Kershaw County Planning Commission

AGENDA

DECEMBER 15, 2022 REGULAR MEETING @ 5:30 PM
(RESCHEDULED FROM DECEMBER 12, 2022)
COUNCIL CHAMBERS
KERSHAW COUNTY GOVERNMENT CENTER
515 WALNUT STREET, CAMDEN, SOUTH CAROLINA

I. **Call to Order and Determination of Quorum**
Claude Eichelberger, Chairman

II. **General Public Comment Period**

Excerpt from, Kershaw County Planning and Zoning Commission Rules of Procedure, Section 7, Procedures for Public Comment Period (Non Public Hearing)

a. Public comment period: is an opportunity for members of the public to share information with the Planning Commission; is not a time for debate with or questions and answers from the Planning Commission; is a time for the Planning Commission to receive input; and, is not a time for Planning Commission response.

In short, during public comment, the Planning Commission will LISTEN to public comment, but not COMMENT on public comment.

b. Offensive and inappropriate comments will not be tolerated and comments should be limited to statements and rhetorical questions.

c. If a group would like to speak to the Planning Commission, the Commission requests that a spokesperson be selected and that this person indicates the group he/she is representing on the sign-up sheet and in his/her comments.

d. Public comment is a time to discuss issues, not individuals. Other avenues exist for individual personnel complaints.

e. Public comment period is limited to 30 minutes with 5 minutes maximum allowed per individual speaker.

III. **Approval of Minutes**
November 14, 2022 Regular Meeting

NEW BUSINESS

IV. **<u>Executive Session: Receive legal advice pursuant to S.C. Code Ann. §30-4-70(a)(2).</u>**

V. **<u>Case 22-11:</u>** *The Landings at McCord Ferry.* Great Southern Homes (Phillip Reames), applicant, requests approval of a revised Major Subdivision Development Sketch Plan application to subdivide +/- 154.4 acres into 391 single-family residential lots. The subject property is located on the western side of Highway 601 South at the intersection with McCord Ferry Road. The property is currently zoned GD (General Development), and identified as TMS# 338-00-00-058.

VI. **<u>Staff Updates</u>**

- There will likely be a January 9, 2023 regular meeting of the Planning Commission meeting.
- Comprehensive Plan update and ZLDR rewrite projects.

VII. **<u>Adjournment</u>**

The November 14, 2022 Planning Commission draft minutes will be sent via a separate email once completed by Planning Commission Secretary, Rhonda Darity.

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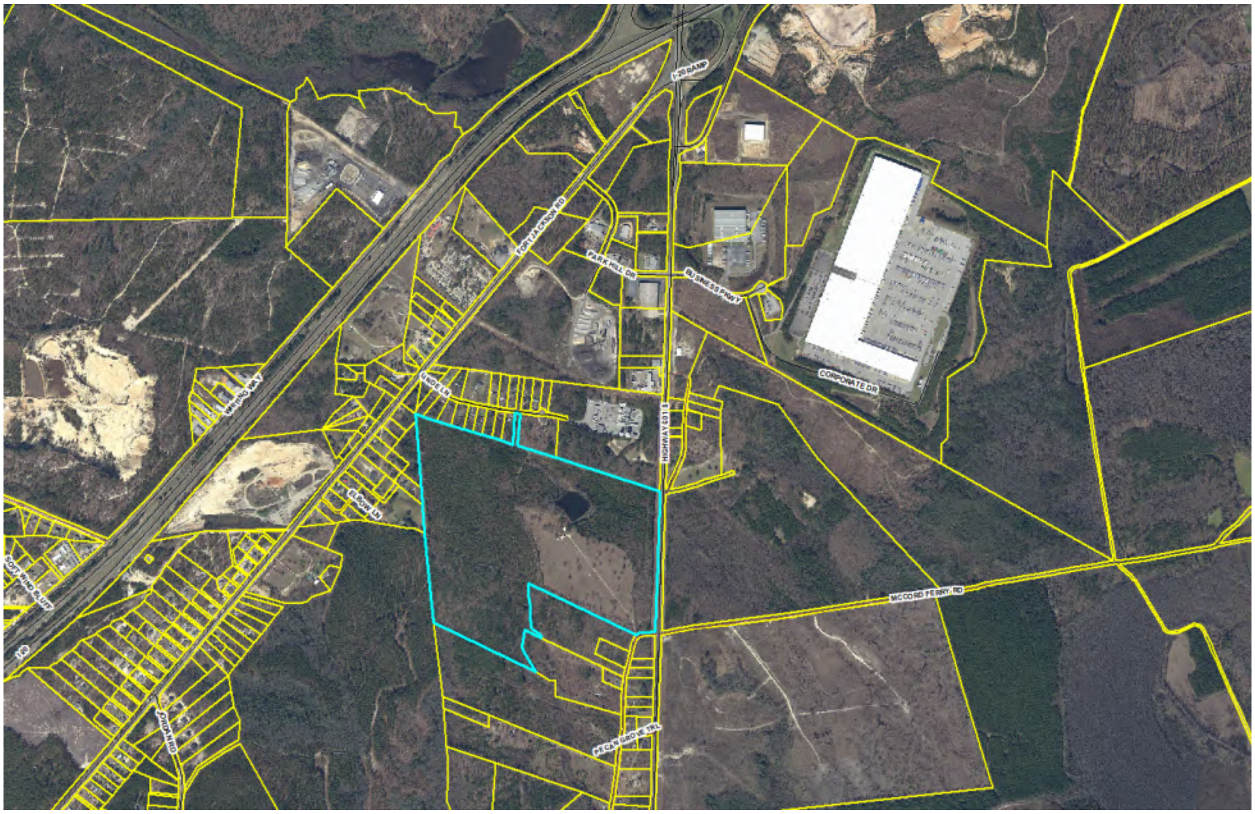
THE LANDINGS AT McCORD FERRY SUBDIVISION



KERSHAW COUNTY
PLANNING & ZONING COMMISSION

MAJOR SUBDIVISION
SKETCH PLAN REVIEW

Current Zoning: GD

TMS# 338-00-00-058

July 11, 2022 (Resubmission December 15, 2022)

STAFF REPORT
KERSHAW COUNTY PLANNING COMMISSION
(December 15, 2022 Meeting)

Request #: 22-11

Applicant: Great Southern Homes (Phillip Reames)
Property Size: 154.4 acres

Current Zoning: GD (General Development District)
Location: 831 McCords Ferry Road, off of US Highway 601 South
TMS#: 338-00-00-058

Background Summary: The revised proposal for this 154.4 acre parcel includes ~~431~~ **391** lots for single-family detached homes. Each lot is approximately 60' x 130' (7,800 sq. ft) ~~Three~~ Two full ingress/egress points are proposed, one connecting to Highway 601 and a second entrance connecting to Fort Jackson road via Linde Lane. **A gated fire access road is planned to connect to McCord Ferry Road**. The development is proposed to be constructed in several phases. Several internal streets will serve the development. A Traffic Impact Analysis has been conducted and a copy has been included with this staff report.

The developer is required to provide 25.9 acres of open space. The proposal includes ~~25.9~~ **49.61** acres of open space. Two stormwater detention ponds are proposed. A 5' sidewalk is planned along one side of each internal road. **To ensure interconnectivity, sidewalks will also be installed between lots within certain blocks throughout the subdivision**. The proposal must also include the required perimeter and street landscaping buffers. A pool amenity is planned for this subdivision.

Kershaw County sewer is available to the site but has been limited to an initial 40 units by the County Engineer. The availability of sewer results in an allowed gross maximum density per acre of 8.7 units. However, the proposed gross density is 2.53 units per acre. If sewer should not be available to the site, this development would have to be redesigned and resubmitted for staff and planning commission review and approval.

Key Issue Summary: The following key issues should be resolved through the consideration of this application:

- Does the request follow the Future Land Use Map?
- Does the request correlate with the current Kershaw County Comprehensive Plan?

Preliminary Staff Recommendation: Staff contends that the proposed revised major subdivision sketch plan meets or exceeds the minimum requirements of the Zoning and Land Development Regulations. There are several conditions staff is including with the recommendation as a result of the staff analysis of this proposal, as shown on pages 9 and 10.

Current Property Information

Land Use	The parcel is vacant at this time.
Site Features	The site is semi-wooded.
Flood Hazards	None. Wetlands are present on the site and must be delineated prior to submission of construction drawings.
Vehicle Access	Two full access entrances are proposed.

Surrounding Zoning and Land Use

	Zoning:	**Land Use:**
North:	GD & I-1	Linde Lane Subdivision (GD). Union Carbide Facility (I-1).
South:	RD-2	Vacant.
East:	GD	Vacant.
West:	RD-2	Large lot, single family residential.

Zoning District Summary

	Existing Zoning: GD
Zoning District Intent:	This is a multiple use district, the intent of which is to promote the “highest and best use” of land without negatively impacting surrounding land uses or environmental resources. The GD zoning district has the widest range of permitted residential uses - from single-family, to apartments, to manufactured home parks. The GD district also allows for the widest range of non-residential uses - from retail to agricultural to light industrial. The GD zoning district affords the applications of the Comprehensive Plan’s mixed use principals.
Permitted Uses (Not limited to): *NOTE: For a complete listing of permitted and conditional uses, please see Table 3-3 of the ZLDR.*	Single-Family Detached Manufactured Housing Multi-Family, Apartments Electric Transmission Only Water Supply Systems Storage Agricultural Production Crops Food and Beverage Stores Libraries and Archives Eating Places Gasoline Stations General Auto Repair Banks Hotels and Motels Community Center for Elderly or Other Residential Care Facilities Museums Golf, Tennis, Swimming Club Religious Organizations Fire Protection Attorney’s Office Barber and Beauty Shops
Water and Sewer Service:	Lugoff-Elgin Water Authority Kershaw County Sewer
Lot and/or Density Requirements:	Minimum lot size in GD for lots without access to public sewer or community onsite sewage treatment and disposal systems and public water (lots on septic tank and well) shall be three quarters (3/4) of an acre (.75 acre).

	The minimum lot size in GD for lots without access to public sewer or community onsite sewage treatment and disposal systems, **but on public water**, shall be one-half (1/2) acre (.50 acre). Minimum lot size in GD on public sewer and public water is .13 of acre (6,000 sq. ft.) single-family.
Setbacks Required:	Street Frontage: 50' Front: 35' Side: 10' Rear: 10'
Height Restrictions:	4 stories
Maximum Impervious Surface Ratio: Measured as a percent of total lot area	.60
Maximum Density: Measurements in units per gross acre	8.7 with community water and sewer

Infrastructure

Council District	District 1
Water	Lugoff-Elgin Water Authority
Electricity	Fairfield Electric Cooperative
Sewer or Septic	Kershaw County Sewer
School(s)	Doby's Mill Elementary Leslie M. Stover Middle School Lugoff-Elgin High School
Fire District	Lugoff Fire Department
Police Department	Kershaw County Sheriff's Department

Traffic

Street Classification	LOS (Level Of Service)
Local Roads: Primarily provide access to adjacent land and road systems of higher classification for travel over relatively short distances as compared to collectors. **Principal Arterial:** Connected network of continuous routes that serve corridor movements with trip length and travel density characteristics indicating substantial statewide or interstate travel. Serve high percentage of area population, providing integrated network without stub connections, except where dictated by unusual geographic or traffic flow conditions, such as existing road that has been divided by a manmade lake or interstate highway- is a local road that will likely serve as the main access to any future proposed subdivision. **Collectors:** Generally serve travel between counties rather than being of statewide importance. Provide rural service to larger towns not directly served by higher systems and to other traffic generators of county importance such as schools, parks, and major industries – linking these places with nearby towns or cities, or with routes of higher classification. *NOTE: A Traffic Impact Analysis was conducted and is attached with this staff report.*	**Linde Lane** is a paved state maintained local road with a right-of-way width of approximately 55-feet. **US Highway 601** is a paved state maintained principal arterial with a right-of-way width of 75-feet. The nearest traffic count station #161, has a 2021 ADT of 3,300. **Fort Jackson Road** is a state maintained major collector road with an approximate right-of-way width of 100'. The nearest traffic count station #102 has a 2021 ADT of 3,000. **McCord Ferry Road** is a county maintained dirt road with an undetermined right-of-way.

Comprehensive Plan Considerations:

- **ECONOMIC DEVELOPMENT (ED)** – Land areas that contain a full range of business, commercial, industrial, institutional, and service uses, as well as related infrastructure. Existing residential developments and individual residences located within the ED area provide options for residents to shorten the distance between work and home. Access to regional transportation routes and to existing water and sewer facilities will continue to make these Economic Development areas attractive for a wide range of uses including commercial and industrial development, higher density residential development, and uses related to the equine industry.

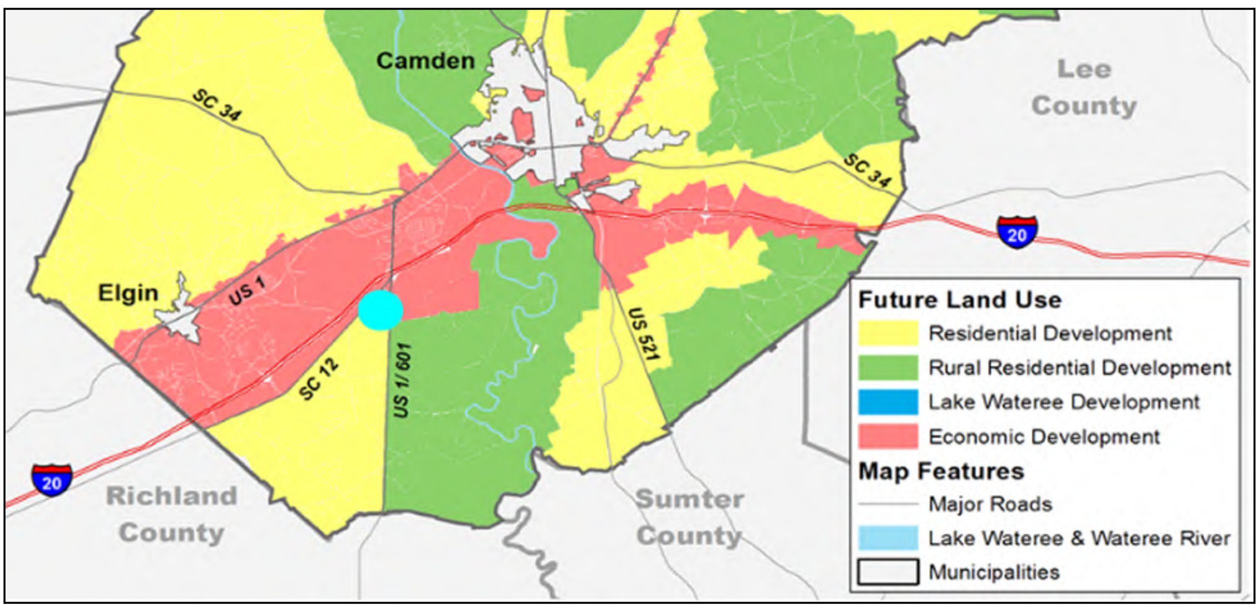
Planning Considerations:

- Enable and promote the development of a broad range of housing choices to meet the needs of residents and accommodate a variety of economic levels, age groups, and preferences.
- Channel most projected housing into defined "development areas" with essential support facilities.
- Coordinate the provision of community facilities to coincide with the projected needs of development

- **INFILL HOUSING**
  Infill opportunities will be predominantly on vacant lots or underutilized land. Infill houses in residential areas should be compatible with existing housing types while incorporating the desired modern amenities, style, and decors. This means that the predominant housing type will be single-family detached unit. Town houses, apartments, or other higher density units should be encouraged in locations where they can appropriately blend into the fabric of the neighborhood. This can be accomplished through re-zoning, density bonuses, and other regulatory strategies.

- **ADEQUATE PUBLIC FACILITIES**
  Channel projected population gains into areas of the county best suited to accommodate growth, i.e. areas with existing and/or planned infrastructure, and away from rural areas and natural resources. Channel most projected housing into defined “development areas” with essential support facilities.

Kershaw County Future Land Use Map



Decision Criteria:
Again the key issues that should be resolved through consideration of this application are:

- Does the request follow the Future Land Use Map?
- Does the request correlate with the current Kershaw County Comprehensive Plan?

Future Land Use Map

The proposed project is located in an area designated Residential Development.

- ***ECONOMIC DEVELOPMENT (ED)*** – Land areas that contain a full range of business, commercial, industrial, institutional, and service uses, as well as related infrastructure. Existing residential developments and individual residences located within the ED area provide options for residents to shorten the distance between work and home. Access to regional transportation routes and to existing water and sewer facilities will continue to make these Economic Development areas attractive for a wide range of uses including commercial and industrial development, higher density residential development, and uses related to the equine industry.

The Comprehensive Plan.
Preliminary Staff Comments: The request is within compliance of the goals of the Comprehensive Plan and Future Land Use Map.

The current conditions and character of the current structures and uses in each district.
Preliminary Staff Comments: The subject parcel is surrounded by GD, I-1 and RD-2 zoning districts. This parcel is also the dividing line between the Economic Development and Residential Development areas of the Future Land Use Map. The proposed single-family subdivision introduces additional housing units to the area which are compatible with existing residential land development patterns, lots sizes, and overall housing density in that area of the county. Therefore, the character of the area will not be adversely impacted by introducing additional residential development.

The most desirable use for which the land in each district is adapted.
Preliminary Staff Comments: The subject property is located in an area of the central / west-central portion of the county that is favorable for residential development. This development will provide additional housing choices that are in general proximity to public schools, water recreation activities, and general services offered in the Elgin and Lugoff areas. This area of the county also has relatively close access to Highway 34, Highway 1, Highway 601, and Interstate 20.

The conservation of property values throughout the jurisdiction of Kershaw County.
Preliminary Staff Comments: Staff has not seen any empirical evidence that additional new construction, within a zoning district that allows residential development, will have a negative impact on property values.

Responsible growth and development:
Preliminary Staff Comments: The revised proposed project meets the objectives of higher density residential development and infill housing. Additionally, the proposed project meets the planning objectives in that the proposed subdivision is placing housing in an area of the county favorable for higher density residential development

Impact Assessment:

ZLDR section 5:2.9-3 requires staff to contact service providers to give them the opportunity to comment on any impacts the proposed project will have on the services they provide to the project area. Per 5:2.9-3 the following service providers were sent an impact assessment letter. Comments returned from the service providers have been incorporated into the general content of this staff report and/or the staff recommendations.

<u>Staff Review</u>

Site Design (5:3.2-1)
The Zoning and Land Development Regulations states that “The purpose of design and improvement standards is to create functional and attractive developments and to minimize adverse impacts.” Site design generally shall take the following into consideration:

A. To preserve any natural features on the site;
B. To avoid areas of environmental sensitivity;
C. To minimize impacts and alteration of natural features;

D. To avoid adversely affecting groundwater and aquifer recharge;
E. To reduce cut and fill;
F. To avoid unnecessary impervious cover;
G. To prevent flooding
H. To provide adequate access to lots and sites; and
I. To mitigate adverse effects of noise, odor, traffic, drainage, and utilities.

Traffic Management Plan (5:2.8):
A Traffic Impact Analysis was required and completed by Justin Waring, PE, of 4D Engineering. The findings are included within the traffic study attached to the staff report. Approval of any required improvements is at the sole discretion of SC DOT.

Sidewalks (5:3.14):
Per the submitted sketch plan the developer is showing a "typical lot detail", as well as a note on the plan, indicating that 5' sidewalks will be constructed on one side of each internal street by the individual homebuilders. **To ensure interconnectivity, sidewalks will also be installed between lots within certain blocks throughout the subdivision**

Lighting (5:1.6):
Staff will work with the applicant to ensure that this information is finalized at the next stage of development review.

Subdivision and Street Names (5:3.8-13 & 5:1.7):
Subdivision and street names have been approved.

Residential Common Open Space (3:5.4):
The proposed subdivision as submitted exceeds the open space requirements.

Landscape Buffer (3:5.1-5):
The required street landscaping buffers have been shown on the sketch plan. The perimeter landscape buffers will be evaluated at the time of construction document submission which will include a tree survey.

Staff Recommendation:
Kershaw County Planning and Zoning has reviewed the proposed revised major subdivision sketch plan for The Landings at McCord Ferry Subdivision. The proposal meets or exceeds the minimum subdivision standards set forth by the ZLDR.

Staff recommends approval of the proposed revised major subdivision sketch plan by the Planning and Zoning Commission with the following conditions:

1. The construction documents, preliminary, and final plats must meet all appropriate requirements, as reviewed by staff, and found complete per ZLDR 5:2.4.

2. The County Engineer has limited sewer approval to an initial 40 lots. All required sewer system infrastructure improvements (line extensions, pump station relocation/upgrades, easements, etc) shall be approved by the Kershaw County engineer prior to and in conjunction with final construction document approval.

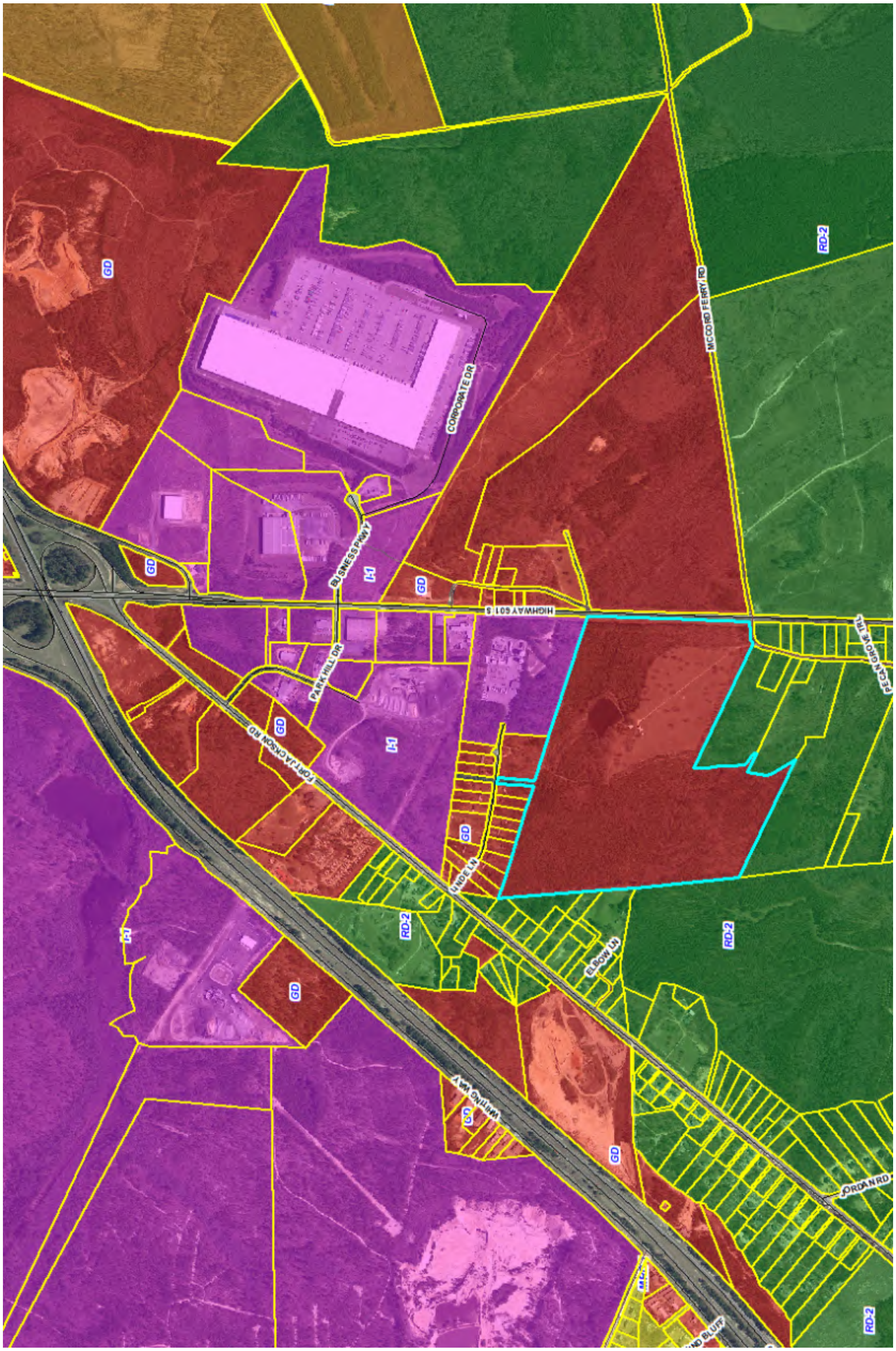
3. Submit copies of all required permits for land disturbance, stormwater, water, and sewer approvals at time of construction document review.

4. Street lighting and a detailed landscaping plan shall be shown on preliminary plans/construction drawings.

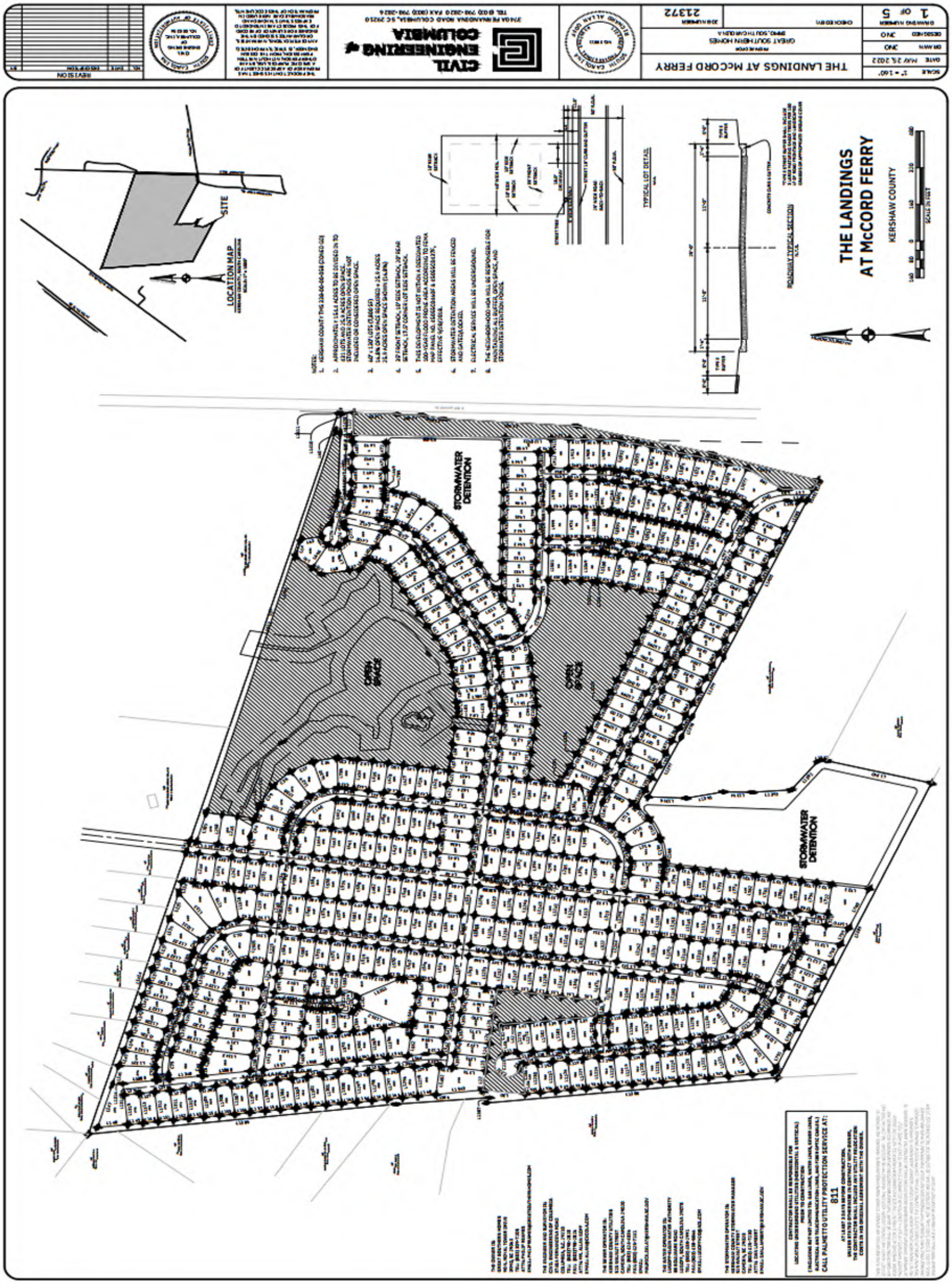
5. No construction activities or phased land clearing may begin until the construction document stage of subdivision review has been completed and all applicable permits obtained.

6. If the applicant proposes significant changes to the approved sketch plan design such as, but not limited to, access and circulation, increase in the number of lots, open space alterations, and impact to environmental features, additional review and approval by the Planning Commission may be required.

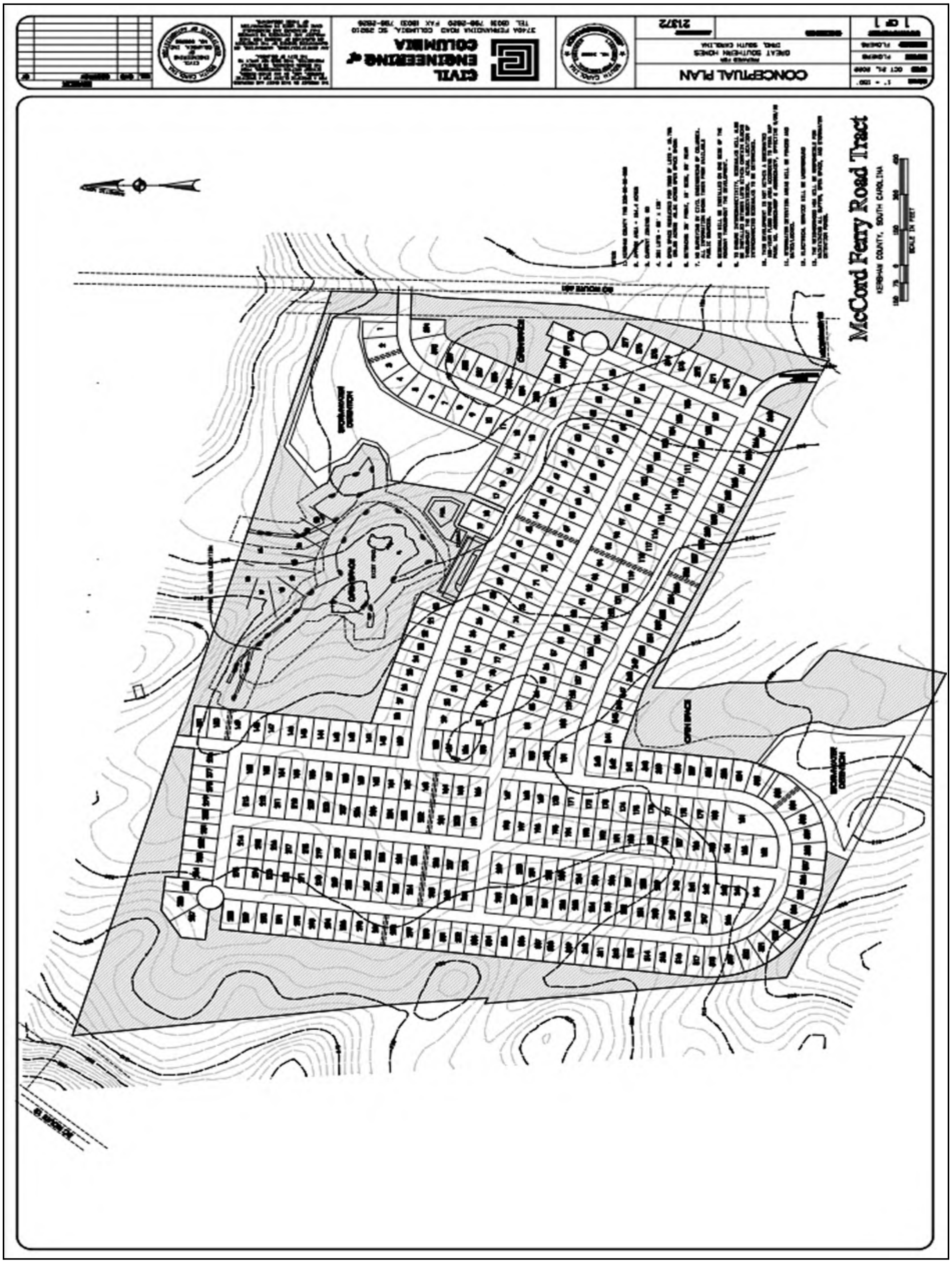
Aerial showing surrounding zoning and existing uses



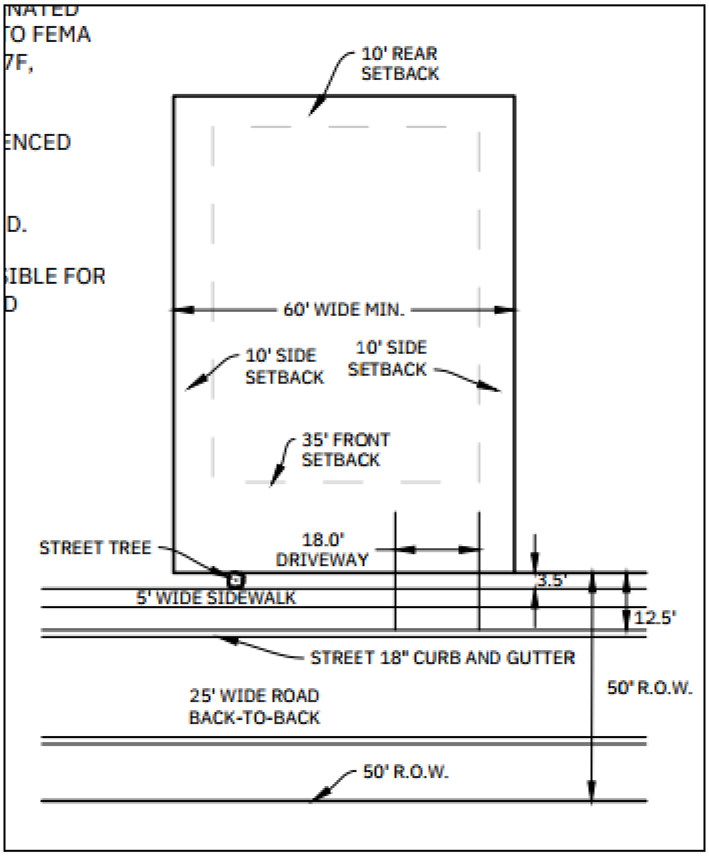
Original Major Subdivision Sketch Plan (disapproved by Planning Commission)

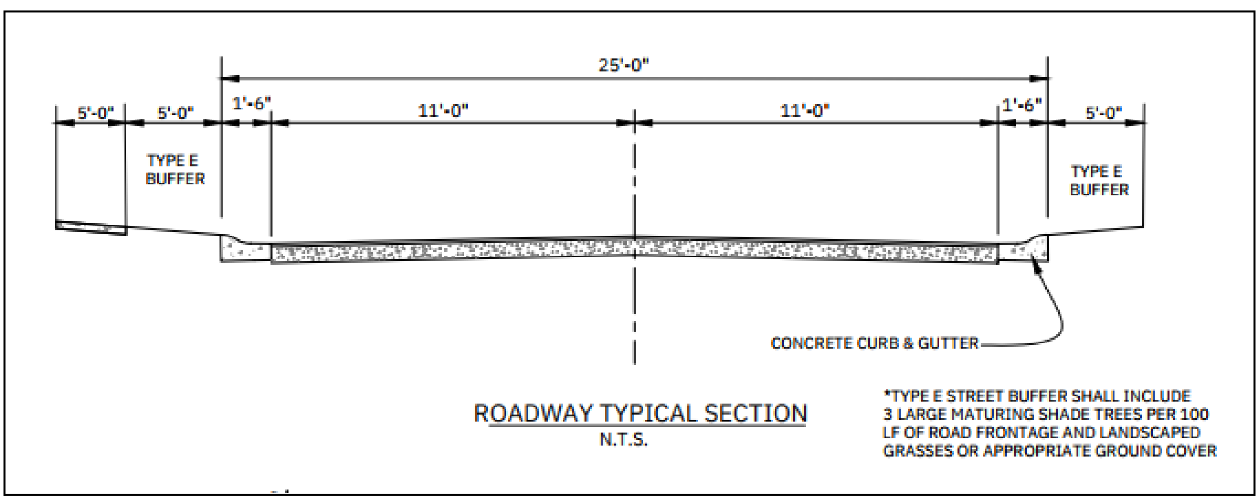


Revised Major Subdivision Sketch Plan



Major Subdivision Sketch Plan – Typical Lot Detail and Roadway Profile Insets





Kershaw County Planning and Zoning Department
515 Walnut Street, Room 160, Camden, SC 29020 803-425-7233

Kershaw County Land Development Application
- Major Subdivision -

The submission of this application constitutes notice that the entity identified below intends to develop a major subdivision as defined in Section 5:2.4 of the Kershaw County Unified Code of Zoning and Land Development Regulations (ZLDR), current version.

For Official Use Only Application Number: ____________ Submittal Package Complete: ________	

Project/Site Name (as approved by E-911 Addressing Dept):	The Landings at McCord Ferry	Date:	5/27/2022

Property Location

Site Location (street address, nearest intersection, etc.) If more than one parcel, list all:	Zoning Designation(s)	Tax Map Number(s):
831 McCord Ferry Road Lugoff, SC 29078	GD	338-00-00-058

Project Information

Applicant/Owner (company or individual):	Great Southern Homes				
Project Contact (if applicant/owner is a company):	Philip Reames				
Mailing Address:	90 Royal Tower Road	City:	Irmo	State: SC	Zip: 29063
Phone:	803-427-0058	Cell:		Fax:	
E-mail:	philipreames@greatsouthern.com				

Engineering Company Name:	Civil Engineering of Columbia	Project Engineer:	R. Allan Goff, PE		
Mailing Address:	3740A Fernandina Road	City:	Columbia	State: SC	Zip: 29210
Phone:	803-798-2820	Cell:		Fax:	
E-Mail	allan@cecola.com				

Property Owner(s) (if not applicant):	Elizabeth Kay Spivey Mitchell				
Mailing Address:	2605 Mann Road	City:	Lebanon	State: TN	Zip: 37087
Phone:	615-449-6780	Cell:		Fax:	
E-mail:					

Site Information

Total Area: 154.4	Total Lots: 431	Is this project a phase of an existing subdivision? ☐ Yes ☑ No		
If yes, what is the name and location of existing subdivision?				
Current phase number: 1	Proposed Start Date (MM/DD/YYYY): 3/1/2023	Estimated Completion Date (MM/DD/YYYY): 3/1/2026		
Type of Development Activity Proposed for the Overall Site (check all that apply): ☐ Commercial ☐ Institutional ☑ Residential: Single Family ☐ Residential: Multi-Family ☐ Other:				
Is any part of the property located inside a Kershaw County MS4 or an urbanized area? ☐ Yes ☒ No				

Major Subdivision Application 5.5.14

Utilities Information

Proposed Water Supply: Private Wells ☐ Public Water ☑	Public Water Provider:	LEWA
Proposed Sewer: Septic Tanks ☐ Public Sewer ☑	Public Sewer Provider:	Kershaw County
Proposed Electric Provider: Fairfield Electric Cooperative	Proposed Gas Provider	Dominion

Application Submittal Checklist

- ☐ 10 copies of Sketch Plan prepared in accordance with Section 5:2.4-2 of the Zoning and Land Development Regulations
- ☐ Administrative (Plan Review) Fee
- ☐ Planning Commission (Plan Review) Fee
- ☐ Traffic Management Plan, if triggered per ZLDR Section 5:2.8-1

Signatures and Certifications

The applicant certifies he understands that sketch plan approval does not constitute approval for site development and construction activities. No site development or construction activities including land disturbance of any kind may commence until the Preliminary Plan, including the Preliminary Plat and Construction Plans, has been submitted and final approval has been issued by the Planning and Zoning Department. Preliminary Plan approval does not authorize the applicant to sell or otherwise transfer lots or parcels within the platted subdivision. Such authorization requires Final Plat approval. Additional review fees are required for Preliminary Plan and Final Plat submittals.

Philip Reames	Philip Reames
Typed or Printed Name of Applicant	Signature of Applicant
5/27/2022	Land Acquisition Manager
Date	Title/Position

Traffic Impact Study (TIS)

For:

McCord Ferry Road Subdivision

In:

Lugoff, South Carolina

Prepared For:

Great Southern Homes
90 N. Royal Tower Drive
Irmo, SC 29063

Prepared By:

4D ENGINEERING

603 South Lake Drive
Lexington, SC 29072
(803) 356-0909

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 28702 JUSTIN PREWITT WARING

Justin Waring

Preparation Date:

November 2022

4D Project No. 22010

SOUTH CAROLINA 4D ENGINEERING LLC No. 4701 CERTIFICATE OF AUTHORIZATION

11-07-22

TABLE OF CONTENTS

LIST OF EXHIBITS

LIST OF TABLES

LIST OF APPENDICES

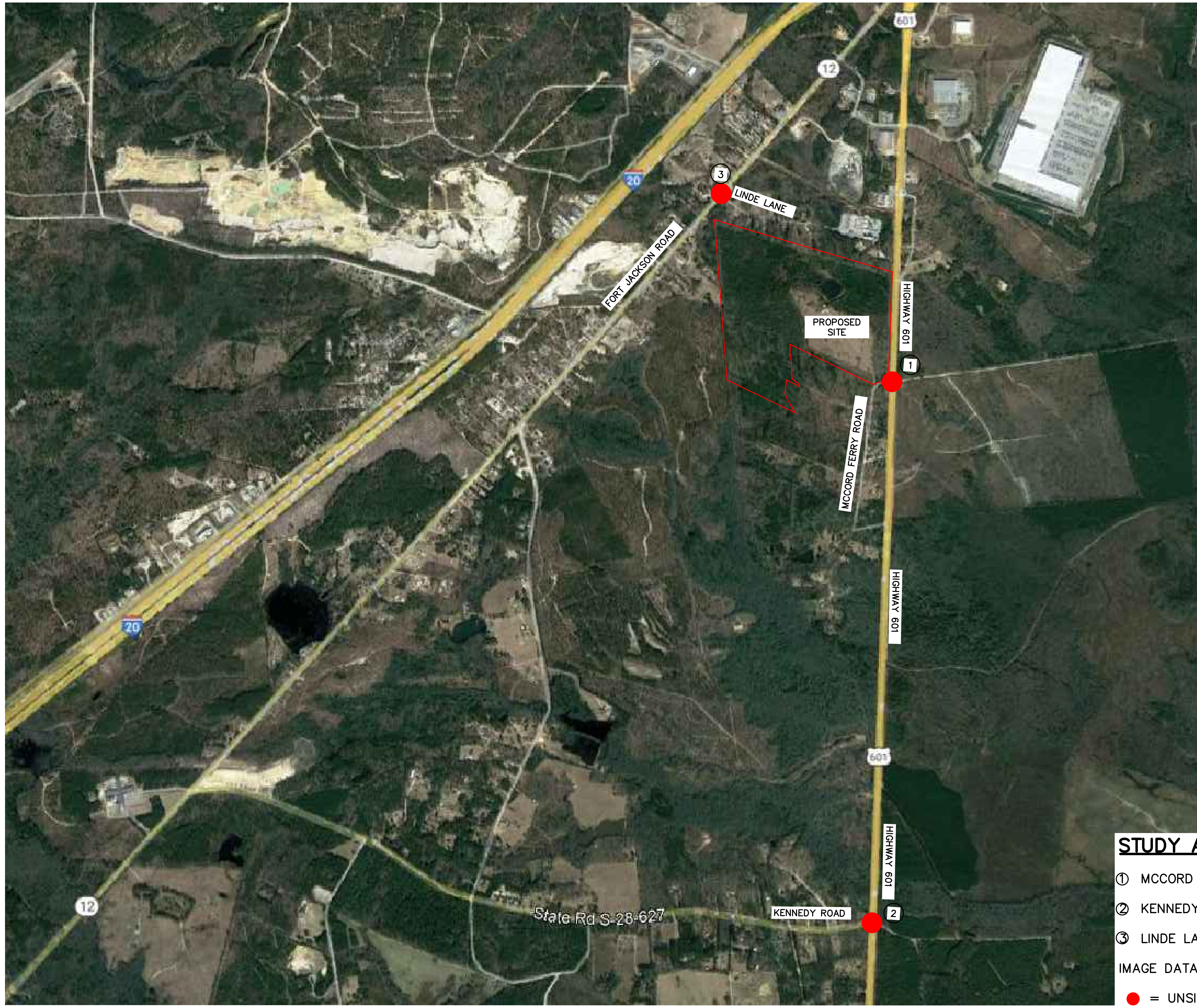
I. PROJECT DESCRIPTION & EXECUTIVE SUMMARY

Great Southern Homes is proposing the development of a new residential subdivision off of Highway 601 in Lugoff, South Carolina, as illustrated in **Exhibit 1**. The proposed development will utilize one (1) new site access driveway off of Highway 601 and one (1) new site access driveway off of Linde Lane.

The specific project analyzed by this report is a new residential subdivision that is planned to include a total of 390 single-family residential lots and be built out by 2027, and will include one new full access driveway location off of Highway 601 and one new full access driveway location off of Linde Lane. A Site Plan for the proposed Project and surrounding area roadways is shown in **Exhibit 2**. The study area intersections for the Project are McCord Ferry Road at Highway 601, Kennedy Road at Highway 601, and Linde Lane at Fort Jackson Road.

This analysis determined that the Project will not have a significant adverse impact on the Level-of-Service of the study area intersections at the horizon year of 2027 for the AM, School PM, and PM peak hours; therefore no recommendations for improvements to the study area intersections are necessary due to the Project for the 2027 Build Conditions.

A right turn lane along Highway 601 for the proposed access driveway is not warranted or recommended. A left turn lane along Highway 601 for the proposed access driveway is warranted to be considered for the Project.



STUDY AREA INTERSECTIONS:

① MCCORD FERRY ROAD & HIGHWAY 601

② KENNEDY ROAD & HIGHWAY 601

③ LINDE LANE & FORT JACKSON ROAD

IMAGE DATA: GOOGLE EARTH

● = UNSIGNALIZED INTERSECTION

REVISIONS		

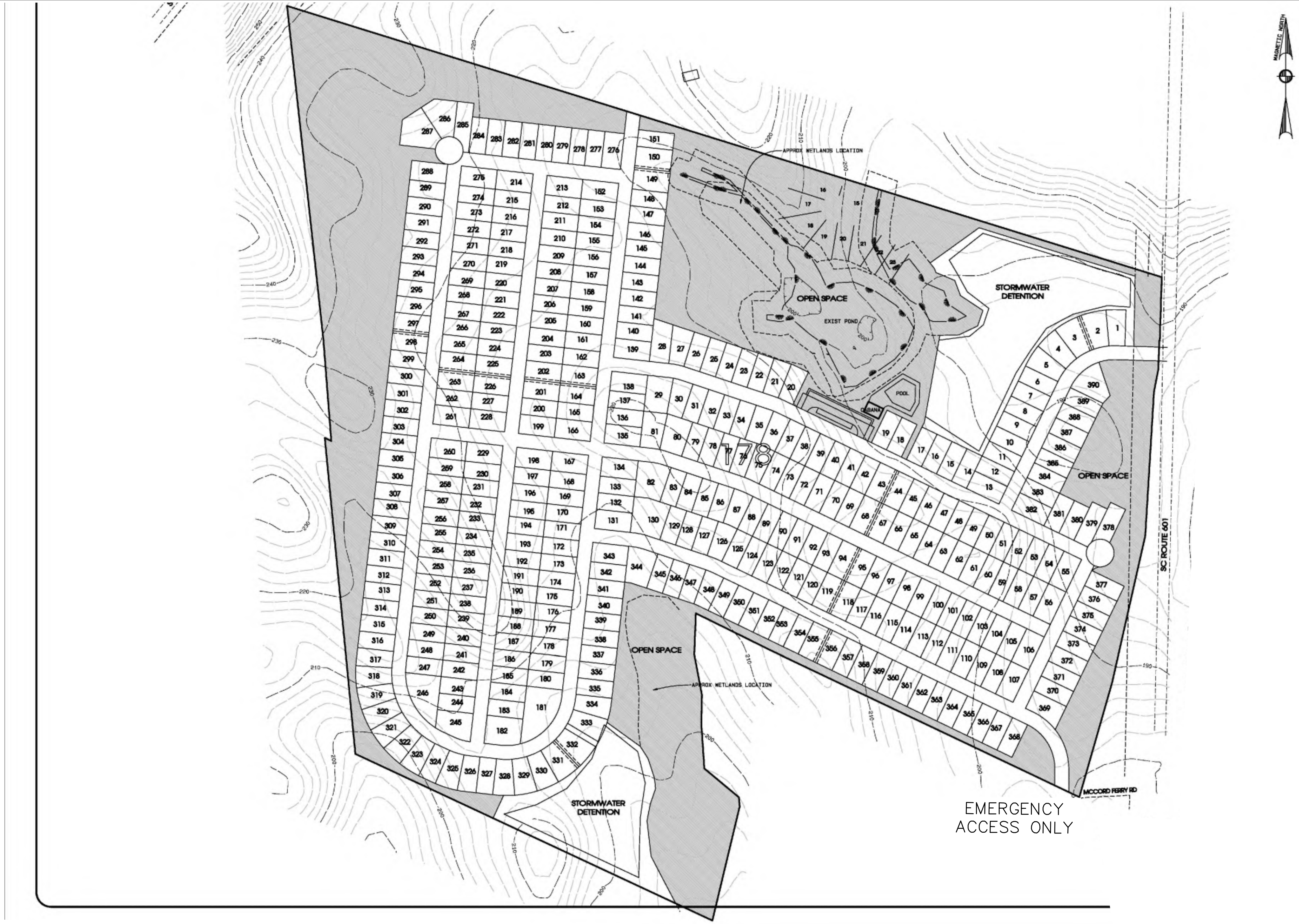
SCALE: 1"=2000'

EXHIBIT 1 - SITE LOCATION
AND STUDY AREA MAP
TRAFFIC IMPACT STUDY
FOR
MCCORD FERRY ROAD SUBDIVISION
IN
LUGOFF, SC

DATE: NOVEMBER 2022

PROJ NO: 22010

4D ENGINEERING



NOTE: SITE PLAN BY OTHERS

REVISIONS		

SCALE: 1"=400'

EXHIBIT 2 - PROPOSED
SITE PLAN

FOR

MCCORD FERRY ROAD SUBDIVISION

IN

LUGOFF, SC

DATE: NOVEMBER 2022

PROJ NO: 22010

4D ENGINEERING

II. EXISTING CONDITIONS

4D personnel have conducted and supervised field reviews of the project area and have also reviewed aerial imagery to collect existing conditions information within the study area. These reviews include the surrounding roadways, intersections, and traffic volumes. **Exhibit 3** shows the existing laneage of the study area roadways and intersections.

A. Surrounding Area Roadways

Highway 601 - is an north/south road to the east of the project site that provides connectivity to Lugoff from Interstate 20 (I-20) via Exit 92 of I-20. The road is classified as a principal arterial road by the South Carolina Department of Transportation (SCDOT). The roadway is a two-lane, two-way traffic roadway separated by a solid double-yellow centerline within the study area. The roadway has a posted speed limit of 55 MPH within the study area. The roadway is under the jurisdiction of the SCDOT. According to SCDOT traffic data the AADT for Highway 601 was 3,400 in 2019 at Kershaw County traffic count station 161.

McCord Ferry Road - is an east/west road to the south of the project site that serves some residential properties in the area. The road is a local unpaved road. The roadway has an assumed speed limit of 35 mph for the purposes of this study. The roadway is assumed to be under the jurisdiction of Kershaw County.

Kennedy Road (S-28-627) - is an east/west road to the south of the project site that provides connectivity from Highway 601 to Fort Jackson Road (SC-12). Doby's Mill Elementary School is located at the intersection of Kennedy Road and Fort Jackson Road. The road is a local road. The roadway is a two-lane, two-way traffic roadway separated by a solid double-yellow centerline. The roadway has an assumed speed limit of 35 mph for the purposes of this study. The roadway is assumed to be under the jurisdiction of the SCDOT.

Fort Jackson Road (SC-12) - is a northeast/southwest road to the west of the project site that provides connectivity from Highway 601 to Percival Road and eastern portions of the city of Columbia. The road is classified as a major collector road by the SCDOT. The roadway is a two-lane, two-way traffic roadway separated by a solid double-yellow centerline. The roadway has a posted speed limit of 55 mph within the study area. The roadway is under the jurisdiction of the SCDOT. According to SCDOT traffic data the AADT for Fort Jackson Road was 2,900 in 2019 at Kershaw County traffic count station 102.

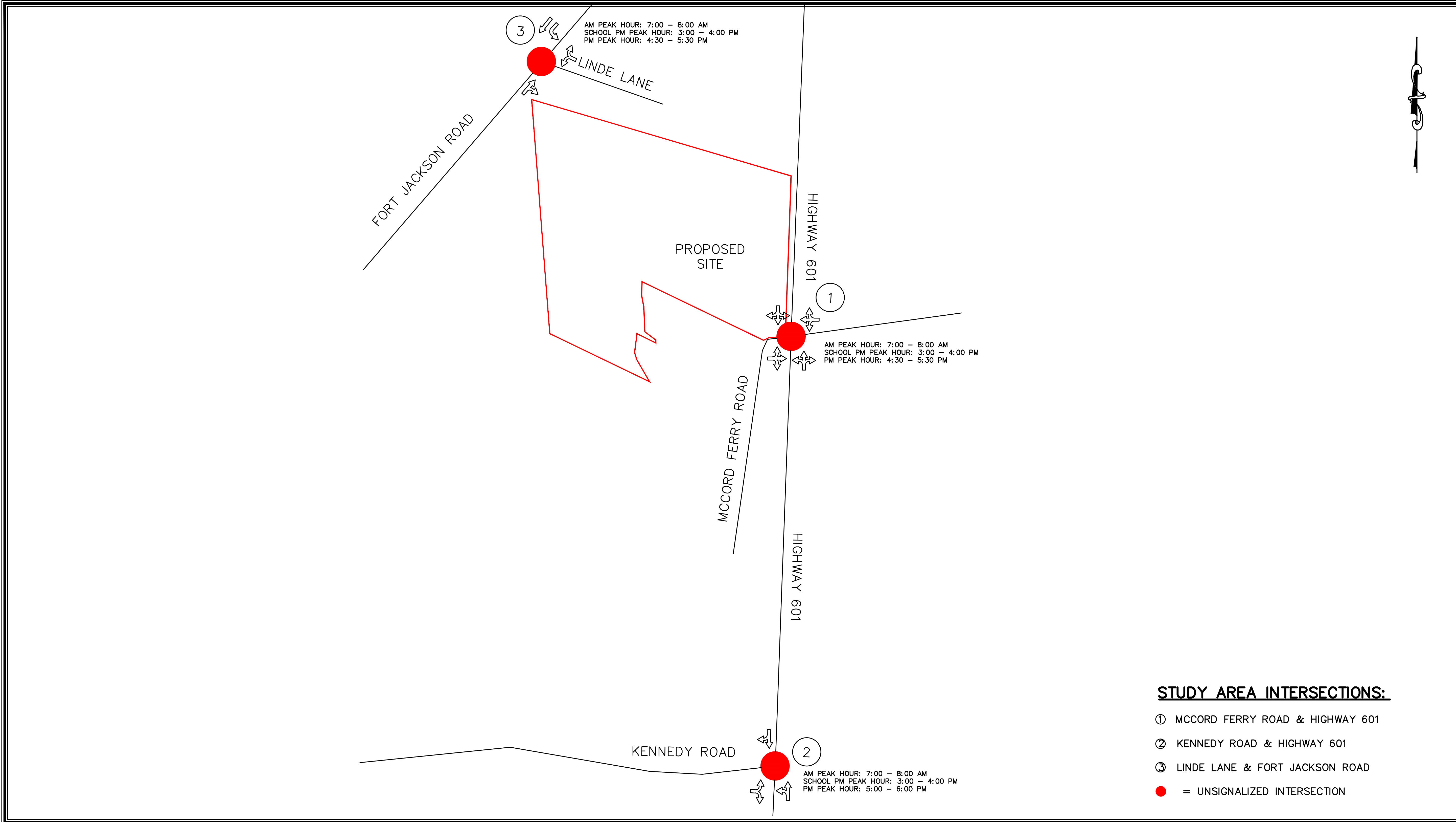
Linde Lane (S-28-980) - is an east/west road to the north of the project site that provides connectivity to Fort Jackson Road for residential properties and an industrial property. The road is a local road. The roadway is a two-lane, two-way traffic roadway separated by a solid double-yellow centerline. The roadway has a posted speed limit of 35 mph. The roadway is under the jurisdiction of the SCDOT.

B. Surrounding Area Intersections

Intersection 1: McCord Ferry Road at Highway 601 - is a four-legged, un-signalized (stop controlled) intersection where Highway 601 makes up the north and south bound approaches, and McCord Ferry Road makes up the east and west bound approaches. Highway 601 is a two lane principal arterial road and McCord Ferry Road is an unpaved local road. Highway 601 is the major street of the intersection. The north and south bound approaches provide one lane at the intersection allowing left turn, through, and right turn movements. The east and west bound approaches provide one lane at the intersection, allowing left turn, through, and right turn movements. The intersection is operated under a STOP control on the east and west bound McCord Ferry Road approaches.

Intersection 2: Kennedy Road at Highway 601 - is a three-legged, un-signalized (stop controlled) intersection where Highway 601 makes up the north and south bound approaches, and Kennedy Road makes up the eastbound approach. Highway 601 is a two lane principal arterial road and Kennedy Road is a two lane road. Highway 601 is the major street of the intersection. The north bound approach provides one lane at the intersection, allowing left turn and through movements. The south bound approach provides one lane at the intersection, allowing through and right turn movements. The east bound approach provides one lane at the intersection, allowing left turn and right turn movements. The intersection is operated under a STOP control on the east bound Kennedy Road approach.

Intersection 3: Linde Lane at Fort Jackson Road - is a three-legged, un-signalized (stop controlled) intersection where Fort Jackson Road makes up the northeast and southwest bound approaches, and Linde Lane makes up the northwest approach. Fort Jackson Road is a two lane major collector road and Linde Lane is a two lane road. Fort Jackson Road is the major street of the intersection. The northeast bound approach provides one lane at the intersection, allowing through and right turn movements. The southwest bound approach provides two lanes at the intersection, the inside lane allowing left turn movement and the outside lane allowing through movement. The northwest bound approach provides one lane at the intersection, allowing left turn and right turn movements. The intersection is operated under a STOP control on the northwest bound Linde Lane approach.



REVISIONS

SCALE: NTS

EXHIBIT 3
EXISTING ROADWAY LANEAGE
TRAFFIC IMPACT STUDY
FOR
MCCORD FERRY ROAD SUBDIVISION
IN
LUGOFF, SC

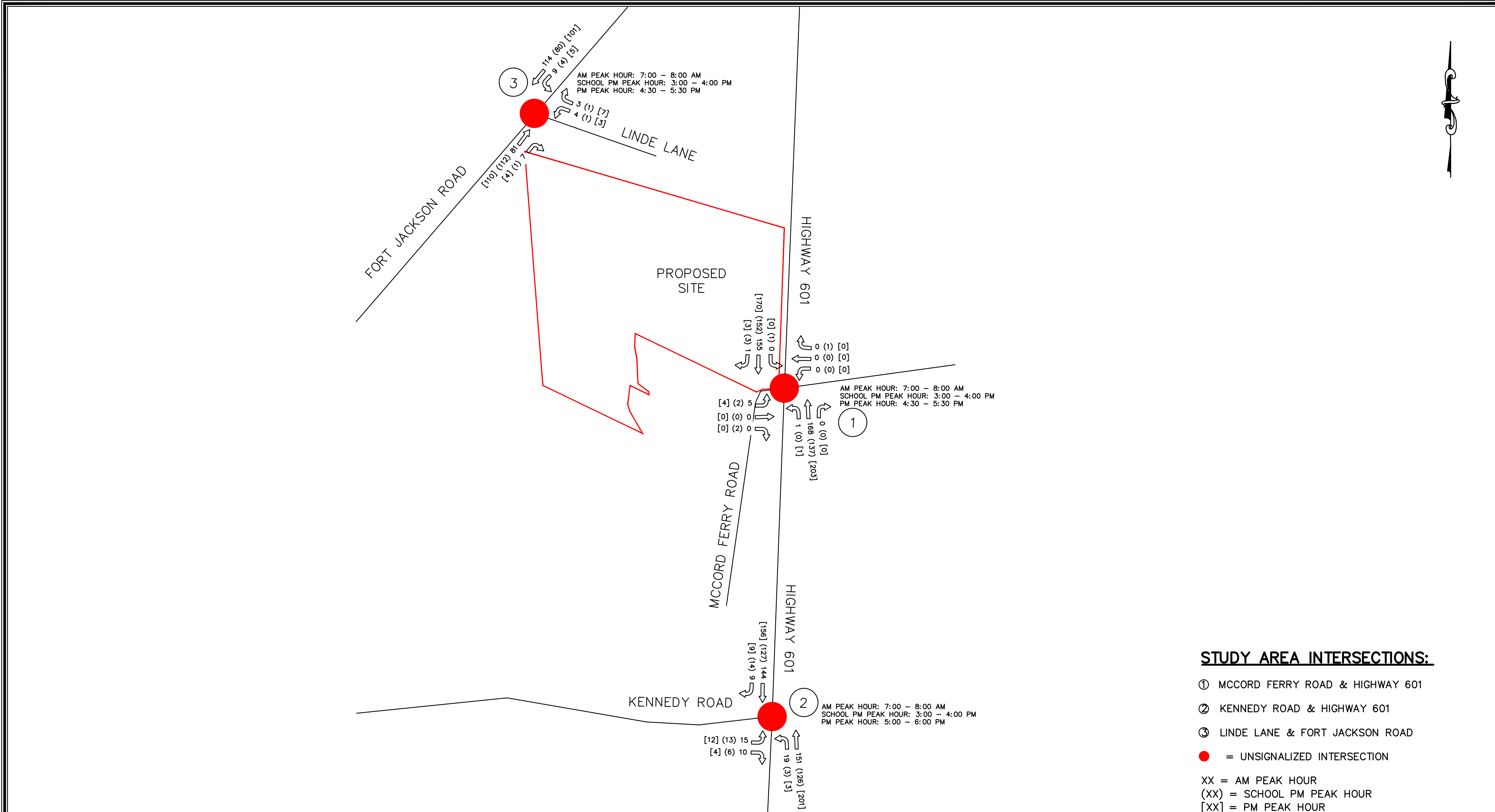
DATE: NOVEMBER 2022

PROJ NO: 22010

4D ENGINEERING

C. Traffic Volumes

Existing traffic volumes at the intersections referenced in Section II.B were collected from field traffic counts performed by Quality Counts, LLC on May 5, 2022 and October 27, 2022. These intersections makes up the study area for the Project. This traffic count information reflects weekday morning (7:00 AM - 9:00 AM), school PM (2:00 PM – 4:00 PM), and evening (4:00 PM - 6:00 PM) peak period counts, and is utilized to determine the peak hour traffic volumes and distributions within the study area. These volumes are illustrated in **Exhibit 4**. The Existing Conditions Traffic Counts are located in Appendix A of this report.



REVISIONS

EXHIBIT 4
EXISTING TRAFFIC VOLUMES
AM & (SCHOOL PM) & [PM] PEAK-HOUR
TRAFFIC IMPACT STUDY
FOR
MCCORD FERRY ROAD SUBDIVISION
IN
LUGOFF, SC

SCALE: NTS

DATE: NOVEMBER 2022

PROJ NO: 22010

4D ENGINEERING

III. FUTURE CONDITIONS

The Future Conditions traffic analysis has been completed for two separate scenarios: 2027 No-Build and 2027 Build Conditions. The No-Build conditions include existing conditions traffic volumes, factored for annual normal growth, and any planned background developments within the study area. The Build conditions account for the No-Build conditions plus the traffic generated by the proposed development.

A. No-Build Traffic Conditions

Annual Growth Rate

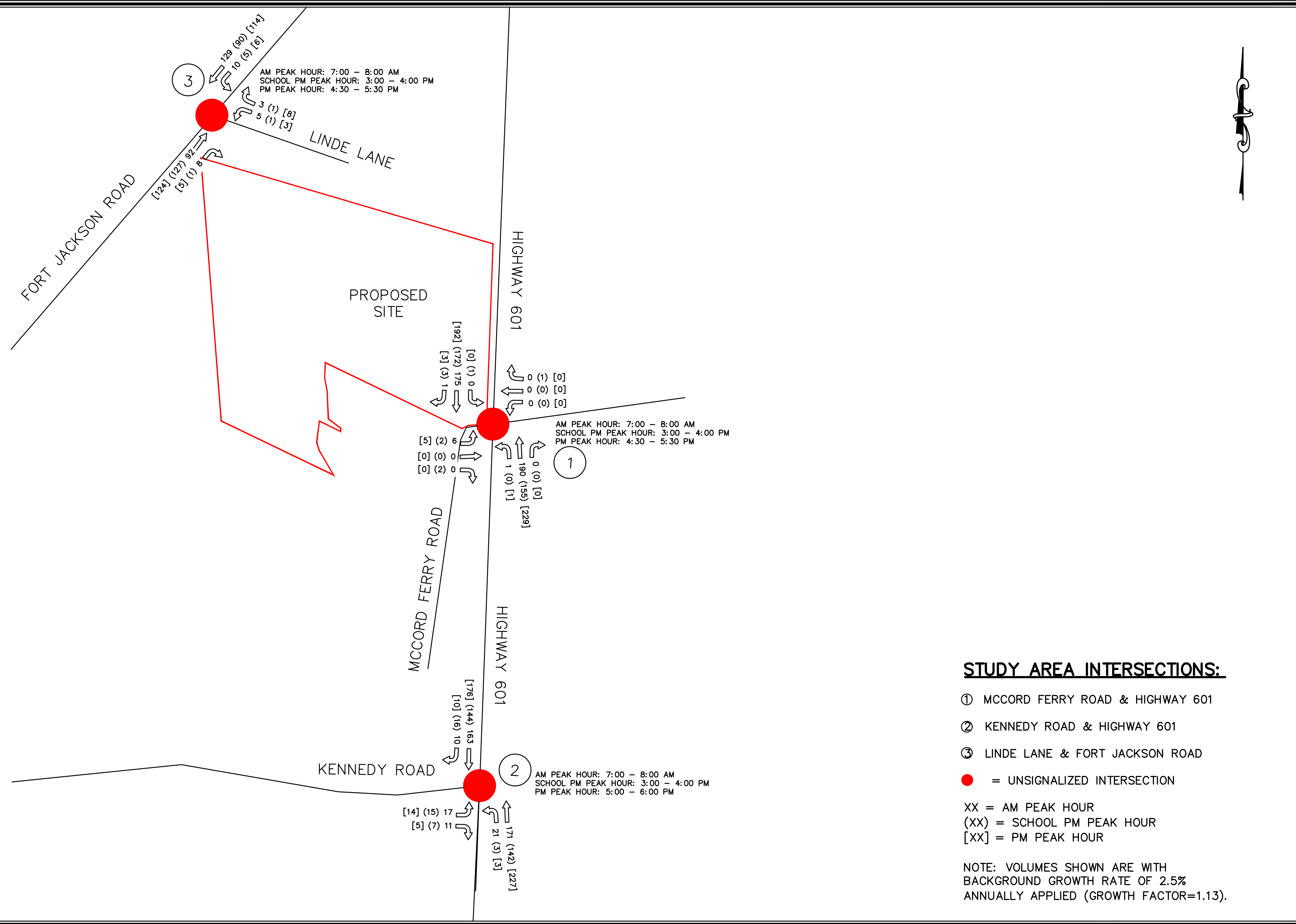
An annual growth rate of 2.5 percent (2.5%) per year was assumed for this study. This assumption is based on a review of the SCDOT traffic count history in the study area over the last ten years of available data. Note that data from 2020 and 2021 was not used as it was impacted by the COVID-19 pandemic. See Appendix C for backup information for this growth rate calculation. The anticipated No-Build AM and PM peak-hour traffic volumes for 2027, which include the background development from the annual growth rates, are shown in **Exhibit 5**.

Background Developments

There are no known background developments in the study area considered in this study. It is expected that any background development is accounted for in the annual growth rate applied to the traffic volumes.

Planned Roadway Improvements

Based upon review of the SCDOT's Programmed Project Viewer there are no current planned roadway projects in the study area that would affect operation of the study area intersections within the build-out of the project.



STUDY AREA INTERSECTIONS:

① MCCORD FERRY ROAD & HIGHWAY 601

② KENNEDY ROAD & HIGHWAY 601

③ LINDE LANE & FORT JACKSON ROAD

● = UNSIGNALIZED INTERSECTION

XX = AM PEAK HOUR
(XX) = SCHOOL PM PEAK HOUR
[XX] = PM PEAK HOUR

NOTE: VOLUMES SHOWN ARE WITH BACKGROUND GROWTH RATE OF 2.5% ANNUALLY APPLIED (GROWTH FACTOR=1.13).

REVISIONS		

EXHIBIT 5
2027 NO-BUILD TRAFFIC VOLUMES
AM & (SCHOOL PM) & [PM] PEAK-HOUR
TRAFFIC IMPACT STUDY
FOR
MCCORD FERRY ROAD SUBDIVISION
IN
LUGOFF, SC

SCALE: NTS

DATE: NOVEMBER 2022

PROJ NO: 22010

4D ENGINEERING

B. Site-Generated Traffic

With the completion of the proposed development, an increase in traffic load onto the study area intersections is expected due to the additional traffic generated by the new residential subdivision. The traffic volumes generated by the proposed development were determined using the 11th Edition ITE Trip Generation Manual. Land-Use Code 210 (Single-Family Detached Housing) was utilized to estimate the specific site-generated traffic for the project. Trip counts are based on the peak hour of adjacent street traffic. For the School PM Peak Hour the peak hour volumes were found by determining the daily traffic expected for the development on a weekday and then applying the hourly factor (.075) for the peak hour from Appendix A of the 11th Edition ITE Trip Generation Manual for Land-Use Code 210. **Table 1** illustrates the anticipated site-generated traffic for the project.

Table 1
PROJECT TRIP GENERATION SUMMARY[1]
McCord Ferry Road Subdivision

Time Period	Single-family Detached Housing - 390 Units
AM Peak Hour	
Enter (26%)	67
Exit (74%)	190
Total	257
School PM Peak Hour	
Enter (50%)	132
Exit (50%)	132
Total	264
PM Peak Hour	
Enter (63%)	225
Exit (37%)	132
Total	357

1. Source: ITE Trip Generation Manual, 11th Edition.

C. Distribution Pattern

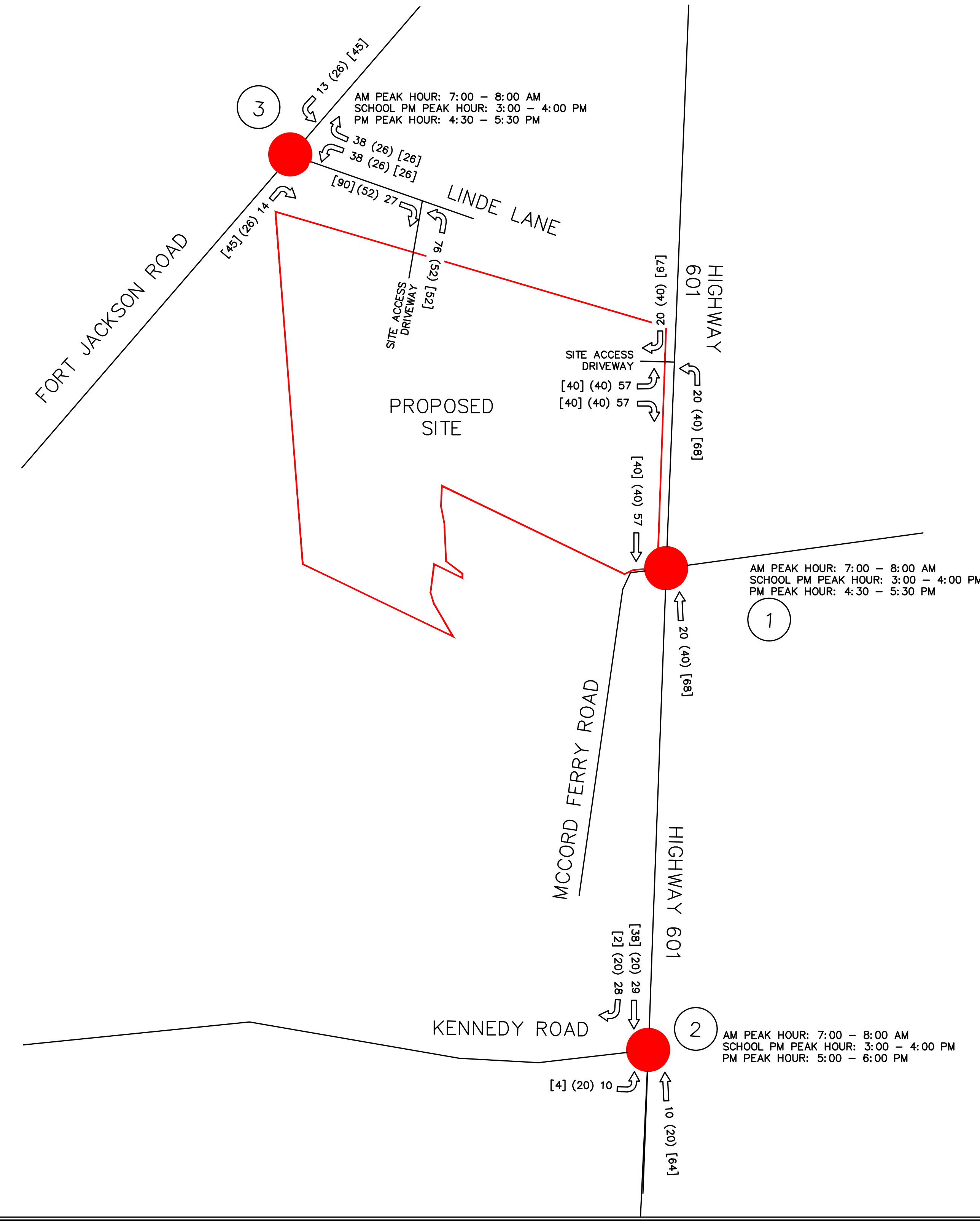
The directional distribution of site-generated traffic on the study area intersections is based upon review of the existing travel patterns at the study area intersections. The directional distribution was determined to be as shown in **Table 2** below for the AM, School PM, and PM peak periods, respectively.

Table 2
PROJECT TRIP DISTRIBUTION PATTERN
McCord Ferry Road Subdivision

	Percent Distribution
Traffic to/from North on Highway 601	30%
Traffic to/from South on Highway 601	30%
Traffic to/from North on Ft. Jackson Road	20%
Traffic to/from South on Ft. Jackson Road	20%

For the Kennedy Road at Highway 601 intersection for the AM peak period and the School PM peak period it was assumed that 50% of the site-generated traffic headed south will turn right to access Kennedy Road to travel to Doby's Mill Elementary School and 50% of the site generated traffic headed north will turn left from Kennedy Road to Highway 601 from coming from Doby's Mill Elementary School. This is likely to be a conservative assumption for the purposes of the study. For the PM peak period the site-generated traffic distribution at the Kennedy Road at Highway 601 intersection is just based on the distribution percentages for the applicable movements at the intersections from the traffic counts.

The distribution was applied to the site-generated traffic volumes to develop the site-generated volumes for each movement in the 2027 analysis as illustrated in **Exhibit 6**. The site-generated volumes were then combined with the 2027 No-Build traffic volumes for each movement to produce the 2027 Build traffic volumes, shown in **Exhibit 7**.



STUDY AREA INTERSECTIONS:

① MCCORD FERRY ROAD & HIGHWAY 601

② KENNEDY ROAD & HIGHWAY 601

③ LINDE LANE & FORT JACKSON ROAD

● = UNSIGNALIZED INTERSECTION

XX = AM PEAK HOUR
(XX) = SCHOOL PM PEAK HOUR
[XX] = PM PEAK HOUR

REVISIONS		

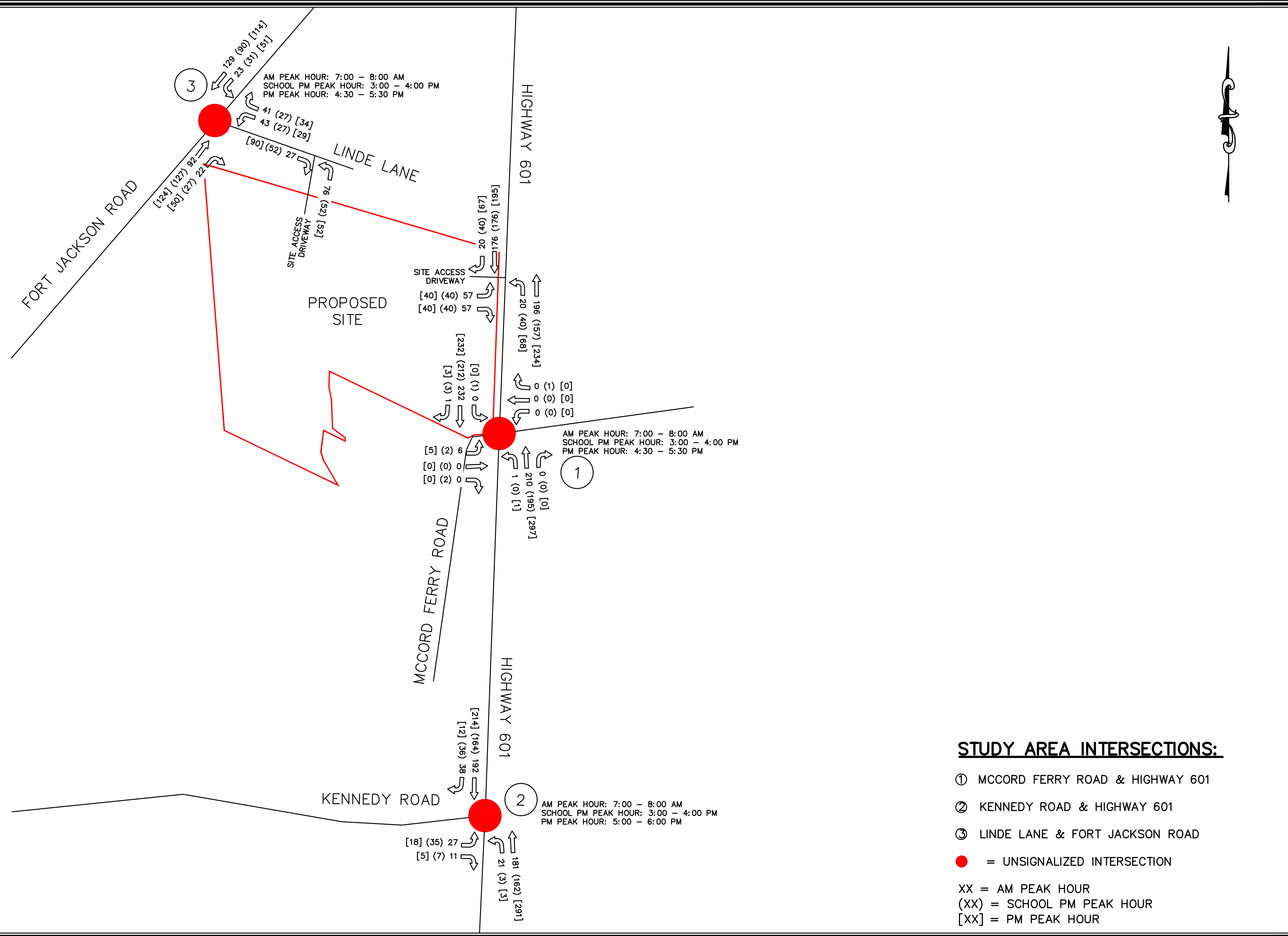
EXHIBIT 6
2027 SITE-GENERATED TRAFFIC VOLUMES
AM & (SCHOOL PM) & [PM] PEAK-HOUR
TRAFFIC IMPACT STUDY
FOR
MCCORD FERRY ROAD SUBDIVISION
IN
LUGOFF, SC

SCALE: NTS

DATE: NOVEMBER 2022

PROJ NO: 22010

4D ENGINEERING



STUDY AREA INTERSECTIONS:

① MCCORD FERRY ROAD & HIGHWAY 601

② KENNEDY ROAD & HIGHWAY 601

③ LINDE LANE & FORT JACKSON ROAD

● = UNSIGNALIZED INTERSECTION

XX = AM PEAK HOUR
(XX) = SCHOOL PM PEAK HOUR
[XX] = PM PEAK HOUR

REVISIONS

EXHIBIT 7
2027 BUILD TRAFFIC VOLUMES
AM & (SCHOOL PM) & [PM] PEAK-HOUR
TRAFFIC IMPACT STUDY
FOR
MCCORD FERRY ROAD SUBDIVISION
IN
LUGOFF, SC

SCALE: NTS

DATE: NOVEMBER 2022

PROJ NO: 22010

4D ENGINEERING

IV. TRAFFIC OPERATIONS

A. Analysis Methodology

Synchro Version 10 traffic analysis software was utilized to conduct a capacity analysis of the referenced intersections during existing traffic conditions, No-Build conditions, and Build conditions. This capacity analysis determines the Level-of-Service (LOS) of traffic facilities under anticipated traffic flow conditions. Level-of-Service is a measure of the operational conditions within the intersection, and is further determined by factors such as speed, travel time, maneuverability, interruptions, comfort, convenience, and safety.

The Level-of-Service of an intersection is defined by six (6) letter designations from A to F, with LOS A being the optimum operating condition and LOS F being the worst. The delays per vehicle corresponding to each LOS are shown in **Table 3** below.

Table 3
LEVEL OF SERVICE CRITERIA[1]
McCord Ferry Road Subdivision

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

1. Source: Highway Capacity Manual

B. Analysis Results

The capacity analysis has been performed on the three (3) study area intersections for existing traffic conditions, 2027 No-Build conditions, and 2027 Build conditions. Capacity analysis has also been performed on one (1) of the proposed site access driveways for 2027 Build Conditions. The results of these analyses are summarized in **Table 4** below and are based on the 6th Edition of the Highway Capacity Manual.

Table 4

LEVEL-OF-SERVICE SUMMARY[1]

McCord Ferry Road Subdivision

STUDY AREA INTERSECTIONS

Unsignalized Intersections	Time Period	EXISTING Delay[a]	EXISTING LOS[b]	2027 NO-BUILD Delay	2027 NO-BUILD LOS	2027 BUILD Delay	2027 BUILD LOS
McCord Ferry Road at Highway 601	AM	11.0	B	11.5	B	12.3	B
	School PM	10.4	B	10.7	B	11.3	B
	PM	11.5	B	12.1	B	13.5	B
Kennedy Road at Highway 601	AM	11.1	B	11.7	B	13.1	B
	School PM	10.6	B	10.9	B	12.0	B
	PM	11.3	B	11.8	B	13.3	B
Linde Lane at Ft. Jackson Road	AM	9.6	A	9.8	A	10.3	B
	School PM	9.3	A	9.4	A	10.3	B
	PM	9.3	A	9.5	A	10.9	B
Proposed Site Access Driveways							
Site Access Driveway at Highway 601	AM					11.7	B
	School PM					11.5	B
	PM					13.2	B

a. Delay in seconds-per-vehicle.
b. LOS = Level-of-Service.

GENERAL NOTES:

1. For unsignalized intersections, Delay and LOS shown is for the critical approach.
2. Reference Highway Capacity Analysis Calculations in Appendix B for volume/capacity (v/c) ratios for individual traffic movements.

Existing Conditions

As shown in **Table 4**, under Existing Conditions, the study area intersections operate at a LOS of B or better for the AM, School PM, and PM peak periods.

2027 No-Build Conditions

During the 2027 No-Build Conditions, which includes the background development traffic from 2.5% annual growth rate, there will be an increase in the projected delay times for the study area intersections. However, the study area intersections continue to operate at a LOS of B or better for the AM, School PM, and PM peak periods.

2027 Build Conditions

During the 2027 Build Conditions, which includes the site-generated traffic from the proposed development and the background development traffic from the 2.5% annual normal growth rate, there will be an increase in the projected delay times for the study area intersections. The LOS of the study area intersections remain unchanged compared to 2027 No-Build Conditions, except for the Linde Lane at Fort Jackson Road intersection, which decreases from a LOS of A to a LOS of B for all of the peak periods.

V. FINDINGS

A. Study Area Intersections

Existing Conditions

Through this study, it has been determined that the study area intersections operate at an acceptable Level-of-Service, LOS of C or better as defined by the South Carolina Department of Transportation Traffic Engineering Guideline TG-21, for Existing Conditions.

2027 No-Build Conditions

Through this study, it has been determined that the study area intersections will continue to operate at an acceptable Level-of-Service (LOS C or better) for 2027 No-Build Conditions.

2026 Build Conditions

Through this study, it has been determined that the proposed development will not significantly adversely impact the Level-of-Service of the study area intersections.

The LOS of the study area intersection remains unchanged compared to 2027 No-Build Conditions, except for the Linde Lane at Fort Jackson Road intersection, which decreases from a LOS of A to a LOS of B for all of the peak periods. However, a LOS of B is still an acceptable Level-of-Service (LOS C or better) and the increases in delay time are minimal (< 2 sec).

A Turn Lane Warrant Analysis (included in Appendix C) was performed for right turns along Highway 601 at Kennedy Road due to expected additional traffic utilizing this movement from the proposed development to access the Doby's Mill Elementary School and it was determined that a right turn lane is not warranted along Highway 601 for this intersection.

A Turn Lane Warrant Analysis was also performed for right turns along Fort Jackson Road at Linde Lane due to expected additional traffic utilizing this movement to access the proposed development and it was determined that a right turn lane is not warranted along Fort Jackson Road for this intersection.

B. Access Management Standards

2027 Build Conditions

Proposed Site Access Driveway at Highway 601

A Turn Lane Warrant Analysis (included in Appendix C) was performed for the Proposed Site Access Driveway at Highway 601. The Turn Lane Warrant Analysis determined that a right turn lane is not warranted along Highway 601 for this intersection. The Turn Lane Warrant Analysis determined that a left turn lane is warranted to be considered along Highway 601 for this intersection due to the higher left turn percentage and volumes for the PM peak period.

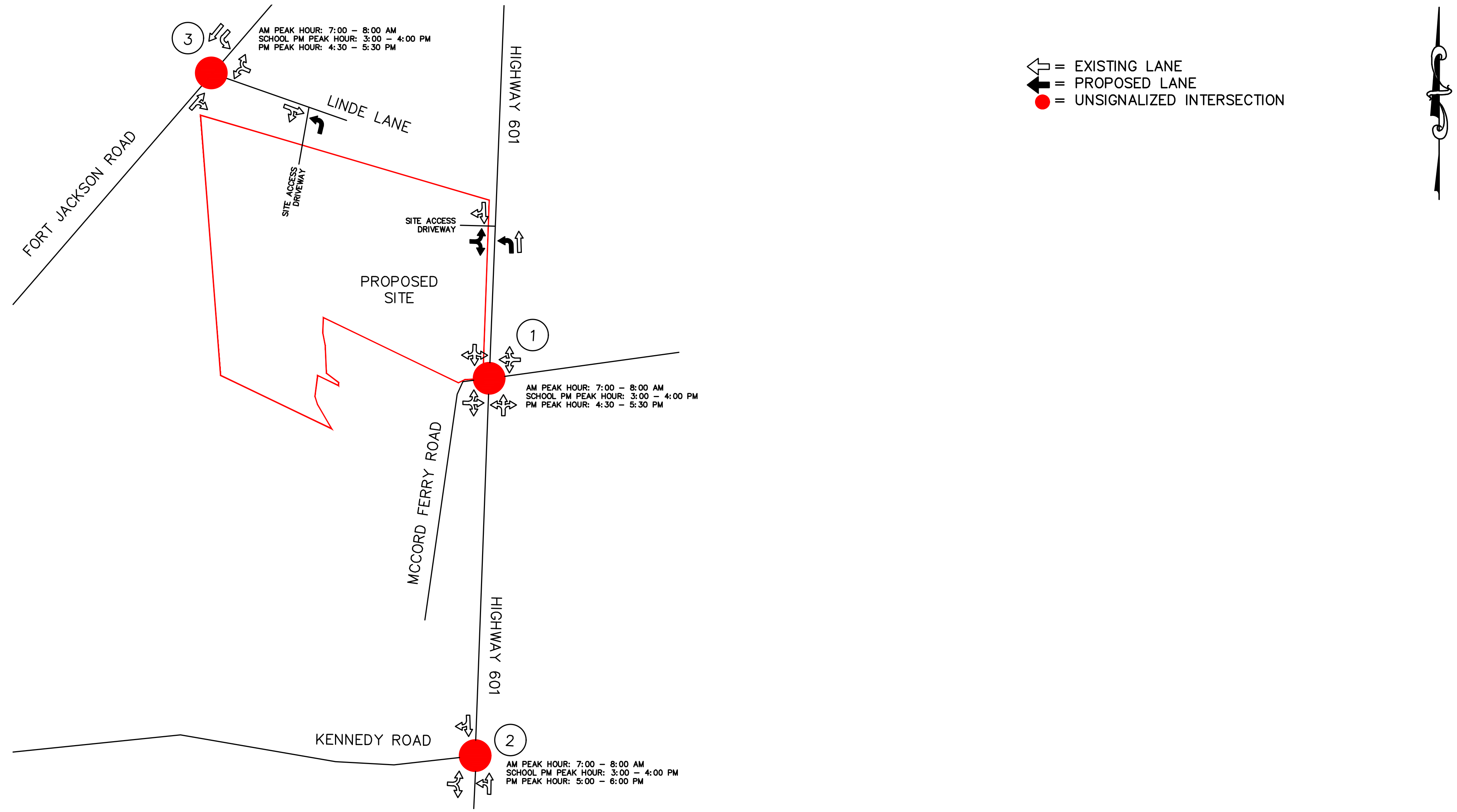
The site access driveway is expected to operate at an acceptable LOS (LOS of C or better as defined by the South Carolina Department of Transportation Traffic Engineering Guideline TG-21) for 2027 Build Conditions. For the site access driveway one entry lane and one exit lane is expected to be sufficient.

Proposed Site Access Driveway at Linde Lane

The proposed site access driveway at Linde Lane was not analyzed in this study as there is minimal traffic on Linde Lane.

Proposed Emergency Access Driveway at Highway 601

The proposed secondary site access driveway at Highway 601 was not analyzed in this study as this access will be an emergency access only and will not be used for normal traffic access.



INTERSECTION		LEVEL–OF–SERVICE (CONTROL DELAY)								
NO.	DESCRIPTION	EXISTING			2027 NO–BUILD			2027 BUILD		
		AM	SCHOOL PM	PM	AM	SCHOOL PM	PM	AM	SCHOOL PM	PM
1	MCCORD FERRY ROAD & HIGHWAY 601	B (11.0)	B (10.4)	B (11.5)	B (11.5)	B (10.7)	B (12.1)	B (12.3)	B (11.3)	B (13.5)
2	KENNEDY ROAD & HIGHWAY 601	B (11.1)	B (10.6)	B (11.3)	B (11.7)	B (10.9)	B (11.8)	B (13.1)	B (12.0)	B (13.3)
3	LINDE LANE & FORT JACKSON ROAD	A (9.6)	A (9.3)	A (9.3)	A (9.8)	A (9.4)	A (9.5)	B (10.3)	B (10.3)	B (10.9)
4	SITE ACCESS DRIVEWAY & HIGHWAY 601							B (11.7)	B (11.5)	B (13.2)

REVISIONS

EXHIBIT 8
2027 BUILD PROPOSED
ROADWAY LANEAGE & LOS
TRAFFIC IMPACT STUDY
FOR
MCCORD FERRY ROAD SUBDIVISION
IN
LUGOFF, SC

SCALE: NTS

DATE: NOVEMBER 2022

PROJ NO: 22010

4D ENGINEERING

VI. CONCLUSIONS/RECOMMENDATIONS

4D Engineering has completed an evaluation of the traffic impacts associated with the development of the proposed McCord Ferry Road Subdivision in Lugoff, South Carolina.

This analysis determined that the Project will not have a significant adverse impact on the Level-of-Service of the study area intersections at the horizon year of 2027 for the AM, School PM, and PM peak hours; therefore no recommendations for improvements to the study area intersections are necessary due to the Project for the 2027 Build Conditions.

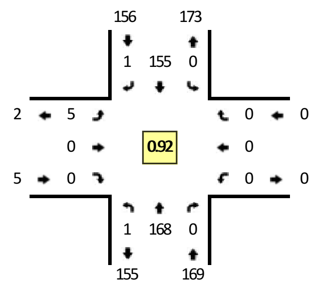
A right turn lane along Highway 601 for the proposed access driveway is not warranted or recommended. A left turn lane along Highway 601 for the proposed access driveway is warranted to be considered for the Project.

If you have any questions or comments regarding any information contained within this study, please contact Justin Waring, P.E. at (803) 356-0909 or at justin@4dengr.com.

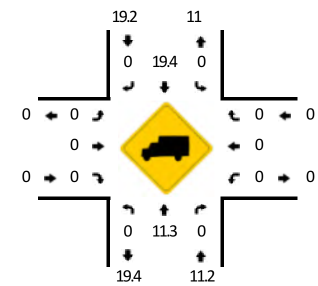
APPENDIX A

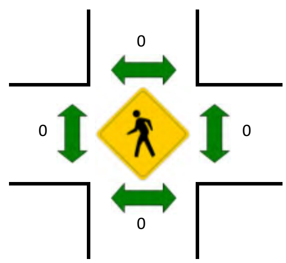
Traffic Counts Data

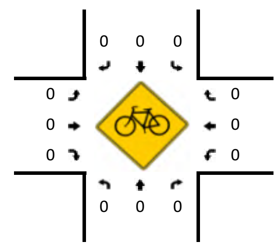
LOCATION: Hwy 601 -- McCord Ferry Rd
CITY/STATE: Kershaw, SC
QC JOB #: 15804501
DATE: Thu, May 5 2022

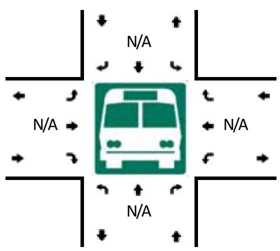


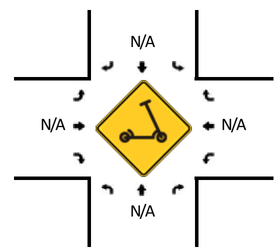
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:15 AM -- 7:30 AM











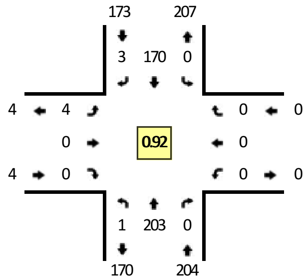
15-Min Count Period Beginning At	Hwy 601 (Northbound)				Hwy 601 (Southbound)				McCord Ferry Rd (Eastbound)				McCord Ferry Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	39	0	0	0	42	1	0	1	0	0	0	0	0	0	0	83	
7:15 AM	0	45	0	0	0	44	0	0	1	0	0	0	0	0	0	0	90	
7:30 AM	1	43	0	0	0	36	0	0	0	0	0	0	0	0	0	0	80	
7:45 AM	0	41	0	0	0	33	0	0	3	0	0	0	0	0	0	0	77	330
8:00 AM	0	30	0	0	1	31	1	0	0	0	0	0	0	0	0	0	63	310
8:15 AM	0	32	0	0	0	25	0	0	0	0	0	0	0	0	0	0	57	277
8:30 AM	0	27	0	0	0	27	0	0	1	0	0	0	0	0	0	0	55	252
8:45 AM	0	19	0	0	0	24	0	0	1	0	0	0	0	0	0	0	44	219

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	180	0	0	0	176	0	0	4	0	0	0	0	0	0	0	360
Heavy Trucks	0	8	0		0	40	0		0	0	0		0	0	0		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

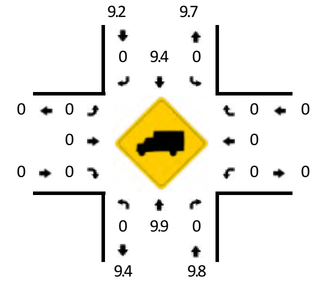
Comments:

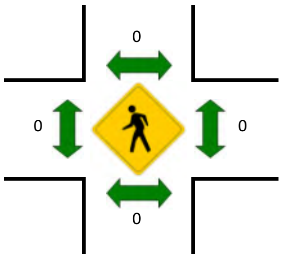
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

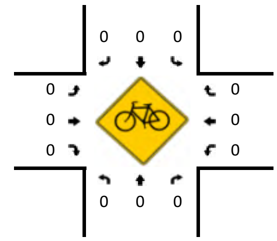
LOCATION: Hwy 601 -- McCord Ferry Rd | **QC JOB #:** 15804502
CITY/STATE: Kershaw, SC | **DATE:** Thu, May 5 2022

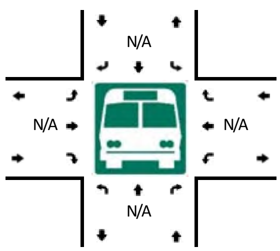


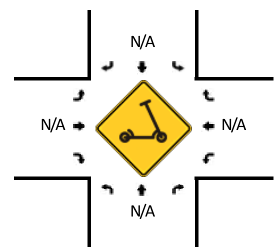
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:30 PM -- 4:45 PM











15-Min Count Period Beginning At	Hwy 601 (Northbound)				Hwy 601 (Southbound)				McCord Ferry Rd (Eastbound)				McCord Ferry Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	0	29	0	0	1	32	0	0	1	0	0	0	0	0	0	0	63	
2:15 PM	0	41	0	0	0	29	0	1	3	0	0	0	0	0	0	0	74	
2:30 PM	0	31	0	0	0	19	0	0	0	0	0	0	0	0	0	0	50	
2:45 PM	0	28	0	0	0	30	0	0	1	0	0	0	0	0	1	0	60	247
3:00 PM	0	37	0	0	1	26	0	0	0	0	1	0	0	0	0	0	65	249
3:15 PM	0	40	0	0	0	46	1	0	1	0	0	0	0	0	0	0	88	263
3:30 PM	0	38	0	0	0	33	2	0	1	0	1	0	0	0	0	0	75	288
3:45 PM	0	22	0	0	0	47	0	0	0	0	0	0	0	0	1	0	70	298
4:00 PM	0	46	0	0	0	41	0	0	3	0	0	0	0	0	0	0	90	323
4:15 PM	0	41	0	0	0	34	2	0	1	0	0	0	0	0	0	0	78	313
4:30 PM	0	55	0	0	0	46	1	0	1	0	0	0	0	0	0	0	103	341
4:45 PM	1	44	0	0	0	31	1	0	0	0	0	0	0	0	0	0	77	348
5:00 PM	0	54	0	0	0	43	0	0	2	0	0	0	0	0	0	0	99	357
5:15 PM	0	50	0	0	0	50	1	0	1	0	0	0	0	0	0	0	102	381
5:30 PM	0	56	0	0	0	29	0	0	1	0	0	0	0	0	0	0	86	364
5:45 PM	0	50	0	0	0	41	1	0	1	0	0	0	0	0	0	0	93	380

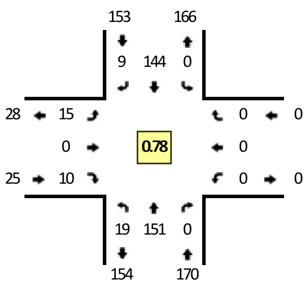
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	220	0	0	0	184	4	0	4	0	0	0	0	0	0	0	412
Heavy Trucks	0	24	0		0	4	0		0	0	0		0	0	0		28
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

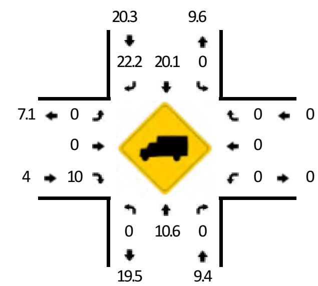
Report generated on 5/12/2022 9:29 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

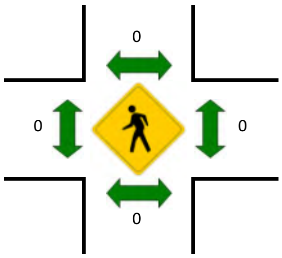
Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

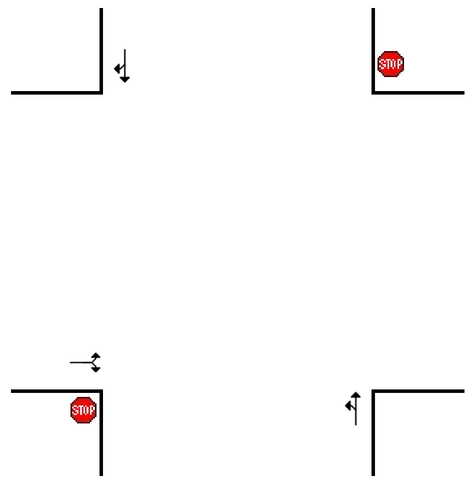
LOCATION: Hwy 601 -- State Rd S-28-627 — **QC JOB #:** 15804503
CITY/STATE: Kershaw, SC — **DATE:** Thu, May 5 2022

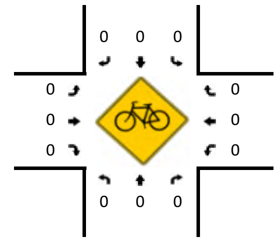


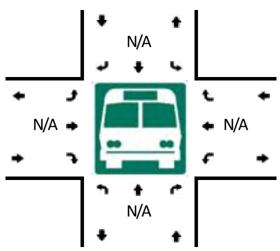
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:15 AM -- 7:30 AM

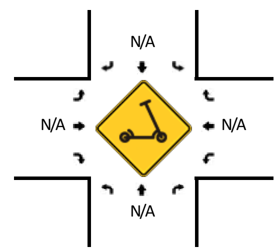












15-Min Count Period Beginning At	Hwy 601 (Northbound) Left	Thru	Right	U	Hwy 601 (Southbound) Left	Thru	Right	U	State Rd S-28-627 (Eastbound) Left	Thru	Right	U	State Rd S-28-627 (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	8	30	0	0	0	35	2	0	3	0	3	0	0	0	0	0	81	
7:15 AM	9	42	0	0	0	43	6	0	8	0	3	0	0	0	0	0	111	
7:30 AM	1	36	0	0	0	38	1	0	2	0	3	0	0	0	0	0	81	
7:45 AM	1	43	0	0	0	28	0	0	2	0	1	0	0	0	0	0	75	348
8:00 AM	1	23	0	0	0	31	4	0	4	0	0	0	0	0	0	0	63	330
8:15 AM	0	29	0	0	0	26	0	0	0	0	0	0	0	0	0	0	55	274
8:30 AM	1	23	0	0	0	22	1	0	3	0	1	0	0	0	0	0	51	244
8:45 AM	0	19	0	0	0	22	4	0	0	0	1	0	0	0	0	0	46	215

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	36	168	0	0	0	172	24	0	32	0	12	0	0	0	0	0	444
Heavy Trucks	0	8	0		0	40	8		0	0	4		0	0	0		60
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

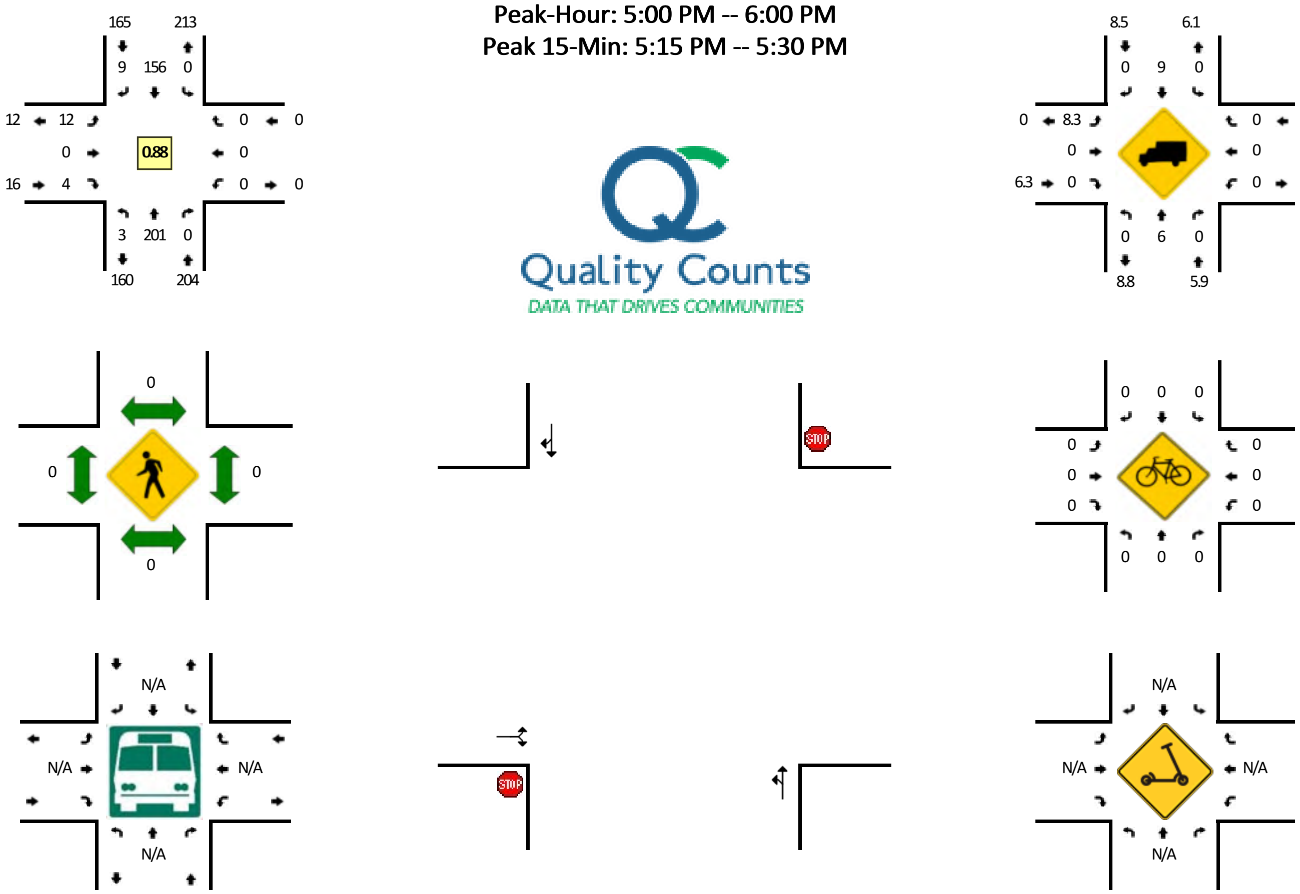
Comments:

Report generated on 5/12/2022 9:29 AM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

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

LOCATION: Hwy 601 -- State Rd S-28-627 | **QC JOB #:** 15804504
CITY/STATE: Kershaw, SC | **DATE:** Thu, May 5 2022

Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:15 PM -- 5:30 PM



15-Min Count Period Beginning At	Hwy 601 (Northbound) Left	Thru	Right	U	Hwy 601 (Southbound) Left	Thru	Right	U	State Rd S-28-627 (Eastbound) Left	Thru	Right	U	State Rd S-28-627 (Westbound) Left	Thru	Right	U	Total	Hourly Totals
2:00 PM	0	27	0	0	0	30	4	0	4	0	1	0	0	0	0	0	66	
2:15 PM	1	37	0	0	0	26	1	0	1	0	2	0	0	0	0	0	68	
2:30 PM	1	32	0	0	0	14	2	0	4	0	2	0	0	0	0	0	55	
2:45 PM	1	22	0	0	0	30	3	0	5	0	0	0	0	0	0	0	61	250
3:00 PM	1	34	0	0	0	21	0	0	3	0	5	0	0	0	0	0	64	248
3:15 PM	1	37	0	0	0	39	7	0	4	0	0	0	0	0	0	0	88	268
3:30 PM	1	30	0	0	0	28	4	0	3	0	1	0	0	0	0	0	67	280
3:45 PM	0	25	0	0	0	39	3	0	3	0	0	0	0	0	0	0	70	289
4:00 PM	5	40	0	0	0	34	3	0	3	0	0	0	0	0	0	0	85	310
4:15 PM	0	45	0	0	0	34	2	0	3	0	0	0	0	0	0	0	84	306
4:30 PM	0	48	0	0	0	42	3	0	0	0	1	0	0	0	0	0	94	333
4:45 PM	0	40	0	0	0	27	2	0	3	0	1	0	0	0	0	0	73	336
5:00 PM	0	51	0	0	0	40	1	0	4	0	1	0	0	0	0	0	97	348
5:15 PM	0	55	0	0	0	49	3	0	2	0	1	0	0	0	0	0	110	374
5:30 PM	3	47	0	0	0	31	1	0	2	0	0	0	0	0	0	0	84	364
5:45 PM	0	48	0	0	0	36	4	0	4	0	2	0	0	0	0	0	94	385

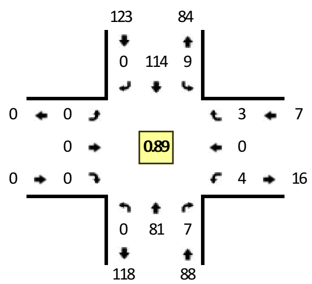
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	220	0	0	0	196	12	0	8	0	4	0	0	0	0	0	440
Heavy Trucks	0	16	0		0	20	0		0	0	0		0	0	0		36
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

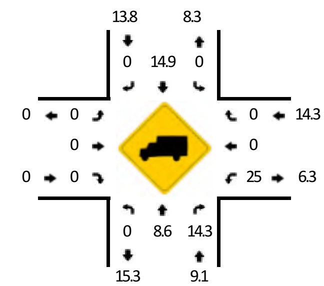
Report generated on 5/12/2022 9:29 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

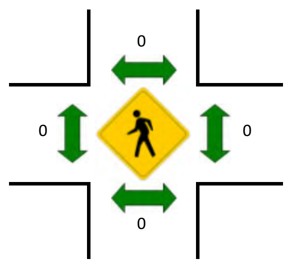
Type of peak hour being reported: Intersection Peak   Method for determining peak hour: Total Entering Volume

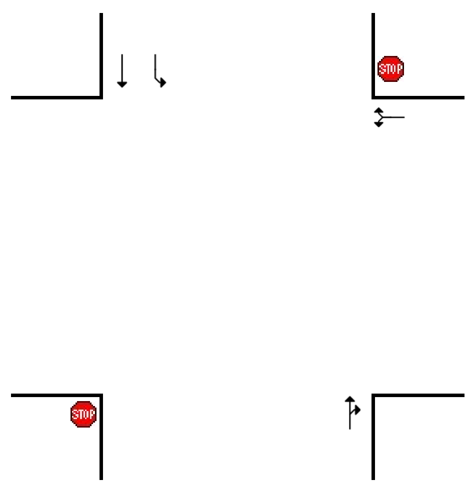
LOCATION: Ft Jackson Rd -- Linde Ln   **QC JOB #:** 15957801
CITY/STATE: Kershaw, SC   **DATE:** Thu, Oct 27 2022

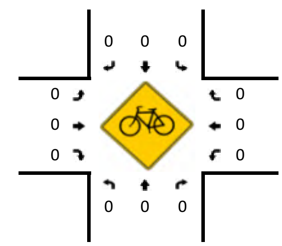


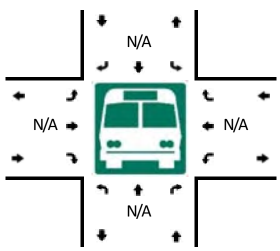
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:00 AM -- 7:15 AM

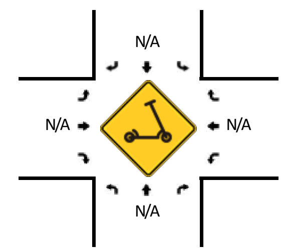












15-Min Count Period Beginning At	Ft Jackson Rd (Northbound) Left	Thru	Right	U	Ft Jackson Rd (Southbound) Left	Thru	Right	U	Linde Ln (Eastbound) Left	Thru	Right	U	Linde Ln (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	0	16	2	0	3	35	0	0	0	0	0	0	4	0	1	0	61	
7:15 AM	0	22	2	0	1	23	0	0	0	0	0	0	0	0	1	0	49	
7:30 AM	0	26	1	0	3	31	0	0	0	0	0	0	0	0	0	0	61	
7:45 AM	0	17	2	0	2	25	0	0	0	0	0	0	0	0	1	0	47	218
8:00 AM	0	21	2	0	0	13	0	0	0	0	0	0	0	0	0	0	36	193
8:15 AM	0	18	0	0	0	16	0	0	0	0	0	0	0	0	2	0	36	180
8:30 AM	0	15	0	0	1	12	0	0	0	0	0	0	0	0	0	0	28	147
8:45 AM	0	8	0	0	2	21	0	0	0	0	0	0	0	0	1	0	32	132

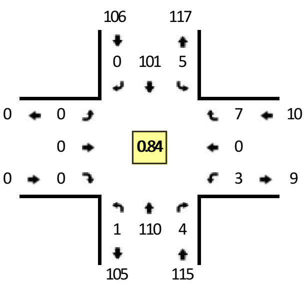
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	64	8	0	12	140	0	0	0	0	0	0	16	0	4	0	244
Heavy Trucks	0	4	0		0	16	0		0	0	0		4	0	0		24
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

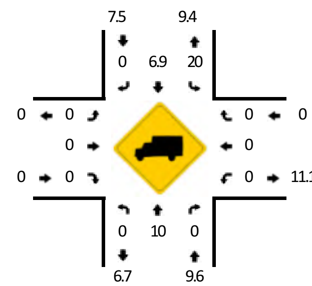
Report generated on 10/4/2022 1:35 PM   SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

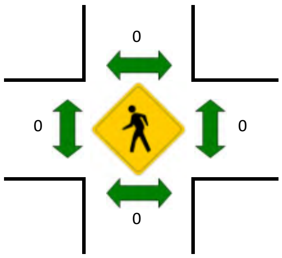
LOCATION: Ft Jackson Rd -- Linde Ln
CITY/STATE: Kershaw, SC

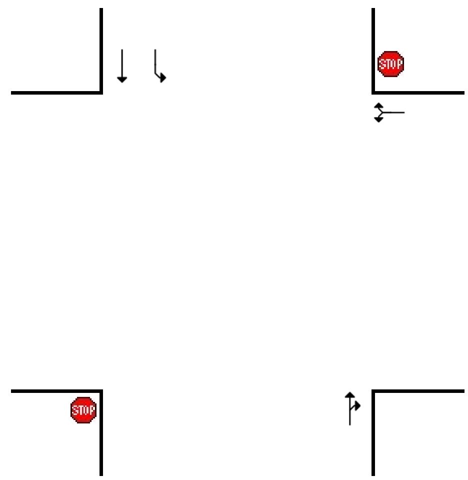
QC JOB #: 15957802
DATE: Thu, Oct 27 2022

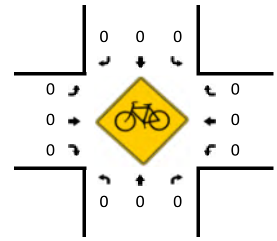


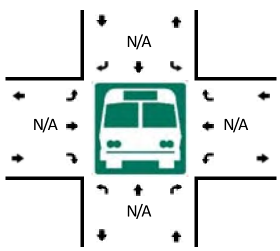
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

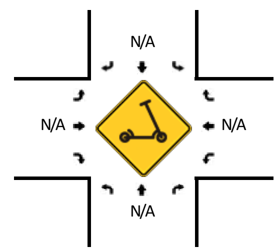












15-Min Count Period Beginning At	Ft Jackson Rd (Northbound)				Ft Jackson Rd (Southbound)				Linde Ln (Eastbound)				Linde Ln (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	0	19	2	0	1	10	0	0	0	0	0	0	2	0	0	0	34	
2:15 PM	0	12	1	0	0	26	0	0	0	0	0	0	1	0	1	0	41	
2:30 PM	0	25	1	0	0	15	0	0	0	0	0	0	1	0	2	0	44	
2:45 PM	0	26	0	1	0	19	0	0	0	0	0	0	0	0	1	0	47	166
3:00 PM	0	27	1	0	2	15	0	0	0	0	0	0	0	0	0	0	45	177
3:15 PM	0	24	0	0	0	18	0	0	0	0	0	0	0	0	1	0	43	179
3:30 PM	0	34	0	0	2	27	0	0	0	0	0	0	1	0	0	0	64	199
3:45 PM	0	27	0	0	0	20	0	0	0	0	0	0	0	0	0	0	47	199
4:00 PM	0	22	3	0	0	27	0	0	0	0	0	0	3	0	1	0	56	210
4:15 PM	0	24	1	0	0	17	0	0	0	0	0	0	1	0	1	0	44	211
4:30 PM	0	25	1	0	1	27	0	0	0	0	0	0	0	0	2	0	56	203
4:45 PM	0	37	0	1	1	24	0	0	0	0	0	0	1	0	1	0	65	221
5:00 PM	0	22	0	0	1	17	0	0	0	0	0	0	1	0	0	0	41	206
5:15 PM	0	26	3	0	2	33	0	0	0	0	0	0	1	0	4	0	69	231
5:30 PM	0	25	0	0	1	21	0	0	0	0	0	0	3	0	0	0	50	225
5:45 PM	0	25	0	0	0	14	0	0	0	0	0	0	0	0	0	0	39	199

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	104	12	0	8	132	0	0	0	0	0	0	4	0	16	0	276
Heavy Trucks	0	0	0		0	8	0		0	0	0		0	0	0		8
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 10/4/2022 1:35 PM
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

APPENDIX B

HCM Capacity Analyses

Existing Conditions

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	0	0	0	0	1	168	0	0	155	1
Future Vol, veh/h	5	0	0	0	0	0	1	168	0	0	155	1
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	90	90	90	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	2	2	0	11	0	0	19	0
Mvmt Flow	5	0	0	0	0	0	1	183	0	0	168	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	354	354	169	354	354	183	169	0	0	183	0	0
Stage 1	169	169	-	185	185	-	-	-	-	-	-	-
Stage 2	185	185	-	169	169	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	605	574	880	601	571	859	1421	-	-	1404	-	-
Stage 1	838	763	-	817	747	-	-	-	-	-	-	-
Stage 2	821	751	-	833	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	604	573	880	600	570	859	1421	-	-	1404	-	-
Mov Cap-2 Maneuver	604	573	-	600	570	-	-	-	-	-	-	-
Stage 1	837	763	-	816	746	-	-	-	-	-	-	-
Stage 2	820	750	-	833	759	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	0	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1421	-	-	604	-	1404	-	-
HCM Lane V/C Ratio	0.001	-	-	0.009	-	-	-	-
HCM Control Delay (s)	7.5	0	-	11	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Intersection												
Int Delay, s/veh	0.2											
Movement	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Lane Configurations												
Traffic Vol, veh/h	2	0	2	0	0	1	0	137	0	1	152	3
Future Vol, veh/h	2	0	2	0	0	1	0	137	0	1	152	3
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	82	85	85	85	85	85	85
Heavy Vehicles, %	0	0	50	0	0	100	0	15	0	100	13	0
Mvmt Flow	2	0	2	0	0	1	0	161	0	1	179	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	345	344	181	345	346	161	183	0	0	161	0	0
Stage 1	183	183	-	161	161	-	-	-	-	-	-	-
Stage 2	162	161	-	184	185	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.7	7.1	6.5	7.2	4.1	-	-	5.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.75	3.5	4	4.2	2.2	-	-	3.1	-	-
Pot Cap-1 Maneuver	613	582	752	613	580	681	1404	-	-	990	-	-
Stage 1	823	752	-	846	769	-	-	-	-	-	-	-
Stage 2	845	769	-	822	751	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	611	581	752	611	579	681	1404	-	-	990	-	-
Mov Cap-2 Maneuver	611	581	-	611	579	-	-	-	-	-	-	-
Stage 1	823	751	-	846	769	-	-	-	-	-	-	-
Stage 2	843	769	-	819	750	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	10.3	0	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1404	-	-	674	681	990	-	-
HCM Lane V/C Ratio	-	-	-	0.007	0.002	0.001	-	-
HCM Control Delay (s)	0	-	-	10.4	10.3	8.6	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	0	0	0	0	1	203	0	0	170	3
Future Vol, veh/h	4	0	0	0	0	0	1	203	0	0	170	3
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	90	90	90	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	2	2	0	10	0	0	9	0
Mvmt Flow	4	0	0	0	0	0	1	221	0	0	185	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	410	410	187	410	411	221	188	0	0	221	0	0
Stage 1	187	187	-	223	223	-	-	-	-	-	-	-
Stage 2	223	223	-	187	188	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	556	534	860	552	531	819	1398	-	-	1360	-	-
Stage 1	819	749	-	780	719	-	-	-	-	-	-	-
Stage 2	784	723	-	815	745	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	555	533	860	551	530	819	1398	-	-	1360	-	-
Mov Cap-2 Maneuver	555	533	-	551	530	-	-	-	-	-	-	-
Stage 1	818	749	-	779	718	-	-	-	-	-	-	-
Stage 2	783	722	-	815	745	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	0	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1398	-	-	555	-	1360	-	-
HCM Lane V/C Ratio	0.001	-	-	0.008	-	-	-	-
HCM Control Delay (s)	7.6	0	-	11.5	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	10	0	0	0	19	151	0	0	144	9
Future Vol, veh/h	15	0	10	0	0	0	19	151	0	0	144	9
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	90	90	90	78	78	78	78	78	78
Heavy Vehicles, %	0	0	10	2	2	2	0	11	0	0	20	22
Mvmt Flow	19	0	13	0	0	0	24	194	0	0	185	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	433	433	191	440	439	194	197	0	0	194	0	0
Stage 1	191	191	-	242	242	-	-	-	-	-	-	-
Stage 2	242	242	-	198	197	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.3	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.39	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	537	519	831	527	512	847	1388	-	-	1391	-	-
Stage 1	815	746	-	762	705	-	-	-	-	-	-	-
Stage 2	766	709	-	804	738	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	529	509	831	511	502	847	1388	-	-	1391	-	-
Mov Cap-2 Maneuver	529	509	-	511	502	-	-	-	-	-	-	-
Stage 1	800	746	-	748	692	-	-	-	-	-	-	-
Stage 2	751	696	-	792	738	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	0	0.9	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1388	-	-	619	-	1391	-	-
HCM Lane V/C Ratio	0.018	-	-	0.052	-	-	-	-
HCM Control Delay (s)	7.6	0	-	11.1	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	-	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	6	0	0	0	3	126	0	0	127	14
Future Vol, veh/h	13	0	6	0	0	0	3	126	0	0	127	14
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	15	0	0	0	0	0	0	17	0	0	14	0
Mvmt Flow	16	0	7	0	0	0	4	154	0	0	155	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	326	326	164	329	334	154	172	0	0	154	0	0
Stage 1	164	164	-	162	162	-	-	-	-	-	-	-
Stage 2	162	162	-	167	172	-	-	-	-	-	-	-
Critical Hdwy	7.25	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.25	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.25	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.635	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	603	596	886	628	589	897	1417	-	-	1439	-	-
Stage 1	808	766	-	845	768	-	-	-	-	-	-	-
Stage 2	810	768	-	840	760	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	602	594	886	621	587	897	1417	-	-	1439	-	-
Mov Cap-2 Maneuver	602	594	-	621	587	-	-	-	-	-	-	-
Stage 1	806	766	-	842	766	-	-	-	-	-	-	-
Stage 2	808	766	-	833	760	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	0	0.2	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1417	-	-	670	-	1439	-	-
HCM Lane V/C Ratio	0.003	-	-	0.035	-	-	-	-
HCM Control Delay (s)	7.5	0	-	10.6	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	0	4	0	0	0	3	201	0	0	156	9
Future Vol, veh/h	12	0	4	0	0	0	3	201	0	0	156	9
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	90	90	90	88	88	88	88	88	88
Heavy Vehicles, %	8	0	0	2	2	2	0	6	0	0	9	0
Mvmt Flow	14	0	5	0	0	0	3	228	0	0	177	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	416	416	182	419	421	228	187	0	0	228	0	0
Stage 1	182	182	-	234	234	-	-	-	-	-	-	-
Stage 2	234	234	-	185	187	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.5	6.2	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.18	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4	3.3	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	537	530	866	544	524	811	1399	-	-	1352	-	-
Stage 1	806	753	-	769	711	-	-	-	-	-	-	-
Stage 2	756	715	-	817	745	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	536	529	866	540	523	811	1399	-	-	1352	-	-
Mov Cap-2 Maneuver	536	529	-	540	523	-	-	-	-	-	-	-
Stage 1	804	753	-	767	710	-	-	-	-	-	-	-
Stage 2	754	714	-	813	745	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	0	0.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1399	-	-	592	-	1352	-	-
HCM Lane V/C Ratio	0.002	-	-	0.031	-	-	-	-
HCM Control Delay (s)	7.6	0	-	11.3	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	4	3	81	7	9	114
Future Vol, veh/h	4	3	81	7	9	114
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	89	89	89	89	89	89
Heavy Vehicles, %	25	0	9	14	0	15
Mvmt Flow	4	3	91	8	10	128

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	243	95	0	0	99	0
Stage 1	95	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	698	967	-	-	1507	-
Stage 1	874	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	693	967	-	-	1507	-
Mov Cap-2 Maneuver	693	-	-	-	-	-
Stage 1	874	-	-	-	-	-
Stage 2	820	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.6	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	789	1507	-
HCM Lane V/C Ratio	-	-	0.01	0.007	-
HCM Control Delay (s)	-	-	9.6	7.4	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection						
Int Delay, s/veh	0.3					

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	1	112	1	4	80
Future Vol, veh/h	1	1	112	1	4	80
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	84	84	84	84	90	90
Heavy Vehicles, %	0	0	10	0	20	7
Mvmt Flow	1	1	133	1	4	89

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	231	134	0	0	134	0
Stage 1	134	-	-	-	-	-
Stage 2	97	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.3	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.38	-
Pot Cap-1 Maneuver	762	920	-	-	1347	-
Stage 1	897	-	-	-	-	-
Stage 2	932	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	760	920	-	-	1347	-
Mov Cap-2 Maneuver	760	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	929	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.3	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	832	1347	-
HCM Lane V/C Ratio	-	-	0.003	0.003	-
HCM Control Delay (s)	-	-	9.3	7.7	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	3	7	110	4	5	101
Future Vol, veh/h	3	7	110	4	5	101
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	84	84	84	84	84	84
Heavy Vehicles, %	0	0	10	0	20	7
Mvmt Flow	4	8	131	5	6	120

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	266	134	0	0	136	0
Stage 1	134	-	-	-	-	-
Stage 2	132	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.3	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.38	-
Pot Cap-1 Maneuver	727	920	-	-	1344	-
Stage 1	897	-	-	-	-	-
Stage 2	899	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	724	920	-	-	1344	-
Mov Cap-2 Maneuver	724	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	895	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.3	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	851	1344	-
HCM Lane V/C Ratio	-	-	0.014	0.004	-
HCM Control Delay (s)	-	-	9.3	7.7	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

2027 No-Build Conditions

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	0	0	0	0	1	168	0	0	155	1
Future Vol, veh/h	5	0	0	0	0	0	1	168	0	0	155	1
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	90	90	90	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	2	2	0	11	0	0	19	0
Mvmt Flow	6	0	0	0	0	0	1	206	0	0	190	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	399	399	191	399	399	206	191	0	0	206	0	0
Stage 1	191	191	-	208	208	-	-	-	-	-	-	-
Stage 2	208	208	-	191	191	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	565	542	856	561	539	835	1395	-	-	1377	-	-
Stage 1	815	746	-	794	730	-	-	-	-	-	-	-
Stage 2	799	734	-	811	742	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	564	541	856	560	538	835	1395	-	-	1377	-	-
Mov Cap-2 Maneuver	564	541	-	560	538	-	-	-	-	-	-	-
Stage 1	814	746	-	793	729	-	-	-	-	-	-	-
Stage 2	798	733	-	811	742	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	0	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1395	-	-	564	-	1377	-	-
HCM Lane V/C Ratio	0.001	-	-	0.011	-	-	-	-
HCM Control Delay (s)	7.6	0	-	11.5	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	2	0	0	1	0	137	0	1	152	3
Future Vol, veh/h	2	0	2	0	0	1	0	137	0	1	152	3
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	82	85	85	85	85	85	85
Heavy Vehicles, %	0	0	50	0	0	100	0	15	0	100	13	0
Mvmt Flow	3	0	3	0	0	1	0	182	0	1	202	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	389	388	204	390	390	182	206	0	0	182	0	0
Stage 1	206	206	-	182	182	-	-	-	-	-	-	-
Stage 2	183	182	-	208	208	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.7	7.1	6.5	7.2	4.1	-	-	5.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.75	3.5	4	4.2	2.2	-	-	3.1	-	-
Pot Cap-1 Maneuver	574	550	729	573	548	661	1377	-	-	970	-	-
Stage 1	801	735	-	824	753	-	-	-	-	-	-	-
Stage 2	823	753	-	799	734	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	572	549	729	571	547	661	1377	-	-	970	-	-
Mov Cap-2 Maneuver	572	549	-	571	547	-	-	-	-	-	-	-
Stage 1	801	734	-	824	753	-	-	-	-	-	-	-
Stage 2	821	753	-	795	733	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.7	10.5	0	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1377	-	-	641	661	970	-	-
HCM Lane V/C Ratio	-	-	-	0.008	0.002	0.001	-	-
HCM Control Delay (s)	0	-	-	10.7	10.5	8.7	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	0	0	0	0	1	203	0	0	170	3
Future Vol, veh/h	4	0	0	0	0	0	1	203	0	0	170	3
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	90	90	90	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	2	2	0	10	0	0	9	0
Mvmt Flow	5	0	0	0	0	0	1	249	0	0	209	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	462	462	211	462	464	249	213	0	0	249	0	0
Stage 1	211	211	-	251	251	-	-	-	-	-	-	-
Stage 2	251	251	-	211	213	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	513	500	834	510	495	790	1369	-	-	1328	-	-
Stage 1	796	731	-	753	699	-	-	-	-	-	-	-
Stage 2	758	703	-	791	726	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	512	500	834	509	495	790	1369	-	-	1328	-	-
Mov Cap-2 Maneuver	512	500	-	509	495	-	-	-	-	-	-	-
Stage 1	795	731	-	752	698	-	-	-	-	-	-	-
Stage 2	757	702	-	791	726	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	0	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1369	-	-	512	-	1328	-	-
HCM Lane V/C Ratio	0.001	-	-	0.01	-	-	-	-
HCM Control Delay (s)	7.6	0	-	12.1	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	10	0	0	0	19	151	0	0	144	9
Future Vol, veh/h	15	0	10	0	0	0	19	151	0	0	144	9
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	90	90	90	78	78	78	78	78	78
Heavy Vehicles, %	0	0	10	2	2	2	0	11	0	0	20	22
Mvmt Flow	22	0	14	0	0	0	28	219	0	0	209	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	491	491	216	498	497	219	222	0	0	219	0	0
Stage 1	216	216	-	275	275	-	-	-	-	-	-	-
Stage 2	275	275	-	223	222	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.3	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.39	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	491	481	804	483	475	821	1359	-	-	1362	-	-
Stage 1	791	728	-	731	683	-	-	-	-	-	-	-
Stage 2	736	686	-	780	720	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	482	470	804	466	464	821	1359	-	-	1362	-	-
Mov Cap-2 Maneuver	482	470	-	466	464	-	-	-	-	-	-	-
Stage 1	773	728	-	714	667	-	-	-	-	-	-	-
Stage 2	719	670	-	766	720	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	0	0.9	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1359	-	-	574	-	1362	-	-
HCM Lane V/C Ratio	0.02	-	-	0.063	-	-	-	-
HCM Control Delay (s)	7.7	0	-	11.7	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	-	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	6	0	0	0	3	126	0	0	127	14
Future Vol, veh/h	13	0	6	0	0	0	3	126	0	0	127	14
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	15	0	0	0	0	0	0	17	0	0	14	0
Mvmt Flow	18	0	8	0	0	0	4	174	0	0	175	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	367	367	185	371	376	174	194	0	0	174	0	0
Stage 1	185	185	-	182	182	-	-	-	-	-	-	-
Stage 2	182	182	-	189	194	-	-	-	-	-	-	-
Critical Hdwy	7.25	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.25	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.25	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.635	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	566	565	862	589	558	875	1391	-	-	1415	-	-
Stage 1	787	751	-	824	753	-	-	-	-	-	-	-
Stage 2	790	753	-	817	744	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	565	563	862	582	556	875	1391	-	-	1415	-	-
Mov Cap-2 Maneuver	565	563	-	582	556	-	-	-	-	-	-	-
Stage 1	785	751	-	822	751	-	-	-	-	-	-	-
Stage 2	788	751	-	809	744	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	0	0.2	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1391	-	-	634	-	1415	-	-
HCM Lane V/C Ratio	0.003	-	-	0.041	-	-	-	-
HCM Control Delay (s)	7.6	0	-	10.9	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	0	4	0	0	0	3	201	0	0	156	9
Future Vol, veh/h	12	0	4	0	0	0	3	201	0	0	156	9
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	90	90	90	88	88	88	88	88	88
Heavy Vehicles, %	8	0	0	2	2	2	0	6	0	0	9	0
Mvmt Flow	15	0	5	0	0	0	4	258	0	0	200	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	472	472	206	475	478	258	212	0	0	258	0	0
Stage 1	206	206	-	266	266	-	-	-	-	-	-	-
Stage 2	266	266	-	209	212	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.5	6.2	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.18	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4	3.3	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	492	493	840	500	486	781	1370	-	-	1318	-	-
Stage 1	782	735	-	739	689	-	-	-	-	-	-	-
Stage 2	726	692	-	793	727	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	491	492	840	496	485	781	1370	-	-	1318	-	-
Mov Cap-2 Maneuver	491	492	-	496	485	-	-	-	-	-	-	-
Stage 1	780	735	-	737	687	-	-	-	-	-	-	-
Stage 2	724	690	-	788	727	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.8	0	0.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1370	-	-	548	-	1318	-	-
HCM Lane V/C Ratio	0.003	-	-	0.037	-	-	-	-
HCM Control Delay (s)	7.6	0	-	11.8	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	4	3	81	7	9	114
Future Vol, veh/h	4	3	81	7	9	114
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	89	89	89	89	89	89
Heavy Vehicles, %	25	0	9	14	0	15
Mvmt Flow	5	4	103	9	11	145

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	275	108	0	0	112	0
Stage 1	108	-	-	-	-	-
Stage 2	167	-	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	668	951	-	-	1490	-
Stage 1	862	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	663	951	-	-	1490	-
Mov Cap-2 Maneuver	663	-	-	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	804	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.8	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	762	1490	-
HCM Lane V/C Ratio	-	-	0.012	0.008	-
HCM Control Delay (s)	-	-	9.8	7.4	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	1	1	112	1	4	80
Future Vol, veh/h	1	1	112	1	4	80
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	84	84	84	84	84	84
Heavy Vehicles, %	0	0	10	0	20	7
Mvmt Flow	1	1	151	1	5	108

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	270	152	0	0	152	0
Stage 1	152	-	-	-	-	-
Stage 2	118	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.3	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.38	-
Pot Cap-1 Maneuver	724	900	-	-	1326	-
Stage 1	881	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	721	900	-	-	1326	-
Mov Cap-2 Maneuver	721	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.5	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	801	1326	-
HCM Lane V/C Ratio	-	-	0.003	0.004	-
HCM Control Delay (s)	-	-	9.5	7.7	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	3	7	110	4	5	101
Future Vol, veh/h	3	7	110	4	5	101
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	84	84	84	84	84	84
Heavy Vehicles, %	0	0	10	0	20	7
Mvmt Flow	4	9	148	5	7	136

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	301	151	0	0	153	0
Stage 1	151	-	-	-	-	-
Stage 2	150	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.3	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.38	-
Pot Cap-1 Maneuver	695	901	-	-	1325	-
Stage 1	882	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	692	901	-	-	1325	-
Mov Cap-2 Maneuver	692	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	879	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.4	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	826	1325	-
HCM Lane V/C Ratio	-	-	0.016	0.005	-
HCM Control Delay (s)	-	-	9.4	7.7	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

2027 Build Conditions

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	0	0	0	0	1	210	0	0	232	1
Future Vol, veh/h	5	0	0	0	0	0	1	210	0	0	232	1
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	90	90	90	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	2	2	0	10	0	0	14	0
Mvmt Flow	6	0	0	0	0	0	1	228	0	0	252	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	483	483	253	483	483	228	253	0	0	228	0	0
Stage 1	253	253	-	230	230	-	-	-	-	-	-	-
Stage 2	230	230	-	253	253	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	497	486	791	494	483	811	1324	-	-	1352	-	-
Stage 1	756	701	-	773	714	-	-	-	-	-	-	-
Stage 2	777	718	-	751	698	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	497	486	791	494	483	811	1324	-	-	1352	-	-
Mov Cap-2 Maneuver	497	486	-	494	483	-	-	-	-	-	-	-
Stage 1	755	701	-	772	713	-	-	-	-	-	-	-
Stage 2	776	717	-	751	698	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1324	-	-	497	-	1352	-	-
HCM Lane V/C Ratio	0.001	-	-	0.012	-	-	-	-
HCM Control Delay (s)	7.7	0	-	12.3	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	2	0	0	1	0	195	0	1	212	3
Future Vol, veh/h	2	0	2	0	0	1	0	195	0	1	212	3
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	82	85	85	85	85	85	85
Heavy Vehicles, %	0	0	50	0	0	100	0	12	0	100	10	0
Mvmt Flow	3	0	3	0	0	1	0	229	0	1	249	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	483	482	251	484	484	229	253	0	0	229	0	0
Stage 1	253	253	-	229	229	-	-	-	-	-	-	-
Stage 2	230	229	-	255	255	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.7	7.1	6.5	7.2	4.1	-	-	5.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.75	3.5	4	4.2	2.2	-	-	3.1	-	-
Pot Cap-1 Maneuver	497	487	684	496	486	618	1324	-	-	925	-	-
Stage 1	756	701	-	778	718	-	-	-	-	-	-	-
Stage 2	777	718	-	754	700	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	496	487	684	494	486	618	1324	-	-	925	-	-
Mov Cap-2 Maneuver	496	487	-	494	486	-	-	-	-	-	-	-
Stage 1	756	700	-	778	718	-	-	-	-	-	-	-
Stage 2	775	718	-	750	699	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	10.8	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1324	-	-	575	618	925	-	-
HCM Lane V/C Ratio	-	-	-	0.009	0.002	0.001	-	-
HCM Control Delay (s)	0	-	-	11.3	10.8	8.9	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	0	0	0	0	1	297	0	0	232	3
Future Vol, veh/h	4	0	0	0	0	0	1	297	0	0	232	3
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	90	90	90	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	2	2	0	8	0	0	7	0
Mvmt Flow	5	0	0	0	0	0	1	323	0	0	252	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	579	579	254	579	581	323	256	0	0	323	0	0
Stage 1	254	254	-	325	325	-	-	-	-	-	-	-
Stage 2	325	325	-	254	256	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	429	429	790	426	425	718	1321	-	-	1248	-	-
Stage 1	755	701	-	687	649	-	-	-	-	-	-	-
Stage 2	692	653	-	750	696	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	429	429	790	426	425	718	1321	-	-	1248	-	-
Mov Cap-2 Maneuver	429	429	-	426	425	-	-	-	-	-	-	-
Stage 1	754	701	-	686	648	-	-	-	-	-	-	-
Stage 2	691	652	-	750	696	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	13.5			0			0			0		
HCM LOS	B			A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1321	-	-	429	-	1248	-	-
HCM Lane V/C Ratio	0.001	-	-	0.011	-	-	-	-
HCM Control Delay (s)	7.7	0	-	13.5	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	0	10	0	0	0	19	181	0	0	192	38
Future Vol, veh/h	27	0	10	0	0	0	19	181	0	0	192	38
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	90	90	90	78	78	78	78	78	78
Heavy Vehicles, %	0	0	10	2	2	2	0	10	0	0	17	5
Mvmt Flow	35	0	14	0	0	0	28	232	0	0	246	49

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	559	559	271	566	583	232	295	0	0	232	0	0
Stage 1	271	271	-	288	288	-	-	-	-	-	-	-
Stage 2	288	288	-	278	295	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.3	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.39	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	443	440	749	435	424	807	1278	-	-	1348	-	-
Stage 1	739	689	-	720	674	-	-	-	-	-	-	-
Stage 2	724	677	-	728	669	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	435	429	749	418	413	807	1278	-	-	1348	-	-
Mov Cap-2 Maneuver	435	429	-	418	413	-	-	-	-	-	-	-
Stage 1	721	689	-	702	657	-	-	-	-	-	-	-
Stage 2	706	660	-	714	669	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.1	0	0.8	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1278	-	-	496	-	1348	-	-
HCM Lane V/C Ratio	0.022	-	-	0.099	-	-	-	-
HCM Control Delay (s)	7.9	0	-	13.1	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	-	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	0	6	0	0	0	3	162	0	0	164	36
Future Vol, veh/h	35	0	6	0	0	0	3	162	0	0	164	36
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	6	0	0	0	0	0	0	15	0	0	12	0
Mvmt Flow	43	0	8	0	0	0	4	198	0	0	200	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	428	428	222	432	450	198	244	0	0	198	0	0
Stage 1	222	222	-	206	206	-	-	-	-	-	-	-
Stage 2	206	206	-	226	244	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	530	522	823	537	508	848	1334	-	-	1387	-	-
Stage 1	771	723	-	801	735	-	-	-	-	-	-	-
Stage 2	787	735	-	781	708	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	529	520	823	531	506	848	1334	-	-	1387	-	-
Mov Cap-2 Maneuver	529	520	-	531	506	-	-	-	-	-	-	-
Stage 1	769	723	-	799	733	-	-	-	-	-	-	-
Stage 2	785	733	-	773	708	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	0	0.2	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1334	-	-	562	-	1387	-	-
HCM Lane V/C Ratio	0.003	-	-	0.091	-	-	-	-
HCM Control Delay (s)	7.7	0	-	12	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	-	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	0	4	0	0	0	3	291	0	0	214	12
Future Vol, veh/h	18	0	4	0	0	0	3	291	0	0	214	12
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	90	90	90	88	88	88	88	88	88
Heavy Vehicles, %	6	0	0	2	2	2	0	5	0	0	8	0
Mvmt Flow	20	0	5	0	0	0	4	331	0	0	243	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	589	589	250	592	596	331	257	0	0	331	0	0
Stage 1	250	250	-	339	339	-	-	-	-	-	-	-
Stage 2	339	339	-	253	257	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.5	6.2	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.16	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4	3.3	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	414	423	794	418	417	711	1320	-	-	1240	-	-
Stage 1	745	704	-	676	640	-	-	-	-	-	-	-
Stage 2	667	643	-	751	695	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	413	421	794	414	415	711	1320	-	-	1240	-	-
Mov Cap-2 Maneuver	413	421	-	414	415	-	-	-	-	-	-	-
Stage 1	742	704	-	673	637	-	-	-	-	-	-	-
Stage 2	664	640	-	746	695	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	0	0.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1320	-	-	457	-	1240	-	-
HCM Lane V/C Ratio	0.003	-	-	0.056	-	-	-	-
HCM Control Delay (s)	7.7	0	-	13.3	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	-	0	-	-

Intersection						
Int Delay, s/veh	3					

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	43	41	81	22	23	114
Future Vol, veh/h	43	41	81	22	23	114
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	89	89	89	89	89	89
Heavy Vehicles, %	2	0	9	5	0	15
Mvmt Flow	48	46	103	25	26	145

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	313	116	0	0	128	0
Stage 1	116	-	-	-	-	-
Stage 2	197	-	-	-	-	-
Critical Hdwy	6.42	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	680	942	-	-	1470	-
Stage 1	909	-	-	-	-	-
Stage 2	836	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	668	942	-	-	1470	-
Mov Cap-2 Maneuver	668	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	821	-	-	-	-	-

Approach	NW		NE		SW	
HCM Control Delay, s	10.3		0		1.1	
HCM LOS	B					

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	779	1470	-
HCM Lane V/C Ratio	-	-	0.121	0.018	-
HCM Control Delay (s)	-	-	10.3	7.5	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection						
Int Delay, s/veh	2.4					

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	27	27	112	27	31	80
Future Vol, veh/h	27	27	112	27	31	80
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	84	84	84	84	84	84
Heavy Vehicles, %	0	0	10	0	3	7
Mvmt Flow	32	32	151	32	37	108

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	349	167	0	0	183	0
Stage 1	167	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.227	-
Pot Cap-1 Maneuver	652	882	-	-	1386	-
Stage 1	867	-	-	-	-	-
Stage 2	854	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	634	882	-	-	1386	-
Mov Cap-2 Maneuver	634	-	-	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	831	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	10.3	0	2
HCM LOS	B		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	738	1386	-
HCM Lane V/C Ratio	-	-	0.087	0.027	-
HCM Control Delay (s)	-	-	10.3	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	2.7

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	29	34	110	50	51	101
Future Vol, veh/h	29	34	110	50	51	101
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	84	84	84	84	84	84
Heavy Vehicles, %	0	0	10	0	2	7
Mvmt Flow	35	40	148	60	61	136

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	436	178	0	0	208	0
Stage 1	178	-	-	-	-	-
Stage 2	258	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.218	-
Pot Cap-1 Maneuver	581	870	-	-	1363	-
Stage 1	858	-	-	-	-	-
Stage 2	790	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	555	870	-	-	1363	-
Mov Cap-2 Maneuver	555	-	-	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	754	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	10.9	0	2.4
HCM LOS	B		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	690	1363	-
HCM Lane V/C Ratio	-	-	0.109	0.045	-
HCM Control Delay (s)	-	-	10.9	7.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection						
Int Delay, s/veh	2.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	57	57	20	196	176	20
Future Vol, veh/h	57	57	20	196	176	20
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, %	0	0	0	11	19	0
Mvmt Flow	63	63	22	218	196	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	469	207	218	0	-	0
Stage 1	207	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	556	839	1364	-	-	-
Stage 1	832	-	-	-	-	-
Stage 2	786	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	546	839	1364	-	-	-
Mov Cap-2 Maneuver	546	-	-	-	-	-
Stage 1	817	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.7	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1364	-	662	-	-
HCM Lane V/C Ratio	0.016	-	0.191	-	-
HCM Control Delay (s)	7.7	0	11.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

Intersection						
Int Delay, s/veh	2.5					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	40	40	157	176	40
Future Vol, veh/h	40	40	40	157	176	40
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, %	0	0	0	15	13	0
Mvmt Flow	44	44	44	174	196	44

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	480	218	240	0	-	0
Stage 1	218	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	548	827	1339	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	786	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	528	827	1339	-	-	-
Mov Cap-2 Maneuver	528	-	-	-	-	-
Stage 1	793	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1339	-	645	-	-
HCM Lane V/C Ratio	0.033	-	0.138	-	-
HCM Control Delay (s)	7.8	0	11.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	40	68	234	195	67
Future Vol, veh/h	40	40	68	234	195	67
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, %	0	0	0	10	9	0
Mvmt Flow	44	44	76	260	217	74

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	666	254	291	0	-	0
Stage 1	254	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	428	790	1282	-	-	-
Stage 1	793	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	398	790	1282	-	-	-
Mov Cap-2 Maneuver	398	-	-	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	673	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.2	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1282	-	529	-	-
HCM Lane V/C Ratio	0.059	-	0.168	-	-
HCM Control Delay (s)	8	0	13.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-

APPENDIX C

Supporting Documentation

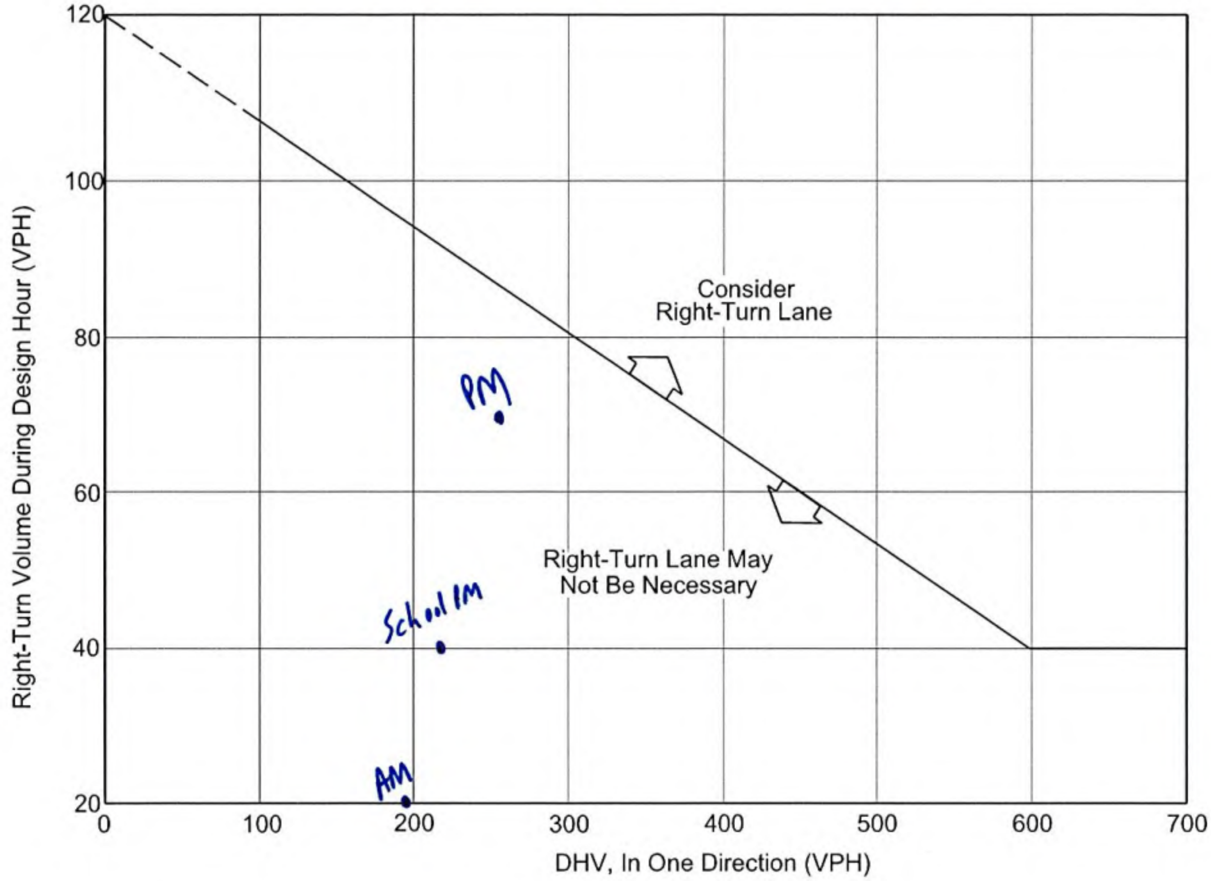
Annual Growth Rate Calculation

Average Annual Growth Rate

Year	SN161 AADT	% Change
2010	2,800	
2011	2,800	0.0%
2012	3,000	7.1%
2013	3,000	0.0%
2014	3,100	3.3%
2015	3,600	16.1%
2016	3,700	2.8%
2017	3,900	5.4%
2018	3,300	-15.4%
2019	3,400	3.0%
		2.5%

Turn Lane Warrant Analyses

Site Driveway at Highway 601



Note: For highways with a design speed below 50 miles per hour with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Example

				AM	School PM	PM
Given:	Design Speed	=	35 miles per hour	55 mph	55 mph	55 mph
	DHV	=	250 vehicles per hour	196 vph	216 vph	262 vph
	Right Turns	=	100 vehicles per hour	20 vph	40 vph	67 vph

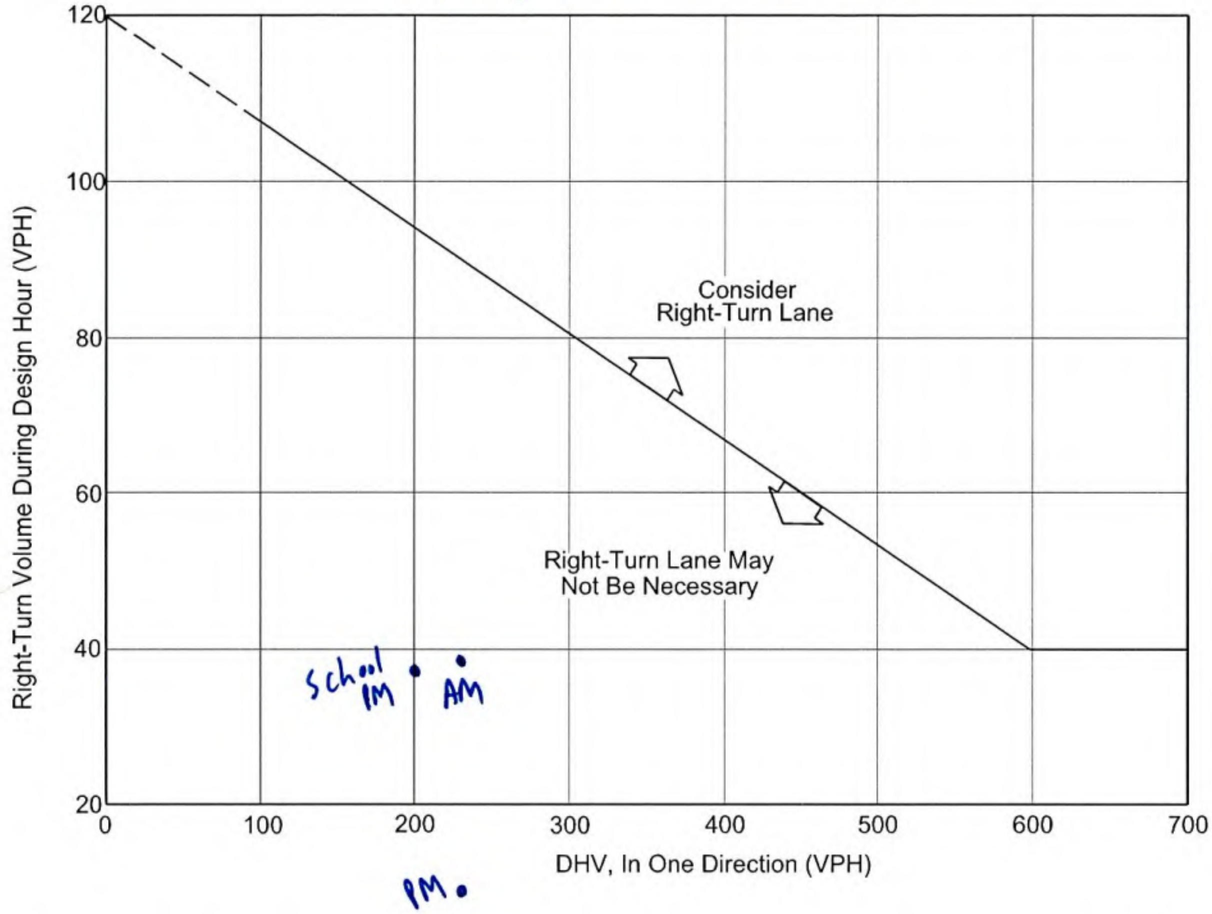
Problem: Determine if a right-turn lane is necessary.

Solution: To read the vertical axis, use 100 – 20 = 80 vehicles per hour. The figure indicates that a right-turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS

Figure 9.5-A

Kennedy Road at Highway 601
(Highway 601 SB Right Turn)



Note: For highways with a design speed below 50 miles per hour with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Example

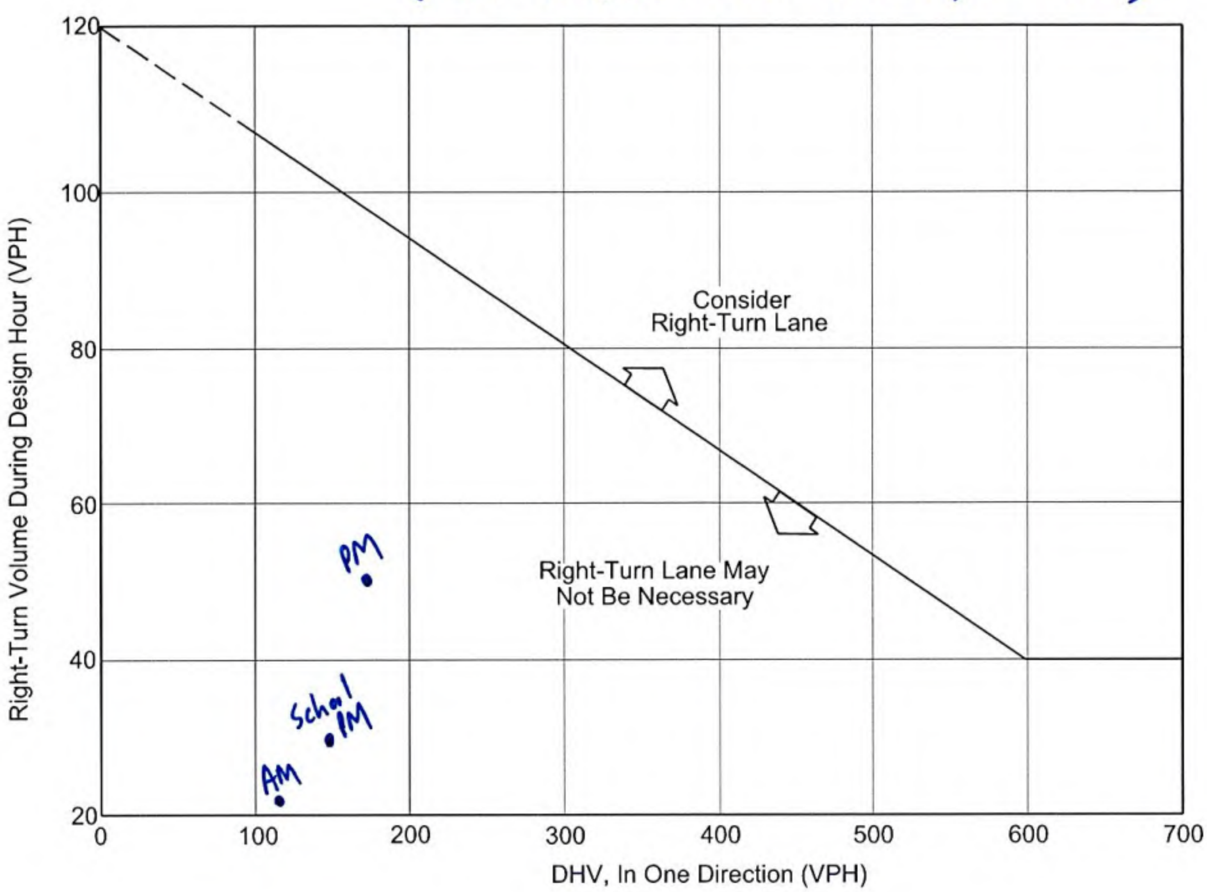
				AM	School PM	PM
Given:	Design Speed	=	35 miles per hour	55 mph	55 mph	55 mph
	DHV	=	250 vehicles per hour	230 vph	200 vph	226 vph
	Right Turns	=	100 vehicles per hour	38 vph	36 vph	12 vph

Problem: Determine if a right-turn lane is necessary.

Solution: To read the vertical axis, use 100 – 20 = 80 vehicles per hour. The figure indicates that a right-turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS
Figure 9.5-A

Linde Lane at Fort Jackson Road
(Fort Jackson Road NB Right Turn)



Note: For highways with a design speed below 50 miles per hour with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Example

				AM	School PM	PM
Given:	Design Speed	=	35 miles per hour	55 mph	55 mph	55 mph
	DHV	=	250 vehicles per hour	114 vph	154 vph	174 vph
	Right Turns	=	100 vehicles per hour	22 vph	27 vph	50 vph

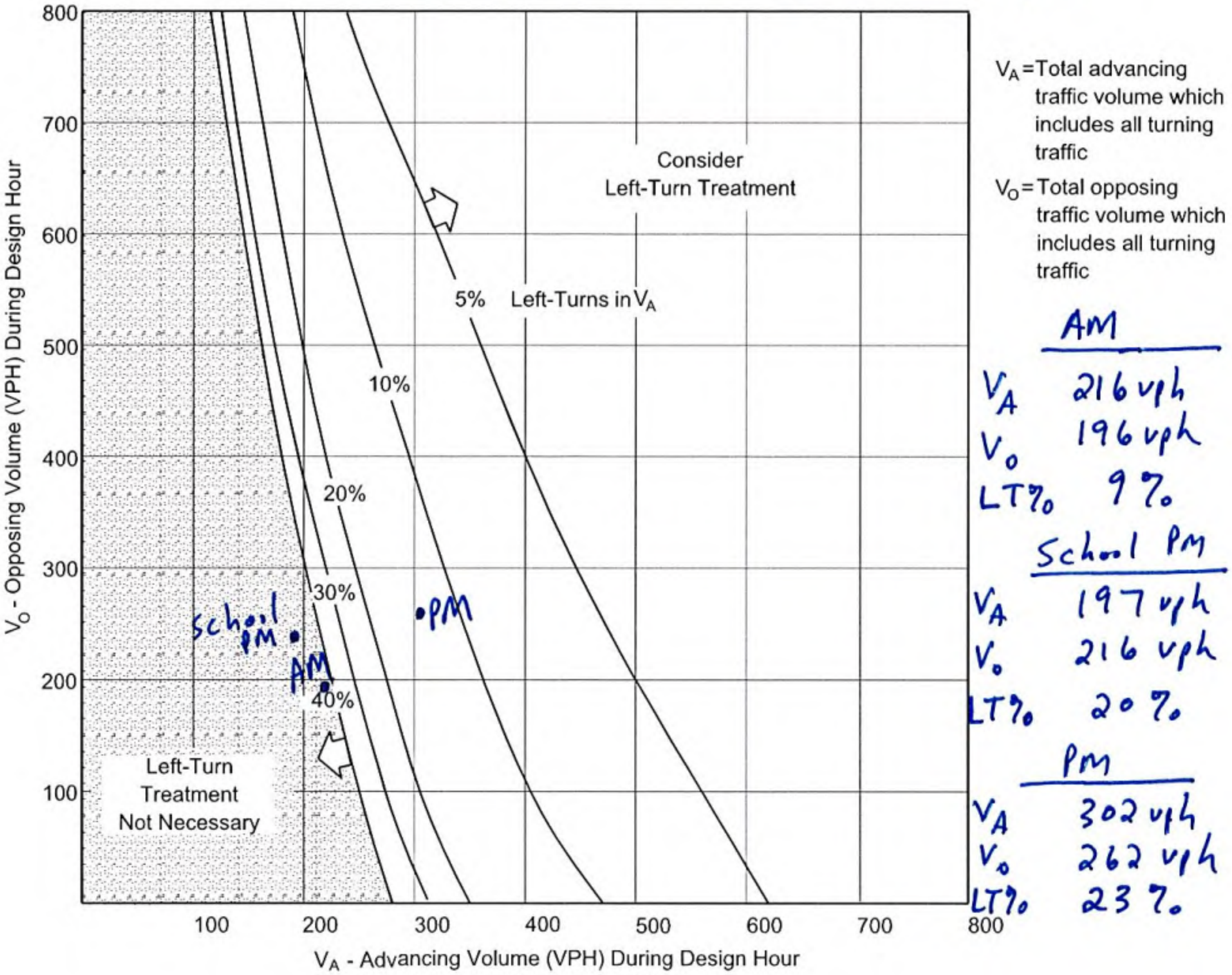
Problem: Determine if a right-turn lane is necessary.

Solution: To read the vertical axis, use 100 – 20 = 80 vehicles per hour. The figure indicates that a right-turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS

Figure 9.5-A

Site Access Driveway at Highway 601



Instructions:

1. *The family of curves represents the percent of left turns in the advancing volume (V_A). The designer should locate the curve for the actual percentage of left turns. When this is not an even increment of 5, the designer should estimate where the curve lies.*

2. *Read V_A and V_O into the chart and locate the intersection of the two volumes.*

3. *Note the location of the point in #2 relative to the line in #1. If the point is to the right of the line, then a left-turn lane is warranted. If the point is to the left of the line, then a left-turn lane is not warranted based on traffic volumes.*

VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (55 mph)
Figure 9.5-D