

**CHAPIN PLANNING COMMISSION
AMENDED REGULAR MEETING AGENDA**

**OUR LADY OF THE LAKE
195 AMICKS FERRY RD, CHAPIN, SC**

**September 13, 2022
6:00 P.M.**

AGENDA

1. CALL TO ORDER AND DETERMINE QUORUM
2. STATEMENT OF FREEDOM OF INFORMATION ACT COMPLIANCE
3. APPROVAL OF MINUTES
 - a. August 2, 2022 Work Session Minutes
 - b. August 2, 2022 Meeting Minutes
4. Planning & Zoning Manager Report: Piney Grove Pointe Planned Development application withdrawn
5. PUBLIC COMMENTS RELATED TO AGENDA ITEMS
6. NEW BUSINESS
 - a. Application Review: Columbia Avenue Group Development
7. ADJOURN

PUBLIC COMMENT POLICY

PROCEDURE:

Persons wishing to make public comments concerning any municipal matter, with the exception of personnel and contractual matters, shall first sign in with the Municipal Clerk before the meeting and provide the following information:

1. Name, Address, and Contact Information;
2. Topic of Public Comment; and
3. Indicate whether a Chapin Resident, Chapin Water/Sewer Customer, or Reside in the Chapin Water/Sewer District.

Comments are limited to two minutes per person and no personal or verbal attacks will be entertained. The Council is interested in hearing your concerns, but speakers should not expect action or deliberation on subject matter brought up during any Public Comments on the agenda. Topics requiring further investigation may be referred to Town Staff and may be scheduled for a future agenda.

DEFINITIONS:

Chapin Resident: Reside in Town limits.

Chapin Water/Sewer Customer: Customer of the designated Chapin Water/Sewer District - Including an owner or operator of a local business.

Reside in Chapin Water/Sewer District: Reside in the designated Chapin Water/Sewer District – Area of Lexington County north of Lake Murray.

APPEARANCE OF CITIZENS

Town Code 2.212 – Any citizen of the Town shall be entitled to be placed on the agenda of any regular meeting to discuss any municipal matter, with the exception of personnel and contractual matters. Persons desiring to be placed on the agenda shall notify the Municipal Clerk not less than a week prior to the meeting. The request shall be in writing stating the reason therefor.

PLANNING COMMISSION WORK SESSION MINUTES

Tuesday August 2, 2022
3:00 P.M.

Town Hall

Members Present: Chair Rae Davis, Vice Chair Charlie Banks, Member Caleb Pozsik

Members Absent: Member William Lynch and Member Yvonne Hudson

Staff Present: Zoning Administrator (ZA) Kevin Singletary, Public Affairs Director Nicholle Burroughs, and Town Clerk Shannon Bowers

Guests: Mr. David Brandez – E.L. Robinson Engineering, members of the development team for the Columbia Avenue Group development

Call to Order: Chair Davis called the meeting to order at 3:05 p.m., and acknowledged the appropriate notifications in compliance with the SC Freedom of Information Act had been met.

Before the meeting began, Chair Davis moved agenda item 3(b): Preliminary Application Review: Columbia Avenue Group Development to the beginning of the discussions.

Discussion

Preliminary Application Review – Columbia Avenue Group Development: ZA Singletary explained the potential commercial group development to be located on Columbia Avenue. The properties are located across the street from Goodwill and adjacent to Farm Boys.

Mr. David Brandez introduced the project and explained that Caliber Collision has signed a letter of intent to develop. Other uses for the remaining parcels are contingent on potential lease development and feedback from the Planning Commission (PC). He explained several possible uses for the remaining parcels which included coffee shop, quick serve restaurant, and fast-food restaurant (not national chain like McDonald's, Wendy's, etc.). Mr. Brandez explained that the development team has spent considerable time with the SCDOT and Kinley Horne on a traffic impact study in order to make sure the plans reflect the road widening and the traffic impact analysis is up to date with current conditions. Mr. Brandez explained the square footage estimate of each potential development that came from the traffic study: coffee shop: 2500 sq. ft., fast food: 2500 sq. ft., high turnover sit down restaurant: 4900 sq. ft., a medical/dental office: 6,000 sq. ft., and general retail: 11,600 sq. ft., and another general retail space: 10,000 sq. ft., with Caliber Collision using approximately 15,000 sq. ft of space, but generating less traffic. He noted that the traffic impact analysis as it stands to date is out of date and needs revisions and are willing to supply the analysis as requested, but would like flexibility for approvals by staff as more final building plans are submitted.

Mr. Brandez did note that SCDOT required either an offset left for access onto Eagle Chase Drive or a direct line up with the access to Goodwill. The developers decided on the offset left access in preparation for the road widening.

Concerns from the PC were:

- Interconnectivity to properties adjacent to and behind parcels to be developed

- Potential future connected access to the development by adjacent properties (Brighton and Farm Boys) and properties located behind the development. (Director Burroughs noted that Farm Boys was not interested in having a connectivity conversation at the time due to their negotiations with SCDOT for right-of-way access for the Columbia Avenue widening).
- Access to and from Columbia Ave. and Eagle Chase, and how it relates to the SCDOT project for widening Columbia Ave.
- Signage for the development (whether or not each tenant would have their own sign).
- Consideration of the Town of Chapin comprehensive Plan

Mr. Brandez addressed a few of these concerns, stating that the development is not planned to restrict access for connectivity for future development and he explained that a road between two of the properties will run behind the development, design plans will include a future light access at Eagle Chase (Eagle Chase will continue to be a full access), road designs and access will be provided once plans for the Columbia Ave. widening project move forward, and Caliber Collision has expressed a desire to be a part of a multi-tenant sign, rather than an individual tenant sign. Mr. Brandez did note that they had not considered the comprehensive plan when developing these preliminary plans.

Other comments by PC members to the developers were:

- Liked the offset entrances/exits
- Would support a plan for connections between business, with thought to adjacent properties for connectivity (or the potential for connectivity)
- Would want to see a traffic impact analysis and how that would or would not impact future traffic issues
- Emphasized the importance of consistency between the parcels as a development with value to a shared access
- Safe, walkable connectivity for patrons of the businesses within the development
- Would like to see better future planning for potential drive-thru businesses that may locate in that area (preliminary design has potential for traffic build-up inside the development, does not provide a way out or pull over space)

Capital Investment Projects:

ZA Singletary explained that he compiled comments made by previous PC members and the previous capital investment table. He stated that the list was edited to reflect the PC priorities on capital investments with estimated cost of those projects. The PC then discussed the format of the table and items on the table. ZA Singletary noted that several items could be combined into an actionable item (i.e., professional services). Director Burroughs stated that items in this list needed to be put into actionable items that present opportunities as they stand today. ZA Singletary instructed the PC to take the table and set up categories for classification of projects for future discussion.

Open time for PC and Staff:

ZA Singletary noted that staff anticipates an application by the developers of the planned development that the PC preliminarily reviewed at the last meeting. He noted that should that application come through, staff is looking at the possibility of holding separate meetings for public comments on the development as well as an alternative location to accommodate the

public. Director Burroughs emphasized the importance of having a quorum if review of this application comes before the PC.

ZA Singletary also stated the date of the next unified development ordinance meeting will be August 18, 2022 to review the foundation report developed by MRB Group.

Adjournment: Chair Davis adjourned the meeting at 4:02 p.m.

PC APPROVED (Date): _____
Rae Davis, PC Chair

ATTEST: _____
Shannon Bowers, Town Clerk

DRAFT

PLANNING COMMISSION MEETING MINUTES

Tuesday July 12, 2022
4:00 P.M.

Town Hall

Members Present: Chair Rae Davis, Vice Chair Charlie Banks, Member Caleb Pozsik, Member William Lynch

Members Absent: Member Yvonne Hudson

Staff Present: Zoning Administrator (ZA) Kevin Singletary, Public Affairs Director Nicholle Burroughs, and Town Clerk Shannon Bowers

Guests: Robbie Derrick, Director of Community Development and Rebecca Conway, Development Manager – Lexington County

Call to Order: Chair Davis called the meeting to order at 4:08 p.m., determined there was a quorum, and acknowledged the appropriate notifications in compliance with the SC Freedom of Information Act had been met.

Before the meeting proceeded, Chair Davis moved to include a presentation by Lexington County Community Development to agenda item 5 (new business). Member Pozsik seconded the motion. No further discussion. Motion to add the agenda item passed unanimously.

Chair Rae Davis:	Yes	Vice Chair Charlie Banks:	Yes
Member Caleb Pozsik:	Yes	Member William Lynch:	Yes

Approval of Minutes: Before approving the minutes, Chair Davis requested several important points to be included in the minutes. In the July 12, 2022 work session minutes, the presenter indicated that the development is typically a high end product (referenced products in Florida and Charleston) and indicated the site choice was due to the proximity of the Publix and Lowes Foods, a majority of the units would be 2-bedroom units with a maximum height of 3 stories, at the time of the preliminary review developers had not yet purchased the parcels, and that the developer was willing to work with the Town over time with the commercial elements to include more local businesses. Vice Chair Banks also requested to add that the developers stated that there would be on-site management of the property. Vice Chair Banks made the motion to approve the July 12, 2022 work session and July 12, 2022 regular meeting minutes, including the above stated additions. Member Pozsik seconded the motion. No further discussion was had. Motion passed unanimously.

Chair Rae Davis:	Yes	Vice Chair Charlie Banks:	Yes
Member Caleb Pozsik:	Yes	Member William Lynch:	Yes

Public Comments related to agenda items:

There were no public comments.

New Business

Robbie Derrick, Director of Community Development for Lexington County, gave a brief presentation to the Planning Commission (PC) on updates to the county zoning over the last 12 months. He included population maps highlighting past, present, future, and long-term projections for the growth in Lexington County. He noted that there has been an increase in site-built and mobile homes in the last few years with a significant spike of site-built homes that were completed or applied for in 2020 and 2021. He also explained that a majority of homes being built were already in the pipeline for development before any changes had been implemented. He then explained changes to county zoning ordinances:

- 20-18: Amendments to the County zoning ordinance at the direction of County Council on May 11, 2021,
- Ordinance 21-02: Moratorium on new development in unincorporated Lexington County,
- Ordinance 2108: Zoning Map amendment to update and change street classifications for development control that passed on September 28, 2021,
- Ordinance 21-13 that created the Lake Murray Residential District designed to help protect the lake district that passed on November 30, 2021,
- Ordinance 21-14 Amending the County Landscape and open space ordinance that passed on November 30, 2021, and
- Ordinance 21-19 that amended the County Land Development manual to limit disturbed acreage during construction that is currently under review by County Council.

He also stated that during this process, Lexington County updated their comprehensive plan that passed on June 7, 2022. Currently staff at the County are working towards an update to the Land Development manual at the direction of County Council, and Mr. Derrick anticipates that to be a 2–3-year process. Mr. Derrick will provide staff with a copy of the presentation to be included with the minutes for this meeting.

Staff and PC members thanked Mr. Derrick for the information and staff expressed their desire for future workings with the County.

Adjournment: Vice Chair Banks moved the adjourn the meeting. Member Pozsik seconded the motion. The meeting was adjourned at 4:47 p.m.

PC APPROVED (Date): _____

Rae Davis, PC Vice Chairman

ATTEST: _____
Shannon Bowers, Town Clerk

MEMORANDUM

To: Planning Commission
From: Kevin Singletary, Planning & Zoning Manager
Date: September 13, 2022
Re: Columbia Ave. Group Development

Property Location: Columbia Ave. across from Eagle Chase Ct.
Tax Map Numbers: 000700-01-(017, 004)
Property Owners: Eagles Nest Properties LLC, Contract Holdings LLC
Property Size (Acres): 5.14, 5.14, Total: 10.28
Land Use Category: Commercial
Property Zoning Districts: General Commercial (GC)
Property Overlay District: Boulevard
Date Submitted: August 23, 2022
Zoning Permit #: 22-08-23-001

Background

The property owners of Eagles Nest Properties LLC, and Contract Holdings LLC are proposing the development of a Group Development (multiple commercial development sites, a three ternate retail structure, and a Caliber Collision on a shared access) on two adjacent properties located off of Columbia Ave. totaling in 10.28 acres. In compliance with the Town of Chapin Zoning Ordinance and Subdivision Regulations a number of documents have been submitted by the applicants. The Planning Commission is reviewing the submitted documentation for approval of the group development. Approval would constitute the land disturbance for both properties, landscaping, screening and buffering, the access and infrastructure of the two properties, the location of the two shown buildings, and the zoning approval for the use of Caliber Collision. Both proposed buildings are subject to ARB review and approval for compliance with the Architectural Overlay and issuance of a Certificate of Appropriateness, which is necessary for the issuance of a CO. Individual tenants of the “Shoppes at Chapin” structure will need approved zoning permits from the Planning & Zoning Manager at the time of application to confirm the proposed uses are permitted. Future proposed structures in this development would be subject to zoning approval from the Planning & Zoning Manager, and ARB review and approval for compliance with the Architectural Overlay.

Proposal

The site plan for the group development shows a full access located on Columbia Ave. across from Eagle Chase Ct., a right in right out access on Columbia Ave. towards the east, and a shared access road. The access road features an identified available future connection to the adjacent east property owned by James N Kirby Properties LLC. Also shown is access to the shared detention pond area and a dumpster location. The two proposed structures each feature two connection points with the access road. 24 parking spaces are shown off of the access road. Four areas are identified for future development; 10,000 sf of General Retail Space, 6,000 sf of General Office Space, 6,000 sf of Medical/Dental Space, and 6,000 General Office Space.

Caliber Collision is a 14,800 sf Automobile Care Center, with 7 customer parking spaces on site, 2 of which are ADA. Behind a contained controlled access wall is the parking area for the purposes of the business, totaling in 78 spaces. The building features 18 bays, an office area, and a portico. Existing vegetation is be preserved for buffer yard requirements, and landscaping is shown along the parking area and as screening along the wall.

Shoppes at Chapin is a three-tenant structure, with a 2,400 sf restaurant tenant (A), 2,300 sf commercial tenant (B), and 2,340 commercial tenant (C). Tenant A features a drive thru accessed at the rear with loading space for 13 vehicles. Tenant C also features a drive thru lane. On site there are 50 parking space, 4 of which are ADA. Landscaping is shown adjacent to the parking areas.

A Traffic Impact Study (TIS) and addendum were submitted for the group development. The TIS provides trip generation estimates per the total square footage of each proposed use category. The total estimated external trip generation at the AM peak hour is 181, and at PM peak hour is 131.

Staff Review

In review of the proposed group development the Planning & Zoning Manger finds the proposal to be compliant with the Zoning Ordinance, Subdivision Regulations, and the Comprehensive Plan in general. The drive-thru lane for Commercial Tenant C, a potential HTSD restaurant, could possibly result in loading in front of the front building line, a potential conflict with Zoning Ordinance 1009.2 19. A. 2). This regulation is an aspect of the overlay, and thus subject to the review of the ARB The Comprehensive Plan identified as Goal 3 “Improve Transportation Connections”. As shown on this plan having interconnection capability with adjacent properties is desirable to facilitate access and reduce congestion on arterial roads. This site plan does not show the same ability for future connection on the adjacent property to the west. For the parcels identified for future development, not proposing any buildings at this time, the points of ingress/egress on the access road are not shown. This information may be important to the Planning Commission in understanding the internal flow of traffic.

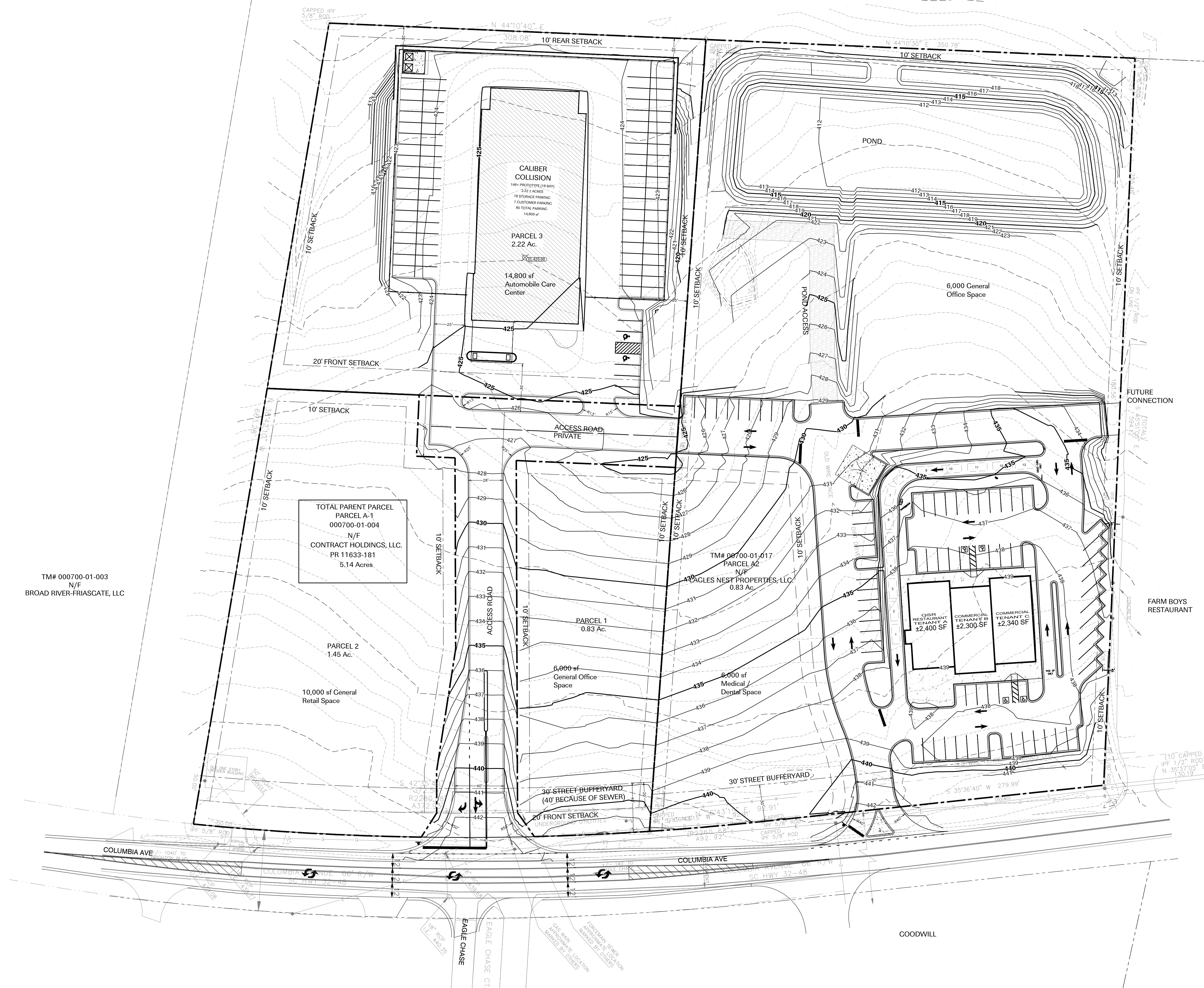
Staff Recommendation

After review it is the recommendation of the Planning & Zoning Manager that the proposed group development be approved on the following conditions;

- Future Connection be shown on the plan, allowing for the potential of future connection between the Access Road and adjacent properties to the west (at this time TM# 000700-01-015). To be done by means such as a bonded plat, developers agreement, or the like.

TM# 000700-01-015
 N/F
 COLUMBIA AVENUE PROPERTIES, LLC.
 SLIDE 849, PG 4

TM# 000700-01-003
 N/F
 BROAD RIVER-FRIASCATE, LLC



Revision No.	Name	Date

Project No.	
Drawn By	CHS
Checked By	DDB
Date	08/23/22
Approved By	DDB

GRADING PLAN

C2.1



Chapin Mixed-Use Development

Chapin, SC

Traffic Impact Analysis

Prepared for:

North Lake Properties, LLC

Prepared by:

Kimley-Horn

October 2021
© Kimley-Horn and Associates, Inc.
802 Gervais Street, Suite 201
Columbia, South Carolina, 29201

Kimley»Horn



Chapin Mixed-Use Development

Chapin, SC

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Table of Contents

Section	Page
Executive Summary.....	iii
1. Introduction.....	1
2. Inventory.....	2
3. Trip Generation.....	6
4. Site Traffic Distribution.....	8
5. Traffic Volumes.....	10
6. Capacity Analysis.....	20
7. On-Site Stacking for Coffee Shop Drive-Through Window.....	24
8. Conclusion.....	24
Figure	Page
Figure 1: Site Location and Study Area Map.....	3
Figure 2: Proposed Site Plan.....	4
Figure 3: Existing Laneage.....	5
Figure 4: Site Trip Distribution.....	9
Figure 5: 2020 Existing AM/PM/AFT Peak Hour Traffic Volumes.....	11
Figure 6: 2025 Background AM/PM/AFT Peak Hour Traffic Volumes.....	13
Figure 7: Net New External Project Trips.....	15
Figure 8: Project Pass-By Trips.....	16
Figure 9: 2025 Build-Out AM/PM/AFT Peak Hour Traffic Volumes.....	18
Figure 10: Recommended Laneage.....	26

Table	Page
Table 1: Trip Generation Analysis Summary	7
Table 2: Signalized Level of Service Delay Thresholds.....	21
Table 3: Unsignalized Level of Service Delay Thresholds.....	21
Table 4: Columbia Avenue (S-48) at Eagle Chase Court (Local) Capacity Analysis Results	22
Table 5: Columbia Avenue (S-48) at Access #2 Capacity Analysis.....	23

APPENDICES

- A – Raw Turning Movement Counts
- B – Intersection Volume Development Worksheets
- C– Starbucks Queueing Analysis
- D– Intersection Capacity Analysis Results
- E – Intersection Queueing Analysis Results
- F – Right-Turn Lane Warrant Analysis

Executive Summary

The purpose of this traffic impact analysis is to review the vehicular traffic impacts resulting from a proposed mixed-use development in Chapin, SC. The objectives of this study are to:

- Estimate trip generation and distribution for the proposed development
- Perform intersection capacity analyses for the identified study area
- Determine the potential traffic impacts of the proposed development
- Develop recommendations for needed roadway and operational improvements to accommodate the proposed development's traffic impacts

The proposed development is located on the north side of Columbia Avenue (S-48) near Eagle Chase Court (Local) in Chapin, SC. The proposed land uses for the development include up to 2,500 square feet (SF) of Coffee Shop (with Drive-Through) space, as well as other mixed-use parcels. It is anticipated that the Coffee Shop will be developed first, with the remaining land uses to be determined and added later. The specific land uses of the remaining parcels have not been determined, however, the following were assumed for this analysis as a conservative estimate:

- 2,500 SF Coffee Shop (with Drive-Through)
- 2,500 SF Fast Food Restaurant (with Drive-Through)
- 4,800 SF High Turnover Sit-Down Restaurant
- 6,000 SF Medical/Dental Office Space
- 10,000 SF Retail Space
- 11,600 SF General Office Space

This analysis assumes the buildout for the development is year 2025.

This report summarizes the analyses of year 2020 existing conditions, 2025 background development conditions (without the proposed development traffic), and 2025 build-out conditions during the AM, Afternoon, and PM peak hours at the following intersections:

- Columbia Avenue (S-48) at Eagle Chase Court (Local)/Site Access #1 – Unsignalized
- Site Access #2 at Columbia Avenue (S-48) – Unsignalized Right-In/Right-Out (RIRO)

Kimley-Horn and Associates, Inc. was retained to determine the potential traffic impacts of this development in accordance with the traffic study guidelines in the *South Carolina Department of Transportation (SCDOT) Access and Roadside Management Standards (ARMS)* and the transportation improvements that may be required to accommodate these impacts.

Based on the results of the analyses contained within the report, the following improvements are needed:

- Add a 150' storage northbound (Columbia Avenue) left-turn lane at the intersection of Columbia Avenue at Eagle Chase Court/Site Access #1

- As the development builds out, further analysis will be necessary to evaluate the need for a traffic signal at the intersection of Columbia Avenue at Eagle Chase Court/Site Access #1

1. Introduction

The proposed development is located on the north side of Columbia Avenue (S-48) near Eagle Chase Court (Local) in Chapin, SC. The proposed land uses for the development include up to 2,500 square feet (SF) of Coffee Shop (with Drive-Through) space, as well as other mixed-use parcels. It is anticipated that the Coffee Shop will be developed first, with the remaining land uses to be determined and added later. The specific land uses of the remaining parcels have not been determined, however, the following were assumed for this analysis as a conservative estimate:

- 2,500 SF Coffee Shop (with Drive-Through)
- 2,500 SF Fast Food Restaurant (with Drive-Through)
- 4,800 SF High Turnover Sit-Down Restaurant
- 6,000 SF Medical/Dental Office Space
- 10,000 SF Retail Space
- 11,600 SF General Office Space

This analysis assumes the buildout for the development is year 2025. The location of the proposed development is included in Figure 1.

The development is expected to be completed (built-out) in year 2025 and will be accessed via the following driveways:

- One (1) full access driveway along Columbia Avenue (S-48) on the southwest corner of the parcel aligned with Eagle Chase Court (Local)
- One (1) right-in/right-out driveway along Columbia Avenue (S-48) on the north end of the parcel

Kimley-Horn and Associates, Inc. was retained to determine the potential traffic impacts of this development in accordance with the traffic study guidelines in the *SCDOT ARMS* and the transportation improvements that may be required to accommodate these impacts. This report presents trip generation, distribution, capacity analyses, and recommendations for transportation improvements required to meet anticipated traffic demands.

The SCDOT was contacted to establish the project study area and to ascertain the elements to be covered in this traffic impact analysis (TIA).

2. Inventory

2.1. Study Area

The study area for this TIA includes the following intersections:

- Columbia Avenue (S-48) at Eagle Chase Court (Local)/Site Access #1 – Unsignalized
- Site Access #2 at Columbia Avenue (S-48) – Unsignalized

This study area was determined based on engineering judgment and discussions with SCDOT staff. Figure 1 shows the study area intersections for this analysis, and Figure 2 shows the proposed site plan for the development.

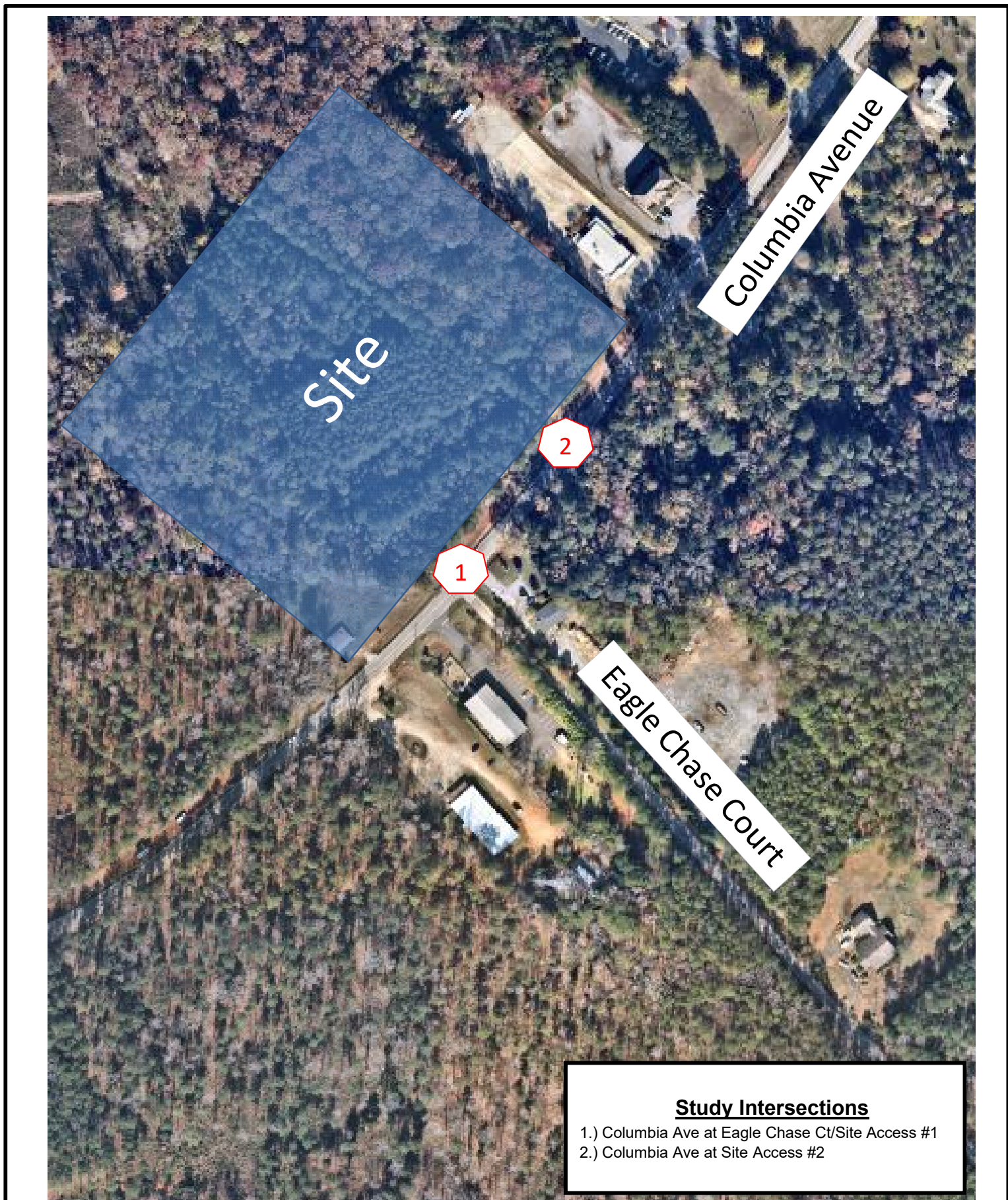
As this development is located less than a mile from Chapin High School, the afternoon school dismissal period from 2:00 PM to 4:00 PM was included in this analysis.

2.2. Existing Conditions

The proposed development is located on the north side of Columbia Avenue (S-48) near Eagle Chase Court (Local) in Chapin, SC. The major roadway in the project vicinity is Columbia Avenue (S-48).

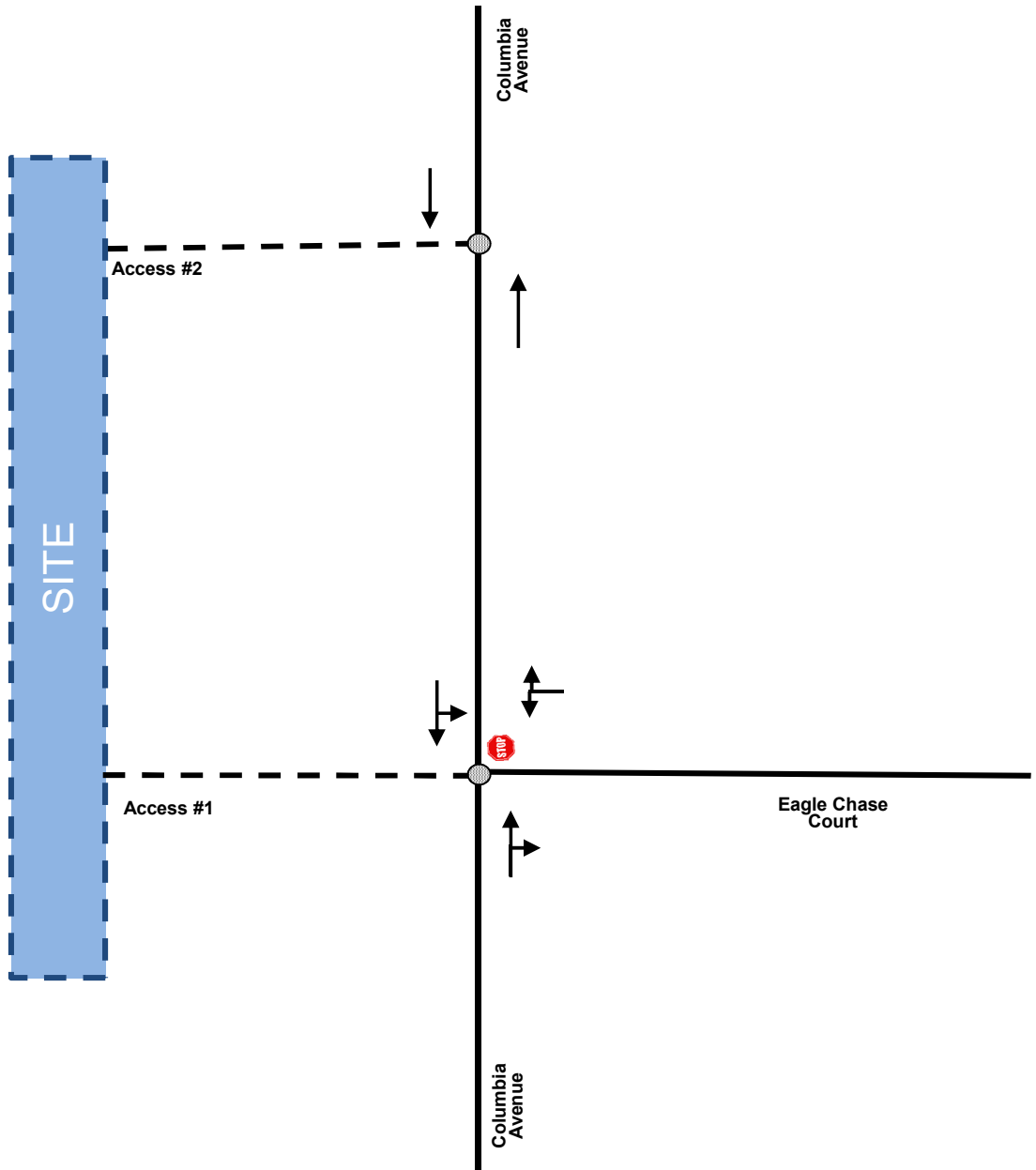
Columbia Avenue (S-48) is a paved two-lane, undivided principal arterial with a posted speed limit of 35 mph in the vicinity of the site. Columbia Avenue (S-48) has a 2019 AADT of 14,900 vehicles per day at SCDOT Lexington County count station 477 which is located approximately 0.5 miles west of the project site near the Columbia Avenue at Peak Street intersection.

Figure 3 shows the existing laneage at the study area intersections.









NOT TO SCALE



Legend

-  Existing Laneage
-  Existing Storage
-  Existing Signal
-  Existing Stop Control

3. Trip Generation

3.1. Trip Generation Methodology Determination

The trip generation rates and equations published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 10th Edition* were used to estimate the trip generation potential for the mixed-use development. The following land uses were used in this analysis:

- ITE 937 - Coffee/Donut Shop with Drive-Through Window
- ITE 710 - General Office Building
- ITE 720 - Medical-Dental Office Building
- ITE 932 - High-Turnover (Sit-Down) Restaurant
- ITE 820 - Shopping Center
- ITE 934 - Fast-Food Restaurant with Drive-Through

Using the above land use trip generation information, it was estimated that the gross trip generation potential for the proposed development is 410 trips during the AM peak hour of the adjacent street, and 311 trips during the PM and Afternoon peak hours of the adjacent street.

Internal capture trip reductions were applied to the gross trip generation estimates to account for trip internalization between the proposed land uses. Overall, the site is estimated to have an overall internal capture rate of 5% during the AM peak hour and 12% during the PM/AFT peak hours.

Pass-by trip reductions were applied to the gross trip generation estimates to account for those trips with destinations other than the proposed development. The ITE Trip Generation Handbook, 3rd Edition does not currently have pass-by trip reduction data for ITE LUC 937, however, ITE LUC 934—Fast-Food Restaurant with Drive-Through is a closely related land use which has pass-by traffic data. Therefore, the pass-by trip reduction rates for ITE LUC 934 was utilized for this analysis. To provide a conservative analysis, special attention was taken to ensure that the estimated pass-by trip reduction does not exceed 10% of the adjacent street traffic during the peak hours.

After internal capture and pass-by trip reductions, it is estimated that the proposed development will generate 236 total (134 enter/102 exit) net new external trips during the AM peak hour, and 167 total (80 enter/87 exit) net new external trips during the PM/AFT peak hours.

The ITE estimated trip generation for the proposed land uses are summarized in Table 1.

Table 1: Trip Generation Analysis Summary

Trip Generation - Chapin Mixed Use Development								
Land Use	Intensity	Daily	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Coffee/Donut Shop with Drive-Through Window (ITE 937)	2.5 KSF	2,051	222	113	109	108	54	54
General Office Building (ITE 710)	11.6 KSF	131	13	11	2	15	2	13
Medical-Dental Office Building (ITE 720)	6.0 KSF	143	18	14	4	21	6	15
Shopping Center (ITE 820)	10.0 KSF	378	9	6	3	38	18	20
High Turnover Sit-Down Restaurant (ITE 932)	4.8 KSF	538	48	26	22	47	29	18
Fast-Food Restaurant with Drive-Through (ITE 934)	2.5 KSF	1,177	100	51	49	82	43	39
Subtotal		4,418	410	221	189	311	152	159
Internal Capture		456	22	11	11	38	19	19
<i>ITE 820 Pass-By - 0% AM / 34% PM</i>		6	0	0	0	6	3	3
<i>ITE 932 Pass-By - 0% AM / 43% PM</i>		14	0	0	0	14	7	7
<i>ITE 934 Pass-By - 49% AM / 50% PM</i>		84	48	24	24	36	18	18
<i>ITE 937 Pass-By - 49% AM / 50% PM</i>		154	104	52	52	50	25	25
<i>ITE Pass-By</i>		258	152	76	76	106	53	53
<i>Adjacent Street Traffic</i>			1,614			1,713		
<i>10% Adjacent Street Traffic</i>		334	162	81	81	172	86	86
Pass-By		258	152	76	76	106	53	53
Net New External Trips		3,704	236	134	102	167	80	87

Note: Trip generation was calculated using the following data:

Daily Traffic Generation

Coffee/Donut Shop with Drive-Through Window (ITE 937)	[ITE 937]	=	T = 818.58 (X) (50% In, 50% Out)
General Office Building (ITE 710)	[ITE 710]	=	Ln (T) = 0.97 Ln (X) + 2.50; (50% in, 50% out)
Medical-Dental Office Building (ITE 720)	[ITE 720]	=	T = 38.42 - 87.62; (50% in, 50% out)
High-Turnover (Sit-Down) Restaurant (ITE 932)	[ITE 932]	=	T = 112.18 X; (50% in, 50% out)
Shopping Center (ITE 820)	[ITE 820]	=	Ln (T) = 0.68 Ln (X) + 5.57; (50% in, 50% out)
Fast-Food Restaurant with Drive-Through (ITE 934)	[ITE 934]	=	T = 470.95 X; (50% in, 50% out)

AM Peak-Hour Traffic Generation

Coffee/Donut Shop with Drive-Through Window (ITE 937)	[ITE 937]	=	T = 100.58 (X) (51% In, 49% Out)
General Office Building (ITE 710)	[ITE 710]	=	T = 0.94 X + 26.49; (86% in, 14% out)
Medical-Dental Office Building (ITE 720)	[ITE 720]	=	Ln (T) = 0.89 Ln (X) + 1.31; (78% in, 22% out)
High-Turnover (Sit-Down) Restaurant (ITE 932)	[ITE 932]	=	T = 9.94 X; (55% in, 45% out)
Shopping Center (ITE 820)	[ITE 820]	=	T = 0.94 X; (62% in, 38% out)
Fast-Food Restaurant with Drive-Through (ITE 934)	[ITE 934]	=	T = 40.19 X; (51% in, 49% out)

*Afternoon/PM Peak-Hour Traffic Generation (PM Peak Hour rates/equations were used for Afternoon analysis)

Coffee/Donut Shop with Drive-Through Window (ITE 937)	[ITE 937]	=	T = 42.80 (X) (50% In, 50% Out)
General Office Building (ITE 710)	[ITE 710]	=	Ln (T) = 0.95 Ln (X) + 0.36; (16% in, 84% out)
Medical-Dental Office Building (ITE 720)	[ITE 720]	=	T = 3.46 (X); (28% in, 72% out)
High-Turnover (Sit-Down) Restaurant (ITE 932)	[ITE 932]	=	T = 9.77 X; (62% in, 38% out)
Shopping Center (ITE 820)	[ITE 820]	=	Ln (T) = 0.74 Ln (X) + 2.89; (48% in, 52% out)
Fast-Food Restaurant with Drive-Through (ITE 934)	[ITE 934]	=	T = 32.67 X; (52% in, 48% out)

4. Site Traffic Distribution

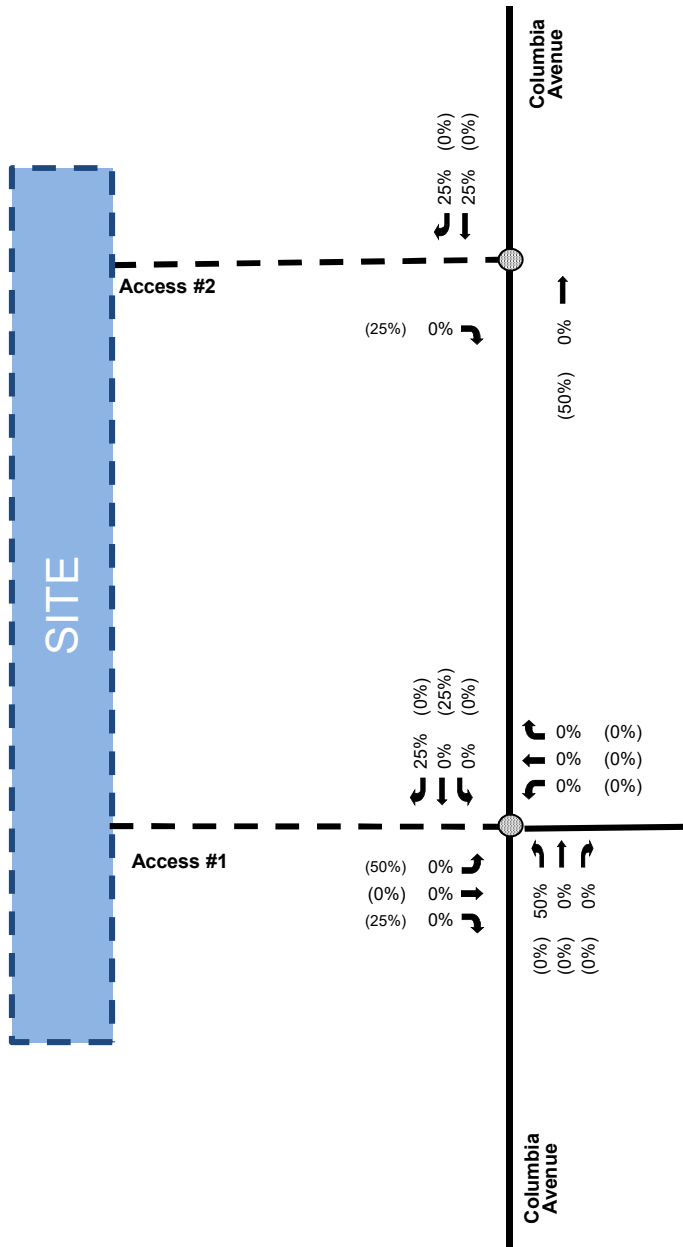
The proposed development's trips were assigned to the surrounding roadway network. The directional distribution and assignment were based on existing peak-hour turning movements, proposed land uses, and professional judgment and local knowledge. The trip distribution percentages used in this analysis are as follows:

- 50% to/from the North/East via Columbia Avenue (S-48)
- 50% to/from the South/West via Columbia Avenue (S-48)

The site trip distribution is shown in Figure 4.



NOT TO SCALE



Legend

- Study Intersection
- ➔ Directional Movement
- XX Entering Project Distribution
- (XX) Exiting Project Distribution

5. Traffic Volumes

5.1. 2020 Existing Traffic

Peak-hour intersection turning-movement and heavy vehicle counts were performed by National Data and Surveying Services, Inc. from 7:00 AM to 9:00 AM, 2:00 PM to 4:00 PM, and 4:00 PM to 6:00 PM on Thursday, December 10, 2020 for the study area intersection. The Chapin High School calendar indicates that school was in session using an A/B schedule on the day of data collection.

Due to the ongoing COVID-19 pandemic, volumes were increased by 12% in accordance with the SCDOT *Revised Guidance for Conducting Traffic Impact Studies during COVID19* memorandum dated July 29, 2020.

Existing counts were balanced along the study network intersections, where appropriate.

Figure 5A shows the year 2020 existing AM/PM, and Figure 5B shows the Afternoon peak-hour traffic volumes. The raw turning-movement count data are included in the Appendix.

5.2. Historical Growth Traffic

Historical growth traffic is the increase in existing traffic volumes due to usage increases and non-specific growth throughout the area. An annual growth rate of 2.5% percent was applied to the existing traffic to calculate base background traffic volumes.

5.3. 2025 Background Traffic

As the anticipated build-out for the outparcel development is year 2025, the analysis year for this traffic study is year 2025. The 2025 background traffic volumes include existing, and historical growth traffic. The year 2025 AM/PM/Afternoon peak-hour background traffic volumes are shown in Figure 6A and 6B. Volume development worksheets are included in the Appendix.

Committed Improvements

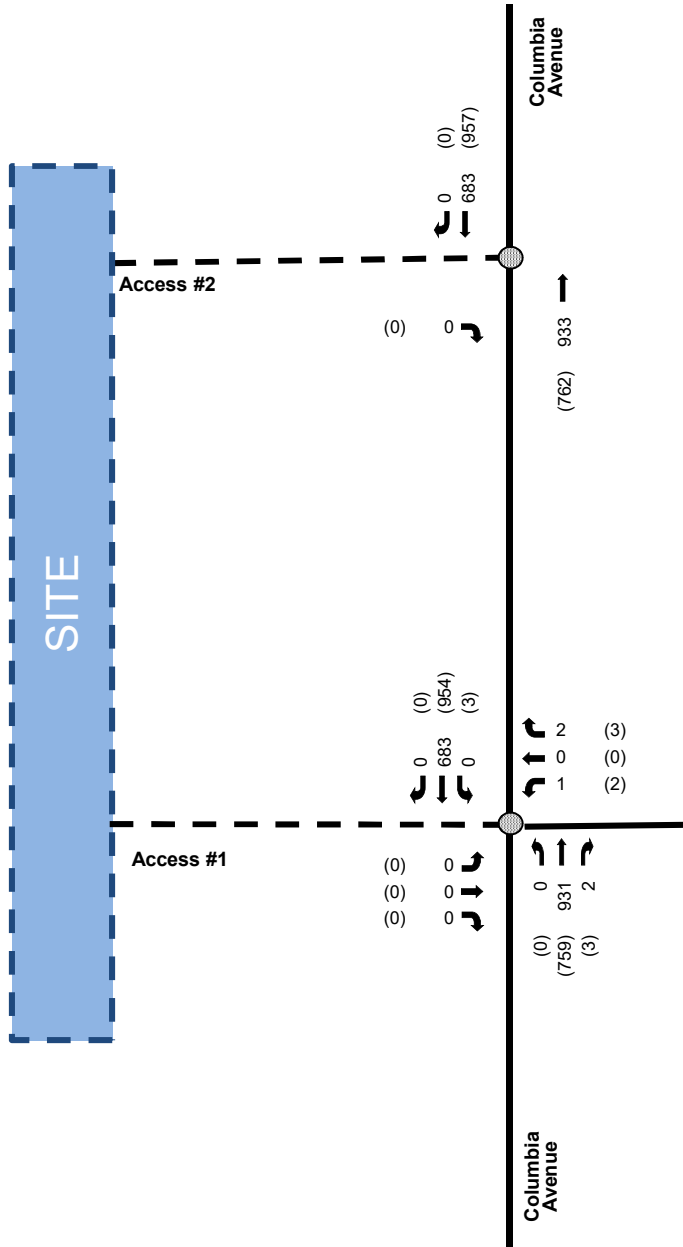
Through communication with SCDOT, the funded widening project along Columbia Avenue from I-26 interchange to Chapin Road (US 76) was identified for inclusion in this analysis. This project is currently scheduled for construction beginning in 2022. For the future year 2025 scenarios, Columbia Avenue was analyzed as a four-lane divided roadway.

5.4. 2025 Build-Out Traffic

The total year 2025 build-out traffic volumes include the year 2025 background traffic and the proposed site traffic. The proposed site external trips used for estimating the build-out traffic are shown in Figure 7, and the estimated project pass-by trip distribution is shown in Figure 8A and 8B. The year 2025 AM/PM/Afternoon peak-hour build-out traffic volumes are shown in Figure 9A and 9B.



NOT TO SCALE

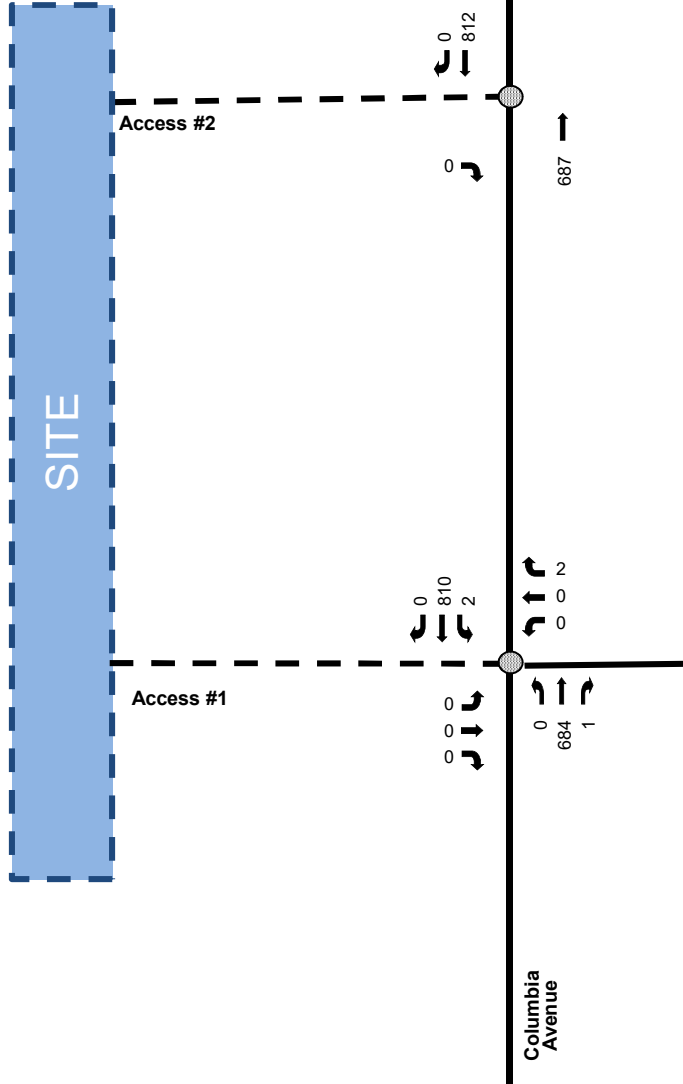


Legend

- Study Intersection
- ➔ Directional Movement
- XX AM Traffic Volumes
- (XX) PM Traffic Volumes

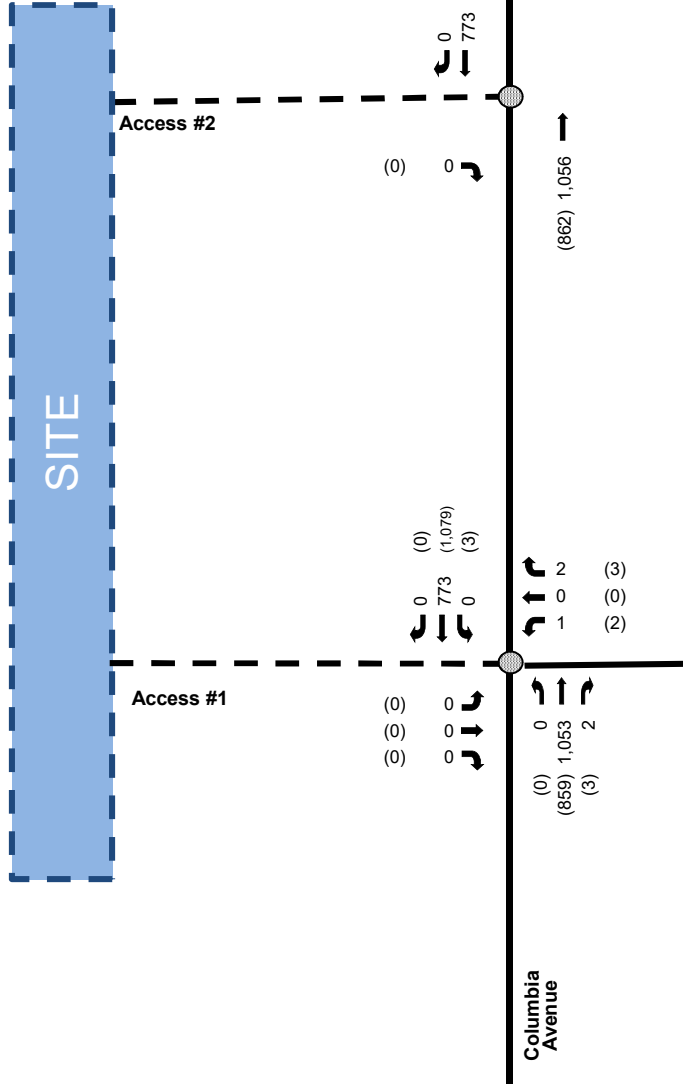


NOT TO SCALE





NOT TO SCALE

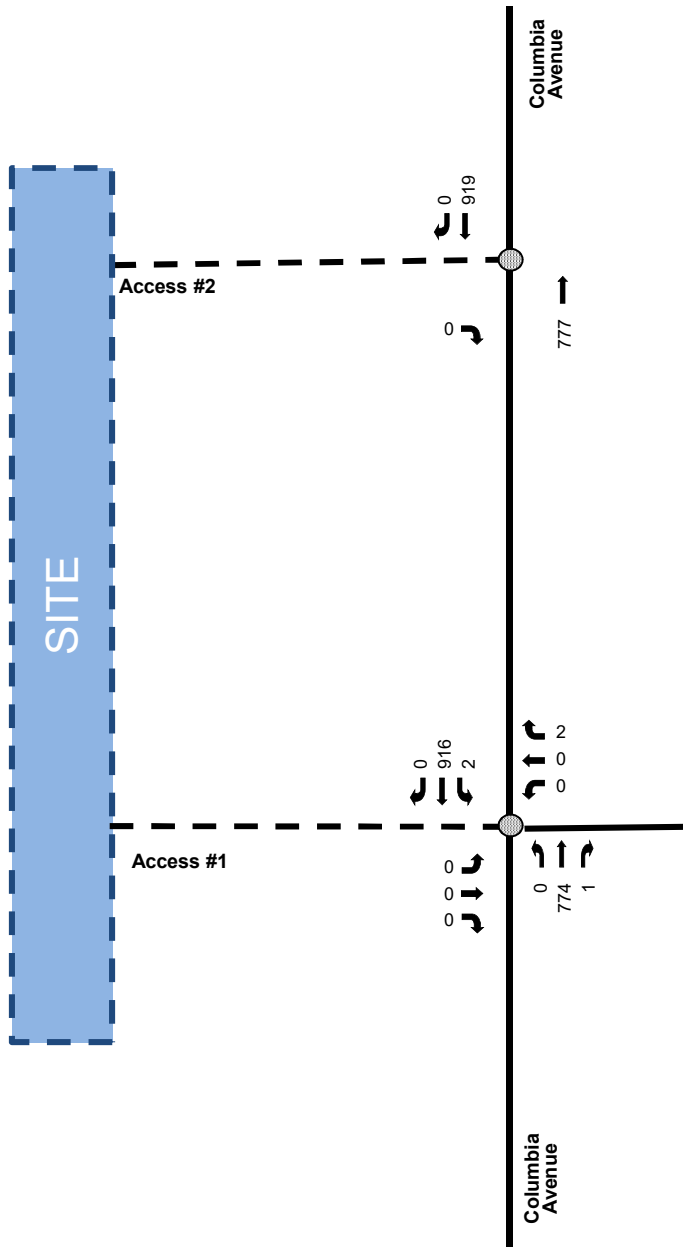


Legend

- Study Intersection
- Directional Movement
- XX AM Traffic Volumes
- (XX) PM Traffic Volumes



NOT TO SCALE

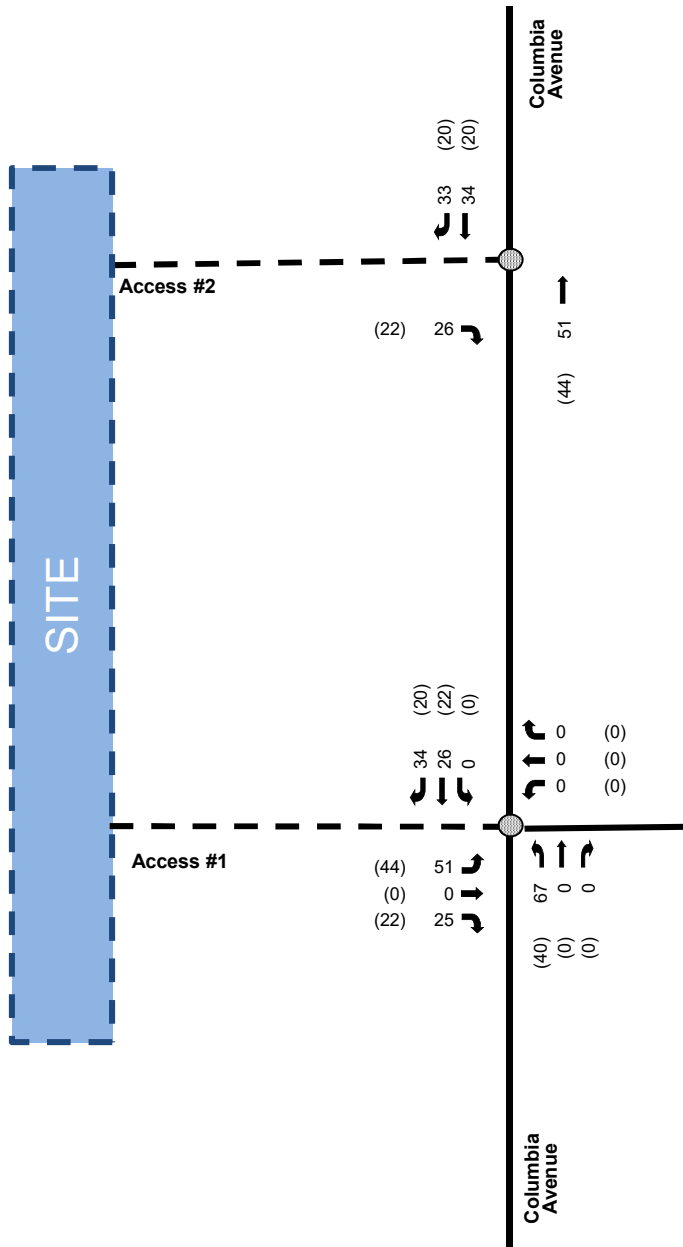


Legend



- Study Intersection
- ➔ Directional Movement
- XX Afternoon Traffic Volumes



NOT TO SCALE



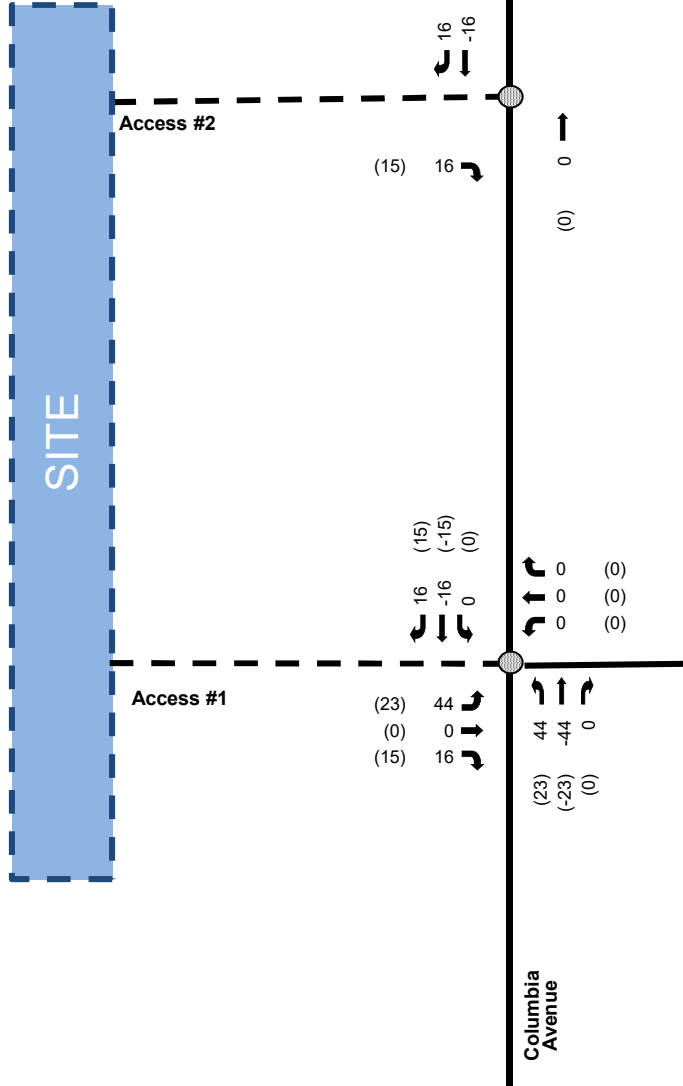
Legend

-  Study Intersection
-  Directional Movement
- XX AM Project Trips
- (XX) PM/AFT Project Trips



Net New External Trip Generation			
	In	Out	Total
AM	134	102	236
PM/AFT	80	87	167



NOT TO SCALE

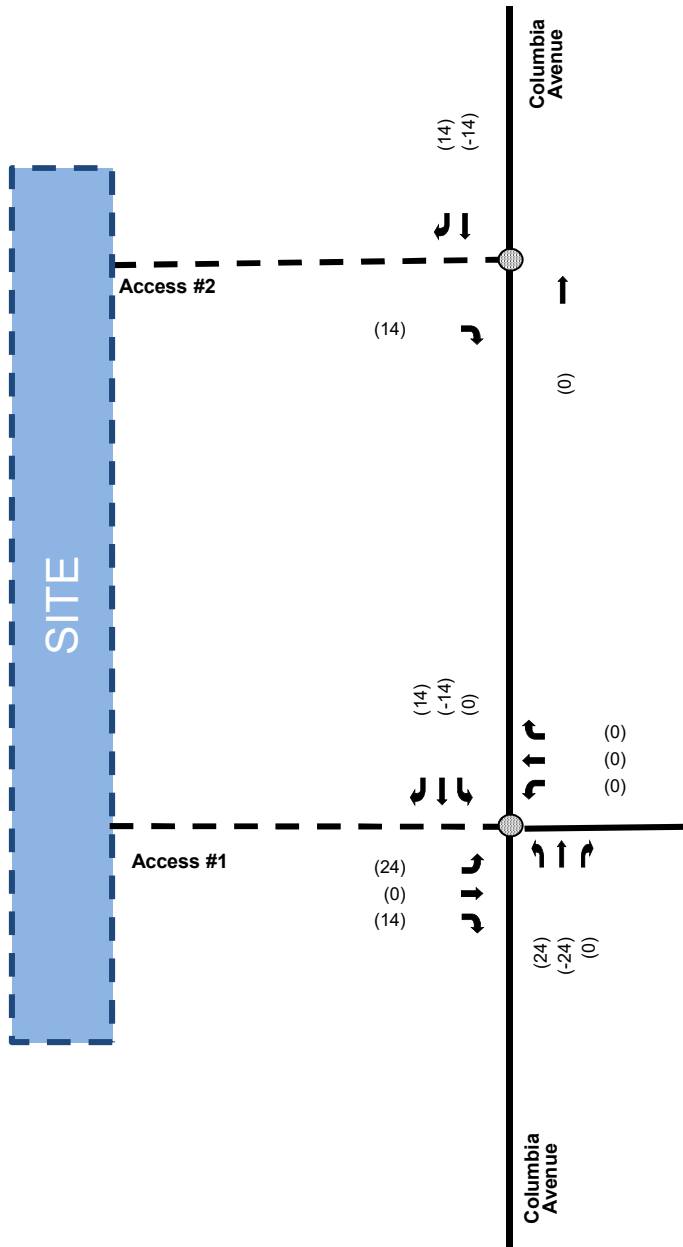


Legend

-  Study Intersection
-  Directional Movement
- XX AM Pass-By Trips
- (XX) PM Pass-By Trips



NOT TO SCALE

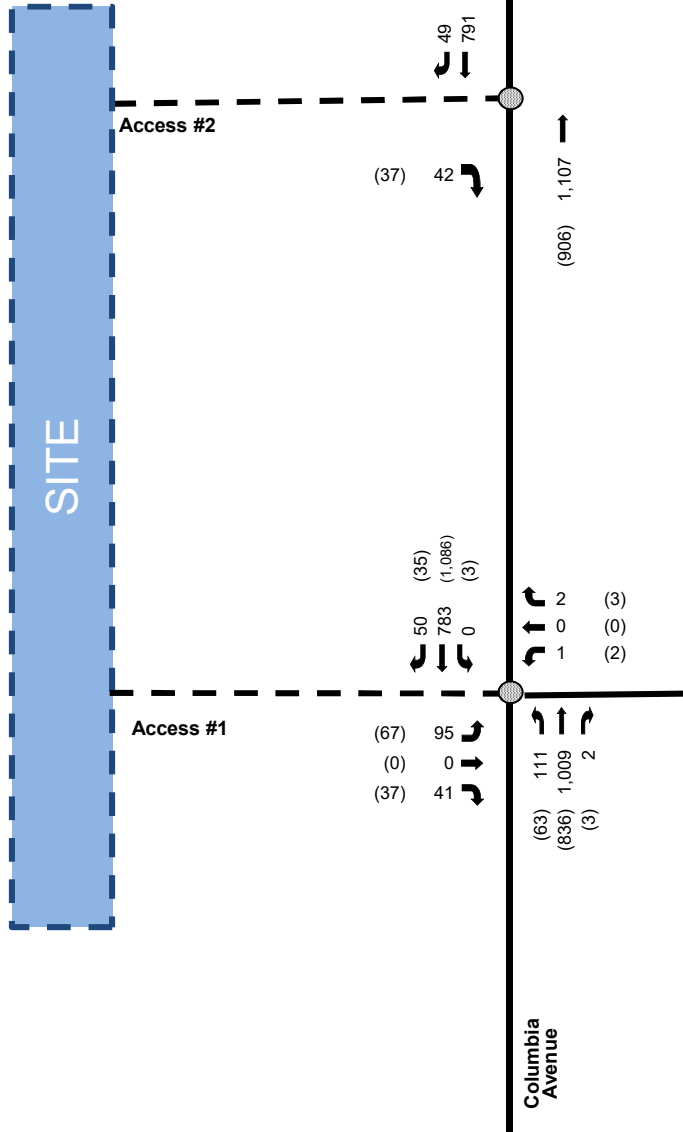


Legend

- Study Intersection
- Directional Movement
- Afternoon Pass-By Trips



NOT TO SCALE

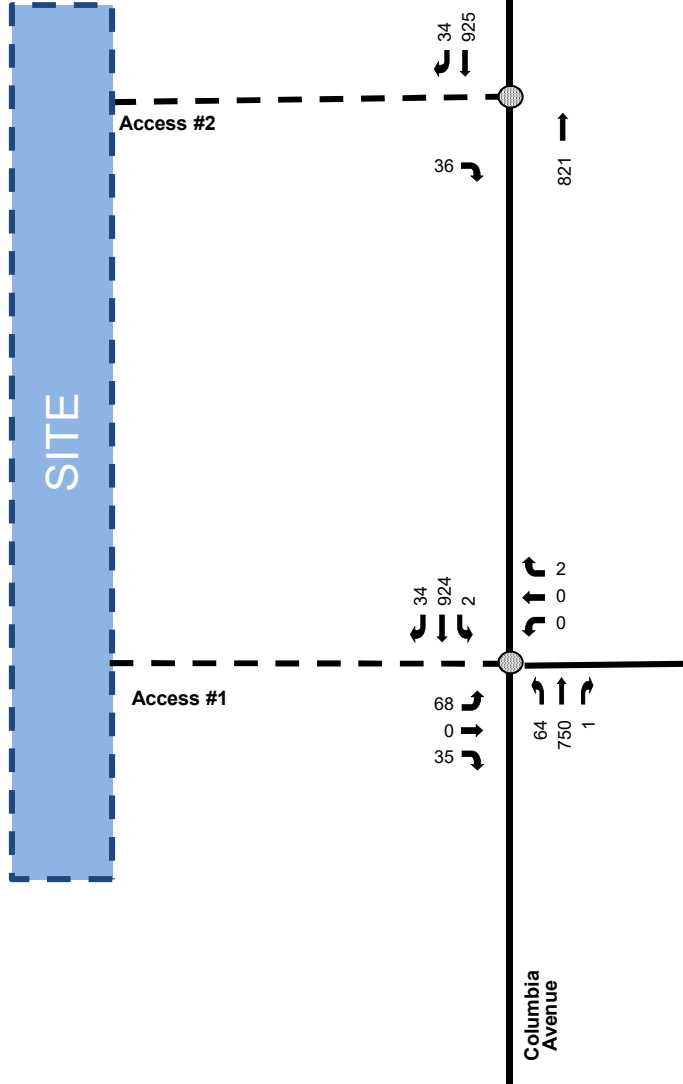


Legend

- Study Intersection
- ➔ Directional Movement
- XX AM Traffic Volumes
- (XX) PM Traffic Volumes



NOT TO SCALE



Legend

- Study Intersection
- ➔ Directional Movement
- XX AM Traffic Volumes
- (XX) PM Traffic Volumes

6. Capacity Analysis

Level-of-Service (LOS) determinations were made for the weekday AM, PM, and Afternoon peak hours for the existing study network intersections and proposed access intersections using Synchro Version 10. The program uses methodologies contained in the 6th edition of the Highway Capacity Manual (HCM), as well as proprietary capacity analysis methods developed by Trafficware, to determine the operating characteristics of an intersection. Capacity is defined as the maximum number of vehicles that can pass over a particular road segment, or through a particular intersection, within a specified period of time under prevailing roadway, traffic, and control conditions.

LOS is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists' perceptions of a traffic stream. The HCM defines six levels of service, LOS A through LOS F, with A being the best and F being the worst.

LOS for unsignalized intersections, with stop control on the minor street(s) only, are reported for the side street approaches. Low levels-of-service for the side street approaches are not uncommon, as vehicles may experience long delays turning onto a major roadway.

Levels-of-service for signalized intersections are reported for the intersection as a whole, and are based on the average control delay for the intersection. One or more movements at an intersection may experience a low level-of-service, while the intersection as a whole may operate acceptably.

Capacity analyses were performed for the following conditions:

- 2020 Existing Conditions
- 2025 Background (No-Build) Conditions
- 2025 Build-Out Conditions

Table 2 lists the LOS control delay thresholds published in the HCM for signalized intersections. Synchro Version 10 software uses the same LOS thresholds as those published in the HCM 6.

Table 2: Signalized Level of Service Delay Thresholds

Level-of-Service Control Delay Thresholds for Signalized Intersections (HCM 6th Edition)	
Level-of-Service	Control Delay per
A	≤ 10
B	> 10 – 20
C	> 20 – 35
D	> 35 – 55
E	> 55 – 80
F	> 80

Table 3 lists the LOS control delay thresholds published in the HCM 6 for unsignalized intersections, as well as the unsignalized operational descriptions assumed herein.

Table 3: Unsignalized Level of Service Delay Thresholds

Level-of-Service Control Delay Thresholds for Unsignalized Intersections (HCM 6th Edition)		
Level-of-Service	Average Control Delay per Vehicle [sec/veh]	
A	≤ 10	Short Delays
B	> 10 – 15	
C	> 15 – 25	
D	> 25 – 35	Moderate Delays
E	> 35 – 50	
F	> 50	Long Delays

Capacity analyses were performed for the 2020 existing traffic conditions, 2025 background traffic conditions, and 2025 build-out traffic conditions of development using the LOS reports generated by Synchro Version 10 software for the following intersections:

- Columbia Avenue (S-48) at Eagle Chase Court (Local)/Site Access #1 – Unsignalized
- Site Access #2 at Columbia Avenue (S-48) – Unsignalized

SimTraffic was utilized to estimate 95th percentile queues for the study area intersections. The results reports are included in the Appendix.

Capacity analysis reports generated by Synchro Version 10 software are included in the Appendix and are briefly summarized in the following subsections. Intersection volume development worksheets are also included in the Appendix.

6.1. Columbia Avenue (S-48) at Eagle Chase Court (Local)

Table 4 summarizes the LOS and control delay (seconds per vehicle) at the intersection of Columbia Avenue (S-48) at Eagle Chase Court for 2020 Existing conditions, 2025 Background conditions, and 2025 Build-Out conditions.

Table 4: Columbia Avenue (S-48) at Eagle Chase Court (Local) Capacity Analysis Results

Columbia Avenue at Eagle Chase Court/Access #1										
Condition	Measure	NB (Columbia Ave)		SB (Columbia Ave)		EB (Access #1)			WB (Eagle Chase Court)	Overall
		NBL	NBTR	SBL	SBTR	EBLT	EBT	EBR	WBLTR	
AM Peak Hour										
Existing	LOS (Delay)	-	-	-	-	-	-	-	D (31.4)	D (31.4)
Background	LOS (Delay)	-	-	-	-	-	-	-	C (22.9)	C (22.9)
Build-Out	LOS (Delay)	-	-	-	-	F (470.2)	-	-	E (41.1)	F (470.2)
Build-Out Improved	LOS (Delay)	A (7.2)	-	B (11.2)	-	D (52.6)	-	-	D (45.7)	B (11.8)
Afternoon Peak Hour										
Existing	LOS (Delay)	-	-	-	-	-	-	-	C (16.0)	C (16.0)
Background	LOS (Delay)	-	-	-	-	-	-	-	B (11.3)	B (11.3)
Build-Out	LOS (Delay)	-	-	-	-	F (188.9)	-	-	B (11.2)	F (188.9)
Build-Out Improved	LOS (Delay)	A (4.7)	-	A (7.1)	-	D (49.7)	-	-	D (45.9)	A (8.5)
PM Peak Hour										
Existing	LOS (Delay)	-	-	-	-	-	-	-	D (34.7)	D (34.7)
Background	LOS (Delay)	-	-	-	-	-	-	-	C (23.5)	C (23.5)
Build-Out	LOS (Delay)	-	-	-	-	F (377.8)	-	-	E (39.5)	F (377.8)
Build-Out Improved	LOS (Delay)	A (5.1)	-	A (8.0)	-	D (52.8)	-	-	D (48.9)	A (9.1)

Intersection Summary

As shown in **Table 4**, the full buildout project traffic increases delay at the intersection of Columbia Avenue (S-48) at Eagle Chase Court. It is recommended that a 150 foot storage northbound left-turn lane be installed at the intersection to serve traffic entering the site. Furthermore, as the development builds out over time and land uses are better defined, it is recommended that a traffic signal warrant analysis be performed to evaluate the need for signalization. The build-out improved condition in the table above assumes the left turn lane and signalization improvements. With the above improvements, the intersection is anticipated to operate at LOS B or better under the Build Out Improved conditions during each analysis period.

Furthermore, no excessive queuing was observed on these approaches in the SimTraffic queueing analysis, the results of which are included in the **Appendix**.

Therefore, the following improvements are recommended for the intersection:

- Add a 150’ storage northbound (Columbia Avenue) left-turn lane at the intersection of Columbia Avenue at Eagle Chase Court/Site Access #1
- As the development builds out, further analysis will be necessary to evaluate the need for a traffic signal at the intersection of Columbia Avenue at Eagle Chase Court/Site Access #1

6.2. Columbia Avenue (S-48) at Access #2 (Local)

Table 5 summarizes the LOS and control delay (seconds per vehicle) at the unsignalized right-in/right-out intersection of Columbia Avenue at Access #2 for year 2020 conditions, 2025 background conditions, and 2025 build-out conditions. The 2025 build-out improved scenario includes the assumed improvements at the adjacent intersection, but no improvements at this intersection.

Table 5: Columbia Avenue (S-48) at Access #2 Capacity Analysis

Columbia Avenue at Access #2		
Condition	Measure	Access #2
		EBR
AM Peak Hour		
Build-Out	LOS (Delay)	B (12.3)
Build-Out Improved	LOS (Delay)	B (12.3)
Afternoon Peak Hour		
Build-Out	LOS (Delay)	B (13.0)
Build-Out Improved	LOS (Delay)	B (13.0)
PM Peak Hour		
Build-Out	LOS (Delay)	B (14.3)
Build-Out Improved	LOS (Delay)	B (14.3)

As shown in Table 5, the intersection is expected to operate at LOS B during all scenarios.

A right-turn lane warrant analysis was performed for this intersection, which found that a right-turn lane is not warranted based on volumes. The analysis is included in the **Appendix**.

Intersection Summary

Overall, the observed and anticipated intersection levels of service at the intersection were found to operate acceptably under buildout conditions. Additionally, no excessive queueing is expected as a result of project traffic.

As no significant level of service or excessive queueing issues are anticipated for this intersection, there are no adverse impacts to the intersection as a result of project traffic and therefore no capacity improvements are recommended.

7. On-Site Stacking for Coffee Shop Drive-Through Window

Per discussion with SCDOT, an on-site queueing/stacking analysis was performed to ensure that the proposed drive-through queue storage on the Coffee Shop with Drive-Through portion of site is of sufficient length to ensure queueing does not extend onto the SCDOT Right-of-Way. A queueing data collection study was performed at the Starbucks location in Newberry, SC on Tuesday, December 15, 2020 from 7:00AM to 6:00PM (provided in the **Appendix**) for use in this analysis. Based on the Newberry site, the maximum observed queue was 13 vehicles, with an average queue of five vehicles throughout the day. The site in Newberry has a square footage of approximately 2,250 SF. Using this information, an expected maximum queueing rate of 5.78 vehicles/KSF (13 vehicles/2.25KSF) was established.

The proposed Starbucks on the Chapin site is expected to have a floor plan of 2,500 SF.

Using the expected queueing rate, the following maximum queue was estimated:

$$2.50 \text{ KSF} \times 5.78 \text{ Vehicles/KSF} = 14.44 \text{ Vehicles expected maximum queue}$$

Therefore, the site should be designed to accommodate a queue length of 15 Vehicles.

8. Conclusion

The proposed development is located on the north side of Columbia Avenue (S-48) near Eagle Chase Court (Local) in Chapin, SC. The proposed land uses for the development include up to 2,500 square feet (sf) of Coffee Shop (with Drive-Through) space, as well as other mixed-use parcels. It is anticipated that the Coffee Shop will be developed first, with the remaining land uses to be determined and added later. The specific land uses of the remaining parcels have not been determined, however, the following were assumed for this analysis as a conservative estimate:

- 2,500 SF Coffee Shop (with Drive-Through)
- 2,500 SF Fast Food Restaurant (with Drive-Through)
- 4,800 SF High Turnover Sit-Down Restaurant
- 6,000 SF Medical/Dental Office Space
- 10,000 SF Retail Space
- 11,600 SF General Office Space

This analysis assumes the buildout for the development is year 2025.

Based on the results of the analyses contained within the report, the following improvements are needed:

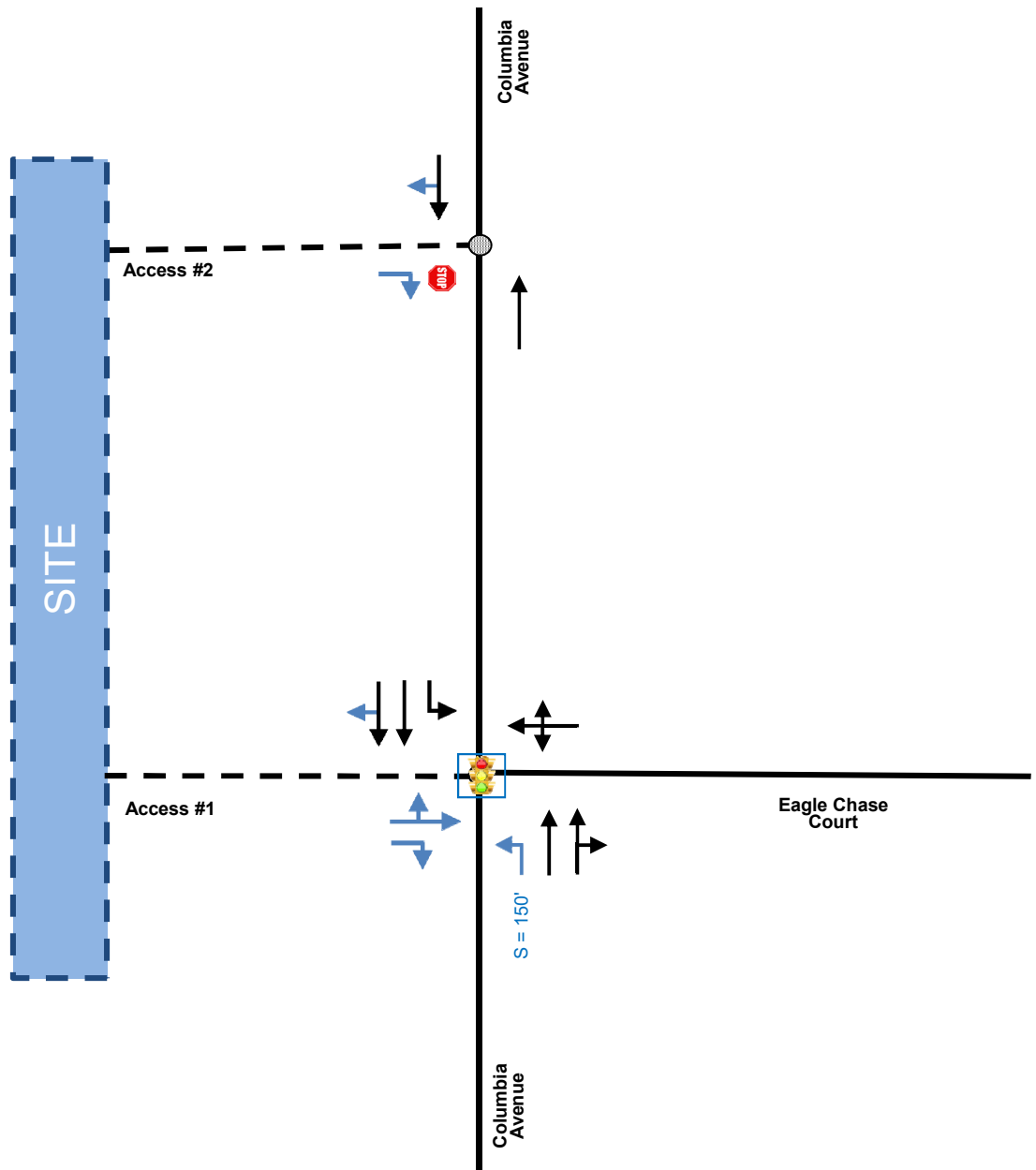
- Add a 150' storage northbound (Columbia Avenue) left-turn lane at the intersection of Columbia Avenue at Eagle Chase Court/Site Access #1

- As the development builds out, further analysis will be necessary to evaluate the need for a traffic signal at the intersection of Columbia Avenue at Eagle Chase Court/Site Access #1

The recommended improvements for this proposed development are included in Figure 10.



NOT TO SCALE



Legend

- Existing Laneage
- Recommended Laneage
- XX' Existing Storage
- XX' Recommended Storage
- Traffic Signal
- Stop Control

Appendix

**A – RAW TURNING MOVEMENT
COUNTS**

**B – INTERSECTION VOLUME
DEVELOPMENT**

INTERSECTION VOLUME
DEVELOPMENT - AM AND PM PEAK HOURS

INTERSECTION: Columbia Avenue at Eagle Chase Court/Access #1
 COUNT DATE: December 10, 2020
 AM PEAK HOUR FACTOR: 0.84 FUTURE PEAK HOUR FACTOR: 0.90
 PM PEAK HOUR FACTOR: 0.86

"AM 2020 EXISTING TRAFFIC"																	
	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
AM Raw Turning Movements	0	0	0	0	0	1	0	2	0	0	931	2	0	0	683	0	
AM Balanced Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AM 2020 EXISTING TRAFFIC	0	0	0	0	0	1	0	2	0	0	931	2	0	0	683	0	
AM Heavy Vehicle Percentage	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%	3%	2%	
"PM 2020 EXISTING TRAFFIC"																	
	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
PM Raw Turning Movements	0	0	0	0	0	2	0	3	0	0	758	3	0	3	954	0	
PM Balanced Volumes	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
PM 2020 EXISTING TRAFFIC	0	0	0	0	0	2	0	3	0	0	759	3	0	3	954	0	
PM Heavy Vehicle Percentage	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	4%	2%	
"AM 2025 NO-BUILD TRAFFIC"																	
	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
AM 2025 NO-BUILD TRAFFIC GROWTH	0	0	0	0	0	0	0	0	0	0	122	0	0	0	90	0	
TOTAL AM APPROVED DEVELOPMENT TRAFFIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AM 2025 NO-BUILD TRAFFIC	0	0	0	0	0	1	0	2	0	0	1,053	2	0	0	773	0	
"PM 2025 NO-BUILD TRAFFIC"																	
	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
PM 2025 NO-BUILD TRAFFIC GROWTH	0	0	0	0	0	0	0	0	0	0	100	0	0	0	125	0	
TOTAL PM APPROVED DEVELOPMENT TRAFFIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM 2025 NO-BUILD TRAFFIC	0	0	0	0	0	2	0	3	0	0	859	3	0	3	1,079	0	
"SITE TRAFFIC DISTRIBUTION"																	
LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By Distribution	Entering		0%	0%	0%		0%	0%	0%		58%	-58%	0%		0%	-21%	21%
	Exiting		58%	0%	21%		0%	0%	0%		0%	0%	0%		0%	0%	0%
Diverted Trip Distribution	Entering		0%	0%	0%		0%	0%	0%		0%	0%	0%		0%	0%	0%
	Exiting		0%	0%	0%		0%	0%	0%		0%	0%	0%		0%	0%	0%
Net New Distribution	Entering		0%	0%	0%		0%	0%	0%		50%	0%	0%		0%	0%	25%
	Exiting		50%	0%	25%		0%	0%	0%		0%	0%	0%		0%	25%	0%
"AM PROJECT TRIPS"																	
LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trip	Pass - By		44	0	16		0	0	0		44	-44	0		0	-16	16
	Diverted Trips		0	0	0		0	0	0		0	0	0		0	0	0
	Net New		51	0	25		0	0	0		67	0	0		0	26	34
AM TOTAL PROJECT TRIPS		0	95	0	41	0	0	0	0	0	111	-44	0	0	0	10	50
AM 2025 BUILD-OUT TRAFFIC		0	95	0	41	0	1	0	2	0	111	1,009	2	0	0	783	50
"PM PROJECT TRIPS"																	
LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trip	Pass - By		23	0	15		0	0	0		23	-23	0		0	-15	15
	Diverted Trips		0	0	0		0	0	0		0	0	0		0	0	0
	Net New		44	0	22		0	0	0		40	0	0		0	22	20
PM TOTAL PROJECT TRIPS		0	67	0	37	0	0	0	0	0	63	-23	0	0	7	35	
PM 2025 BUILD-OUT TRAFFIC		0	67	0	37	0	2	0	3	0	63	836	3	0	3	1,086	35

INTERSECTION VOLUME
DEVELOPMENT - AM AND PM PEAK HOURS

INTERSECTION: Columbia Avenue at Access #2
 COUNT DATE: December 10, 2020
 AM PEAK HOUR FACTOR: 0.84 FUTURE PEAK HOUR FACTOR: 0.90
 PM PEAK HOUR FACTOR: 0.86

"AM 2020 EXISTING TRAFFIC"																	
	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
AM Raw Turning Movements	0	0	0	0	0	0	0	0	0	0	933	0	0	0	683	0	
AM Balanced Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AM 2020 EXISTING TRAFFIC	0	0	0	0	0	0	0	0	0	0	933	0	0	0	683	0	
AM Heavy Vehicle Percentage	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%	3%	2%	
"PM 2020 EXISTING TRAFFIC"																	
	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
PM Raw Turning Movements	0	0	0	0	0	0	0	0	0	0	762	0	0	0	958	0	
PM Balanced Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	
PM 2020 EXISTING TRAFFIC	0	0	0	0	0	0	0	0	0	0	762	0	0	0	957	0	
PM Heavy Vehicle Percentage	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	4%	2%	
"AM 2025 NO-BUILD TRAFFIC"																	
	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
AM 2024 NO-BUILD TRAFFIC GROWTH	0	0	0	0	0	0	0	0	0	0	123	0	0	0	90	0	
TOTAL AM APPROVED DEVELOPMENT TRAFFIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AM 2024 NO-BUILD TRAFFIC	0	0	0	0	0	0	0	0	0	0	1,056	0	0	0	773	0	
"PM 2024 NO-BUILD TRAFFIC"																	
	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
PM 2024 NO-BUILD TRAFFIC GROWTH	0	0	0	0	0	0	0	0	0	0	100	0	0	0	126	0	
TOTAL PM APPROVED DEVELOPMENT TRAFFIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM 2024 NO-BUILD TRAFFIC	0	0	0	0	0	0	0	0	0	0	862	0	0	0	1,083	0	
"SITE TRAFFIC DISTRIBUTION"																	
LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By Distribution	Entering		0%	0%	0%		0%	0%	0%		0%	0%	0%		0%	-21%	21%
	Exiting		0%	0%	21%		0%	0%	0%		0%	0%	0%		0%	0%	0%
Diverted Trip Distribution	Entering		0%	0%	0%		0%	0%	0%		0%	0%	0%		0%	0%	0%
	Exiting		0%	0%	0%		0%	0%	0%		0%	0%	0%		0%	0%	0%
Net New Distribution	Entering		0%	0%	0%		0%	0%	0%		0%	0%	0%		0%	25%	25%
	Exiting		0%	0%	25%		0%	0%	0%		0%	50%	0%		0%	0%	0%
"AM PROJECT TRIPS"																	
LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trip	Pass - By		0	0	16		0	0	0		0	0	0		0	-16	16
	Diverted Trips		0	0	0		0	0	0		0	0	0		0	0	0
	Net New		0	0	26		0	0	0		0	51	0		0	34	33
AM TOTAL PROJECT TRIPS		0	0	0	42	0	0	0	0	0	0	51	0	0	0	18	49
AM 2024 BUILD-OUT TRAFFIC		0	0	0	42	0	0	0	0	0	0	1,107	0	0	0	791	49
"PM PROJECT TRIPS"																	
LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trip	Pass - By		0	0	15		0	0	0		0	0	0		0	-15	15
	Diverted Trips		0	0	0		0	0	0		0	0	0		0	0	0
	Net New		0	0	22		0	0	0		0	44	0		0	20	20
PM TOTAL PROJECT TRIPS		0	0	0	37	0	0	0	0	0	0	44	0	0	5	35	
PM 2024 BUILD-OUT TRAFFIC		0	0	0	37	0	0	0	0	0	0	906	0	0	0	1,088	35

**INTERSECTION VOLUME
DEVELOPMENT - AFTERNOON PEAK HOUR**

INTERSECTION: Columbia Avenue at Eagle Chase Court/Access #1
COUNT DATE: December 10, 2020

PM PEAK HOUR FACTOR: 0.75

FUTURE PEAK HOUR FACTOR: 0.90

"AFT 2020 EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AFT Raw Turning Movements		0	0	0	0	0	0	0	2	0	0	684	1	0	2	810	0
AFT Balanced Volumes		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AFT 2020 EXISTING TRAFFIC		0	0	0	0	0	0	0	2	0	0	684	1	0	2	810	0
AFT Heavy Vehicle Percentage		2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	2%	3%	2%
"AFT 2025 NO-BUILD TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Annual Growth Rate		2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
AFT 2025 NO-BUILD TRAFFIC GROWTH		0	0	0	0	0	0	0	0	0	0	90	0	0	0	106	0
TOTAL AFT APPROVED DEVELOPMENT TRAFFIC		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AFT 2025 NO-BUILD TRAFFIC		0	0	0	0	0	0	0	2	0	0	774	1	0	2	916	0
"SITE TRAFFIC DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
Pass-By Distribution	Entering																
	Exiting																
Net New Distribution	Entering																
	Exiting																
"AFT PROJECT TRIPS"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
LAND USE	TYPE																
Project Trip	Pass - By		24	0	14		0	0	0		24	-24	0		0	-14	14
	Diverted Trips		0	0	0		0	0	0		0	0	0		0	0	0
	Net New		44	0	21		0	0	0		40	0	0		0	22	20
AFT TOTAL PROJECT TRIPS		0	68	0	35	0	0	0	0	0	64	-24	0	0	0	8	34
AFT 2025 BUILD-OUT TRAFFIC		0	68	0	35	0	0	0	2	0	64	750	1	0	2	924	34

**INTERSECTION VOLUME
DEVELOPMENT - AFTERNOON PEAK HOUR**

INTERSECTION: Columbia Avenue at Access #2
COUNT DATE: December 10, 2020

PM PEAK HOUR FACTOR: 0.75 FUTURE PEAK HOUR FACTOR: 0.90

"AFT 2020 EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AFT Raw Turning Movements		0	0	0	0	0	0	0	0	0	0	687	0	0	0	812	0
AFT Balanced Volumes		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AFT 2020 EXISTING TRAFFIC		0	0	0	0	0	0	0	0	0	0	687	0	0	0	812	0
AFT Heavy Vehicle Percentage		2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	2%	3%	2%
"AFT 2025 NO-BUILD TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Annual Growth Rate		2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
AFT 2025 NO-BUILD TRAFFIC GROWTH		0	0	0	0	0	0	0	0	0	0	90	0	0	0	107	0
TOTAL AFT APPROVED DEVELOPMENT TRAFFIC		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AFT 2025 NO-BUILD TRAFFIC		0	0	0	0	0	0	0	0	0	0	777	0	0	0	919	0
"SITE TRAFFIC DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Pass-By Distribution	Entering																
	Exiting																
Net New Distribution	Entering																
	Exiting																
"AFT PROJECT TRIPS"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trip	Pass - By		0	0	14		0	0	0		0	0	0		0	-14	14
	Diverted Trips		0	0	0		0	0	0		0	0	0		0	0	0
	Net New		0	0	22		0	0	0		0	44	0		0	20	20
AFT TOTAL PROJECT TRIPS		0	0	0	36	0	0	0	0	0	0	44	0	0	0	6	34
AFT 2025 BUILD-OUT TRAFFIC		0	0	0	36	0	0	0	0	0	0	821	0	0	0	925	34

C – STARBUCKS QUEUEING ANALYSIS

Starbucks Newberry Queueing Data Collection 12/15/20 - 7:00AM to 6:00PM

Interval	Max Queue Length (Drive-thru Lane from Pick-up Window to Order Window)	Max Queue Length (Drive-thru Lane from Order Window to Back of Line)	Queue Spill onto Street	Total Max Queue Length (Drive-thru Lane at Order Window)	TOTAL PICKUP + ORDER WINDOW + SPILLBACK
7:00 AM	3	3	0	3	6
7:05 AM	6	3	1	4	10
7:10 AM	6	3	0	3	9
7:15 AM	5	3	0	3	8
7:20 AM	7	2	0	2	9
7:25 AM	7	1	0	1	8
7:30 AM	2	3	0	3	5
7:35 AM	5	3	0	3	8
7:40 AM	5	2	0	2	7
7:45 AM	3	2	0	2	5
7:50 AM	4	3	0	3	7
7:55 AM	7	3	3	6	13
8:00 AM	7	3	1	4	11
8:05 AM	5	2	0	2	7
8:10 AM	3	2	0	2	5
8:15 AM	2	1	0	1	3
8:20 AM	2	2	0	2	4
8:25 AM	4	3	0	3	7
8:30 AM	3	1	0	1	4
8:35 AM	2	3	0	3	5
8:40 AM	7	2	0	2	9
8:45 AM	5	1	0	1	6
8:50 AM	5	4	0	4	9
8:55 AM	6	2	0	2	8
9:00 AM	2	1	0	1	3
11:00 AM	2	3	0	3	5
11:05 AM	4	2	0	2	6
11:10 AM	1	0	0	0	1
11:15 AM	1	2	0	2	3
11:20 AM	2	2	0	2	4
11:25 AM	5	2	0	2	7
11:30 AM	1	1	0	1	2
11:35 AM	2	1	0	1	3
11:40 AM	1	1	0	1	2
11:45 AM	5	3	0	3	8
11:50 AM	5	1	0	1	6
11:55 AM	5	1	0	1	6
12:00 PM	3	1	0	1	4
12:05 PM	3	1	0	1	4
12:10 PM	1	1	0	1	2
12:15 PM	4	3	0	3	7
12:20 PM	4	2	0	2	6
12:25 PM	4	1	0	1	5
12:30 PM	2	1	0	1	3
12:35 PM	1	1	0	1	2
12:40 PM	2	2	0	2	4
12:45 PM	3	2	0	2	5
12:50 PM	3	2	0	2	5
12:55 PM	3	2	0	2	5
1:00 PM	3	2	0	2	5
4:00 PM	3	1	0	1	4
4:05 PM	2	1	0	1	3
4:10 PM	1	0	0	0	1
4:15 PM	2	1	0	1	3
4:20 PM	1	1	0	1	2
4:25 PM	1	1	0	1	2
4:30 PM	4	1	0	1	5
4:35 PM	4	1	0	1	5
4:40 PM	7	3	0	3	10
4:45 PM	5	1	0	1	6
4:50 PM	3	1	0	1	4
4:55 PM	2	2	0	2	4
5:00 PM	5	3	1	4	9
5:05 PM	5	1	0	1	6
5:10 PM	3	3	0	3	6
5:15 PM	3	1	0	1	4
5:20 PM	3	2	0	2	5
5:25 PM	3	1	0	1	4
5:30 PM	3	2	0	2	5
5:35 PM	2	2	0	2	4
5:40 PM	2	1	0	1	3
5:45 PM	1	0	0	0	1
5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0
6:00 PM	1	1	0	1	2
Totals	249	129	6	135	384
				Average	5.12
				Max	13



D – INTERSECTION CAPACITY ANALYSIS

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	931	2	0	683
Future Vol, veh/h	1	2	931	2	0	683
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	3	2	2	3
Mvmt Flow	1	2	1108	2	0	813

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1922	1109	0	0	1110	0
Stage 1	1109	-	-	-	-	-
Stage 2	813	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	74	255	-	-	629	-
Stage 1	316	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	74	255	-	-	629	-
Mov Cap-2 Maneuver	74	-	-	-	-	-
Stage 1	316	-	-	-	-	-
Stage 2	436	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.4	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	140	629
HCM Lane V/C Ratio	-	-	0.026	-
HCM Control Delay (s)	-	-	31.4	0
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Traffic Vol, veh/h	2	3	759	3	3	954
Future Vol, veh/h	2	3	759	3	3	954
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	4
Mvmt Flow	2	3	883	3	3	1109

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	2000	885	0	0	886
Stage 1	885	-	-	-	-
Stage 2	1115	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	66	344	-	-	764
Stage 1	403	-	-	-	-
Stage 2	314	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	65	344	-	-	764
Mov Cap-2 Maneuver	65	-	-	-	-
Stage 1	403	-	-	-	-
Stage 2	311	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34.7	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	127	764
HCM Lane V/C Ratio	-	-	0.046	0.005
HCM Control Delay (s)	-	-	34.7	9.7
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	684	1	2	810
Future Vol, veh/h	0	2	684	1	2	810
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	4	2	2	3
Mvmt Flow	0	3	912	1	3	1080

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1999	913	0	0	913
Stage 1	913	-	-	-	-
Stage 2	1086	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	66	331	-	-	746
Stage 1	391	-	-	-	-
Stage 2	324	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	65	331	-	-	746
Mov Cap-2 Maneuver	65	-	-	-	-
Stage 1	391	-	-	-	-
Stage 2	321	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	331	746
HCM Lane V/C Ratio	-	-	0.008	0.004
HCM Control Delay (s)	-	-	16	9.8
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↓		↔	↑↑
Traffic Vol, veh/h	1	2	1053	2	0	773
Future Vol, veh/h	1	2	1053	2	0	773
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	2	2	3
Mvmt Flow	1	2	1170	2	0	859

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1601	586	0	0	1172
Stage 1	1171	-	-	-	-
Stage 2	430	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	97	454	-	-	592
Stage 1	257	-	-	-	-
Stage 2	624	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	97	454	-	-	592
Mov Cap-2 Maneuver	97	-	-	-	-
Stage 1	257	-	-	-	-
Stage 2	624	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	204	592
HCM Lane V/C Ratio	-	-	0.016	-
HCM Control Delay (s)	-	-	22.9	0
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑		Y	↑↑
Traffic Vol, veh/h	2	3	859	3	3	1079
Future Vol, veh/h	2	3	859	3	3	1079
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	4
Mvmt Flow	2	3	954	3	3	1199

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1562	479	0	0	957
Stage 1	956	-	-	-	-
Stage 2	606	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	103	533	-	-	714
Stage 1	334	-	-	-	-
Stage 2	507	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	103	533	-	-	714
Mov Cap-2 Maneuver	103	-	-	-	-
Stage 1	334	-	-	-	-
Stage 2	505	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	200	714
HCM Lane V/C Ratio	-	-	0.028	0.005
HCM Control Delay (s)	-	-	23.5	10.1
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑		Y	↑↑
Traffic Vol, veh/h	0	2	774	1	2	916
Future Vol, veh/h	0	2	774	1	2	916
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	4	2	2	3
Mvmt Flow	0	2	860	1	2	1018

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1374	431	0	0	861
Stage 1	861	-	-	-	-
Stage 2	513	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	137	573	-	-	776
Stage 1	374	-	-	-	-
Stage 2	566	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	137	573	-	-	776
Mov Cap-2 Maneuver	137	-	-	-	-
Stage 1	374	-	-	-	-
Stage 2	564	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	573	776
HCM Lane V/C Ratio	-	-	0.004	0.003
HCM Control Delay (s)	-	-	11.3	9.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection												
Int Delay, s/veh	31.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕↗		↗	↕↗	
Traffic Vol, veh/h	95	0	41	1	0	2	111	1009	2	0	783	50
Future Vol, veh/h	95	0	41	1	0	2	111	1009	2	0	783	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	-	150	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	3	2	2	3	2
Mvmt Flow	106	0	46	1	0	2	123	1121	2	0	870	56

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1705	2267	463	1803	2294	562	926	0	0	1123	0	0
Stage 1	898	898	-	1368	1368	-	-	-	-	-	-	-
Stage 2	807	1369	-	435	926	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 59	40	546	50	39	470	734	-	-	618	-	-
Stage 1	301	356	-	155	213	-	-	-	-	-	-	-
Stage 2	341	213	-	570	346	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 51	33	546	40	32	470	734	-	-	618	-	-
Mov Cap-2 Maneuver	~ 51	33	-	40	32	-	-	-	-	-	-	-
Stage 1	250	356	-	129	177	-	-	-	-	-	-	-
Stage 2	283	177	-	522	346	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	470.2	41.1	1.1	0
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	734	-	-	51	546	103	618	-	-
HCM Lane V/C Ratio	0.168	-	-	2.07	0.083	0.032	-	-	-
HCM Control Delay (s)	10.9	-	-	667.9	12.2	41.1	0	-	-
HCM Lane LOS	B	-	-	F	B	E	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	10.6	0.3	0.1	0	-	-

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

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	42	0	1107	791	49
Future Vol, veh/h	0	42	0	1107	791	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	3	3	2
Mvmt Flow	0	47	0	1230	879	54

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	467	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	542	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	542	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 542	-	-
HCM Lane V/C Ratio	- 0.086	-	-
HCM Control Delay (s)	- 12.3	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 0.3	-	-

Intersection												
Int Delay, s/veh	18.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕↗		↗	↕↗	
Traffic Vol, veh/h	67	0	37	2	0	3	63	836	3	3	1086	35
Future Vol, veh/h	67	0	37	2	0	3	63	836	3	3	1086	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	-	150	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	4	2
Mvmt Flow	74	0	41	2	0	3	70	929	3	3	1207	39

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1838	2305	623	1681	2323	466	1246	0	0	932	0	0
Stage 1	1233	1233	-	1071	1071	-	-	-	-	-	-	-
Stage 2	605	1072	-	610	1252	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 47	38	429	62	37	543	554	-	-	730	-	-
Stage 1	187	247	-	236	295	-	-	-	-	-	-	-
Stage 2	451	295	-	448	242	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 42	33	429	50	32	543	554	-	-	730	-	-
Mov Cap-2 Maneuver	~ 42	33	-	50	32	-	-	-	-	-	-	-
Stage 1	163	246	-	206	258	-	-	-	-	-	-	-
Stage 2	392	258	-	403	241	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	377.8		39.5		0.9		0	
HCM LOS	F		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	554	-	-	42	429	110	730	-	-
HCM Lane V/C Ratio	0.126	-	-	1.772	0.096	0.051	0.005	-	-
HCM Control Delay (s)	12.4	-	-	\$ 578.5	14.3	39.5	10	-	-
HCM Lane LOS	B	-	-	F	B	E	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	7.7	0.3	0.2	0	-	-

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

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	37	0	906	1088	35
Future Vol, veh/h	0	37	0	906	1088	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	4	2
Mvmt Flow	0	41	0	1007	1209	39

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	624	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	428	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	428	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 428	-	-
HCM Lane V/C Ratio	- 0.096	-	-
HCM Control Delay (s)	- 14.3	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 0.3	-	-

Intersection												
Int Delay, s/veh	10.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕↗		↗	↕↗	
Traffic Vol, veh/h	68	0	35	0	0	2	64	750	1	2	924	34
Future Vol, veh/h	68	0	35	0	0	2	64	750	1	2	924	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	-	150	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	4	2	2	3	2
Mvmt Flow	76	0	39	0	0	2	71	833	1	2	1027	38

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1609	2026	533	1494	2045	417	1065	0	0	834	0	0
Stage 1	1050	1050	-	976	976	-	-	-	-	-	-	-
Stage 2	559	976	-	518	1069	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 70	57	491	85	55	585	650	-	-	795	-	-
Stage 1	243	302	-	270	327	-	-	-	-	-	-	-
Stage 2	481	327	-	509	296	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 64	51	491	72	49	585	650	-	-	795	-	-
Mov Cap-2 Maneuver	~ 64	51	-	72	49	-	-	-	-	-	-	-
Stage 1	217	301	-	241	291	-	-	-	-	-	-	-
Stage 2	427	291	-	468	295	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	188.9		11.2		0.9		0			
HCM LOS	F		B							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	650	-	-	64	491	585	795	-	-
HCM Lane V/C Ratio	0.109	-	-	1.181	0.079	0.004	0.003	-	-
HCM Control Delay (s)	11.2	-	-	279.5	13	11.2	9.5	-	-
HCM Lane LOS	B	-	-	F	B	B	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	6.1	0.3	0	0	-	-

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

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	36	0	821	925	34
Future Vol, veh/h	0	36	0	821	925	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	4	3	2
Mvmt Flow	0	40	0	912	1028	38

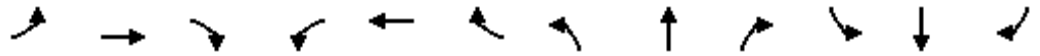
Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	533	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	491	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	491	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 491	-	-
HCM Lane V/C Ratio	- 0.081	-	-
HCM Control Delay (s)	- 13	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 0.3	-	-

HCM 6th Signalized Intersection Summary
 1: Columbia Avenue & Site Access #1/Eagle Chase Ct

Chapin Mixed Use Site
 2025 Build Improved AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↔		↖	↕		↖	↕	↗
Traffic Volume (veh/h)	95	0	41	1	0	2	111	1009	2	0	783	50
Future Volume (veh/h)	95	0	41	1	0	2	111	1009	2	0	783	50
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	1870	1870	1870	1870	1870	1870	1870	1856	1856	1870	1856	1856
Adj Flow Rate, veh/h	106	0	46	1	0	2	123	1121	2	0	870	56
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, %	2	2	2	2	2	2	2	3	3	2	3	3
Cap, veh/h	186	0	262	47	17	52	449	2677	5	371	2206	142
Arrive On Green	0.17	0.00	0.17	0.17	0.00	0.17	0.04	0.74	0.74	0.00	0.66	0.66
Sat Flow, veh/h	786	0	1585	55	104	318	1781	3611	6	1781	3363	216
Grp Volume(v), veh/h	106	0	46	3	0	0	123	547	576	0	456	470
Grp Sat Flow(s),veh/h/ln	786	0	1585	477	0	0	1781	1763	1854	1781	1763	1817
Q Serve(g_s), s	0.0	0.0	3.2	0.0	0.0	0.0	2.8	14.9	14.9	0.0	15.4	15.4
Cycle Q Clear(g_c), s	18.8	0.0	3.2	18.8	0.0	0.0	2.8	14.9	14.9	0.0	15.4	15.4
Prop In Lane	1.00		1.00	0.33		0.67	1.00		0.00	1.00		0.12
Lane Grp Cap(c), veh/h	186	0	262	116	0	0	449	1307	1375	371	1156	1192
V/C Ratio(X)	0.57	0.00	0.18	0.03	0.00	0.00	0.27	0.42	0.42	0.00	0.39	0.39
Avail Cap(c_a), veh/h	306	0	396	243	0	0	630	1307	1375	439	1156	1192
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	0.0	46.0	45.6	0.0	0.0	7.3	6.2	6.2	0.0	10.2	10.2
Incr Delay (d2), s/veh	2.7	0.0	0.3	0.1	0.0	0.0	0.3	1.0	0.9	0.0	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	1.3	0.1	0.0	0.0	0.9	4.8	5.1	0.0	5.7	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.3	0.0	46.3	45.7	0.0	0.0	7.6	7.2	7.2	0.0	11.2	11.2
LnGrp LOS	E	A	D	D	A	A	A	A	A	A	B	B
Approach Vol, veh/h		152			3			1246			926	
Approach Delay, s/veh		52.6			45.7			7.2			11.2	
Approach LOS		D			D			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	101.0		27.2	10.9	90.1		27.2				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	5.0	95.0		32.0	18.0	82.0		32.0				
Max Q Clear Time (g_c+I1), s	0.0	16.9		20.8	4.8	17.4		20.8				
Green Ext Time (p_c), s	0.0	8.5		0.5	0.2	6.3		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				11.8								
HCM 6th LOS				B								

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	42	0	1107	791	49
Future Vol, veh/h	0	42	0	1107	791	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	3	3	2
Mvmt Flow	0	47	0	1230	879	54

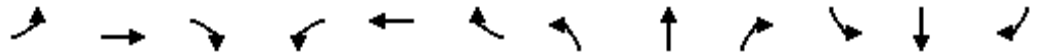
Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	467	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	542	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	542	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	542	-	-
HCM Lane V/C Ratio	-	0.086	-	-
HCM Control Delay (s)	-	12.3	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

HCM 6th Signalized Intersection Summary
 1: Columbia Avenue & Site Access #1/Eagle Chase Ct

Chapin Mixed Use Site
 2025 Build Improved PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↔		↖	↕↔		↖	↕↔	
Traffic Volume (veh/h)	67	0	37	2	0	3	63	836	3	3	1086	35
Future Volume (veh/h)	67	0	37	2	0	3	63	836	3	3	1086	35
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1841	1841
Adj Flow Rate, veh/h	74	0	41	2	0	3	70	929	3	3	1207	39
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, %	2	2	2	2	2	2	2	2	2	2	4	4
Cap, veh/h	163	0	127	55	16	41	389	2756	9	476	2502	81
Arrive On Green	0.08	0.00	0.08	0.08	0.00	0.08	0.04	0.76	0.76	0.00	0.72	0.72
Sat Flow, veh/h	1240	0	1585	142	199	512	1781	3633	12	1781	3458	112
Grp Volume(v), veh/h	74	0	41	5	0	0	70	454	478	3	610	636
Grp Sat Flow(s),veh/h/ln	1240	0	1585	853	0	0	1781	1777	1868	1781	1749	1821
Q Serve(g_s), s	0.0	0.0	2.8	0.0	0.0	0.0	1.1	9.5	9.5	0.1	17.0	17.0
Cycle Q Clear(g_c), s	7.0	0.0	2.8	7.0	0.0	0.0	1.1	9.5	9.5	0.1	17.0	17.0
Prop In Lane	1.00		1.00	0.40		0.60	1.00		0.01	1.00		0.06
Lane Grp Cap(c), veh/h	163	0	127	113	0	0	389	1348	1417	476	1266	1318
V/C Ratio(X)	0.46	0.00	0.32	0.04	0.00	0.00	0.18	0.34	0.34	0.01	0.48	0.48
Avail Cap(c_a), veh/h	406	0	401	369	0	0	475	1348	1417	577	1266	1318
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	0.0	49.8	48.7	0.0	0.0	4.9	4.5	4.5	4.4	6.7	6.7
Incr Delay (d2), s/veh	2.0	0.0	1.4	0.2	0.0	0.0	0.2	0.7	0.6	0.0	1.3	1.3
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	2.2	0.0	1.2	0.1	0.0	0.0	0.3	2.8	2.9	0.0	5.4	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.7	0.0	51.2	48.9	0.0	0.0	5.1	5.2	5.1	4.4	8.0	8.0
LnGrp LOS	D	A	D	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		115			5			1002			1249	
Approach Delay, s/veh		52.8			48.9			5.1			8.0	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	93.0		15.2	10.5	89.0		15.2				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	86.0		29.0	10.0	83.0		29.0				
Max Q Clear Time (g_c+I1), s	2.1	11.5		9.0	3.1	19.0		9.0				
Green Ext Time (p_c), s	0.0	6.3		0.4	0.1	10.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay	9.1
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	37	0	906	1088	35
Future Vol, veh/h	0	37	0	906	1088	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	4	2
Mvmt Flow	0	41	0	1007	1209	39






















Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	624	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	428	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	428	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 428	-	-
HCM Lane V/C Ratio	- 0.096	-	-
HCM Control Delay (s)	- 14.3	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 0.3	-	-

HCM 6th Signalized Intersection Summary
 1: Columbia Avenue & Site Access #1/Eagle Chase Ct

Chapin Mixed Use Site
 2025 Build Improved Afternoon

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	0	35	0	0	2	64	750	1	2	924	34
Future Volume (veh/h)	68	0	35	0	0	2	64	750	1	2	924	34
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	1870	1870	1870	1870	1870	1870	1870	1841	1841	1870	1856	1856
Adj Flow Rate, veh/h	76	0	39	0	0	2	71	833	1	2	1027	38
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, %	2	2	2	2	2	2	2	4	4	2	3	3
Cap, veh/h	170	0	117	0	0	117	457	2705	3	520	2484	92
Arrive On Green	0.07	0.00	0.07	0.00	0.00	0.07	0.04	0.75	0.75	0.00	0.72	0.72
Sat Flow, veh/h	1393	0	1585	0	0	1585	1781	3584	4	1781	3467	128
Grp Volume(v), veh/h	76	0	39	0	0	2	71	406	428	2	522	543
Grp Sat Flow(s),veh/h/ln	1393	0	1585	0	0	1585	1781	1749	1840	1781	1763	1832
Q Serve(g_s), s	5.6	0.0	2.5	0.0	0.0	0.1	1.1	7.9	7.9	0.0	12.7	12.8
Cycle Q Clear(g_c), s	5.7	0.0	2.5	0.0	0.0	0.1	1.1	7.9	7.9	0.0	12.7	12.8
Prop In Lane	1.00		1.00	0.00		1.00	1.00		0.00	1.00		0.07
Lane Grp Cap(c), veh/h	170	0	117	0	0	117	457	1320	1389	520	1263	1313
V/C Ratio(X)	0.45	0.00	0.33	0.00	0.00	0.02	0.16	0.31	0.31	0.00	0.41	0.41
Avail Cap(c_a), veh/h	410	0	386	0	0	386	550	1320	1389	632	1263	1313
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	0.0	46.9	0.0	0.0	45.8	4.1	4.2	4.2	4.3	6.1	6.1
Incr Delay (d2), s/veh	1.8	0.0	1.6	0.0	0.0	0.1	0.2	0.6	0.6	0.0	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	1.0	0.0	0.0	0.1	0.3	2.2	2.3	0.0	3.9	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	0.0	48.6	0.0	0.0	45.9	4.3	4.8	4.8	4.3	7.1	7.1
LnGrp LOS	D	A	D	A	A	D	A	A	A	A	A	A
Approach Vol, veh/h		115			2			905			1067	
Approach Delay, s/veh		49.7			45.9			4.7			7.1	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	86.6		13.9	10.4	82.5		13.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	* 6		6.0				
Max Green Setting (Gmax), s	7.0	79.0		26.0	10.0	* 77		26.0				
Max Q Clear Time (g_c+I1), s	2.0	9.9		7.7	3.1	14.8		2.1				
Green Ext Time (p_c), s	0.0	5.4		0.4	0.1	7.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Notes

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

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	36	0	821	925	34
Future Vol, veh/h	0	36	0	821	925	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	4	3	2
Mvmt Flow	0	40	0	912	1028	38

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	533	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	491	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	491	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	491	-	-
HCM Lane V/C Ratio	-	0.081	-	-
HCM Control Delay (s)	-	13	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

E – INTERSECTION QUEUEING ANALYSIS

Intersection: 1: Columbia Avenue & Site Access #1/Eagle Chase Ct

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	TR
Maximum Queue (ft)	178	75	29	86	12
Average Queue (ft)	151	34	2	31	1
95th Queue (ft)	184	95	15	62	7
Link Distance (ft)	141		875		266
Upstream Blk Time (%)	91				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		50		150	
Storage Blk Time (%)	97	1		0	
Queuing Penalty (veh)	40	1		0	

Intersection: 2: Columbia Avenue & Site Access #2

Movement	EB
Directions Served	R
Maximum Queue (ft)	61
Average Queue (ft)	26
95th Queue (ft)	53
Link Distance (ft)	150
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 41

Intersection: 1: Columbia Avenue & Site Access #1/Eagle Chase Ct

Movement	EB	EB	WB	NB	SB	SB
Directions Served	LT	R	LTR	L	L	TR
Maximum Queue (ft)	173	75	31	58	19	9
Average Queue (ft)	141	33	5	21	1	0
95th Queue (ft)	197	92	24	46	9	3
Link Distance (ft)	141		875			266
Upstream Blk Time (%)	77					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		50		150	200	
Storage Blk Time (%)	93	2				
Queuing Penalty (veh)	35	1				

Intersection: 2: Columbia Avenue & Site Access #2

Movement	EB
Directions Served	R
Maximum Queue (ft)	50
Average Queue (ft)	21
95th Queue (ft)	48
Link Distance (ft)	150
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 36

Intersection: 1: Columbia Avenue & Site Access #1/Eagle Chase Ct

Movement	EB	EB	WB	NB	SB	SB
Directions Served	LT	R	LTR	L	L	TR
Maximum Queue (ft)	169	75	24	61	15	6
Average Queue (ft)	106	39	3	20	1	0
95th Queue (ft)	192	92	16	44	8	4
Link Distance (ft)	141		875			266
Upstream Blk Time (%)	36					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		50		150	200	
Storage Blk Time (%)	66	2				
Queuing Penalty (veh)	23	1				

Intersection: 2: Columbia Avenue & Site Access #2

Movement	EB
Directions Served	R
Maximum Queue (ft)	52
Average Queue (ft)	21
95th Queue (ft)	48
Link Distance (ft)	150
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 24

Intersection: 1: Columbia Avenue & Site Access #1/Eagle Chase Ct

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	138	75	29	76	116	83	22	220	196
Average Queue (ft)	58	33	5	24	45	19	1	87	63
95th Queue (ft)	116	77	22	56	95	56	11	171	144
Link Distance (ft)	141		875		834	834		266	266
Upstream Blk Time (%)	1							0	
Queuing Penalty (veh)	0							0	
Storage Bay Dist (ft)		50		150			200		
Storage Blk Time (%)	23	1			0			0	
Queuing Penalty (veh)	9	1			0			0	

Intersection: 2: Columbia Avenue & Site Access #2

Movement	EB	SB
Directions Served	R	T
Maximum Queue (ft)	58	7
Average Queue (ft)	23	0
95th Queue (ft)	50	6
Link Distance (ft)	150	546
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 10

Intersection: 1: Columbia Avenue & Site Access #1/Eagle Chase Ct

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	144	74	23	61	119	76	16	164	148
Average Queue (ft)	58	30	1	21	42	16	1	71	49
95th Queue (ft)	120	72	12	46	95	51	8	137	112
Link Distance (ft)	141		875		834	834		266	266
Upstream Blk Time (%)	1								
Queuing Penalty (veh)	0								
Storage Bay Dist (ft)		50		150			200		
Storage Blk Time (%)	19	1			0			0	
Queuing Penalty (veh)	7	0			0			0	

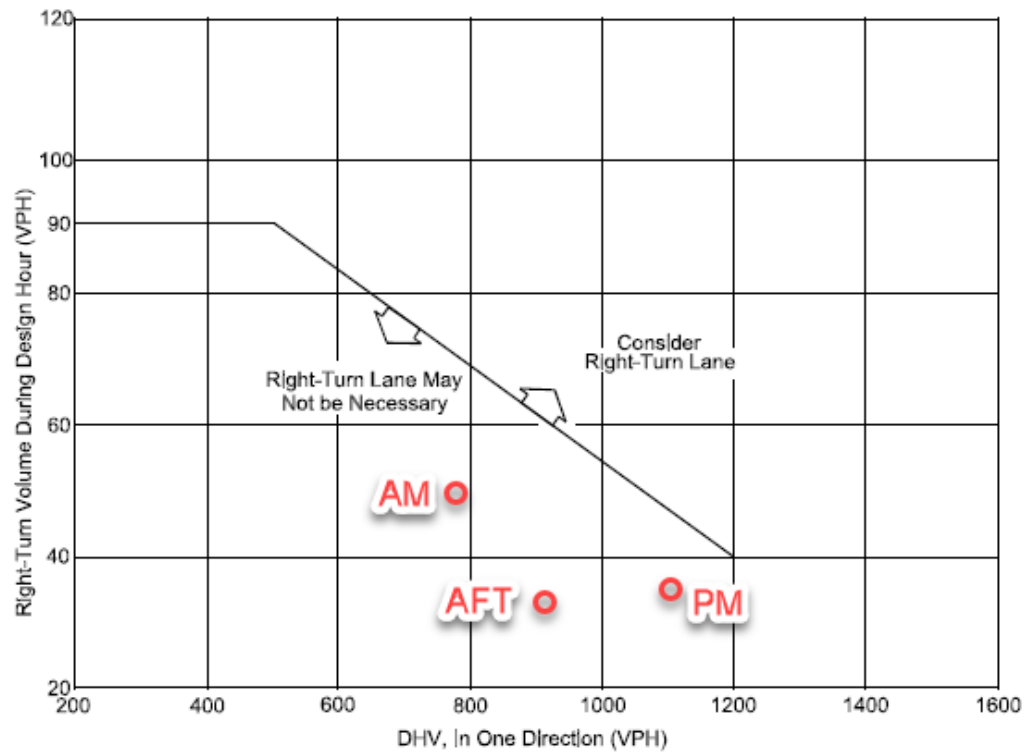
Intersection: 2: Columbia Avenue & Site Access #2

Movement	EB
Directions Served	R
Maximum Queue (ft)	60
Average Queue (ft)	22
95th Queue (ft)	50
Link Distance (ft)	150
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 7

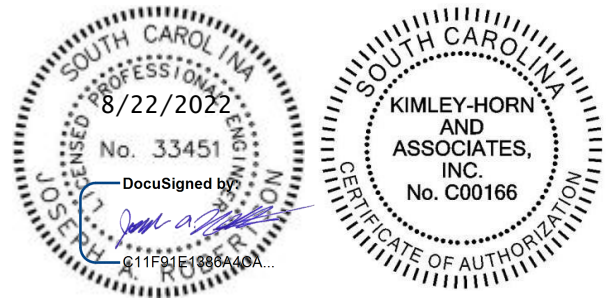
F – RIGHT TURN LANE WARRANT
ANALYSIS



Note: Figure is only applicable on highways with a design speed of 50 miles per hour or greater.

**CHAPIN MIXED USE
SITE - 2025 BUILD**

**GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS
ON FOUR-LANE HIGHWAYS
Figure 9.5-B**



This document was prepared by Joseph A. Robertson and is 6 pages in length. This document was digitally signed and sealed on August 22, 2022.

TECHNICAL MEMORANDUM

To: Tommy Burriss
 From: Joe Robertson, P.E., PTOE, RSP₂₁ – Kimley-Horn
 Date: August 22, 2022

Subject: Chapin Mixed-Use Development, Chapin, SC – Traffic Impact Study Addendum

A traffic impact analysis for the subject development was previously prepared and submitted to SCDOT in October of 2021 titled *Chapin Mixed-Use Development Traffic Impact Analysis*. The purpose of this technical memorandum is to document a change in proposed land uses and development intensities since the preparation of that study and assess any difference in expected traffic impacts resulting from these changes. It should be noted that the access locations and types are consistent with those provided in the original TIA. The latest conceptual site plan is provided as Attachment A.

Development Intensities

A summary of the land uses from the original analysis as compared to the latest site plan is provided in **Table 1**. The proposed coffee shop, medical/dental office, and general office land uses did not change significantly. The major changes included the reduction in size of high-turnover sit-down restaurant space, and the removal of the fast-food with drive-thru which has been replaced by an auto care center. Based on these changes, the overall square footage of proposed development is increased, however due to the lower trip generation potential of the updated land uses the expected traffic generated by the development is estimated to be lower as described in the next section.

Table 1: Land Use and Intensity Comparison

Land Use and Intensity (Square Footage) Comparison		
Land Use Category	Original Intensity	Proposed Intensity
Coffee Shop	2,500	2,400
HTSD	4,800	2,340
Medical/Dental Office	6,000	6,000
Retail	10,000	12,300
General Office	11,600	12,000
Fast Food	2,500	-
Auto Care Center	-	14,800
Total Square Footage	37,400	49,840



Project Traffic Volumes

A trip generation analysis was performed for the proposed site plan during the AM, Afternoon, and PM peak hours as shown below in **Table 2**.

Table 2 - Trip Generation Estimates

Trip Generation - Updated Chapin Mixed Use Development							
Land Use	Intensity	AM Peak Hour			Aft/PM Peak Hour		
		Total	In	Out	Total	In	Out
Coffee/Donut Shop with Drive-Through Window (ITE 937)	2.4 KSF	214	109	105	104	52	52
General Office Building (ITE 710)	12.0 KSF	14	12	2	15	2	13
Medical-Dental Office Building (ITE 720)	6.0 KSF	18	14	4	21	6	15
Shopping Center (ITE 820)	12.3 KSF	12	7	5	47	23	24
High Turnover Sit-Down Restaurant (ITE 932)	2.3 KSF	23	13	10	23	14	9
Automobile Care Center (ITE 942)	14.8 KSF	33	22	11	47	23	24
Subtotal		314	177	137	257	120	137
Internal Capture		25	13	12	50	25	25
<i>ITE 820 Pass-By - 0% AM / 34% PM</i>		0	0	0	6	3	3
<i>ITE 932 Pass-By - 0% AM / 43% PM</i>		0	0	0	6	3	3
<i>ITE 937 Pass-By - 49% AM / 50% PM</i>		98	49	49	40	20	20
<i>ITE Pass-By</i>		108	54	54	76	38	38
<i>Adjacent Street Traffic</i>		1,614			1,713		
<i>10% Adjacent Street Traffic</i>		162	81	81	172	86	86
Pass-By		108	54	54	76	38	38
Net New External Trips		181	110	71	131	57	74

Note: Trip generation was calculated using the following data:

AM Peak-Hour Traffic Generation

- Coffee/Donut Shop with Drive-Through Window (ITE 937) [ITE 937] = $T = 100.58 (X)$; (51% In, 49% Out)
- General Office Building (ITE 710) [ITE 710] = $T = 0.94 (X) + 26.49$; (86% in, 14% out)
- Medical-Dental Office Building (ITE 720) [ITE 720] = $\ln(T) = 0.89 \ln(X) + 1.31$; (78% in, 22% out)
- High-Turnover (Sit-Down) Restaurant (ITE 932) [ITE 932] = $T = 9.94 (X)$; (55% in, 45% out)
- Shopping Center (ITE 820) [ITE 820] = $T = 0.94 (X)$; (62% in, 38% out)
- Automobile Care Center (ITE 942) [ITE 942] = $T = 2.25 (X)$; (66% in, 34% out)

***Afternoon/PM Peak-Hour Traffic Generation (PM Peak Hour rates/equations were used for Afternoon analysis)**

- Coffee/Donut Shop with Drive-Through Window (ITE 937) [ITE 937] = $T = 42.80 (X)$ (50% In, 50% Out)
- General Office Building (ITE 710) [ITE 710] = $\ln(T) = 0.95 \ln(X) + 0.36$; (16% in, 84% out)
- Medical-Dental Office Building (ITE 720) [ITE 720] = $T = 3.46 (X)$; (28% in, 72% out)
- High-Turnover (Sit-Down) Restaurant (ITE 932) [ITE 932] = $T = 9.77 (X)$; (62% in, 38% out)
- Shopping Center (ITE 820) [ITE 820] = $\ln(T) = 0.74 \ln(X) + 2.89$; (48% in, 52% out)
- Automobile Care Center (ITE 942) [ITE 942] = $T = 2.41 (X) + 11.83$; (52% in, 48% out)

A comparison of the proposed trip generation to the trip generation estimated in the original traffic study is provided in Table 3.

Table 3: Net New External Trip Generation Estimates

Net New External Trip Generation Estimates		
	AM Peak	PM Peak
	Hour	Hour
Original Trip Generation	236	167
Proposed Trip Generation	181	131
Difference	-55	-36

As shown in Table 3, the trip generation potential for the proposed land uses is expected to decrease from the estimate in the original TIA report for the previously planned land uses. The most significant decrease is associated with the removal of the fast-food restaurant with drive-thru and replacing it with an automobile care center, which is a much lower traffic generator during the peak hours.

SCDOT Widening and Temporary Left-Turn Lane Storage

SCDOT is in the process of a design project to widen S-48 (Columbia Avenue) across the frontage of the proposed site. Under final built conditions, a median opening will exist at the Columbia Avenue intersection with Eagle Chase Court and a left-turn lane serving the proposed development will be incorporated into that project. However, through coordination with SCDOT, it was determined that a temporary two-way left-turn lane should be implemented during the interim period to provide left-turn access into the proposed development as well as Eagle Chase Court on the south side of Columbia Avenue. This temporary left-turn lane is shown on the conceptual site plan in Attachment A.

Summary

With the overall reduction in expected trip generation associated with the proposed development, the anticipated impacts are less than previously analyzed in the original TIA report dated October 2021. As such, no additional improvements are recommended as a result of the proposed development beyond those noted in the October 2021 report as shown below:

- Add a 150' storage northbound (Columbia Avenue) left-turn lane at the intersection of Columbia Avenue at Eagle Chase Court/Site Access #1
- As the development builds out, further analysis will be necessary to evaluate the need for a traffic signal at the intersection of Columbia Avenue at Eagle Chase Court/Site Access #1

As noted above, based on discussion with SCDOT a temporary two-way left-turn lane should be implemented to serve left-turning traffic in the interim period prior to the SCDOT widening project. This left-turn lane improvement is shown on the conceptual site plan included as Attachment A.

Attachments

Attachment A – Conceptual Site Plan



Attachment A – Conceptual Site Plan

Certificate Of Completion

Envelope Id: A2A746AC0815479E95749CDE71AD247C	Status: Completed
Subject: Please DocuSign: Chapin_TIA_Addendum_220818.pdf	
Source Envelope:	
Document Pages: 5	Signatures: 1
Certificate Pages: 1	Initials: 0
AutoNav: Enabled	Envelope Originator:
Envelope Stamping: Enabled	Joseph Robertson
Time Zone: (UTC-05:00) Eastern Time (US & Canada)	401 Fayetteville St.
	Suite 600
	Raleigh, NC 27601
	Joseph.Robertson@kimley-horn.com
	IP Address: 208.127.224.42

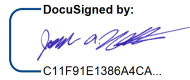
Record Tracking

Status: Original	Holder: Joseph Robertson	Location: DocuSign
8/22/2022 12:22:38 PM	Joseph.Robertson@kimley-horn.com	

Signer Events

Joseph Robertson
joseph.robertson@kimley-horn.com
Security Level: Email, Account Authentication (None)

Signature



Signature Adoption: Uploaded Signature Image
Using IP Address: 208.127.224.42

Timestamp

Sent: 8/22/2022 12:23:23 PM
Viewed: 8/22/2022 12:23:33 PM
Signed: 8/22/2022 12:23:38 PM

Electronic Record and Signature Disclosure:
Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
Certified Delivery Events	Status	Timestamp
Carbon Copy Events	Status	Timestamp
Witness Events	Signature	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	8/22/2022 12:23:23 PM
Certified Delivered	Security Checked	8/22/2022 12:23:33 PM
Signing Complete	Security Checked	8/22/2022 12:23:38 PM
Completed	Security Checked	8/22/2022 12:23:38 PM
Payment Events	Status	Timestamps



June 1, 2022

Tommy Burriss
Eagles Nest Properties LLC
1251 North Lake Dr
Lexington, SC29072

RE: Site Preparation For TMS #000700-01-004 & 017, Lexington County
NPDES Coverage Number: SCR10ZALK

Dear Tommy Burriss:

The Department of Health and Environmental Control (Department or DHEC) has received approval of and the Notice of Intent for the above-referenced project from **LEXINGTON COUNTY**. Based on your submission of this documentation and in accordance with the NPDES General Permit for Stormwater Discharges from Construction Activities SCR100000 (CGP), this project has been granted coverage under the CGP on **June 1, 2022**. This project's general permit coverage number is **SCR10ZALK**. The total disturbed area for this site is **7.9 acres**.

An as-built survey(s), signed and sealed by a S.C. Licensed Land Surveyor or Professional Engineer, should be submitted to **LEXINGTON COUNTY** for all detention structure(s) on this site. The survey(s) should show grades, contours, and depths for all structure(s) and should include the elevations and dimensions of all outlet structures, including but not limited to pipes, orifices, risers, weirs, and emergency spillways. A statement signed by the project's S.C. Registered Engineer indicating that the structure(s) was installed and is operating as shown on approved plans and in approved calculations is required. If the elevations or dimensions of the structures listed above do not match those used in the approved plans, provide a certification statement signed by the project's S.C. Registered Engineer indicating that the structure, as built, will function as shown in approved calculations. A new analysis of the structure (routing) may be necessary. The as-built survey and/ or analysis must be accepted by **LEXINGTON COUNTY** before a Notice of Termination (NOT) can be submitted to the Department.

The CGP can be downloaded at the following website: <http://www.scdhec.gov/Environment/docs/CGP-permit.pdf> or you may request a copy from us via email (stormwatercgp@dhec.sc.gov). You are responsible for ensuring your contractor(s) complies with the approved SWPPP and the minimum requirements of the CGP. Also, you are responsible for overall compliance with the Storm Water Management and Sediment Reduction Act of 1991 (1991 Act), SC Pollution Control Act, and the Federal Clean Water Act (CWA). Failure to comply with the approved SWPPP or applicable statutes and regulations may result in enforcement actions.

You must notify this DHEC EQC Regional Office prior to starting any land-disturbing activity. The address and telephone number of the EQC office are as follows:

Midlands EA Columbia
PO Box 156
State Park, SC29147

803-896-0620

Inspections of this site must be performed by qualified personnel as described in Section 4.2.E of the CGP.

You should be aware that this approval is only applicable for the Stormwater Pollution Prevention Plan (SWPPP) that was submitted for this project. Any additional construction or land disturbing activity beyond the scope of the approved plans is not authorized. Any future work for this project not shown on the stamped, approved plans will require that you submit another site plan for review and approval. All major modifications require review and approval by **LEXINGTON COUNTY**; the Department must be notified in writing by **LEXINGTON COUNTY** of the approval of major modifications if the disturbed area changes. Minor modifications to the approved SWPPP may be made by the SWPPP preparer and do not require review and approval by the Department; these changes should be signed and dated by the SWPPP preparer. If you have a question about whether a modification is major or minor, contact the Stormwater Permitting Section at (843) 953-4300.

A copy of the stamped, approved SWPPP (including a copy the CGP, contractor certifications, inspection records, rainfall data, etc), NOI, and CGP coverage letter from DHEC must be retained and available at the construction site (or accessible within 30 minutes during normal business hours) from the date of commencement of construction activities to the date of final stabilization. If an on-site location is unavailable to store the SWPPP when no personnel are present, notice of the plan's location must be posted near the main entrance at the construction site.

All contractors who will conduct land-disturbing activities at the site must complete a Contractor Certification Form. You are also responsible for listing all contractors in the SWPPP and for holding a pre-construction conference with each contractor before they can conduct land-disturbing activity at the site.

The Department may conduct periodic inspections of your site. Any violations found during these inspections may result in enforcement action.

This NPDES coverage should be terminated by the permittee when one of the conditions listed in Section 5.1 of the CGP has been met. You must submit a Notice of Termination (NOT) to cancel your NPDES coverage under the CGP. Please see section 5.1 of the CGP for additional information required to be submitted with the NOT.

You are responsible for obtaining any other federal, state, or local permit that may be required for this project. In particular, any permits through the U.S. Army Corps of Engineers for the placement of fill material in Waters of the United States. Please note we have not sent a copy of this letter to any county or city building official. You must send a copy of this letter to these agencies, if necessary.

If material excavated during construction activities leaves the site, a mine operating permit may be needed. You are responsible for contacting the Mining and Reclamation Section to determine if a mining permit is required for the site. The Mining and Reclamation Section can be reached at (803)898-1362 or via e-mail at AskMines@dhec.sc.gov.

Please see the enclosed "Guide to Board Review" document for information about the procedures for appealing this NPDES coverage.

If you have any questions or cannot access the referenced websites, please call me at 803-898-1291.

Sincerely,



Ryan Twitty
Stormwater Permitting Section

CC: Alden Livingston, Jacob Rice Engineering LLC
Midlands EA Columbia

South Carolina Board of Health and Environmental Control
Guide to Board Review
Pursuant to S.C. Code Ann. § 44-1-60

The decision of the South Carolina Department of Health and Environmental Control (Department) becomes the final agency decision fifteen (15) calendar days after notice of the decision has been mailed to the applicant, permittee, licensee and affected persons who have requested in writing to be notified, unless a written request for final review accompanied by a filing fee in the amount of \$100 is filed with Department by the applicant, permittee, licensee or affected person.

Applicants, permittees, licensees, and affected parties are encouraged to engage in mediation or settlement discussions during the final review process.

If the Board declines in writing to schedule a final review conference, the Department's decision becomes the final agency decision and an applicant, permittee, licensee, or affected person may request a contested case hearing before the Administrative Law Court within thirty (30) calendar days after notice is mailed that the Board declined to hold a final review conference. In matters pertaining to decisions under the South Carolina Mining Act, appeals should be made to the South Carolina Mining Council.

I. Filing of Request for Final Review

1. A written Request for Final Review (RFR) and the required filing fee of one hundred dollars (\$100) must be received by Clerk of the Board within fifteen (15) calendar days after notice of the staff decision has been mailed to the applicant, permittee, licensee, or affected persons. If the 15th day occurs on a weekend or State holiday, the RFR must be received by the Clerk on the next working day. RFRs will not be accepted after 5:00 p.m.
2. RFRs shall be in writing and should include, at a minimum, the following information:
 - The grounds for amending, modifying, or rescinding the staff decision;
 - a statement of any significant issues or factors the Board should consider in deciding how to handle the matter;
 - the relief requested;
 - a copy of the decision for which review is requested; and
 - mailing address, email address, if applicable, and phone number(s) at which the requestor can be contacted.
3. RFRs should be filed in person or by mail at the following address:

South Carolina Board of Health and Environmental Control
Attention: Clerk of the Board
2600 Bull Street
Columbia, South Carolina 29201

Alternatively, RFR's may be filed with the Clerk by facsimile (803-898-3393) or by electronic mail (boardclerk@dhec.sc.gov).
4. The filing fee may be paid by cash, check or credit card and must be received by the 15th day.
5. If there is any perceived discrepancy in compliance with this RFR filing procedure, the Clerk should consult with the Chairman or, if the Chairman is unavailable, the Vice-Chairman. The Chairman or the Vice-Chairman will determine whether the RFR is timely and properly filed and direct the Clerk to (1) process the RFR for consideration by the Board or (2) return the RFR and filing fee to the requestor with a cover letter explaining why the RFR was not timely or properly filed. Processing an RFR for consideration by the Board shall not be interpreted as a waiver of any claim or defense by the agency in subsequent proceedings concerning the RFR.
6. If the RFR will be processed for Board consideration, the Clerk will send an Acknowledgement of RFR to the Requestor and the applicant, permittee, or licensee, if other than the Requestor. All personal and financial identifying information will be redacted from the RFR and accompanying documentation before the RFR is released to the Board, Department staff or the public.
7. If an RFR pertains to an emergency order, the Clerk will, upon receipt, immediately provide a copy of the RFR to all Board members. The Chairman, or in his or her absence, the Vice-Chairman shall based on the circumstances, decide whether to refer the RFR to the RFR Committee for expedited review or to decline in writing to schedule a Final Review Conference. If the Chairman or Vice-Chairman determines review by the RFR Committee is appropriate, the Clerk will forward a copy of the RFR to Department staff and Office of General Counsel. A Department response and RFR Committee review will be provided on an expedited schedule defined by the Chairman or Vice-Chairman.
8. The Clerk will email the RFR to staff and Office of General Counsel and request a Department Response within eight (8) working days. Upon receipt of the Department Response, the Clerk will forward the RFR and Department Response to all Board members for review, and all Board members will confirm receipt of the RFR to the Clerk by email. If a Board member does not confirm receipt of the RFR within a twenty-four (24) hour period, the Clerk will contact the Board member and confirm receipt. If a Board member believes the RFR should be considered by the RFR Committee, he or she will respond to the Clerk's email within forty-eight (48) hours and will request further review. If no Board member requests further review of the RFR within the forty-eight (48) hour period, the Clerk will send a letter by certified mail to the Requestor, with copy by

regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Final Review Conference. Contested case guidance will be included within the letter.

NOTE: If the time periods described above end on a weekend or State holiday, the time is automatically extended to 5:00 p.m. on the next business day.

9. If the RFR is to be considered by the RFR Committee, the Clerk will notify the Presiding Member of the RFR Committee and the Chairman that further review is requested by the Board. RFR Committee meetings are open to the public and will be public noticed at least 24 hours in advance.
10. Following RFR Committee or Board consideration of the RFR, if it is determined no Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Conference. Contested case guidance will be included within the letter.

II. Final Review Conference Scheduling

1. If a Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, informing the Requestor of the determination.
2. The Clerk will request Department staff provide the Administrative Record.
3. The Clerk will send Notice of Final Review Conference to the parties at least ten (10) days before the Conference. The Conference will be publically noticed and should:
 - include the place, date and time of the Conference;
 - state the presentation times allowed in the Conference;
 - state evidence may be presented at the Conference;
 - if the conference will be held by committee, include a copy of the Chairman's order appointing the committee; and
 - inform the Requestor of his or her right to request a transcript of the proceedings of the Conference prepared at Requestor's expense.
4. If a party requests a transcript of the proceedings of the Conference and agrees to pay all related costs in writing, including costs for the transcript, the Clerk will schedule a court reporter for the Conference.

III. Final Review Conference and Decision

1. The order of presentation in the Conference will, subject to the presiding officer's discretion, be as follows:
 - Department staff will provide an overview of the staff decision and the applicable law to include [10 minutes]:
 - Type of decision (permit, enforcement, etc.) and description of the program.
 - Parties
 - Description of facility/site
 - Applicable statutes and regulations
 - Decision and materials relied upon in the administrative record to support the staff decision.
 - Requestor(s) will state the reasons for protesting the staff decision and may provide evidence to support amending, modifying, or rescinding the staff decision. [15 minutes] *NOTE: The burden of proof is on the Requestor(s)*
 - Rebuttal by Department staff [15 minutes]
 - Rebuttal by Requestor(s) [10 minutes]

Note: Times noted in brackets are for information only and are superseded by times stated in the Notice of Final Review Conference or by the presiding officer.
2. Parties may present evidence during the conference; however, the rules of evidence do not apply.
3. At any time during the conference, the officers conducting the Conference may request additional information and may question the Requestor, the staff, and anyone else providing information at the Conference.
4. The presiding officer, in his or her sole discretion, may allow additional time for presentations and may impose time limits on the Conference.
5. All Conferences are open to the public.
6. The officers may deliberate in closed session.
7. The officers may announce the decision at the conclusion of the Conference or it may be reserved for consideration.
8. The Clerk will mail the written final agency decision (FAD) to parties within 30 days after the Conference. The written decision must explain the basis for the decision and inform the parties of their right to request a contested case hearing before the Administrative Law Court or in matters pertaining to decisions under the South Carolina Mining Act, to request a hearing before the South Carolina Mining Council. The FAD will be sent by certified mail, return receipt requested.
9. Communications may also be sent by electronic mail, in addition to the forms stated herein, when electronic mail addresses are provided to the Clerk.

The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.



RECEIVED

MAY 16 2022

NOTICE OF INTENT (NOI)

For Coverage(s) of Primary Permittees Under South Carolina NPDES General Permit

For Stormwater Discharges From Construction Activities SCR100000

(Maintain As Part of On-Site SWPPP)

STORMWATER & SWPPP PERMITTING DIVISION

For Official Use Only

File Number: Permit Number: SCR10 Submittal Package Complete:

Submission of this Notice of Intent constitutes notice that the Applicant identified in Section II intends to be authorized as a Primary Permittee in the state of South Carolina under NPDES General Permit SCR1000000. Fees required for review and NPDES coverage of each application type are as listed on page 2 of the Instructions.

SOUTH CAROLINA DEPT OF HEALTH AND ENVIRONMENTAL CONTROL ENVIRONMENTAL QUALITY CONTROL STORMWATER PERMITTING SECTION APPROVED - FOR CONSTRUCTION ONLY DHEC PERMIT #: SCR102AL6 FILE #: DATE ISSUED: 6/1/2022 BY: Ayan Tuitty

Date: 4/27/2022

Project/Site Name: Site Preparation for TMS #000700-01-004 & 017 County: Lexington County (Modification or Change of Information Only) Prior Approved NPDES Permit or File Number:

Do you want this project to be considered for the Expedited Review Program (ERP)? Yes or No (See instructions)

I. Notice of Intent (NOI) Application Type(s)

- A. Project (Application/Review) Type(s) (Select ALL that apply): New Project (Initial Notification) Ongoing Project: Permitted or Un-Permitted Late Notification Low Impact Development (LID) or Project Design Above Regulatory Requirements New Owner/Operator or Company Name Change Major Modification MS4 Project Review Ocean and Coastal Resource Management (OCRM) Review Change of Information/Other (Specify): B. If Applicable, identify the entity designated as MS4 Reviewer and MS4 Operator (i.e., Lexington County, City of Greer, etc.): MS4 Reviewer Lexington County MS4 Operator Lexington County

II. Primary Permittee Information

Person or Company If a Company, are you a Lending Institution or Government Entity? Company EIN (if applicable): EIN:

- A. Primary Permittee Name: Eagles Nest Properties, LLC Mailing Address: 1251 North Lake Dr. City: Lexington State: SC Zip: 29072 Phone: (803) 957-3350 Fax: Email Address: hurrisstommy@gmail.com B. Contact /ODSA Name (if different from above OR if owner is a company): Tommy Burriss Mailing Address: 1251 North Lake Dr. City: Lexington State: SC Zip: 29072 Phone: (803) 957-3350 Fax: Email Address: hurrisstommy@gmail.com C. Property Owner Name (if different from above): Same as above Mailing Address: City: State: Zip: Phone: Fax: Email Address:

III. Comprehensive Stormwater Pollution Prevention Plan (C-SWPPP) Preparer Information Change of Information

- A. C-SWPPP Preparer Name: Alden J Livingston, P.E. B. Registered Professional Engineer Landscape Architect Tier B Land Surveyor S. C. Registration #: 36504 C. Company/Firm Name: Jacob Rice Engineering, LLC S. C. COA #: 6096 Mailing Address: 14 Calendar Ct. City: Columbia State: SC Zip: 29206 Phone: 803-760-3437 Fax: N/A Email Address: alivingston@jacobriceeng.com

IV. Project/Site Information Change of Information

- A. Type of Construction Activity(ies) (Select ALL that apply): Commercial Industrial Institutional Mass Grading Linear Utility/Infrastructure Residential: Single-family Residential: Multi-family Multi-use (Commercial & Residential) Site Preparation (No New Impervious Area) Other (Specify) B. Site Address/Location (street address, nearest intersection, etc.) Parcel adjacent / Northwest of 525 Columbia Ave City/Town (if in limits): Chapin Zip Code: 29072 Latitude: 34 ° 10 ' 20 " N Longitude: - 81 ° 19 ' 54 " W (Source): GPS Web Site: Google Maps Tax Map Number (s) (List all): 000700-01-004 & 000700-01-017

- C. Is this site located on Indian Land? Yes No
- D. Proposed Start Date: 6/01/2022 Proposed Completion Date: 6/01/2023
- E. Disturbed Area (nearest tenth of an acre): 7.9 Total Area (acres): 10.27
- F. Modification Only: (nearest tenth of an acre): Disturbed Area: Current (Approved) Area: _____
 Disturbed Area Change (Increase Only): _____ Total Disturbed Area (After Change): _____
- G. Is this project part of a Larger Common Plan for Development or Sale (LCP)? Yes No
 LCP/ Overall Development Name: _____ Check here if this is the First Phase.
 Previous State Permit/File Number: _____ Previous NPDES Coverage Number: SCR10 _____

- H. Any Flooding Problems exist downstream of or adjacent to this site? Yes No (If yes, provide detailed description of flooding problems and applicable floodway/flood zone information in the C-SWPPP).
- I. Active S.C. DHEC Warning Notice, Notice to Comply or Notice of Violation for this site or LCP? Yes No
- J. List Relevant State and Federal Environmental Permits or Approvals applied for or obtained for this site (e.g., RCRA, USACOE, Nationwide, etc.). If None, list None.
None

K. Any Waiver(s)/Variances/Exceptions Requested for this Project? (If yes, identify below and include Waiver Request and Justifications in the C-SWPPP for each proposed request).

1. Small Construction Activity Waiver(s) From NPDES permitting (Section 1.4 & Appendix B)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, Identify requested waiver: <input type="checkbox"/> Rainfall Erosivity Waiver <input type="checkbox"/> TMDL Waiver <input type="checkbox"/> Equivalent Analysis Waiver	
2. Detention Waiver (72-302(B))? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3. Other (Specify): _____

V. Waterbody Information (Attach additional sheet(s) as needed) Change of Information

A. Receiving Waterbody(s) (RWB) Information (List the nearest and next nearest receiving waterbodies to which the sites stormwater discharges will drain. If stormwater discharges drain to multiple waterbodies, list all such waterbodies).

1. Name of Receiving Waterbodies (RWB)	2. Distance to RWB (feet)	3. Classification of RWB
a. Nearest: <u>Project Site to Risters Creek tributary</u>	<u>547</u>	<u>FW</u>
b. Next Nearest: <u>Tributary to Risters Creek</u>	<u>8,471</u>	<u>FW</u>
c. Coastal Zone ONLY: Coastal Receiving Water (CRW): _____		Not Applicable
d. Other Waterbodies: <u>Risters Creek to Wateree Creek</u>	<u>6,811</u>	

B. Waters of the U.S. / State Information (Attach additional sheet(s) as needed)

Waters of the U.S./ State	1. On the site?	2. Delineated/ Identified?	3. Impacts?	4. Amount of impacts
a. Jurisdictional wetlands	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	___ Ac
b. Non-jurisdictional wetlands	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	___ Ac
c. Other Water(s): _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	___ Ac ___ Feet
d. Coastal Zone ONLY: Direct Critical Area	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	___ Ac ___ Feet

5. If yes for impacts in B.3, describe each impact and activity, and list all permits (e.g., USACOE Nationwide Permit, DHEC General Permit) and certifications that have been applied for or obtained for each impact:

C. S.C. Navigable Waters (SCNW) Information (Section 2.6.5) The Department will address any issues related to State Navigable Waters' Program under SC Regulation 19-450 during the review of the C-SWPPP for activities that will NOT require a 404 permit or a 401 certification. (Attach additional sheet(s) as needed).

1. Are S. C. Navigable Waters (SCNW) on the site: Yes No
 a. If no, do not complete this question. Proceed to Section D (Impaired Waterbodies).
 b. If yes, provide the name of S.C. Navigable Waters (SCNW) on the site: _____

2. If yes for C.1, will construction activities cross over or occur in, under, or thru the SCNW? Yes No
 If yes, describe SCNW activities (e.g., road crossing, sub-aqueous utility line, temporary or permanent structures, etc.) and proceed to Section C.3: _____

3. Identify permits providing coverage of SCNW activities proposed for your site. If NONE, list none.

Permits/Certifications	Permit or Certification No.	Corresponding Covered SCNW Activity(ies)
a. DHEC General/ Other DHEC Permit		
b. USACOE 404 Permit or 401 Certification		
c. SCNW Permit If applied for or issued, identify Date applied for or issued:		<input type="checkbox"/> All Activities or <input type="checkbox"/> Some Activities (Describe):

d. If a SCNW Permit has NOT been applied for provide an additional plan sheet that shows plan and profile views (drawn to scale) of the SCNW and associated activities. Include a description of all proposed activities on this plan.

D. Impaired Waterbodies Information (Attach additional sheet(s) as needed)

1. 303(d) Listed Impaired Waterbodies					
a. Name of Nearest DHEC Water Quality Monitoring Stations (WQMS)(s) that receives stormwater from your construction site and/or thru an MS4 and the Name of the Corresponding Waterbody?		b. Is this WQMS(s) listed on the most current 303(d) list? If No, proceed to Section 2 of this table. If Yes, complete items c thru f.	c. List the pollutant(s) identified as "CAUSES" of the impairment	d. Will any pollutants causing the impairment be present in your site's construction stormwater discharges?	e. If yes for d, list the "USE SUPPORT" impairment(s) affected by the pollutant(s) identified in c.
Nearest DHEC WQMS(s)	Corresponding Waterbody				
B-801	Waterlee Creek	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	BIO	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
CRK04	Broad River	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
		<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	

f. If yes for d above, will use of the BMPs proposed for your project ensure the site's discharges will **NOT** contribute to or cause further WQS violations for the impairment(s) listed in c? Yes No
 (NOTE: If no for f, this site is NOT eligible for coverage under the CGP). See Instructions.

2. TMDL Impaired Waterbodies				
a. Name of Nearest DHEC Water Quality Monitoring Stations (WQMS)(s) that receives stormwater from your construction site and/or thru an MS4?	b. Has a TMDL(s) been developed for this WQMS(s)? If No, identify as such below and proceed to Section VI. If Yes, complete items c thru f of this table.	c. If yes for b, what pollutants are listed as "CAUSES" or causing the impairment?	d. If yes for b, has the standard been "ATTAINED" or "Fully Supported" for the impairment(s)?	e. If no for d (Not Attained), will any pollutants causing the impairment be present in your site's construction stormwater discharges?
B-801	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
CRK04	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

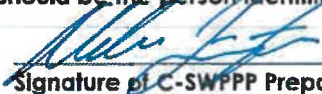
f. If yes for e above, are your discharges consistent with the assumptions and requirements of the TMDL(s)? Yes No
 (NOTE: If no for f, this site is NOT eligible for coverage under the CGP). See Instructions.

VI. Signatures and Certifications DO NOT SIGN IN BLACK INK! Read the Certifications below (in entirety). Provide date, printed name, and signatures below. If you are a New Owner/Operator, as Primary Permittee you must also sign and date the applicable Comprehensive SWPPP Acceptance & Compliance Agreement below.

C-SWPPP PREPARER: "One copy of the C-SWPPP, all specifications and supporting calculations, forms, and reports are herewith submitted and made a part of this application. I have placed my signature and seal on the design documents submitted signifying that I accept responsibility for the design of the system. Further, I certify to the best of my knowledge and belief that the design is consistent with the requirements of Title 48, Chapter 14 of the Code of Laws of SC, 1976 as amended, pursuant to Regulation 72-300 et seq. (if applicable), and in accordance with the terms and conditions of SCR100000." (This should be the person identified in Section III).

Alden J. Livingston, P.E.

Printed Name of C-SWPPP Preparer


Signature of C-SWPPP Preparer

36504

S. C. Registration #

PRIMARY PERMITEE: "I or I (on behalf of my company and its contractors and agents), as the case may be, certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I understand that DHEC enforcement actions may be taken if the terms and conditions of the C-SWPPP are not met and I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

"I or I (on behalf of my company and its contractors and agents), as the case may be, also hereby certify that all land-disturbing construction and associated activity pertaining to this site shall be accomplished pursuant to and in keeping with the terms and conditions of the approved plans and SCR100000. I also certify that a responsible person will be assigned to the project for day-to-day control. I hereby grant authorization to the to S. C. Department of Health and Environmental Control (DHEC) and/or the local implementing agency the right of access to the site at all times for the purpose of on site inspections during the course of construction and to perform maintenance inspections following the completion of the land-disturbing activity." (See Section 122.22 of S.C. Reg. 61-9 for signatory authority information.) Having understood the above information, I am signing this certification as Primary Permittee to the aforementioned NPDES general permit."

Tommy Burriss

Printed Name of Primary Permittee


Signature of Primary Permittee

Owner/Developer

Title/Position

8/5/21

Date Signed

NPDES CGP FEE SCHEDULE A

(All Counties EXCEPT Beaufort, Berkeley, Charleston, Colleton, Dorchester, Georgetown, Horry, and Jasper)

The schedule should be attached to DHEC Form 2617. Do not send payment in window envelope. **DO NOT MAIL CASH.** DHEC will notify the Project Owner/ Operator if the submitted check or credit card payment cannot be processed. The review clock will start when acceptable payment is received.

1. Identify (√) the <u>Project Review Type(s)</u> Enter NPDES Coverage Fee of \$125 in the right-hand column if <u>any</u> of the following project/review types apply to this application. Proceed to Item 2.	(√)	NPDES Coverage Fee
a. Project or LCP (Item IV.G) that will ultimately disturb one (1) acre or more Note: If your project will ultimately disturb less than one (1) acre <u>AND</u> is <u>NOT</u> a part of a Larger Common Plan, coverage under SCR100000 is <u>not</u> required; see http://www.scdhec.gov/administration/library/d-2628.pdf (Notification Form for Sites Disturbing Less Than 1-Acre Not Part of a Larger Common Plan, Non-Coastal County")	<input type="checkbox"/>	\$ <u>125</u> .00
b. New Owner/Operator (Transfer of Ownership)/Company Name Change (\$125 NPDES Coverage fee is required by the Department for Transfers of Ownership and Company Name Changes)	<input type="checkbox"/>	
c. Unpermitted Ongoing Project or Late Notification	<input type="checkbox"/>	
d. MS4 Project Review (Item I.A and I.B) (\$125 payable to Department thru MS4 Reviewer)	<input checked="" type="checkbox"/>	
e. Other (Specify): _____	<input type="checkbox"/>	

2. Determine the Project Review Fees (Review fees cannot exceed \$2000 for a project)		
PROJECT OR LCP THAT WILL ULTIMATELY DISTURB ONE (1) ACRE OR MORE	(√)	Review Fees
a. Enter the disturbed area (Item IV.E) for this project. Proceed to Items 2.b and 2.c.		_____ (Nearest tenth of an acre)
b. Will this project or LCP (Item IV.G) ultimately disturb more than 1.0 acres	<input type="checkbox"/> Yes <input type="checkbox"/> No	
c. Is this project exempt from S. C. Reg. 72-300 et seq.?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
1. If this project will <u>not</u> ultimately disturb more than 1.0 acre, and is not part of an LCP, your project is automatically covered under this permit and the NPDES coverage fee and review fee are not required. See the BOW-SPWS for "Less Than 1-Acre of Land Disturbance - Non-Coastal Counties". 2. If this project will ultimately disturb more than 1.0 acre, proceed to Item 2.d.		
d. Enter the project review fees (based on \$100/disturbed area) in the right-hand column. (Multiply the disturbed area (Item 2.a) by \$100/disturbed area). If the disturbed area for this project (Item 2.a.) totals 20.0 acres or more, enter \$2000 in the right-hand column. Review fees cannot exceed \$2000 for a project.		\$ _____ .00

3. Total Required Fees Add the values in the right-hand columns of Items 1 and 2.d. Proceed to Item 4. (The Department will <u>not</u> review this project until all required fees are received).	\$ <u>125</u> .000
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4. Identify the Method of Payment:

Payment by Check:

Attach a signed and dated check payable to S.C. DHEC to the front of this Fee Schedule.
Please note that all checks must be less than 30 days old and must be for the entire required fees.

Payment by Credit Card: (Check here if you wish to pay via credit card using the on-line payment system).

The Department will contact you to provide instructions and the invoice number necessary for online payment.
Please provide an e-mail address where the invoice number may be sent: alivingston@jacobricense.com _____

For official use only: Invoice Number _____