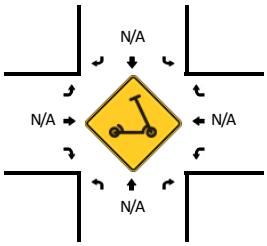


Quality Counts
DATA THAT DRIVES COMMUNITIES









15-Min Count Period Beginning At	Rosser Ter (Northbound)				Rosser Ter (Southbound)				Hugh Howell Rd (Eastbound)				Hugh Howell Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	0	0	0	2	0	7	0	1	59	0	0	0	118	5	0	194	
7:15 AM	2	0	0	0	5	0	5	0	1	87	0	0	0	124	2	0	226	
7:30 AM	2	0	0	0	3	1	4	0	11	60	0	0	1	167	3	0	252	
7:45 AM	4	0	1	0	5	0	12	0	2	98	1	0	0	165	3	0	291	963
8:00 AM	0	0	0	0	3	0	7	0	4	100	0	0	0	170	2	0	286	1055
8:15 AM	1	0	1	0	4	0	8	0	6	103	0	0	0	168	4	0	295	1124
8:30 AM	1	0	0	0	7	0	8	0	5	107	0	0	0	196	2	0	326	1198
8:45 AM	1	0	1	0	5	0	8	0	11	104	0	1	0	172	2	0	305	1212

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	0	0	0	28	0	32	0	20	428	0	0	0	784	8	0	1304
Heavy Trucks	0	0	0		0	0	0		0	20	0		0	4	0		24
Buses																	
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

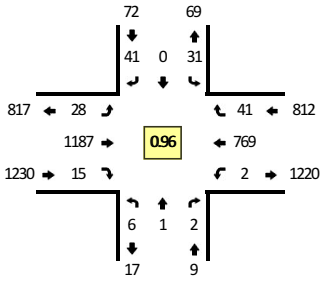
Comments:

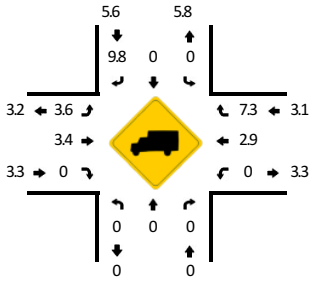
Report generated on 6/21/2021 10:17 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

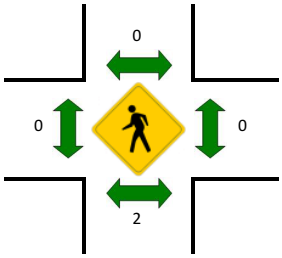
LOCATION: Rosser Ter -- Hugh Howell Rd | **QC JOB #:** 15488402
CITY/STATE: Tucker, GA | **DATE:** Tue, Jun 15 2021

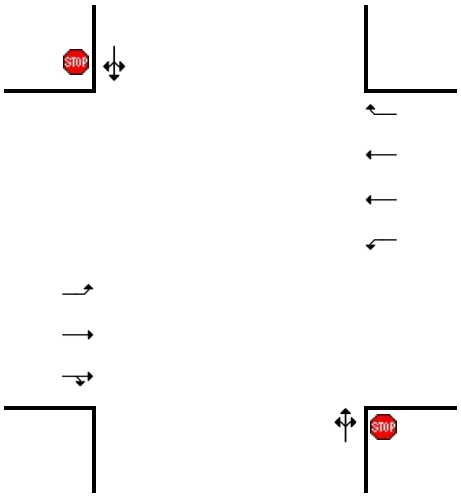
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

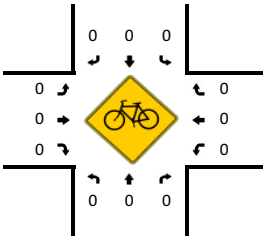


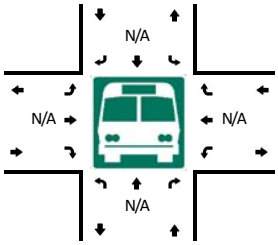


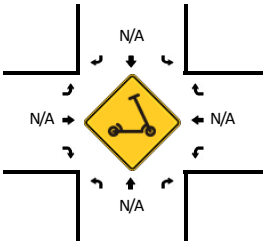
Quality Counts
DATA THAT DRIVES COMMUNITIES











15-Min Count Period Beginning At	Rosser Ter (Northbound)				Rosser Ter (Southbound)				Hugh Howell Rd (Eastbound)				Hugh Howell Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	9	0	11	0	3	315	3	0	0	203	8	0	552	
4:15 PM	2	0	0	0	9	0	6	0	12	294	3	0	1	196	12	0	535	
4:30 PM	3	0	1	0	6	0	11	0	4	329	6	0	0	169	11	0	540	
4:45 PM	1	1	1	0	7	0	13	0	8	249	3	1	1	201	10	0	496	2123
5:00 PM	0	0	1	0	6	0	11	0	2	285	6	0	0	187	9	0	507	2078
5:15 PM	3	0	0	0	9	0	9	0	7	332	2	0	1	193	11	0	567	2110
5:30 PM	2	0	0	0	2	0	11	0	7	302	2	0	0	165	9	0	500	2070
5:45 PM	1	0	1	0	1	1	7	0	9	316	7	0	0	189	5	0	537	2111

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	36	0	44	0	12	1260	12	0	0	812	32	0	2208
Heavy Trucks	0	0	0		0	0	4		0	32	0		0	32	4		72
Buses																	
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

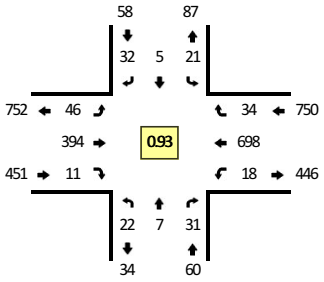
Comments:

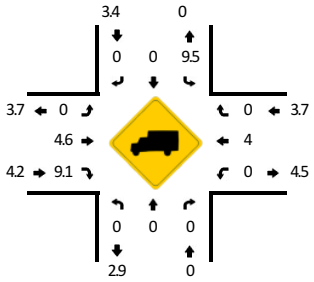
Report generated on 6/21/2021 10:17 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

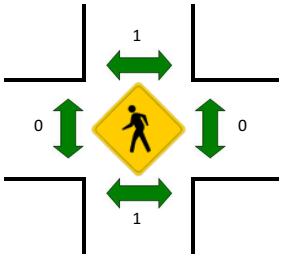
LOCATION: Cowan Rd -- Hugh Howell Rd | **QC JOB #:** 15488403
CITY/STATE: Tucker, GA | **DATE:** Tue, Jun 15 2021

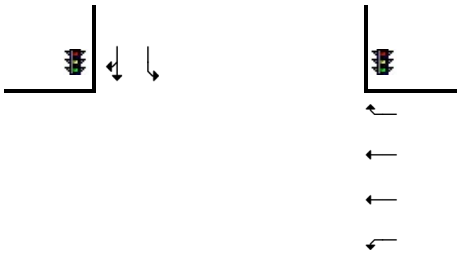
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

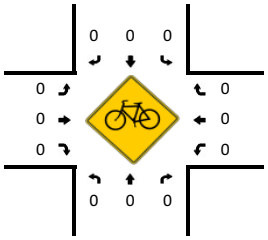


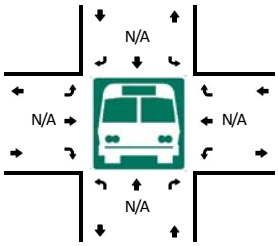


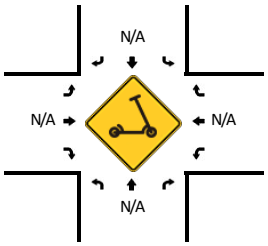
Quality Counts
DATA THAT DRIVES COMMUNITIES











15-Min Count Period Beginning At	Cowan Rd (Northbound)				Cowan Rd (Southbound)				Hugh Howell Rd (Eastbound)				Hugh Howell Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	0	7	0	0	2	1	0	8	52	3	0	3	125	2	0	205	
7:15 AM	4	2	8	0	4	0	3	0	5	74	1	0	6	122	7	0	236	
7:30 AM	4	0	5	0	3	0	6	0	8	63	4	0	7	161	5	0	266	
7:45 AM	4	1	3	0	4	4	4	0	7	91	2	1	6	174	3	0	304	1011
8:00 AM	8	2	9	0	3	3	7	0	11	90	0	0	6	163	11	0	313	1119
8:15 AM	3	3	8	0	6	0	7	0	13	95	4	0	3	170	3	0	315	1198
8:30 AM	4	1	4	0	6	1	6	0	6	99	3	0	6	190	9	0	335	1267
8:45 AM	7	1	10	0	6	1	12	0	16	110	4	0	3	175	11	0	356	1319

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	4	40	0	24	4	48	0	64	440	16	0	12	700	44	0	1424
Heavy Trucks	0	0	0		4	0	0		0	16	4		0	32	0		56
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 6/21/2021 10:17 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Cowan Rd -- Hugh Howell Rd | **QC JOB #:** 15488404
CITY/STATE: Tucker, GA | **DATE:** Tue, Jun 15 2021

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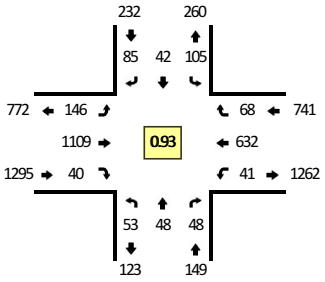
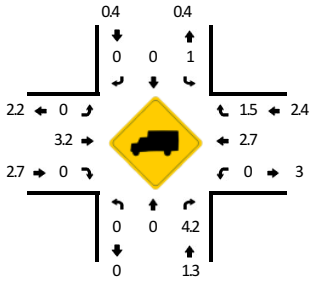
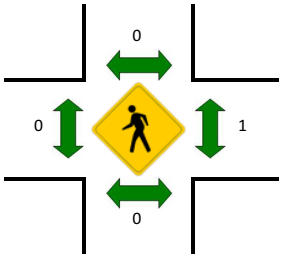
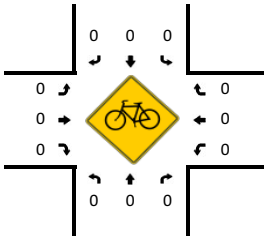
Peak 15-Min: 5:15 PM -- 5:30 PM

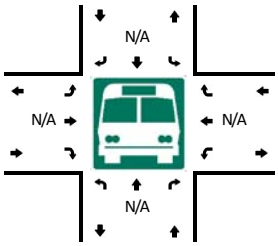


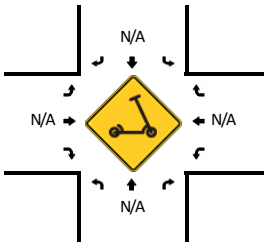


Quality Counts
DATA THAT DRIVES COMMUNITIES









15-Min Count Period Beginning At	Cowan Rd (Northbound)				Cowan Rd (Southbound)				Hugh Howell Rd (Eastbound)				Hugh Howell Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	6	13	0	18	7	29	0	37	291	18	0	15	181	17	0	643	
4:15 PM	18	5	19	0	23	14	29	0	37	260	7	0	9	159	22	0	602	
4:30 PM	9	11	11	0	19	5	15	0	35	301	5	0	14	159	13	0	597	
4:45 PM	13	7	11	0	26	9	25	0	29	228	10	0	11	175	24	0	568	2410
5:00 PM	11	13	8	0	24	6	15	0	46	268	16	0	8	153	17	0	585	2352
5:15 PM	15	12	15	0	22	10	24	0	36	296	9	1	10	183	16	0	649	2399
5:30 PM	13	8	17	0	25	14	19	0	37	258	8	1	12	144	17	0	573	2375
5:45 PM	14	15	8	0	34	12	27	0	25	287	7	0	11	152	18	0	610	2417

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	60	48	60	0	88	40	96	0	144	1184	36	4	40	732	64	0	2596
Heavy Trucks	0	0	4		0	0	0		0	36	0		0	4	0		44
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

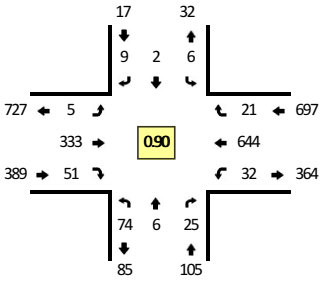
Comments:

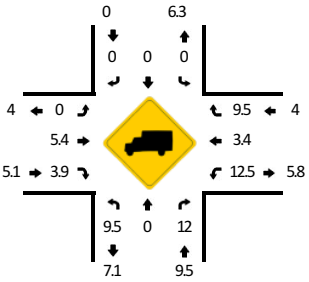
Report generated on 6/21/2021 10:17 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

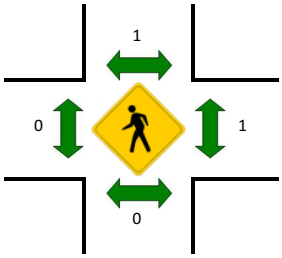
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

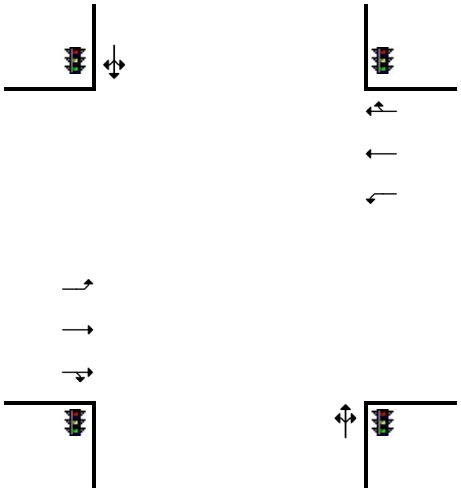
LOCATION: Tucker Industrial Rd -- Hugh Howell Rd | **QC JOB #:** 15488405
CITY/STATE: Tucker, GA | **DATE:** Tue, Jun 15 2021

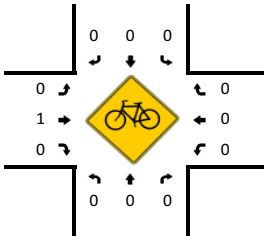
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:30 AM -- 8:45 AM

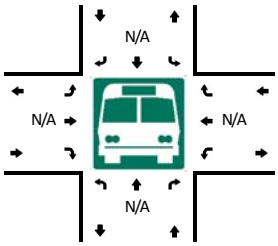


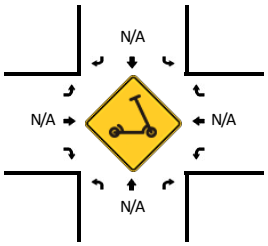












15-Min Count Period Beginning At	Tucker Industrial Rd (Northbound)				Tucker Industrial Rd (Southbound)				Hugh Howell Rd (Eastbound)				Hugh Howell Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	10	1	8	0	0	0	0	0	0	46	17	0	16	115	1	0	214	
7:15 AM	11	1	8	0	0	0	1	0	2	68	11	0	13	124	2	0	241	
7:30 AM	29	0	6	0	1	1	0	0	2	50	11	0	10	133	5	0	248	
7:45 AM	13	3	2	0	0	1	0	0	0	89	10	0	19	162	4	0	303	1006
8:00 AM	19	2	2	0	3	0	0	0	3	80	11	0	10	156	3	0	289	1081
8:15 AM	21	0	4	0	2	0	2	0	1	89	5	0	8	145	4	0	281	1121
8:30 AM	14	3	10	0	0	1	4	0	1	81	19	0	6	184	11	0	334	1207
8:45 AM	20	1	9	0	1	1	3	0	0	83	16	0	8	159	3	0	304	1208

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	56	12	40	0	0	4	16	0	4	324	76	0	24	736	44	0	1336
Heavy Trucks	4	0	4		0	0	0		0	32	0		4	8	4		56
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 6/21/2021 10:17 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Tucker Industrial Rd -- Hugh Howell Rd | **QC JOB #:** 15488406
CITY/STATE: Tucker, GA | **DATE:** Tue, Jun 15 2021

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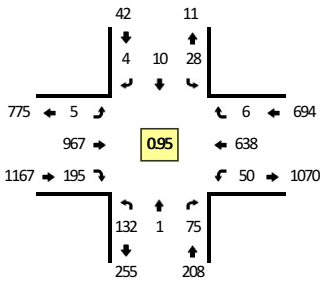
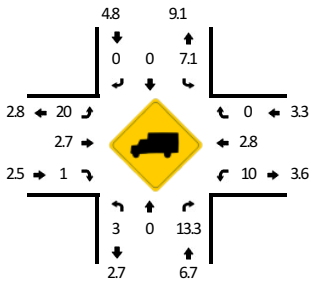
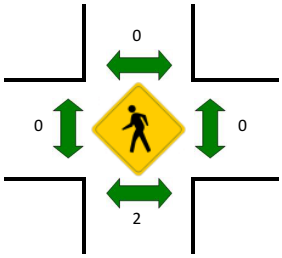
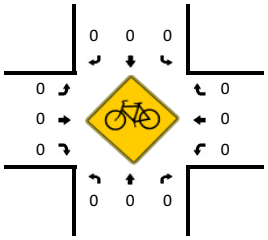
Peak 15-Min: 4:00 PM -- 4:15 PM

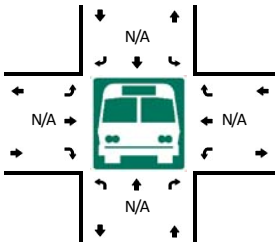


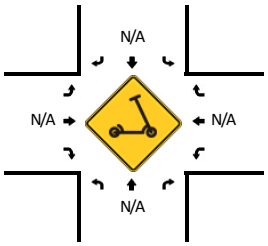


Quality Counts
DATA THAT DRIVES COMMUNITIES









15-Min Count Period Beginning At	Tucker Industrial Rd (Northbound)				Tucker Industrial Rd (Southbound)				Hugh Howell Rd (Eastbound)				Hugh Howell Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	41	0	21	0	11	3	0	0	2	240	51	1	16	164	3	0	553	
4:15 PM	33	0	18	0	3	4	0	0	1	248	54	0	15	160	2	0	538	
4:30 PM	31	1	20	0	3	2	3	0	0	262	40	0	8	148	0	0	518	
4:45 PM	27	0	16	0	11	1	1	0	1	217	50	0	11	166	1	0	502	2111
5:00 PM	27	1	15	0	4	2	1	0	0	259	48	0	11	160	2	0	530	2088
5:15 PM	38	1	10	0	4	5	2	0	2	247	62	0	11	142	1	0	525	2075
5:30 PM	30	1	14	0	7	5	2	0	3	250	51	0	8	134	3	0	508	2065
5:45 PM	26	0	11	0	3	3	0	0	0	249	59	0	8	162	2	0	523	2086

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	164	0	84	0	44	12	0	0	8	960	204	4	64	656	12	0	2212
Heavy Trucks	4	0	12		4	0	0		0	28	0		4	24	0		76
Buses																	
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 6/21/2021 10:17 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

APPENDIX D

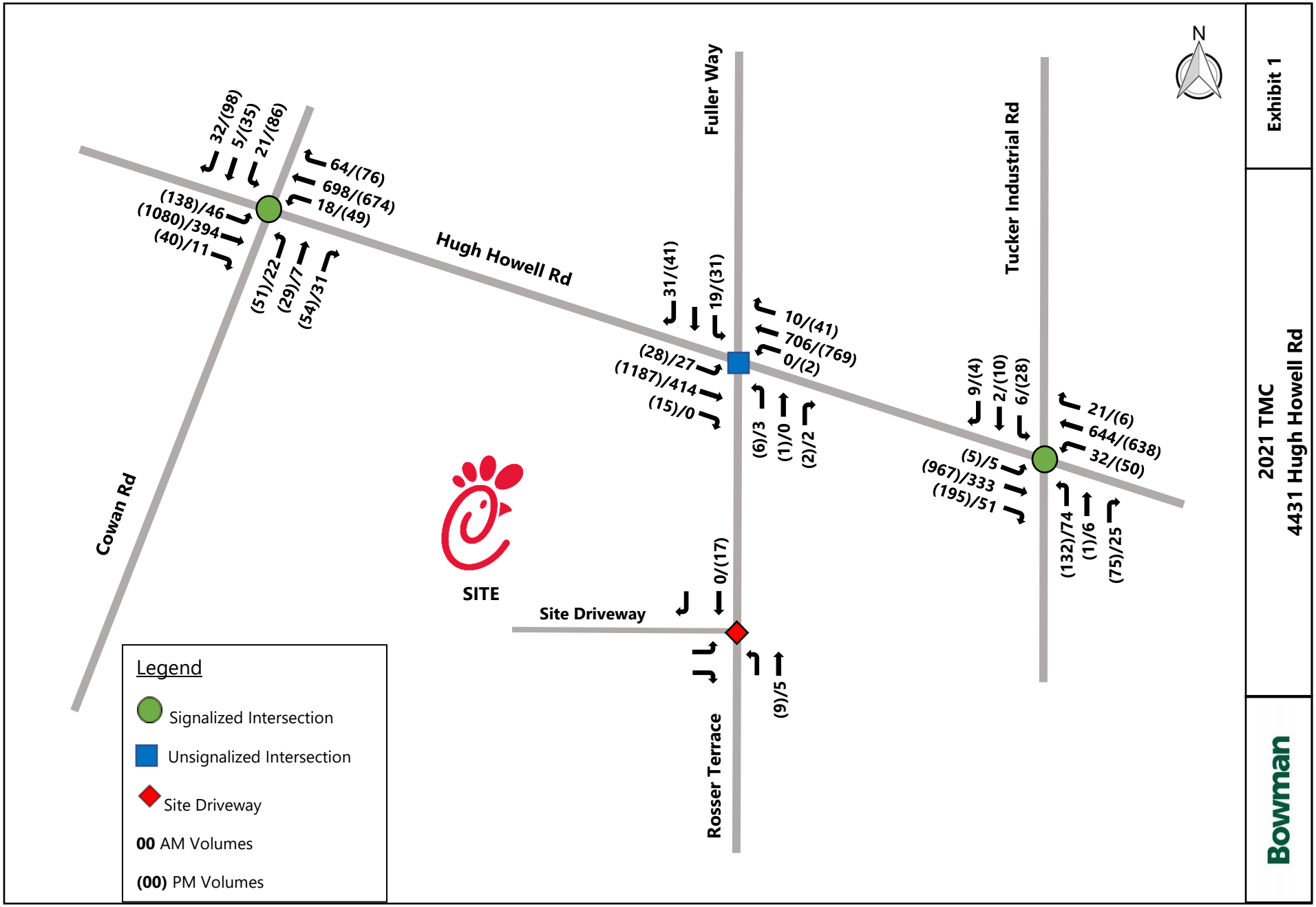


Exhibit 1
2021 TMC
4431 Hugh Howell Rd
Bowman
N
Hugh Howell Rd
Fuller Way
Tucker Industrial Rd
Cowan Rd
Rosser Terrace
Site Driveway
SITE
32/(98)
5/(35)
21/(86)
64/(76)
698/(674)
18/(49)
(138)/46
(1080)/394
(40)/11
(51)/22
(29)/7
(54)/31
31/(41)
19/(31)
10/(41)
706/(769)
0/(2)
(28)/27
(1187)/414
(15)/0
(6)/3
(1)/0
(2)/2
9/(4)
2/(10)
6/(28)
21/(6)
644/(638)
32/(50)
(5)/5
(967)/333
(195)/51
(132)/74
(1)/6
(75)/25
0/(17)
(9)/5
Legend
Signalized Intersection
Unsignalized Intersection
Site Driveway
00 AM Volumes
(00) PM Volumes

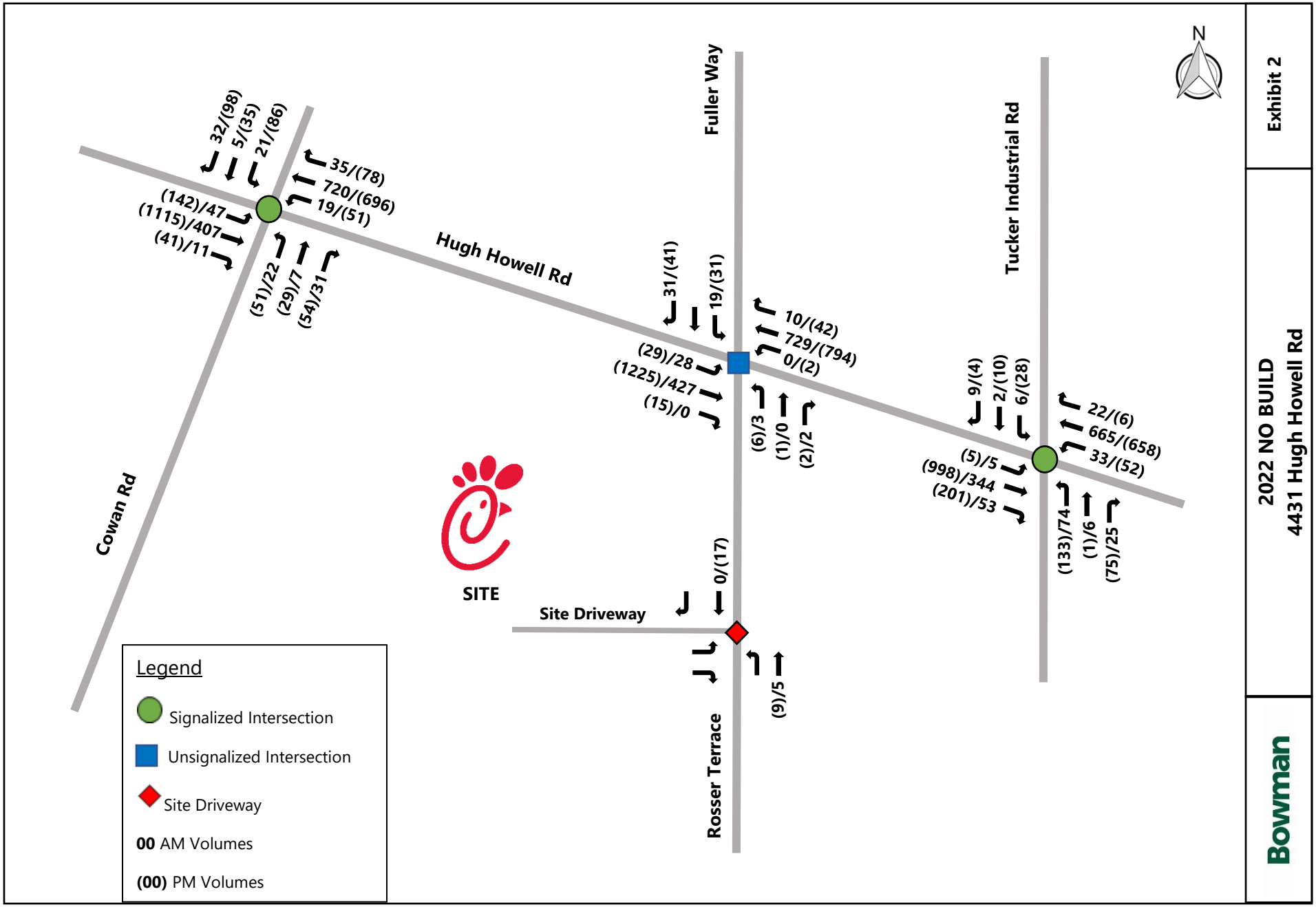


Exhibit 2
2022 NO BUILD
4431 Hugh Howell Rd
Bowman
N
Hugh Howell Rd
Fuller Way
Tucker Industrial Rd
Cowan Rd
Rosser Terrace
Site Driveway
SITE
32/(98)
5/(35)
21/(86)
(142)/47
(1115)/407
(41)/11
35/(78)
720/(696)
19/(51)
(51)/22
(29)/7
(54)/31
31/(41)
19/(31)
(29)/28
(1225)/427
(15)/0
10/(42)
729/(794)
0/(2)
(6)/3
(1)/0
(2)/2
0/(17)
(9)/5
9/(4)
2/(10)
6/(28)
(5)/5
(998)/344
(201)/53
22/(6)
665/(658)
33/(52)
(133)/74
(1)/6
(75)/25
Legend
Signalized Intersection
Unsignalized Intersection
Site Driveway
00 AM Volumes
(00) PM Volumes

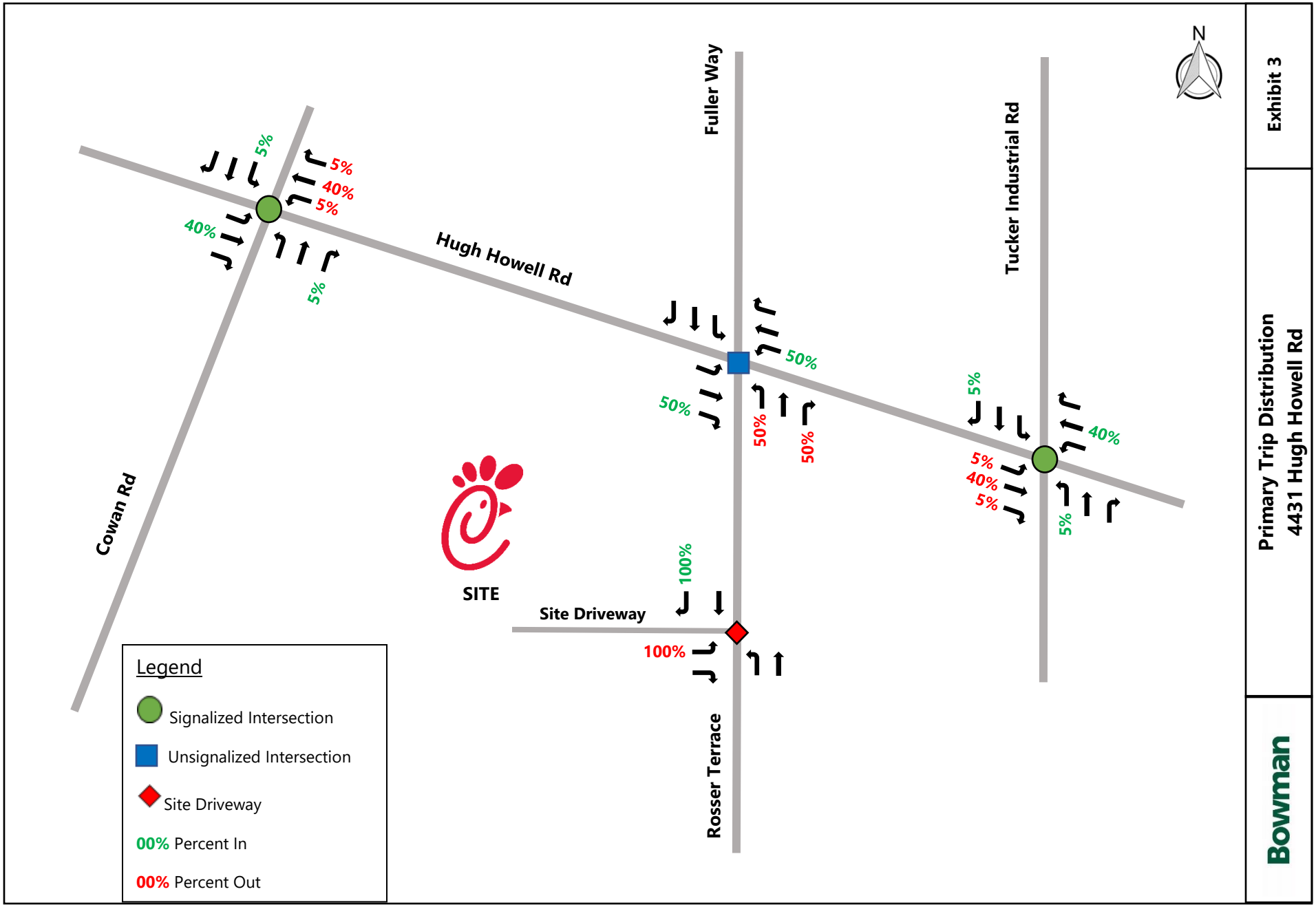


Exhibit 3
Primary Trip Distribution
4431 Hugh Howell Rd
Bowman
N
Hugh Howell Rd
Fuller Way
Tucker Industrial Rd
Cowan Rd
Rosser Terrace
Site Driveway
SITE
5%
40%
5%
40%
5%
5%
50%
50%
50%
50%
5%
40%
5%
40%
5%
100%
100%
Legend
Signalized Intersection
Unsignalized Intersection
Site Driveway
00% Percent In
00% Percent Out

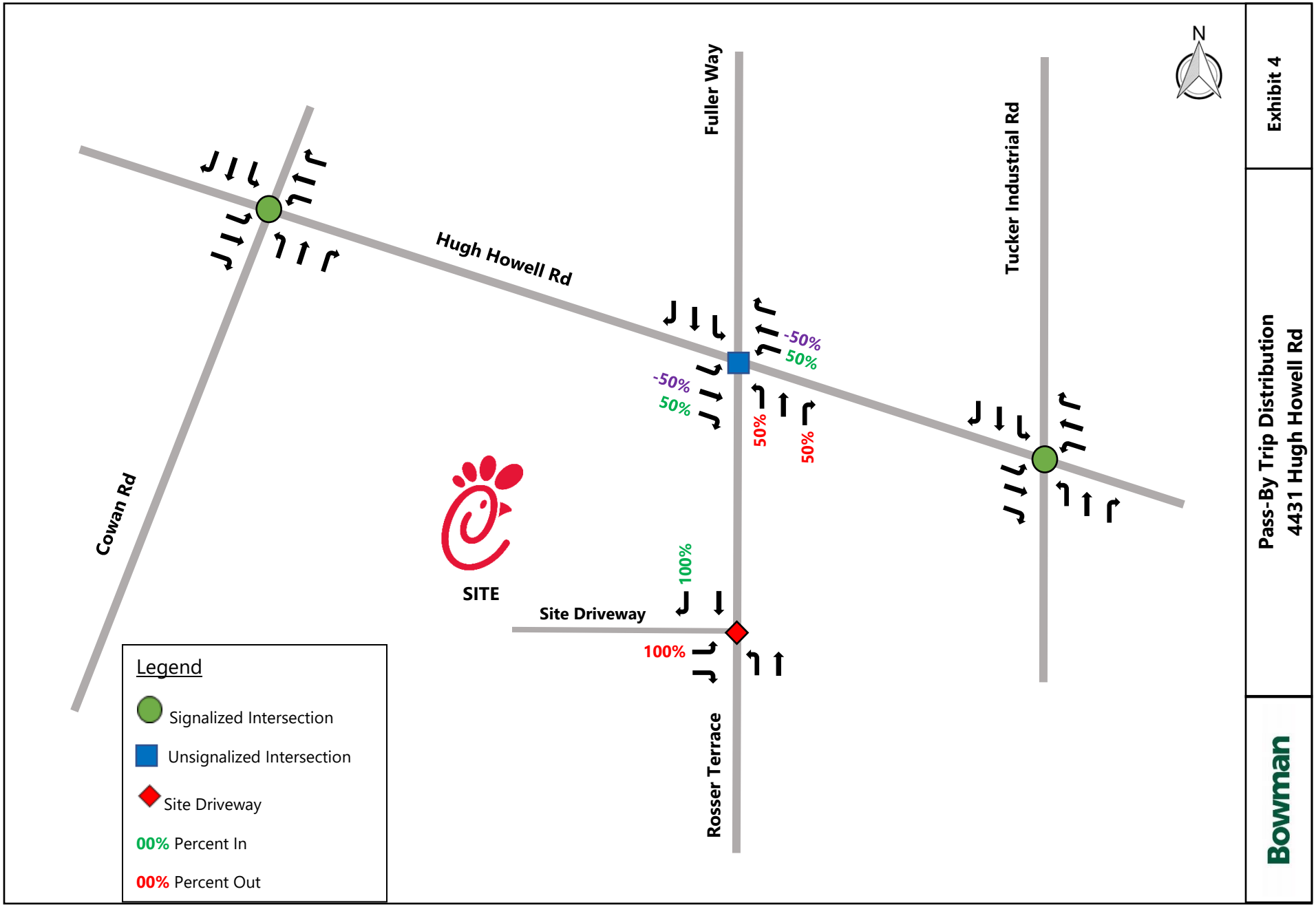


Exhibit 4
Pass-By Trip Distribution
4431 Hugh Howell Rd
Bowman
N
Hugh Howell Rd
Fuller Way
Tucker Industrial Rd
Cowan Rd
Rosser Terrace
Site Driveway
SITE
-50%
50%
-50%
50%
50%
50%
100%
100%
Legend
Signalized Intersection
Unsignalized Intersection
Site Driveway
00% Percent In
00% Percent Out

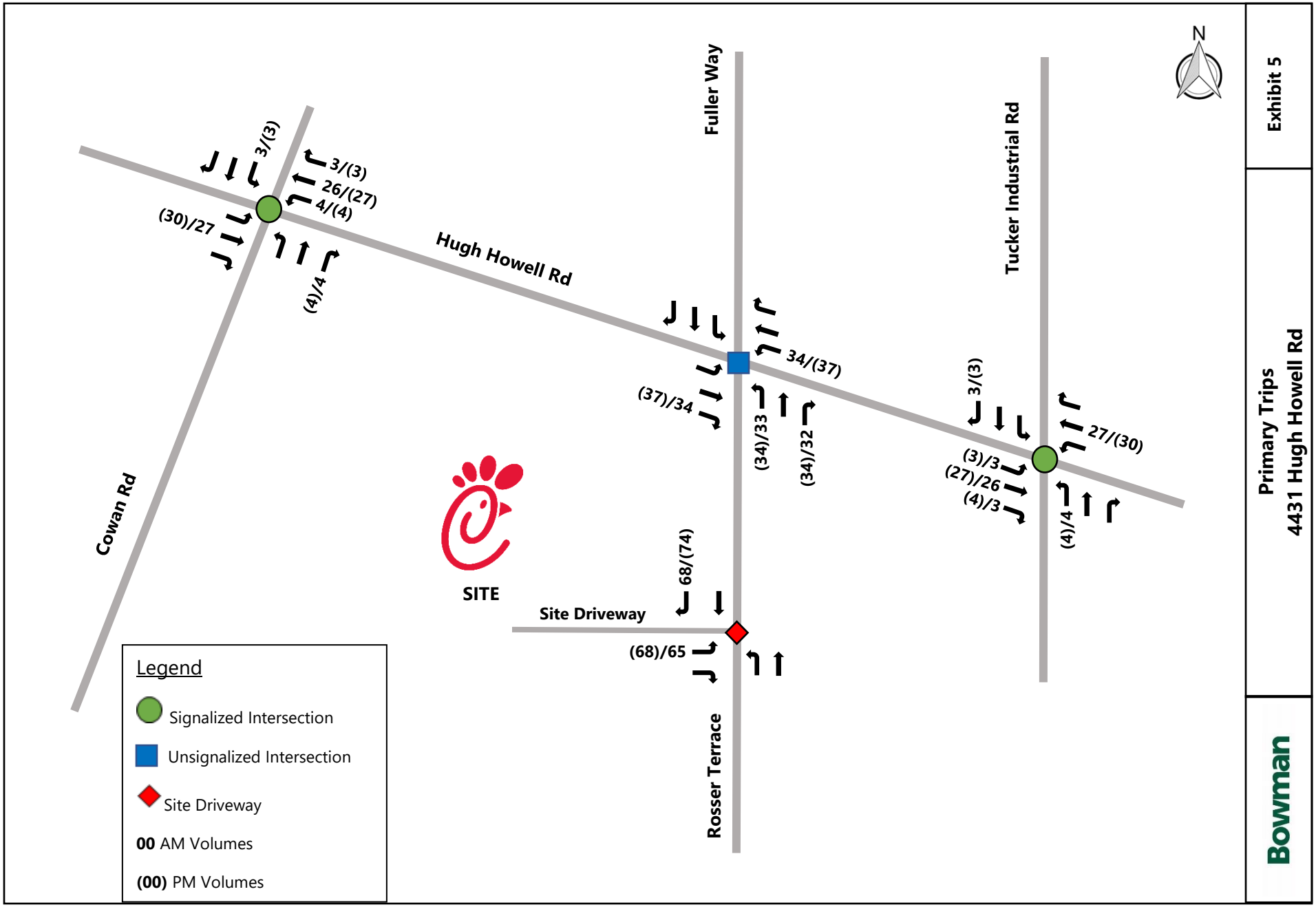


Exhibit 5
Primary Trips
4431 Hugh Howell Rd
Bowman
N
Hugh Howell Rd
Fuller Way
Tucker Industrial Rd
Cowan Rd
Rosser Terrace
Site Driveway
SITE
3/(3)
3/(3)
26/(27)
4/(4)
(30)/27
(4)/4
34/(37)
(37)/34
(34)/33
(34)/32
3/(3)
27/(30)
(3)/3
(27)/26
(4)/3
(4)/4
68/(74)
(68)/65
Legend
Signalized Intersection
Unsignalized Intersection
Site Driveway
00 AM Volumes
(00) PM Volumes

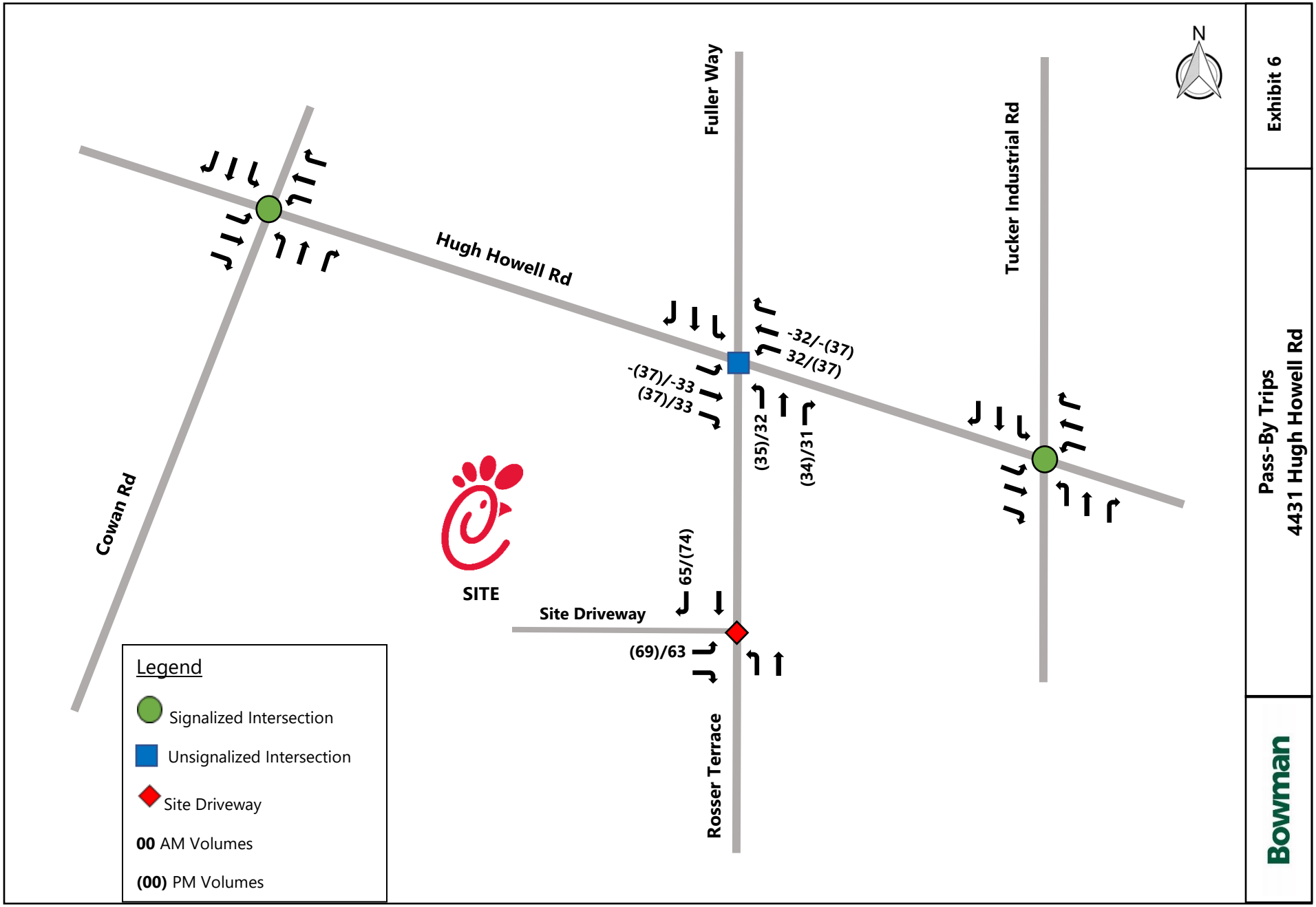


Exhibit 6
Pass-By Trips
4431 Hugh Howell Rd
Bowman
N
Hugh Howell Rd
Fuller Way
Tucker Industrial Rd
Cowan Rd
Rosser Terrace
SITE
Site Driveway
-32/-(37)
32/(37)
-(37)/-33
(37)/33
(35)/32
(34)/31
65/(74)
(69)/63
Legend
Signalized Intersection
Unsignalized Intersection
Site Driveway
00 AM Volumes
(00) PM Volumes

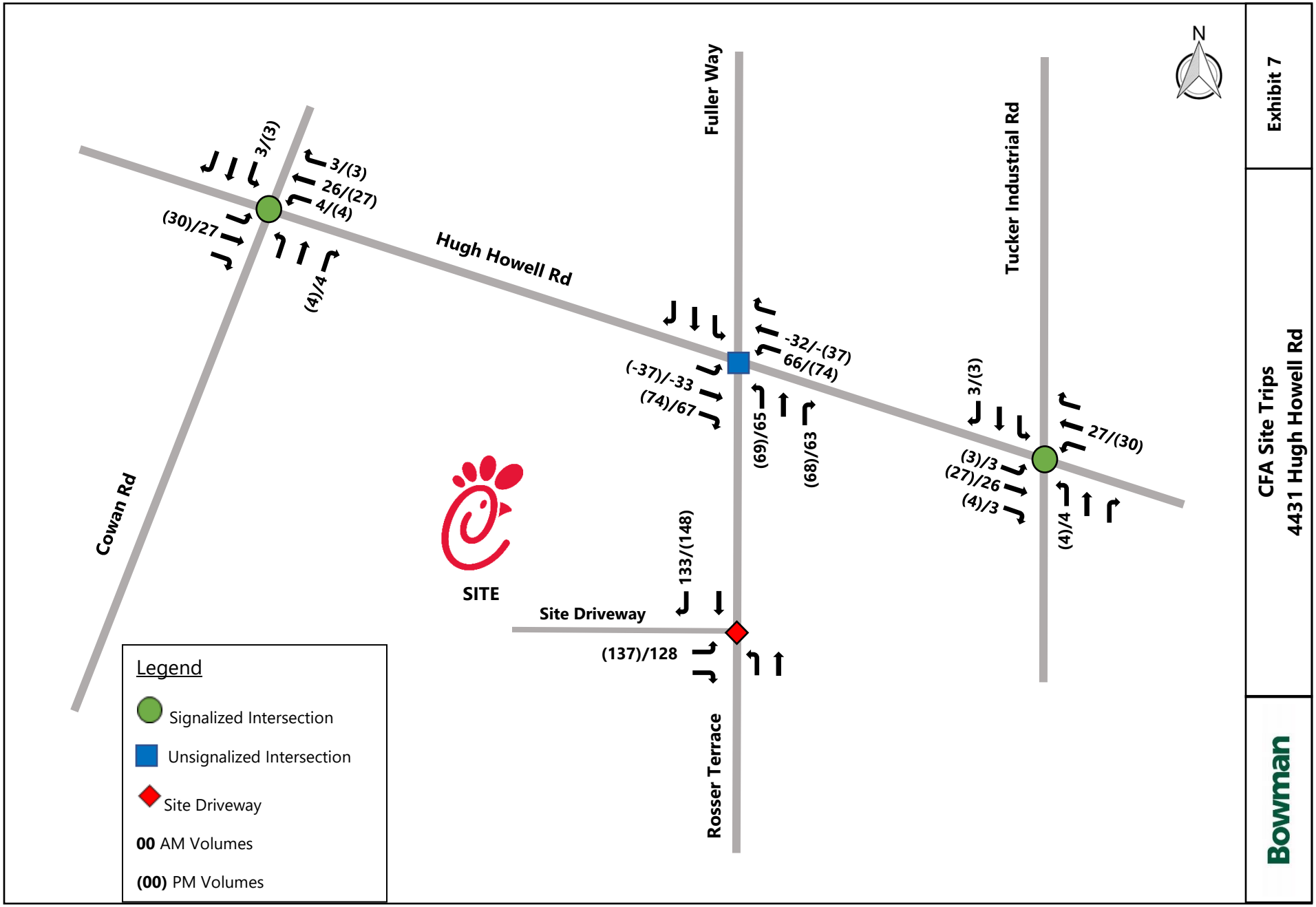


Exhibit 7
CFA Site Trips
4431 Hugh Howell Rd
Bowman
N
Hugh Howell Rd
Fuller Way
Tucker Industrial Rd
Cowan Rd
Rosser Terrace
Site Driveway
SITE
3/(3)
3/(3)
26/(27)
4/(4)
(30)/27
(4)/4
-32/-(37)
66/(74)
(-37)/-33
(74)/67
(69)/65
(68)/63
3/(3)
27/(30)
(3)/3
(27)/26
(4)/3
(4)/4
133/(148)
(137)/128
Legend
Signalized Intersection
Unsignalized Intersection
Site Driveway
00 AM Volumes
(00) PM Volumes

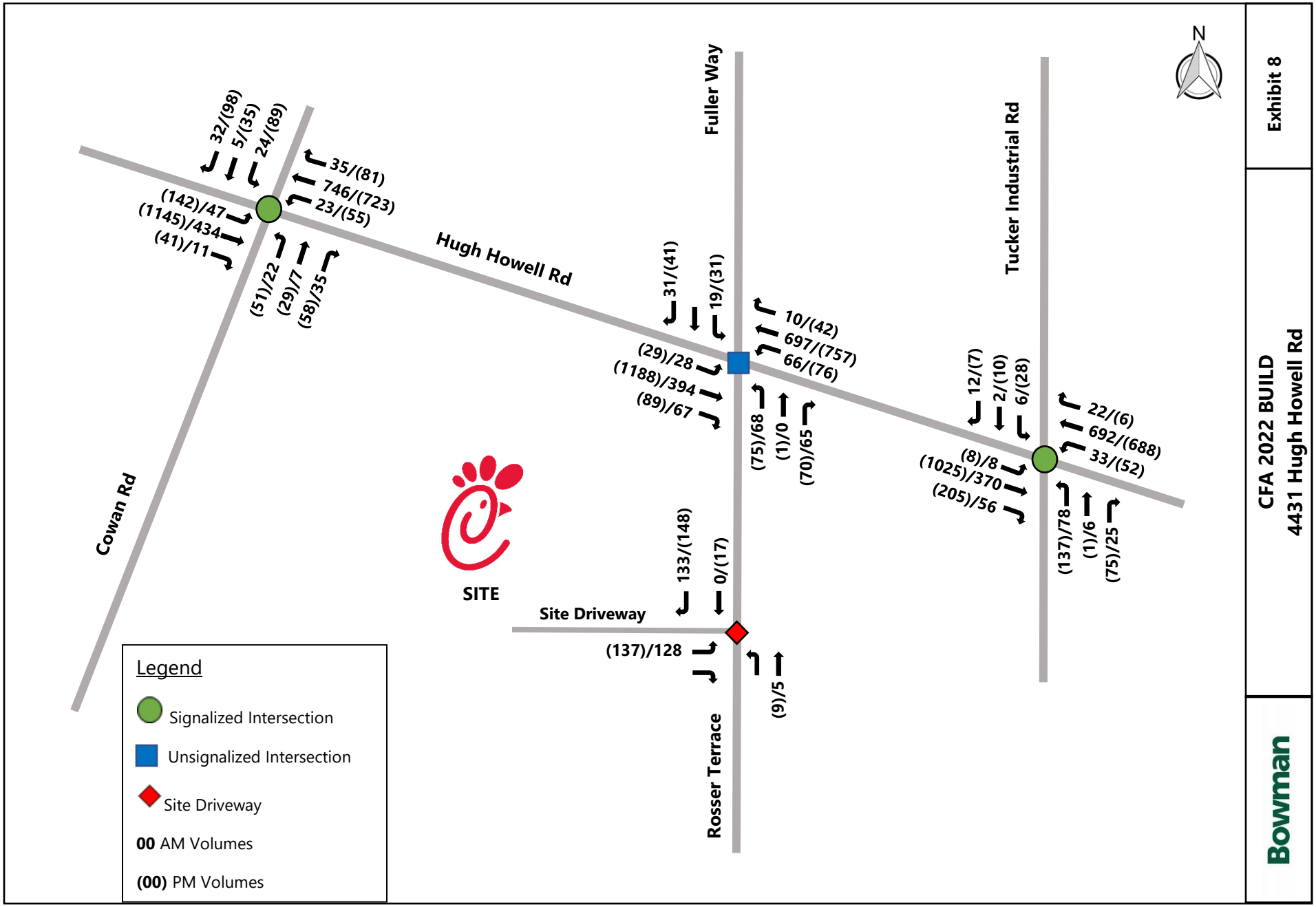


Exhibit 8
CFA 2022 BUILD
4431 Hugh Howell Rd
Bowman
N
Hugh Howell Rd
Fuller Way
Tucker Industrial Rd
Cowan Rd
Rosser Terrace
Site Driveway
SITE
32/(98)
5/(35)
24/(89)
35/(81)
746/(723)
23/(55)
(142)/47
(1145)/434
(41)/11
(51)/22
(29)/7
(58)/35
31/(41)
19/(31)
10/(42)
697/(757)
66/(76)
(29)/28
(1188)/394
(89)/67
(75)/68
(1)/0
(70)/65
12/(7)
2/(10)
6/(28)
22/(6)
692/(688)
33/(52)
(8)/8
(1025)/370
(205)/56
(137)/78
(1)/6
(75)/25
133/(148)
0/(17)
(137)/128
(9)/5
Legend
Signalized Intersection
Unsignalized Intersection
Site Driveway
00 AM Volumes
(00) PM Volumes

APPENDIX E

Bowman

Memorandum

To: Chick-fil-A, Inc.

From: Andrew J. Petersen, P.E. - Director
Daniela Jurado – Analyst
Rodrigo Meirelles -Analyst

Date: 06/18/2021

Re: Chick-Fil-A – Trip Generation Memorandum

Bowman Consulting has been retained by Chick-fil-A, Inc. to perform a Trip Generation at three fully operational Chick-Fil-A (CFA) Restaurants to determine the expected morning and evening peak hour trip generation rates for this facilities.

The purposes of the trip generation and stacking assessment are as follows:

- Determine the appropriate independent variable to assess the applicable CFA trip generation rates.
- Determine the expected trip generation rates for the CFA based on data collected from three existing CFA Sites.
- Determine if the Institute of Transportation Engineers (ITE) trip generation rates are consistent with calculated expected number of vehicular trips on the proposed CFA.
- Select the appropriate trip generation rates for the proposed CFA.

Selected Sites

For the preparation of this assessment, three Chick-Fil-A sites have been evaluated. The following criteria has been considered for the site selection:

- Type of Facility (Chick-Fil-A Restaurant)
- Operation (Drive-thru and Indoor sitting)
- Location of the facilities

The following sites were selected for the data collection.

Location 1	• **Chick-Fil A Piedmont** • **Address:** 2580 Piedmont Rd NE, Atlanta, GA 30324 • **Surveyed Site Intensity:** 5,200 SF • **AADT of Adjacent Street:** 44,100
Location 2	• **Chick-Fil A Druid Hills** • **Address:** 2340 N Druid Hills Rd NE, Atlanta, GA 30329 • **Surveyed Site Intensity:** 4,550 SF • **AADT of Adjacent Street:** 56,300

Location 3	• **Chick-Fil A Northside Dr** • **Address:** 1100 Northside Dr NW, Atlanta, GA 30318 • **Surveyed Site Intensity:** 4,450SF • **AADT of Adjacent Street:** 30,300

Study Methodology

The study was based on average weekday entering/exiting volumes at each one of the selected Chick-Fil-A locations provided by the Atlanta Department of Transportation. The information corresponds to the average weekday data from two months in 2019 and February 2021 while school was in session.

The procedures and evaluation for this assessment are in accordance with the Institute of Traffic Engineers (ITE) Trip Generation Manual Handbook, 3rd Edition. The ITE is the leading resource for such data and provides traffic and parking related data for numerous land use and building types. Additionally, ITE provides trip and parking generation procedures to determine site specific trip and parking generation rates.

Data Collection

For the purposes of this study the following data was collected:

- Site specific data for existing Chick Fil A sites: Square Footage and location.
- Published GDOT AADT counts.
- ITE Trip Generation information and variables.
- Average trips generated by the surveyed Chick Fil A sites provided by the Atlanta Department of Transportation, see **Attachment A**.

Trip Generation Data

Table 1 displays the trip generation data collected on the three existing sites.

Table 1. Collected Trip Generation Data

Facility	Location	Square Footage	Adjacent Street ADTs	Time	In	Out	Total
CFA	2580 Piedmont Rd NE, Atlanta, GA 30324	5,200	44,100	AM	221	221	442
				PM	202	202	404
CFA	2340 N Druid Hills Rd NE Atlanta, GA 30329	4,550	56,300	AM	184	248	432
				Noon	306	412	718
				PM	192	308	500
CFA	1100 Northside Dr NW Atlanta, GA 30318	4,450	30,300	AM	262	262	524
				Noon	263	263	526
				PM	164	164	328

To assess the trip generation rates for the Chick-Fil-A two independent variables were evaluated: Gross Floor Area (GFA), AADT Adjacent Street.

To select the independent variables, the best fitted curve models were evaluated based on the conceptual validity of signs of the equations and goodness of fit. The results of these evaluation are presented in **Table 2**.

Table 2. Trip Generation Model evaluation

Model	Independent Variable	Equation	R^2	Signs Conceptually Valid	Acceptable Goodness of FIT
AM Models	1,000 SF GFA	*y = -64.523x + 771.41*	0.271	No	No
	AADT of Adajacent Street	*y = -0.0036x + 622.44*	0.8563	No	Yes
PM Models	1,000 SF GFA	*y = 11.859x + 354.53*	0.0031	Yes	No
	AADT of Adajacent Street	*y = 0.0066x + 123.51*	0.9895	Yes	Yes

Models containing the GFA variable were found to be not conceptually valid, with equations that reflect an inverse relationship between the GFA and the number of trips generated by the site and unacceptable goodness of fit.

Models using AADT of Adjacent Street as independent variable show acceptable goodness of fit. However, the AM model Based on AADT of adjacent street shows signs non conceptually valid, therefore, the weighted average was evaluated for this time period.

Based on the results presented in **Table 2** the Adjacent Street Traffic was selected as independent variable for both the morning and evening peak hours.

Following the procedures presented on the ITE *trip generation Handbook*, Chapter 9 and Appendix J, the use of the weighted average rate for the Morning peak was validated by comparing the weighted standard deviation with the weighted Average trip rate. **Table 3** presents the validation for the use of weighted average for the morning peak hour trip rate.

Table 3. Validation of AM Weighted average trip generation

Location	AADT of adjacent Steet	Peak Hour AM	Trip rate	Value	Value Squared	weight	Value Squared *weight
2580 Piedmont Rd	44,100	442	0.01002	0.00	0.0000005	0.34	0.00000015
2340 N Druid Hills Rd	56,300	432	0.00767	0.00	0.0000091	0.43	0.00000394
1100 Northside Dr	30,300	524	0.01729	0.01	0.0000435	0.23	0.00001009
Total	130,700.00	1,398.00	0.01070	-	*Variance*		0.00001418
					Weighted Sample Variance		0.00001773
					Weighted Std Dev		0.00
					Percentage of W StdDev		39%
					Acceptable (less than 55% Trip Rate)		Yes

As presented in **Table 3** the standard deviation of the data falls in the allowable 55% threshold according to the procedures presented on the ITE trip generation Handbook, Chapter 9 and Appendix J, therefore, the use of weighted average trip generation rate is acceptable.

The selected trip generation equations for CFA facilities are presented in **Table 4**.

Table 4. Trip Generation equations for CFA facilities

Model	Independent Variable	Equation
AM	AADT of Adajacent Street	*Total AM CFA trips = 0.0107 x AADT of Adjacent Street*
PM	AADT of Adajacent Street	*Total PM CFA trips = 0.0066 x AADT of Adjacent Street + 123.51*

The evening peak hour model is the resulting fitted curve with AADT of adjacent street as independent variable. The trip generation rate for the morning peak hour is 0.0107 trips/AADT of Adjacent Street Traffic.

Conclusions and Recommendations

- Both, the morning and evening models containing the GFA variable were found to have unacceptable goodness of fit, the morning models is not conceptually valid, with an

equation that reflects an inverse relationship between the GFA, and the number of trips generated by the site.

- Models using AADT of Adjacent Street as independent variable show acceptable goodness of fit.
- The evening peak hour model is fitted curve with AADT of adjacent street as independent variable.
- The AM model Based on AADT of adjacent street shows signs non conceptually valid therefore, the weighted average was evaluated for this time period.
- The evaluation of the data for the morning peak hour shows that the standard deviation of the data falls in the allowable 55% threshold according to the procedures presented on the ITE trip generation Handbook, Chapter 9 and Appendix J, therefore, the use of weighted average trip generation rate is acceptable.
- The trip generation rate for the morning peak hour is 0.0107 trips/AADT of Adjacent Street Traffic.

ATTACHMENT A

From: Rome, Christopher <crome@AtlantaGa.Gov>
Sent: Wednesday, June 9, 2021 10:32 AM
To: Daniela Jurado; Rodriguez, Juan C.; Moore, Clyde
Cc: Rodrigo Meirelles; Andrew Petersen; Bridgette Ganter; Smoot-Madison, Betty; Brown, Barrington G.
Subject: [EXTERNAL] RE: Traffic Impact Study Methodology Chick-Fil-A Cheshire Bridge Rd & Sheridan Rd

1100 Northside Dr

- AM Peak – 262 trips in, assume 262 trips out– 524 total trips
- Noon Peak – 263 trips in, assume 263 trips out – 526 total trips
- PM Peak – 164 trips in, assume 164 trips out – 328 total trips

Have you contacted GDOT's RTOP program or collected TMC's already at the I-85 ramps? That data will be more accurate than StreetLight Insight TMCs which are still in beta.

Chris Rome, PE, PTOE
Senior Multimodal Transportation Engineer
City of Atlanta Department of Transportation
470-653-3016
crome@atlantaga.gov

From: Daniela Jurado <djurado@bowman.com>
Sent: Wednesday, June 9, 2021 8:39 AM
To: Rome, Christopher <crome@AtlantaGa.Gov>; Rodriguez, Juan C. <JCRodriguez@AtlantaGa.Gov>; Moore, Clyde <CMoore@AtlantaGa.Gov>
Cc: Rodrigo Meirelles <rmeirelles@bowman.com>; Andrew Petersen <apetersen@bowman.com>; Bridgette Ganter <bganter@bowman.com>; Smoot-Madison, Betty <bsmoot-madison@AtlantaGa.Gov>; Brown, Barrington G. <BGBrown@AtlantaGa.Gov>
Subject: [EXTERNAL] RE: Traffic Impact Study Methodology Chick-Fil-A Cheshire Bridge Rd & Sheridan Rd

Good Morning Chris,

Would it be possible to also pull out the Turning movements for Cheshire Bridge at I-85 ramps for the am noon and pm?

Thank you,

DANIELA JURADO
Project Manager | **BOWMAN**
4450 W Eau Gallie Boulevard, Suite 144, Melbourne, FL 32934
O: (321) 270-8905 | D: (321) 270-8977 | M: (786) 370-2762
djurado@bowman.com | bowman.com

From: Rome, Christopher <crome@AtlantaGa.Gov>
Sent: Tuesday, June 8, 2021 7:09 PM
To: Daniela Jurado <djurado@bowman.com>; Rodriguez, Juan C. <JCRodriguez@AtlantaGa.Gov>; Moore, Clyde <CMoore@AtlantaGa.Gov>
Cc: Rodrigo Meirelles <rmeirelles@bowman.com>; Andrew Petersen <apetersen@bowman.com>; Bridgette Ganter <bganter@bowman.com>; Smoot-Madison, Betty <bsmoot-madison@AtlantaGa.Gov>; Brown, Barrington G. <BGBrown@AtlantaGa.Gov>
Subject: [EXTERNAL] RE: Traffic Impact Study Methodology Chick-Fil-A Cheshire Bridge Rd & Sheridan Rd

Tucker is outside of our data licensing geographic limits.
I'll pull the data from the Northside Dr site tomorrow.

Chris Rome, PE, PTOE
Senior Multimodal Transportation Engineer
City of Atlanta Department of Transportation
470-653-3016
crome@atlantaga.gov

From: Daniela Jurado <djurado@bowman.com>
Sent: Tuesday, June 8, 2021 7:00 PM
To: Rome, Christopher <crome@AtlantaGa.Gov>; Rodriguez, Juan C. <JCRodriguez@AtlantaGa.Gov>; Moore, Clyde <CMoore@AtlantaGa.Gov>
Cc: Rodrigo Meirelles <rmeirelles@bowman.com>; Andrew Petersen <apetersen@bowman.com>; Bridgette Ganter <bganter@bowman.com>; Smoot-Madison, Betty <bsmoot-madison@AtlantaGa.Gov>; Brown, Barrington G. <BGBrown@AtlantaGa.Gov>
Subject: [EXTERNAL] RE: Traffic Impact Study Methodology Chick-Fil-A Cheshire Bridge Rd & Sheridan Rd

Thank you for the information. We would like to have the information for the following sites:

Location	**AADT**
1100 Northside Dr NW	30,300
4340 Hugh Howell Rd, Tucker, GA 30084	25,300

The reason is, we also want to evaluate the trip generation based on the AADT of adjacent street.

Thank you in advance.

Sincerely,

DANIELA JURADO
Project Manager | **BOWMAN**
4450 W Eau Gallie Boulevard, Suite 144, Melbourne, FL 32934
O: (321) 270-8905 | D: (321) 270-8977 | M: (786) 370-2762
djurado@bowman.com | bowman.com

From: Rome, Christopher <crome@AtlantaGa.Gov>
Sent: Tuesday, June 8, 2021 5:21 PM
To: Daniela Jurado <djurado@bowman.com>; Rodriguez, Juan C. <JCRodriguez@AtlantaGa.Gov>; Moore, Clyde <CMoore@AtlantaGa.Gov>
Cc: Rodrigo Meirelles <rmeirelles@bowman.com>; Andrew Petersen <apetersen@bowman.com>; Bridgette Ganter <bganter@bowman.com>; Smoot-Madison, Betty <bsmoot-madison@AtlantaGa.Gov>; Brown, Barrington G. <BGBrown@AtlantaGa.Gov>
Subject: [EXTERNAL] RE: Traffic Impact Study Methodology Chick-Fil-A Cheshire Bridge Rd & Sheridan Rd

I think it depends on the site characteristics if the Miami site is similar.

I used our StreetLight Data Insight platform access to look at the number of trips entering two Chick-fil-A locations in Atlanta. This is average weekday (M-Th) information from 2 months in 2019 and February 2021 when school was in session. The 1 standard deviation from the ITE land use code trip generation seems too low for an accurate assessment of site impact. If you have a specific site location in Atlanta that you think will be more representative of the conditions for the proposed site at Cheshire Bridge and Sheridan Rd, let me know and I can pull data for those locations.

2580 Piedmont Rd

- AM Peak – 221 trips in, assume 221 trips out– 442 total trips
- Noon Peak – 332 trips in, assume 332 trips out – 664 total trips
- PM Peak – 202 trips in, assume 202 trips out – 404 total trips

2340 N Druid Hills Rd

- AM Peak – 184 trips in, 248 trips out– 432 total trips
- Noon Peak – 306 trips in, 412 trips out – 718 total trips
- PM Peak – 192 trips in, 308 trips out – 500 total trips

Chris Rome, PE, PTOE
Senior Multimodal Transportation Engineer
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470-653-3016
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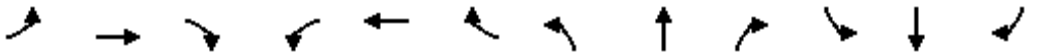
From: Daniela Jurado <djurado@bowman.com>
Sent: Tuesday, June 8, 2021 2:36 PM
To: Rome, Christopher <crome@AtlantaGa.Gov>; Rodriguez, Juan C. <JCRodriguez@AtlantaGa.Gov>; Moore, Clyde <CMoore@AtlantaGa.Gov>
Cc: Rodrigo Meirelles <rmeirelles@bowman.com>; Andrew Petersen <apetersen@bowman.com>; Bridgette Ganter <bganter@bowman.com>; Smoot-Madison, Betty <bsmoot-madison@AtlantaGa.Gov>; Brown, Barrington G. <BGBrown@AtlantaGa.Gov>
Subject: [EXTERNAL] RE: Traffic Impact Study Methodology Chick-Fil-A Cheshire Bridge Rd & Sheridan Rd

Good Afternoon Chris,

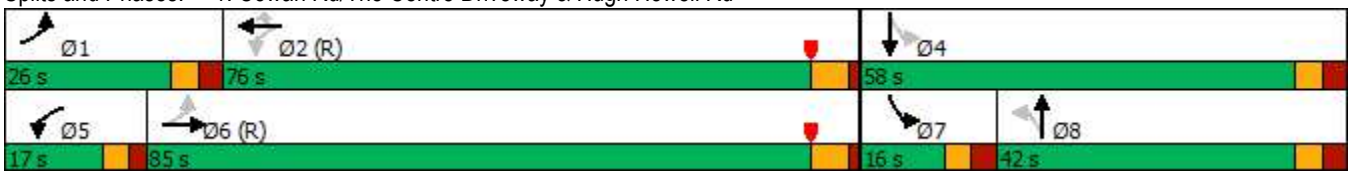
APPENDIX F

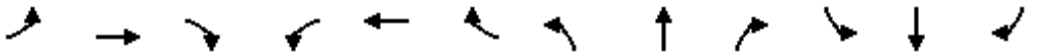


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	407	11	19	720	35	22	7	31	21	5	32
Future Volume (vph)	47	407	11	19	720	35	22	7	31	21	5	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	10	10	10
Storage Length (ft)	125		0	115		0	0		0	0		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	55			65			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1049			415			1011			510	
Travel Time (s)		15.9			6.3			23.0			11.6	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	9%	0%	4%	0%	0%	0%	0%	10%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	1	6		5	2			8		7	4	
Permitted Phases	6			2		2	8			4		
Detector Phase	1	6		5	2	2	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		5.0	10.0	10.0	7.0	7.0		5.0	7.0	
Minimum Split (s)	13.2	27.4		10.3	32.1	32.1	35.5	35.5		11.1	35.5	
Total Split (s)	26.0	85.0		17.0	76.0	76.0	42.0	42.0		16.0	58.0	
Total Split (%)	16.3%	53.1%		10.6%	47.5%	47.5%	26.3%	26.3%		10.0%	36.3%	
Maximum Green (s)	19.8	78.9		11.7	69.9	69.9	35.5	35.5		9.9	51.5	
Yellow Time (s)	3.4	4.6		3.1	4.6	4.6	3.5	3.5		3.1	3.5	
All-Red Time (s)	2.8	1.5		2.2	1.5	1.5	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.2	6.1		5.3	6.1	6.1		6.5		6.1	6.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	0.2	3.0		0.2	3.0	3.0	0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	20.0		0.0	20.0	20.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)		10.0			19.0	19.0	22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0	0	0	0			0	
Act Effct Green (s)	126.2	121.9		123.7	118.1	118.1		9.6		19.0	18.6	
Actuated g/C Ratio	0.79	0.76		0.77	0.74	0.74		0.06		0.12	0.12	
v/c Ratio	0.09	0.17		0.03	0.30	0.03		0.55		0.17	0.19	
Control Delay	5.0	7.0		4.5	8.0	0.1		58.3		60.5	21.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	5.0	7.0		4.5	8.0	0.1		58.3		60.5	21.6	
LOS	A	A		A	A	A		E		E	C	
Approach Delay		6.8			7.5			58.3			36.0	
Approach LOS		A			A			E			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 148.9 (93%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 10.8	Intersection LOS: B
Intersection Capacity Utilization 53.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Cowan Rd/The Centre Driveway & Hugh Howell Rd





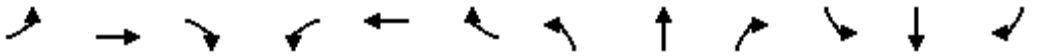
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	407	11	19	720	35	22	7	31	21	5	32
Future Volume (veh/h)	47	407	11	19	720	35	22	7	31	21	5	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1826	1900	1841	1900	1900	1900	1900	1752	1900	1900
Adj Flow Rate, veh/h	51	438	12	20	774	38	24	8	33	23	5	34
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	5	5	0	4	0	0	0	0	10	0	0
Cap, veh/h	615	2613	71	768	2557	1176	56	17	43	148	24	161
Arrive On Green	0.04	0.76	0.76	0.04	1.00	1.00	0.05	0.05	0.05	0.02	0.11	0.11
Sat Flow, veh/h	1810	3449	94	1810	3497	1609	471	309	804	1668	211	1432
Grp Volume(v), veh/h	51	220	230	20	774	38	65	0	0	23	0	39
Grp Sat Flow(s),veh/h/ln	1810	1735	1809	1810	1749	1609	1583	0	0	1668	0	1642
Q Serve(g_s), s	1.1	5.6	5.7	0.4	0.0	0.0	4.9	0.0	0.0	2.0	0.0	3.5
Cycle Q Clear(g_c), s	1.1	5.6	5.7	0.4	0.0	0.0	6.4	0.0	0.0	2.0	0.0	3.5
Prop In Lane	1.00		0.05	1.00		1.00	0.37		0.51	1.00		0.87
Lane Grp Cap(c), veh/h	615	1314	1370	768	2557	1176	116	0	0	148	0	184
V/C Ratio(X)	0.08	0.17	0.17	0.03	0.30	0.03	0.56	0.00	0.00	0.16	0.00	0.21
Avail Cap(c_a), veh/h	768	1314	1370	867	2557	1176	376	0	0	218	0	529
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.3	5.4	5.4	5.0	0.0	0.0	74.6	0.0	0.0	67.7	0.0	64.6
Incr Delay (d2), s/veh	0.1	0.3	0.3	0.0	0.3	0.1	4.1	0.0	0.0	0.5	0.0	0.6
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(50%),veh/ln	0.4	1.9	2.0	0.2	0.1	0.0	2.8	0.0	0.0	0.9	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.4	5.7	5.7	5.0	0.3	0.1	78.7	0.0	0.0	68.2	0.0	65.2
LnGrp LOS	A	A	A	A	A	A	E	A	A	E	A	E
Approach Vol, veh/h		501			832			65			62	
Approach Delay, s/veh		5.5			0.4			78.7			66.3	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	123.1		24.4	8.2	127.3	9.3	15.1				
Change Period (Y+Rc), s	* 6.2	6.1		6.5	* 5.3	6.1	6.1	6.5				
Max Green Setting (Gmax), s	* 20	69.9		51.5	* 12	78.9	9.9	35.5				
Max Q Clear Time (g_c+I1), s	3.1	2.0		5.5	2.4	7.7	4.0	8.4				
Green Ext Time (p_c), s	0.1	13.1		0.2	0.0	5.6	0.0	0.3				

Intersection Summary			
HCM 6th Ctrl Delay		8.4	
HCM 6th LOS		A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	427	0	0	729	10	3	0	2	19	0	31
Future Volume (vph)	28	427	0	0	729	10	3	0	2	19	0	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		415			1148			1035			349	
Travel Time (s)		6.3			17.4			23.5			7.9	
Confl. Peds. (#/hr)	1		1	1		1						
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	7%	3%	0%	0%	2%	10%	33%	0%	0%	10%	0%	0%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.3%		ICU Level of Service A	
Analysis Period (min) 15			

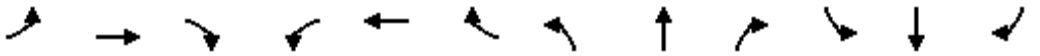
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	427	0	0	729	10	3	0	2	19	0	31
Future Vol, veh/h	28	427	0	0	729	10	3	0	2	19	0	31
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	7	3	0	0	2	10	33	0	0	10	0	0
Mvmt Flow	30	459	0	0	784	11	3	0	2	20	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	796	0	0	460	0	0	912	1316	231	1075	1305	393
Stage 1	-	-	-	-	-	-	520	520	-	785	785	-
Stage 2	-	-	-	-	-	-	392	796	-	290	520	-
Critical Hdwy	4.24	-	-	4.1	-	-	8.16	6.5	6.9	7.7	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.5	5.5	-	5.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.5	5.5	-	5.5	5.5	-
Follow-up Hdwy	2.27	-	-	2.2	-	-	3.83	4	3.3	3.6	4	3.3
Pot Cap-1 Maneuver	790	-	-	1112	-	-	186	159	777	164	162	612
Stage 1	-	-	-	-	-	-	553	535	-	435	407	-
Stage 2	-	-	-	-	-	-	632	402	-	740	535	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	789	-	-	1111	-	-	171	153	776	159	156	611
Mov Cap-2 Maneuver	-	-	-	-	-	-	328	264	-	306	277	-
Stage 1	-	-	-	-	-	-	531	514	-	418	407	-
Stage 2	-	-	-	-	-	-	598	402	-	710	514	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	13.6	11.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	426	789	-	-	1111	-	-	611
HCM Lane V/C Ratio	0.013	0.038	-	-	-	-	-	0.055
HCM Control Delay (s)	13.6	9.7	-	-	0	-	-	11.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.2

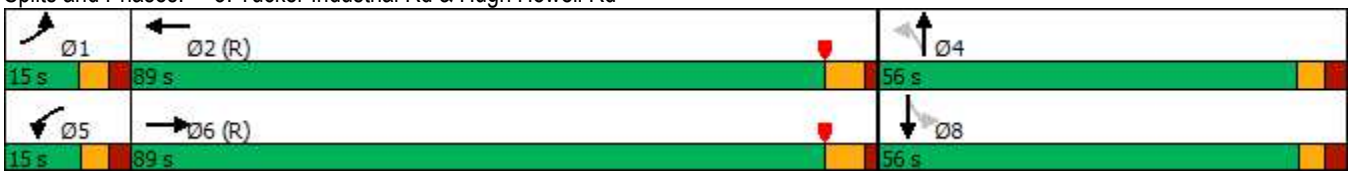


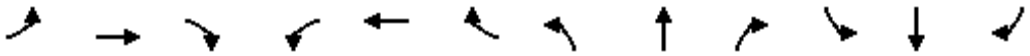
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	344	53	33	665	22	74	6	25	6	2	9
Future Volume (vph)	5	344	53	33	665	22	74	6	25	6	2	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	14	12
Storage Length (ft)	150		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	60			50			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		1148			648			819			1228	
Travel Time (s)		17.4			9.8			16.0			23.9	
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	5%	4%	12%	3%	10%	10%	0%	12%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	11.1	31.4		10.9	31.4		31.1	31.1		33.9	33.9	
Total Split (s)	15.0	89.0		15.0	89.0		56.0	56.0		56.0	56.0	
Total Split (%)	9.4%	55.6%		9.4%	55.6%		35.0%	35.0%		35.0%	35.0%	
Maximum Green (s)	8.9	82.6		9.1	82.6		49.9	49.9		50.1	50.1	
Yellow Time (s)	3.5	4.7		3.3	4.7		3.3	3.3		3.0	3.0	
All-Red Time (s)	2.6	1.7		2.6	1.7		2.8	2.8		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.1	6.4		5.9	6.4			6.1			5.9	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	0.2	3.0		0.2	3.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	20.0		0.0	20.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	15.0		0.0	15.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0			18.0		18.0	18.0		21.0	21.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.2	117.0		9.1	127.0			17.8			18.0	
Actuated g/C Ratio	0.04	0.73		0.06	0.79			0.11			0.11	
v/c Ratio	0.09	0.18		0.41	0.28			0.72			0.10	
Control Delay	67.6	9.1		85.0	5.5			85.2			38.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	67.6	9.1		85.0	5.5			85.2			38.4	
LOS	E	A		F	A			F			D	
Approach Delay		9.9			9.2			85.2			38.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 38.6 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 16.3		Intersection LOS: B	
Intersection Capacity Utilization 49.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Tucker Industrial Rd & Hugh Howell Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	344	53	33	665	22	74	6	25	6	2	9
Future Volume (veh/h)	5	344	53	33	665	22	74	6	25	6	2	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1826	1722	1856	1856	1900	1976	1900	1900	1976	1900
Adj Flow Rate, veh/h	6	382	59	37	739	24	82	7	28	7	2	10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	5	5	12	3	3	0	0	0	0	0	0
Cap, veh/h	13	2300	352	46	2735	89	139	10	35	76	30	83
Arrive On Green	0.01	1.00	1.00	0.03	0.78	0.78	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1810	3006	460	1640	3485	113	1099	104	378	489	333	913
Grp Volume(v), veh/h	6	219	222	37	374	389	117	0	0	19	0	0
Grp Sat Flow(s),veh/h/ln	1810	1735	1731	1640	1763	1835	1581	0	0	1735	0	0
Q Serve(g_s), s	0.5	0.0	0.0	3.6	9.3	9.3	10.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.0	3.6	9.3	9.3	11.5	0.0	0.0	1.5	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.06	0.70		0.24	0.37		0.53
Lane Grp Cap(c), veh/h	13	1328	1325	46	1384	1441	183	0	0	189	0	0
V/C Ratio(X)	0.45	0.16	0.17	0.80	0.27	0.27	0.64	0.00	0.00	0.10	0.00	0.00
Avail Cap(c_a), veh/h	101	1328	1325	93	1384	1441	523	0	0	545	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	78.5	0.0	0.0	77.3	4.7	4.7	71.1	0.0	0.0	66.7	0.0	0.0
Incr Delay (d2), s/veh	22.3	0.3	0.3	25.9	0.5	0.5	3.7	0.0	0.0	0.2	0.0	0.0
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(50%),veh/ln	0.3	0.1	0.1	1.8	3.0	3.1	4.9	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.8	0.3	0.3	103.2	5.2	5.2	74.8	0.0	0.0	67.0	0.0	0.0
LnGrp LOS	F	A	A	F	A	A	E	A	A	E	A	A
Approach Vol, veh/h		447			800			117			19	
Approach Delay, s/veh		1.6			9.7			74.8			67.0	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	132.0		20.7	10.4	128.9		20.7				
Change Period (Y+Rc), s	6.1	* 6.4		6.1	* 5.9	* 6.4		* 6.1				
Max Green Setting (Gmax), s	8.9	* 83		49.9	* 9.1	* 83		* 50				
Max Q Clear Time (g_c+I1), s	2.5	11.3		13.5	5.6	2.0		3.5				
Green Ext Time (p_c), s	0.0	11.3		0.6	0.0	5.6		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

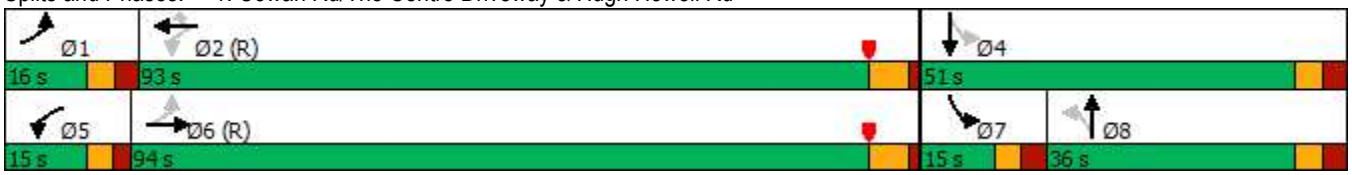
Notes

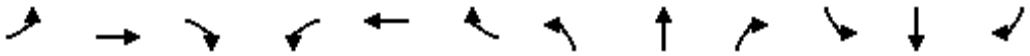
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	1115	41	51	696	78	51	29	54	86	35	98
Future Volume (vph)	142	1115	41	51	696	78	51	29	54	86	35	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	10	10	10
Storage Length (ft)	125		0	115		0	0		0	0		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	55			65			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1049			415			1011			510	
Travel Time (s)		15.9			6.3			23.0			11.6	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	3%	0%	0%	3%	2%	0%	0%	4%	1%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	1	6		5	2			8		7	4	
Permitted Phases	6			2		2	8			4		
Detector Phase	1	6		5	2	2	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		5.0	10.0	10.0	7.0	7.0		5.0	7.0	
Minimum Split (s)	13.2	27.4		10.3	32.1	32.1	35.5	35.5		11.1	35.5	
Total Split (s)	16.0	94.0		15.0	93.0	93.0	36.0	36.0		15.0	51.0	
Total Split (%)	10.0%	58.8%		9.4%	58.1%	58.1%	22.5%	22.5%		9.4%	31.9%	
Maximum Green (s)	9.8	87.9		9.7	86.9	86.9	29.5	29.5		8.9	44.5	
Yellow Time (s)	3.4	4.6		3.1	4.6	4.6	3.5	3.5		3.1	3.5	
All-Red Time (s)	2.8	1.5		2.2	1.5	1.5	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.2	6.1		5.3	6.1	6.1		6.5		6.1	6.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	0.2	3.0		0.2	3.0	3.0	0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	20.0		0.0	20.0	20.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)		10.0			19.0	19.0	22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0	0	0	0			0	
Act Effct Green (s)	111.1	102.9		104.9	97.1	97.1		19.4		34.8	34.4	
Actuated g/C Ratio	0.69	0.64		0.66	0.61	0.61		0.12		0.22	0.22	
v/c Ratio	0.32	0.55		0.20	0.35	0.08		0.76		0.41	0.35	
Control Delay	10.2	18.4		8.5	13.5	0.6		82.2		55.8	23.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	10.2	18.4		8.5	13.5	0.6		82.2		55.8	23.1	
LOS	B	B		A	B	A		F		E	C	
Approach Delay		17.5			12.0			82.2			35.9	
Approach LOS		B			B			F			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 102.9 (64%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 72.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Cowan Rd/The Centre Driveway & Hugh Howell Rd





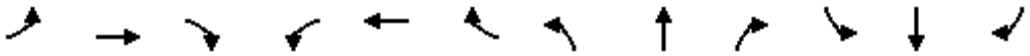
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1115	41	51	696	78	51	29	54	86	35	98
Future Volume (veh/h)	142	1115	41	51	696	78	51	29	54	86	35	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1856	1900	1856	1870	1900	1900	1900	1885	1900	1900
Adj Flow Rate, veh/h	153	1199	44	55	748	84	55	31	58	92	38	105
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	3	3	0	3	2	0	0	0	1	0	0
Cap, veh/h	549	2270	83	311	2234	1004	88	45	69	255	91	252
Arrive On Green	0.04	0.65	0.65	0.06	1.00	1.00	0.11	0.11	0.11	0.06	0.21	0.21
Sat Flow, veh/h	1810	3468	127	1810	3526	1585	510	403	616	1795	445	1231
Grp Volume(v), veh/h	153	609	634	55	748	84	144	0	0	92	0	143
Grp Sat Flow(s),veh/h/ln	1810	1763	1833	1810	1763	1585	1529	0	0	1795	0	1676
Q Serve(g_s), s	4.8	29.2	29.2	1.7	0.0	0.0	12.8	0.0	0.0	7.1	0.0	11.9
Cycle Q Clear(g_c), s	4.8	29.2	29.2	1.7	0.0	0.0	14.7	0.0	0.0	7.1	0.0	11.9
Prop In Lane	1.00		0.07	1.00		1.00	0.38		0.40	1.00		0.73
Lane Grp Cap(c), veh/h	549	1154	1199	311	2234	1004	201	0	0	255	0	344
V/C Ratio(X)	0.28	0.53	0.53	0.18	0.33	0.08	0.71	0.00	0.00	0.36	0.00	0.42
Avail Cap(c_a), veh/h	580	1154	1199	369	2234	1004	311	0	0	255	0	466
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.1	14.6	14.6	11.4	0.0	0.0	69.6	0.0	0.0	56.8	0.0	55.3
Incr Delay (d2), s/veh	0.3	1.7	1.7	0.3	0.4	0.2	4.7	0.0	0.0	0.9	0.0	0.8
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(50%),veh/ln	1.8	11.5	12.0	0.7	0.1	0.0	6.1	0.0	0.0	3.3	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.4	16.3	16.3	11.7	0.4	0.2	74.2	0.0	0.0	57.6	0.0	56.1
LnGrp LOS	A	B	B	B	A	A	E	A	A	E	A	E
Approach Vol, veh/h		1396			887			144			235	
Approach Delay, s/veh		15.5			1.1			74.2			56.7	
Approach LOS		B			A			E			E	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.2	107.5		39.3	9.9	110.8	15.0	24.3				
Change Period (Y+Rc), s	* 6.2	6.1		6.5	* 5.3	6.1	6.1	6.5				
Max Green Setting (Gmax), s	* 9.8	86.9		44.5	* 9.7	87.9	8.9	29.5				
Max Q Clear Time (g_c+I1), s	6.8	2.0		13.9	3.7	31.2	9.1	16.7				
Green Ext Time (p_c), s	0.1	13.3		0.9	0.0	23.6	0.0	0.6				

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	1225	15	2	794	42	6	1	2	31	0	41
Future Volume (vph)	29	1225	15	2	794	42	6	1	2	31	0	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		415			1148			1035			349	
Travel Time (s)		6.3			17.4			23.5			7.9	
Confl. Peds. (#/hr)			2	2								
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	0%	0%	3%	7%	0%	0%	0%	0%	0%	10%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.4%		ICU Level of Service A	
Analysis Period (min) 15			

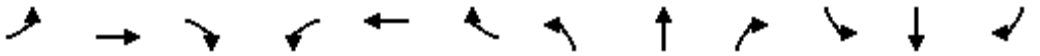
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	1225	15	2	794	42	6	1	2	31	0	41
Future Vol, veh/h	29	1225	15	2	794	42	6	1	2	31	0	41
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	3	0	0	3	7	0	0	0	0	0	10
Mvmt Flow	30	1276	16	2	827	44	6	1	2	32	0	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	871	0	0	1294	0	0	1764	2221	648	1530	2185	414
Stage 1	-	-	-	-	-	-	1346	1346	-	831	831	-
Stage 2	-	-	-	-	-	-	418	875	-	699	1354	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	5.5	5.5	-	5.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.5	5.5	-	5.5	5.5	-
Follow-up Hdwy	2.24	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.4
Pot Cap-1 Maneuver	757	-	-	542	-	-	55	44	418	82	46	565
Stage 1	-	-	-	-	-	-	236	222	-	421	387	-
Stage 2	-	-	-	-	-	-	661	370	-	487	220	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	757	-	-	541	-	-	49	42	417	78	44	565
Mov Cap-2 Maneuver	-	-	-	-	-	-	166	137	-	232	142	-
Stage 1	-	-	-	-	-	-	226	213	-	404	385	-
Stage 2	-	-	-	-	-	-	609	369	-	463	211	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	25.3	11.9
HCM LOS			D	B

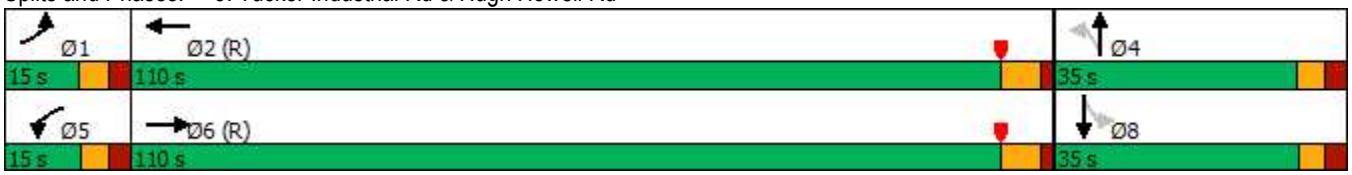
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	187	757	-	-	541	-	-	565
HCM Lane V/C Ratio	0.05	0.04	-	-	0.004	-	-	0.076
HCM Control Delay (s)	25.3	10	-	-	11.7	-	-	11.9
HCM Lane LOS	D	A	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.2

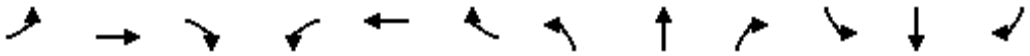


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	998	201	52	658	6	133	1	75	28	10	4
Future Volume (vph)	5	998	201	52	658	6	133	1	75	28	10	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	14	12
Storage Length (ft)	150		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	60			50			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		1148			648			819			1228	
Travel Time (s)		17.4			9.8			16.0			23.9	
Confl. Peds. (#/hr)			2	2								
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	20%	3%	1%	10%	3%	0%	3%	0%	13%	7%	0%	0%
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	11.1	31.4		10.9	31.4		31.1	31.1		33.9	33.9	
Total Split (s)	15.0	110.0		15.0	110.0		35.0	35.0		35.0	35.0	
Total Split (%)	9.4%	68.8%		9.4%	68.8%		21.9%	21.9%		21.9%	21.9%	
Maximum Green (s)	8.9	103.6		9.1	103.6		28.9	28.9		29.1	29.1	
Yellow Time (s)	3.5	4.7		3.3	4.7		3.3	3.3		3.0	3.0	
All-Red Time (s)	2.6	1.7		2.6	1.7		2.8	2.8		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.1	6.4		5.9	6.4			6.1			5.9	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	0.2	3.0		0.2	3.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	20.0		0.0	20.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	15.0		0.0	15.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0			18.0		18.0	18.0		21.0	21.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.2	109.3		8.6	118.6			26.2			26.4	
Actuated g/C Ratio	0.04	0.68		0.05	0.74			0.16			0.16	
v/c Ratio	0.09	0.54		0.62	0.27			0.88			0.18	
Control Delay	90.8	6.2		103.1	7.7			93.2			54.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	90.8	6.2		103.1	7.7			93.2			54.2	
LOS	F	A		F	A			F			D	
Approach Delay		6.5			14.6			93.2			54.2	
Approach LOS		A			B			F			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 118.6 (74%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 18.5	Intersection LOS: B
Intersection Capacity Utilization 67.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Tucker Industrial Rd & Hugh Howell Rd





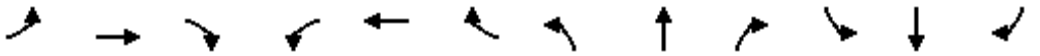
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	998	201	52	658	6	133	1	75	28	10	4
Future Volume (veh/h)	5	998	201	52	658	6	133	1	75	28	10	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1604	1856	1856	1752	1856	1856	1900	1976	1900	1900	1976	1900
Adj Flow Rate, veh/h	5	1051	212	55	693	6	140	1	79	29	11	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	20	3	3	10	3	3	0	0	0	0	0	0
Cap, veh/h	10	2028	408	69	2606	23	190	1	86	174	63	20
Arrive On Green	0.01	1.00	1.00	0.04	0.73	0.73	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1527	2924	588	1668	3582	31	1021	7	576	914	423	134
Grp Volume(v), veh/h	5	632	631	55	341	358	220	0	0	44	0	0
Grp Sat Flow(s),veh/h/ln	1527	1763	1749	1668	1763	1850	1605	0	0	1470	0	0
Q Serve(g_s), s	0.5	0.0	0.0	5.2	10.5	10.5	17.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.0	5.2	10.5	10.5	21.5	0.0	0.0	3.9	0.0	0.0
Prop In Lane	1.00		0.34	1.00		0.02	0.64		0.36	0.66		0.09
Lane Grp Cap(c), veh/h	10	1223	1213	69	1282	1346	278	0	0	258	0	0
V/C Ratio(X)	0.53	0.52	0.52	0.80	0.27	0.27	0.79	0.00	0.00	0.17	0.00	0.00
Avail Cap(c_a), veh/h	85	1223	1213	95	1282	1346	325	0	0	307	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	78.8	0.0	0.0	76.0	7.4	7.4	66.6	0.0	0.0	59.3	0.0	0.0
Incr Delay (d2), s/veh	38.4	1.6	1.6	27.0	0.5	0.5	10.9	0.0	0.0	0.3	0.0	0.0
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(50%),veh/ln	0.3	0.5	0.5	2.7	3.8	4.0	9.7	0.0	0.0	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	117.2	1.6	1.6	103.1	7.9	7.9	77.5	0.0	0.0	59.7	0.0	0.0
LnGrp LOS	F	A	A	F	A	A	E	A	A	E	A	A
Approach Vol, veh/h		1268			754			220			44	
Approach Delay, s/veh		2.0			14.8			77.5			59.7	
Approach LOS		A			B			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	122.8		30.1	12.5	117.4		30.1				
Change Period (Y+Rc), s	6.1	* 6.4		6.1	* 5.9	* 6.4		* 6.1				
Max Green Setting (Gmax), s	8.9	* 1E2		28.9	* 9.1	* 1E2		* 29				
Max Q Clear Time (g_c+I1), s	2.5	12.5		23.5	7.2	2.0		5.9				
Green Ext Time (p_c), s	0.0	10.0		0.5	0.0	28.9		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		14.6	
HCM 6th LOS		B	

Notes

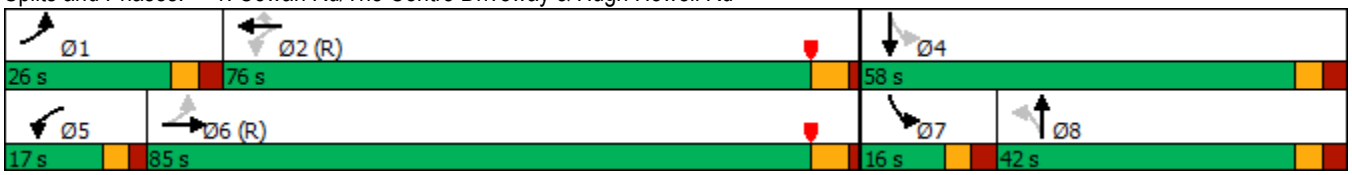
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

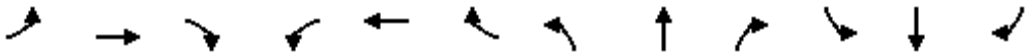


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	434	11	19	746	38	22	7	35	24	5	32
Future Volume (vph)	47	434	11	19	746	38	22	7	35	24	5	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	10	10	10
Storage Length (ft)	125		0	115		0	0		0	0		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	55			65			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1049			415			1011			510	
Travel Time (s)		15.9			6.3			23.0			11.6	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	9%	0%	4%	0%	0%	0%	0%	10%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	1	6		5	2			8		7	4	
Permitted Phases	6			2		2	8			4		
Detector Phase	1	6		5	2	2	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		5.0	10.0	10.0	7.0	7.0		5.0	7.0	
Minimum Split (s)	13.2	27.4		10.3	32.1	32.1	35.5	35.5		11.1	35.5	
Total Split (s)	26.0	85.0		17.0	76.0	76.0	42.0	42.0		16.0	58.0	
Total Split (%)	16.3%	53.1%		10.6%	47.5%	47.5%	26.3%	26.3%		10.0%	36.3%	
Maximum Green (s)	19.8	78.9		11.7	69.9	69.9	35.5	35.5		9.9	51.5	
Yellow Time (s)	3.4	4.6		3.1	4.6	4.6	3.5	3.5		3.1	3.5	
All-Red Time (s)	2.8	1.5		2.2	1.5	1.5	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.2	6.1		5.3	6.1	6.1		6.5		6.1	6.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	0.2	3.0		0.2	3.0	3.0	0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	20.0		0.0	20.0	20.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)		10.0			19.0	19.0	22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0	0	0	0			0	
Act Effct Green (s)	125.9	121.6		123.4	117.8	117.8		9.7		19.3	18.9	
Actuated g/C Ratio	0.79	0.76		0.77	0.74	0.74		0.06		0.12	0.12	
v/c Ratio	0.10	0.18		0.03	0.31	0.03		0.56		0.20	0.18	
Control Delay	5.1	7.2		4.6	8.2	0.1		56.8		61.0	21.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	5.1	7.2		4.6	8.2	0.1		56.8		61.0	21.4	
LOS	A	A		A	A	A		E		E	C	
Approach Delay		7.0			7.7			56.8			37.3	
Approach LOS		A			A			E			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 148.9 (93%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 11.0	Intersection LOS: B
Intersection Capacity Utilization 53.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Cowan Rd/The Centre Driveway & Hugh Howell Rd





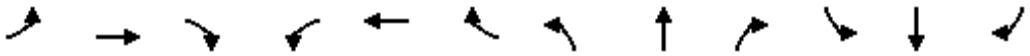
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	434	11	19	746	38	22	7	35	24	5	32
Future Volume (veh/h)	47	434	11	19	746	38	22	7	35	24	5	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1826	1900	1841	1900	1900	1900	1900	1752	1900	1900
Adj Flow Rate, veh/h	51	467	12	20	802	41	24	8	38	26	5	34
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	5	5	0	4	0	0	0	0	10	0	0
Cap, veh/h	598	2602	67	742	2541	1169	55	17	49	150	25	167
Arrive On Green	0.04	0.75	0.75	0.04	1.00	1.00	0.06	0.06	0.06	0.02	0.12	0.12
Sat Flow, veh/h	1810	3456	89	1810	3497	1609	431	294	861	1668	211	1432
Grp Volume(v), veh/h	51	234	245	20	802	41	70	0	0	26	0	39
Grp Sat Flow(s),veh/h/ln	1810	1735	1810	1810	1749	1609	1587	0	0	1668	0	1642
Q Serve(g_s), s	1.1	6.2	6.2	0.5	0.0	0.0	5.2	0.0	0.0	2.3	0.0	3.4
Cycle Q Clear(g_c), s	1.1	6.2	6.2	0.5	0.0	0.0	6.9	0.0	0.0	2.3	0.0	3.4
Prop In Lane	1.00		0.05	1.00		1.00	0.34		0.54	1.00		0.87
Lane Grp Cap(c), veh/h	598	1306	1363	742	2541	1169	121	0	0	150	0	192
V/C Ratio(X)	0.09	0.18	0.18	0.03	0.32	0.04	0.58	0.00	0.00	0.17	0.00	0.20
Avail Cap(c_a), veh/h	751	1306	1363	841	2541	1169	377	0	0	218	0	529
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.5	5.6	5.6	5.2	0.0	0.0	74.3	0.0	0.0	67.1	0.0	63.9
Incr Delay (d2), s/veh	0.1	0.3	0.3	0.0	0.3	0.1	4.3	0.0	0.0	0.5	0.0	0.5
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(50%),veh/ln	0.4	2.1	2.2	0.2	0.1	0.0	3.0	0.0	0.0	1.0	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.6	5.9	5.9	5.2	0.3	0.1	78.6	0.0	0.0	67.7	0.0	64.4
LnGrp LOS	A	A	A	A	A	A	E	A	A	E	A	E
Approach Vol, veh/h		530			863			70			65	
Approach Delay, s/veh		5.8			0.4			78.6			65.7	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	122.3		25.2	8.2	126.6	9.5	15.7				
Change Period (Y+Rc), s	* 6.2	6.1		6.5	* 5.3	6.1	6.1	6.5				
Max Green Setting (Gmax), s	* 20	69.9		51.5	* 12	78.9	9.9	35.5				
Max Q Clear Time (g_c+I1), s	3.1	2.0		5.4	2.5	8.2	4.3	8.9				
Green Ext Time (p_c), s	0.1	13.8		0.2	0.0	6.1	0.0	0.3				

Intersection Summary			
HCM 6th Ctrl Delay		8.7	
HCM 6th LOS		A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	394	67	66	697	10	68	0	65	19	0	31
Future Volume (vph)	28	394	67	66	697	10	68	0	65	19	0	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		415			1148			1035			349	
Travel Time (s)		6.3			17.4			23.5			7.9	
Confl. Peds. (#/hr)	1		1	1		1						
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	7%	3%	0%	0%	2%	10%	33%	0%	0%	10%	0%	0%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

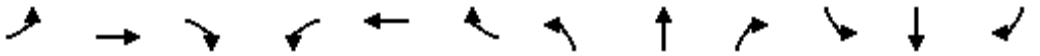
Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	394	67	66	697	10	68	0	65	19	0	31
Future Vol, veh/h	28	394	67	66	697	10	68	0	65	19	0	31
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	7	3	0	0	2	10	33	0	0	10	0	0
Mvmt Flow	30	424	72	71	749	11	73	0	70	20	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	761	0	0	497	0	0	1038	1424	249	1164	1449	376
Stage 1	-	-	-	-	-	-	521	521	-	892	892	-
Stage 2	-	-	-	-	-	-	517	903	-	272	557	-
Critical Hdwy	4.24	-	-	4.1	-	-	8.16	6.5	6.9	7.7	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.5	5.5	-	5.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.5	5.5	-	5.5	5.5	-
Follow-up Hdwy	2.27	-	-	2.2	-	-	3.83	4	3.3	3.6	4	3.3
Pot Cap-1 Maneuver	815	-	-	1077	-	-	148	137	757	140	132	627
Stage 1	-	-	-	-	-	-	552	535	-	387	363	-
Stage 2	-	-	-	-	-	-	555	359	-	754	515	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	814	-	-	1076	-	-	129	123	756	117	119	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	284	226	-	258	225	-
Stage 1	-	-	-	-	-	-	531	515	-	372	339	-
Stage 2	-	-	-	-	-	-	491	335	-	659	495	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.7	18.5	11.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	409	814	-	-	1076	-	-	626
HCM Lane V/C Ratio	0.35	0.037	-	-	0.066	-	-	0.053
HCM Control Delay (s)	18.5	9.6	-	-	8.6	-	-	11.1
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0.2	-	-	0.2

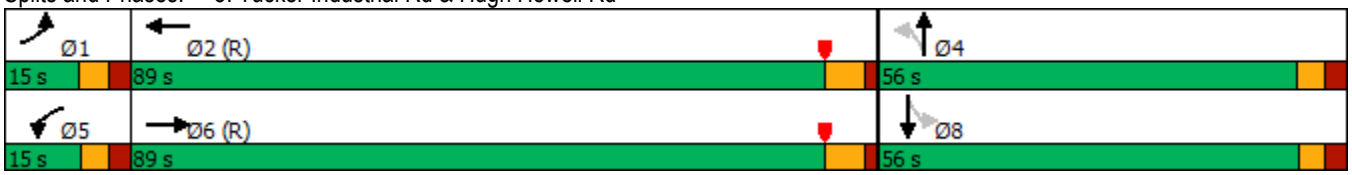


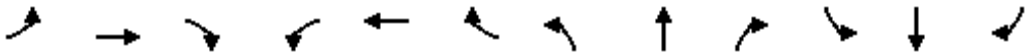
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	370	56	33	692	22	78	6	25	6	2	12
Future Volume (vph)	8	370	56	33	692	22	78	6	25	6	2	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	14	12
Storage Length (ft)	150		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	60			50			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		1148			648			819			1228	
Travel Time (s)		17.4			9.8			16.0			23.9	
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	5%	4%	12%	3%	10%	10%	0%	12%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	11.1	31.4		10.9	31.4		31.1	31.1		33.9	33.9	
Total Split (s)	15.0	89.0		15.0	89.0		56.0	56.0		56.0	56.0	
Total Split (%)	9.4%	55.6%		9.4%	55.6%		35.0%	35.0%		35.0%	35.0%	
Maximum Green (s)	8.9	82.6		9.1	82.6		49.9	49.9		50.1	50.1	
Yellow Time (s)	3.5	4.7		3.3	4.7		3.3	3.3		3.0	3.0	
All-Red Time (s)	2.6	1.7		2.6	1.7		2.8	2.8		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.1	6.4		5.9	6.4			6.1			5.9	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	0.2	3.0		0.2	3.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	20.0		0.0	20.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	15.0		0.0	15.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0			18.0		18.0	18.0		21.0	21.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.4	116.3		9.1	126.2			18.5			18.7	
Actuated g/C Ratio	0.04	0.73		0.06	0.79			0.12			0.12	
v/c Ratio	0.13	0.19		0.41	0.29			0.73			0.10	
Control Delay	69.4	9.3		85.0	5.9			85.2			35.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	69.4	9.3		85.0	5.9			85.2			35.0	
LOS	E	A		F	A			F			D	
Approach Delay		10.4			9.4			85.2			35.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			A			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 38.6 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Tucker Industrial Rd & Hugh Howell Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	370	56	33	692	22	78	6	25	6	2	12
Future Volume (veh/h)	8	370	56	33	692	22	78	6	25	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1826	1722	1856	1856	1900	1976	1900	1900	1976	1900
Adj Flow Rate, veh/h	9	411	62	37	769	24	87	7	28	7	2	13
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	5	5	12	3	3	0	0	0	0	0	0
Cap, veh/h	19	2299	344	46	2718	85	145	9	34	68	29	98
Arrive On Green	0.02	1.00	1.00	0.03	0.78	0.78	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1810	3016	451	1640	3490	109	1126	93	363	406	311	1037
Grp Volume(v), veh/h	9	235	238	37	388	405	122	0	0	22	0	0
Grp Sat Flow(s),veh/h/ln	1810	1735	1733	1640	1763	1836	1581	0	0	1755	0	0
Q Serve(g_s), s	0.8	0.0	0.0	3.6	10.0	10.0	10.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	0.0	3.6	10.0	10.0	12.0	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		0.26	1.00		0.06	0.71		0.23	0.32		0.59
Lane Grp Cap(c), veh/h	19	1322	1321	46	1373	1430	188	0	0	196	0	0
V/C Ratio(X)	0.48	0.18	0.18	0.80	0.28	0.28	0.65	0.00	0.00	0.11	0.00	0.00
Avail Cap(c_a), veh/h	101	1322	1321	93	1373	1430	522	0	0	548	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	77.9	0.0	0.0	77.3	5.0	5.0	70.9	0.0	0.0	66.4	0.0	0.0
Incr Delay (d2), s/veh	18.1	0.3	0.3	25.9	0.5	0.5	3.7	0.0	0.0	0.3	0.0	0.0
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(50%),veh/ln	0.5	0.1	0.1	1.8	3.3	3.4	5.1	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.0	0.3	0.3	103.2	5.5	5.5	74.6	0.0	0.0	66.7	0.0	0.0
LnGrp LOS	F	A	A	F	A	A	E	A	A	E	A	A
Approach Vol, veh/h		482			830			122			22	
Approach Delay, s/veh		2.1			9.9			74.6			66.7	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	131.0		21.2	10.4	128.4		21.2				
Change Period (Y+Rc), s	6.1	* 6.4		6.1	* 5.9	* 6.4		* 6.1				
Max Green Setting (Gmax), s	8.9	* 83		49.9	* 9.1	* 83		* 50				
Max Q Clear Time (g_c+I1), s	2.8	12.0		14.0	5.6	2.0		3.8				
Green Ext Time (p_c), s	0.0	11.9		0.7	0.0	6.1		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		13.6	
HCM 6th LOS		B	

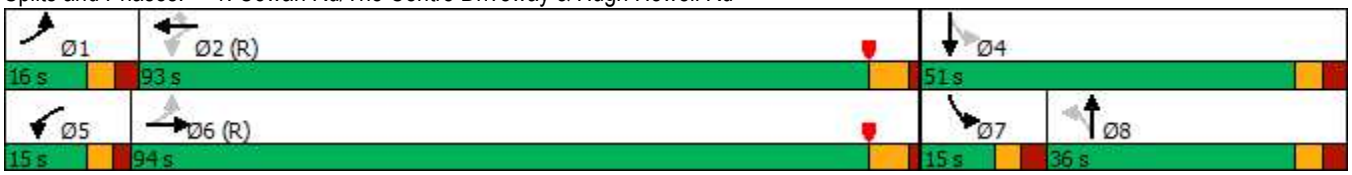
Notes

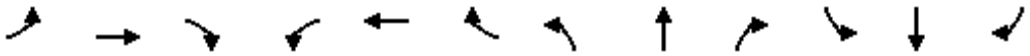
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	1145	41	55	723	81	51	29	58	89	35	98
Future Volume (vph)	142	1145	41	55	723	81	51	29	58	89	35	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	10	10	10
Storage Length (ft)	125		0	115		0	0		0	0		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	55			65			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1049			415			1011			510	
Travel Time (s)		15.9			6.3			23.0			11.6	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	3%	0%	0%	3%	2%	0%	0%	4%	1%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	1	6		5	2			8		7	4	
Permitted Phases	6			2		2	8			4		
Detector Phase	1	6		5	2	2	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		5.0	10.0	10.0	7.0	7.0		5.0	7.0	
Minimum Split (s)	13.2	27.4		10.3	32.1	32.1	35.5	35.5		11.1	35.5	
Total Split (s)	16.0	94.0		15.0	93.0	93.0	36.0	36.0		15.0	51.0	
Total Split (%)	10.0%	58.8%		9.4%	58.1%	58.1%	22.5%	22.5%		9.4%	31.9%	
Maximum Green (s)	9.8	87.9		9.7	86.9	86.9	29.5	29.5		8.9	44.5	
Yellow Time (s)	3.4	4.6		3.1	4.6	4.6	3.5	3.5		3.1	3.5	
All-Red Time (s)	2.8	1.5		2.2	1.5	1.5	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.2	6.1		5.3	6.1	6.1		6.5		6.1	6.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	0.2	3.0		0.2	3.0	3.0	0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	20.0		0.0	20.0	20.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)		10.0			19.0	19.0	22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0	0	0	0			0	
Act Effct Green (s)	110.5	102.4		104.8	96.8	96.8		19.8		35.1	34.7	
Actuated g/C Ratio	0.69	0.64		0.66	0.60	0.60		0.12		0.22	0.22	
v/c Ratio	0.33	0.57		0.22	0.37	0.09		0.76		0.42	0.35	
Control Delay	10.5	19.0		9.0	14.0	0.9		81.8		56.1	22.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	10.5	19.0		9.0	14.0	0.9		81.8		56.1	22.9	
LOS	B	B		A	B	A		F		E	C	
Approach Delay		18.1			12.5			81.8			36.2	
Approach LOS		B			B			F			D	

Intersection Summary		
Area Type:	Other	
Cycle Length: 160		
Actuated Cycle Length: 160		
Offset: 102.9 (64%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow		
Natural Cycle: 95		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.76		
Intersection Signal Delay: 21.2	Intersection LOS: C	
Intersection Capacity Utilization 73.8%	ICU Level of Service D	
Analysis Period (min) 15		

Splits and Phases: 1: Cowan Rd/The Centre Driveway & Hugh Howell Rd





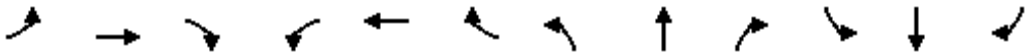
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1145	41	55	723	81	51	29	58	89	35	98
Future Volume (veh/h)	142	1145	41	55	723	81	51	29	58	89	35	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1856	1900	1856	1870	1900	1900	1900	1885	1900	1900
Adj Flow Rate, veh/h	153	1231	44	59	777	87	55	31	62	96	38	105
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	3	3	0	3	2	0	0	0	1	0	0
Cap, veh/h	535	2263	81	300	2226	1001	87	45	73	254	92	255
Arrive On Green	0.04	0.65	0.65	0.06	1.00	1.00	0.11	0.11	0.11	0.06	0.21	0.21
Sat Flow, veh/h	1810	3472	124	1810	3526	1585	496	394	642	1795	445	1231
Grp Volume(v), veh/h	153	625	650	59	777	87	148	0	0	96	0	143
Grp Sat Flow(s),veh/h/ln	1810	1763	1833	1810	1763	1585	1532	0	0	1795	0	1676
Q Serve(g_s), s	4.8	30.6	30.6	1.8	0.0	0.0	13.1	0.0	0.0	7.4	0.0	11.8
Cycle Q Clear(g_c), s	4.8	30.6	30.6	1.8	0.0	0.0	15.1	0.0	0.0	7.4	0.0	11.8
Prop In Lane	1.00		0.07	1.00		1.00	0.37		0.42	1.00		0.73
Lane Grp Cap(c), veh/h	535	1149	1195	300	2226	1001	205	0	0	254	0	348
V/C Ratio(X)	0.29	0.54	0.54	0.20	0.35	0.09	0.72	0.00	0.00	0.38	0.00	0.41
Avail Cap(c_a), veh/h	566	1149	1195	358	2226	1001	311	0	0	254	0	466
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.2	15.0	15.0	11.9	0.0	0.0	69.4	0.0	0.0	56.6	0.0	54.9
Incr Delay (d2), s/veh	0.3	1.9	1.8	0.3	0.4	0.2	4.7	0.0	0.0	0.9	0.0	0.8
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(50%),veh/ln	1.9	12.1	12.6	0.7	0.1	0.0	6.2	0.0	0.0	3.5	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.5	16.9	16.8	12.2	0.4	0.2	74.1	0.0	0.0	57.5	0.0	55.7
LnGrp LOS	A	B	B	B	A	A	E	A	A	E	A	E
Approach Vol, veh/h		1428			923			148			239	
Approach Delay, s/veh		16.1			1.2			74.1			56.4	
Approach LOS		B			A			E			E	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.2	107.1		39.7	9.9	110.4	15.0	24.7				
Change Period (Y+Rc), s	* 6.2	6.1		6.5	* 5.3	6.1	6.1	6.5				
Max Green Setting (Gmax), s	* 9.8	86.9		44.5	* 9.7	87.9	8.9	29.5				
Max Q Clear Time (g_c+I1), s	6.8	2.0		13.8	3.8	32.6	9.4	17.1				
Green Ext Time (p_c), s	0.1	14.0		0.9	0.0	24.4	0.0	0.6				

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	1188	89	76	757	42	75	1	70	31	0	41
Future Volume (vph)	29	1188	89	76	757	42	75	1	70	31	0	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		415			1148			1035			349	
Travel Time (s)		6.3			17.4			23.5			7.9	
Confl. Peds. (#/hr)			2	2								
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	0%	0%	3%	7%	0%	0%	0%	0%	0%	10%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	4.3

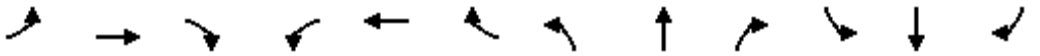
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	1188	89	76	757	42	75	1	70	31	0	41
Future Vol, veh/h	29	1188	89	76	757	42	75	1	70	31	0	41
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	3	0	0	3	7	0	0	0	0	0	10
Mvmt Flow	30	1238	93	79	789	44	78	1	73	32	0	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	833	0	0	1333	0	0	1900	2338	668	1627	2340	395
Stage 1	-	-	-	-	-	-	1347	1347	-	947	947	-
Stage 2	-	-	-	-	-	-	553	991	-	680	1393	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	5.5	5.5	-	5.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.5	5.5	-	5.5	5.5	-
Follow-up Hdwy	2.24	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.4
Pot Cap-1 Maneuver	783	-	-	524	-	-	~ 43	37	405	69	37	582
Stage 1	-	-	-	-	-	-	236	222	-	370	342	-
Stage 2	-	-	-	-	-	-	571	327	-	497	211	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	783	-	-	523	-	-	~ 34	30	404	48	30	582
Mov Cap-2 Maneuver	-	-	-	-	-	-	148	118	-	173	90	-
Stage 1	-	-	-	-	-	-	227	213	-	356	290	-
Stage 2	-	-	-	-	-	-	449	278	-	390	203	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.1	56	11.7
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	212	783	-	-	523	-	-	582
HCM Lane V/C Ratio	0.717	0.039	-	-	0.151	-	-	0.073
HCM Control Delay (s)	56	9.8	-	-	13.1	-	-	11.7
HCM Lane LOS	F	A	-	-	B	-	-	B
HCM 95th %tile Q(veh)	4.7	0.1	-	-	0.5	-	-	0.2

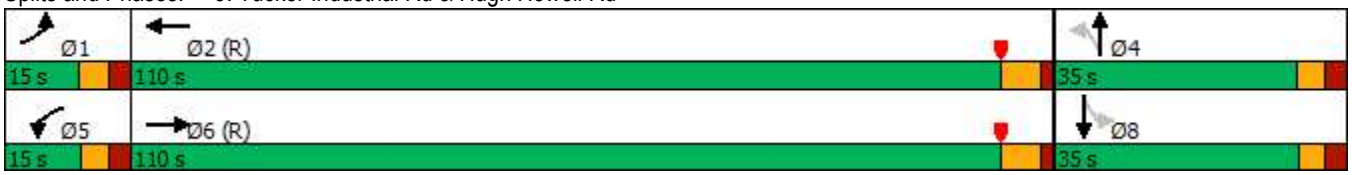
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

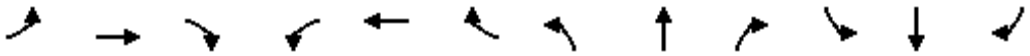


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	1025	205	52	688	6	137	1	75	28	10	7
Future Volume (vph)	8	1025	205	52	688	6	137	1	75	28	10	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	14	12
Storage Length (ft)	150		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	60			50			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		1148			648			819			1228	
Travel Time (s)		17.4			9.8			16.0			23.9	
Confl. Peds. (#/hr)			2	2								
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	20%	3%	1%	10%	3%	0%	3%	0%	13%	7%	0%	0%
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	11.1	31.4		10.9	31.4		31.1	31.1		33.9	33.9	
Total Split (s)	15.0	110.0		15.0	110.0		35.0	35.0		35.0	35.0	
Total Split (%)	9.4%	68.8%		9.4%	68.8%		21.9%	21.9%		21.9%	21.9%	
Maximum Green (s)	8.9	103.6		9.1	103.6		28.9	28.9		29.1	29.1	
Yellow Time (s)	3.5	4.7		3.3	4.7		3.3	3.3		3.0	3.0	
All-Red Time (s)	2.6	1.7		2.6	1.7		2.8	2.8		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.1	6.4		5.9	6.4			6.1			5.9	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	0.2	3.0		0.2	3.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	20.0		0.0	20.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	15.0		0.0	15.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0			18.0		18.0	18.0		21.0	21.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.5	109.1		8.6	118.2			26.4			26.6	
Actuated g/C Ratio	0.04	0.68		0.05	0.74			0.16			0.17	
v/c Ratio	0.13	0.55		0.62	0.28			0.89			0.19	
Control Delay	91.9	6.6		103.1	7.9			95.0			52.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	91.9	6.6		103.1	7.9			95.0			52.0	
LOS	F	A		F	A			F			D	
Approach Delay		7.2			14.6			95.0			52.0	
Approach LOS		A			B			F			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 118.6 (74%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 18.9	Intersection LOS: B
Intersection Capacity Utilization 68.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Tucker Industrial Rd & Hugh Howell Rd





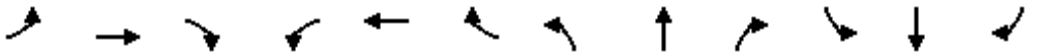
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1025	205	52	688	6	137	1	75	28	10	7
Future Volume (veh/h)	8	1025	205	52	688	6	137	1	75	28	10	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1604	1856	1856	1752	1856	1856	1900	1976	1900	1900	1976	1900
Adj Flow Rate, veh/h	8	1079	216	55	724	6	144	1	79	29	11	7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	20	3	3	10	3	3	0	0	0	0	0	0
Cap, veh/h	14	2022	403	69	2585	21	194	1	86	169	63	34
Arrive On Green	0.02	1.00	1.00	0.04	0.72	0.72	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1527	2928	584	1668	3583	30	1027	7	564	868	412	224
Grp Volume(v), veh/h	8	648	647	55	356	374	224	0	0	47	0	0
Grp Sat Flow(s),veh/h/ln	1527	1763	1749	1668	1763	1850	1598	0	0	1504	0	0
Q Serve(g_s), s	0.8	0.0	0.0	5.2	11.3	11.3	17.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	0.0	5.2	11.3	11.3	22.0	0.0	0.0	4.1	0.0	0.0
Prop In Lane	1.00		0.33	1.00		0.02	0.64		0.35	0.62		0.15
Lane Grp Cap(c), veh/h	14	1217	1208	69	1272	1335	281	0	0	266	0	0
V/C Ratio(X)	0.56	0.53	0.54	0.80	0.28	0.28	0.80	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	85	1217	1208	95	1272	1335	324	0	0	311	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	78.2	0.0	0.0	76.0	7.8	7.8	66.4	0.0	0.0	59.0	0.0	0.0
Incr Delay (d2), s/veh	30.1	1.7	1.7	27.0	0.5	0.5	11.4	0.0	0.0	0.3	0.0	0.0
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(50%),veh/ln	0.4	0.6	0.6	2.7	4.1	4.3	9.9	0.0	0.0	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.3	1.7	1.7	103.1	8.3	8.3	77.8	0.0	0.0	59.3	0.0	0.0
LnGrp LOS	F	A	A	F	A	A	E	A	A	E	A	A
Approach Vol, veh/h		1303			785			224			47	
Approach Delay, s/veh		2.3			15.0			77.8			59.3	
Approach LOS		A			B			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	121.8		30.6	12.5	116.9		30.6				
Change Period (Y+Rc), s	6.1	* 6.4		6.1	* 5.9	* 6.4		* 6.1				
Max Green Setting (Gmax), s	8.9	* 1E2		28.9	* 9.1	* 1E2		* 29				
Max Q Clear Time (g_c+I1), s	2.8	13.3		24.0	7.2	2.0		6.1				
Green Ext Time (p_c), s	0.0	10.6		0.5	0.0	30.5		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		14.8
HCM 6th LOS		B

Notes

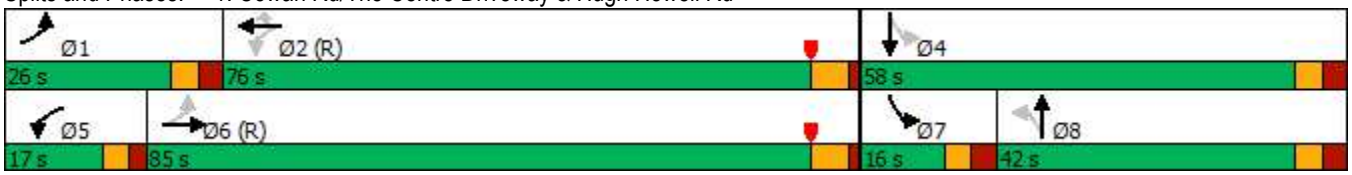
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

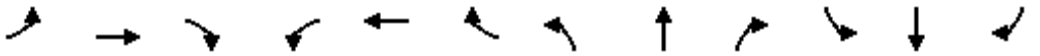


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	434	11	19	746	38	22	7	35	24	5	32
Future Volume (vph)	47	434	11	19	746	38	22	7	35	24	5	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	10	10	10
Storage Length (ft)	125		0	115		0	0		0	0		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	55			65			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1049			415			1011			510	
Travel Time (s)		15.9			6.3			23.0			11.6	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	9%	0%	4%	0%	0%	0%	0%	10%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	1	6		5	2			8		7	4	
Permitted Phases	6			2		2	8			4		
Detector Phase	1	6		5	2	2	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		5.0	10.0	10.0	7.0	7.0		5.0	7.0	
Minimum Split (s)	13.2	27.4		10.3	32.1	32.1	35.5	35.5		11.1	35.5	
Total Split (s)	26.0	85.0		17.0	76.0	76.0	42.0	42.0		16.0	58.0	
Total Split (%)	16.3%	53.1%		10.6%	47.5%	47.5%	26.3%	26.3%		10.0%	36.3%	
Maximum Green (s)	19.8	78.9		11.7	69.9	69.9	35.5	35.5		9.9	51.5	
Yellow Time (s)	3.4	4.6		3.1	4.6	4.6	3.5	3.5		3.1	3.5	
All-Red Time (s)	2.8	1.5		2.2	1.5	1.5	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.2	6.1		5.3	6.1	6.1		6.5		6.1	6.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	0.2	3.0		0.2	3.0	3.0	0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	20.0		0.0	20.0	20.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)		10.0			19.0	19.0	22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0	0	0	0			0	
Act Effct Green (s)	125.9	121.6		123.4	117.8	117.8		9.7		19.3	18.9	
Actuated g/C Ratio	0.79	0.76		0.77	0.74	0.74		0.06		0.12	0.12	
v/c Ratio	0.10	0.18		0.03	0.31	0.03		0.56		0.20	0.18	
Control Delay	5.1	7.2		4.6	8.2	0.1		56.8		61.0	21.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	5.1	7.2		4.6	8.2	0.1		56.8		61.0	21.4	
LOS	A	A		A	A	A		E		E	C	
Approach Delay		7.0			7.7			56.8			37.3	
Approach LOS		A			A			E			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 148.9 (93%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 11.0	Intersection LOS: B
Intersection Capacity Utilization 53.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Cowan Rd/The Centre Driveway & Hugh Howell Rd





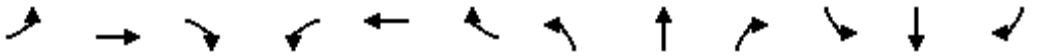
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	434	11	19	746	38	22	7	35	24	5	32
Future Volume (veh/h)	47	434	11	19	746	38	22	7	35	24	5	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1826	1900	1841	1900	1900	1900	1900	1752	1900	1900
Adj Flow Rate, veh/h	51	467	12	20	802	41	24	8	38	26	5	34
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	5	5	0	4	0	0	0	0	10	0	0
Cap, veh/h	598	2602	67	742	2541	1169	55	17	49	150	25	167
Arrive On Green	0.04	0.75	0.75	0.04	1.00	1.00	0.06	0.06	0.06	0.02	0.12	0.12
Sat Flow, veh/h	1810	3456	89	1810	3497	1609	431	294	861	1668	211	1432
Grp Volume(v), veh/h	51	234	245	20	802	41	70	0	0	26	0	39
Grp Sat Flow(s),veh/h/ln	1810	1735	1810	1810	1749	1609	1587	0	0	1668	0	1642
Q Serve(g_s), s	1.1	6.2	6.2	0.5	0.0	0.0	5.2	0.0	0.0	2.3	0.0	3.4
Cycle Q Clear(g_c), s	1.1	6.2	6.2	0.5	0.0	0.0	6.9	0.0	0.0	2.3	0.0	3.4
Prop In Lane	1.00		0.05	1.00		1.00	0.34		0.54	1.00		0.87
Lane Grp Cap(c), veh/h	598	1306	1363	742	2541	1169	121	0	0	150	0	192
V/C Ratio(X)	0.09	0.18	0.18	0.03	0.32	0.04	0.58	0.00	0.00	0.17	0.00	0.20
Avail Cap(c_a), veh/h	751	1306	1363	841	2541	1169	377	0	0	218	0	529
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.5	5.6	5.6	5.2	0.0	0.0	74.3	0.0	0.0	67.1	0.0	63.9
Incr Delay (d2), s/veh	0.1	0.3	0.3	0.0	0.3	0.1	4.3	0.0	0.0	0.5	0.0	0.5
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(50%),veh/ln	0.4	2.1	2.2	0.2	0.1	0.0	3.0	0.0	0.0	1.0	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.6	5.9	5.9	5.2	0.3	0.1	78.6	0.0	0.0	67.7	0.0	64.4
LnGrp LOS	A	A	A	A	A	A	E	A	A	E	A	E
Approach Vol, veh/h		530			863			70			65	
Approach Delay, s/veh		5.8			0.4			78.6			65.7	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	122.3		25.2	8.2	126.6	9.5	15.7				
Change Period (Y+Rc), s	* 6.2	6.1		6.5	* 5.3	6.1	6.1	6.5				
Max Green Setting (Gmax), s	* 20	69.9		51.5	* 12	78.9	9.9	35.5				
Max Q Clear Time (g_c+I1), s	3.1	2.0		5.4	2.5	8.2	4.3	8.9				
Green Ext Time (p_c), s	0.1	13.8		0.2	0.0	6.1	0.0	0.3				

Intersection Summary			
HCM 6th Ctrl Delay		8.7	
HCM 6th LOS		A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	394	67	66	697	10	68	0	65	19	0	31
Future Volume (vph)	28	394	67	66	697	10	68	0	65	19	0	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	0		25	0		0
Storage Lanes	1		0	1		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		415			1148			1035			349	
Travel Time (s)		6.3			17.4			23.5			7.9	
Confl. Peds. (#/hr)	1		1	1		1						
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	7%	3%	0%	0%	2%	10%	33%	0%	0%	10%	0%	0%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	394	67	66	697	10	68	0	65	19	0	31
Future Vol, veh/h	28	394	67	66	697	10	68	0	65	19	0	31
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	100	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	7	3	0	0	2	10	33	0	0	10	0	0
Mvmt Flow	30	424	72	71	749	11	73	0	70	20	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	761	0	0	497	0	0	1038	1424	249	1164	1449	376
Stage 1	-	-	-	-	-	-	521	521	-	892	892	-
Stage 2	-	-	-	-	-	-	517	903	-	272	557	-
Critical Hdwy	4.24	-	-	4.1	-	-	8.16	6.5	6.9	7.7	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.5	5.5	-	5.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.5	5.5	-	5.5	5.5	-
Follow-up Hdwy	2.27	-	-	2.2	-	-	3.83	4	3.3	3.6	4	3.3
Pot Cap-1 Maneuver	815	-	-	1077	-	-	148	137	757	140	132	627
Stage 1	-	-	-	-	-	-	552	535	-	387	363	-
Stage 2	-	-	-	-	-	-	555	359	-	754	515	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	814	-	-	1076	-	-	129	123	756	117	119	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	284	226	-	258	225	-
Stage 1	-	-	-	-	-	-	531	515	-	372	339	-
Stage 2	-	-	-	-	-	-	491	335	-	659	495	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.7	16.2	11.1
HCM LOS			C	B

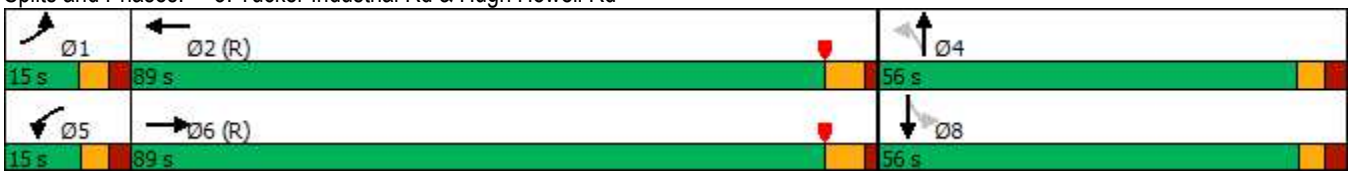
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	284	756	814	-	-	1076	-	-	626
HCM Lane V/C Ratio	0.257	0.092	0.037	-	-	0.066	-	-	0.053
HCM Control Delay (s)	22	10.2	9.6	-	-	8.6	-	-	11.1
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1	0.3	0.1	-	-	0.2	-	-	0.2

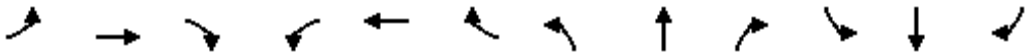
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	370	56	33	692	22	78	6	25	6	2	12
Future Volume (vph)	8	370	56	33	692	22	78	6	25	6	2	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	14	12
Storage Length (ft)	150		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	60			50			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		1148			648			819			1228	
Travel Time (s)		17.4			9.8			16.0			23.9	
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	5%	4%	12%	3%	10%	10%	0%	12%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	11.1	31.4		10.9	31.4		31.1	31.1		33.9	33.9	
Total Split (s)	15.0	89.0		15.0	89.0		56.0	56.0		56.0	56.0	
Total Split (%)	9.4%	55.6%		9.4%	55.6%		35.0%	35.0%		35.0%	35.0%	
Maximum Green (s)	8.9	82.6		9.1	82.6		49.9	49.9		50.1	50.1	
Yellow Time (s)	3.5	4.7		3.3	4.7		3.3	3.3		3.0	3.0	
All-Red Time (s)	2.6	1.7		2.6	1.7		2.8	2.8		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.1	6.4		5.9	6.4			6.1			5.9	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	0.2	3.0		0.2	3.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	20.0		0.0	20.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	15.0		0.0	15.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0			18.0		18.0	18.0		21.0	21.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.4	116.3		9.1	126.2			18.5			18.7	
Actuated g/C Ratio	0.04	0.73		0.06	0.79			0.12			0.12	
v/c Ratio	0.13	0.19		0.41	0.29			0.73			0.10	
Control Delay	69.4	9.3		85.0	5.9			85.2			35.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	69.4	9.3		85.0	5.9			85.2			35.0	
LOS	E	A		F	A			F			D	
Approach Delay		10.4			9.4			85.2			35.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			A			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 38.6 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Tucker Industrial Rd & Hugh Howell Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	370	56	33	692	22	78	6	25	6	2	12
Future Volume (veh/h)	8	370	56	33	692	22	78	6	25	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1826	1722	1856	1856	1900	1976	1900	1900	1976	1900
Adj Flow Rate, veh/h	9	411	62	37	769	24	87	7	28	7	2	13
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	5	5	12	3	3	0	0	0	0	0	0
Cap, veh/h	19	2299	344	46	2718	85	145	9	34	68	29	98
Arrive On Green	0.02	1.00	1.00	0.03	0.78	0.78	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1810	3016	451	1640	3490	109	1126	93	363	406	311	1037
Grp Volume(v), veh/h	9	235	238	37	388	405	122	0	0	22	0	0
Grp Sat Flow(s),veh/h/ln	1810	1735	1733	1640	1763	1836	1581	0	0	1755	0	0
Q Serve(g_s), s	0.8	0.0	0.0	3.6	10.0	10.0	10.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	0.0	3.6	10.0	10.0	12.0	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		0.26	1.00		0.06	0.71		0.23	0.32		0.59
Lane Grp Cap(c), veh/h	19	1322	1321	46	1373	1430	188	0	0	196	0	0
V/C Ratio(X)	0.48	0.18	0.18	0.80	0.28	0.28	0.65	0.00	0.00	0.11	0.00	0.00
Avail Cap(c_a), veh/h	101	1322	1321	93	1373	1430	522	0	0	548	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	77.9	0.0	0.0	77.3	5.0	5.0	70.9	0.0	0.0	66.4	0.0	0.0
Incr Delay (d2), s/veh	18.1	0.3	0.3	25.9	0.5	0.5	3.7	0.0	0.0	0.3	0.0	0.0
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(50%),veh/ln	0.5	0.1	0.1	1.8	3.3	3.4	5.1	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.0	0.3	0.3	103.2	5.5	5.5	74.6	0.0	0.0	66.7	0.0	0.0
LnGrp LOS	F	A	A	F	A	A	E	A	A	E	A	A
Approach Vol, veh/h		482			830			122			22	
Approach Delay, s/veh		2.1			9.9			74.6			66.7	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	131.0		21.2	10.4	128.4		21.2				
Change Period (Y+Rc), s	6.1	* 6.4		6.1	* 5.9	* 6.4		* 6.1				
Max Green Setting (Gmax), s	8.9	* 83		49.9	* 9.1	* 83		* 50				
Max Q Clear Time (g_c+I1), s	2.8	12.0		14.0	5.6	2.0		3.8				
Green Ext Time (p_c), s	0.0	11.9		0.7	0.0	6.1		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B

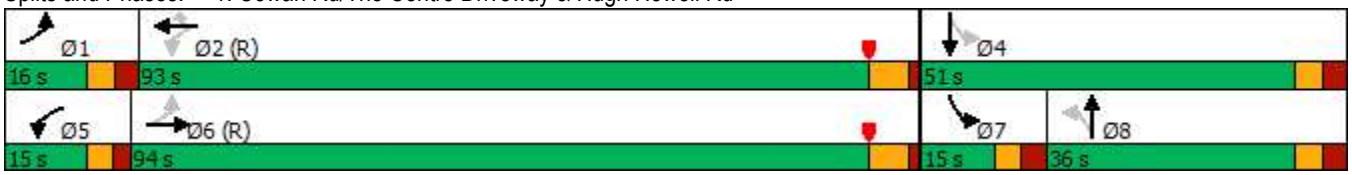
Notes

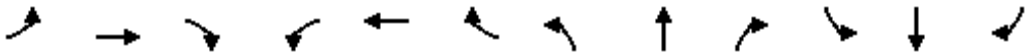
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	1145	41	55	723	81	51	29	58	89	35	98
Future Volume (vph)	142	1145	41	55	723	81	51	29	58	89	35	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	10	10	10
Storage Length (ft)	125		0	115		0	0		0	0		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	55			65			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1049			415			1011			510	
Travel Time (s)		15.9			6.3			23.0			11.6	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	3%	0%	0%	3%	2%	0%	0%	4%	1%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	1	6		5	2			8		7	4	
Permitted Phases	6			2		2	8			4		
Detector Phase	1	6		5	2	2	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		5.0	10.0	10.0	7.0	7.0		5.0	7.0	
Minimum Split (s)	13.2	27.4		10.3	32.1	32.1	35.5	35.5		11.1	35.5	
Total Split (s)	16.0	94.0		15.0	93.0	93.0	36.0	36.0		15.0	51.0	
Total Split (%)	10.0%	58.8%		9.4%	58.1%	58.1%	22.5%	22.5%		9.4%	31.9%	
Maximum Green (s)	9.8	87.9		9.7	86.9	86.9	29.5	29.5		8.9	44.5	
Yellow Time (s)	3.4	4.6		3.1	4.6	4.6	3.5	3.5		3.1	3.5	
All-Red Time (s)	2.8	1.5		2.2	1.5	1.5	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.2	6.1		5.3	6.1	6.1		6.5		6.1	6.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	0.2	3.0		0.2	3.0	3.0	0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	20.0		0.0	20.0	20.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)		10.0			19.0	19.0	22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0	0	0	0			0	
Act Effct Green (s)	110.5	102.4		104.8	96.8	96.8		19.8		35.1	34.7	
Actuated g/C Ratio	0.69	0.64		0.66	0.60	0.60		0.12		0.22	0.22	
v/c Ratio	0.33	0.57		0.22	0.37	0.09		0.76		0.42	0.35	
Control Delay	10.5	19.0		9.0	14.0	0.9		81.8		56.1	22.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	10.5	19.0		9.0	14.0	0.9		81.8		56.1	22.9	
LOS	B	B		A	B	A		F		E	C	
Approach Delay		18.1			12.5			81.8			36.2	
Approach LOS		B			B			F			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 102.9 (64%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 21.2	Intersection LOS: C
Intersection Capacity Utilization 73.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Cowan Rd/The Centre Driveway & Hugh Howell Rd





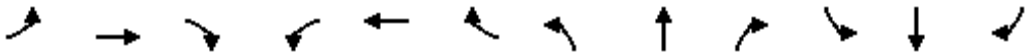
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1145	41	55	723	81	51	29	58	89	35	98
Future Volume (veh/h)	142	1145	41	55	723	81	51	29	58	89	35	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1856	1900	1856	1870	1900	1900	1900	1885	1900	1900
Adj Flow Rate, veh/h	153	1231	44	59	777	87	55	31	62	96	38	105
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	3	3	0	3	2	0	0	0	1	0	0
Cap, veh/h	535	2263	81	300	2226	1001	87	45	73	254	92	255
Arrive On Green	0.04	0.65	0.65	0.06	1.00	1.00	0.11	0.11	0.11	0.06	0.21	0.21
Sat Flow, veh/h	1810	3472	124	1810	3526	1585	496	394	642	1795	445	1231
Grp Volume(v), veh/h	153	625	650	59	777	87	148	0	0	96	0	143
Grp Sat Flow(s),veh/h/ln	1810	1763	1833	1810	1763	1585	1532	0	0	1795	0	1676
Q Serve(g_s), s	4.8	30.6	30.6	1.8	0.0	0.0	13.1	0.0	0.0	7.4	0.0	11.8
Cycle Q Clear(g_c), s	4.8	30.6	30.6	1.8	0.0	0.0	15.1	0.0	0.0	7.4	0.0	11.8
Prop In Lane	1.00		0.07	1.00		1.00	0.37		0.42	1.00		0.73
Lane Grp Cap(c), veh/h	535	1149	1195	300	2226	1001	205	0	0	254	0	348
V/C Ratio(X)	0.29	0.54	0.54	0.20	0.35	0.09	0.72	0.00	0.00	0.38	0.00	0.41
Avail Cap(c_a), veh/h	566	1149	1195	358	2226	1001	311	0	0	254	0	466
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.2	15.0	15.0	11.9	0.0	0.0	69.4	0.0	0.0	56.6	0.0	54.9
Incr Delay (d2), s/veh	0.3	1.9	1.8	0.3	0.4	0.2	4.7	0.0	0.0	0.9	0.0	0.8
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(50%),veh/ln	1.9	12.1	12.6	0.7	0.1	0.0	6.2	0.0	0.0	3.5	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.5	16.9	16.8	12.2	0.4	0.2	74.1	0.0	0.0	57.5	0.0	55.7
LnGrp LOS	A	B	B	B	A	A	E	A	A	E	A	E
Approach Vol, veh/h		1428			923			148			239	
Approach Delay, s/veh		16.1			1.2			74.1			56.4	
Approach LOS		B			A			E			E	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.2	107.1		39.7	9.9	110.4	15.0	24.7				
Change Period (Y+Rc), s	* 6.2	6.1		6.5	* 5.3	6.1	6.1	6.5				
Max Green Setting (Gmax), s	* 9.8	86.9		44.5	* 9.7	87.9	8.9	29.5				
Max Q Clear Time (g_c+I1), s	6.8	2.0		13.8	3.8	32.6	9.4	17.1				
Green Ext Time (p_c), s	0.1	14.0		0.9	0.0	24.4	0.0	0.6				

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	1188	89	76	757	42	75	1	70	31	0	41
Future Volume (vph)	29	1188	89	76	757	42	75	1	70	31	0	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		100	0		25	0		0
Storage Lanes	1		0	1		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		415			1148			1035			349	
Travel Time (s)		6.3			17.4			23.5			7.9	
Confl. Peds. (#/hr)			2	2								
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	3%	0%	0%	3%	7%	0%	0%	0%	0%	0%	10%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.8%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3

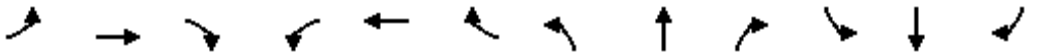
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	1188	89	76	757	42	75	1	70	31	0	41
Future Vol, veh/h	29	1188	89	76	757	42	75	1	70	31	0	41
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	100	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	3	0	0	3	7	0	0	0	0	0	10
Mvmt Flow	30	1238	93	79	789	44	78	1	73	32	0	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	833	0	0	1333	0	0	1900	2338	668	1627	2340	395
Stage 1	-	-	-	-	-	-	1347	1347	-	947	947	-
Stage 2	-	-	-	-	-	-	553	991	-	680	1393	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	5.5	5.5	-	5.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.5	5.5	-	5.5	5.5	-
Follow-up Hdwy	2.24	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.4
Pot Cap-1 Maneuver	783	-	-	524	-	-	~ 43	37	405	69	37	582
Stage 1	-	-	-	-	-	-	236	222	-	370	342	-
Stage 2	-	-	-	-	-	-	571	327	-	497	211	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	783	-	-	523	-	-	~ 34	30	404	48	30	582
Mov Cap-2 Maneuver	-	-	-	-	-	-	148	118	-	173	90	-
Stage 1	-	-	-	-	-	-	227	213	-	356	290	-
Stage 2	-	-	-	-	-	-	449	278	-	390	203	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.1	35.9	11.7
HCM LOS			E	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	148	404	783	-	-	523	-	-	582
HCM Lane V/C Ratio	0.535	0.18	0.039	-	-	0.151	-	-	0.073
HCM Control Delay (s)	54.3	15.9	9.8	-	-	13.1	-	-	11.7
HCM Lane LOS	F	C	A	-	-	B	-	-	B
HCM 95th %tile Q(veh)	2.6	0.7	0.1	-	-	0.5	-	-	0.2

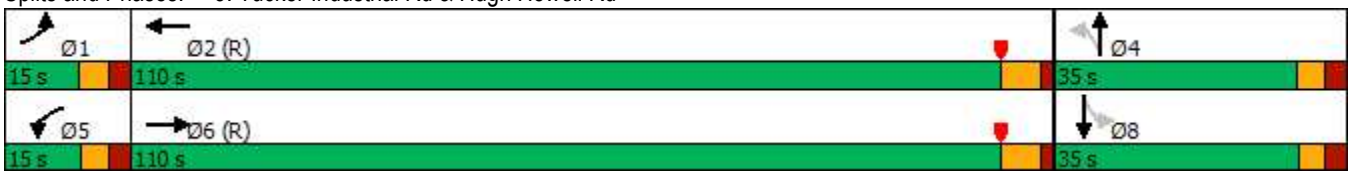
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

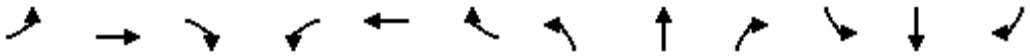


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	1025	205	52	688	6	137	1	75	28	10	7
Future Volume (vph)	8	1025	205	52	688	6	137	1	75	28	10	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	14	12
Storage Length (ft)	150		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	60			50			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		1148			648			819			1228	
Travel Time (s)		17.4			9.8			16.0			23.9	
Confl. Peds. (#/hr)			2	2								
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	20%	3%	1%	10%	3%	0%	3%	0%	13%	7%	0%	0%
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	11.1	31.4		10.9	31.4		31.1	31.1		33.9	33.9	
Total Split (s)	15.0	110.0		15.0	110.0		35.0	35.0		35.0	35.0	
Total Split (%)	9.4%	68.8%		9.4%	68.8%		21.9%	21.9%		21.9%	21.9%	
Maximum Green (s)	8.9	103.6		9.1	103.6		28.9	28.9		29.1	29.1	
Yellow Time (s)	3.5	4.7		3.3	4.7		3.3	3.3		3.0	3.0	
All-Red Time (s)	2.6	1.7		2.6	1.7		2.8	2.8		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.1	6.4		5.9	6.4			6.1			5.9	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	0.2	3.0		0.2	3.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	20.0		0.0	20.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	15.0		0.0	15.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0			18.0		18.0	18.0		21.0	21.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.5	109.1		8.6	118.2			26.4			26.6	
Actuated g/C Ratio	0.04	0.68		0.05	0.74			0.16			0.17	
v/c Ratio	0.13	0.55		0.62	0.28			0.89			0.19	
Control Delay	91.9	6.6		103.1	7.9			95.0			52.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	91.9	6.6		103.1	7.9			95.0			52.0	
LOS	F	A		F	A			F			D	
Approach Delay		7.2			14.6			95.0			52.0	
Approach LOS		A			B			F			D	

Intersection Summary		
Area Type:	Other	
Cycle Length: 160		
Actuated Cycle Length: 160		
Offset: 118.6 (74%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow		
Natural Cycle: 80		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.89		
Intersection Signal Delay: 18.9	Intersection LOS: B	
Intersection Capacity Utilization 68.3%	ICU Level of Service C	
Analysis Period (min) 15		

Splits and Phases: 3: Tucker Industrial Rd & Hugh Howell Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1025	205	52	688	6	137	1	75	28	10	7
Future Volume (veh/h)	8	1025	205	52	688	6	137	1	75	28	10	7
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1604	1856	1856	1752	1856	1856	1900	1976	1900	1900	1976	1900
Adj Flow Rate, veh/h	8	1079	216	55	724	6	144	1	79	29	11	7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	20	3	3	10	3	3	0	0	0	0	0	0
Cap, veh/h	14	2022	403	69	2585	21	194	1	86	169	63	34
Arrive On Green	0.02	1.00	1.00	0.04	0.72	0.72	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1527	2928	584	1668	3583	30	1027	7	564	868	412	224
Grp Volume(v), veh/h	8	648	647	55	356	374	224	0	0	47	0	0
Grp Sat Flow(s),veh/h/ln	1527	1763	1749	1668	1763	1850	1598	0	0	1504	0	0
Q Serve(g_s), s	0.8	0.0	0.0	5.2	11.3	11.3	17.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	0.0	5.2	11.3	11.3	22.0	0.0	0.0	4.1	0.0	0.0
Prop In Lane	1.00		0.33	1.00		0.02	0.64		0.35	0.62		0.15
Lane Grp Cap(c), veh/h	14	1217	1208	69	1272	1335	281	0	0	266	0	0
V/C Ratio(X)	0.56	0.53	0.54	0.80	0.28	0.28	0.80	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	85	1217	1208	95	1272	1335	324	0	0	311	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	78.2	0.0	0.0	76.0	7.8	7.8	66.4	0.0	0.0	59.0	0.0	0.0
Incr Delay (d2), s/veh	30.1	1.7	1.7	27.0	0.5	0.5	11.4	0.0	0.0	0.3	0.0	0.0
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(50%),veh/ln	0.4	0.6	0.6	2.7	4.1	4.3	9.9	0.0	0.0	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.3	1.7	1.7	103.1	8.3	8.3	77.8	0.0	0.0	59.3	0.0	0.0
LnGrp LOS	F	A	A	F	A	A	E	A	A	E	A	A
Approach Vol, veh/h		1303			785			224			47	
Approach Delay, s/veh		2.3			15.0			77.8			59.3	
Approach LOS		A			B			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	121.8		30.6	12.5	116.9		30.6				
Change Period (Y+Rc), s	6.1	* 6.4		6.1	* 5.9	* 6.4		* 6.1				
Max Green Setting (Gmax), s	8.9	* 1E2		28.9	* 9.1	* 1E2		* 29				
Max Q Clear Time (g_c+I1), s	2.8	13.3		24.0	7.2	2.0		6.1				
Green Ext Time (p_c), s	0.0	10.6		0.5	0.0	30.5		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		14.8
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Public Participation Plan Report
Project Name:

Contact Name: Jennifer Santelli

Meeting Date: Tuesday, May 5th
Meeting Location: 4435 Hugh Howell Road, Tucker GA 30084
Meeting Start Time: 5:00 pm
Meeting End Time: 7:00 pm
Number of people in attendance: 28

Date of Filing of Land Use Petition Application: 08/13/2021

General Introduction: please include information about who you reached out to for the meeting, communication outreach methods (letters, facebook, emails, etc), what you were proposing at the time of the neighborhood meeting, the meeting format (ppt, q&a, display boards, etc), and who attended the meeting on behalf of the applicant (engineers, attorney, developer, property owner, etc). Additional information that you feel is important to include is welcomed.

Summary of concerns and issues raised at the meeting: (please list and respond to each one individually; include as many items that were discussed).

1. List question/concern/comment/request for changes to the proposed plans

   Applicant Response:

2. List question/concern/comment/request for changes to the proposed plans

   Applicant Response:

The following must be submitted at time of application submittal:

- Copy of the letter that was mailed to neighbors
- Copy of address list for mailing

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GENERAL INTRODUCTION

950 North Point Parkway, Suite 200, Alpharetta, GA 30005
bowmanconsulting.com

Bowman

Public Participation Meeting

Chick-fil-A Tucker
4435 Hugh Howell Road
May 25, 2021

General Introduction

A Public Participation Meeting was held on Tuesday, May 25th at 5:00 PM at the project site at 4435 Hugh Howell Road Tucker, GA 30084. Fifty letters advertising meeting were sent out to nearby residences and businesses. This mailing list was provided by the City of Tucker and invited attendance to learn about the project and to ask questions, raise concerns, and provide feedback. Additional attendees were notified via City advertising and word of mouth.

The neighbours were informed that Bowman is working with Chick-fil-A to construct a new ±4,978 square foot restaurant with a drive-through at a new location at 4435Hugh Howell Road, at the southwest corner of Hugh Howell Road and Rosser Terrace on the site of a former restaurant. Bowman informed attendees that the public participation meeting is required by City of Tucker for a application of a Special Land Use Permit to allow operation of a drive-through restaurant in the DT-2 (Downtown Corridor) zoning district.

Site layout and architectural information was displayed on poster boards and detailed building materials, finishes and elevations. Attendees received individual copies of the site layout upon entry to the meeting.

Attendees included the Chick-fil-A development manager, Jennifer Santelli, and the operator of the existing Chick-fil-A, Brad Spratte, as well as several other existing restaurant staff. Current property owner, John Poulakis, was in attendance, as well as Bridgette Ganter and Collin McCarty of Bowman, as consulting engineers for Chick-fil-A. Remaining attendees represented nearby residences, businesses, and the City of Tucker.

Summary of Concerns and Issues

The main concern is traffic in the area:

1. Residents living along Rosser Terrace have issues cut-through traffic from Tucker Industrial Road to Hugh Howell Road as a quicker route to U.S. Highway 78, as this bypasses the traffic signal at Tucker Industrial Road and Hugh Howell Road.

   Applicant Response: Chick-fil-A cannot prevent this type of pass-through traffic, but offered to speak with DeKalb County in support for previously discussed appropriate measures to control this traffic, including speed-calming devices.

2. Another concern is that the traffic queue to turn onto Hugh Howell Road from Rosser Terrace would increase with the introduction of a Chick-fil-A at this intersection.

950 North Point Parkway, Suite 200, Alpharetta, GA 30005
bowmanconsulting.com

Applicant Response: Chick-fil-A is completing a Traffic Impact Study to assess existing traffic and new traffic resulting from the addition of a Chick-fil-A restaurant, as well as offer suggestions for mitigation.

Traffic Impact Study was completed on June 25th. Study recommends addition of dedicated right turn lane from northbound Rosser Terrace on to eastbound Hugh Howell Road. Conditions did not warrant a new traffic signal at the intersection of Hugh Howell Road and Rosser Terrance.

The overall intersection of Hugh Howell Road and Rosser Terrace is expected to experience an overall LOS A with the addition of a dedicated right turn lane, with an overall increase in delay of 1.7 seconds during the morning peak hour and an overall increase of 2.4 seconds in the evening peak hour.

For the morning peak hour, all approaches are expected to maintain acceptable LOS with minimal increases in overall delay.

During the evening peak hour, the northbound approach to Hugh Howell Road along Rosser Terrace is expected to operate at LOS E, with an increase in delay of 10.6 second, which is typical of unsignalized approaches connecting to a major road such as Hugh Howell Road.

3. Lastly, there is a concern that the proposed Chick-fil-A drive-through facility will back up onto Rosser Terrace.

   Applicant Response: Chick-fil-A has conducted extensive research and in recent years has implemented a series of techniques designed to serve drive-through customers at an efficient rate (average 45 seconds per vehicle, 80 orders per hour). These improvements include optimized kitchen operations and floorplan, as well as the isolated dual drive-through design to increase the number of vehicles that may be contained in the drive-through. In addition, Chick-fil-A has introduced face-to-face ordering with multiple contact points, as well as online ordering. Likewise, order pick up is no longer sequential, will multiple orders being delivered to vehicles simultaneously.

Bowman

LETTER MAILED TO NEIGHBORS

950 North Point Parkway, Suite 200, Alpharetta, GA 30005
bowmanconsulting.com

SLUP-21-0004, CV-21-0002, CV-21-0003, CV-21-0004

Bowman

Bowman
950 North Point Pkwy, Suite 200
Alpharetta, GA 30005

May 5, 2021

RE: Chick-fil-A 4435 Hugh Howell Road, Tucker, GA 30084

Neighbors of 4435 Hugh Howell Road,

We invite you to attend a Public Participation Meeting to learn about a proposed Chick-fil-A restaurant at this address. Bowman is working with Chick-fil-A to construct a new 4,978± square foot restaurant with a drive-through at 4435 Hugh Howell Road.

This address is zoned DT-2, Downtown Corridor. The City of Tucker requires a Special Land Use Permit for drive-through facilities in this zoning district. In advance of application of this permit, Bowman is holding a Public Participation Meeting to invite all neighbors to learn more about this project.

This restaurant will feature Chick-fil-A's new dual drive-through lane design and enhanced operations to serve guests as safely and efficiently as possible. We sincerely hope you will take advantage of this opportunity to meet with us and allow us to answer any questions you may have.

Date: Tuesday, May 25th
Time: 5:00 PM
Place: 4435 Hugh Howell Road, Tucker, GA 30084

Sincerely,

Bridgette Ganter

Bridgette Ganter
bganter@bowman.com
678-606-5278
Bowman

Bowman

ADDRESS LIST

950 North Point Parkway, Suite 200, Alpharetta, GA 30005
bowmanconsulting.com

SLUP-21-0004, CV-21-0002, CV-21-0003, CV-21-0004

Address	Owner	2nd Owner
2223 Dillard Street Tucker, GA 30084	SANTIAGO JOHN	
4445 Hugh Howell Road Tucker, GA 30084	SIEG RODNEY	
4437 Cowan Road Tucker, GA 30084	ENZOS PIZZA LLC	
2211 Rosser Terrace Tucker, GA 30084	SIEG RODNEY G	
2209 Dillard Street Tucker, GA 30084	HULTQUIST MARCY A	
2206 Rosser Terrace Tucker, GA 30084	YOUNG RONALD G	YOUNG CHARLES STEVE
4410 Hugh Howell Road Tucker, GA 30084	FOWLER ENTERPRISES ATLANTA LLC	
2239 Dillard Street Tucker, GA 30084	NELSON SCOTT L	NELSON WANDA H
4473 Hugh Howell Road Tucker, GA 30084	SIEG RODNEY G	SIEG PAMELA K
2218 Dillard Street Tucker, GA 30084	MARTIN DAVID ANDREW	MARTIN WAYNE D
4412 Hugh Howell Road Tucker, GA 30084	PAPA JOHNS USA INC	
4419 Cowan Road Tucker, GA 30084	E COWAN PROPERTIES LLC	
4421 Hugh Howell Road Tucker, GA 30084	AVATAR REAL ESTATE IV LLC	
4450 Hugh Howell Road Tucker, GA 30084	JHJ TUCKER 70 LLC	
2233 Dillard Street Tucker, GA 30084	SHAMBLIN LARRY	SHAMBLIN BETTY H
4465 Hugh Howell Road Tucker, GA 30084	LUNSFORD RONALD C	
4409 Hugh Howell Road Tucker, GA 30084	OCONEE PROPERTY HOLDINGS LLC	
2190 Rosser Terrace Tucker, GA 30084	WOOD ANDREW D	
2209 Hanfred Lane REAR Tucker, GA 30084	WELCH NED R	JONES MARK
2204 Dillard Street Tucker, GA 30084	SALAZAR JESSICA LORENA	
2191 Dillard Street Tucker, GA 30084	JONES FREDRICK B	JONES MAXINE W
2214 Rosser Terrace Tucker, GA 30084	WEBER DOROTHY V	
2209 Hanfred Lane Tucker, GA 30084	WELCH NED R	JONES MARK
4351 Hugh Howell Road Tucker, GA 30084	TUCKER PLAZA PARTNERS	
2175 Dillard Street Tucker, GA 30084	HARRELSON DAVID EARL	
2214 Dillard Street Tucker, GA 30084	DODSON HECK	
4435 Hugh Howell Road Tucker, GA 30084	COSTOPOULOS MARIA	POULAKIS JOHN
4405 Cowan Road Tucker, GA 30084	FRANKLIN STEVE	BENTZ STEVE
2217 Dillard Street Tucker, GA 30084	SHAKIR SHAKIR R	
2203 Rosser Terrace Tucker, GA 30084	TINKLE VIRGINIA	
2226 Dillard Street Tucker, GA 30084	MARTIN STEPHEN F	
2203 Dillard Street Tucker, GA 30084	ANDERSON JOHN	ANDERSON ALESIA
2191 Rosser Terrace Tucker, GA 30084	SLEG RODNEY G	

Mailing Adress	City	State	Zip
PO BOX 420195	ATLANTA	GA	30342
1639 HUDSON RD	DECATUR	GA	30033
930 GREENWOOD AVE # 12	ATLANTA	GA	30306
2158 TUCKER INDUSTRIAL RD	TUCKER	GA	30084
2209 DILLARD ST	TUCKER	GA	30084
2206 ROSSER TER	TUCKER	GA	30084
221 DEER COLONY LN	PONTE VEI	FL	30282
4874 FIVE FORKS TRICKUM RD SW	LILBURN	GA	30047
1639 HUDSON RD	DECATUR	GA	30033
2218 DILLARD ST	TUCKER	GA	30084
PO BOX 99900	LOUISVILLE	KY	40269
93664 P.O. BOX 93664 PMB 93664	ATLANTA	GA	30377
P O BOX 13585	ATLANTA	GA	30324
1000 PEACHTREE INDUSTRIAL BLVD STE 6 308	SUWANEE	GA	30024
3595 CARRICK CT	SNELLVILLE	GA	30039
4465 HUGH HOWELL RD	TUCKER	GA	30084
1040 FOUNDERS BLVD # 100	ATHENS	GA	30606
2190 ROSSER TER	TUCKER	GA	30084
134 N HILL ST STE 300	GRIFFIN	GA	30223
2200 DILLARD ST	TUCKER	GA	30084
1331 GREENDRIDGE TRL	LITHONIA	GA	30058
2214 ROSSER TER	TUCKER	GA	30084
134 N HILL ST STE 300	GRIFFIN	GA	30223
2881 WALLACE RD	BUFORD	GA	30519
2175 DILLARD ST	TUCKER	GA	30084
PO BOX 1006	LITHONIA	GA	30058
1610 DEKALB AVE	ATLANTA	GA	30307
3691 TOXAWAY CT	CHAMBLEE	GA	30341
2217 DILLARD ST	TUCKER	GA	30084
2203 ROSSER TER	TUCKER	GA	30084
144 PONCE DE LEON AVE NE APT 1103	ATLANTA	GA	30308
2203 DILLARD ST	TUCKER	GA	30084
1639 HUDSON RD	DECATUR	GA	30033

2200 DILLARD ST	TUCKER	GA	30084
2200 ROSSER TER	TUCKER	GA	30084
200 S BISCAYNE BLVD FLOOR 6TH	MIAMI	FL	33131
2213 DILLARD ST	TUCKER	GA	30084
15 LAURA LN STE 300	THOMASVI	NC	27360
4500 HUGH HOWELL RD STE 780	TUCKER	GA	30084
4173 BENT WILLOW DR SW	LILBURN	GA	30047
2177 ROSSER TER	TUCKER	GA	30084
144 PONCE DE LEON AVE NE APT 1103	ATLANTA	GA	30308
PO BOX 9271	OAK BROO	IL	60522
6555 SUGARLOAF PKWY STE 307 197	DULUTH	GA	30097
2227 DILLARD ST	TUCKER	GA	30084
9219 KATY FREEWAY STE 193	HOUSTON	TX	77024
201 ALLEN RD 300	ATLANTA	GA	30328
2182 ROSSER TER	TUCKER	GA	30084
PO BOX 1006	LITHONIA	GA	30058
303 SOMERSET CT	LAWRENCE	GA	30044

Email List

Name	Email
Virginia Tinkle	vtinkle@gmail.com
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Louis Wood	kf4rh@yahoo.com
Allison White	alw62000@gmail.com
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Avil Vaswani	Avil@avatarrealestatellc.com
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Kristen Jenkins	kristen.hunsicker@gmail.com
Robert Jenkins	rfjenkins42@gmail.com

2200 Dillard Street Tucker, GA 30084	SALAZAR JESSICA LORENA	
2200 Rosser Terrace Tucker, GA 30084	PHILLIPS JOHN ANTHONY	MCDANIELS CYNTHIA ANN
4434 Hugh Howell Road Tucker, GA 30084	TUCKER BB LLC	
2213 Dillard Street Tucker, GA 30084	MUNG KHAM DO	NEEM CING
4487 Hugh Howell Road Tucker, GA 30084	COOK OUT TUCKER INC	
4500 Hugh Howell Road Tucker, GA 30084	HERITAGE PLACE LLC	
2199 Dillard Street Tucker, GA 30084	W H J PROPERTIES LLC	
2177 Rosser Terrace Tucker, GA 30084	BARRERA JUAN R AVILES	
2222 Dillard Street Tucker, GA 30084	MARTIN STEPHEN F	
4416 Hugh Howell Road Tucker, GA 30084	INLAND AMERICAN TUCKER	HUGH HOWELL LLC
4383 Hanfred Lane Tucker, GA 30084	4383 HANFRED LANE LLC	
2227 Dillard Street Tucker, GA 30084	PASCH ANNA	
4403 Hugh Howell Road Tucker, GA 30084	LSP TUCKER LLC	
4453 Hugh Howell Road Tucker, GA 30084	WENDYS TUCKER FS LLC	
2182 Rosser Terrace Tucker, GA 30084	CROSS AUDREY THEO	CROSS KAREN S
2210 Dillard Street Tucker, GA 30084	DODSON HECK	
2245 Dillard Street Tucker, GA 30084	TOMANELLI LLC	

Bowman

MEETING MINUTES

950 North Point Parkway, Suite 200, Alpharetta, GA 30005
bowmanconsulting.com

SLUP-21-0004, CV-21-0002, CV-21-0003, CV-21-0004

Bowman

Bowman Consulting
950 North Point Pkwy, Suite 200
Alpharetta, GA 30005

May 25, 2021

Special Land Use Permit Public Hearing Notes

Summary of Main Concerns

1. Traffic through Rosser Terrace is already bad from people using it as a cut through to US Hwy 78.
2. Concerns were raised about the left turn onto Hugh Howell Road if there is not some kind of traffic signal there. It is already difficult to make that left from Rosser Terrace onto Hugh Howell Road.
3. Trash along Rosser Terrace is already an issue, some think it could get worse.

General Notes/Concerns:

1. Concern: the drive through will back up onto Rosser Terrace.
   Response: Chick-fil-A has been making improvements not only on the outside, but also within their kitchens to improve efficiency. Kitchen changes along with the site layout would guarantee that a back-up would not incur. The drive through stack is also set to be 44 cars at peak hours, which is more than enough car stacking for a busy Saturday.
2. Concern: Once the drivers leave the site, it was brought up that a backup on Rosser Terrace might happen because of turning onto Hugh Howell Road.
   Response: Traffic study is currently being analyzed and will consider traffic on Rosser Terrace and Hugh Howell Road.
3. Concern: Cut through traffic on Rosser Terrace is bad, people speed through and there are children that like to ride bikes on that road.
   Response: This kind of problem will be addressed to the City.
4. Concern: There has been talks of adding speed bumps to Rosser Terrace. Based on the Chick-fil-A site design the entrance to the site would be right on one of the speed bumps.
   Response: The additions of speed bumps were not something that was brought to our attention, will coordinate with the City to learn more about if and where there will be placed.
5. Concern: On the conceptual site, there is only one entrance and exit onto Rosser Terrace, many wondered why there could not be a curb cut along Hugh Howell Road.
   Response: Based on the City of Tucker requirements and comments, it was initially found that there cannot be a curb cut along Hugh Howell.
6. Concern: Addition of a light at Rosser Terrace and Hugh Howell Road.
   Response: It is to our understanding that the City would like to avoid this. The need for a light will be re-assessed after the traffic study in completed.
7. Concern: Que from the drive-through stack going onto Hugh Howell Road.

Response: This would be highly unlikely. The drive-through stack is already set higher than the average on a busy day (25-30 cars).

8. Concern: The new Publix near the site already adds traffic to the area. Concerns were raised about more traffic being added to the area.
   Response: Although Chick-fil-A cannot help the traffic from the Publix, they can assure that the new improvements in the restaurant will help traffic in and out of the site. This is a relocation of the Chick-fil-A down the road, so the traffic that is already there will not be increased, just moved down the road.
9. Concern: Do not think that any kind of signage will help the traffic problem through Rosser Terrace. (No left turn signs out of the Chick-fil-A.
   Response: Will coordinate with City to learn more about the traffic problems through Rosser Terrace.
10. Concern: Will any kind of traffic study be done on this site.
    Response: A Traffic Impact Study (TIS) is currently being done for the site.
11. Concern: Worried about if there was a car accident at the intersection of Rosser Terrace and Hugh Howell Road, that it would block off that neighborhood to their homes.
    Response: The traffic study should shed some light on this problem and will be evaluated once that is completed.

Bowman

ATTENDANCE LIST

950 North Point Parkway, Suite 200, Alpharetta, GA 30005
bowmanconsulting.com

SLUP-21-0004, CV-21-0002, CV-21-0003, CV-21-0004

Bowman

NAME	ADDRESS	EMAL
Brad Spratte	With CFA	
Jacob Fair		
Colin Crawford		
Lauryn Crawford		
Anna Pasch	2227 Dillard St	Annampasch@gmail.com
Lindsey Smith	2118 Rosser Ter	ericandlindseysmith@gmail.com
Eric Smith	2118 Rosser Ter	ericandlindseysmith@gmail.com
Kristen Jenkins	2134 Rosser Ter	Kristen.hunsicker@gmail.com
Robert Jenkins	2134 Rosser Ter	Rfjenkins42@gmail.com
Lewis Wood	2174 Rosser Ter	Kf4rh@yahoo.com
Andy Wood	2190 Rosser Ter	Awood1014@gmail.com
Mandy Finch	4460 Florence St	
Adrian Finch	4460 Florence St	
Heather Carlyle	4447 Florence St	Heatherann143@gmail.com
Virginia Tinkle	2203 Rosser Ter	vtinkle@gmail.com
Raymond Maghughey	2165 Rosser Ter	
Ted Fischun	2103 Rosser Ter	Enginesystems1@gmail.com
Frank Arman	5468 Pheasant Run, Stone Mountain, GA 30087	
Allison White	4475 Florence St	Alw62000@gmail.com
Tiffany White	4475 Florence St	
Avril Vaswani	4421 Hugh Howell Rd	avril@avatarrealestatellc.com
Kimberly Harrell	5730 Musket Lane	
Michel Jimenez		micheljimenez@aol.com
Suzanne Peterman		sgpeterman@yahoo.com
John Poulakis	Building Owner	

950 North Point Parkway, Suite 200, Alpharetta, GA 30005
bowmanconsulting.com

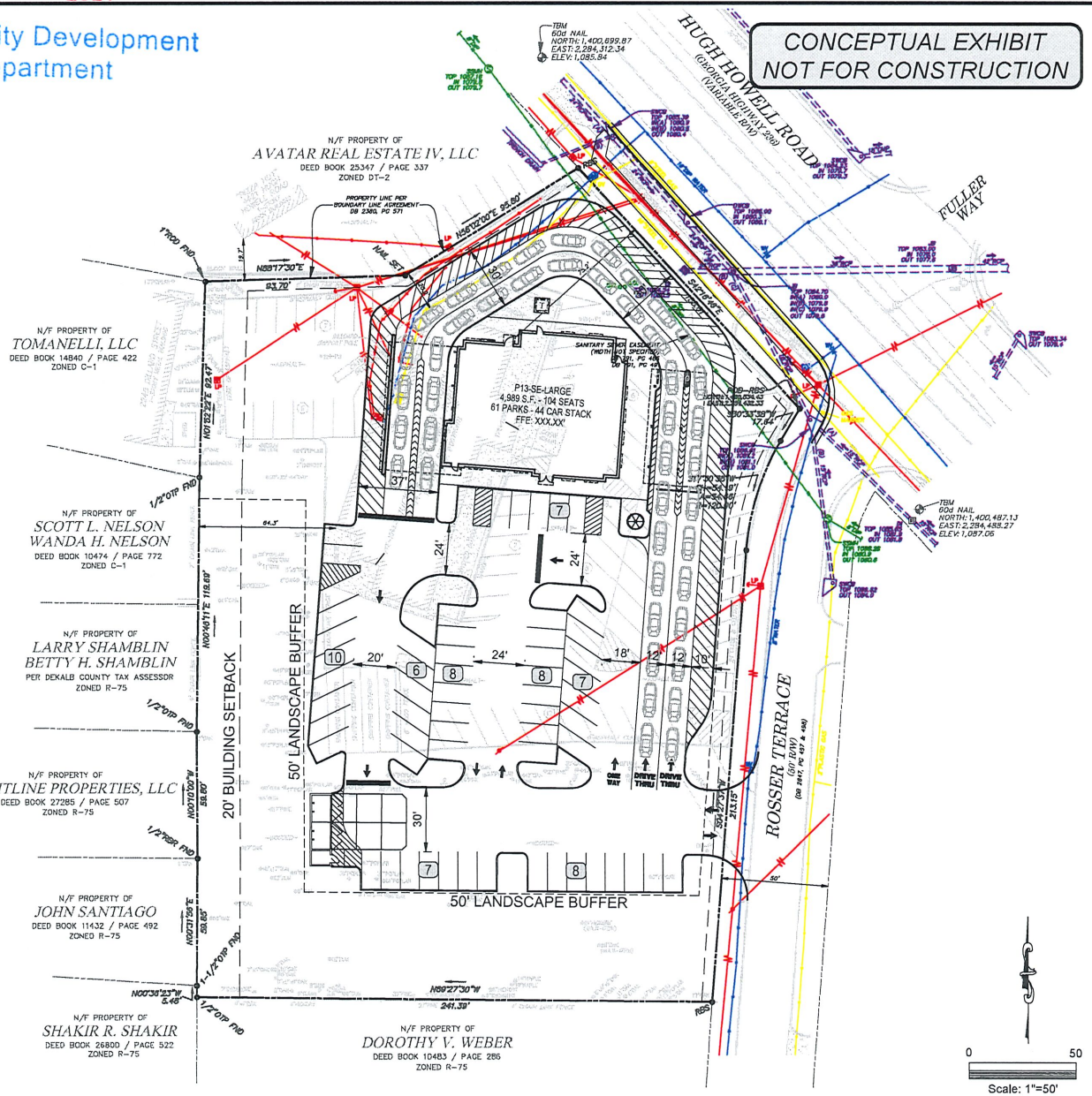
Bowman

PRESENTED SITE PLAN

950 North Point Parkway, Suite 200, Alpharetta, GA 30005
bowmanconsulting.com

SLUP-21-0004, CV-21-0002, CV-21-0003, CV-21-0004

CONCEPTUAL EXHIBIT
NOT FOR CONSTRUCTION



SITE DATA TABLE			
ADDRESS	4431 HUGH HOWELL RD, TUCKER, GA 30084		
PARCEL ID	18 214 04 086		
JURISDICTION	CITY OF TUCKER		
ZONING	DT-2 (DOWNTOWN CORRIDOR)		
PROPOSED CFA AREA	89,271 SF	2.049 AC	100.0%
IMPERVIOUS AREA	50,345 SF	1.158 AC	56.4%
OPEN SPACE AREA	38,926 SF	0.894 AC	43.6%

PARKING CALCULATIONS		
USE	RATIO	REQUIRED
TOTAL REQUIRED	1 PER 150 SF	33 MIN
TOTAL PROPOSED	61 SPACES	

BUILDING SETBACKS		
YARD	REQUIRED	PROPOSED
NORTH	5'	11'
EAST	5'	15'
WEST	20'	163'
SOUTH	0'	239'

LANDSCAPE BUFFERS		
YARD	REQUIRED	PROPOSED
NORTH	0'	0'
EAST	10'	10
WEST	50'	50'
SOUTH	50'	50'

VARIANCES & ISSUES

PROPOSED LEGEND

- PROPERTY LINE
- BUILDING SETBACK LINE
- BUFFER
- (1) PARKING COUNT

0 50
Scale: 1"=50'

OVERLAY EXHIBIT

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

Bowman Consulting Group, Ltd.
950 North Point Pkwy
Suite 200
Alpharetta, GA 30005
Phone: (470) 206-6000
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

CONCEPTUAL DESIGN
TUCKER, HUGH HOWELL RD, GA
CHICK-FIL-A
HUGH HOWELL RD &
ROSSER TERRACE

BOWMAN CONSULTING
Certificate of Authorization License No. 4523

JD	JD	JD
DSGN	DRAWN	CHKD

SCALE: 1" = 50'

VERSION 1.0

- Meeting sign-in sheet
- Meeting minutes
- Copy of the plan that was presented at the neighborhood meeting

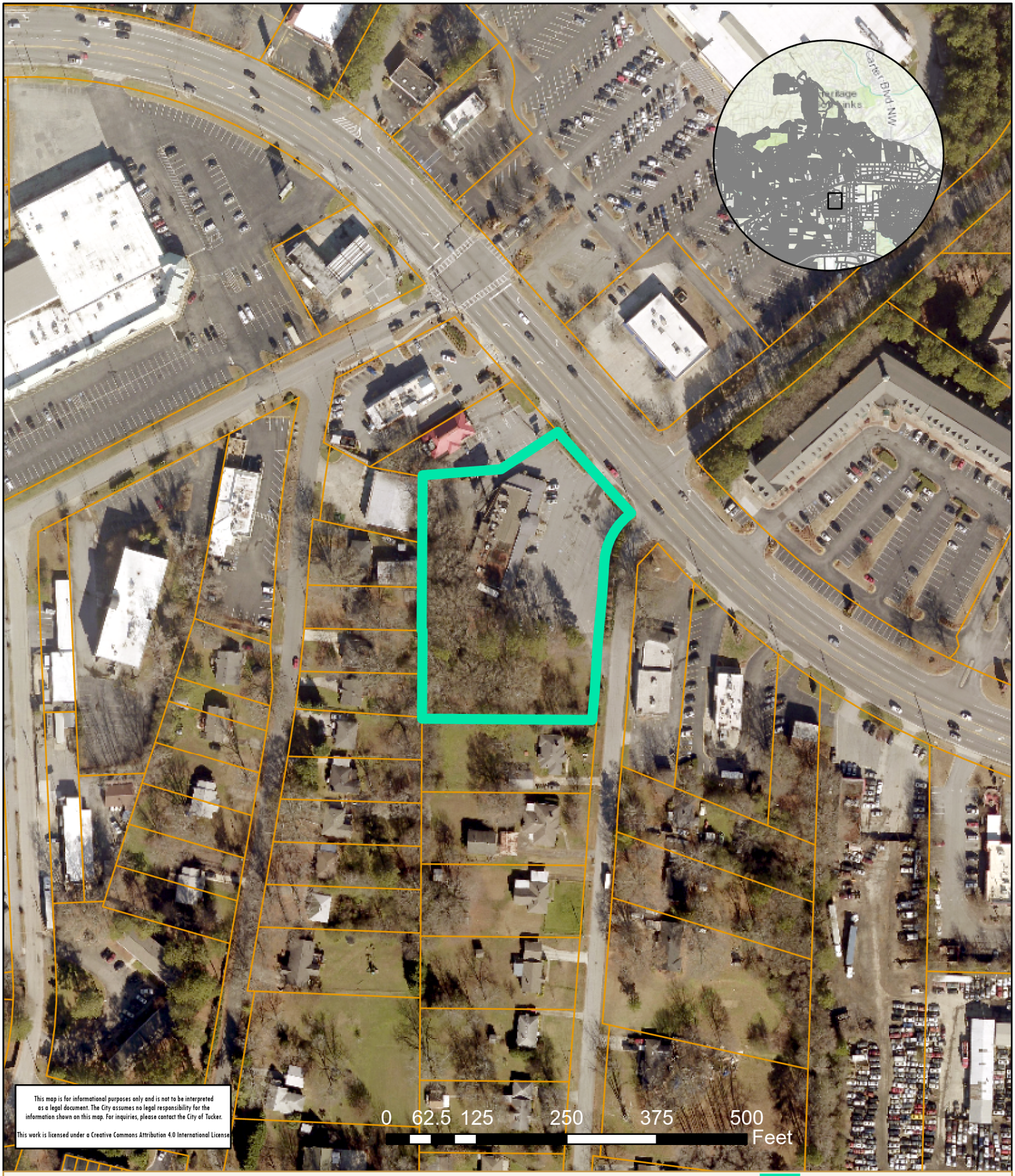
I, the undersigned, as the applicant or an authorized representative of the applicant do solemnly swear and attest that the information provided is true and accurate. I have included a complete record of the neighborhood meeting, as well as an honest response regarding the intentions for development.

Jennifer Santelli — 8/5/21
Signature of Applicant or Authorized Representative — **Date**

Jennifer Santelli — 8/5/21
Type or Print Name of Applicant or Authorized Representative — **Date**

Erika Giddens — 8/5/21
Signature of Notary — **Date**

ERIKA GIDDENS NOTARY PUBLIC DEKALB COUNTY GEORGIA EXPIRES APR. 18, 2023
Notary Seal



City of Tucker

4435 Hugh Howell Road **FLU Map**
SLUP-21-0004
CV-21-0002
CV-21-0003
CV-21-0004

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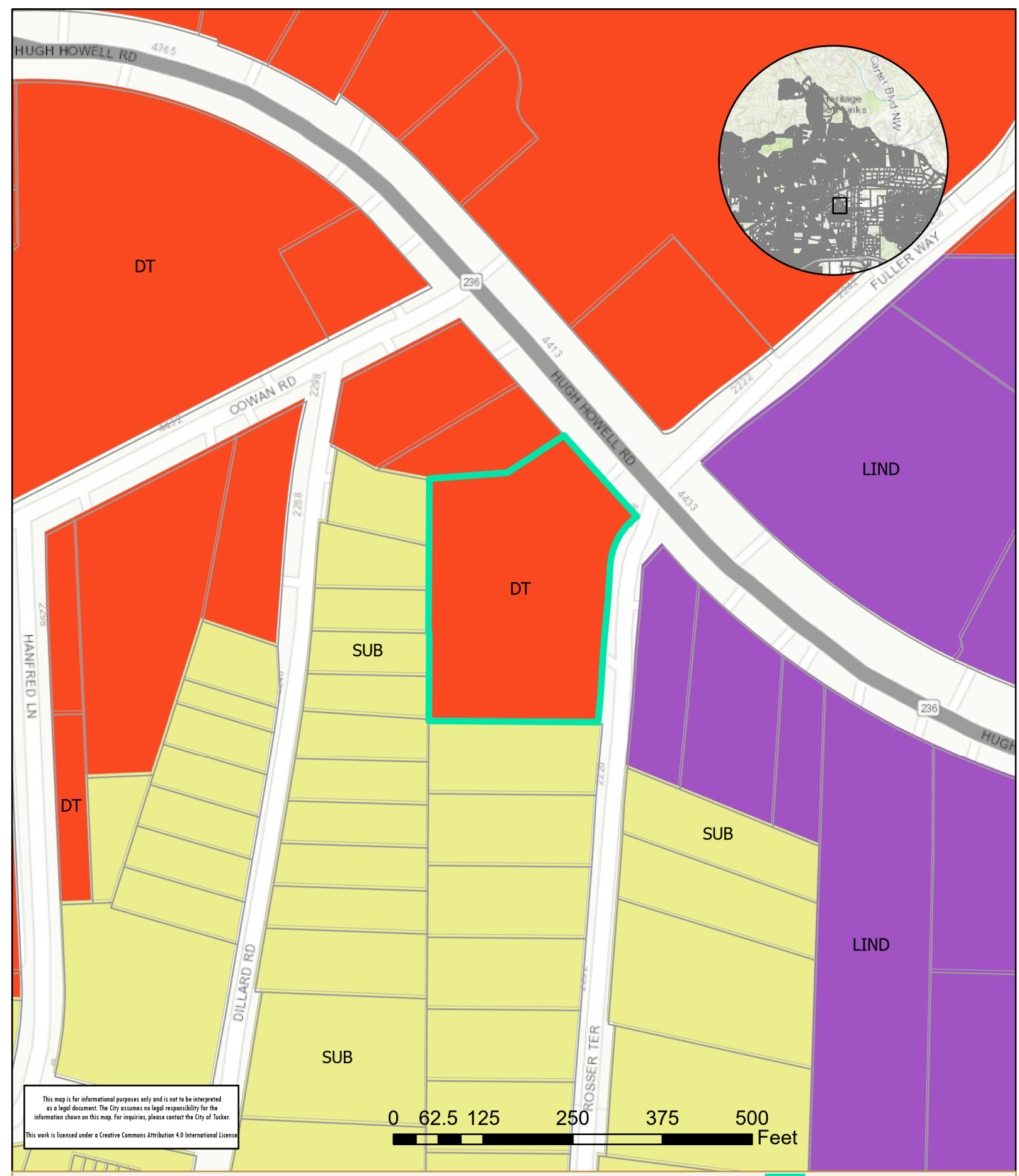
Credit: City of Tucker, DeKalb County, OpenStreetMap, Mapbox, Atlanta Regional Commision



City of Tucker

4435 Hugh Howell Road **FLU Map**
SLUP-21-0004
CV-21-0002
CV-21-0003
CV-21-0004

SLUP
Downtown
Light Industrial
Suburban

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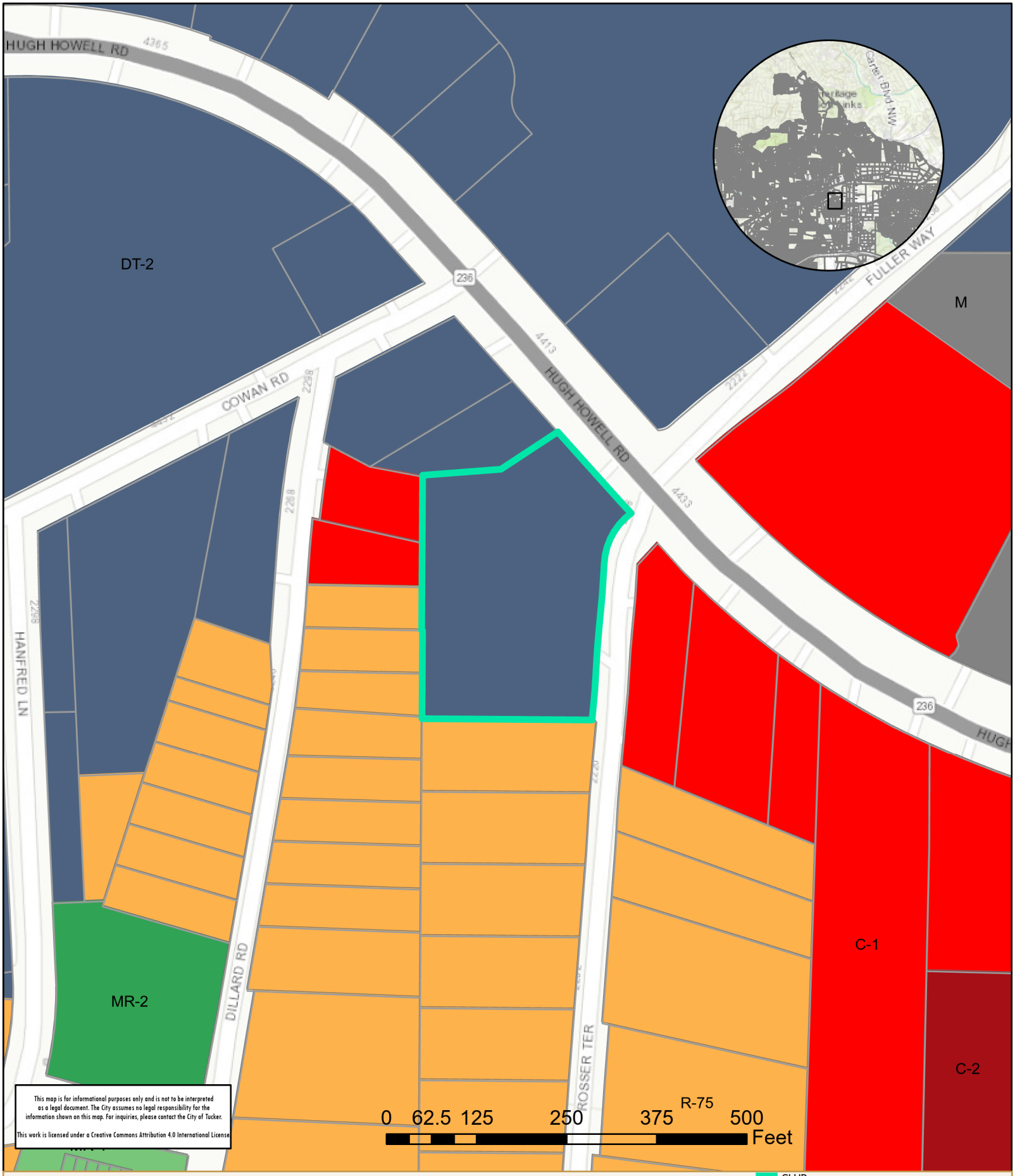
Credit: City of Tucker, DeKalb County, OpenStreetMap, Mapbox, Atlanta Regional Commision

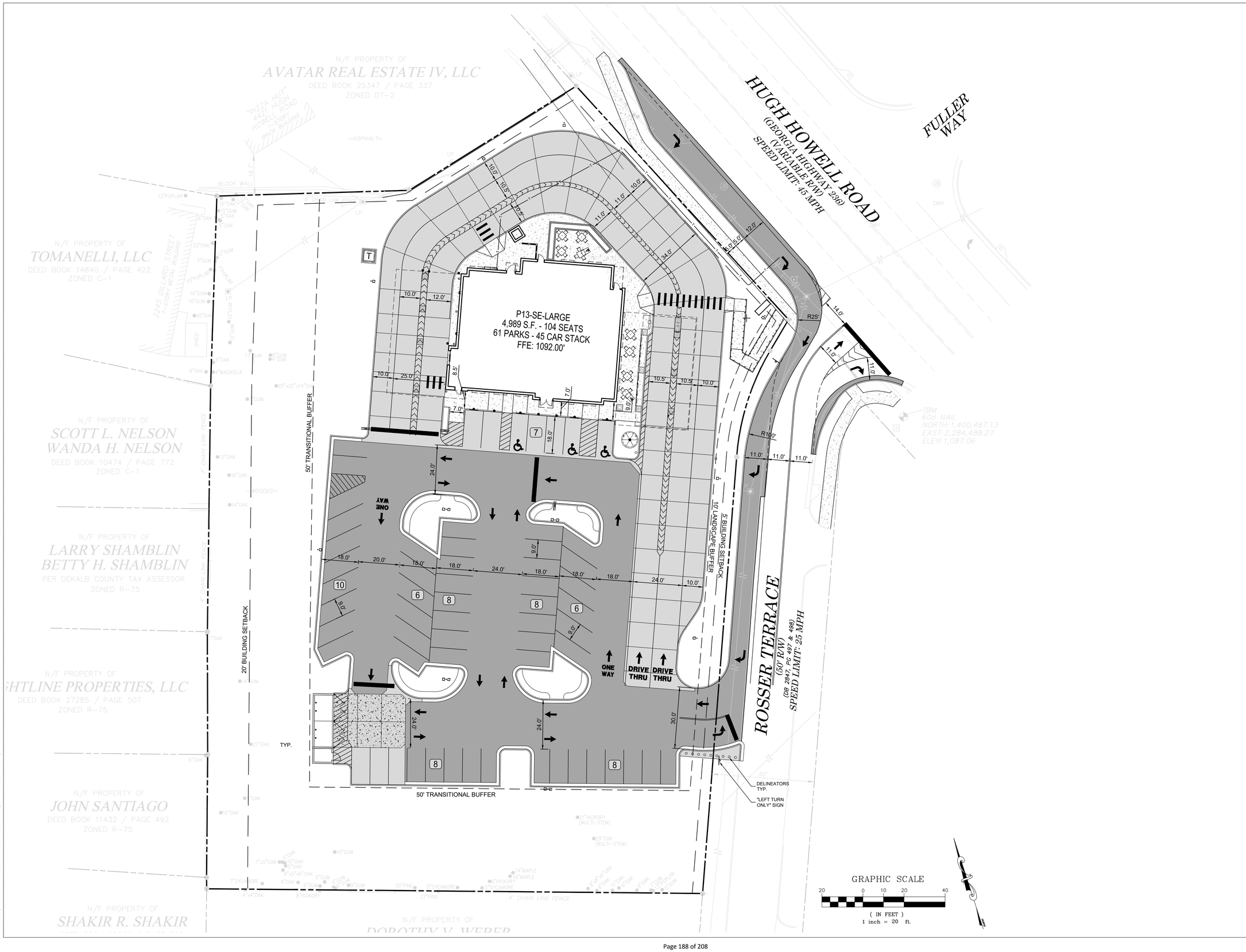


City of Tucker

4435 Hugh Howell Road Zoning Map
SLUP-21-0004
CV-21-0002
CV-21-0003
CV-21-0004

Date Exported 8/27/2021 4:00 PM
Folder S:\GIS\PlanningZoning\Projects\SLUP\SLUP-20-0001\
Credit: City of Tucker, DeKalb County, OpenStreetMap, Mapbox, Atlanta Regional Commision

- SLUP
- DT-2 (Corridor Zone)
- R-75 (Residential Medium Lot -75)
- MR-1 (Medium Density Residential-1)
- MR-2 (Medium Density Residential-2)
- C-1 (Local Commercial)
- C-2 (General Commercial)
- M (Light Industrial)



1. February, 2022
File Path: V:\120005 - Chick-fil-A\120005-01-049 (ENG) - Tucker, GA (Hugh Howell Rd) #04959\Engineering\Engineering Plans\Exhibits\Rosser Access Exhibit\EX-1.0 - CFA Tucker, GA (Hugh Howell Rd) - Rosser Terrace Exhibit.dwg

Chick-fil-A
5200 BUFFINGTON RD
Atlanta, Georgia 30349-2998

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950 North Point Parkway, Suite 200
Alpharetta, GA 30005
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www.bowmanconsulting.com

CHICK-FIL-A
RELO TUCKER FSU
4435 HUGH HOWELL ROAD
TUCKER, GA 30084

FSU#04959

BUILDING TYPE / SIZE: P13-SE-LRG

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT #	120005-01-049
ISSUED FOR	PERMIT
DATE	February 1, 2022
DRAWN BY	BCG

SHEET
ROSSER TERRACE ACCESS EXHIBIT

SHEET NUMBER
EX-1.0

MEMO

To: Honorable Mayor and City Council Members

From: **Rip Robertson, Director, Parks and Recreation**

CC: Tami Hanlin, City Manager

Date: **22 February 2022**

RE: Consideration of the approval for a pool operations contract amendment

---

Issue: The City of Tucker acquired Cofer Park and Pool in 2018 and added the Splash Pad in 2019. In 2020, the City added a second municipal when we acquired Rosenfeld Park (Smoke Rise Bath and Racquet). As our Summer Camp expands, it becomes cumbersome to include our campers into our pools with the public.

Recommendation:

Staff recommends amending our annual contract with Swim Atlanta Pool Management an additional $7,700.00 for a total contract price of $50,700.00. The contract will run for the remaining four year (4) annual amount will be in the amount of $50,700.00.

Background: This scope of the contract is the maintenance and daily operation of the City's pool to include lifeguards. The scope requires safe operations daily (minimum 2 guards) that includes restrooms/dressing area cleaning and stocking, water chemistry testing and maintenance as required by DeKalb County Health Department, trash/litter control and removal, parking area cleanup, equipment maintenance to include deck furniture and mechanical operations. The Cofer pool will operate Monday's, 12:00 – 8:00 pm, Tuesday's, closed, Wednesday's – Saturday's, 12:00 – 8:00 pm and Sunday's, 1:00 – 7:00 pm, with Rosenfeld pool operating Monday's and Tuesday's, 12:00 – 8:00 pm, Wednesday's, closed, Thursday's – Saturday's, 12:00 – 8:00 pm and Sunday's, 1:00 – 7:00 pm. The city will continue to hire P/T Pool Managers for each pool to supervise the daily operation and to collect entrance fees and concessions.

Summary: These hours allow our Summer Campers to have dedicated swim hours. This alleviates many safety issues and allows maximum occupancy for our community users.

Financial Impact: This item was included as part of the Parks and Recreation FY2022 budget as part of the Contract Services for the Parks and Recreation Department.

The Pool Management Group
SwimAtlanta Pool Management
Gwinnett

SWIMMING POOL MANAGEMENT AGREEMENT

This Agreement, between **SwimAtlanta Pool Management - Gwinnett** (the "Company") and **The City of Tucker** (the "Customer"), is to provide for the staffing, water chemistry maintenance and cleaning by the Company at the Customer's pool located at Tucker, Georgia, in accordance with the specifications, conditions, and terms set forth herein. Company has no duties with regard to pool or facilities other than those explicitly stated herein.

1. **EFFECTIVE DATE**. This Agreement, when executed by both parties hereto, shall become effective on February 1, 2022, for the 2022 Pool Year, extending through January 31, 2023.

About Us

We're a local company that is part of The Pool Management Group family of companies. From advanced lifeguard training and testing, to our national back up team for key personnel, to industry thought leadership, our customers receive the rewards of a large national company combined with our local expertise.

As a result, we are able to provide high levels of quality, safety and risk reduction.

2. **PERSONNEL**. Company will provide pool staff, including lifeguards, for operation of Customer's pool. The Company will provide training and testing of the lifeguards working at Customer's facility that significantly exceed the industry norm.

**Please see Section 5 for more details on personnel.*

3. **INSURANCE/LIABILITY**. The company will maintain a comprehensive insurance package including General Liability, Professional Liability & Punitive coverage with $20 million dollar limits. While this is a significant limit, Company asserts it is a requirement and not an extravagance, as pool accident judgments have been awarded for multi-millions.

The company agrees to maintain, at a minimum, $20 million liability insurance coverage for the length of this Agreement.

**Please see section 6 for more information on liability insurance*

4. **VALUE ADDED SERVICES**. Service components well beyond the standard pool management services are provided as part of this Agreement.

Value Added Services	Description
Advanced Lifeguard Training	**Proprietary training is given to our lifeguards and goes beyond the standard lifeguard training. Training focuses on critical risks and dangers that many pool operators are not even aware of. Topics include advanced scanning techniques, lifeguard distractions, bodies disappearing underwater and more.**
On-line Lifeguard Training	**Through The Pool Management Group, our advanced training is administered on-line with custom video and audio learning. This proprietary on-line system has testing throughout to ensure lifeguards view and are tested on all material.**
Summer Safety Campaign	**Posters are placed at facilities (and information posted on-line) as part of our annual pool safety campaign aimed at pool patrons. The safety campaign is designed to increase awareness of pool hazards and prevent drowning.**
Body on the Bottom Testing	**Proprietary testing is completed at pools throughout the season to enhance lifeguards' ability to identify and save bodies underwater.**
National Safety Advisors	**Collectively, with The Pool Management Group family of companies, we contract with prominent safety advisors to ensure our water safety standards remain at high levels.**
National Back Up Team	**In the event of a need, we will utilize back up personnel available through The Pool Management Group. From President to pool technician positions, our team is backed up in the event of injury or other emergency.**
National Parts Sourcing	**When local parts distributors do not carry a part needed to keep your pool up and running, we will utilize the support team at The Pool Management Group for a nationwide search to find the right part and order it promptly.**
Up to Date Information	**Through The Pool Management Group, important governmental decisions and water safety developments are monitored so we can provide accurate timely information.**
Risk Reduction	**Our safety and training standards increase safety and reduce risk at your pool. However, even at the safest pools, accidents can happen, so we carry Professional Liability Insurance with $20 million of coverage.**

5. **PERSONNEL**.

(a) All Company personnel who will work at the Customer's pool in fulfilling the terms of this Agreement, including all lifeguards, shall be employed solely by the Company and be employees of the Company. No lifeguard shall be engaged by the Company as an "Independent Contractor" to fulfill the terms of this Agreement.

(b) All lifeguards employed by the Company shall have the minimum standard American Red Cross Basic Lifeguarding Certificates or Lifeguard Training Certificates, or the equivalent, as well as Professional Rescuer CPR, and then shall go through Company's proprietary lifeguard training and testing which provides knowledge and awareness well beyond the industry standard.

(c) Company is solely responsible for selecting competent and qualified lifeguards for the safe operation of the Customer's swimming pool.

(d) Personnel will be trained by the Company. Personnel not performing up to the standards of the Customer will be replaced by the Company within ***24 hours***.

(e) Company is responsible for exercising control over the activities performed by the lifeguards. Lifeguards will be supervised by Company management personnel.

(f) The Company agrees to pay the following for Company's employees, including all lifeguards:

Wages

Income tax withholdings

Social Security withholdings

State unemployment insurance

Federal unemployment insurance

Workmen's Compensation insurance

(g) Lifeguards shall have the authority to discipline swimmers and any and all other persons within the pool facility within their best judgment and sole discretion consistent with the published and posted rules of the Customer and minimum safety standards as established herein. Customer agrees to support Company's lifeguards in enforcing the rules with Customer's patrons.

(h) Whereas, Company has responsibility for providing lifeguards, water chemistry maintenance and cleaning of Customer's swimming pool, various Company personnel will be responsible for the following duties:

(1) Lifeguarding main pool.

(2) Checking water chemistry and recording readings every two (2) hours.

(3) Maintaining chemical balance of pool water.

(4) Vacuuming pool frequently enough that the pool is always clean.

(5) Cleaning tiles around pool edge.

(6) Backwashing filter system.

(7) Checking and recording filter pressure gauge readings and flow meter readings daily. Taking corrective measures as indicated.

(8) Cleaning bathhouse throughout the day.

(9) Cleaning swimming pool area.

(10) Emptying trash.

(11) Straightening deck furniture.

(12) Replenishing janitorial supplies in bathhouse.

(13) Enforcing rules of the Customer for safety and convenience of Customer's members.

(14) Assisting Customer in collecting guest fees and monitoring membership, as long as the task does not interfere with lifeguarding.

(i) Whereas, Company will invest substantial resources to train and convey information concerning operational techniques and management procedures to its employees at Customer's facility and Customer acknowledges that such information and investment is a valuable asset of Company's business, Customer agrees not to hire or consult (without the prior written consent of Company) any employee or former employee of the Company for a period of one year from the date of expiration or cancellation of this agreement.

6. **INSURANCE/LIABILITY**. The Company shall maintain and keep in full force the following coverage:

(a) **Professional Liability Insurance and General Liability Insurance** in the amount of **$20,000,000.**

(b) **Worker's Compensation insurance** covering all persons engaged on behalf of the Company in the performance of the terms of this Agreement.

Company agrees to indemnify and hold Customer, its officers, committees, and agents harmless from and against any claims caused by or arising out of the acts, omissions and/or negligence of the Company or its employees. This indemnity does not require Company to indemnify Customer for Customer's own negligence.

Company agrees to supply copies of the certificates of insurance to the Customer verifying the above-mentioned insurance coverage. It is the responsibility of the Customer to provide all other insurance coverage.

Except due to acts of omission or negligence on the part of the Company or its employees, Company assumes no liability for damage or injury to persons or property arising from or

caused by Acts of God. Except as to the employees of Company, Company assumes no liability for damage or injury to persons or property arising from or caused by physical or mental incapacity, physical or mental diminution, or intoxication from alcoholic or other substances, whether legal or illegal.

Company shall not be held liable for any damages resulting from faulty equipment, mechanical failure, weather, flooding, or defective workmanship or design by others. Company accepts no responsibility for hydrostatic lifting. Any risks associated with draining the pool shall be solely the Customer's.

The Company shall not be liable or responsible for any injuries or damages that arise at any time that is not within the hours of operation as stated in this Agreement, except for additional hours for which Company is contracted according to the terms of this Agreement.

The Company shall not be held liable for any personal effects of any person or persons utilizing the pool facilities.

The Customer shall maintain and keep in full force and effect the following coverage:

(a) **Premises Liability Insurance.**

(b) **Comprehensive General Liability Insurance** in the amount of $1,000,000.00 each accident and $1,000,000.00 each person.

7. **OPENING**. Company agrees to make pool "ready to swim" by completing the following services, where applicable:

(a) Start up equipment.

(b) Order, store, and inject all necessary chemicals to establish proper levels for:

free chlorine

total alkalinity

pH

calcium hardness

cyanuric acid

(c) Vacuum pool.

(d) Clean pool enclosure area.

(e) Inspect chemical feeders.

(f) Inspect all filtration equipment.

(g) Inspect flow meters, pressure gauges, and valves.

(h) Mount diving boards, guard chairs, and ladders.

(i) Thoroughly clean bathhouse.

(j) Inspect and re-supply water testing supplies.

(k) Inspect underwater lights.

(l) Perform requisite repair work as needed and authorized by Customer (see "Repair Work").

(m) Remove, clean, and store Customer's pool cover at Customer's pool.

(n) Drain and clean pool, if applicable.

PRE-SEASON STAFF MEETING WITH STAFF. At Customer's request, Company's designated Pool Manager shall meet with Customer's representative prior to opening day. The Pool Manager and all lifeguards, as feasible, will meet with Customer's representative.

PRE-SEASON SWIMMING POOL REVIEW MEETING. At the Customer's request, Company will walk-through with a representative of the Customer prior to opening to develop a list of items needed for operation of the pool and to review items identified by the Health Department as deficient from the previous year. Company shall stand ready, at the Customer's request, to perform repairs needed for compliance with Health Department regulations. The cost for any such repairs shall be additional to the price of this Agreement.

INITIAL TAKEOVER OF POOL BY COMPANY. Customer agrees pool will be clean and free of algae on the date of signing. If pool is not clean and free of algae, Customer agrees to pay reasonable additional charges for cleanup and chemical treatment of pool.

PERMIT. The Company will assist the Customer in obtaining Customer's Swimming Pool Operation Permit from the local Health Department.

The Company shall:

(a) Clean and chemically balance pool to health department standards.

(b) Upon request and for the convenience of Customer, complete the Operating Permit Application and return it to the Health Department with the Permit Fee.

(c) Schedule pre-season health department inspection and meet the health department inspector at Customer's pool to walk through the inspection with the health department inspector.

The Customer shall be responsible for:

(1.) Reimbursing Company for the actual Permit Fee required by the health department.

(2.) Complying with all health department regulations.

MINIMUM FACILITY STANDARDS. Customer agrees and acknowledges that it is the Customer's responsibility to maintain Customer's pool, equipment and associated facilities within established minimum standards. The rules and codes of the local health department having jurisdiction over Customer's pool, the National Electrical Code, and the Virginia Graeme Baker Pool and Spa Safety Act shall be included as minimum standards.

PRE-SEASON SWIM TEAM PRACTICE. At Customer's request, Company shall ready the pool for swim team practice earlier than the normal opening date. Customer shall give Company at

least two (2) weeks prior notice. Company shall maintain the pool three (3) times per week during pre-season swim team practice at no additional fee to Customer. Any additional maintenance visits required by the swim team will be contracted with Company separately from this Agreement.

8. **POOL OPERATION**. Company agrees to furnish certified lifeguards and other personnel as contracted herein to operate the pool on the following schedule:

DATES OF OPERATION:

The pools (Rosenfeld, Cofer) will be open on the following days with lifeguards:

May 21, 22, May 28 through September5

HOURS OF OPERATION:

The pool to be open during the following hours:

Cofer

May 21, 22

Saturday	12:00 p.m. to 8:00 p.m.
Sunday	1:00 p.m. to 7:00 p.m.

Two lifeguards will be provided at all times

May 28 – August 7

Monday	10:00 a.m. to 8:00 p.m.
Tuesday	Closed
Wednesday	10:00 a.m. to 8:00 p.m.
Thursday	10:00 a.m. to 8:00 p.m.
Friday	10:00 a.m. to 8:00 p.m.
Saturday	12:00 p.m. to 8:00 p.m.
Sunday	1:00 p.m. to 7:00 p.m.

Two lifeguards will be provided at all times.

August 8 – September 5

Monday – Wednesday	Closed
Thursday	4:00 p.m. to 8:00 p.m.
Friday	4:00 p.m. to 8:00 p.m.
Saturday	12:00 p.m. to 8:00 p.m.
Sunday	1:00 p.m. to 7:00 p.m.

Two lifeguards will be provided at all times.

Rosenfeld

May 21, 22

Saturday	12:00 p.m. to 8:00 p.m.
Sunday	1:00 p.m. to 7:00 p.m.

Two lifeguards will be provided at all times

May 28 – August 7

Monday	12:00 p.m. to 8:00 p.m.
Tuesday	12:00 p.m. to 8:00 p.m.
Wednesday	Closed
Thursday	12:00 p.m. to 8:00 p.m.
Friday	12:00 p.m. to 8:00 p.m.
Saturday	12:00 p.m. to 8:00 p.m.
Sunday	1:00 p.m. to 7:00 p.m.

Two lifeguards will be provided at all times.

August 8 – September 5

Monday – Wednesday	Closed
Thursday	4:00 p.m. to 8:00 p.m.
Friday	4:00 p.m. to 8:00 p.m.
Saturday	12:00 p.m. to 8:00 p.m.
Sunday	1:00 p.m. to 7:00 p.m.

Two lifeguards will be provided at all times.

Customer agrees to indemnify and hold Company harmless for any claims arising from the use of the pool(s) other than during those times specified above, except when such claims are the result of acts of omission or negligence of the Company.

On days when attendance at the pool is very low, Company may reduce the number of lifeguards on duty to as few as one.

SAFETY BREAK or ADULT SWIM. Customer shall notify Company as to whether they will have a Safety Break or an Adult Swim every hour.

Safety Break: Once every hour the pool will be completely cleared for a period of ten minutes. During this break, lifeguards will not be on duty, the pool will be closed, no one may use the pool and the lifeguards shall not be responsible for supervising the pool.

Adult Swim: Once every hour the pool will be cleared of all children for a period of ten minutes. During this break, lifeguards will not be on duty and only patrons who are 18 years

old or older may use the pool. During Adult Swim the lifeguards shall not be responsible for supervising the pool or for anyone using the pool.

VANDALISM. Additional reasonable charges for cleanup required as the result of vandalism, and approved by the Customer, shall be paid by the Customer to the Company. Any vandalism shall be reported to the Customer's designated representative immediately upon discovery.

SUPERVISION. Company management personnel will inspect the pool at least three times each week during the full-time operation of the pool. Additional inspections and/or visits to the pool will be made by Company's management personnel as needed in order to assure Customer's satisfaction.

POST CLOSING DAY STAFFING. At the request of the Customer, the Company may, if staff is available, staff and maintain the pool and provide all necessary services to allow swimming with a Lifeguard on duty after the last day of operation specified above (Closing Day). The Customer will notify Company at least two (2) weeks in advance concerning post-Closing Day openings. The cost for post-Closing Day operation shall be billed to the Customer at the prevailing rate, which may change from year to year. The current cost is $45.00 for each day (including days the pool is closed) from Closing Day through the final day the pool is open for swimming, plus $35.00 per Lifeguard hour for time worked on or before September 18. The cost for Lifeguard hours worked after September 18 is currently $40.00 per Lifeguard hour. Amount shall be payable to the Company on the initial day of post-Closing Day operation. This cost is to be extra to the contract in addition to the fees as provided hereinafter.

UNSUITABLE WEATHER. On rainy days, if the weather is still unsuitable for swimming at 6:00 p.m., the pool will be closed for the day. Additionally, if the weather is unsuitable for swimming before 6:00 p.m., the pool will be closed, with no refund due to the Customer. Weather unsuitable for swimming includes:

(a) air temperature at or below 68 degrees Fahrenheit

(b) heavy rain

(c) severe weather

Company will work with Customer to reopen pool if weather becomes suitable for swimming early enough in the day.

AFTER-HOURS EVENTS. The Company will provide lifeguards for after-hours events subject to the following:

Lifeguard hours provided by the Company, other than those specified in this contract, shall be billed to the Customer at the prevailing rate.

Company shall provide no lifeguard beyond the hour of 11:00 PM.

For after-hours events, the Customer is not required to use Company lifeguards; however, Customer assumes full responsibility and liability for the pool in the event any individuals are within the pool area when the Company lifeguards are not scheduled to work. Customer agrees to indemnify and hold Company harmless for any and all claims for damages or injuries, or both arising from the use of the pool during hours other than those specified in

this contract unless Company's lifeguards have been scheduled according to the policies set forth herein.

For after-hours events, for which the Company is to provide lifeguards, the Customer is responsible for giving the Company seven (7) days' prior written notice as to:

(a) The time and date of the event.

(b) The number of people who are scheduled to attend.

(c) The general age group of the people scheduled to attend.

(d) Whether alcoholic beverages will be permitted at the event.

(e) Any special admission instructions.

The following scale shall be used to determine the number of lifeguards required at an after-hours event:

Number of People Expected At Pool	Number of Lifeguards Required
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 or more	5, plus one (1) more for each additional 25 people or portion thereof. Example: 153 attendees would require 7 lifeguards.

One additional lifeguard shall be required for any teenage event, college age event, or for any event involving alcoholic beverages. Customer agrees to provide one adult chaperone for each ten (10) people at a teenage or college age event. The Company will not schedule lifeguards for any fraternity parties.

Billing shall include any time spent cleaning up after use by any special group or party. The Customer shall make payment of fees to the Company within ten (10) days after billing by Company.

9. **WADING POOL**. Company has no duties with regard to the wading pool or spa other than cleaning, maintaining water chemistry and backwashing filter.

10. **CLOSING**. The pool will be considered closed to swimmers at end of the day on the last day of operation as specified in Section 8 and Company will close the pool as soon after that date as Company deems possible. The Company will complete the following services, where applicable:

(a) Pump pool water to correct level.

(b) Prepare pool and pool plumbing lines for freeze protection; Company agrees to use common and accepted winterization techniques. Company will repair any freeze damage at Company's expense, with the exception of damage due to circumstances beyond the Company's control. If a contractor is to be selected to complete a repair under this warranty, only the Company has the right to choose a contractor.

(c) Add anti-freeze to appropriate fixtures.

(d) Drain pumps and hair/lint strainer.

(e) Backwash and drain filter tanks.

(f) Open all valves to appropriate settings.

(g) Remove and store skimmer parts.

(h) Remove and store all movable ladders, lifeguard chairs, and diving boards when required for closing pool.

(i) Clean chemical feeders.

(j) Drain and store hoses.

(k) Lubricate filter system valves.

(l) Add winterization chemicals to pool.

(m) Install Customer's cover, if applicable.

(n) Store pool furniture at Customer's pool.

11. **WATER QUALITY**. Company will be responsible for maintaining the following chemical levels of the swimming pool water within the tolerances of the local health department while pool is open to swimmers:

Free Chlorine	1.5 to 10.0 PPM
pH	7.2 to 7.8
Total Alkalinity	80 to 120 PPM
Calcium Hardness	200 to 300 PPM
Chlorine Stabilizer	less than 100 PPM

At no time will the water chemistry cause a failure of permission to operate the pool granted by the local health department. In the event the local health department revokes permission to operate the pool due to improper water chemistry, Customer shall be entitled to a partial refund of the contract price set forth herein computed by the following formula:

Number of days closed times the average daily portion of the contract price (total price divided by number of days pool is to be in operation as determined by this Agreement).

All of the foregoing notwithstanding however, the Company shall be excused from maintaining water quality as established herein and the Customer shall be entitled to no

refund in the event of any Act of God, repairs, interference by Customer, together with any and all other reasons beyond the control of Company.

Any work performed by Company shall be subject to the conditions in the "Repair Work" provision of this Agreement.

12. **REPAIR WORK**. During the term of this Agreement, the Company recommends compliance with the Virginia Graeme Baker Pool and Spa Safety Act. The Company also recommends that Customer have its pool inspected annually by a licensed electrician and have all recommended electrical repairs completed by the inspecting electrician. During the term of this Agreement, the Company stands ready to perform any other installations or repairs needed to preserve Customer's pool aesthetics and/or to comply with State, Federal or local regulations, but Customer shall have the option of using its chosen contractor to perform any recommended repairs. The Customer agrees to indemnify, defend, and hold the Company harmless from all claims, injuries, damages, attorney's fees, and defense costs arising out of 1) repairs or renovations performed by any entity other than the Company, or 2) the failure to complete a) repair(s) or installations needed to comply with State, Federal or local regulations, or b) the above-described annual electrical inspection and recommended repair(s).

Work will be billed as follows:

(a) Any repairs required as the result of error or negligence by Company shall be paid for by Company with no cost to Customer. Additionally, Company shall reimburse Customer for volume of water lost as a result of error or negligence.

(b) Company will perform minor repairs to the pool and recirculation system, as part of the service provided; however, the Customer shall pay for parts and/or materials.

(c) For repair work or necessary equipment wherein the cost does not exceed $175.00, the Company shall bill Customer.

(d) Any work or equipment in excess of $175.00 to be provided by the Company or Company's subcontractors will be provided and billed to Customer. Such work or equipment shall be provided only upon the authorization of the designated representative of Customer, or in the event the Customer elects not to have such work performed or equipment provided, Company may cancel this Agreement if said election interferes with the Company's ability to carry out its responsibilities under this Agreement.

13. **CHEMICALS AND SUPPLIES**.

Customer agrees to supply, at its expense:

(a) Chlorine and pH control chemicals throughout the period of this agreement.

(b) The following pool and janitorial supplies:

Soap

Disinfectant

Paper towels

Deodorizer

Toilet tissue

Correct size trash can liners for the pool area and bathrooms

Glass cleaner

(c) Customer shall be responsible for providing, at no cost to Company, other equipment such as:

Water hoses	Life hooks
Pool vacuum heads	Trash receptacles
Pool poles	Water test kit
Pool vacuum hoses	Test kit reagents
Leaf eater	First Aid Kit
Rescue tubes	First Aid supplies
Ring buoys	Pool rules signs

For Customer's convenience and for the efficient operation of the pool, Company will provide and invoice Customer for any of the items listed above that are not at the pool. Customer agrees to pay invoices for said supplies within thirty (30) days after invoicing.

(d) Additional chemicals or labor. If additional chemicals or labor are required to maintain or correct pool water chemistry due to a failure or breakdown of Customer's equipment, or loss of water due (leak) to a defect in Customer's pool or recirculation system, Company shall notify Customer of such breakdown or defect, and if Customer elects not to remedy problem within seven (7) days of notice, Customer shall pay as an additional charge the reasonable expense of all said additional chemicals and/or labor. Amount owed for chemicals and/or labor shall be paid by Customer within ten (10) days after invoicing by Company.

14. **OFF-SEASON SERVICE**. The Company shall perform the following services at the Customer's pool during the off-season:

(a) Keep water pumped to correct level.

(b) Maintain pool water chemistry.

(c) Provide all chemicals to maintain pool water.

Customer to provide pool cover

At the Customer's request, the Company will walk-through with a representative of the Customer to confirm that:

(a) The pool water is clear.

(b) The pool water chemistry is balanced.

(c) There is no biotic growth in the pool.

The time of such walk-through shall be scheduled to meet the Customer's needs.

15. **COMPANY'S INDEPENDENT CONTRACTOR STATUS**. Company is, and at all times shall be deemed to be, an independent contractor in the performance of services under this agreement. Company and its representatives are not, and shall not be considered or permitted to be, employees, agents, servants, joint venturers or partners of Customer.

16. **ACCESS AND UTILITIES**. The Customer will permit and maintain free access to the pool site and, upon signing Agreement, Customer will provide six (6) sets of keys to Company to open any and all locks required to operate the pool. Company shall keep and safeguard keys and release keys only to authorized personnel. Keys shall be returned to Customer in the event of termination of this Agreement.

Customer further agrees to furnish without cost to Company:

(a) Water.

(b) Electricity.

(c) 110 volt electrical outlet in pump room.

(d) Garbage pick-up service.

(e) Lifeguard stand(s) and umbrella(s) for lifeguard stand(s).

(f) Telephone.

(g) A secure and cooperative working environment at Customer's pool.

17. **TELEPHONE**. Customer shall be responsible for providing an operational telephone (not a pay phone) accessible to Company's lifeguards at pool site. Consistent with health department regulations and for the safety of pool patrons the pool will only be open when the pool telephone is operational.

18. **EMERGENCY CLOSING OF POOL**. The Customer and/or Company may close the pool in an emergency situation, whether the emergency be caused by breakdown of equipment, or by other causes outside of the Company's control; this shall not require any change or adjustment in any of the provisions of this Agreement. Should a time lapse of more than five (5) days be necessary to perform repairs and/or restore pool to normal operations, the Company shall refund fifty percent (50%) of the daily operating cost from the fifth day on a pro-rated basis. For purposes of this section, the daily operating cost is to be computed at one percent (1%) of the total contract cost until such time as the pool is reopened for normal operation. If the pool is not reopened for normal operation within thirty (30) days, Customer may cancel this Agreement by written notice to Company.

19. **CANCELLATION**. The Customer shall have the right to cancel this Agreement based on Company's non-performance of duties and responsibilities as follows:

(a) Customer shall notify Company by certified mail of any problem regarding performance as detailed in this Agreement. Company shall have 48 hours following notification to remedy stated violation of contract.

(b) If Company fails to remedy violation and continues to not perform as detailed in this Agreement; Customer may terminate Agreement by providing five (5) days' written notice to Company by certified mail.

(c) In the event that Customer terminates contract by procedure stated above, the Customer shall either be entitled to a refund for money paid in advance or shall be responsible for a balance owed to the Company. Refund to be computed as follows:

A daily portion of the contract price shall be computed by dividing the total contract price by the number of days pool was to be open to members as determined by this Agreement. This daily price shall be multiplied by the number of days pool was operated under this Agreement. That amount shall be subtracted from the total amount of contract price paid to Company by Customer as of termination date. The resulting figures shall either be the refund to which the Customer is entitled or remaining balance owed to Company.

(d) Refund or balance owed shall be paid within five (5) business days after termination.

20. **MISCELLANEOUS**.

(a) The Company may display a sign on the pool premises designating the responsibility to the Company for the quality of the pool and the performance of the pool staff.

21. **PROPOSAL EXPIRATION OPTION**. This contract is voidable at the Company's option if not executed by the Customer and returned to the Company by February 1, 2022.

22. **PAYMENTS**. The Company hereby proposes to perform the work and services set forth above for the price of **$50,700.00**, upon the specifications, conditions and terms as set forth herein. Payments by Customer to Company shall be made in accordance with the following schedule:

(a)	One percent (1%) upon signing of Agreement or the annual renewal date of this Agreement.	$507.00
(b)	Nine percent (9%) on or before February 1 of each year.	$4,563.00
(c)	Fifteen percent (15%) on or before May 1 of each year.	$7,605.00

(d)	Twenty-four percent (24%) on or before June 1 of each year.	$12,168.00
(e)	Twenty-six percent (26%) on or before July 1 of each year.	$13,182.00
(f)	Twenty percent (20%) on or before August 1 of each year.	$10,140.00
(g)	Five percent (5%) on or before September 10 of each year.	$2,535.00
TOTAL:		$50,700.00

Payments are due as indicated above. All payments as specified above, not made on or before ten (10) days after the due date shall be subject to delinquent payment fees of 1 1/2% per month, or any part of a month, of the amount due or any portion thereof. Payments for repairs, equipment or labor, not made on or before thirty (30) days after the due date shall be subject to delinquent payment fees of 1 1/2% per month, or any part of a month, of the amount due or any portion thereof. In the event payments are not received within ten (10) days from the due date for contract payments, and thirty (30) days from the due date for other payments, the Company shall have the right, at its option, and within its sole discretion to suspend, until all overdue payments are received, or terminate its services under this Agreement and in either case to withdraw and remove all personnel from Customer's pool facilities without any further or additional notice to Customer. During a period of suspension or after termination, control of the pool and premises will be surrendered to the Customer and, if operated, it is at the Customer's sole risk and liability. Customer agrees to indemnify and hold Company harmless for any claims arising from the use of the pool(s) during a period of suspension or after termination due to payment(s) not being received on time. Any such suspension or termination notwithstanding, Customer shall be fully responsible for all payments provided herein.

In the event that Company elects to pursue collection of any amounts due under this Agreement, Customer shall pay all said amounts, together with interest at the rate of 12% per annum from the date the same became due, together with any and all cost of collection, including and together with any and all reasonable litigation expenses, including reasonable attorneys fees.

23. **CUSTOMER CONTACTS**:

PRIMARY CONTACT:

Name _____

Title or Position: _____

Street _____

City _____ State _____ Zip _____

Telephone ( ) _____

Email: _____

PRESIDENT:

Name _____

Street _____

City _____ State _____ Zip _____

Telephone ( ) _____

Email: _____

TREASURER:

Name _____

Street _____

City _____ State _____ Zip _____

Telephone ( ) _____

Email: _____

BILLING ADDRESS:

Name _____

Street _____

City _____ State _____ Zip _____

FACILITY INFORMATION:

Name _____

Street _____

City _____ State _____ Zip _____

Telephone ( ) _____

24. **EXTENSION OF CONTRACT.** This Agreement shall automatically renew on the same terms and conditions herein at the contract amount in effect for the immediate preceding year, plus an amount not to exceed 5% thereof, at the sole option of Company. In the event that Customer desires not to renew and extend this Agreement as provided herein, Customer shall provide Company with written notice thereof on or before September 30 of the current year. In the event Company desires not renew and extend this Agreement, Company shall provide Customer with written notice thereof on or before September 30 of the current year.

25. **GOVERNING LAW.** This Agreement shall be governed by the laws of the State of Georgia.

26. **STRICT COMPLIANCE.** No failure of Company to exercise any power or right granted hereunder or to insist upon strict compliance by Customer with its obligations and duty

hereunder shall constitute a waiver of Company's right to demand strict compliance with the provisions hereof at any time.

27. **TIME OF ESSENCE**. Time is of the essence of this Agreement.

28. **ENTIRE AGREEMENT, MODIFICATION, BINDING EFFECT**. This Agreement constitutes the entire agreement of the parties and supersedes any prior agreements, understandings or negotiations, written or oral. This Agreement may not be modified or amended except in writing, signed by both parties hereto. This Agreement shall be binding upon and enure to the benefit of the Customer and Company and to their respective heirs, successors and assigns.

29. **RIGHTS CUMULATIVE**. All rights and powers under this Agreement shall be cumulative and, except as otherwise provided herein, shall be in addition to any and all other provided at law or in equity.

30. **EXTENSIONS**. Unless other agreed to by Customer and Company in writing, the terms of this Agreement shall apply to all extensions and renewals hereof.

31. **SEVERABILITY**. If any term or provision of this Agreement or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Agreement, or the application of such term or provision to persons or circumstances other than those to which it is held invalid or unenforceable, shall not be affected thereby and each term and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

32. **ATTORNEYS FEES**. In the event of any legal proceeding or arbitration between the parties, each party shall be responsible for paying its own attorney's fees.

33. **COMPANY'S OPTION IN THE EVENT OF CHANGE IN LAWS**. If there is a change in local, state, or federal law concerning any cost aspect relating to this proposal, the company may present a new contract amount to Customer, which new Contract shall supersede and replace this Agreement. Customer shall have 30 days from the date of receipt of the new contract in which to accept or reject the new contract. In the event the Customer elects to reject the new contract, this contract may be terminated at the sole option of the company.

34. **ACCEPTANCE**. Acceptance of this Agreement by Customer and Company through signatures below will constitute a contract entered into in accordance with the specifications, terms and conditions and addenda attached hereto.

SwimAtlanta Pool Management - Gwinnett

By: _____

Officer

The City of Tucker

By: _____

Title of Officer:_____

Attest:_____

Title of Officer:_____

Date: _____