

# CITY OF BRUNSWICK

601 Gloucester Street \* Post Office Box 550 \* Brunswick \* Georgia \* 31520-0550 \* (912) 267-5500 \* Fax (912) 267-5549

Cornell L. Harvey, Mayor  
Felicia M. Harris, Mayor Pro Tem  
John A. Cason III, Commissioner  
Julie T. Martin, Commissioner  
Vincent T. Williams, Commissioner

City Attorney  
Brian D. Corry

City Manager  
Regina M. McDuffie

**BRUNSWICK CITY COMMISSION MEETING  
WEDNESDAY, JULY 21, 2021 AT 6:00 P.M.  
1229 NEWCASTLE STREET, 2<sup>nd</sup> FLOOR  
STREAMED LIVE AT THE BELOW WEB ADDRESS:  
<https://www.facebook.com/citybwkga>**

## **CALL TO ORDER \*\*INVOCATION \*\*PLEDGE OF ALLEGIANCE**

### **PUBLIC HEARING - ALCOHOL BEVERAGE LICENSE(S) – (New) – (R. Monday)**

#### **2. Consider Approval - New Alcohol Beverage License:**

<b><u>Name of Business</u></b>	<b><u>Owner/Mgr.</u></b>	<b><u>Location of Business</u></b>	<b><u>Comments</u></b>
Lucky 7	Ankur Patel/ Owner	3021 Altama Ave.	Retail sale of beer and wine.

### **PUBLIC HEARING – LAND USE**

#### **3. Rezoning Petition No. 21-01 from Peter Schoenauer, Representing the Owner, is Petitioning to Rezone St. Francis Xavier Multiple Lots at Howe Street and Grant Street from General Residential Core (GR-CORE) to General Commercial Core (GC-CORE). (J. Hunter) (Enc. 1)**

### **APPOINTMENT(S)**

#### **4. Authority, Agency (N. Atkinson)**

- I. Urban Redevelopment Agency – One Appointment - (Mayor’s Appointment)
- II. Planning and Appeals Commission – One Appointment - (alternate member)

### **ITEM(S) TO BE CONSIDERED FOR APPROVAL**

#### **5. Consider Approval of July 7, 2021 Regular Scheduled Meeting Minutes. (subject to any necessary changes.) (N. Atkinson) (Enc. 2)**

### **CITY ATTORNEY’S ITEM(S)**

#### **6. Consider Adoption of Ordinance No. 1072 – Amendment to Article XXIII of the Zoning Code Chapter 3, Section 21, “Buffer Requirements”. (J. Hunter) (Enc. 3)**

### **EXECUTIVE SESSION**



**SUBJECT: RZ 21-01 | St. Francis Xavier Multiple Lots at Howe St. and Grant St. |  
Rezone from GRCore to GCCore**

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**COMMISSION ACTION REQUESTED ON: 7/7/21**

**PURPOSE:** See attached Staff Report

**HISTORY:**

**FACTS AND ISSUES:**

**BUDGET INFORMATION: N/A**

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**OPTIONS:**

- Approve RZ 21-01 as submitted.
  - Approve RZ 21-01 with conditions.
  - Do not approve RZ 21-01.
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**DEPARTMENT RECOMMENDATION ACTION:**

- Approve RZ 21-01 as recommended by the PAC
- 

**DEPARTMENT: PDC**

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Prepared by: John Hunter, Director 

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**ADMINISTRATIVE COMMENTS:**

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**ADMINISTRATIVE RECOMMENDATION:**

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City Manager

6/13/21

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Date

# **Rezoning Petition No. 21-01**

**(Multiple Parcels at Howe and Grant)**

**Staff Report**

**John Hunter**

*Director*

*Planning, Development, & Codes*

**City of Brunswick**

**City Commission**

**Public Hearing**

**July 7, 2021**

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# Requested Rezoning

Peter Schoenauer, representing the owner, is petitioning to rezone the subject parcels from General Residential Core (GR-CORE) to General Commercial Core (GC-CORE).

# Existing Conditions

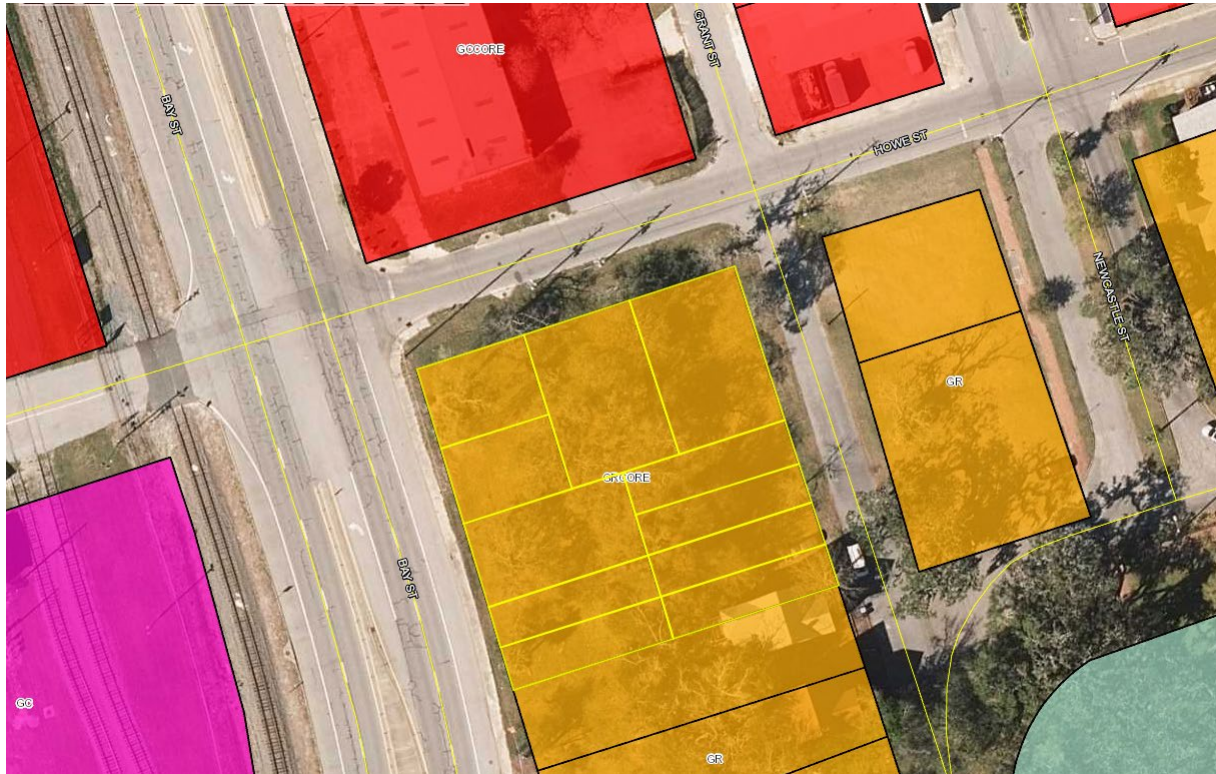
The subject parcels comprise .7+/- acres. Based on our records the properties appear to have been rezoned from General Residential (GR) to GR-CORE in 1983. The parcels are outlined below in yellow.



Location map

## Existing Zoning

The subject parcel is zoned General Residential Core (GR-CORE). Parcels to the North, across Howe Street, are zoned GC-CORE. Parcels to the west, across Bay St, are zoned GC. Properties to the South are zoned GR, as are properties across Grant St to the East. Reference the zoning map below.



## Requested Zoning

The applicant has requested rezoning the parcels to GC-CORE. This would facilitate the renovation of the property for use as a new School Building.

## Staff Analysis

The applicant has asked for a rezoning to General Commercial Core (GC-CORE). It is the intent that the GCCore zoning district be developed and reserved for downtown business purposes. Notably, the GR zoning which was the properties prior zoning designation has “Elementary, junior, or senior level school” listed as a permitted use. However, St. Francis has requested zoning under GCCore to eliminate the Set Back requirements on the sides of the property not abutting Residentially zoned parcels. There would remain a requirement for a buffer between the School and the residentially zoned properties, which is reflected in the attached site plan.

*Comprehensive Plan designation – Old Town Character Area*

The Old Town Character Area exhibits the widest mix of land uses of any part of the City, with civic and governmental structures, retail and business establishments, and a variety of historic and modern single-family homes. The downtown area has seen recent revitalization, with restored historic structures, new streetscapes, and a variety of new businesses opening on Newcastle Street. Most of Old Town is covered by the Old Town Historic District, within which new development and renovations are overseen by the City's Historic Preservation Board. Parts of the character area, particularly the Newcastle, Gloucester, Norwich, and MLK corridors, are covered by the Downtown Development Authority and are eligible for its programs.

Schools and Churches are well established in the Old Town Character Area, and their development is encouraged where it can front main streets and has adequate traffic capacity. The Recommended Development patterns for the Old Town Character Area include "Major institutions, such as government buildings, churches, and schools, particularly along major corridors." The full list is included below.

### Vision

The Old Town Character area is the historic, civic, and cultural center of the Brunswick community. Although recent years have seen revitalization of both its commercial and residential areas, much work remains to be done. One of the highest priorities is to reconnect the City with its historic waterfront, with improved public access, commercial activities along the waterfront, a publicly accessible pedestrian riverwalk, increased public spaces and parks, and new mixed-use development along the waterfront to capitalize on this high-value property. Additional streets should serve to better connect the riverfront with downtown and views to the water should be preserved where possible. The Blueprint Brunswick plan provides a detailed urban design strategy for fulfilling this vision for infill development in the waterfront area. In addition, historic squares need to be restored to their original dimensions and filled with community-friendly amenities such as walking paths, lighting, and benches. Neighborhoods in Old Town need to see continued renovation of homes and infill on vacant lots. Glynn Academy needs to be made more pedestrian-friendly, with sidewalk improvements connecting the school with surrounding neighborhoods. Downtown should see a continued revitalization and a wider variety of activities and entertainment for all ages, but particularly for young adults and community youth.

### Appropriate Land Uses

- Single-family residential development
- Multifamily development in existing locations of multifamily development
- Community scale commercial, institutional, and mixed-use development along Gloucester St and Newcastle St downtown
- Multi-story mixed development or condominium development along the Newcastle St and Bay St corridors and in the waterfront area with publicly accessible boardwalks along the waterfront
- Hotels, resorts, and hospitality developments in the downtown area and along

## Newcastle and Bay Streets

- Tourism and cultural facilities in the downtown area and along Newcastle, Gloucester, and Bay Streets
- Protected greenspace, parks, wetlands, and wildlife habitats
- Public marinas and associated uses

Rezoning the parcels to GCCore will allow the development of a School Building which has greater capacity to provide services while limiting its impact on the adjacent residential property.

## Staff Recommendation

Being that the use is listed as appropriate for the Character Area, is compatible with the previous zoning designation, and is adjacent to similarly zoned parcels, Staff recommends approval the rezoning to GCCore.

## PAC Recommendation

The PAC held a public hearing on May 12, 2021 and considered the application. Representatives of St Francis Xavier and their project team were available for questions. Discussion and questions center upon site conditions, the buffer required, parking, and the traffic analysis. During the Public Hearing, Mr. Jeff Falletto was concerned about traffic impacts around Hanover Square, in particular the Grant Street side. The request was deferred until the June 9th meeting, and the PAC asked that more information be provided about traffic including traffic impacts around Hanover Square, extending the study hours to 5:00 PM, and examining the queuing of cars on Bay St for a drop off on Howe St.

At the June 9, 2021 PAC meeting, members and representatives of St. Francis Xavier reviewed additional information provided by the applicant regarding traffic impacts. The expanded traffic analysis found that the impact on Hanover Square would be minimal; that extending the study time to 5:00 PM showed that after-school program impact was minimal as parents arrive intermittently with no queuing; and that GDOT would not allow stacking on Bay Street (updated study attached).

The PAC unanimously recommended the Rezoning request, limiting the allowed uses to the following uses from the General Commercial section

- Any use permitted in any GR residential district, in compliance with the provisions of section 23-6-2 unless otherwise set forth herein;
- Retail, wholesale or storage business involving the sale of merchandise on the premises, except those uses which involve open yard storage of junk, salvage, used auto parts or building materials. Open storage shall be permitted under conditions set forth in section 23-9-3(g);
- Business involving the rendering of a personal service, other than an automobile laundry or an automobile repair garage, which shall be permitted under conditions set forth in section 23-9-3(b) and (e);
- Church;
- Office building and/or office for governmental, business, professional or general purposes.



# Appendix A – zoning standards and policies

## ZONING STANDARDS AND POLICIES AND PROCEDURES FOR ZONING HEARINGS

Approved by the Commission City of Brunswick, Georgia  
April 5, 1989

### Part I. Standards

The current Georgia statutory law, O.C.G.A. ;s; 36-66-5(b) expressly mandates that each local government exercising zoning power establish and consider such factors in the form of substantive standards for zoning decisions. That subsection provides:

[E]ach local government shall adopt standards governing the exercise of the zoning power, and such standards may include any factors which the local government finds relevant in balancing the interest in promoting the public health, safety, morality, or general welfare against the right to the unrestricted use of property. Such standards shall be printed and copies thereof shall be available for distribution to the general public.

In keeping with the foregoing statutory requirement, the City of Brunswick has adopted the following substantive standards to govern its zoning decisions:

**A. A PROPOSED ZONING CLASSIFICATION OR CONDITIONAL USE REQUEST SHOULD BE COMPATIBLE WITH EXISTING USES AND ZONING OF ADJACENT AND NEARBY PROPERTY, AND ``SPOT ZONING'' SHOULD ALMOST ALWAYS BE REJECTED.**

(1) Would the proposed rezoning create an isolated district unrelated to adjacent and nearby districts?

(2) Is the proposed rezoning a logical extension of a zoning boundary which would improve the pattern of uses in the general area?

**B. A PROPOSED ZONING CLASSIFICATION SHOULD NOT DESTABILIZE THE SURROUNDING NEIGHBORHOOD.**

(1) Is the proposed zoning classification one which would promote integrity of the neighborhood and preserve its general character?

(2) Would the proposed rezoning precipitate similar rezoning requests which would generate or accelerate adverse land use changes in the neighborhood?

**C. A PROPOSED ZONING CLASSIFICATION SHOULD MAXIMIZE THE ECONOMIC VALUE OF THE SUBJECT PROPERTY WITHOUT DEPRECIATING THE VALUE OF ADJACENT AND NEARBY PROPERTY.**

(1) To what extent does the existing zoning classification depress the value of the subject property?

(2) To what extent would the proposed zoning classification result in appreciation of the value of the property?

(3) What effect does the existing zoning classification have on the values of adjacent and nearby property?

(4) What effect would the proposed zoning classification have on the values of adjacent and nearby property?

**D. A PROPOSED ZONING CLASSIFICATION SHOULD NOT HAVE AN ADVERSE EFFECT ON TRAFFIC FLOW, TRAFFIC SAFETY OR POPULATION DENSITY.**

(1) Is there adequate public or private parking for the proposed use and other uses permitted within the classification?

(2) Would such uses create any problem of traffic congestion in the area?

(3) Would such uses create any traffic safety problem with regard to ingress and egress, visibility or otherwise?

(4) Would such uses necessitate changes in streets or sidewalks or traffic signage or signalization?

(5) Would such uses contribute to an undesirable level of population density?

(6) Would such uses substantially conflict with existing density patterns in the neighborhood?

**E. A PROPOSED ZONING CLASSIFICATION SHOULD NOT HAVE ADVERSE ENVIRONMENTAL IMPACT.**

(1) Would the proposed use or other uses permitted within the classification create noise, dust, smoke or odors?

(2) Would such uses affect air quality or water quality and quantity?

(3) Would such uses create problems with drainage or soil erosion and sedimentation?

(4) Would such uses aggravate problems with flood damage control?

(5) Would such uses aggravate waste disposal problems?

**F. A PROPOSED ZONING CLASSIFICATION SHOULD NOT HAVE ADVERSE AESTHETIC EFFECTS.**

(1) Would the proposed rezoning lead to removal of existing vegetation?

(2) Would the proposed use incorporate new planting?

(3) Would the proposed use necessitate unattractive structures or result in removal or alteration of historic structures?

(4) Would the proposed use be visually compatible with the surrounding neighborhood?

(5) Would the proposed use include machinery or work visible from the street or neighboring property?

(6) Would the proposed use be adequately separated from conflicting uses by an appropriate buffer?

**G. A REZONING SHOULD NOT RESULT IN COSTS TO THE PUBLIC DISPROPORTIONATE TO TAX REVENUES GENERATED BY THE PROPOSED USE.**

(1) Would the rezoning increase the cost of government in providing public utilities, schools, streets, police and fire protection, etc.?

(2) What additional public facilities would be required?

(3) To what extent would such increased costs be offset by increased tax revenues?

**H. THE SUBJECT PROPERTY SHOULD BE SUITABLE FOR THE ZONED PURPOSES.**

(1) Is the property suitable for uses within the existing zoning classification?

(2) Has the property been vacant as zoned, and if so, for what period or periods of time?

(3) Are there substantial reasons why the property cannot be economically used in accordance with existing zoning?

(4) Would the proposed rezoning benefit the general public in any way?

(5) Would the proposed rezoning conform to or diverge from the comprehensive land use plan?

\* \* \*

It is obvious that the foregoing standards are very general, not at all specific, and that the public and private interests cannot be balanced with mathematical certainty in a zoning decision. Moreover, particular zoning issues which may arise, considered in context, may suggest concerns in addition to the foregoing standards and further questions which will need to be addressed by the Commission. It can only be said that any zoning decision, to be lawful, must be based on a relative gain to the public, as compared to the hardship imposed upon private parties. Such decisions must never be based simply upon the numbers of supporters or opponents or other political factors without consideration of the standards.

*(excerpt from addendum that was added to the zoning ordinance by the City Commission on April 5, 1989)*

## Appendix B – General Commercial Code

### ARTICLE IX. - GC COMMERCIAL DISTRICT

#### Sec. 23-9-1. - Intent of district.

It is the intent of this section that the GC zoning district be developed and reserved for general business purposes. The regulations which apply within this district are designed to encourage the formation and continuance of a compatible and economically healthy environment for regionally oriented business, financial, service and professional uses which benefit from being located in close proximity to each other, and to discourage any encroachment by industrial, residential or other uses considered capable of adversely affecting the basic commercial character of the district.

(Ord. No. 1006, § 1, 11-19-2008)

#### Sec. 23-9-2. - Permitted uses.

The following uses shall be permitted in any GC zoning district:

- (a) Any use permitted in any GR residential district, in compliance with the provisions of section 23-6-2 unless otherwise set forth herein.
- (b) Retail, wholesale or storage business involving the sale of merchandise on the premises, except those uses which involve open yard storage of junk, salvage, used auto parts or building materials. Open storage shall be permitted under conditions set forth in section 23-9-3(g).
- (c) Business involving the rendering of a personal service, other than an automobile laundry or an automobile repair garage, which shall be permitted under conditions set forth in section 23-9-3(b) and (e).
- (d) Seafood processing facilities and/or dock operations involving seafood processing.
- (e) Private or semi-private club, lodge, union hall or social center.
- (f) Church.
- (g) Off-street commercial parking lot or garage.
- (h) Hotel, tourist home, and motel.
- (i) Commercial recreation facility, specifically including:
  - (1) Bowling alley.
  - (2) Billiard parlor.
  - (3) Roller or ice skating rink.
  - (4) Theatre, but not including drive-in type of facility.
- (j) Transportation terminal.
- (k) Commercial trade or vocational school.
- (l) Eating and/or drinking establishment, including drive-in or curbside service.
- (m) Radio and/or television station and/or transmission tower.
- (n) Public utility installation or sub-installation, including water towers.
- (o) Office building and/or office for governmental, business, professional or general purposes.

- (p) Accessory use in compliance with the provisions of section 23-3-17.
- (q) Two-family dwelling, including patio dwelling in compliance with section 23-6-4.
- (r) Multi-family dwelling in compliance with section 23-6-4.
- (s) Townhouse dwelling in compliance with section 23-6-4.
- (t) Group dwelling in compliance with section 23-6-4.
- (u) Boarding house in compliance with section 23-6-4.
- (v) One-family dwelling, attached in compliance with section 23-6-4.

(Ord. No. 1006, § 1, 11-19-2008; Ord. No. 1012, § 1, 9-2-2009)

Sec. 23-9-3. - Conditional uses.

The following uses shall be permitted on a conditional basis in any GC zoning district, subject to conditions set forth in section 23-25-4.

- (a) Automobile service station, provided that all pumps are set back at least 25 feet from the right-of-way line of the street and parking and/or service areas are separated from adjoining residential properties by a suitable planting a screen, fence, or wall at least six feet in height above finish grade.
- (b) Garage for the repair and servicing of motor vehicles, provided that all operations are conducted within a fully enclosed building or buildings, and there is no open storage of wrecked vehicles, dismantled parts, or supplies visible beyond the premises.
- (c) Newspaper publishing plant, provided that the requirements for parking, loading and unloading conform to those for industrial buildings, as set forth in sections 23-3-19 and 23-3-20.
- (d) Automobile laundry or washateria, provided that an off-street paved parking area capable of accommodating not less than one-half of hourly vehicle washing capacity awaiting entrance to the washing process is suitably located and maintained on the premises (such space to contain at least 200 square feet per waiting vehicle) and no safety hazard or impediment to traffic movement is created by the operation of such an establishment.
- (e) Animal hospital and/or boarding facility, provided all boarding arrangements are maintained within a building and no noise connected with the operation of the facility is perceptible beyond the premises.
- (f) Open yard use for the sale, rental and/or storage of materials or equipment excluding junk or other salvage, provided that such uses are separated from adjoining residential properties by a suitable planting screen, fence, or wall at least six feet in height above finish grade.
- (g) Community hospitals or clinics, including any function such as cafeterias and laundries which relate directly to the operation of the hospitals or clinics and are contained within the confines of said hospital or clinic, provided such uses are in compliance with the provisions of section 23-17-4.
- (h) Any educational facilities directly related to an authorized hospital or the Glynn County Board of Health, and under the supervision of said hospital or the Glynn County Board of Health, provided such uses are in compliance with the provisions of section 23-17-4.
- (i) Single or multi-story dormitories or living quarters for the staff and the student body of an authorized hospital or its related activities, including eating and laundry facilities, provided such dormitories and sleeping quarters are under the supervision and control of an authorized hospital, and provided such uses are in compliance with the provisions of section 23-17-4.

- (j) Public or private care homes, provided such facilities conform with the requirements of the Georgia State Board of Health and receive the written approval of the Glynn County Board of Health and the state fire marshal prior to the issuance of any permits for construction and operation, copies of such approvals to be attached to the building permit and to be retained in the files of the building official and provided further that such use conforms with the provisions of section 23-17-4 pertaining to care homes.
- (k) Temporary use in compliance with the provisions of section 23-23-5.

(Ord. No. 1006, § 1, 11-19-2008; Ord. No. 1012, § 1, 9-2-2009)

Sec. 23-9-4. - Other requirements.

Unless otherwise specified elsewhere in this chapter, uses permitted in GC general commercial zoning districts shall be required to conform to the following standards:

- (a) Minimum lot area: 2,500 square feet.
- (b) Minimum lot width, measured at the building line: 25 feet.
- (c) Minimum front yard, measured from the nearest abutting street right-of-way line: Ten feet.
- (d) Minimum side yard: None.
- (e) Minimum rear yard: None.
- (f) Maximum building height: 60 feet, subject to the approval of the fire chief.

(Ord. No. 1006, § 1, 11-19-2008)

## Appendix C – General Commercial Core Code

### ARTICLE X. - GCCORE GENERAL COMMERCIAL CORE DISTRICT

#### Sec. 23-10-1. - Intent of district.

It is the intent of this article that the GCCore zoning district be developed and reserved for downtown business purposes. The regulations which apply within this district are designed to encourage the formulation and continuance of a compatible and economically healthy environment for generally oriented business, financial, service and professional uses which benefit from being located in close proximity to each other, and to discourage any encroachment by uses considered capable of adversely affecting the basic commercial character of the district.

#### (Ord. No. 1006, § 1, 11-19-2008) Sec. 23-10-2. - Permitted uses.

The following uses shall be permitted in any GCCore zoning district:

- (a) Any use permitted in any GC zoning district subject to the conditions of section 23-9-2.

#### (Ord. No. 1006, § 1, 11-19-2008) Sec. 23-10-3. - Conditional uses.

The following uses shall be permitted on a conditional basis in any GCCore zoning district.

- (a) Any use permitted on a conditional basis in any GC district subject to the conditions of section 23-9-3 and section 23-25-4.

#### (Ord. No. 1006, § 1, 11-19-2008)

#### Sec. 23-10-4. - Other requirements.

Unless otherwise specified elsewhere in this chapter, uses permitted in GCCore districts shall be required to meet all standards set forth in this chapter for uses permitted in GC zoning districts, except that all front yard requirements, as well as all off-street parking and loading requirements shall be waived.

#### (Ord. No. 1006, § 1, 11-19-2008)

## **Appendix D – Application**

(Original application included on next page)





# CITY OF BRUNSWICK, GEORGIA

## APPLICATION FOR REZONING

# RZ

**APPLICANT:** After completely reading this form, the applicant will answer each item as completely as possible. Please print or type. The Planning Staff will assist you if necessary.

This is a request for a **REZONING** to the Official Zoning Ordinances of the City of Brunswick. Please read Article XXIII of Zoning Ordinance which applies to your proposal.

- Applicant (Your Name): Peter Schoenauer Daytime Phone: 912\268-2164 Email: pete@tidewatereng.com  
Mailing Address 200 Plantation Chase, St. Simons Island, GA Zip: 31522
- Location of Property forming the basis for this text amendment: see attached tax maps  
Street \_\_\_\_\_ Tax Map and Parcel Number: see attached tax maps
- Is this rezoning due to annexation? YES  NO
- Total Parcel area (indicate square feet or acres): 0.74 ac. Square Feet/Acres
- Present Zoning: GR Core Abutting zones (list all zones that touch the parcel): GC
- Proposed Zoning: GC Core General Commercial
- Are any special use(s), variance(s), covenant(s), or prior rezoning(s) present on the parcel?  
 YES  NO If 'YES', list ALL and date: \_\_\_\_\_
- The following data shall be attached as applicable:  
Petition signed by Property Owner or agent requesting the Rezoning.  
Full text of the proposed amendment in the format of the ordinance it is intended to amend.
- Reasons for the rezoning request: see attachment
- Do you have legal possession of the parcel(s) proposed for this zoning text amendment?  YES  NO  
(If 'NO' then this application cannot be processed until an application is received for all parcels intended to be affected by the text amendment and legal authorization provided.)
- Owner's Name (If different from Applicant\*): See Attached Owner's Name.  
Address: 2170 East Victory Drive, Savannah, GA Zip: 31404 Daytime Phone: 912-201-4100 (\*If applicant is different from Owner, a legal authorization to represent the Owner must be attached to this application.)

I understand that the City of Brunswick will not process this application until I have submitted **ALL** required materials on or before the date of the approved schedule, which shall be **not less than 20 days prior to the regularly scheduled and advertised monthly meeting of the Planning and Appeals Commission.** The PAC meets on the Second Wednesday of each month at 5:15 PM in Commission Chambers, Old City Hall. The recommendation of the Planning Commission is forwarded to City Commission for their review at the next regularly scheduled meeting following the PAC meeting.

Signed: Peter Schoenauer Date: 4/16/21

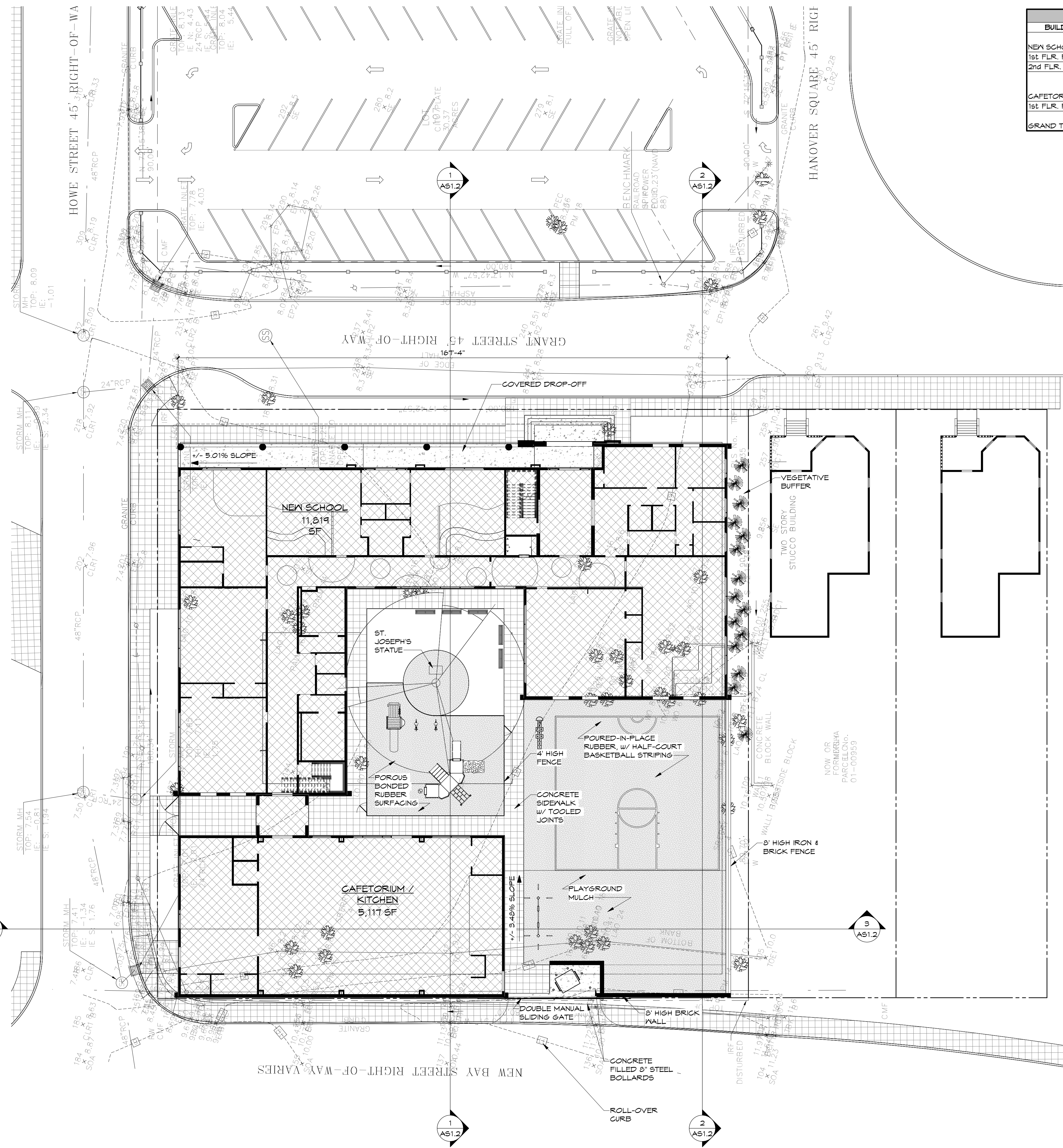
(Printed Name: Peter Schoenauer, PE)

**Reason for Rezoning Request:**

St. Francis Xavier Catholic Church is seeking to build a new state of the art school building to replace their existing, declining facilities nearby. The church has owned the subject properties for a number of years and recently decided the best use for them and the community is to build a new school. The current zoning of the properties (GR-Core) does not allow a school use. We believe these properties were rezoned previously to accommodate a multi-family development that was never built. Rezoning the lots to a GC-Core district would allow for a school use. Furthermore, the GC-Core district is extremely close in proximity to these properties, covering the majority of lots across Howe Street.

## **Appendix E – Site Plan**

(Site plan and Survey included on next two pages)



BUILDING GROSS SF	
BUILDING / LEVEL	AREA
<b>NEW SCHOOL</b>	
1st FLR. F.F.	11,819 SF
2nd FLR. F.F.	12,754 SF
	24,574 SF
<b>CAFETERIUM / KITCHEN</b>	
1st FLR. F.F.	5,117 SF
	5,117 SF
<b>GRAND TOTAL</b>	<b>29,691 SF</b>

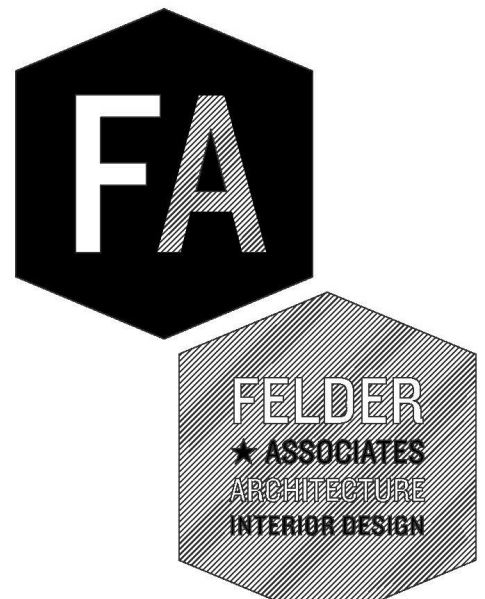
LOTS 107, 121 & 124-A  
 TAX ASSESSOR'S PROPERTY IDENTIFICATION NUMBER'S 01-00951 THRU 00953  
 CURRENT ZONING: GR  
 TAX ASSESSOR'S PROPERTY IDENTIFICATION NUMBER'S 01-00954 THRU 00958 & 01-00967 THRU 72  
 CURRENT ZONING: GR-CORE  
 TOTAL LOT AREA: 1.48 ACRES

- LEGEND**
- IRF IRON ROD FOUND
  - PROPERTY CORNER TO BE SET
  - C.M.F. CONCRETE MONUMENT FOUND
  - I.P.F. IRON PIPE FOUND
  - MANHOLE - TYPE UNKNOWN
  - ⊕ GAS METER
  - × 13.4 SPOT ELEVATION
  - ⊖ GRATE INLET
  - ⊖ WATER METER
  - ⊖ POWER POLE
  - GUY WIRE
  - ⊖ STORM DRAINAGE MANHOLE
  - ⊖ SANITARY SEWER MANHOLE
  - ⊖ LIGHT POLE
  - ⊖ CLEANOUT
  - ⊖ IRRIGATION CONTROL VALVE
  - ⊖ FIRE HYDRANT
  - O.U.P. OVERHEAD UTILITY LINE
  - C.O. CONTOUR LINE
  - U.W. UNDERGROUND WATER LINE
  - U.S. UNDERGROUND SEWER LINE
  - U.S.T. UNDERGROUND STORM LINE

- TREE LEGEND**
- SIZE OF SYMBOL DOES NOT INDICATE THE SIZE OF THE DRIP LINE/CANOPY LINE
- LOCATION OF TREE LO 14
- TREE SIZE (IN INCHES)
- TREE TYPE

- TREE TYPE ABBREVIATIONS:**
- BRAD BRADFORD PEAR
  - CED CEDAR
  - CHE CHERRY
  - CREP CREPE MYRTLE
  - HICK HICKORY
  - HOLLY HOLLY BERRY
  - LAO LAUREL OAK
  - LO LIVE OAK
  - MIM MIMOSA
  - PM PALM
  - PEC PECAN
  - SGUM SWEET GUM
  - WO WATER OAK
- ALL OTHERS SPELLED OUT  
 MULTIPLE TREE SIZES INDICATES COMMON BASE  
 DEAD TREES NOT LOCATED

- SURVEYOR'S NOTES**
- THE ELEVATIONS SHOWN ARE BASED ON NAVD 88 DATUM. THE CONTOUR INTERVAL IS 1 FOOT.
  - THE FIELD DATA UPON WHICH THIS MAP OR PLAN IS BASED HAS A CLOSURE RATIO OF 1 FOOT IN 84,731 FEET, AN ANGULAR ERROR OF 2" PER ANGLE POINT, AND WAS ADJUSTED USING THE COMPASS RULE METHOD.
  - THIS PLAT HAS A PRECISION OF ONE FOOT IN 113,169 FEET.
  - ACCORDING TO F.I.R.M. MAP NO. 131270238F, REVISED SEPTEMBER 6, 2006, THE PROPERTY SHOWN ON THIS SURVEY LIES IN ZONE AE (RFE 11).
  - ONLY ABOVEGROUND, READILY VISIBLE STRUCTURES AND UTILITIES WERE LOCATED FOR THIS SURVEY. THIS SURVEYOR MAKES NO WARRANTY OR GUARANTEE AS TO THE LOCATION, EXISTENCE, OR NON-EXISTENCE OF ANY BELOWGROUND, NON-VISIBLE UTILITIES OR STRUCTURES.



2514 ABERCORN STREET  
 SUITE 110  
 SAVANNAH, GA 31401  
 912.777.3979

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3. Do not scale dimensions from prints. Plans and details are not always drawn to scale. Use dimensions given or consult the Architect for further clarification.

A NEW SCHOOL FOR  
**ST. FRANCIS XAVIER**  
 1129 GRANT ST.  
 BRUNSWICK, GA 31520

REVISIONS	DESCRIPTION
ADD	DATE

ARCHITECTURAL SITE PLAN

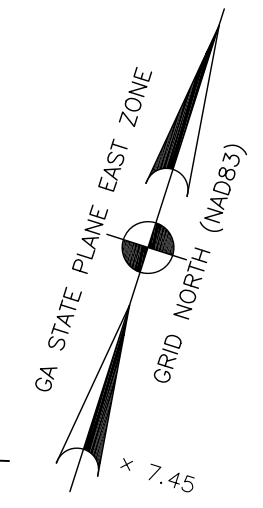
ISSUED FOR REVIEW  
 04.16.21

JOB NO: 21.012  
 ISSUE DATE: 04.16.21  
 DRAWN: RCLAUS

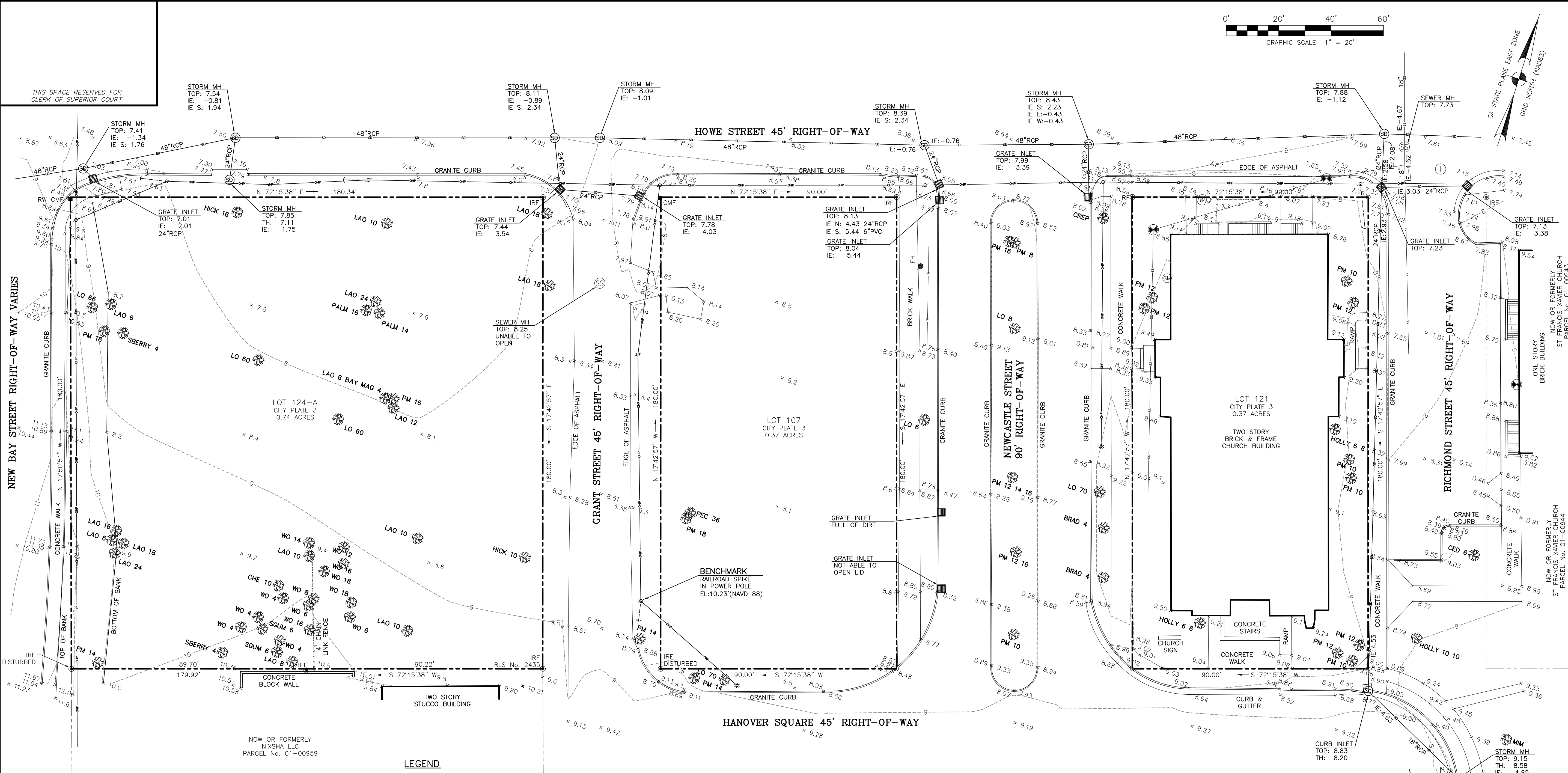
AS1.1

1 ARCHITECTURAL SITE PLAN  
 SCALE: 1/16" = 1'-0"





**BREWER**  
LAND SURVEYING  
P.O. Box 441  
Pooler, GA 31322  
craig@brewersurveying.com  
Phone (912) 856-2205  
www.BrewerSurveying.com



**REFERENCE PLAT**  
1. DEED BOOK 3435, PAGE 38.  
2. CITY OF BRUNSWICK, GEORGIA CITY PLATE 03

**LOTS 107, 121 & 124-A**  
TAX ASSESSOR'S PROPERTY IDENTIFICATION NUMBER'S 01-00951 THRU 00953  
CURRENT ZONING: GR  
TAX ASSESSOR'S PROPERTY IDENTIFICATION NUMBER'S 01-00954 THRU 00958 & 01-00967 THRU 72  
CURRENT ZONING: GR-CORE  
TOTAL LOT AREA: 1.48 ACRES

- LEGEND**
- IRF IRON ROD FOUND
  - PROPERTY CORNER TO BE SET
  - CMF CONCRETE MONUMENT FOUND
  - IPF IRON PIPE FOUND
  - ⊕ MANHOLE TYPE UNKNOWN
  - ⊕ GAS METER
  - ×13.4 SPOT ELEVATION
  - ▭ GRATE INLET
  - ⊖ WATER METER
  - ⊖ POWER POLE
  - ⊖ GUY WIRE
  - ⊖ STORM DRAINAGE MANHOLE
  - ⊖ SANITARY SEWER MANHOLE
  - \* LIGHT POLE
  - ⊖ CLEANOUT
  - ⊖ IRRIGATION CONTROL VALVE
  - ⊖ FIRE HYDRANT
  - OHP— OVERHEAD UTILITY LINE
  - 18— CONTOUR LINE
  - UGT— COMMUNICATION LINE
  - W— UNDERGROUND WATER LINE
  - SS— UNDERGROUND SEWER LINE
  - SD— UNDERGROUND STORM LINE

- TREE LEGEND**  
SIZE OF SYMBOL DOES NOT INDICATE THE SIZE OF THE DRIP LINE/CANOPY LINE  
LOCATION OF TREE — TREE SIZE (IN INCHES)  
— TREE TYPE
- TREE TYPE ABBREVIATIONS:  
BRAD BRADFORD PEAR  
CED CEDAR  
CHE CHERRY  
CREP CREPE MYRTLE  
HICK HICKORY  
HOLLY HOLLY BERRY  
LAO LAUREL OAK  
LO LIVE OAK  
MIM MIMOSA  
PM PALM  
PEC PECAN  
SGUM SWEET GUM  
WO WATER OAK
- ALL OTHERS SPELLED OUT  
MULTIPLE TREE SIZES INDICATES COMMON BASE  
DEAD TREES NOT LOCATED

**SURVEYOR'S NOTES**

- THE ELEVATIONS SHOWN ARE BASED ON NAVD 88 DATUM. THE CONTOUR INTERVAL IS 1 FOOT.
- THE FIELD DATA UPON WHICH THIS MAP OR PLAT IS BASED HAS A CLOSURE RATIO OF 1 FOOT IN 84,731 FEET, AN ANGULAR ERROR OF 2" PER ANGLE POINT, AND WAS ADJUSTED USING THE COMPASS RULE METHOD.
- THIS PLAT HAS A PRECISION OF ONE FOOT IN 113,169 FEET.
- ACCORDING TO F.I.R.M. MAP NO. 13127C0238F, REVISED SEPTEMBER 6, 2006, THE PROPERTY SHOWN ON THIS SURVEY LIES IN ZONE AE (BFE 11).
- ONLY ABOVEGROUND, READILY VISIBLE STRUCTURES AND UTILITIES WERE LOCATED FOR THIS SURVEY. THIS SURVEYOR MAKES NO WARRANTY OR GUARANTEE AS TO THE LOCATION, EXISTENCE, OR NON-EXISTENCE OF ANY BELOWGROUND, NON-VISIBLE UTILITIES OR STRUCTURES.



THIS SURVEY IS A RETRACEMENT OF AN EXISTING PARCEL OF LAND AND DOES NOT SUBDIVIDE OR CREATE A NEW PARCEL. THE RECORDING INFORMATION OF THE DOCUMENT(S), MAP(S), PLAT(S) OR OTHER INSTRUMENT(S) WHICH CREATED THE PARCEL(S) ARE STATED HEREON. RECORDATION OF THIS SURVEY DOES NOT IMPLY APPROVAL OF THE LOCAL JURISDICTION, AVAILABILITY OF PERMITS, COMPLIANCE WITH LOCAL REGULATIONS OR REQUIREMENTS, NOR SUITABILITY FOR ANY USE OR PURPOSE OF THE LAND. FURTHER, THE UNDERSIGNED LAND SURVEYOR CERTIFIES THAT THIS MAP, PLAT, OR PLAN COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR PROPERTY SURVEYS IN GEORGIA AS SET FORTH IN CHAPTER 180-7 OF THE RULES OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND AS SET FORTH IN THE GEORGIA PLAT ACT OCCA 15-6-67.

JAMES CRAIG BREWER  
GA. REG. LAND SURVEYOR NO. 3022

**LOT 107, 121 & 124-A, CITY PLATE 3**  
26th G.M. DISTRICT, CITY OF BRUNSWICK, GLYNN COUNTY, GEORGIA

**ST. FRANCIS XAVIER CHURCH**

PREPARED FOR: ST. FRANCIS XAVIER CHURCH  
NOW OR FORMERLY ST. FRANCIS XAVIER CHURCH  
PARCEL No. 01-00944

NOW OR FORMERLY ST. FRANCIS XAVIER CHURCH  
PARCEL No. 01-00943

NOW OR FORMERLY NIXSHA LLC  
PARCEL No. 01-00959

PROJECT #:	170600
FIELD DATE:	11/6/2017
PLAT DATE:	11/20/2017
DRAWN BY:	DJP
CHECKED BY:	JCB
SCALE:	1"=20'

SHEET: 1 OF 1

## **Appendix F – Traffic Impact Analysis**



2514 ABERCORN STREET ○ SUITE 110 ○ SAVANNAH GEORGIA 31401 ○ 912-777-3979  
GA 8847 SC 5791 FL 17550 AL 6279

June 1, 2021

Mr. John Hunter  
Director of Planning, Development & Codes  
City of Brunswick  
601 Gloucester Street  
Brunswick, Georgia 31520

Re: Rezoning Application St. Francis Xavier Catholic School  
1129 Grant St.  
Brunswick, GA 31520

Mr. Hunter,

Thank you and the members of the Planning and Appeals Commission for your help and review of this project thus far. During the May Planning and Appeals meeting, three items were requested for further study regarding the existing and projected traffic patterns around the school. We have since consulted with our Traffic Engineer to report on these concerns and have the following summary of their findings:

1. Commission’s Request: Extend the traffic study to determine impact on Hanover Square.  
Findings: Most exiting vehicles will likely turn right at George Street to then turn onto Bay Street going north. Some traffic will continue around Hanover Square, but the impact is expected to be negligible. See pg. 19 & 20, “Conclusions” and “Recommendation of Improvements” of the attached traffic study.
2. Commission’s Request: Extend the afternoon time of the study to 5:00 pm. Will after-school activities impact traffic?  
Findings: After-school activities are not expected to impact traffic in any significant way. The current enrollment experiences +/- 20 cars for pickup from these programs. Parents arrive intermittently and there is never a wait time or queuing. The future peak enrollment of 300 children projects +/- 36 cars and still does not forecast any wait time or queuing. Parents will still arrive intermittently, and the number of cars would be negligible. See pg. 10, Table 15 of the attached traffic study.
3. Commission’s Request: Study rotating the drop-off area 90-degrees counter-clockwise around the site, placing the drop-off on Howe Street in lieu of Grant Street. Vehicle queuing would begin at the drop-off on Howe and continue along the shoulder of Bay Street.  
Findings: We have examined this scenario and presented it to GDOT. They have stated that they will not allow stacking on their route and recommends using other available, adjacent streets. The traffic study shows negligible wait times and no significant impact downstream.

Please reference the full traffic report for specific details and results. The Traffic Study shall take precedence over any information in this letter, especially if it is conflicting or unclear.

We trust that you and members of the Planning and Appeals Commission will find our presentation acceptable and along with our client, we look forward to receiving your favorable comments. Please call if you have any questions or if any additional information is required.

Thank you very much,

A handwritten signature in blue ink that reads "Ryan Claus". The signature is fluid and cursive, with the first name "Ryan" being more prominent than the last name "Claus".

Ryan Claus, Associate AIA  
Project Manager  
Felder & Associates

Cc: Owner, File

Attachments:

- Revised Traffic Study
- Correspondence from the City Traffic Engineer and GDOT



# TRAFFIC IMPACT STUDY

St. Francis Xavier Catholic School

Glynn County, GA



**COASTAL ENGINEERING**

AND CONSULTING

May 2021

<i>Title</i>	
<b>St. Francis Xavier Catholic School Traffic Impact Study Glynn County, GA</b>	
<i>Prepared For</i>  Ryan Claus, Assoc. AIA Felder & Associates 2514 Abercorn Street Savannah, GA 31401	<i>Date</i>  May 12, 2021  <i>Revised: May 28, 2021</i>
<i>Prepared By</i>  Coastal Engineering & Consulting 6605 Abercorn Street, Suite 210D Savannah, GA 31405  (912) 964-4509	<i>Report By</i>  C. Scott Burns, P.E.
<p>This study describes a traffic analysis to determine if improvements are required along Howe Street near Grant Street due to the proposed relocation of St. Francis Xavier Catholic School in Glynn County, GA. The proposed project will consist of a 300-student K to 8<sup>th</sup> grade school and associated improvements. Based on the findings in this study, the existing intersections will operate efficiently with the development and additional traffic volumes. In addition, the roadway was observed to meet sight distance requirements.</p>	

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#### 1 – PROJECT LIMITS

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#### A – EXISTING TRAFFIC DATA

#### B – SYNCHRO/SIMTRAFFIC UNSIGNALIZED INTERSECTION ANALYSIS

***Introduction***

The purpose of this study is to provide traffic projections and capacity analysis to evaluate the need for potential improvements along Howe Street between Bay Street and Newcastle Street due to the proposed development in Glynn County, Georgia. Figure 1 shows the project location.

**FIGURE 1: PROJECT LIMITS**



## *Existing Conditions*

### *Existing Geometry*

Newcastle Street is a north-south roadway that runs from State Route 27/U.S. 341 southward until the roadway intersects 5<sup>th</sup> Avenue and continues as King and Prince Boulevard. The roadway provides access to multiple commercial, government and residential developments as well as St. Francis Xavier Church within its corridor. In the project limits, the roadway is classified as an Urban Minor Arterial and consists of one lane in each direction separated by a raised grassed median. At the intersection with Howe Street, Newcastle Street traffic does not stop at the intersection. The roadway provides adequate sight distance on all approaches.

Bay Street is a north-south roadway that runs from State Route 27/U.S. 341 southward until the roadway intersects 1<sup>st</sup> Avenue. The roadway provides access to multiple commercial, residential, and marina as well as a cemetery. In the project limits, the roadway is classified as an Urban Principal Arterial and consists of two lanes in each direction separated by a raised median. At the intersection with Howe Street, Bay Street provides a left turn lane for southbound traffic. The roadway provides adequate sight distance on all approaches.

Grant Street is a north-south roadway that runs from F Street southward to the intersection with 1<sup>st</sup> Avenue. The roadway provides access to residential properties within its corridor. In the project limits, the roadway is classified as an Urban Local Street and consists of one lane in each direction. At the intersection with Howe Street, Grant Street does not provide access for vehicles to travel northbound. The roadway provides adequate sight distance on all approaches.

Howe Street is an east-west roadway that runs from State Route 27/U.S. 341 eastward to the intersection with Egmont Street. The roadway provides access to residential properties as well as St. Francis Xavier Church. In the project limits, the roadway is a classified as an Urban Local Street and consists of one lane in each direction. The roadway provides adequate sight distance on all approaches.

***Existing Daily Volumes***

Existing daily traffic volume data was collected along Newcastle Street at Bay Street and Newcastle Street near 4<sup>th</sup> Avenue between Tuesday, May 4, 2021 and Thursday, May 6, 2021. Additional data was collected on Howe Street between Tuesday, May 18, 2021 and Friday, May 22, 2021. The ADT for the corridor was determined by dividing the total vehicles by the number of days that the counts were taken. Table 1 summarizes the existing ADTs approaching the intersection.

**TABLE 1: EXISTING ADT**

	Newcastle Street North of proposed site		Newcastle Street South of proposed site		Howe Street	
Weekday	10,570		2,675		357	
	Northbound	Southbound	Northbound	Southbound	Eastbound	Westbound
Weekday	5,554	5,016	1,358	1,317	147	210
Truck %	2.4	2.8	5.8	5.9	9.1	12.4

***Existing Peak Hour Volumes***

Data was collected at multiple intersections around the site to determine the directional traffic distribution for the site. The data provided in Tables 2 – 7 reflect the peak hour volume at the intersections near the proposed location.

**TABLE 2: EXISTING PEAK HOUR VOLUMES – BAY STREET AT HOWE STREET**

	Howe Street WB			Driveway EB			Bay Street NB			Bay Street SB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	1	0	21	2	0	1	5	169	0	34	190	9
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	0	0	21	8	0	2	1	209	3	2	157	4

**TABLE 3: EXISTING PEAK HOUR VOLUMES – GRANT STREET AT HOWE STREET**

	Howe Street WB			Howe Street EB			Grant Street NB			Grant Street SB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	0	21	0	0	29	5	2	0	1	0	0	0
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	3	17	0	0	3	2	1	0	1	1	1	3

**TABLE 4: EXISTING PEAK HOUR VOLUMES – NEWCASTLE STREET AT HOWE STREET**

	Howe Street WB			Howe Street EB			Newcastle Street NB			Newcastle Street SB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	1	12	14	7	21	0	7	60	2	4	19	1
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	4	9	1	1	4	0	5	34	0	2	38	6

**TABLE 5: EXISTING PEAK HOUR VOLUMES – GRANT STREET AT GEORGE STREET**

	Grant Street NB			Grant Street SB			George Street EB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	--	--	--	0	41	3	0	0	20
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	--	--	--	0	62	7	0	0	17

**TABLE 6: EXISTING PEAK HOUR VOLUMES – BAY STREET AT GEORGE STREET**

	Bay Street NB			Bay Street SB			George Street WB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	5	165	0	27	145	0	1	0	6
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	8	172	1	18	129	0	0	0	10

**TABLE 7: EXISTING PEAK HOUR VOLUMES – RICHMOND STREET AT GEORGE STREET**

	Richmond Street NB			Richmond Street SB			George Street WB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	0	48	72	--	--	--	0	0	9
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	0	56	22	--	--	--	0	0	18

***Horizon Year Traffic Projections***

This section contains traffic projections for the future years to be evaluated.

***Historic Traffic Data***

The process used to project future traffic uses an examination of past trends along with outputs from models of future land use and travel demand.

The past traffic data was examined at nearby locations where GDOT periodically conducts traffic counts. GDOT count station 0000127\_0392 is a short-term portable counter. This counter was located on Newcastle Street, north of Howe Street. GDOT count station 0000127\_0203 is a short-term portable counter that was located along Bay Street, south of Howe Street.

Table 8 summarizes the average annual daily traffic collected at this location between 2010 and 2021. Remaining years were estimated without the installation of additional counters. These years were not added to the table due to a discrepancy in GDOT collected counts and the annual statistic used by GDOT.

**TABLE 8: HISTORIC TRAFFIC DATA, AADT**

Year	AADT (Newcastle Street)	AADT (Bay Street)
2018	1,552	3,946
2015	N/A	4,060
2014	1,522	N/A
2013	N/A	3,340
2011	N/A	3,625
2010	1,596	4,225

Reviewing data provided between 2010 and 2021 shows the existing traffic volumes used to determine an applicable growth rate for the corridor. Based on the analysis, the traffic volumes along Bay Street decreased over the length of the analysis while the traffic volumes along Newcastle Street showed an increase. Based on the growth from 2014 to 2018, a growth rate of 0.50% will be used for the projected traffic volumes, including the “No Build” scenario provided in Tables 9 – 14.

**TABLE 9: PEAK HOUR VOLUMES – BAY STREET AT HOWE STREET – 2042 NO BUILD**

	Howe Street WB			Driveway EB			Bay Street NB			Bay Street SB		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
<b>AM Peak</b>	5	0	25	5	0	5	5	190	0	40	215	10
<b>PM Peak</b>	0	0	25	10	0	5	5	235	5	5	180	5



**TABLE 10: PEAK HOUR VOLUMES – GRANT STREET AT HOWE STREET – 2042  
NO BUILD**

	Howe Street WB			Howe Street EB			Grant Street NB			Grant Street SB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	0	25	0	0	35	5	5	0	5	0	0	0
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	5	20	0	0	5	5	5	0	5	5	5	5

**TABLE 11: PEAK HOUR VOLUMES – NEWCASTLE STREET AT HOWE STREET – 2042  
NO BUILD**

	Howe Street WB			Howe Street EB			Newcastle Street NB			Newcastle Street SB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	5	15	15	10	25	0	10	70	5	5	25	5
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	5	10	5	5	5	0	5	40	0	5	45	10

**TABLE 12: PEAK HOUR VOLUMES – GRANT STREET AT GEORGE STREET – 2042  
NO BUILD**

	Grant Street NB			Grant Street SB			George Street EB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	--	--	--	0	50	5	0	0	25
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	--	--	--	0	70	10	0	0	20

**TABLE 13: PEAK HOUR VOLUMES – BAY STREET AT GEORGE STREET – 2042 NO BUILD**

	Bay Street NB			Bay Street SB			George Street WB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	5	185	0	30	165	0	5	0	10
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	10	195	5	20	145	0	0	0	15

**TABLE 14: PEAK HOUR VOLUMES – RICHMOND STREET AT GEORGE STREET – 2042 NO BUILD**

	Richmond Street NB			Richmond Street SB			George Street WB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	0	55	80	--	--	--	0	0	10
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	0	65	25	--	--	--	0	0	20

***Trip Generation Estimate***

When evaluating the existing and proposed conditions at this location, the 10<sup>th</sup> Edition of the ITE Trip Generation Manual was used. The ITE provides several codes to generate the trips for these sites. Once the ITE Code is determined, a unit measure (dwelling units (DU), vehicles, etc.) is used to determine the generated trips to determine the impact through the corridor. Trips generated to/from each site are categorized into three (3) categories.

***New Trips***

New trips are vehicles that do not currently use the roadway network. These trips add additional volume to the current roadway system. It is typically assumed that these new trips start at an origin, travel to the site and then return back to their original origin. Due to the location, it is anticipated that 10% of traffic will access the site from the north using Newcastle Street, 35% will access the site from the east along Howe Street, 20% will access the site from the south and 35% will access the site from the west. Vehicles accessing the site from the intersection of Newcastle Street and Howe Street can access Grant Street at two locations, Grant Street and Howe Street or Grant Street and Newcastle Street.

***Pass By Trips***

Pass by Trips are existing users to the roadway network that divert from their route to access the site. Upon exiting the site, these users return to the roadway towards their original destination. These trips do not add volume to the current roadway system, instead these trips typically impact the roadway by modifying the traffic patterns (typically resulting in additional turning traffic). The ITE does not recommend a pass by percentage for this facility.

***Internal Capture***

Internal capture trips are associated with significant mixed-use developments. Internal capture trips take into account vehicles which travel to a mixed-use development and generate trips among multiple different use types or locations within the larger development. This is used to calculate the number of users who are generated by one site but visit another type and therefore should only count as a new trip or pass by trip for one site but not both. An example of internal capture would be a user visiting a restaurant after visiting a retail location on site. Although these vehicles factor in trips for both

locations, they only affect the roadway network when they enter and exit the site. Internal capture trips are not calculated for this project.

***St. Francis Xavier Catholic School Projected Data***

The St. Francis Xavier Catholic School development is a proposed K to 8<sup>th</sup> grade private school located along Howe Street at Grant Street in Glynn County, GA. The school will be relocated from the currently location of Howe Street at Union Street where a total of 174 students are currently enrolled. The site will be analyzed based on the design of 300 students.

Using the proposed land use, it was determined that ITE Codes 534 – Private School (K-8) was the best option to analyze the proposed data for the site. Table 15 summarizes the site condition using the ITE Trip Generation Manual. The PM Trips are based on the ITE Time of Day Distribution for the land use used. No pass by trips are generated for this type of development.

**TABLE 15: TRIP GENERATION FOR PROPOSED DEVELOPMENT**

	Unit	Qty	Daily Trips	AM Total Trips	AM In	AM Out	Pass By	PM Total Trips	PM In	PM Out	Pass By
534 – Private School (K-8)	Students	300.000	1,233	273	150	123	0	78	36	42	0
Existing based on ITE Land Use Code 534	Students	174.000	715	158	87	71	0	45	21	24	0

Currently, the school at Union Street has an average of 87 vehicles during the drop-off period and 72 vehicles during the pick-up period. This also includes a bus used to transport approximately 20 students to/from St. Simons Island. Analyzing this data, in comparison to the ITE Trip Generation data above shows that the volumes calculated are in line with actual volumes collected in the field. The data shown for the PM Peak occurs after dismissal. This will include parent pick-up from after-school activities and staff departures.

### ***Directional Distribution of Development Traffic***

Using the methods described in the previous section, traffic volume numbers were generated. The distribution of those traffic volumes is needed to determine the paths of the generated trips. For new trips generated to the site, determining the percentage of trips attracted to the site from an origin is primarily dependent on the connectivity of that origin to potential trip generators.

Developing distribution percentages for pass-by traffic is different from new trips in that it must be developed from existing traffic patterns instead of the potential for producing new trips to the site. Since pass-by trips do not return to point in which they originated, it is necessary to distribute pass-by traffic volumes according to the origin and destination of existing traffic patterns. This results in a volume of pass-by traffic that under existing conditions travels from Location X to Location Y, but under proposed conditions travels from Location X to the site and then continues to Zone Y.

***Projected Future Year Traffic Volumes***

By combining the existing traffic volumes, the generated traffic volumes, and the pass-by traffic modifications, the forecasted traffic volumes for the proposed conditions are obtained.

***Proposed Peak Hour Volumes with the new St. Francis Xavier Catholic School Development***

Based on the existing peak hour count data collected near the project and the trips determined by the ITE Trip Generation, the proposed trips have been calculated to determine if improvements to the intersection are necessary. Tables 16 – 21 include the AM and PM Peak Hour traffic volumes for the intersection with the generated trips added.

**TABLE 16: PEAK HOUR VOLUMES – BAY STREET AT HOWE STREET (2042)**

	Howe Street WB			Driveway EB			Bay Street NB			Bay Street SB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	5	0	25	5	0	5	5	233	0	92	215	10
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	0	0	25	10	0	5	5	250	5	17	180	5

**TABLE 17: PEAK HOUR VOLUMES – GRANT STREET AT HOWE STREET (2042)**

	Howe Street WB			Howe Street EB			Grant Street NB			Grant Street SB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	26	25	0	0	35	57	5	0	5	0	0	0
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	11	20	0	0	5	17	5	0	5	5	5	5

**TABLE 18: PEAK HOUR VOLUMES – NEWCASTLE STREET AT HOWE STREET (2042)**

	Howe Street WB			Howe Street EB			Newcastle Street NB			Newcastle Street SB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	5	15	15	37	51	0	10	82	27	5	40	5
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	5	10	5	12	11	0	5	40	8	5	49	10

**TABLE 19: PEAK HOUR VOLUMES – GRANT STREET AT GEORGE STREET (2042)**

	Grant Street NB			Grant Street SB			George Street EB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	--	--	--	0	130	48	0	0	25
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	--	--	--	0	97	25	0	0	20

**TABLE 20: PEAK HOUR VOLUMES – BAY STREET AT GEORGE STREET (2042)**

	Bay Street NB			Bay Street SB			George Street WB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	5	185	0	30	165	0	5	0	53
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	10	195	5	20	145	0	0	0	30

**TABLE 21: PEAK HOUR VOLUMES – RICHMOND STREET AT GEORGE STREET (2042)**

	Richmond Street NB			Richmond Street SB			George Street WB		
AM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	0	119	101	--	--	--	0	0	10
PM Peak	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
	0	84	32	--	--	--	0	0	20

**Capacity Analysis**

Capacity analysis techniques were used as described in the Highway Capacity Manual, Special Report 209, published by the Transportation Research Board, 2010. The Synchro Program (Version 10) from Trafficware was used to facilitate the analysis.

The HCM level of service definitions are summarized in Table 22. Capacity analysis results for unsignalized intersections provide estimates of the level of service (LOS) for each minor movement that is required to yield to free flow movements. No overall intersection LOS is given for unsignalized intersections.

**TABLE 22: LEVEL OF SERVICE CRITERIA**

LEVEL OF SERVICE	SIGNALIZED INTERSECTIONS	STOP CONTROLLED INTERSECTIONS
	STOPPED DELAY PER VEHICLE (SECONDS)	STOPPED DELAY PER VEHICLE (SECONDS)
A	≤ 10.0	≤ 10.0
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	≥ 80.0	≥ 50.0

***Future Traffic Conditions for Stop-Controlled Intersections***

The 2042 proposed traffic volumes at the intersections were analyzed without signalization. Table 23 provides the LOS for each approach at the intersection of Bay Street at Howe Street with the minor road (Howe Street) in a stop condition. Table 24 provides the LOS for each approach at the intersection of Grant Street at Howe Street with the minor road (Grant Street) in a stop condition. Table 25 provides the LOS for each approach at the intersection of Newcastle Street at Howe Street with the minor road (Howe Street) in a stop condition.

**TABLE 23: LOS FOR UNSIGNALIZED INTERSECTION (BAY STREET AT HOWE STREET)**

	<b>NO BUILD AM LOS</b>	<b>NO BUILD DELAY</b>	<b>LOS AM PEAK</b>	<b>DELAY</b>	<b>NO BUILD PM LOS</b>	<b>NO BUILD DELAY</b>	<b>LOS PM PEAK</b>	<b>DELAY</b>
Bay Street NB LT	A	7.8 s	A	7.8 s	A	7.7 s	A	7.7 s
Bay Street NB THRU	A	0.0 s	A	0.0 s	A	0.0 s	A	0.0 s
Bay Street NB RT	A	0.0 s	A	0.0 s	A	0.0 s	A	0.0 s
Bay Street SB LT	A	7.9 s	A	8.2 s	A	7.8 s	A	7.9 s
Bay Street SB THRU	A	0.0 s	A	0.0 s	A	0.0 s	A	0.0 s
Bay Street SB RT	A	0.0 s	A	0.0 s	A	0.0 s	A	0.0 s
Driveway EB Shared LT/THRU/RT	B	11.2 s	B	12.7 s	B	12.5 s	B	13.3 s
Howe Street WB Shared LT/THRU/RT	B	11.3 s	B	13.3 s	A	9.3 s	A	9.4 s

**TABLE 24: LOS FOR UNSIGNALIZED INTERSECTION (GRANT STREET AT HOWE STREET)**

	<b>NO BUILD AM LOS</b>	<b>NO BUILD DELAY</b>	<b>LOS AM PEAK</b>	<b>DELAY</b>	<b>NO BUILD PM LOS</b>	<b>NO BUILD DELAY</b>	<b>LOS PM PEAK</b>	<b>DELAY</b>
Howe Street WB LT	A	0.0 s	A	0.2 s	A	0.0 s	A	0.1 s
Howe Street WB THRU	A	0.0 s	A	3.7 s	A	1.3 s	A	2.3 s
Howe Street EB THRU	A	0.0 s	A	0.0 s	A	0.0 s	A	0.0 s
Howe Street EB RT	A	0.0 s	A	0.0 s	A	0.0 s	A	0.0 s
Grant Street SB Shared LT/THRU/RT	--	--	--	--	A	9.3 s	A	9.4 s
Grant Street NB Shared LT/RT	A	8.9 s	A	9.5 s	A	9.0 s	A	9.1 s



Traffic Impact Study – St Francis Xavier Catholic School

**TABLE 25: LOS FOR UNSIGNALIZED INTERSECTION (NEWCASTLE STREET AT HOWE STREET)**

	<b>NO BUILD AM LOS</b>	<b>NO BUILD DELAY</b>	<b>LOS AM PEAK</b>	<b>DELAY</b>	<b>NO BUILD PM LOS</b>	<b>NO BUILD DELAY</b>	<b>LOS PM PEAK</b>	<b>DELAY</b>
Howe Street WB LT	A	10.0 s	B	10.8 s	A	9.8 s	A	9.9 s
Howe Street WB THRU	A	10.0 s	B	10.8 s	A	9.8 s	A	9.9 s
Howe Street WB RT	A	10.0 s	B	10.4 s	A	9.8 s	A	9.9 s
Howe Street EB LT	B	10.9 s	B	13.6 s	B	10.2 s	B	10.7 s
Howe Street EB THRU	B	10.9 s	B	13.6 s	B	10.2 s	B	10.7 s
Howe Street EB RT	--	--	--	--	--	--	--	--
Newcastle Street SB Shared LT/THRU/RT	A	0.8 s	A	0.4 s	A	0.7 s	A	0.7 s
Newcastle Street NB Shared LT/THRU/RT	A	1.5 s	A	1.1 s	A	1.1 s	A	1.0 s

**TABLE 26: LOS FOR UNSIGNALIZED INTERSECTION (GRANT STREET AT GEORGE STREET)**

	<b>NO BUILD AM LOS</b>	<b>NO BUILD DELAY</b>	<b>LOS AM PEAK</b>	<b>DELAY</b>	<b>NO BUILD PM LOS</b>	<b>NO BUILD DELAY</b>	<b>LOS PM PEAK</b>	<b>DELAY</b>
Grant Street SB THRU	A	0.0 s	A	0.0 s	A	0.0 s	A	0.0 s
Grant Street SB RT	A	0.0 s	A	0.0 s	A	0.0 s	A	0.0 s
George Street EB RT	A	8.9 s	A	9.9 s	A	9.0 s	A	9.3 s

**TABLE 27: LOS FOR UNSIGNALIZED INTERSECTION (BAY STREET AT GEORGE STREET)**

	<b>NO BUILD AM LOS</b>	<b>NO BUILD DELAY</b>	<b>LOS AM PEAK</b>	<b>DELAY</b>	<b>NO BUILD PM LOS</b>	<b>NO BUILD DELAY</b>	<b>LOS PM PEAK</b>	<b>DELAY</b>
Bay Street NB LT	--	--	--	--	--	--	--	--
Bay Street NB THRU	A	0.0 s	A	0.0 s	A	0.0 s	A	0.0 s
Bay Street NB RT	A	0.0 s	A	0.0 s	A	0.0 s	A	0.0 s
Bay Street SB LT	A	7.7 s	A	7.7 s	A	7.8 s	A	7.8 s
Bay Street SB THRU	A	0.0 s	A	0.0 s	A	0.0 s	A	0.0 s
George Street WB Shared LT/THRU/RT	B	10.4 s	A	10.0 s	A	9.1 s	A	9.2 s

**TABLE 28: LOS FOR UNSIGNALIZED INTERSECTION (RICHMOND STREET AT GEORGE STREET)**

	<b>NO BUILD AM LOS</b>	<b>NO BUILD DELAY</b>	<b>LOS AM PEAK</b>	<b>DELAY</b>	<b>NO BUILD PM LOS</b>	<b>NO BUILD DELAY</b>	<b>LOS PM PEAK</b>	<b>DELAY</b>
Richmond Street NB THRU	A	0.0 s	A	0.0 s	A	0.0 s	A	0.0 s
Richmond Street NB RT	A	0.0 s	A	0.0 s	A	0.0 s	A	0.0 s
George Street WB RT	A	9.0 s	A	9.5 s	A	9.0 s	A	9.1 s

Based on the analysis, the stop-controlled intersection in the proposed condition provides an acceptable level of service for the project.

***GDOT Turning Lane Requirements***

Analysis of intersection improvements included the analysis of the need for auxiliary turn lanes at each intersection. This analysis was completed based on design criteria provided by GDOT in Chapter 4 of the *Regulations for Driveway and Encroachment Control* manual. Determination of turn lane locations is based on the posted speed, number of lanes on the route and the ADT. Table 29 provides the minimum requirements for left turn lanes used for the project. Table 30 provides the minimum requirements for right turn lanes used for the project.

**TABLE 29: MINIMUM VOLUMES REQUIRING LEFT TURN LANES**

POSTED SPEED	2 LANE ROUTES		MORE THAN 2 LANES ON MAIN ROAD	
	ADT		ADT	
	< 6,000	≥ 6,000	< 10,000	≥ 10,000
35 MPH or LESS	300 LTV a day	200 LTV a day	400 LTV a day	300 LTV a day
40 TO 50 MPH	250 LTV a day	175 LTV a day	325 LTV a day	250 LTV a day
≥ 55 MPH	200 LTV a day	150 LTV a day	250 LTV a day	200 LTV a day

For unsignalized intersections, GDOT recommends that storage accommodates vehicles arriving during a two-minute period.

**TABLE 30: MINIMUM VOLUMES REQUIRING RIGHT TURN LANES**

POSTED SPEED	2 LANE ROUTES		MORE THAN 2 LANES ON MAIN ROAD	
	ADT		ADT	
	< 6,000	≥ 6000	< 10,000	≥ 10,000
35 MPH or LESS	200 RTV a day	100 RTV a day	200 RTV a day	100 RTV a day
40 TO 50 MPH	150 RTV a day	75 RTV a day	150 RTV a day	75 RTV a day
55 TO 60 MPH	100 RTV a day	50 RTV a day	100 RTV a day	50 RTV a day
≥ 65 MPH	Always	Always	Always	Always

For unsignalized intersections, GDOT recommends the minimum storage length be provided.

### ***School Drop Off/Pick Up Queue Length***

Currently there is no standardized method for calculating school zone queues; however, the Municipal School Transportation Assistance (MSTA) of North Carolina has created a spreadsheet that has been reviewed by multiple agencies. This spreadsheet reviews the queues in both the AM and PM Peak hours to determine the overall affect on adjacent roadways. The spreadsheet recommends determining the queue based on the PM Peak Hour as the AM traffic is considered to be more spread out over the AM Peak Hour and the typical drop off occurs much faster than pickup. Based on the spreadsheet, approximately 48.67% of the PM Peak hour entering volume will be in the queue at any one time. Based on the current trip generation, approximately 125 vehicles will be expected during the afternoon pick-up period.

48.67% Trips Entering = 48.67% \* 125 vehicles = 61 vehicles

Vehicles \* 22.19 feet/vehicle = 61 vehicles \* 22.19 feet/vehicle = 1,354 feet

It should be noted that the calculations are based on a 30-minute pick up window. In order to reduce this queue length, the school is currently proposing a 60-minute window pick up window. When determining locations for queuing, Bay Street at Howe Street was examined; however, GDOT has stated that they will not allow stacking on their route and recommends using other adjacent streets. Based on this data, using Grant Street and Howe Street for pick-up queuing would be acceptable.

### ***Conclusions***

Based on the data collected from the site, the following conclusions have been made.

- Currently, the total daily volume along Newcastle Street, north of the site, is 10,570 VPD. This includes 5,554 northbound vehicles and 5,016 southbound vehicles. The total daily volume along Newcastle Street, south of the site, is 2,675 VPD. This includes consists of 1,358 northbound vehicles and 1,317 southbound vehicles. The posted speed of the roadway is 55 MPH.
- The proposed project will relocate St Francis Xavier Catholic School from the intersection of Union Street and Howe Street to the intersection of Grant Street and Howe Street. The site will be analyzed based on 300 students. Due to the location, it is anticipated that 10% of traffic will access the site from the north using Newcastle Street, 35% will access the site from the east along Howe Street, 20% will access the site from the south and 35% will access the site from the west. Vehicles accessing the site from the intersection of Newcastle Street and Howe Street can access Grant Street at two locations, Grant Street and Howe Street or Grant Street and Newcastle Street.

***Recommendation of Improvements***

Based on the projected traffic data, the following improvements are recommended along the Howe Street corridor.

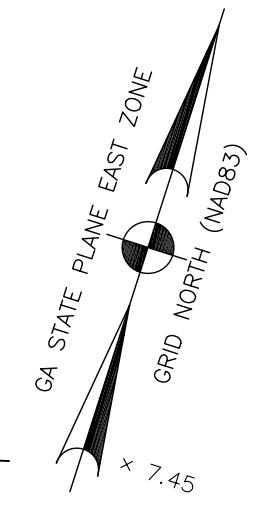
- It is recommended that the intersections of Howe Street and Bay Street, Howe Street and Grant Street, Howe Street and Newcastle Street and Grant Street and George Street continue to operate as minor road stop-controlled intersections.
- It is recommended that drop off queues along Grant Street. This will allow exiting vehicles to turn right at the intersection of Grant Street and George Street and use the intersection of Bay Street at George Street to travel to the north.
- Based on the level of service along the surrounding streets, the development will require no additional improvements along the corridor, including at Hanover Square.
- Due to the block configuration of the surrounding streets, traffic appears to have the ability to disperse within the corridor, as a result, no roadway improvements are recommended as a part of this development.

Recommendation: \_\_\_\_\_

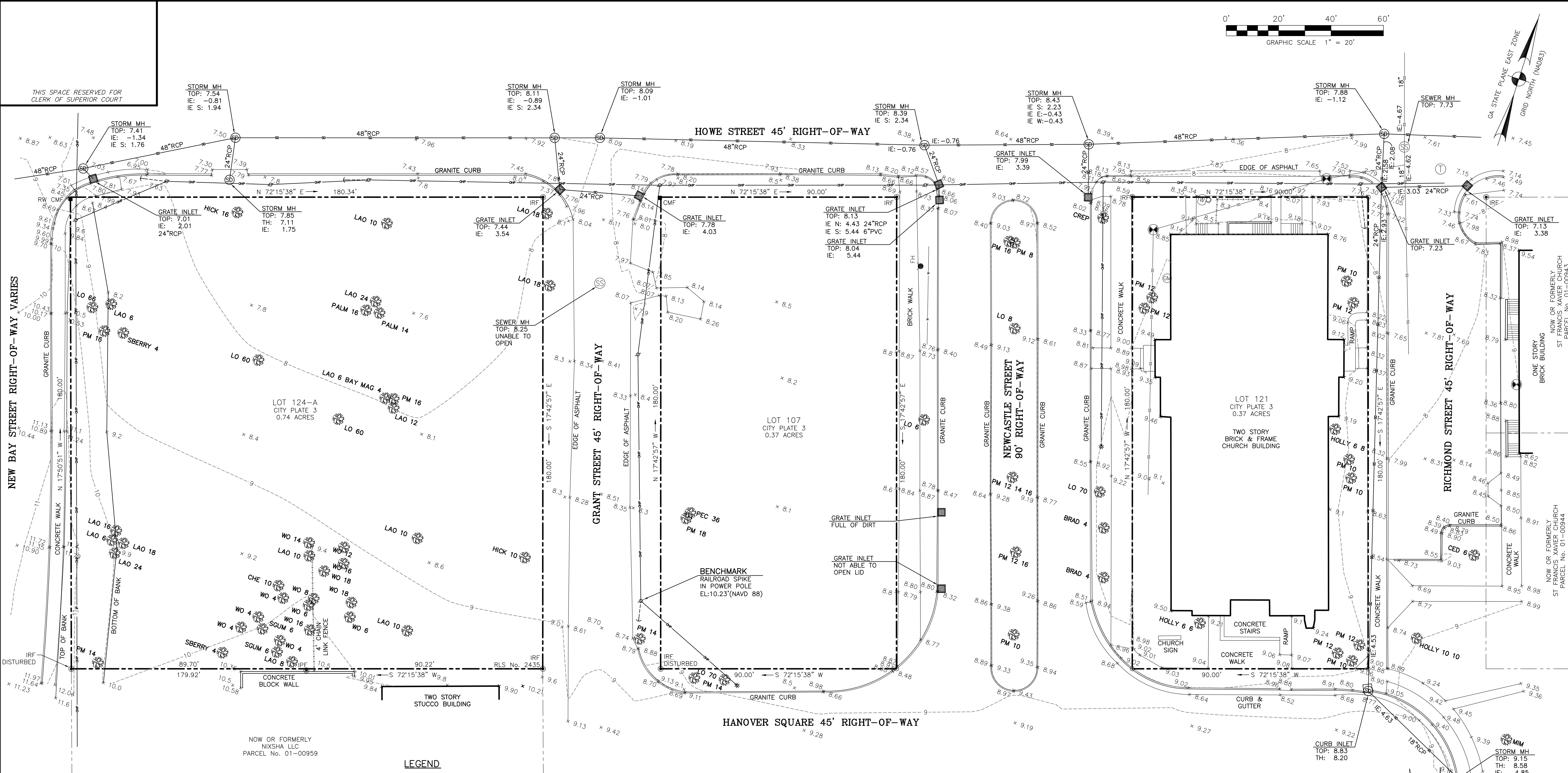
C. *Scott Burns*



**APPENDIX**



**BREWER**  
LAND SURVEYING  
P.O. Box 441  
Pooler, GA 31322  
craig@brewersurveying.com  
Phone (912) 856-2205  
www.BrewerSurveying.com



**REFERENCE PLAT**  
1. DEED BOOK 3435, PAGE 38.  
2. CITY OF BRUNSWICK, GEORGIA CITY PLATE 03

**LOTS 107, 121 & 124-A**  
TAX ASSESSOR'S PROPERTY IDENTIFICATION NUMBER'S 01-00951 THRU 00953  
CURRENT ZONING: GR  
TAX ASSESSOR'S PROPERTY IDENTIFICATION NUMBER'S 01-00954 THRU 00958 & 01-00967 THRU 72  
CURRENT ZONING: GR-CORE  
TOTAL LOT AREA: 1.48 ACRES

- LEGEND**
- IRF IRON ROD FOUND
  - PROPERTY CORNER TO BE SET
  - CMF CONCRETE MONUMENT FOUND
  - IPF IRON PIPE FOUND
  - ⊕ MANHOLE TYPE UNKNOWN
  - ⊙ GAS METER
  - ×13.4 SPOT ELEVATION
  - ▭ GRATE INLET
  - ⊖ WATER METER
  - ⊕ POWER POLE
  - ⊖ GUY WIRE
  - ⊕ STORM DRAINAGE MANHOLE
  - ⊙ SANITARY SEWER MANHOLE
  - \* LIGHT POLE
  - ⊕ CLEANOUT
  - ⊙ IRRIGATION CONTROL VALVE
  - ⊕ FIRE HYDRANT
  - OHP— OVERHEAD UTILITY LINE
  - 18— CONTOUR LINE
  - UGT— COMMUNICATION LINE
  - W— UNDERGROUND WATER LINE
  - SS— UNDERGROUND SEWER LINE
  - SD— UNDERGROUND STORM LINE

- TREE LEGEND**
- SIZE OF SYMBOL DOES NOT INDICATE THE SIZE OF THE DRIP LINE/CANOPY LINE
- LOCATION OF TREE
- TREE SIZE (IN INCHES)
- TREE TYPE
- TREE TYPE ABBREVIATIONS:
- BRAD BRADFORD PEAR
  - CED CEDAR
  - CHE CHERRY
  - CREP CREPE MYRTLE
  - HICK HICKORY
  - HOLLY HOLLY BERRY
  - LAO LAUREL OAK
  - LO LIVE OAK
  - MIM MIMOSA
  - PM PALM
  - PEC PECAN
  - SJUM SWEET GUM
  - WO WATER OAK
- ALL OTHERS SPELLED OUT  
MULTIPLE TREE SIZES INDICATES COMMON BASE  
DEAD TREES NOT LOCATED

**SURVEYOR'S NOTES**

- THE ELEVATIONS SHOWN ARE BASED ON NAVD 88 DATUM. THE CONTOUR INTERVAL IS 1 FOOT.
- THE FIELD DATA UPON WHICH THIS MAP OR PLAT IS BASED HAS A CLOSURE RATIO OF 1 FOOT IN 84,731 FEET, AN ANGULAR ERROR OF 2" PER ANGLE POINT, AND WAS ADJUSTED USING THE COMPASS RULE METHOD.
- THIS PLAT HAS A PRECISION OF ONE FOOT IN 113,169 FEET.
- ACCORDING TO F.I.R.M. MAP NO. 13127C0238F, REVISED SEPTEMBER 6, 2006, THE PROPERTY SHOWN ON THIS SURVEY LIES IN ZONE AE (BFE 11).
- ONLY ABOVEGROUND, READILY VISIBLE STRUCTURES AND UTILITIES WERE LOCATED FOR THIS SURVEY. THIS SURVEYOR MAKES NO WARRANTY OR GUARANTEE AS TO THE LOCATION, EXISTENCE, OR NON-EXISTENCE OF ANY BELOWGROUND, NON-VISIBLE UTILITIES OR STRUCTURES.



THIS SURVEY IS A RETRACEMENT OF AN EXISTING PARCEL OF LAND AND DOES NOT SUBDIVIDE OR CREATE A NEW PARCEL. THE RECORDING INFORMATION OF THE DOCUMENT(S), MAP(S), PLAT(S) OR OTHER INSTRUMENT(S) WHICH CREATED THE PARCEL(S) ARE STATED HEREON. RECORDATION OF THIS SURVEY DOES NOT IMPLY APPROVAL OF THE LOCAL JURISDICTION, AVAILABILITY OF PERMITS, COMPLIANCE WITH LOCAL REGULATIONS OR REQUIREMENTS, NOR SUITABILITY FOR ANY USE OR PURPOSE OF THE LAND. FURTHER, THE UNDERSIGNED LAND SURVEYOR CERTIFIES THAT THIS MAP, PLAT, OR PLAN COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR PROPERTY SURVEYS IN GEORGIA AS SET FORTH IN CHAPTER 180-7 OF THE RULES OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND AS SET FORTH IN THE GEORGIA PLAT ACT OCCA 15-6-67.

JAMES CRAIG BREWER  
GA. REG. LAND SURVEYOR NO. 3022

**LOT 107, 121 & 124-A, CITY PLATE 3**  
26th G.M. DISTRICT, CITY OF BRUNSWICK, GLYNN COUNTY, GEORGIA

PREPARED FOR:  
**ST. FRANCIS XAVIER CHURCH**

PROJECT #:	170600
FIELD DATE:	11/6/2017
PLAT DATE:	11/20/2017
DRAWN BY:	DJP
CHECKED BY:	JCB
SCALE:	1"=20'





# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Newcastle Street  
North of 4th Avenue  
Latitude: 0' 0.0000 Undefined

Start Time	05/04/21								Total
	Tue	Northbound	Southbound						
12:00 PM		*	*						*
12:15		*	*						*
12:30		*	*						*
12:45		*	*						*
01:00		*	*						*
01:15		*	*						*
01:30		*	*						*
01:45		*	*						*
02:00		*	*						*
02:15		*	*						*
02:30		*	*						*
02:45		*	*						*
03:00		*	*						*
03:15		*	*						*
03:30		*	*						*
03:45		*	*						*
04:00			36	23					59
04:15			28	15					43
04:30			49	32					81
04:45			35	17					52
05:00			20	37					57
05:15			29	26					55
05:30			23	27					50
05:45			17	20					37
06:00			24	18					42
06:15			11	16					27
06:30			16	19					35
06:45			10	16					26
07:00			10	14					24
07:15			22	14					36
07:30			10	9					19
07:45			17	9					26
08:00			5	6					11
08:15			16	6					22
08:30			5	9					14
08:45			0	10					10
09:00			3	12					15
09:15			3	7					10
09:30			9	10					19
09:45			2	5					7
10:00			4	7					11
10:15			6	2					8
10:30			2	5					7
10:45			3	0					3
11:00			1	2					3
11:15			5	3					8
11:30			0	3					3
11:45			3	6					9
Total			424	405					829
Percent			51.1%	48.9%					
Peak	-		16:00	16:30	-	-	-	-	16:30
Vol.	-		148	112	-	-	-	-	245
P.H.F.			0.755	0.757					0.756

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Site Code:  
Station ID:  
Newcastle Street  
North of 4th Avenue  
Latitude: 0' 0.0000 Undefined

Start Time	05/05/21								Total
	Wed	Northbound	Southbound						
12:00 AM		7	2						9
12:15		1	4						5
12:30		4	0						4
12:45		1	1						2
01:00		4	3						7
01:15		2	0						2
01:30		0	1						1
01:45		3	1						4
02:00		1	2						3
02:15		0	0						0
02:30		0	0						0
02:45		0	0						0
03:00		0	1						1
03:15		0	0						0
03:30		2	0						2
03:45		4	2						6
04:00		2	0						2
04:15		1	1						2
04:30		4	2						6
04:45		3	5						8
05:00		3	1						4
05:15		2	7						9
05:30		2	8						10
05:45		2	13						15
06:00		3	5						8
06:15		11	18						29
06:30		9	32						41
06:45		13	43						56
07:00		20	24						44
07:15		23	23						46
07:30		31	29						60
07:45		54	28						82
08:00		43	22						65
08:15		28	19						47
08:30		16	11						27
08:45		16	19						35
09:00		15	14						29
09:15		18	15						33
09:30		18	23						41
09:45		14	13						27
10:00		18	15						33
10:15		15	21						36
10:30		17	14						31
10:45		22	20						42
11:00		18	15						33
11:15		26	17						43
11:30		20	20						40
11:45		22	17						39
Total		538	531						1069
Percent		50.3%	49.7%						
Peak	-	07:30	06:30	-	-	-	-	-	07:30
Vol.	-	156	122	-	-	-	-	-	254
P.H.F.		0.722	0.709						0.774

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Newcastle Street  
North of 4th Avenue  
Latitude: 0' 0.0000 Undefined

Start Time	05/05/21 Wed	Northbound	Southbound							Total
12:00 PM		36	28							64
12:15		25	37							62
12:30		26	31							57
12:45		16	33							49
01:00		26	24							50
01:15		20	16							36
01:30		23	30							53
01:45		23	18							41
02:00		13	19							32
02:15		15	22							37
02:30		29	16							45
02:45		21	21							42
03:00		23	15							38
03:15		25	18							43
03:30		34	25							59
03:45		50	13							63
04:00		37	25							62
04:15		26	13							39
04:30		43	23							66
04:45		14	18							32
05:00		28	36							64
05:15		40	24							64
05:30		32	30							62
05:45		22	20							42
06:00		16	12							28
06:15		14	17							31
06:30		16	12							28
06:45		16	23							39
07:00		21	16							37
07:15		8	15							23
07:30		12	14							26
07:45		9	7							16
08:00		12	17							29
08:15		5	10							15
08:30		12	9							21
08:45		4	9							13
09:00		6	8							14
09:15		4	11							15
09:30		3	5							8
09:45		7	6							13
10:00		3	2							5
10:15		2	4							6
10:30		0	2							2
10:45		6	1							7
11:00		3	3							6
11:15		5	2							7
11:30		4	1							5
11:45		1	3							4
<b>Total</b>		836	764							1600
<b>Percent</b>		52.3%	47.8%							
<b>Peak</b>	-	15:45	12:00	-	-	-	-	-	-	12:00
<b>Vol.</b>	-	156	129	-	-	-	-	-	-	232
<b>P.H.F.</b>		0.780	0.872							0.906

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Newcastle Street  
North of 4th Avenue  
Latitude: 0' 0.0000 Undefined

Start Time	05/06/21		Northbound	Southbound						Total
	Thu									
12:00 AM			2	2						4
12:15			0	1						1
12:30			2	2						4
12:45			1	0						1
01:00			3	1						4
01:15			0	1						1
01:30			0	1						1
01:45			0	0						0
02:00			1	1						2
02:15			0	0						0
02:30			1	0						1
02:45			1	1						2
03:00			0	1						1
03:15			0	1						1
03:30			2	0						2
03:45			3	1						4
04:00			2	1						3
04:15			2	1						3
04:30			1	2						3
04:45			1	3						4
05:00			0	2						2
05:15			3	2						5
05:30			3	7						10
05:45			2	13						15
06:00			5	13						18
06:15			12	19						31
06:30			12	39						51
06:45			14	60						74
07:00			23	22						45
07:15			36	29						65
07:30			54	28						82
07:45			58	28						86
08:00			43	22						65
08:15			28	19						47
08:30			21	18						39
08:45			11	14						25
09:00			14	14						28
09:15			17	14						31
09:30			17	22						39
09:45			14	13						27
10:00			18	15						33
10:15			14	20						34
10:30			17	12						29
10:45			23	20						43
11:00			18	15						33
11:15			26	17						43
11:30			20	20						40
11:45			22	17						39
<b>Total</b>			<b>567</b>	<b>554</b>						<b>1121</b>
<b>Percent</b>			<b>50.6%</b>	<b>49.4%</b>						
Peak	-		07:15	06:30	-	-	-	-	-	07:15
Vol.	-		191	150	-	-	-	-	-	298
P.H.F.			0.823	0.625						0.866

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Newcastle Street  
North of 4th Avenue  
Latitude: 0' 0.0000 Undefined

Start Time	05/06/21 Thu	Northbound	Southbound							Total
12:00 PM		36	28							64
12:15		24	27							51
12:30		26	34							60
12:45		21	33							54
01:00		19	19							38
01:15		11	26							37
01:30		23	14							37
01:45		10	22							32
02:00		21	17							38
02:15		12	17							29
02:30		21	19							40
02:45		25	24							49
03:00		19	23							42
03:15		21	20							41
03:30		28	32							60
03:45		37	25							62
04:00		*	*							*
04:15		*	*							*
04:30		*	*							*
04:45		*	*							*
05:00		*	*							*
05:15		*	*							*
05:30		*	*							*
05:45		*	*							*
06:00		*	*							*
06:15		*	*							*
06:30		*	*							*
06:45		*	*							*
07:00		*	*							*
07:15		*	*							*
07:30		*	*							*
07:45		*	*							*
08:00		*	*							*
08:15		*	*							*
08:30		*	*							*
08:45		*	*							*
09:00		*	*							*
09:15		*	*							*
09:30		*	*							*
09:45		*	*							*
10:00		*	*							*
10:15		*	*							*
10:30		*	*							*
10:45		*	*							*
11:00		*	*							*
11:15		*	*							*
11:30		*	*							*
11:45		*	*							*
Total		354	380							734
Percent		48.2%	51.8%							
Peak	-	12:00	12:00	-	-	-	-	-	-	12:00
Vol.	-	107	122	-	-	-	-	-	-	229
P.H.F.		0.743	0.897							0.895
Grand Total		2719	2634							5353
Percent		50.8%	49.2%							

ADT

ADT 2,675

AADT 2,675



# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Newcastle Street  
North of Bay Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/04/21								Total
	Tue	Northbound	Southbound						
12:00 PM		*	*						*
12:15		*	*						*
12:30		*	*						*
12:45		*	*						*
01:00		*	*						*
01:15		*	*						*
01:30		*	*						*
01:45		*	*						*
02:00		*	*						*
02:15		*	*						*
02:30		*	*						*
02:45		*	*						*
03:00		*	*						*
03:15		*	*						*
03:30		*	*						*
03:45		*	*						*
04:00			126	87					213
04:15			124	66					190
04:30			153	87					240
04:45			114	87					201
05:00			184	85					269
05:15			122	74					196
05:30			109	81					190
05:45			102	73					175
06:00			91	55					146
06:15			65	63					128
06:30			81	52					133
06:45			62	57					119
07:00			82	35					117
07:15			50	56					106
07:30			53	38					91
07:45			51	39					90
08:00			54	29					83
08:15			51	31					82
08:30			50	30					80
08:45			27	23					50
09:00			46	26					72
09:15			34	34					68
09:30			34	25					59
09:45			17	27					44
10:00			13	21					34
10:15			16	16					32
10:30			15	16					31
10:45			21	10					31
11:00			22	16					38
11:15			15	8					23
11:30			9	14					23
11:45			10	7					17
Total			2003	1368					3371
Percent			59.4%	40.6%					
Peak	-		16:15	16:30	-	-	-	-	16:30
Vol.	-		575	333	-	-	-	-	906
P.H.F.			0.781	0.957					0.842



# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Newcastle Street  
North of Bay Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/05/21								Total
	Wed	Northbound	Southbound						
12:00 AM		16	9						25
12:15		5	8						13
12:30		9	3						12
12:45		7	5						12
01:00		4	7						11
01:15		5	0						5
01:30		9	9						18
01:45		2	7						9
02:00		10	3						13
02:15		10	1						11
02:30		2	6						8
02:45		1	2						3
03:00		2	2						4
03:15		2	3						5
03:30		2	2						4
03:45		10	11						21
04:00		4	2						6
04:15		1	3						4
04:30		4	7						11
04:45		6	10						16
05:00		10	19						29
05:15		13	13						26
05:30		8	17						25
05:45		7	19						26
06:00		21	19						40
06:15		27	37						64
06:30		33	55						88
06:45		35	87						122
07:00		52	63						115
07:15		39	111						150
07:30		64	142						206
07:45		90	148						238
08:00		77	142						219
08:15		70	107						177
08:30		79	91						170
08:45		65	92						157
09:00		59	95						154
09:15		69	79						148
09:30		57	79						136
09:45		92	59						151
10:00		76	78						154
10:15		77	91						168
10:30		100	81						181
10:45		84	72						156
11:00		100	71						171
11:15		93	79						172
11:30		112	82						194
11:45		121	85						206
Total		1841	2213						4054
Percent		45.4%	54.6%						
Peak	-	11:00	07:15	-	-	-	-	-	07:30
Vol.	-	426	543	-	-	-	-	-	840
P.H.F.		0.880	0.917						0.882

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Newcastle Street  
North of Bay Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/05/21 Wed	Northbound	Southbound							Total
12:00 PM		123	72							195
12:15		90	77							167
12:30		107	93							200
12:45		81	108							189
01:00		112	82							194
01:15		70	101							171
01:30		100	88							188
01:45		104	73							177
02:00		82	76							158
02:15		90	79							169
02:30		83	65							148
02:45		101	94							195
03:00		120	93							213
03:15		109	98							207
03:30		159	92							251
03:45		168	97							265
04:00		142	76							218
04:15		113	85							198
04:30		117	93							210
04:45		127	102							229
05:00		166	84							250
05:15		148	90							238
05:30		120	82							202
05:45		83	74							157
06:00		94	58							152
06:15		74	76							150
06:30		83	69							152
06:45		69	60							129
07:00		83	44							127
07:15		52	54							106
07:30		85	25							110
07:45		50	46							96
08:00		60	36							96
08:15		50	34							84
08:30		41	32							73
08:45		42	31							73
09:00		37	28							65
09:15		28	19							47
09:30		34	17							51
09:45		25	16							41
10:00		25	14							39
10:15		19	17							36
10:30		18	11							29
10:45		14	14							28
11:00		10	16							26
11:15		13	13							26
11:30		8	16							24
11:45		12	6							18
Total		3741	2826							6567
Percent		57.0%	43.0%							
Peak	-	15:30	12:30	-	-	-	-	-	-	15:15
Vol.	-	582	384	-	-	-	-	-	-	941
P.H.F.		0.866	0.889							0.888

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Newcastle Street  
North of Bay Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/06/21								Total
	Thu	Northbound	Southbound						
12:00 AM		8	6						14
12:15		9	12						21
12:30		7	11						18
12:45		6	8						14
01:00		11	5						16
01:15		4	4						8
01:30		3	5						8
01:45		5	5						10
02:00		8	1						9
02:15		1	2						3
02:30		3	3						6
02:45		8	4						12
03:00		3	3						6
03:15		2	4						6
03:30		1	2						3
03:45		5	3						8
04:00		2	4						6
04:15		2	2						4
04:30		9	10						19
04:45		9	5						14
05:00		2	6						8
05:15		9	8						17
05:30		15	17						32
05:45		12	19						31
06:00		23	25						48
06:15		22	47						69
06:30		33	68						101
06:45		43	112						155
07:00		33	64						97
07:15		51	107						158
07:30		68	158						226
07:45		89	137						226
08:00		79	126						205
08:15		77	96						173
08:30		62	113						175
08:45		75	78						153
09:00		43	96						139
09:15		62	76						138
09:30		60	63						123
09:45		78	81						159
10:00		71	63						134
10:15		71	60						131
10:30		71	65						136
10:45		75	79						154
11:00		87	71						158
11:15		82	75						157
11:30		116	112						228
11:45		126	115						241
Total		1741	2236						3977
Percent		43.8%	56.2%						
Peak	-	11:00	07:15	-	-	-	-	-	07:30
Vol.	-	411	528	-	-	-	-	-	830
P.H.F.		0.815	0.835						0.918

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Newcastle Street  
North of Bay Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/06/21 Thu	Northbound	Southbound							Total
12:00 PM		136	82							218
12:15		100	80							180
12:30		107	90							197
12:45		110	96							206
01:00		93	102							195
01:15		100	64							164
01:30		121	94							215
01:45		103	84							187
02:00		111	72							183
02:15		99	79							178
02:30		92	71							163
02:45		91	116							207
03:00		118	94							212
03:15		105	89							194
03:30		139	90							229
03:45		157	87							244
04:00		*	*							*
04:15		*	*							*
04:30		*	*							*
04:45		*	*							*
05:00		*	*							*
05:15		*	*							*
05:30		*	*							*
05:45		*	*							*
06:00		*	*							*
06:15		*	*							*
06:30		*	*							*
06:45		*	*							*
07:00		*	*							*
07:15		*	*							*
07:30		*	*							*
07:45		*	*							*
08:00		*	*							*
08:15		*	*							*
08:30		*	*							*
08:45		*	*							*
09:00		*	*							*
09:15		*	*							*
09:30		*	*							*
09:45		*	*							*
10:00		*	*							*
10:15		*	*							*
10:30		*	*							*
10:45		*	*							*
11:00		*	*							*
11:15		*	*							*
11:30		*	*							*
11:45		*	*							*
Total		1782	1390							3172
Percent		56.2%	43.8%							
Peak	-	15:00	14:45	-	-	-	-	-	-	15:00
Vol.	-	519	389	-	-	-	-	-	-	879
P.H.F.		0.826	0.838							0.901
Grand Total		11108	10033							21141
Percent		52.5%	47.5%							

ADT

ADT 10,570

AADT 10,570

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Howe Street  
West of Newcastle Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/18/21								Total
	Tue	Eastbound	Westbound						
12:00 AM		1	0						1
12:15		0	0						0
12:30		0	0						0
12:45		0	0						0
01:00		0	0						0
01:15		0	1						1
01:30		2	0						2
01:45		0	0						0
02:00		0	0						0
02:15		0	0						0
02:30		0	0						0
02:45		0	0						0
03:00		0	0						0
03:15		0	0						0
03:30		0	0						0
03:45		0	0						0
04:00		0	0						0
04:15		0	0						0
04:30		0	0						0
04:45		1	0						1
05:00		1	0						1
05:15		0	0						0
05:30		0	0						0
05:45		0	0						0
06:00		1	1						2
06:15		0	0						0
06:30		0	2						2
06:45		1	0						1
07:00		1	0						1
07:15		1	0						1
07:30		14	7						21
07:45		15	4						19
08:00		6	6						12
08:15		3	4						7
08:30		2	3						5
08:45		2	2						4
09:00		1	1						2
09:15		4	6						10
09:30		4	2						6
09:45		0	2						2
10:00		4	2						6
10:15		3	4						7
10:30		1	2						3
10:45		3	2						5
11:00		0	2						2
11:15		2	0						2
11:30		6	5						11
11:45		4	7						11
<b>Total</b>		<b>83</b>	<b>65</b>						<b>148</b>
<b>Percent</b>		<b>56.1%</b>	<b>43.9%</b>						
Peak	-	07:30	07:30	-	-	-	-	-	07:30
Vol.	-	38	21	-	-	-	-	-	59
P.H.F.		0.633	0.750						0.702

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Howe Street  
West of Newcastle Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/18/21								Total
	Tue	Eastbound	Westbound						
12:00 PM		1	4						5
12:15		2	4						6
12:30		0	8						8
12:45		3	5						8
01:00		3	3						6
01:15		1	4						5
01:30		4	2						6
01:45		2	2						4
02:00		4	5						9
02:15		2	2						4
02:30		2	1						3
02:45		5	1						6
03:00		3	11						14
03:15		5	9						14
03:30		4	18						22
03:45		2	5						7
04:00		1	8						9
04:15		1	3						4
04:30		2	4						6
04:45		2	5						7
05:00		2	11						13
05:15		1	3						4
05:30		3	5						8
05:45		1	6						7
06:00		4	0						4
06:15		1	0						1
06:30		0	0						0
06:45		2	1						3
07:00		10	8						18
07:15		1	0						1
07:30		0	3						3
07:45		3	2						5
08:00		3	0						3
08:15		0	0						0
08:30		0	1						1
08:45		0	2						2
09:00		0	0						0
09:15		0	0						0
09:30		1	1						2
09:45		0	1						1
10:00		0	0						0
10:15		1	0						1
10:30		0	0						0
10:45		0	0						0
11:00		0	0						0
11:15		0	1						1
11:30		0	0						0
11:45		0	0						0
<b>Total</b>		<b>82</b>	<b>149</b>						<b>231</b>
<b>Percent</b>		<b>35.5%</b>	<b>64.5%</b>						
Peak	-	14:45	15:00	-	-	-	-	-	15:00
Vol.	-	17	43	-	-	-	-	-	57
P.H.F.		0.850	0.597						0.648

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Howe Street  
West of Newcastle Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/19/21								Total
	Wed	Eastbound	Westbound						
12:00 AM		0	0						0
12:15		0	0						0
12:30		0	0						0
12:45		0	0						0
01:00		0	0						0
01:15		0	0						0
01:30		0	0						0
01:45		0	0						0
02:00		0	0						0
02:15		0	0						0
02:30		0	0						0
02:45		0	0						0
03:00		0	0						0
03:15		0	0						0
03:30		0	0						0
03:45		1	0						1
04:00		0	0						0
04:15		0	0						0
04:30		2	0						2
04:45		0	3						3
05:00		0	2						2
05:15		0	1						1
05:30		0	0						0
05:45		3	1						4
06:00		0	1						1
06:15		0	2						2
06:30		1	1						2
06:45		0	0						0
07:00		1	2						3
07:15		1	3						4
07:30		8	9						17
07:45		14	7						21
08:00		7	4						11
08:15		1	6						7
08:30		1	1						2
08:45		3	1						4
09:00		1	1						2
09:15		0	3						3
09:30		1	2						3
09:45		2	3						5
10:00		0	3						3
10:15		0	5						5
10:30		0	4						4
10:45		0	6						6
11:00		2	7						9
11:15		4	1						5
11:30		1	8						9
11:45		3	11						14
<b>Total</b>		<b>57</b>	<b>98</b>						<b>155</b>
<b>Percent</b>		<b>36.8%</b>	<b>63.2%</b>						
Peak	-	07:15	11:00	-	-	-	-	-	07:30
Vol.	-	30	27	-	-	-	-	-	56
P.H.F.		0.536	0.614						0.667



# Coastal Engineering & Consulting

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Savannah, GA 31405

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West of Newcastle Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/19/21								Total
	Wed	Eastbound	Westbound						
12:00 PM		2	9						11
12:15		4	4						8
12:30		5	4						9
12:45		2	3						5
01:00		5	3						8
01:15		4	4						8
01:30		3	2						5
01:45		1	2						3
02:00		3	7						10
02:15		0	7						7
02:30		2	4						6
02:45		3	3						6
03:00		3	9						12
03:15		0	16						16
03:30		4	17						21
03:45		1	5						6
04:00		2	4						6
04:15		1	1						2
04:30		2	2						4
04:45		2	2						4
05:00		2	7						9
05:15		0	4						4
05:30		1	4						5
05:45		2	0						2
06:00		0	1						1
06:15		3	0						3
06:30		2	2						4
06:45		0	4						4
07:00		0	1						1
07:15		2	1						3
07:30		1	1						2
07:45		0	2						2
08:00		0	0						0
08:15		0	1						1
08:30		0	0						0
08:45		2	4						6
09:00		0	1						1
09:15		0	0						0
09:30		0	1						1
09:45		0	1						1
10:00		0	1						1
10:15		0	0						0
10:30		0	1						1
10:45		0	2						2
11:00		0	0						0
11:15		0	0						0
11:30		0	0						0
11:45		0	0						0
<b>Total</b>		<b>64</b>	<b>147</b>						<b>211</b>
<b>Percent</b>		<b>30.3%</b>	<b>69.7%</b>						
Peak	-	12:15	15:00	-	-	-	-	-	14:45
Vol.	-	16	47	-	-	-	-	-	55
P.H.F.		0.800	0.691						0.655

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Site Code:  
Station ID:  
Howe Street  
West of Newcastle Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/20/21		Eastbound	Westbound	Total
	Thu				
12:00 AM			0	0	0
12:15			0	0	0
12:30			0	0	0
12:45			0	0	0
01:00			0	0	0
01:15			0	0	0
01:30			0	0	0
01:45			0	0	0
02:00			0	0	0
02:15			0	0	0
02:30			0	0	0
02:45			0	0	0
03:00			0	0	0
03:15			0	0	0
03:30			0	0	0
03:45			1	0	1
04:00			0	0	0
04:15			0	0	0
04:30			0	0	0
04:45			0	0	0
05:00			1	0	1
05:15			0	2	2
05:30			0	0	0
05:45			0	0	0
06:00			0	0	0
06:15			1	0	1
06:30			1	3	4
06:45			3	0	3
07:00			1	0	1
07:15			2	1	3
07:30			10	9	19
07:45			14	6	20
08:00			6	1	7
08:15			2	2	4
08:30			1	13	14
08:45			4	2	6
09:00			6	5	11
09:15			1	2	3
09:30			1	5	6
09:45			1	2	3
10:00			4	5	9
10:15			5	3	8
10:30			6	4	10
10:45			7	9	16
11:00			3	3	6
11:15			2	3	5
11:30			2	7	9
11:45			8	4	12
<b>Total</b>			<b>93</b>	<b>91</b>	<b>184</b>
<b>Percent</b>			<b>50.5%</b>	<b>49.5%</b>	
Peak	-		07:15	07:45	07:30
Vol.	-		32	22	50
P.H.F.			0.571	0.423	0.625

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West of Newcastle Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/20/21								Total
	Thu	Eastbound	Westbound						
12:00 PM		3	8						11
12:15		3	2						5
12:30		3	4						7
12:45		4	2						6
01:00		4	1						5
01:15		1	3						4
01:30		1	4						5
01:45		3	4						7
02:00		1	0						1
02:15		0	2						2
02:30		3	5						8
02:45		5	7						12
03:00		3	7						10
03:15		0	7						7
03:30		2	16						18
03:45		4	4						8
04:00		2	5						7
04:15		2	3						5
04:30		0	6						6
04:45		3	6						9
05:00		2	7						9
05:15		2	3						5
05:30		2	3						5
05:45		3	2						5
06:00		2	3						5
06:15		0	2						2
06:30		1	5						6
06:45		0	1						1
07:00		2	1						3
07:15		1	3						4
07:30		1	1						2
07:45		0	0						0
08:00		2	5						7
08:15		1	2						3
08:30		1	0						1
08:45		1	0						1
09:00		0	1						1
09:15		0	0						0
09:30		0	0						0
09:45		0	0						0
10:00		0	0						0
10:15		1	1						2
10:30		0	3						3
10:45		0	2						2
11:00		2	0						2
11:15		0	0						0
11:30		0	0						0
11:45		0	0						0
<b>Total</b>		<b>71</b>	<b>141</b>						<b>212</b>
<b>Percent</b>		<b>33.5%</b>	<b>66.5%</b>						
Peak	-	12:15	14:45	-	-	-	-	-	14:45
Vol.	-	14	37	-	-	-	-	-	47
P.H.F.		0.875	0.578						0.653

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Site Code:  
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West of Newcastle Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/21/21 Fri	Eastbound	Westbound							Total
12:00 AM		0	0							0
12:15		0	0							0
12:30		0	0							0
12:45		0	0							0
01:00		0	0							0
01:15		0	1							1
01:30		0	0							0
01:45		0	1							1
02:00		0	0							0
02:15		0	0							0
02:30		0	0							0
02:45		0	0							0
03:00		0	0							0
03:15		0	0							0
03:30		0	0							0
03:45		1	0							1
04:00		0	0							0
04:15		0	2							2
04:30		0	0							0
04:45		1	0							1
05:00		0	7							7
05:15		0	0							0
05:30		0	0							0
05:45		0	0							0
06:00		1	0							1
06:15		0	0							0
06:30		0	3							3
06:45		2	0							2
07:00		0	0							0
07:15		5	3							8
07:30		5	7							12
07:45		5	8							13
08:00		4	2							6
08:15		2	2							4
08:30		2	2							4
08:45		5	6							11
09:00		3	4							7
09:15		3	2							5
09:30		1	2							3
09:45		3	4							7
10:00		4	4							8
10:15		1	7							8
10:30		6	2							8
10:45		2	5							7
11:00		4	4							8
11:15		4	4							8
11:30		2	5							7
11:45		3	5							8
Total		69	92							161
Percent		42.9%	57.1%							
Peak	-	07:15	07:15	-	-	-	-	-	-	07:15
Vol.	-	19	20	-	-	-	-	-	-	39
P.H.F.		0.950	0.625							0.750

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Site Code:  
Station ID:  
Howe Street  
West of Newcastle Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/21/21 Fri	Eastbound	Westbound							Total
12:00 PM		0	4							4
12:15		0	2							2
12:30		2	6							8
12:45		3	4							7
01:00		2	2							4
01:15		2	4							6
01:30		3	2							5
01:45		0	3							3
02:00		2	3							5
02:15		2	2							4
02:30		1	2							3
02:45		3	3							6
03:00		5	5							10
03:15		2	5							7
03:30		4	11							15
03:45		2	7							9
04:00		2	3							5
04:15		3	4							7
04:30		0	5							5
04:45		1	2							3
05:00		3	6							9
05:15		2	1							3
05:30		6	4							10
05:45		1	6							7
06:00		2	1							3
06:15		2	1							3
06:30		0	1							1
06:45		1	3							4
07:00		4	0							4
07:15		1	1							2
07:30		9	3							12
07:45		10	2							12
08:00		0	0							0
08:15		1	3							4
08:30		0	2							2
08:45		0	1							1
09:00		0	1							1
09:15		2	1							3
09:30		0	1							1
09:45		0	0							0
10:00		0	1							1
10:15		0	0							0
10:30		0	0							0
10:45		0	1							1
11:00		1	0							1
11:15		0	0							0
11:30		0	0							0
11:45		0	0							0
Total		84	119							203
Percent		41.4%	58.6%							
Peak	-	19:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	24	28	-	-	-	-	-	-	41
P.H.F.		0.600	0.636							0.683

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Site Code:  
Station ID:  
Howe Street  
West of Newcastle Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/22/21 Sat	Eastbound	Westbound							Total
12:00 AM		0	0							0
12:15		0	0							0
12:30		1	0							1
12:45		0	0							0
01:00		0	0							0
01:15		1	0							1
01:30		0	0							0
01:45		0	0							0
02:00		0	0							0
02:15		0	0							0
02:30		0	0							0
02:45		0	0							0
03:00		0	0							0
03:15		0	0							0
03:30		0	0							0
03:45		0	0							0
04:00		0	0							0
04:15		0	0							0
04:30		0	1							1
04:45		0	0							0
05:00		0	0							0
05:15		0	0							0
05:30		0	1							1
05:45		0	0							0
06:00		0	0							0
06:15		0	0							0
06:30		0	0							0
06:45		0	0							0
07:00		0	1							1
07:15		0	0							0
07:30		0	0							0
07:45		0	3							3
08:00		1	1							2
08:15		1	1							2
08:30		2	1							3
08:45		0	3							3
09:00		1	0							1
09:15		0	3							3
09:30		0	0							0
09:45		3	3							6
10:00		1	0							1
10:15		1	2							3
10:30		1	0							1
10:45		1	1							2
11:00		0	0							0
11:15		2	2							4
11:30		1	3							4
11:45		1	0							1
<b>Total</b>		<b>18</b>	<b>26</b>							<b>44</b>
<b>Percent</b>		<b>40.9%</b>	<b>59.1%</b>							
Peak	-	09:45	08:30	-	-	-	-	-	-	09:45
Vol.	-	6	7	-	-	-	-	-	-	11
P.H.F.		0.500	0.583							0.458

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West of Newcastle Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/22/21		Eastbound	Westbound						Total
	Sat									
12:00 PM			2	1						3
12:15			2	1						3
12:30			2	1						3
12:45			1	1						2
01:00			1	1						2
01:15			2	4						6
01:30			3	1						4
01:45			2	1						3
02:00			1	1						2
02:15			0	1						1
02:30			0	3						3
02:45			0	1						1
03:00			1	1						2
03:15			0	0						0
03:30			1	0						1
03:45			2	3						5
04:00			0	1						1
04:15			3	4						7
04:30			9	1						10
04:45			3	7						10
05:00			1	3						4
05:15			0	1						1
05:30			0	3						3
05:45			11	8						19
06:00			4	4						8
06:15			3	1						4
06:30			3	2						5
06:45			1	1						2
07:00			1	3						4
07:15			1	0						1
07:30			0	0						0
07:45			0	5						5
08:00			3	0						3
08:15			0	3						3
08:30			3	1						4
08:45			2	1						3
09:00			1	1						2
09:15			0	0						0
09:30			1	1						2
09:45			1	0						1
10:00			0	0						0
10:15			1	0						1
10:30			0	0						0
10:45			1	0						1
11:00			0	1						1
11:15			1	4						5
11:30			4	0						4
11:45			0	1						1
<b>Total</b>			<b>78</b>	<b>78</b>						<b>156</b>
<b>Percent</b>			<b>50.0%</b>	<b>50.0%</b>						
Peak	-		17:45	17:15	-	-	-	-	-	17:45
Vol.	-		21	16	-	-	-	-	-	36
P.H.F.			0.477	0.500						0.474

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Latitude: 0' 0.0000 Undefined

Start Time	05/23/21 Sun	Eastbound	Westbound							Total
12:00 AM		0	1							1
12:15		0	0							0
12:30		0	0							0
12:45		0	0							0
01:00		1	0							1
01:15		0	0							0
01:30		0	0							0
01:45		0	0							0
02:00		0	0							0
02:15		0	0							0
02:30		0	0							0
02:45		0	0							0
03:00		0	0							0
03:15		0	0							0
03:30		0	0							0
03:45		0	0							0
04:00		0	0							0
04:15		1	0							1
04:30		0	0							0
04:45		0	0							0
05:00		0	0							0
05:15		0	0							0
05:30		0	0							0
05:45		0	0							0
06:00		0	0							0
06:15		0	0							0
06:30		0	0							0
06:45		0	0							0
07:00		0	0							0
07:15		0	0							0
07:30		1	0							1
07:45		0	1							1
08:00		3	3							6
08:15		10	5							15
08:30		1	0							1
08:45		2	2							4
09:00		1	1							2
09:15		1	3							4
09:30		10	11							21
09:45		3	3							6
10:00		3	3							6
10:15		4	7							11
10:30		7	4							11
10:45		14	10							24
11:00		4	3							7
11:15		2	0							2
11:30		3	0							3
11:45		1	5							6
<b>Total</b>		<b>72</b>	<b>62</b>							<b>134</b>
<b>Percent</b>		<b>53.7%</b>	<b>46.3%</b>							
Peak	-	10:15	09:30	-	-	-	-	-	-	10:15
Vol.	-	29	24	-	-	-	-	-	-	53
P.H.F.		0.518	0.545							0.552



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Latitude: 0' 0.0000 Undefined

Start Time	05/23/21 Sun	Eastbound	Westbound							Total
12:00 PM		11	7							18
12:15		6	3							9
12:30		2	4							6
12:45		1	0							1
01:00		1	2							3
01:15		1	0							1
01:30		1	3							4
01:45		2	1							3
02:00		0	2							2
02:15		0	2							2
02:30		3	3							6
02:45		1	0							1
03:00		2	0							2
03:15		0	0							0
03:30		1	1							2
03:45		3	2							5
04:00		0	3							3
04:15		0	1							1
04:30		0	1							1
04:45		1	0							1
05:00		0	1							1
05:15		1	3							4
05:30		2	3							5
05:45		0	5							5
06:00		1	9							10
06:15		0	0							0
06:30		2	1							3
06:45		0	0							0
07:00		0	0							0
07:15		9	4							13
07:30		1	3							4
07:45		2	1							3
08:00		0	0							0
08:15		1	1							2
08:30		0	0							0
08:45		0	0							0
09:00		0	2							2
09:15		0	0							0
09:30		1	0							1
09:45		0	0							0
10:00		0	1							1
10:15		0	0							0
10:30		0	0							0
10:45		0	1							1
11:00		0	0							0
11:15		0	0							0
11:30		0	0							0
11:45		0	0							0
Total		56	70							126
Percent		44.4%	55.6%							
Peak	-	12:00	17:15	-	-	-	-	-	-	12:00
Vol.	-	20	20	-	-	-	-	-	-	34
P.H.F.		0.455	0.556							0.472

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Howe Street  
West of Newcastle Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/24/21								Total
	Mon	Eastbound	Westbound						
12:00 AM		1	0						1
12:15		0	0						0
12:30		0	0						0
12:45		0	0						0
01:00		0	0						0
01:15		0	0						0
01:30		1	0						1
01:45		0	0						0
02:00		0	0						0
02:15		0	0						0
02:30		0	0						0
02:45		0	0						0
03:00		1	0						1
03:15		0	0						0
03:30		0	0						0
03:45		0	0						0
04:00		0	0						0
04:15		1	0						1
04:30		1	0						1
04:45		1	0						1
05:00		0	2						2
05:15		0	0						0
05:30		0	0						0
05:45		0	0						0
06:00		0	0						0
06:15		0	0						0
06:30		0	1						1
06:45		2	1						3
07:00		3	1						4
07:15		1	3						4
07:30		4	8						12
07:45		7	7						14
08:00		9	7						16
08:15		3	3						6
08:30		2	2						4
08:45		5	4						9
09:00		0	1						1
09:15		0	4						4
09:30		0	3						3
09:45		0	1						1
10:00		6	6						12
10:15		2	5						7
10:30		1	3						4
10:45		9	5						14
11:00		6	3						9
11:15		7	3						10
11:30		5	10						15
11:45		4	5						9
<b>Total</b>		<b>82</b>	<b>88</b>						<b>170</b>
<b>Percent</b>		<b>48.2%</b>	<b>51.8%</b>						
Peak	-	10:45	07:15	-	-	-	-	-	07:30
Vol.	-	27	25	-	-	-	-	-	48
P.H.F.		0.750	0.781						0.750

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D

Savannah, GA 31405

Phone: (912) 964-4509

Site Code:  
Station ID:  
Howe Street  
West of Newcastle Street  
Latitude: 0' 0.0000 Undefined

Start Time	05/24/21 Mon	Eastbound	Westbound							Total
12:00 PM		5	7							12
12:15		1	5							6
12:30		3	8							11
12:45		5	6							11
01:00		7	4							11
01:15		3	3							6
01:30		2	2							4
01:45		3	0							3
02:00		3	2							5
02:15		1	3							4
02:30		3	3							6
02:45		1	2							3
03:00		11	4							15
03:15		2	9							11
03:30		0	0							0
03:45		0	0							0
04:00		0	0							0
04:15		0	0							0
04:30		0	0							0
04:45		0	0							0
05:00		0	0							0
05:15		0	0							0
05:30		0	0							0
05:45		0	0							0
06:00		0	1							1
06:15		0	0							0
06:30		0	0							0
06:45		0	0							0
07:00		0	0							0
07:15		0	0							0
07:30		0	0							0
07:45		0	0							0
08:00		0	0							0
08:15		0	0							0
08:30		0	0							0
08:45		0	0							0
09:00		0	0							0
09:15		0	0							0
09:30		0	0							0
09:45		0	0							0
10:00		0	0							0
10:15		0	0							0
10:30		0	0							0
10:45		0	0							0
11:00		0	0							0
11:15		0	0							0
11:30		0	0							0
11:45		0	0							0
<b>Total</b>		50	59							109
<b>Percent</b>		45.9%	54.1%							
<b>Peak</b>	-	12:30	12:00	-	-	-	-	-	-	12:00
<b>Vol.</b>	-	18	26	-	-	-	-	-	-	40
<b>P.H.F.</b>		0.643	0.813							0.833
<b>Grand Total</b>		959	1285							2244
<b>Percent</b>		42.7%	57.3%							

ADT

ADT 321

AADT 321

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D  
Savannah, GA 31405

Bay Street at Howe Street  
AM Turning Movement Counts

File Name : bay st at howe st AM  
Site Code : 00000000  
Start Date : 5/11/2021  
Page No : 1

## Groups Printed- Vehicles

Start Time	Bay Street From North					Howe Street From East					Bay Street From South					Driveway From West					Int. Total
	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	
07:00 AM	2	26	4	0	32	0	0	0	0	0	1	33	0	1	35	1	0	0	0	1	68
07:15 AM	3	45	3	0	51	0	0	1	0	1	1	29	0	0	30	0	0	0	0	0	82
07:30 AM	13	47	2	0	62	1	0	8	0	9	1	55	0	0	56	0	0	0	0	0	127
07:45 AM	11	43	2	0	56	0	0	7	0	7	2	53	0	0	55	1	0	1	0	2	120
Total	29	161	11	0	201	1	0	16	0	17	5	170	0	1	176	2	0	1	0	3	397
08:00 AM	7	55	2	0	64	0	0	5	0	5	1	32	0	0	33	1	0	0	0	1	103
08:15 AM	3	28	0	0	31	0	0	4	0	4	0	38	0	0	38	1	0	0	0	1	74
08:30 AM	2	33	3	0	38	0	0	4	0	4	0	37	1	0	38	1	0	2	0	3	83
08:45 AM	4	29	1	1	35	0	0	3	0	3	1	30	0	0	31	3	0	0	0	3	72
Total	16	145	6	1	168	0	0	16	0	16	2	137	1	0	140	6	0	2	0	8	332
Grand Total	45	306	17	1	369	1	0	32	0	33	7	307	1	1	316	8	0	3	0	11	729
Apprch %	12.2	82.9	4.6	0.3		3	0	97	0		2.2	97.2	0.3	0.3		72.7	0	27.3	0		
Total %	6.2	42	2.3	0.1	50.6	0.1	0	4.4	0	4.5	1	42.1	0.1	0.1	43.3	1.1	0	0.4	0	1.5	

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D  
Savannah, GA 31405

Bay Street at Howe Street  
PM Turning Movement Counts

File Name : bay st at howe st PM  
Site Code : 00000000  
Start Date : 5/11/2021  
Page No : 1

## Groups Printed- Vehicles

Start Time	Bay Street From North					Howe Street From East					Bay Street From South					Driveway From West					Int. Total
	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	
03:00 PM	3	42	0	0	45	0	0	5	0	5	1	32	0	0	33	2	0	0	0	2	85
03:15 PM	0	44	3	0	47	0	0	15	0	15	0	44	0	0	44	3	0	0	0	3	109
03:30 PM	2	32	1	0	35	1	0	12	0	13	1	43	1	0	45	3	0	2	0	5	98
03:45 PM	4	45	0	0	49	0	0	4	0	4	3	51	0	0	54	2	0	2	0	4	111
Total	9	163	4	0	176	1	0	36	0	37	5	170	1	0	176	10	0	4	0	14	403
04:00 PM	4	43	1	0	48	1	0	5	0	6	0	42	2	0	44	0	0	1	0	1	99
04:15 PM	2	38	2	0	42	0	0	2	0	2	0	43	0	1	44	0	0	1	0	1	89
04:30 PM	2	30	0	1	33	0	0	4	0	4	0	45	0	0	45	2	0	1	0	3	85
04:45 PM	2	44	2	0	48	1	0	3	0	4	1	48	1	0	50	3	0	0	0	3	105
Total	10	155	5	1	171	2	0	14	0	16	1	178	3	1	183	5	0	3	0	8	378
05:00 PM	1	42	0	0	43	0	0	11	0	11	1	51	1	0	53	1	0	0	0	1	108
05:15 PM	0	38	1	0	39	0	0	3	0	3	0	60	0	0	60	5	0	1	0	6	108
05:30 PM	1	48	1	0	50	0	0	6	0	6	0	51	0	0	51	2	0	0	0	2	109
05:45 PM	0	29	2	0	31	0	0	1	0	1	0	47	2	0	49	0	0	1	0	1	82
Total	2	157	4	0	163	0	0	21	0	21	1	209	3	0	213	8	0	2	0	10	407
Grand Total	21	475	13	1	510	3	0	71	0	74	7	557	7	1	572	23	0	9	0	32	1188
Apprch %	4.1	93.1	2.5	0.2		4.1	0	95.9	0		1.2	97.4	1.2	0.2		71.9	0	28.1	0		
Total %	1.8	40	1.1	0.1	42.9	0.3	0	6	0	6.2	0.6	46.9	0.6	0.1	48.1	1.9	0	0.8	0	2.7	

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D  
Savannah, GA 31405

Grant Street at Howe Street  
AM Turning Movement Counts

File Name : grant st at howe st AM  
Site Code : 00000000  
Start Date : 5/11/2021  
Page No : 1

## Groups Printed- Vehicles

Start Time	Grant Street From North					Howe Street From East					Grant Street From South					Howe Street From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
07:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	1	0	3	6
07:30 AM	0	0	0	0	0	0	7	0	0	7	1	0	0	0	1	0	9	4	0	13	21
07:45 AM	0	0	0	0	0	0	6	0	0	6	1	0	1	0	2	0	11	0	0	11	19
Total	0	0	0	0	0	0	17	0	0	17	2	0	1	0	3	0	24	5	0	29	49
08:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	7	0	0	7	12
08:15 AM	0	0	0	0	0	0	3	1	0	4	1	1	0	0	2	0	3	0	0	3	9
08:30 AM	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	1	2	0	0	3	7
08:45 AM	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	0	2	2	0	4	9
Total	0	2	0	0	2	0	14	1	0	15	2	1	0	0	3	1	14	2	0	17	37
Grand Total	0	2	0	0	2	0	31	1	0	32	4	1	1	0	6	1	38	7	0	46	86
Apprch %	0	100	0	0		0	96.9	3.1	0		66.7	16.7	16.7	0		2.2	82.6	15.2	0		
Total %	0	2.3	0	0	2.3	0	36	1.2	0	37.2	4.7	1.2	1.2	0	7	1.2	44.2	8.1	0	53.5	

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D  
Savannah, GA 31405

Grant Street at Howe Street  
PM Turning Movement Counts

File Name : grant st at howe st PM  
Site Code : 00000000  
Start Date : 5/11/2021  
Page No : 1

## Groups Printed- Vehicles

Start Time	Grant Street From North					Howe Street From East					Grant Street From South					Howe Street From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
03:00 PM	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	0	2	1	0	3	9
03:15 PM	0	0	1	0	1	1	13	0	0	14	1	0	0	0	1	0	0	0	0	0	16
03:30 PM	1	0	0	0	1	1	12	0	0	13	1	0	1	0	2	0	3	0	0	3	19
03:45 PM	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	3	1	0	4	8
Total	2	0	2	0	4	2	33	0	0	35	2	0	1	0	3	0	8	2	0	10	52
04:00 PM	0	2	1	0	3	1	5	0	0	6	0	0	0	0	0	0	4	2	0	6	15
04:15 PM	0	0	0	0	0	0	1	0	0	1	1	0	1	0	2	0	1	1	0	2	5
04:30 PM	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	2	0	0	2	7
04:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	0	3	0	0	3	8
Total	0	2	1	0	3	2	14	0	0	16	1	0	2	0	3	0	10	3	0	13	35
05:00 PM	0	1	3	0	4	1	7	0	0	8	1	0	0	0	1	0	1	1	0	2	15
05:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
05:30 PM	1	0	0	0	1	1	6	0	0	7	0	0	1	0	1	0	0	1	0	1	10
05:45 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Total	1	1	3	0	5	3	17	0	0	20	1	0	1	0	2	0	3	2	0	5	32
Grand Total	3	3	6	0	12	7	64	0	0	71	4	0	4	0	8	0	21	7	0	28	119
Apprch %	25	25	50	0		9.9	90.1	0	0		50	0	50	0		0	75	25	0		
Total %	2.5	2.5	5	0	10.1	5.9	53.8	0	0	59.7	3.4	0	3.4	0	6.7	0	17.6	5.9	0	23.5	



# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D  
Savannah, GA 31405

Newcastle Street at Howe Street  
AM Turning Movement Counts

File Name : newcastle st at howe st am  
Site Code : 00000000  
Start Date : 5/11/2021  
Page No : 1

## Groups Printed- Vehicles

Start Time	Newcastle Street From North					Howe Street From East					Newcastle Street From South					Howe Street From West					Int. Total
	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	
07:00 AM	1	0	0	1	2	0	1	0	0	1	0	6	0	0	6	1	1	0	0	2	11
07:15 AM	0	5	0	0	5	0	3	0	0	3	0	11	0	0	11	0	2	0	0	2	21
07:30 AM	1	7	0	0	8	0	4	9	0	13	1	18	0	0	19	2	5	0	0	7	47
07:45 AM	1	4	0	1	6	1	3	5	0	9	4	16	1	0	21	4	8	0	0	12	48
Total	3	16	0	2	21	1	11	14	0	26	5	51	1	0	57	7	16	0	0	23	127
08:00 AM	1	3	1	0	5	0	2	0	0	2	2	15	1	0	18	1	6	0	0	7	32
08:15 AM	0	8	0	1	9	0	0	2	0	2	3	15	2	0	20	0	3	0	0	3	34
08:30 AM	0	3	0	1	4	0	1	0	0	1	0	9	0	1	10	0	1	0	0	1	16
08:45 AM	0	6	0	0	6	0	1	0	0	1	2	5	0	0	7	1	2	0	0	3	17
Total	1	20	1	2	24	0	4	2	0	6	7	44	3	1	55	2	12	0	0	14	99
Grand Total	4	36	1	4	45	1	15	16	0	32	12	95	4	1	112	9	28	0	0	37	226
Apprch %	8.9	80	2.2	8.9		3.1	46.9	50	0		10.7	84.8	3.6	0.9		24.3	75.7	0	0		
Total %	1.8	15.9	0.4	1.8	19.9	0.4	6.6	7.1	0	14.2	5.3	42	1.8	0.4	49.6	4	12.4	0	0	16.4	

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D  
Savannah, GA 31405

Newcastle Street at Howe Street  
PM Turning Movement Counts

File Name : newcastle st at howe st pm  
Site Code : 00000000  
Start Date : 5/11/2021  
Page No : 1

## Groups Printed- Vehicles

Start Time	Newcastle Street From North					Howe Street From East					Newcastle Street From South					Howe Street From West					Int. Total
	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	
03:00 PM	1	11	0	0	12	3	4	3	0	10	2	9	1	0	12	0	3	0	0	3	37
03:15 PM	7	6	1	0	14	1	11	7	0	19	2	7	0	0	9	0	0	0	0	0	42
03:30 PM	2	7	2	0	11	3	11	2	0	16	1	11	1	0	13	1	3	0	0	4	44
03:45 PM	1	9	1	0	11	1	4	2	0	7	0	14	0	0	14	1	2	0	0	3	35
Total	11	33	4	0	48	8	30	14	0	52	5	41	2	0	48	2	8	0	0	10	158
04:00 PM	0	3	0	1	4	1	5	0	0	6	1	8	1	0	10	1	1	1	0	3	23
04:15 PM	0	6	0	1	7	1	1	4	0	6	0	14	0	0	14	1	1	0	0	2	29
04:30 PM	0	6	1	1	8	1	1	3	0	5	3	13	1	0	17	0	1	1	0	2	32
04:45 PM	1	7	0	1	9	1	2	2	0	5	2	5	2	0	9	0	3	1	0	4	27
Total	1	22	1	4	28	4	9	9	0	22	6	40	4	0	50	2	6	3	0	11	111
05:00 PM	0	15	4	0	19	3	2	1	0	6	2	8	0	0	10	0	1	0	0	1	36
05:15 PM	0	7	1	1	9	0	1	0	0	1	1	7	0	0	8	0	0	0	0	0	18
05:30 PM	0	10	1	0	11	0	5	0	0	5	1	10	0	0	11	1	1	0	0	2	29
05:45 PM	0	6	0	1	7	1	1	0	0	2	1	9	0	0	10	0	2	0	0	2	21
Total	0	38	6	2	46	4	9	1	0	14	5	34	0	0	39	1	4	0	0	5	104
Grand Total	12	93	11	6	122	16	48	24	0	88	16	115	6	0	137	5	18	3	0	26	373
Apprch %	9.8	76.2	9	4.9		18.2	54.5	27.3	0		11.7	83.9	4.4	0		19.2	69.2	11.5	0		
Total %	3.2	24.9	2.9	1.6	32.7	4.3	12.9	6.4	0	23.6	4.3	30.8	1.6	0	36.7	1.3	4.8	0.8	0	7	

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D  
Savannah, GA 31405

Grant Street at George Street  
AM Turning Movement Counts

File Name : grant st at george st AM  
Site Code : 00000000  
Start Date : 5/18/2021  
Page No : 1

## Groups Printed- Vehicles

Start Time	Grant Street From North					From East					From South					George Street From West					Int. Total
	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	
07:00 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	7
07:15 AM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8	15
07:30 AM	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	14
07:45 AM	0	12	3	0	15	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	20
Total	0	28	5	0	33	0	0	0	0	0	0	0	0	0	0	0	0	23	0	23	56
08:00 AM	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	15
08:15 AM	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3	7
08:30 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4
08:45 AM	0	5	1	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	7
Total	0	21	4	0	25	0	0	0	0	0	0	0	0	0	0	1	0	7	0	8	33
Grand Total	0	49	9	0	58	0	0	0	0	0	0	0	0	0	0	1	0	30	0	31	89
Apprch %	0	84.5	15.5	0		0	0	0	0	0	0	0	0	0	0	3.2	0	96.8	0		
Total %	0	55.1	10.1	0	65.2	0	0	0	0	0	0	0	0	0	0	1.1	0	33.7	0	34.8	

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D  
Savannah, GA 31405

Grant Street at George Street  
PM Turning Movement Counts

File Name : grant st at george st PM  
Site Code : 00000000  
Start Date : 5/18/2021  
Page No : 1

## Groups Printed- Vehicles

Start Time	Grant Street From North					From East					From South					George Street From West					Int. Total
	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	
04:00 PM	0	17	1	0	18	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	21
04:15 PM	0	7	1	0	8	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	12
04:30 PM	0	11	3	0	14	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7	21
04:45 PM	0	17	2	0	19	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	25
Total	0	52	7	0	59	0	0	0	0	0	0	0	0	0	0	0	0	20	0	20	79
05:00 PM	0	26	3	0	29	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	32
05:15 PM	0	16	2	0	18	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	23
05:30 PM	0	10	1	0	11	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	17
05:45 PM	0	10	1	0	11	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	14
Total	0	62	7	0	69	0	0	0	0	0	0	0	0	0	0	0	0	17	0	17	86
Grand Total	0	114	14	0	128	0	0	0	0	0	0	0	0	0	0	0	0	37	0	37	165
Apprch %	0	89.1	10.9	0		0	0	0	0	0	0	0	0	0	0	0	0	100	0		
Total %	0	69.1	8.5	0	77.6	0	0	0	0	0	0	0	0	0	0	0	0	22.4	0	22.4	

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D  
Savannah, GA 31405

Bay Street at George Street  
Turning Movement Counts

File Name : bay st at george st  
Site Code : 00000000  
Start Date : 5/18/2021  
Page No : 1

## Groups Printed- Light - Heavy

Start Time	Bay Street From North					George Street From East					Bay Street From South					From West					Int. Total
	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	
06:00 AM	1	9	0	0	10	0	0	1	0	1	0	15	0	0	15	0	0	0	0	0	26
06:15 AM	0	24	0	0	24	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	36
06:30 AM	1	39	0	0	40	0	0	1	0	1	0	25	0	0	25	0	0	0	0	0	66
06:45 AM	1	61	0	0	62	0	0	0	0	0	0	26	0	6	32	0	0	0	0	0	94
Total	3	133	0	0	136	0	0	2	0	2	0	78	0	6	84	0	0	0	0	0	222
07:00 AM	3	28	0	0	31	1	0	2	0	3	0	26	0	8	34	0	0	0	0	0	68
07:15 AM	10	38	0	0	48	1	0	3	0	4	0	35	0	3	38	0	0	0	0	0	90
07:30 AM	5	36	0	0	41	0	0	0	0	0	0	39	0	0	39	0	0	0	0	0	80
07:45 AM	6	41	0	0	47	0	0	1	0	1	0	46	0	1	47	0	0	0	0	0	95
Total	24	143	0	0	167	2	0	6	0	8	0	146	0	12	158	0	0	0	0	0	333
08:00 AM	6	30	0	0	36	0	0	2	0	2	0	45	0	1	46	0	0	0	0	0	84
08:15 AM	3	37	0	0	40	2	0	2	0	4	0	42	1	0	43	0	0	0	0	0	87
08:30 AM	1	25	0	0	26	0	0	3	0	3	0	28	1	0	29	0	0	0	0	0	58
08:45 AM	2	39	0	0	41	0	0	1	0	1	0	38	0	0	38	0	0	0	0	0	80
Total	12	131	0	0	143	2	0	8	0	10	0	153	2	1	156	0	0	0	0	0	309
09:00 AM	3	21	0	0	24	0	0	1	0	1	0	43	0	0	43	0	0	0	0	0	68
09:15 AM	7	33	0	0	40	0	0	4	0	4	0	31	0	1	32	0	0	0	0	0	76
09:30 AM	4	40	0	0	44	0	0	0	0	0	0	34	0	2	36	0	0	0	0	0	80
09:45 AM	1	22	0	0	23	0	0	1	0	1	0	25	0	0	25	0	0	0	0	0	49
Total	15	116	0	0	131	0	0	6	0	6	0	133	0	3	136	0	0	0	0	0	273
10:00 AM	2	29	0	0	31	0	0	3	0	3	0	35	0	0	35	0	0	0	0	0	69
10:15 AM	1	26	0	0	27	0	0	1	0	1	0	30	0	0	30	0	0	0	0	0	58
10:30 AM	2	29	0	0	31	0	0	3	0	3	0	36	0	1	37	0	0	0	0	0	71
10:45 AM	0	28	0	0	28	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	52
Total	5	112	0	0	117	0	0	7	0	7	0	125	0	1	126	0	0	0	0	0	250

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D  
Savannah, GA 31405

File Name : bay st at george st  
Site Code : 00000000  
Start Date : 5/18/2021  
Page No : 2

## Groups Printed- Light - Heavy

Start Time	Bay Street From North					George Street From East					Bay Street From South					From West					Int. Total
	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	
11:00 AM	4	38	0	0	42	0	0	2	0	2	0	34	0	0	34	0	0	0	0	0	78
11:15 AM	0	34	0	0	34	0	0	0	0	0	0	34	0	2	36	0	0	0	0	0	70
11:30 AM	3	33	0	1	37	0	0	2	0	2	0	31	0	2	33	0	0	0	0	0	72
11:45 AM	2	27	0	0	29	1	0	3	0	4	0	32	0	2	34	0	0	0	0	0	67
Total	9	132	0	1	142	1	0	7	0	8	0	131	0	6	137	0	0	0	0	0	287
12:00 PM	4	43	0	0	47	0	0	4	0	4	0	55	0	0	55	0	0	0	0	0	106
12:15 PM	1	37	0	1	39	1	0	2	0	3	0	41	2	2	45	0	0	0	0	0	87
12:30 PM	3	48	0	0	51	0	0	2	0	2	0	41	1	3	45	0	0	0	0	0	98
12:45 PM	3	41	0	0	44	0	0	3	0	3	0	41	0	2	43	0	0	0	0	0	90
Total	11	169	0	1	181	1	0	11	0	12	0	178	3	7	188	0	0	0	0	0	381
01:00 PM	3	33	0	0	36	0	0	1	0	1	0	35	0	2	37	0	0	0	0	0	74
01:15 PM	3	41	0	0	44	2	0	0	0	2	0	39	0	0	39	0	0	0	0	0	85
01:30 PM	1	30	0	0	31	0	0	0	0	0	0	44	0	0	44	0	0	0	0	0	75
01:45 PM	5	38	0	0	43	0	0	2	0	2	0	47	0	3	50	0	0	0	0	0	95
Total	12	142	0	0	154	2	0	3	0	5	0	165	0	5	170	0	0	0	0	0	329
02:00 PM	0	31	0	0	31	0	0	3	0	3	0	35	1	0	36	0	0	0	0	0	70
02:15 PM	3	35	0	0	38	0	0	2	0	2	0	37	0	1	38	0	0	0	0	0	78
02:30 PM	6	35	0	0	41	0	0	2	0	2	0	36	0	1	37	0	0	0	0	0	80
02:45 PM	11	45	0	1	57	0	0	4	0	4	0	43	0	0	43	0	0	0	0	0	104
Total	20	146	0	1	167	0	0	11	0	11	0	151	1	2	154	0	0	0	0	0	332
03:00 PM	6	45	0	0	51	1	0	1	0	2	0	28	0	1	29	0	0	0	0	0	82
03:15 PM	3	29	0	0	32	0	0	3	0	3	0	44	1	1	46	0	0	0	0	0	81
03:30 PM	3	44	0	0	47	0	0	3	0	3	0	51	0	0	51	0	0	0	0	0	101
03:45 PM	2	31	0	0	33	0	0	4	0	4	0	47	1	0	48	0	0	0	0	0	85
Total	14	149	0	0	163	1	0	11	0	12	0	170	2	2	174	0	0	0	0	0	349
04:00 PM	3	36	0	0	39	0	0	2	0	2	0	43	0	0	43	0	0	0	0	0	84
04:15 PM	7	28	0	0	35	0	0	3	0	3	0	51	1	1	53	0	0	0	0	0	91
04:30 PM	5	40	0	0	45	0	0	4	0	4	0	54	0	1	55	0	0	0	0	0	104
04:45 PM	6	31	0	0	37	0	0	1	0	1	0	45	1	0	46	0	0	0	0	0	84
Total	21	135	0	0	156	0	0	10	0	10	0	193	2	2	197	0	0	0	0	0	363

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D  
Savannah, GA 31405

File Name : bay st at george st  
Site Code : 00000000  
Start Date : 5/18/2021  
Page No : 3

## Groups Printed- Light - Heavy

Start Time	Bay Street From North					George Street From East					Bay Street From South					From West					Int. Total
	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	
05:00 PM	4	40	0	0	44	0	0	3	0	3	0	53	1	4	58	0	0	0	0	0	105
05:15 PM	5	33	0	0	38	0	0	3	0	3	0	52	0	1	53	0	0	0	0	0	94
05:30 PM	5	33	0	0	38	0	0	1	0	1	0	35	0	2	37	0	0	0	0	0	76
05:45 PM	4	23	0	0	27	0	0	3	0	3	0	32	0	1	33	0	0	0	0	0	63
Total	18	129	0	0	147	0	0	10	0	10	0	172	1	8	181	0	0	0	0	0	338
06:00 PM	4	25	0	0	29	0	0	2	0	2	0	34	0	0	34	0	0	0	0	0	65
06:15 PM	1	30	0	0	31	0	0	4	0	4	0	27	0	2	29	0	0	0	0	0	64
06:30 PM	1	29	0	0	30	0	0	0	0	0	0	24	1	0	25	0	0	0	0	0	55
06:45 PM	3	32	0	0	35	0	0	1	0	1	0	18	0	1	19	0	0	0	0	0	55
Total	9	116	0	0	125	0	0	7	0	7	0	103	1	3	107	0	0	0	0	0	239
Grand Total	173	1753	0	3	1929	9	0	99	0	108	0	1898	12	58	1968	0	0	0	0	0	4005
Apprch %	9	90.9	0	0.2		8.3	0	91.7	0		0	96.4	0.6	2.9		0	0	0	0		
Total %	4.3	43.8	0	0.1	48.2	0.2	0	2.5	0	2.7	0	47.4	0.3	1.4	49.1	0	0	0	0	0	
Light	168	1469	0	2	1639	8	0	98	0	106	0	1608	12	58	1678	0	0	0	0	0	3423
% Light	97.1	83.8	0	66.7	85	88.9	0	99	0	98.1	0	84.7	100	100	85.3	0	0	0	0	0	85.5
Heavy	5	284	0	1	290	1	0	1	0	2	0	290	0	0	290	0	0	0	0	0	582
% Heavy	2.9	16.2	0	33.3	15	11.1	0	1	0	1.9	0	15.3	0	0	14.7	0	0	0	0	0	14.5

# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D  
Savannah, GA 31405

Grant Street at George Street  
AM Turning Movement Counts

File Name : richmond st at george st AM  
Site Code : 00000000  
Start Date : 5/18/2021  
Page No : 1

## Groups Printed- Vehicles

Start Time	From North					George Street From East					Richmond Street From South					From West					Int. Total
	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	9	6	0	15	0	0	0	0	0	15
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	10	13	0	23	0	0	0	0	0	23
07:30 AM	0	0	0	0	0	0	0	2	0	2	0	11	22	0	33	0	0	0	0	0	35
07:45 AM	0	0	0	0	0	0	0	4	0	4	0	10	21	0	31	0	0	0	0	0	35
Total	0	0	0	0	0	0	0	6	0	6	0	40	62	0	102	0	0	0	0	0	108
08:00 AM	0	0	0	0	0	0	0	3	0	3	0	17	16	0	33	0	0	0	0	0	36
08:15 AM	0	0	0	0	0	0	0	6	0	6	0	6	2	0	8	0	0	0	0	0	14
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	9	3	0	12	0	0	0	0	0	12
08:45 AM	0	0	0	0	0	0	0	2	0	2	0	5	0	0	5	0	0	0	0	0	7
Total	0	0	0	0	0	0	0	11	0	11	0	37	21	0	58	0	0	0	0	0	69
Grand Total	0	0	0	0	0	0	0	17	0	17	0	77	83	0	160	0	0	0	0	0	177
Apprch %	0	0	0	0	0	0	0	100	0	0	0	48.1	51.9	0	90.4	0	0	0	0	0	
Total %	0	0	0	0	0	0	0	9.6	0	9.6	0	43.5	46.9	0	90.4	0	0	0	0	0	



# Coastal Engineering & Consulting

6605 Abercorn Street, Suite 210D  
Savannah, GA 31405

Grant Street at George Street  
PM Turning Movement Counts

File Name : richmond st at george st pm  
Site Code : 00000000  
Start Date : 5/18/2021  
Page No : 1

## Groups Printed- Vehicles

Start Time	From North					George Street From East					Richmond Street From South					From West					Int. Total
	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	
04:00 PM	0	0	0	0	0	0	0	3	0	3	0	13	2	0	15	0	0	0	0	0	18
04:15 PM	0	0	0	0	0	0	0	4	0	4	0	9	4	0	13	0	0	0	0	0	17
04:30 PM	0	0	0	0	0	0	0	3	0	3	0	12	3	0	15	0	0	0	0	0	18
04:45 PM	0	0	0	0	0	0	0	4	0	4	0	21	3	0	24	0	0	0	0	0	28
Total	0	0	0	0	0	0	0	14	0	14	0	55	12	0	67	0	0	0	0	0	81
05:00 PM	0	0	0	0	0	0	0	6	0	6	0	17	3	0	20	0	0	0	0	0	26
05:15 PM	0	0	0	0	0	0	0	4	0	4	0	14	4	0	18	0	0	0	0	0	22
05:30 PM	0	0	0	0	0	0	0	5	0	5	0	10	6	0	16	0	0	0	0	0	21
05:45 PM	0	0	0	0	0	0	0	3	0	3	0	15	9	0	24	0	0	0	0	0	27
Total	0	0	0	0	0	0	0	18	0	18	0	56	22	0	78	0	0	0	0	0	96
Grand Total	0	0	0	0	0	0	0	32	0	32	0	111	34	0	145	0	0	0	0	0	177
Apprch %	0	0	0	0	0	0	0	100	0	100	0	76.6	23.4	0	76.6	0	0	0	0	0	
Total %	0	0	0	0	0	0	0	18.1	0	18.1	0	62.7	19.2	0	62.7	0	0	0	0	0	

Bay Street at Howe Street  
Two-Way Stop-Controlled Intersection

2042 AM Peak - No Build

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	0	5	5	0	25	5	190	0	40	215	10
Future Vol, veh/h	5	0	5	5	0	25	5	190	0	40	215	10
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	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	92	25	25	92	66	63	77	92	65	86	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	20	20	0	38	8	247	0	62	250	13

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	521	644	132	512	650	124	263	0	0	247	0	0
Stage 1	381	381	-	263	263	-	-	-	-	-	-	-
Stage 2	140	263	-	249	387	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	438	390	893	445	387	904	1298	-	-	1316	-	-
Stage 1	613	612	-	719	689	-	-	-	-	-	-	-
Stage 2	849	689	-	733	608	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	403	369	893	417	366	904	1298	-	-	1316	-	-
Mov Cap-2 Maneuver	403	369	-	417	366	-	-	-	-	-	-	-
Stage 1	609	583	-	715	685	-	-	-	-	-	-	-
Stage 2	808	685	-	683	579	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11		11.1		0.2		1.5	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1298	-	-	635	644	1316	-	-
HCM Lane V/C Ratio	0.006	-	-	0.047	0.09	0.047	-	-
HCM Control Delay (s)	7.8	-	-	11	11.1	7.9	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.1	-	-

Grant Street at Howe Street  
Two-Way Stop-Controlled Intersection

2042 AM Peak - No Build

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	35	5	0	25	0	5	0	5	0	0	0
Future Vol, veh/h	0	35	5	0	25	0	5	0	5	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	66	31	92	75	92	50	92	25	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	53	16	0	33	0	10	0	20	0	0	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	33	0	0	69	0	0	94	94	61	104	102	33
Stage 1	-	-	-	-	-	-	61	61	-	33	33	-
Stage 2	-	-	-	-	-	-	33	33	-	71	69	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1579	-	-	1532	-	-	889	796	1004	876	788	1041
Stage 1	-	-	-	-	-	-	950	844	-	983	868	-
Stage 2	-	-	-	-	-	-	983	868	-	939	837	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1579	-	-	1532	-	-	889	796	1004	858	788	1041
Mov Cap-2 Maneuver	-	-	-	-	-	-	889	796	-	858	788	-
Stage 1	-	-	-	-	-	-	950	844	-	983	868	-
Stage 2	-	-	-	-	-	-	983	868	-	920	837	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		0		8.9		0	
HCM LOS					A		A	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	962	1579	-	-	1532	-	-	-
HCM Lane V/C Ratio	0.031	-	-	-	-	-	-	-
HCM Control Delay (s)	8.9	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Newcastle Street at Howe Street  
Two-Way Stop-Controlled Intersection

2042 AM Peak - No Build

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	25	0	5	15	15	10	70	5	5	25	5
Future Vol, veh/h	10	25	0	5	15	15	10	70	5	5	25	5
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	44	67	92	25	75	39	44	83	50	75	68	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	37	0	20	20	38	23	84	10	7	37	20

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	225	201	47	215	206	89	57	0	0	94	0	0
Stage 1	61	61	-	135	135	-	-	-	-	-	-	-
Stage 2	164	140	-	80	71	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	730	695	1022	742	691	969	1547	-	-	1500	-	-
Stage 1	950	844	-	868	785	-	-	-	-	-	-	-
Stage 2	838	781	-	929	836	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	675	680	1022	700	676	969	1547	-	-	1500	-	-
Mov Cap-2 Maneuver	675	680	-	700	676	-	-	-	-	-	-	-
Stage 1	935	840	-	854	772	-	-	-	-	-	-	-
Stage 2	771	769	-	883	832	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.8		10		1.4		0.8	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1547	-	-	678	802	1500	-	-
HCM Lane V/C Ratio	0.015	-	-	0.089	0.098	0.004	-	-
HCM Control Delay (s)	7.4	0	-	10.8	10	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0	-	-

Grant Street at George Street  
Two-Way Stop-Controlled Intersection

2042 PM Peak - No Build

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	20	0	0	70	10
Future Vol, veh/h	0	20	0	0	70	10
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	92	63	92	92	79	25
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	32	0	0	89	40

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	109	109	129	0	-
Stage 1	109	-	-	-	-
Stage 2	0	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	888	945	1457	-	-
Stage 1	916	-	-	-	-
Stage 2	-	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	888	945	1457	-	-
Mov Cap-2 Maneuver	888	-	-	-	-
Stage 1	916	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1457	-	945	-	-
HCM Lane V/C Ratio	-	-	0.034	-	-
HCM Control Delay (s)	0	-	8.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Bay Street at George Street  
Two-Way Stop-Controlled Intersection

2042 AM Peak - No Build

Intersection							
Int Delay, s/veh	1.8						
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	5	10	5	185	0	30	165
Future Vol, veh/h	5	10	5	185	0	30	165
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	25	50	42	90	92	68	88
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	20	20	12	206	0	44	188

Major/Minor	Minor1	Major1	Major2	Major2	Major2	Major2
Conflicting Flow All	412	103	188	0	0	206
Stage 1	230	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	-	-	2.22
Pot Cap-1 Maneuver	568	932	1089	-	-	1363
Stage 1	786	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	543	932	1089	-	-	1363
Mov Cap-2 Maneuver	543	-	-	-	-	-
Stage 1	751	-	-	-	-	-
Stage 2	831	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0.6	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	686	1363
HCM Lane V/C Ratio	-	-	0.058	0.032
HCM Control Delay (s)	0.1	-	10.6	7.7
HCM Lane LOS	A	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

Richmond Street at George Street  
Two-Way Stop-Controlled Intersection

2042 AM Peak - No Build

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖			
Traffic Vol, veh/h	0	10	55	80	0	0
Future Vol, veh/h	0	10	55	80	0	0
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	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	56	71	82	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	77	98	0	0

Major/Minor	Minor1	Major1	
Conflicting Flow All	-	126	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	924	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	-	924	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB
HCM Control Delay, s	9	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBRWBLn1
Capacity (veh/h)	-	924
HCM Lane V/C Ratio	-	0.019
HCM Control Delay (s)	-	9
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	0.1

Bay Street at Howe Street  
Two-Way Stop-Controlled Intersection

2042 PM Peak - No Build

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	10	0	5	0	0	25	5	235	5	5	180	5
Future Vol, veh/h	10	0	5	0	0	25	5	235	5	5	180	5
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	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	40	92	50	92	92	48	25	87	38	50	82	50
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	0	10	0	0	52	20	270	13	10	220	10

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	420	568	115	447	567	142	230	0	0	283	0	0
Stage 1	245	245	-	317	317	-	-	-	-	-	-	-
Stage 2	175	323	-	130	250	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	517	431	916	495	432	880	1335	-	-	1276	-	-
Stage 1	737	702	-	669	653	-	-	-	-	-	-	-
Stage 2	810	649	-	860	699	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	478	421	916	481	422	880	1335	-	-	1276	-	-
Mov Cap-2 Maneuver	478	421	-	481	422	-	-	-	-	-	-	-
Stage 1	726	696	-	659	643	-	-	-	-	-	-	-
Stage 2	751	639	-	844	693	-	-	-	-	-	-	-

Approach	EB		WB			NB			SB		
HCM Control Delay, s	11.9		9.3			0.5			0.3		
HCM LOS	B		A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1335	-	-	554	880	1276	-	-
HCM Lane V/C Ratio	0.015	-	-	0.063	0.059	0.008	-	-
HCM Control Delay (s)	7.7	-	-	11.9	9.3	7.8	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-	-



Grant Street at Howe Street  
Two-Way Stop-Controlled Intersection

2042 PM Peak - No Build

Intersection												
Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	5	5	20	0	5	0	5	5	5	5
Future Vol, veh/h	0	5	5	5	20	0	5	0	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	38	50	75	61	92	25	92	25	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	10	7	33	0	20	0	20	20	20	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	33	0	0	23	0	0	85	65	18	75	70	33
Stage 1	-	-	-	-	-	-	18	18	-	47	47	-
Stage 2	-	-	-	-	-	-	67	47	-	28	23	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1579	-	-	1592	-	-	901	826	1061	915	821	1041
Stage 1	-	-	-	-	-	-	1001	880	-	967	856	-
Stage 2	-	-	-	-	-	-	943	856	-	989	876	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1579	-	-	1592	-	-	865	823	1061	895	818	1041
Mov Cap-2 Maneuver	-	-	-	-	-	-	865	823	-	895	818	-
Stage 1	-	-	-	-	-	-	1001	880	-	967	853	-
Stage 2	-	-	-	-	-	-	900	853	-	970	876	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.2			8.9			9.2		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	953	1579	-	-	1592	-	-	909
HCM Lane V/C Ratio	0.042	-	-	-	0.004	-	-	0.066
HCM Control Delay (s)	8.9	0	-	-	7.3	0	-	9.2
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Newcastle Street at Howe Street  
Two-Way Stop-Controlled Intersection

2042 PM Peak - No Build

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	0	5	10	5	5	40	0	5	45	10
Future Vol, veh/h	5	5	0	5	10	5	5	40	0	5	45	10
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	25	50	92	33	45	25	63	85	92	50	63	38
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	10	0	15	22	20	8	47	0	10	71	26

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	188	167	84	172	180	47	97	0	0	47	0	0
Stage 1	104	104	-	63	63	-	-	-	-	-	-	-
Stage 2	84	63	-	109	117	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	772	726	975	791	714	1022	1496	-	-	1560	-	-
Stage 1	902	809	-	948	842	-	-	-	-	-	-	-
Stage 2	924	842	-	896	799	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	732	717	975	775	705	1022	1496	-	-	1560	-	-
Mov Cap-2 Maneuver	732	717	-	775	705	-	-	-	-	-	-	-
Stage 1	897	803	-	943	838	-	-	-	-	-	-	-
Stage 2	877	838	-	879	793	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.2		9.8		1.1		0.7	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1496	-	-	727	812	1560	-	-
HCM Lane V/C Ratio	0.005	-	-	0.041	0.071	0.006	-	-
HCM Control Delay (s)	7.4	0	-	10.2	9.8	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

Grant Street at George Street  
Two-Way Stop-Controlled Intersection

2042 PM Peak - No Build

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	20	0	0	70	10
Future Vol, veh/h	0	20	0	0	70	10
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	92	71	92	92	60	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	28	0	0	117	17

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	126	126	134	0	-	0
Stage 1	126	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	869	924	1451	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	869	924	1451	-	-	-
Mov Cap-2 Maneuver	869	-	-	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1451	-	924	-	-
HCM Lane V/C Ratio	-	-	0.03	-	-
HCM Control Delay (s)	0	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Bay Street at George Street  
Two-Way Stop-Controlled Intersection

2042 PM Peak - No Build

Intersection							
Int Delay, s/veh	1.1						
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	0	15	10	195	5	20	145
Future Vol, veh/h	0	15	10	195	5	20	145
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	92	83	50	81	25	90	81
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	18	20	241	20	22	179



Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	425	131	179	0	0	261
Stage 1	291	-	-	-	-	-
Stage 2	134	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	-	-	2.22
Pot Cap-1 Maneuver	557	894	1103	-	-	1300
Stage 1	733	-	-	-	-	-
Stage 2	878	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	536	894	1103	-	-	1300
Mov Cap-2 Maneuver	536	-	-	-	-	-
Stage 1	705	-	-	-	-	-
Stage 2	878	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0.7	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	894	1300
HCM Lane V/C Ratio	-	-	0.02	0.017
HCM Control Delay (s)	0.1	-	9.1	7.8
HCM Lane LOS	A	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

Richmond Street at George Street  
Two-Way Stop-Controlled Intersection

2042 PM Peak - No Build

Intersection						
Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	20	65	25	0	0
Future Vol, veh/h	0	20	65	25	0	0
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	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	56	71	82	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	36	92	30	0	0

Major/Minor	Minor1	Major1		
Conflicting Flow All	-	107	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	947	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	947	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBRWBLn1
Capacity (veh/h)	-	- 947
HCM Lane V/C Ratio	-	- 0.038
HCM Control Delay (s)	-	- 9
HCM Lane LOS	-	- A
HCM 95th %tile Q(veh)	-	- 0.1

Bay Street at Howe Street  
Two-Way Stop-Controlled Intersection

2042 AM Peak - Build

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	0	5	5	0	25	5	233	0	92	215	10
Future Vol, veh/h	5	0	5	5	0	25	5	233	0	92	215	10
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	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	92	25	25	92	66	63	77	92	65	86	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	20	20	0	38	8	303	0	142	250	13

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	709	860	132	728	866	152	263	0	0	303	0	0
Stage 1	541	541	-	319	319	-	-	-	-	-	-	-
Stage 2	168	319	-	409	547	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	321	292	893	311	290	867	1298	-	-	1255	-	-
Stage 1	493	519	-	667	652	-	-	-	-	-	-	-
Stage 2	817	652	-	590	516	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	279	258	893	276	256	867	1298	-	-	1255	-	-
Mov Cap-2 Maneuver	279	258	-	276	256	-	-	-	-	-	-	-
Stage 1	490	460	-	663	648	-	-	-	-	-	-	-
Stage 2	776	648	-	512	458	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.4		13.2		0.2		2.9	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1298	-	-	515	498	1255	-	-
HCM Lane V/C Ratio	0.006	-	-	0.058	0.116	0.113	-	-
HCM Control Delay (s)	7.8	-	-	12.4	13.2	8.2	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0.4	-	-

Grant Street at Howe Street  
Two-Way Stop-Controlled Intersection

2042 AM Peak - Build

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	35	57	26	25	0	5	0	5	0	0	0
Future Vol, veh/h	0	35	57	26	25	0	5	0	5	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	66	31	92	75	92	50	92	25	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	53	184	28	33	0	10	0	20	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	33	0	0	237	0	0	234	234	145	244	326	33
Stage 1	-	-	-	-	-	-	145	145	-	89	89	-
Stage 2	-	-	-	-	-	-	89	89	-	155	237	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1579	-	-	1330	-	-	721	666	902	710	592	1041
Stage 1	-	-	-	-	-	-	858	777	-	918	821	-
Stage 2	-	-	-	-	-	-	918	821	-	847	709	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1579	-	-	1330	-	-	709	652	902	683	580	1041
Mov Cap-2 Maneuver	-	-	-	-	-	-	709	652	-	683	580	-
Stage 1	-	-	-	-	-	-	858	777	-	918	804	-
Stage 2	-	-	-	-	-	-	899	804	-	828	709	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			3.6			9.5			0		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	827	1579	-	-	1330	-	-	-
HCM Lane V/C Ratio	0.036	-	-	-	0.021	-	-	-
HCM Control Delay (s)	9.5	0	-	-	7.8	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	-

Newcastle Street at Howe Street  
Two-Way Stop-Controlled Intersection

2042 AM Peak - Build

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	51	0	5	15	15	10	82	27	5	40	20
Future Vol, veh/h	37	51	0	5	15	15	10	82	27	5	40	20
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	44	67	92	25	75	39	44	83	50	75	68	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	76	0	20	20	38	23	99	54	7	59	80

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	314	312	99	323	325	126	139	0	0	153	0	0
Stage 1	113	113	-	172	172	-	-	-	-	-	-	-
Stage 2	201	199	-	151	153	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	639	603	957	630	593	924	1445	-	-	1428	-	-
Stage 1	892	802	-	830	756	-	-	-	-	-	-	-
Stage 2	801	736	-	851	771	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	586	589	957	558	579	924	1445	-	-	1428	-	-
Mov Cap-2 Maneuver	586	589	-	558	579	-	-	-	-	-	-	-
Stage 1	876	798	-	815	742	-	-	-	-	-	-	-
Stage 2	734	723	-	766	767	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.4		10.8		1		0.3	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1445	-	-	587	700	1428	-	-
HCM Lane V/C Ratio	0.016	-	-	0.273	0.112	0.005	-	-
HCM Control Delay (s)	7.5	0	-	13.4	10.8	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0.4	0	-	-



Grant Street at George Street  
Two-Way Stop-Controlled Intersection

2042 AM Peak - Build

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	0	0	130	48
Future Vol, veh/h	0	25	0	0	130	48
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	92	63	92	92	79	25
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	40	0	0	165	192

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	261	261	357	0	-	0
Stage 1	261	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	728	778	1202	-	-	-
Stage 1	783	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	728	778	1202	-	-	-
Mov Cap-2 Maneuver	728	-	-	-	-	-
Stage 1	783	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1202	-	778	-	-
HCM Lane V/C Ratio	-	-	0.051	-	-
HCM Control Delay (s)	0	-	9.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Bay Street at George Street  
Two-Way Stop-Controlled Intersection

2042 AM Peak - Build

Intersection							
Int Delay, s/veh	3						
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	5	53	5	185	0	30	165
Future Vol, veh/h	5	53	5	185	0	30	165
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	25	50	42	90	92	68	88
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	20	106	12	206	0	44	188

Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	412	103	188	0	0	206
Stage 1	230	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	-	-	2.22
Pot Cap-1 Maneuver	568	932	1089	-	-	1363
Stage 1	786	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	543	932	1089	-	-	1363
Mov Cap-2 Maneuver	543	-	-	-	-	-
Stage 1	751	-	-	-	-	-
Stage 2	831	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0.6	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	837	1363
HCM Lane V/C Ratio	-	-	0.151	0.032
HCM Control Delay (s)	0.1	-	10.1	7.7
HCM Lane LOS	A	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1

Richmond Street at George Street  
Two-Way Stop-Controlled Intersection

2042 AM Peak - Build

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖			
Traffic Vol, veh/h	0	10	119	101	0	0
Future Vol, veh/h	0	10	119	101	0	0
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	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	56	71	82	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	168	123	0	0

Major/Minor	Minor1	Major1		
Conflicting Flow All	-	230	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	809	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	809	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.6	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBRWBLn1
Capacity (veh/h)	-	- 809
HCM Lane V/C Ratio	-	- 0.022
HCM Control Delay (s)	-	- 9.6
HCM Lane LOS	-	- A
HCM 95th %tile Q(veh)	-	- 0.1

Bay Street at Howe Street  
Two-Way Stop-Controlled Intersection

2042 PM Peak - Build

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	10	0	5	0	0	25	5	250	5	17	180	5
Future Vol, veh/h	10	0	5	0	0	25	5	250	5	17	180	5
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	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	40	92	50	92	92	48	25	87	38	50	82	50
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	0	10	0	0	52	20	287	13	34	220	10

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	477	633	115	512	632	150	230	0	0	300	0	0
Stage 1	293	293	-	334	334	-	-	-	-	-	-	-
Stage 2	184	340	-	178	298	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	471	395	916	445	396	870	1335	-	-	1258	-	-
Stage 1	691	669	-	653	642	-	-	-	-	-	-	-
Stage 2	800	638	-	806	666	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	429	378	916	426	379	870	1335	-	-	1258	-	-
Mov Cap-2 Maneuver	429	378	-	426	379	-	-	-	-	-	-	-
Stage 1	681	651	-	643	632	-	-	-	-	-	-	-
Stage 2	741	628	-	776	648	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.6		9.4		0.5		1	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1335	-	-	506	870	1258	-	-
HCM Lane V/C Ratio	0.015	-	-	0.069	0.06	0.027	-	-
HCM Control Delay (s)	7.7	-	-	12.6	9.4	7.9	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0.1	-	-

Grant Street at Howe Street  
Two-Way Stop-Controlled Intersection

2042 PM Peak - Build

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	17	11	20	0	5	0	5	5	5	5
Future Vol, veh/h	0	5	17	11	20	0	5	0	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	38	50	75	61	92	25	92	25	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	34	15	33	0	20	0	20	20	20	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	33	0	0	47	0	0	113	93	30	103	110	33
Stage 1	-	-	-	-	-	-	30	30	-	63	63	-
Stage 2	-	-	-	-	-	-	83	63	-	40	47	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1579	-	-	1560	-	-	864	797	1044	877	780	1041
Stage 1	-	-	-	-	-	-	987	870	-	948	842	-
Stage 2	-	-	-	-	-	-	925	842	-	975	856	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1579	-	-	1560	-	-	824	789	1044	853	772	1041
Mov Cap-2 Maneuver	-	-	-	-	-	-	824	789	-	853	772	-
Stage 1	-	-	-	-	-	-	987	870	-	948	834	-
Stage 2	-	-	-	-	-	-	877	834	-	956	856	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.3			9.1			9.4		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	921	1579	-	-	1560	-	-	875
HCM Lane V/C Ratio	0.043	-	-	-	0.009	-	-	0.069
HCM Control Delay (s)	9.1	0	-	-	7.3	0	-	9.4
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Newcastle Street at Howe Street  
Two-Way Stop-Controlled Intersection

2042 PM Peak - Build

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	11	0	5	10	5	5	40	8	5	49	10
Future Vol, veh/h	12	11	0	5	10	5	5	40	8	5	49	10
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	25	50	92	33	45	25	63	85	92	50	63	38
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	22	0	15	22	20	8	47	9	10	78	26

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	200	183	91	190	192	52	104	0	0	56	0	0
Stage 1	111	111	-	68	68	-	-	-	-	-	-	-
Stage 2	89	72	-	122	124	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	759	711	967	770	703	1016	1488	-	-	1549	-	-
Stage 1	894	804	-	942	838	-	-	-	-	-	-	-
Stage 2	918	835	-	882	793	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	719	702	967	744	694	1016	1488	-	-	1549	-	-
Mov Cap-2 Maneuver	719	702	-	744	694	-	-	-	-	-	-	-
Stage 1	889	798	-	936	833	-	-	-	-	-	-	-
Stage 2	871	830	-	852	787	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.6		9.9		0.9		0.6	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1488	-	-	714	796	1549	-	-
HCM Lane V/C Ratio	0.005	-	-	0.098	0.072	0.006	-	-
HCM Control Delay (s)	7.4	0	-	10.6	9.9	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

Grant Street at George Street  
Two-Way Stop-Controlled Intersection

2042 PM Peak - Build

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	20	0	0	97	25
Future Vol, veh/h	0	20	0	0	97	25
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	92	71	92	92	60	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	28	0	0	162	43

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	184	184	205	0	-	0
Stage 1	184	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	805	858	1366	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	805	858	1366	-	-	-
Mov Cap-2 Maneuver	805	-	-	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1366	-	858	-	-
HCM Lane V/C Ratio	-	-	0.033	-	-
HCM Control Delay (s)	0	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Bay Street at George Street  
Two-Way Stop-Controlled Intersection

2042 PM Peak - Build

Intersection							
Int Delay, s/veh	1.4						
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	0	30	10	195	5	20	145
Future Vol, veh/h	0	30	10	195	5	20	145
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	92	83	50	81	25	90	81
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	36	20	241	20	22	179

Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	425	131	179	0	0	261
Stage 1	291	-	-	-	-	-
Stage 2	134	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	-	-	2.22
Pot Cap-1 Maneuver	557	894	1103	-	-	1300
Stage 1	733	-	-	-	-	-
Stage 2	878	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	536	894	1103	-	-	1300
Mov Cap-2 Maneuver	536	-	-	-	-	-
Stage 1	705	-	-	-	-	-
Stage 2	878	-	-	-	-	-



Approach	WB	NB	SB
HCM Control Delay, s	9.2	0.7	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	894	1300
HCM Lane V/C Ratio	-	-	0.04	0.017
HCM Control Delay (s)	0.1	-	9.2	7.8
HCM Lane LOS	A	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1



Richmond Street at George Street  
Two-Way Stop-Controlled Intersection

2042 PM Peak - Build

Intersection						
Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	20	84	32	0	0
Future Vol, veh/h	0	20	84	32	0	0
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	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	56	71	82	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	36	118	39	0	0

Major/Minor	Minor1	Major1	
Conflicting Flow All	-	138	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	910	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	-	910	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.1	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBRWBLn1
Capacity (veh/h)	-	910
HCM Lane V/C Ratio	-	0.039
HCM Control Delay (s)	-	9.1
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	0.1

## Ryan Claus

---

**From:** Peter Schoenauer <pete@tidewatereng.com>  
**Sent:** Thursday, May 20, 2021 8:33 AM  
**To:** Ryan Claus  
**Cc:** Brian Felder  
**Subject:** FW: St. Francis- Brunswick

Good morning Ryan,

Please see the email below from Doug Stephens with GDOT. Not sure if I told you but I had the same conversation with Garrow Alberson, City of Brunswick Engineer, and he agrees that stacking on Bay Street is not a desirable option.

Thank you,  
pete

Peter Schoenauer, PE

Tidewater Engineering, Inc.  
200 Plantation Chase, #16  
St. Simons Island, GA 31522  
(912) 268-2164: office  
(912) 289-0361: Fax  
[www.tidewatereng.com](http://www.tidewatereng.com)



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**From:** Stephens, Doug <dstephens@dot.ga.gov>  
**Sent:** Thursday, May 20, 2021 8:29 AM  
**To:** Peter Schoenauer <pete@tidewatereng.com>  
**Cc:** Capello, Joseph R <JCapello@dot.ga.gov>  
**Subject:** RE: St. Francis- Brunswick

Good morning Mr. Pete,

I have reviewed the site plan, we do not recommend the stacking on our route. It seemed there were other streets they could utilize for stacking. If you have any questions please feel free to contact me.

Thanks,

**Doug Stephens**  
*Traffic Specialist 2*



District 5 Traffic Operations Office

# A TRAFFIC FLOW MAP FOR ST. FRANCIS XAVIER CATHOLIC SCHOOL

## CURRENT ENROLLMENT

TIME OF DAY	# OF CARS	DURATION
MORNING DROP-OFF	+/- 87 CARS, 1 BUS*	+/- 15 MIN. WINDOW
AFTERNOON PICK-UP	+/- 72 CARS, 1 BUS*	+/- 30 MIN. WINDOW
AFTER-SCHOOL PROGRAMS	+/- 21 CARS	NO WAIT TIME (PARENTS ARRIVE AT DIFFERENT TIMES)

## PROJECTED ENROLLMENT (300 CHILDREN)

TIME OF DAY	# OF CARS	DURATION
MORNING DROP-OFF	+/- 150 CARS, 1 BUS*	+/- 30 MIN. WINDOW
AFTERNOON PICK-UP	+/- 123 CARS, 1 BUS*	+/- 60 MIN. WINDOW
AFTER-SCHOOL PROGRAMS	+/- 36 CARS	NO WAIT TIME (PARENTS ARRIVE AT DIFFERENT TIMES)

\* (1) BUS IS USED FOR DROP-OFF / PICK-OFF EACH DAY WHICH CARRIES 25 CHILDREN (ELIMINATES +/- 20 CARS)

## LEGEND

EXISTING FLOW THROUGH UNION STREET	PROPOSED TRAFFIC FLOW FROM BAY STREET
EXISTING FLOW THROUGH HANOVER SQUARE	PROPOSED TRAFFIC FLOW FROM HOWE STREET



**OFFICIAL MINUTES**  
**COMMISSION OF THE CITY OF BRUNSWICK, GEORGIA**  
**REGULAR SCHEDULED MEETING**  
**WEDNESDAY, JULY 7, 2021**  
**VIRTUAL TELECONFERENCE VIA ZOOM**  
**STREAMED LIVE AT THE BELOW WEB ADDRESSES:**  
<https://www.facebook.com/citybwkga>  
or  
<https://cityofbrunswick-ga-gov.zoom.us/j/96859185643>

**PRESENT:** Honorable Mayor Cornell Harvey, Mayor Pro-Tem Felicia Harris, Commissioner John Cason III, Commissioner Julie Martin, and Commissioner Vincent Williams

**CALL TO ORDER:** Mayor Cornell Harvey - *meeting began at 5:00 p.m.*

**INVOCATION:** Mayor Pro Tem Harris

**PLEDGE OF ALLEGIANCE:** Commissioner Cason

**ADDENDUM TO AGENDA**

\*\*

*Commissioner Martin made a motion to add as item number eleven (11) “Consider Approval of Resolution 2021-10 – Declaring State of Emergency in Response to Tropical Storm Elsa.”; seconded by Mayor Pro Tem Harris. Motion passed unanimously by a vote of 5 to 0.*

\*\*

**PUBLIC HEARING - ALCOHOL BEVERAGE LICENSE – (New)**

1. Consider Approval - New Alcohol Beverage License: – (*R. Monday*)

<u>Name of Business</u>	<u>Owner/Mgr.</u>	<u>Location of Business</u>	<u>Comments</u>
Lucky 7	Ankur Patel/ Owner	3021 Altama Ave.	Retail sale of beer and wine.

Commissioner Cason made a motion to defer the above-referenced item until the July 21, 2021 commission meeting; seconded by Mayor Pro Tem Harris. Motion passed unanimously by a vote of 5 to 0.

**PUBLIC HEARING – LAND USE**

2. Rezoning Petition No. 21-01 from Peter Schoenauer, Representing the Owner, is Petitioning to Rezone St. Francis Xavier Multiple Lots at Howe Street and Grant Street from General Residential Core (GR-CORE) to General Commercial Core (GC-CORE). (*J. Hunter*)

Commissioner Cason made a motion to defer the above-referenced item until the July 21, 2021 commission meeting; seconded by Mayor Pro Tem Harris. Motion passed unanimously by a vote of 5 to 0.

**PRESENTATION(S)**

3. James McCurry, Jr., Chief Administrative Officer, Georgia Ports Authority to give Presentation Regarding the Fire Marshal’s Report.

Following questions, responses, and comments; Commission thanked James McCurry and Georgia Ports Authority Executive Director Griff Lynch for the presentation.

## **UPDATE(S)**

4. Lt. Commander Pat Frain, USCG to give Update on the Golden Ray Project.

Following questions, responses, and comments; Commission thanked Lt. Commander Frain and Tom Wiker with Gallagher Marine System for the update.

## **APPOINTMENT(S)**

5. Authority and Boards. (*N. Atkinson*)

- 1) Brunswick Housing Authority – One Appointment – (Mayor’s Appointment)

Mayor Harvey tabled making an appointment to the above-referenced authority until a later date.

- 2) Brunswick Historic Preservation Board – One Appointment

Commissioner Martin made a motion to appoint Josh Dukes to the above-referenced board, filling the unexpired term of Heddy Bernstein until June 30, 2023; seconded by Commissioner Cason. Motion passed unanimously by a vote of 5 to 0.

- 3) Tree Board – One Appointment

Commissioner Martin made a motion to appoint Jill Wright to the above-referenced board, filling the unexpired term of Michael Lehman until December 18, 2021; seconded by Commissioner Cason. Motion passed unanimously by a vote of 5 to 0.

## **ITEM(S) TO BE CONSIDERED FOR APPROVAL**

6. Consider Approval of June 16, 2021 Work Session and Regular Scheduled Meeting Minutes.

*(subject to any necessary changes.) (N. Atkinson)*

Commissioner Williams made a motion to approve the above-subject minutes; seconded by Mayor Pro Tem Harris. Motion passed unanimously by a vote of 5 to 0.

7. Consider Approval of Financial Reports as of May 31, 2021. (*K. Mills*)

Commissioner Martin made a motion to approve the above-subject reports as submitted; seconded by Commissioner Cason. Motion passed unanimously by a vote of 5 to 0.

8. Consider Approval of Enterprise Zone Incentives for 1505-09 Newcastle Street. (*M. Hill*)

Commissioner Cason made a motion to approve the above-referenced incentives per recommendation of staff and the Finance Committee; seconded by Mayor Pro Tem Harris. Motion passed unanimously by a vote of 5 to 0.

## **CITY MANAGER’S ITEM(S)**

9. Recommendation - Storm Water Utility Fee for the Upcoming Billing Cycle.

City Manager McDuffie recommended not increasing the above-referenced fee for the upcoming billing cycle.

Commissioner Williams made a motion approving the recommendation of the City Manager of not increasing the above-subject fee for the upcoming billing cycle; seconded by Mayor Pro Tem Harris. Motion passed unanimously by a vote of 5 to 0.

10. Comprehensive Plan Review and Presentation.

City Manager McDuffie gave an overview of the above-referenced plan. Informational only.

11. Consider Approval of Resolution 2021-10 – Declaring State of Emergency in Response to Tropical Storm Elsa.

Commissioner Cason made a motion to approve the above-referenced resolution; seconded by Mayor Pro Tem Harris. Motion passed unanimously by a vote of 5 to 0.

## **EXECUTIVE SESSION**

There was not an executive session held during this meeting.

Commissioner Cason made a motion to adjourn; seconded by Commissioner Williams. Motion passed unanimously by a vote of 5 to 0.

**MEETING ADJOURNED** – *meeting adjourned at 7:20 p.m.*

/s/Cornell L. Harvey  
Cornell L. Harvey, Mayor

Attest: /s/ Naomi D. Atkinson  
Naomi D. Atkinson, City Clerk



**SUBJECT: Buffer Requirements Revisions**

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**COMMISSION ACTION REQUESTED ON:** [REDACTED] June 16/ 2021

**PURPOSE: First Reading of Revisions to Section 23-3-21 of the Zoning Ordinance**

**HISTORY:** In April 2020, the City Commission approved contracting with the Coastal Regional Commission to complete a comprehensive update to our Zoning Ordinance.

The CRC, City Staff, and the Planning and Appeals Commission have been working on this project over the past few months and have completed recommended changes for Phase I, and they were reviewed with the City Commission at Workshop Session on March 17 and April 7, 2021 meetings.

Phase I has focused upon revisions to our Definitions (Section 23-1-4), the General Regulations (Section 23-3); and the Sign Ordinance (Section 23-24).

The revised Section 23-3-21: Buffer Requirements is submitted for First Reading  
Attached are:

- 1) Summary of changes to the Ordinance
- 2) A Redline version of the current ordinance reflecting the changes
- 3) The proposed changes in Ordinance form

**DEPARTMENT RECOMMENDATION ACTION:**

- **Hold First Reading for revised Ordinance**

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**DEPARTMENT: PDC**

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Prepared by: John Hunter, Director

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**ADMINISTRATIVE COMMENTS:**

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**ADMINISTRATIVE RECOMMENDATION:**

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*Regina M. McDuffie*

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City Manager

5/25/21

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Date

## SUMMARY OF CHANGES TO BUFFER REQUIREMENTS – SECTION 23-3-21

Essentially, the Buffer requirements section was edited and needed changes made to make the requirements and establishment of buffer clearer and more effective.

Following are the significant changes:

1. Buffers are still required when a non-residential or Mobile Home district boundary adjoins a residential zoning boundary. **Added is the ability to require a buffer when a conditional use is approved by the City.**
2. Buffers are now defined as a **Natural Buffer** (meaning existing trees and shrubs on the property are retained and possibly enhanced by cultivation or minor addition of plant material) or a **Structural Buffer** (a created visual screen which could be a wall, fence, earthen berm or a combination of these)
3. The width of a buffer is now defined (**previously a Buffer only had to conceal 75% of the adjoining property's vertical wall**).
  - a. Between Office and all R zones – 20 feet
  - b. Between all Commercial, Commercial Recreation and Medical Zones and all R zones – 25 feet
  - c. Between all Industrial zones and Residential (including Mobile Home, Commercial, Commercial Recreation and Medical Zones – 50 feet
4. Added requirements for a Natural Buffer include:
  - a. Types of trees (overstory and understory) evergreen shrubs are quantified within any 20 foot, 25 foot or 50 foot Natural Buffer area are now quantified as to the number required per 100 feet (pro-rated if more or less than 100 feet). All trees and shrubs must be indigenous to the Brunswick area.
    - i. For 20 foot wide buffer: 2 overstory trees, 3 understory trees and 8 evergreen shrubs per 100 feet.
    - ii. For 25 foot wide buffer: 3 overstory trees, 6 understory trees and 10 evergreen shrubs per 100 feet.
    - iii. For 50 foot wide buffer: 4 overstory trees, 5 understory trees and 20 evergreen shrubs per 100 feet.
  - b. The height of trees and shrubs **after planting** is also now quantified as follows:
    - i. Overstory trees – 10 feet in height
    - ii. Understory trees – 6 feet in height
    - iii. Evergreen shrubs – 3 feet in height.
    - iv. **All plantings must produce a visual screen averaging 6 feet in height after a single growing season (one full year). Any plant material that does not survive the first growing season must be replaced.**
5. Requirements for a structural buffer are now more specifically defined:
  - a. Structural buffers may be fences or walls constructed of wood or masonry materials and must be at least 6 feet in height. Plant materials equaling 50% of those required for a natural buffer must be installed along the residential zone side of the buffer.
  - b. Earthen berms may be used as a structural buffer and must be at least 6 feet in height with side slopes of 1 foot rise to 2 horizontal feet. Plant materials must be installed at the base of the berm (each side) and the berm must be planted with permanent grass. A



fence may be installed in conjunction with a berm so long as the total height achieved is at least 6 feet in height.

6. Enforcement of the Buffer requirements is still left to the Building Official using these guidelines and a landscape plan for the proposed buffer must likewise still be submitted for approval.

Sec. 23-3-21. - Buffer requirements. **Edited Buffer Requirements and Provisions Inserted Below**

- ~~(a) Whenever any nonresidential zoning district or use or any MH zoning district abuts a residential zoning lot or district (other than an MH district), a buffer strip shall be installed and/or maintained on the lot with the nonresidential zoning or use or MH zoning, along the lot line abutting the residential lot or district, in compliance with the following requirements:~~
- ~~(1) Existing trees and shrubs located between the lot line and building setback line shall not be removed without the express written approval of the building official.~~
  - ~~(2) A buffer strip shall be planted with shrubs and/or trees so as to produce within one growing season a dense, compact evergreen planting screen which shall be capable of completely concealing from the residential zoning lot or district all work activities, equipment and parking within the less restrictive zoning or use and which shall be further capable of screening at least 75 percent of the vertical surfaces of any nonresidential structure.~~
  - ~~(3) A landscaping plan identifying all plants to be incorporated in a buffer strip required herein must be approved by the building official prior to any site construction.~~
  - ~~(4) All required plantings shall be permanently maintained in sound, healthy growing condition and shall be replaced with new plant materials whenever necessary to ensure continued compliance with applicable landscaping requirements.~~
- ~~(b) The building official shall be authorized to order the installation of additional plantings whenever he or she deems such additional plantings necessary to comply with the requirements of this section, and to order replacement of any vegetation removed in violation of subsection (a)(1) above.~~
- ~~(c) The building official shall be authorized to permit the installation of a wood or masonry fence in lieu of a planted buffer where because of space constraints or other reason the requirement of a planted buffer would not be practical; the materials, location and dimensions of such fence must be approved by the building official.~~
- ~~(d) The building official shall be authorized to waive the buffer requirement along street rights of way where the installation of a buffer would not be practical because of proximity to the street.~~

Sec. 23-3-21. - Buffer requirements. **Edited Version**

Whenever any nonresidential (Agricultural, Office, Commercial, Industrial or Commercial Recreation) or Mobile Home (MH) zoning district ~~or use or any MH zoning district~~ abuts a residential zoning ~~lot or~~ district (other than an MH district), a buffer ~~strip~~ shall be installed and/or maintained on ~~the such~~ lot with the nonresidential ~~or MH zoning or use or MH zoning~~, along the entire lot line abutting the residential ~~lot or~~ district. ~~in compliance with the following requirements:~~ A buffer may also be required as a requirement of approval of a Conditional Use Approval by the City Commission.

(A) A buffer may be either:

(1) A Natural Buffer, defined as “a visual screen created by vegetation of such density so as to provide a visual separation between nonresidential or mobile home districts and residential districts. Wherever and whenever possible, a Natural Buffer should include all or portions of trees and shrubs existing on the site prior to development.

(2) A Structural Buffer, defines as a visual screen created by the construction of a solid fence, wall, earthen berm, or a combination of these, supplemented by vegetation to provide a visual separation between nonresidential or mobile home districts and residential districts.

(B) The width of the buffer along its lot line shall be as follows:

- (1) Between Office and all Residential Zones except MH (Mobile Home) – 20 Feet
- (2) Between Commercial, Commercial Recreation and Medical Zones and all Residential Zones – 25 Feet
- (3) Between Industrial Zones and Residential, Commercial, Commercial Recreation and Medical Zones - 50 Feet

(C) A Natural Buffer shall be installed and/or maintained in compliance with the following requirements”

- (1) Existing trees and shrubs located between the lot line and building setback line shall not be removed without the express written approval of the building official.
- (2) A buffer ~~strip~~ shall be planted with shrubs and/or trees so as to produce within one growing season a dense, compact evergreen planting screen which shall be capable of completely concealing from the residential zoning lot or district all work activities, equipment, loading and unloading, and parking within the less restrictive zoning or use and which shall be further capable of providing a visual screen of at least 75 percent of the vertical surfaces of any adjacent nonresidential structure.
- (3) A landscaping plan identifying all plants to be incorporated in a buffer strip required herein must be approved by the building official prior to any site construction. **Evergreen and deciduous plantings may be used so long as the visual standards in (C) 2 are maintained year-round.**
  - (a) For a buffer 20 feet in width, minimum plantings shall include Overstory Trees – 2 for every 100 feet; Understory Trees – 3 for every 100 feet; Evergreen Shrubs – 8 for every 100 feet. For less than 100 feet, the quantity for each type of planting shall be pro-rated accordingly after rounding up.
  - (b) For a buffer 25 feet in width, minimum plantings shall include Overstory Trees – 3 for every 100 feet; Understory Trees – 6 for every 100 feet; Evergreen Shrubs – 10 for every 100 feet. For less than 100 feet, the quantity for each type of planting shall be pro-rated accordingly after rounding up.
  - (c) For a buffer of 50 feet in width, minimum plantings shall include Overstory Trees – 4 for every 100 feet; Understory Trees – 5 for every 100 feet; Evergreen Shrubs – 20 for every 100 feet. For less than 100 feet, the quantity for each type of planting shall be pro-rated accordingly after rounding up.
  - (d) The height of the plant material, after installed, shall be;
    - (i) For Overstory Trees (indigenous to the area) – 10 feet in height
    - (ii) For Understory Trees (indigenous to the area) – 6 feet in height
    - (iii) For Evergreen Shrubs (indigenous to the area) – 3 feet in height

and, shall produce a visual screen averaging 6 feet in height for all plant materials installed at the end of a single growing season.

- (e) All required plantings shall be permanently maintained in sound, healthy growing condition and shall be replaced with new plant materials **during the first year growing**

season whenever necessary to ensure continued compliance with applicable landscaping requirements.

- (f) The building official shall be authorized to order the installation of additional plantings whenever he or she deems such additional plantings necessary to comply with the requirements of this section, and to order replacement of any vegetation removed in violation of subsection ~~(a)~~(C)(1) above.

(D) A Structural Buffer shall be installed in compliance with the following requirements:

- a. The building official shall be authorized to permit the installation of a ~~wood or masonry fence~~ structural buffer, as defined herein, in lieu of a planted buffer where because of space constraints or other reason(s) the requirement of a planted buffer would not be practical; the materials, location and dimensions of such fence must meet the following requirements and be approved by the building official.
  - (1) Structural buffers may be fences or walls constructed of wood or masonry materials of at least 6 feet in height and include plantings along its length on the residential zone side of the structural buffer. Plantings installed shall be at least 50% of those required in C (3) (d)
  - (2) Earthen berms may be constructed to a height of 6 feet and shall have slopes of a maximum of 1 foot rise in 2 horizontal feet. Thus a 6 foot high berm would have an overall minimum width of 24 feet (12 feet each side to accommodate the maximum slope. The berm shall have plant materials installed at the base of the berm and the berm itself shall be planted, or sod installed, with a permanent grass. The height of the berm may be reduced if a fence is installed along the crest of the berm, however an overall height of 6 feet must be achieved.

(E) The building official shall be authorized to waive the buffer requirement along street rights-of-way where the installation of a buffer would not be practical because of proximity to the street or where visibility at an intersection may be impaired.

(Ord. No. 1006, § 1, 11-19-2008)

## ORDINANCE XXXX

### ORDINANCE AMENDING ARTICLE XXIII OF THE ZONING CODE CHAPTER 3, SECTION 21, “BUFFER REQUIREMENTS” PROVIDING FOR REPEALING CONFLICTING CODES; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR EFFECTIVE DATE; AND FOR OTHER PURPOSES.

**NOW, THEREFORE BE IT ORDAINED**, by the City of Brunswick City Commission that Article XXIII, Chapter 3, Section 21 of the Code of Ordinances of the City of Brunswick is amended to read as follows:

#### SECTION ONE:

Sec. 23-3-21. - Buffer requirements.

Whenever any nonresidential (Agricultural, Office, Commercial, Industrial or Commercial Recreation) or Mobile Home (MH) zoning abuts a residential zoning district (other than an MH district), a buffer shall be installed and/or maintained on ~~the~~ such lot with the nonresidential or MH zoning along the entire lot line abutting the residential district. A buffer may also be required as a requirement of approval of a Conditional Use Approval by the City Commission.

(A) A buffer may be either:

(1) A Natural Buffer, defined as “a visual screen created by vegetation of such density so as to provide a visual separation between nonresidential or mobile home districts and residential districts. Wherever and whenever possible, a Natural Buffer should include all or portions of trees and shrubs existing on the site prior to development.

(2) A Structural Buffer, defines as a visual screen created by the construction of a solid fence, wall, earthen berm, or a combination of these, supplemented by vegetation to provide a visual separation between nonresidential or mobile home districts and residential districts.

(B) The width of the buffer along its lot line shall be as follows:

(1) Between Office and all Residential Zones except MH (Mobile Home) – 20 Feet

(2) Between Commercial, Commercial Recreation and Medical Zones and all Residential Zones – 25 Feet

(3) Between Industrial Zones and Residential, Commercial, Commercial Recreation and Medical Zones - 50 Feet

(C) A Natural Buffer shall be installed and/or maintained in compliance with the following requirements”

(1) Existing trees and shrubs located between the lot line and building setback line shall not be removed without the express written approval of the building official.

- (2) A buffer shall be planted with shrubs and/or trees so as to produce within one growing season a dense, compact evergreen planting screen which shall be capable of completely concealing from the residential zoning lot or district all work activities, equipment, loading and unloading, and parking within the less restrictive zoning or use and which shall be further capable of providing a visual screen of at least 75 percent of the vertical surfaces of any adjacent nonresidential structure.
- (3) A landscaping plan identifying all plants to be incorporated in a buffer strip required herein must be approved by the building official prior to any site construction. Evergreen and deciduous plantings may be used so long as the visual standards in (C) 2 are maintained year-round.
- (a) For a buffer 20 feet in width, minimum plantings shall include Overstory Trees – 2 for every 100 feet; Understory Trees – 3 for every 100 feet; Evergreen Shrubs – 8 for every 100 feet. For less than 100 feet, the quantity for each type of planting shall be pro-rated accordingly after rounding up.
  - (b) For a buffer 25 feet in width, minimum plantings shall include Overstory Trees – 3 for every 100 feet; Understory Trees – 6 for every 100 feet; Evergreen Shrubs – 10 for every 100 feet. For less than 100 feet, the quantity for each type of planting shall be pro-rated accordingly after rounding up.
  - (c) For a buffer of 50 feet in width, minimum plantings shall include Overstory Trees – 4 for every 100 feet; Understory Trees – 5 for every 100 feet; Evergreen Shrubs – 20 for every 100 feet. For less than 100 feet, the quantity for each type of planting shall be pro-rated accordingly after rounding up.
  - (d) The height of the plant material, after installed, shall be;
    - (i) For Overstory Trees (indigenous to the area) – 10 feet in height
    - (ii) For Understory Trees (indigenous to the area) – 6 feet in height
    - (iii) For Evergreen Shrubs (indigenous to the area) – 3 feet in height
- and, shall produce a visual screen averaging 6 feet in height for all plant materials installed at the end of a single growing season.
- (e) All required plantings shall be permanently maintained in sound, healthy growing condition and shall be replaced with new plant materials during the first year growing season whenever necessary to ensure continued compliance with applicable landscaping requirements.
  - (f) The building official shall be authorized to order the installation of additional plantings whenever he or she deems such additional plantings necessary to comply with the requirements of this section, and to order replacement of any vegetation removed in violation of subsection (C)(1) above.
- D) A Structural Buffer shall be installed in compliance with the following requirements:
- a. The building official shall be authorized to permit the installation of a structural buffer, as defined herein, in lieu of a planted buffer where because of space constraints or other reason(s) the requirement of a planted buffer would not be

practical; the materials, location and dimensions of such fence must meet the following requirements and be approved by the building official.

- (1) Structural buffers may be fences or walls constructed of wood or masonry materials of at least 6 feet in height and include plantings along its length on the residential zone side of the structural buffer. Plantings installed shall be at least 50% of those required in C (3) (d)
- (2) Earthen berms may be constructed to a height of 6 feet and shall have slopes of a maximum of 1 foot rise in 2 horizontal feet. Thus a 6 foot high berm would have an overall minimum width of 24 feet (12 feet each side to accommodate the maximum slope). The berm shall have plant materials installed at the base of the berm and the berm itself shall be planted, or sod installed, with a permanent grass. The height of the berm may be reduced if a fence is installed along the crest of the berm, however an overall height of 6 feet must be achieved.

(E) The building official shall be authorized to waive the buffer requirement along street rights-of-way where the installation of a buffer would not be practical because of proximity to the street or where visibility at an intersection may be impaired.

**SECTION TWO:**

If any section, clause, sentence, or phrase of this Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way affect the validity of the remaining portions of this Ordinance.

**SECTION THREE:**

This Ordinance shall be effective immediately upon its adoption by the City Commission.

**SO ORDAINED BY THE CITY COMMISSION OF BRUNSWICK THIS XX DAY OF XXXXXX, 2021.**

/s/ Cornell L. Harvey  
Cornell L. Harvey, Mayor

ATTEST: /s/ Naomi D. Atkinson  
Naomi D. Atkinson, City Clerk

## ORDINANCE 1072

### ORDINANCE AMENDING ARTICLE XXIII OF THE ZONING CODE CHAPTER 3, SECTION 21, "BUFFER REQUIREMENTS" PROVIDING FOR REPEALING CONFLICTING CODES; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR EFFECTIVE DATE; AND FOR OTHER PURPOSES.

**NOW, THEREFORE BE IT ORDAINED**, by the City of Brunswick City Commission that Article XXIII, Chapter 3, Section 21 of the Code of Ordinances of the City of Brunswick is amended to read as follows:

#### SECTION ONE:

##### **Sec. 23-3-21. - Buffer requirements.**

Whenever any nonresidential (Agricultural, Office, Commercial, Industrial or Commercial Recreation) or Mobile Home (MH) zoning abuts a residential zoning district (other than an MH district), a buffer shall be installed and/or maintained on the such lot with the nonresidential or MH zoning along the entire lot line abutting the residential district. A buffer may also be required as a requirement of approval of a Conditional Use Approval by the City Commission.

1. A buffer may be either:
  - i. A Natural Buffer, defined as "a visual screen created by vegetation of such density so as to provide a visual separation between nonresidential or mobile home districts and residential districts. Wherever and whenever possible, a Natural Buffer should include all or portions of trees and shrubs existing on the site prior to development.
  - ii. A Structural Buffer, defines as a visual screen created by the construction of a solid fence, wall, earthen berm, or a combination of these, supplemented by vegetation to provide a visual separation between nonresidential or mobile home districts and residential districts.
2. The width of the buffer along its lot line shall be as follows:
  - i. Between Office and all Residential Zones except MH (Mobile Home) – 20 Feet
  - ii. Between Commercial, Commercial Recreation and Medical Zones and all Residential Zones – 25 Feet
  - iii. Between Industrial Zones and Residential, Commercial, Commercial Recreation and Medical Zones - 50 Feet
3. A Natural Buffer shall be installed and/or maintained in compliance with the following requirements"



- i. Existing trees and shrubs located between the lot line and building setback line shall not be removed without the express written approval of the building official.
- ii. A buffer shall be planted with shrubs and/or trees so as to produce within one growing season a dense, compact evergreen planting screen which shall be capable of completely concealing from the residential zoning lot or district all work activities, equipment, loading and unloading, and parking within the less restrictive zoning or use and which shall be further capable of providing a visual screen of at least 75 percent of the vertical surfaces of any adjacent nonresidential structure.
- iii. A landscaping plan identifying all plants to be incorporated in a buffer strip required herein must be approved by the building official prior to any site construction. Evergreen and deciduous plantings may be used so long as the visual standards in (C) 2 are maintained year-round.
  - a. For a buffer 20 feet in width, minimum plantings shall include Overstory Trees – 2 for every 100 feet; Understory Trees – 3 for every 100 feet; Evergreen Shrubs – 8 for every 100 feet. For less than 100 feet, the quantity for each type of planting shall be pro-rated accordingly after rounding up.
  - b. For a buffer 25 feet in width, minimum plantings shall include Overstory Trees – 3 for every 100 feet; Understory Trees – 6 for every 100 feet; Evergreen Shrubs – 10 for every 100 feet. For less than 100 feet, the quantity for each type of planting shall be pro-rated accordingly after rounding up.
  - c. For a buffer of 50 feet in width, minimum plantings shall include Overstory Trees – 4 for every 100 feet; Understory Trees – 5 for every 100 feet; Evergreen Shrubs – 20 for every 100 feet. For less than 100 feet, the quantity for each type of planting shall be pro-rated accordingly after rounding up.
  - d. The height of the plant material, after installed, shall be;
    - A. For Overstory Trees (indigenous to the area) – 10 feet in height
    - B. For Understory Trees (indigenous to the area) – 6 feet in height
    - C. For Evergreen Shrubs (indigenous to the area) – 3 feet in heightand, shall produce a visual screen averaging 6 feet in height for all plant materials installed at the end of a single growing season.
- e. All required plantings shall be permanently maintained in sound, healthy growing condition and shall be replaced with new plant materials during the first year growing season whenever necessary to ensure continued compliance with applicable landscaping requirements.
- f. The building official shall be authorized to order the installation of additional plantings whenever he or she deems such additional plantings necessary to comply with the requirements of this section, and to order

replacement of any vegetation removed in violation of subsection (C)(1) above.

4. A Structural Buffer shall be installed in compliance with the following requirements:
  - i. The building official shall be authorized to permit the installation of a structural buffer, as defined herein, in lieu of a planted buffer where because of space constraints or other reason(s) the requirement of a planted buffer would not be practical; the materials, location and dimensions of such fence must meet the following requirements and be approved by the building official.
    - a. Structural buffers may be fences or walls constructed of wood or masonry materials of at least 6 feet in height and include plantings along its length on the residential zone side of the structural buffer. Plantings installed shall be at least 50% of those required in C (3) (d)
    - b. Earthen berms may be constructed to a height of 6 feet and shall have slopes of a maximum of 1 foot rise in 2 horizontal feet. Thus a 6 foot high berm would have an overall minimum width of 24 feet (12 feet each side to accommodate the maximum slope). The berm shall have plant materials installed at the base of the berm and the berm itself shall be planted, or sod installed, with a permanent grass. The height of the berm may be reduced if a fence is installed along the crest of the berm, however an overall height of 6 feet must be achieved.
5. The building official shall be authorized to waive the buffer requirement along street rights-of-way where the installation of a buffer would not be practical because of proximity to the street or where visibility at an intersection may be impaired.

#### SECTION TWO:

If any section, clause, sentence, or phrase of this Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way affect the validity of the remaining portions of this Ordinance.

#### SECTION THREE:

This Ordinance shall be effective immediately upon its adoption by the City Commission.

**SO ORDAINED BY THE CITY COMMISSION OF BRUNSWICK THIS 16th DAY OF JUNE, 2021.**

/s/ Cornell L. Harvey  
Cornell L. Harvey, Mayor

ATTEST: /s/ Naomi D. Atkinson  
Naomi D. Atkinson, City Clerk