

COUNTY COUNCIL

MICHAEL H. VINCENT, PRESIDENT
IRWIN G. BURTON III, VICE PRESIDENT
DOUGLAS B. HUDSON
JOHN L. RIELEY
SAMUEL R. WILSON JR.



Sussex County

DELAWARE
sussexcountyde.gov
(302) 855-7743 T
(302) 855-7749 F

SUSSEX COUNTY COUNCIL

A G E N D A

MARCH 17, 2020

10:00 A.M.

Call to Order

Approval of Agenda

Approval of Minutes

Reading of Correspondence

Public Comments

Todd Lawson, County Administrator

1. Administrator's Report

Karen Brewington, Human Resources Director

1. Pharmacy Cost Review and Recommendation

Michael Costello, Government Affairs Manager

1. Update - Memorandum of Understanding with Department of Corrections and DelDOT for Litter Collection

Hans Medlarz, County Engineer

1. 2019 Delaware Coastal Airport & Business Park Property Maintenance RFP
 - A. Sussex Conservation District – Ditch Bank Clearing/Mowing Services Renewal
2. Bulk Delivery of Sodium Hypochlorite, Project M20-29
 - A. Recommendation to Award



3. North Coastal Planning Area - WRA Associates, Inc. Contract
 - A. Amendment No. 15 and Approval of Agricultural Spray Agreement
4. Black Creek Cove Road Swale Remediation
 - A. Melvin L. Joseph Construction Co., Inc. - Assumption of Select Contract Items
5. Piney Neck Regional Wastewater Facility
 - A. Diversion Transmission System Standalone EJCDC Engineering Agreement

Patrick Brown, Project Engineer III

1. Professional Aeronautical Consultant Services, RFQ 20-27
 - A. Recommendation to Award Professional Services Contract
2. New Road Estates, Chapter 96 Sussex Community Improvements
 - A. Project Referendum Resolution

John Ashman, Director of Utility Planning

1. Use of Existing Infrastructure Agreements
 - A. Coastal Tide/Arbors of Cottagedale – Coastal Tide Partners, LLC
 - B. Sycamore Chase – Charter Oak Development, LLC

Old Business

Conditional Use No. 2203 filed on behalf of Christopher F. Booth

“AN ORDINANCE TO GRANT A CONDITIONAL USE OF LAND IN AN AR-1 AGRICULTURAL RESIDENTIAL DISTRICT FOR A TREE AND LANDSCAPING BUSINESS TO BE LOCATED ON A CERTAIN PARCEL OF LAND LYING AND BEING IN DAGSBORO HUNDRED, SUSSEX COUNTY, CONTAINING 1.227 ACRES, MORE OR LESS” (lying on the north side of Omar Road, approximately 0.36 mile west of Armory Road) (Tax I.D. No. 433-7.00-13.01) (911 Address: 30725 Omar Road, Frankford)

Change of Zone No. 1900 filed on behalf of Michael P. Justice, Trustee

“AN ORDINANCE TO AMEND THE COMPREHENSIVE ZONING MAP OF SUSSEX COUNTY FROM A GR GENERAL RESIDENTIAL DISTRICT TO A GR-RPC GENERAL RESIDENTIAL DISTRICT – RESIDENTIAL PLANNED COMMUNITY FOR A CERTAIN PARCEL OF LAND LYING

AND BEING IN BALTIMORE HUNDRED, SUSSEX COUNTY, CONTAINING 16.1 ACRES, MORE OR LESS” (lying on the west side of Parker House Road, approximately 0.35 mile south of Beaver Dam Road) (Tax I.D. No. 134-16.00-51.00) (911 Address: None Available)

Grant Requests

1. First State Community Action Agency for Equity Summit expenses
2. The Coming Edge for Youth Empowerment Program
3. Trinity Foundation for Annual Heart & Sole 5K fundraiser
4. Cape Henlopen Senior Center for Rehoboth Concert Band fundraiser
5. Ocean Waves Quilt Guild for Art/Quilt Show fundraiser
6. Greater Lewes Foundation for Lewes in Bloom Children’s Learning Garden

Introduction of Proposed Zoning Ordinances

Council Members’ Comments

11:30 a.m. – Luncheon and discussion with the Sussex Conservation District

Location: Sussex County Association of Realtors Office, Georgetown

1:30 p.m. Public Hearing

Conditional Use No. 2211 filed on behalf of Indian River School District

“AN ORDINANCE TO GRANT A CONDITIONAL USE OF LAND IN AN AR-1 AGRICULTURAL RESIDENTIAL DISTRICT FOR A SPECIAL NEEDS SCHOOL TO BE LOCATED ON A CERTAIN PARCEL OF LAND LYING AND BEING IN DAGSBORO HUNDRED, SUSSEX COUNTY, CONTAINING 32.43 ACRES, MORE OR LESS” (lying on the east side of Patriots Way approximately 0.73 mile south of Zoar Road) (Tax I.D. No. 133-7.00-8.01) (911 Address: None Available)

Executive Session – Pending Litigation and Land Acquisition pursuant to 29 Del.C.§10004(b)

Possible Action on Executive Session Items

Adjourn

Sussex County Council meetings can be monitored on the internet at www.sussexcountysde.gov.

In accordance with 29 Del.C. §10004(e)(2), this Agenda was posted on March 10, 2020 at 4:15 p.m., and at least seven (7) days in advance of the meeting.

This Agenda was prepared by the County Administrator and is subject to change to include the addition or deletion of items, including Executive Sessions, which arise at the time of the Meeting.

Agenda items may be considered out of sequence.

#

PLANNING & ZONING COMMISSION

ROBERT C. WHEATLEY, CHAIRMAN
KIM HOEY STEVENSON, VICE-CHAIRMAN
R. KELLER HOPKINS
J. BRUCE MEARS
HOLLY J. WINGATE



Sussex County

DELAWARE
sussexcountyde.gov
302-855-7878 T
302-854-5079 F
JANELLE CORNWELL, AICP
DIRECTOR

PLANNING AND ZONING AND COUNTY COUNCIL INFORMATION SHEET

Planning Commission Public Hearing Date February 13, 2020.

Application: (CU 2211) Indian River School District

Applicant: Indian River School District C/O Joseph Booth
31 West Hosier Street
Selbyville, DE 19975

Owner: Indian River School District
31 West Hosier Street
Selbyville, DE 19975

Site Location: Located on the west side of Patriots Way (S.C.R. 318) approximately
0.74 miles south of Zoar Road (S.C.R. 48).

Current Zoning: Agricultural Residential (AR-1)

Proposed Use: Special Needs School

Comprehensive Land
Use Plan Reference: Low Density Area

Councilmatic
District: Mr. Wilson

School District: Indian River School District

Fire District: Millsboro Fire District

Sewer: Town of Georgetown

Water: Private, On-Site

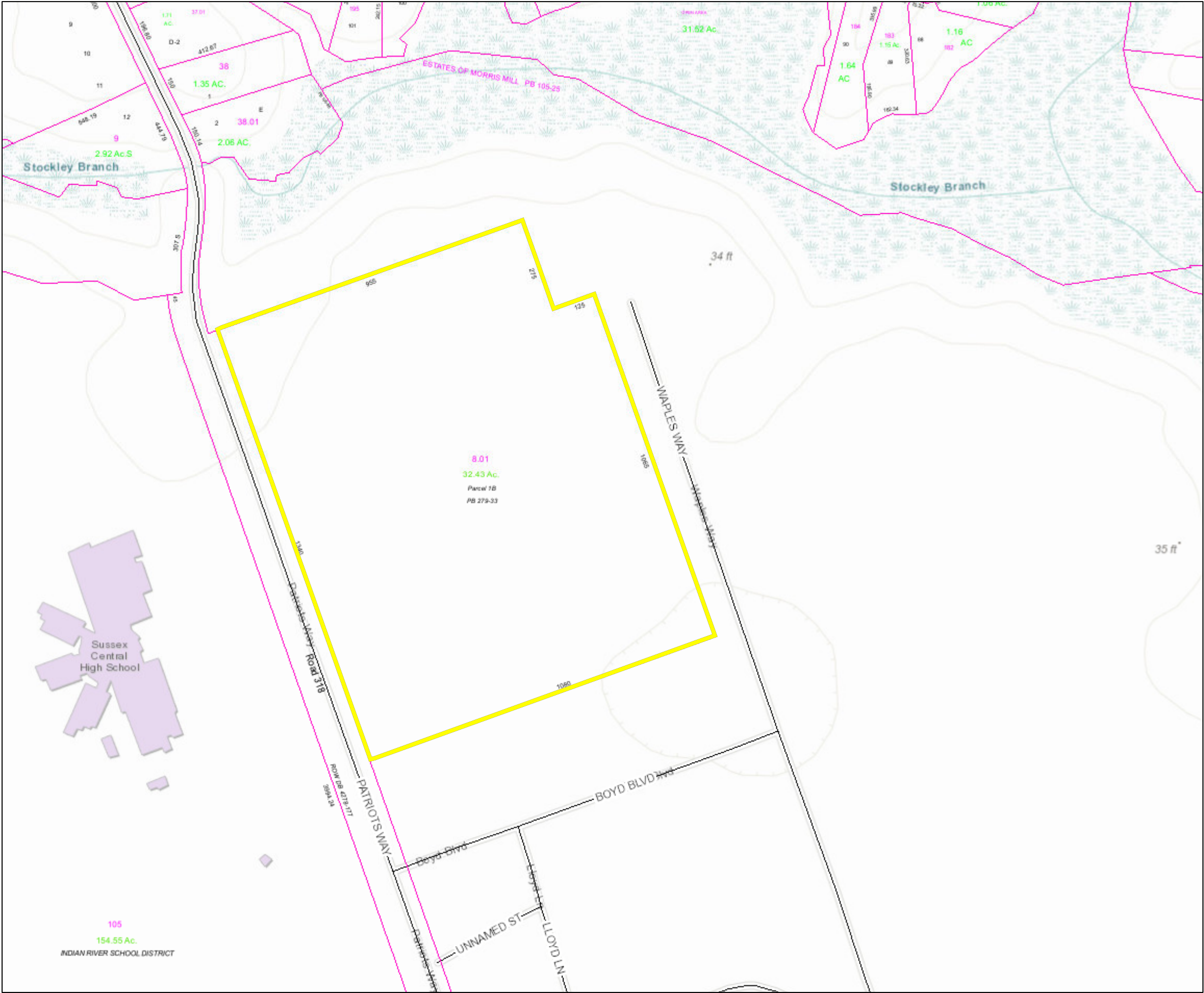
Site Area: 32.43 acres +/-

Tax Map ID.: 133-7.00-8.01





Sussex County



PIN:	133-7.00-8.01	
Owner Name	INDIAN RIVER SCHOOL DISTRICT	
Book	5076	
Mailing Address	31 W HOSIER ST	
City	SELBYVILLE	
State	DE	
Description	188000	
Description 2	RT 318	
Description 3	RT 86	
Land Code		

polygonLayer

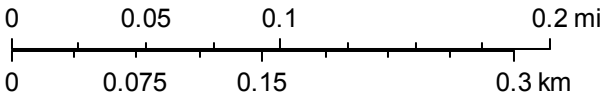
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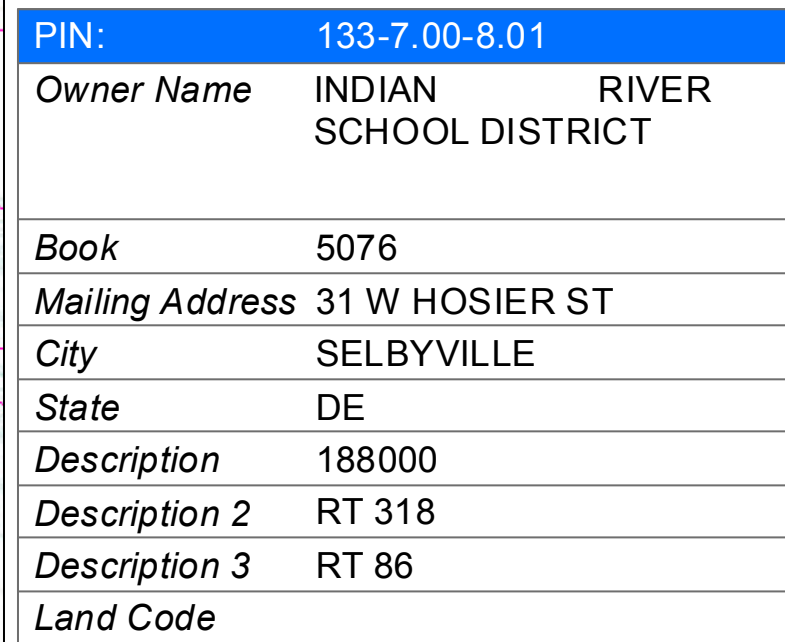
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Override 1

- Tax Parcels
- Streets
- County Boundaries

1:4,514





Override 1

Override 1

— Streets

— Streets

A horizontal scale bar with two rows of markings. The top row is labeled in miles (mi) with major ticks at 0, 0.05, 0.1, and 0.2. The bottom row is labeled in kilometers (km) with major ticks at 0, 0.075, 0.15, and 0.3. The bar is divided into segments by vertical tick marks.

Mailing List Exhibit Map
Planning Commission
CU 2211 Indian River School District
133-7.00-8.01

Indian River School District C/O Joseph Booth
31 West Hosier Street
Selbyville, DE 19975

On the west side of Patriots Way (S.C.R. 318), 0.73 miles south of Zoar Road (S.C.R.





Memorandum

To: Sussex County Planning Commission Members

From: Jennifer Norwood, Planner I

CC: Vince Robertson, Assistant County Attorney and applicant

Date: February 5, 2020

RE: Staff Analysis for CU 2211 Indian River School District

This memo is to provide background and analysis for the Planning Commission to consider as a part of application CU 2211 Indian River School District to be reviewed during the February 13, 2020 Planning Commission Meeting. This analysis should be included in the record of this application and is subject to comments and information that may be presented during the public hearing.

The request is for a Conditional Use for parcel 133-7.00-8.01 to allow for a special needs school. The size of the property is 32.43 ac. +/- The property is zoned AR-1 (Agricultural Residential Zoning District) and located west of Patriot's Way approximately 0.73 mile south of Zoar Rd.

The 2018 Sussex County Comprehensive Plan Update (Comprehensive Plan) provides a framework for how land is to be developed. As part of the Comprehensive Plan a Future Land Use Map is included to help determine how land should be zoned to ensure responsible development. The Future Land Use map in the plan indicates that the property has the land use designation of Low-Density Area.

The surrounding parcels to the north, east, and south are all designated on the Future Land Use Map as "Low Density Area". The properties to the west have the land use designation of "Commercial Area", "Developing Area", and "Municipalities". The Low-Density Area land use designation recognizes are agricultural activities and homes. Business development should be largely confined to businesses addressing the needs of these two uses. Institutional and commercial uses may be appropriate depending on surrounding uses. The Developing Area land use designation recognizes a range of single-family homes, townhouses, and multi-family units. Careful mixtures of homes with light commercial and institutional uses can be appropriate to provide convenient services and to allow people to work close to home.

The property is zoned AR-1 (Agricultural Residential Zoning District). The adjoining and surrounding properties to the north, south, east and west are all zoned AR-1 (Agricultural Residential Zoning District).

There was a Conditional Use 1408 for a public school on a parcel zoned AR-1 (Agricultural Residential District), which was approved on July 24, 2001 to the west of the application site.

Based on the analysis of the land use, surrounding zoning and uses, the Conditional Use to allow for



a special needs school could be considered consistent with the land use, area zoning and surrounding uses.

Staff notes the conceptual site plan shows a proposed 94,500 square foot building, however, the Service Level Evaluation Response received is based on a 157,000 square foot special needs school. The increase in square footage is due to the potential future building additions that are shown on the site plan. For the purpose of the Traffic Operational Analysis, the maximum square footage possible is being used.

File #: C118211
201913093

Planning & Zoning Commission Application
Sussex County, Delaware

Sussex County Planning & Zoning Department
2 The Circle (P.O. Box 417) Georgetown, DE 19947
302-855-7878 ph. 302-854-5079 fax

Type of Application: (please check applicable)

Conditional Use ☒

Zoning Map Amendment ☐

Site Address of Conditional Use/Zoning Map Amendment

26351 Patriots Way Georgetown, Delaware 19947

Type of Conditional Use Requested:

The permittance of a Public Special Needs School in the AR-1 District.

Tax Map #: 133-7.00-8.01

Size of Parcel(s): 32.43± acres

Current Zoning: AR-1

Proposed Zoning: AR-1

Size of Building: 149,661± SF

Land Use Classification: Institutional

Water Provider: On site well

Sewer Provider: Town of Georgetown

Applicant Information

Applicant Name: Indian River School District C/O Joseph Booth

Applicant Address: 31 West Hosier Street

City: Selbyville

State: DE

Zip Code: 19975

Phone #: (302) 436-1000

E-mail: joseph.booth@irsd.k12.de.us

Owner Information

Owner Name: Indian River School District C/O Joseph Booth

Owner Address: 31 West Hosier Street

City: Selbyville

State: DE

Zip Code: 19975

Phone #: (302) 436-1000

E-mail: "

Agent/Attorney/Engineer Information

Agent/Attorney/Engineer Name: CDA Engineering, Inc - Colmcille DeAscanis

Agent/Attorney/Engineer Address: 6 Larch Avenue, Suite 401

City: Wilmington

State: DE

Zip Code: 19804

Phone #: (302) 998-9202

E-mail: cdeascanis@cdaengineering.com



Check List for Sussex County Planning & Zoning Applications

The following shall be submitted with the application

- ☒ Completed Application
- ☒ Provide eight (8) copies of the Site Plan or Survey of the property
 - Survey shall show the location of existing or proposed building(s), building setbacks, parking area, proposed entrance location, etc.
 - Provide a PDF of Plans (may be e-mailed to a staff member)
 - Deed or Legal description
- ☒ Provide Fee \$500.00
- ☒ Optional - Additional information for the Commission/Council to consider (ex. architectural elevations, photos, exhibit books, etc.) If provided submit 8 copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.
- ☒ Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.
- ☒ DeIDOT Service Level Evaluation Request Response
- ☐ PLUS Response Letter (if required)

The undersigned hereby certifies that the forms, exhibits, and statements contained in any papers or plans submitted as a part of this application are true and correct.

I also certify that I or an agent on my behalf shall attend all public hearing before the Planning and Zoning Commission and the Sussex County Council and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future needs, the health, safety, morals, convenience, order, prosperity, and general welfare of the inhabitants of Sussex County, Delaware.

Signature of Applicant/Agent/Attorney

Charles DePaolis

Date: 11/22/19

Signature of Owner

Joseph W. Borch Indian River
School District

Date: 11-25-19

For office use only:

Date Submitted: 11/26/19

Staff accepting application: cel

Location of property: _____

Fee: \$500.00 Check #: 5246

Application & Case #: 201913693

Subdivision: _____

Date of PC Hearing: _____

Date of CC Hearing: _____

Recommendation of PC Commission: _____

Decision of CC: _____



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. Box 778
DOVER, DELAWARE 19903

JENNIFER COHAN
SECRETARY

February 7, 2020

Mr. Jamie Whitehouse, Acting Director
Sussex County Planning & Zoning
P.O. Box 417
Georgetown, DE 19947

Dear Mr. Whitehouse:

The Department has completed its review of a Service Level Evaluation Request for the **Indian River School District** conditional use application, which we received on February 6, 2020. This application is for an approximately 32.43-acre parcel (Tax Parcel: 133-7.00-8.01). The subject land is located on the east side of Patriots Way (Sussex Road 318), directly opposite the Sussex Central High School, south of Georgetown. The subject land is currently zoned AR-1 (Agricultural Residential), and the applicant is seeking a conditional use approval to develop a 157,000 square-foot special needs school.

Per the 2018 Delaware Vehicle Volume Summary, the annual average daily traffic volume along the segment of Patriots Way where the subject land is located is 2,913 vehicles per day.

Based on our review, we estimate that the proposed land use will generate more than 50 vehicle trips per a weekly peak hour or 500 vehicle trips per day and would be considered to have a Minor impact to the local area roadways. In this instance, the Department considers a Minor impact to be when a proposed land use would generate more than either 50 vehicle trips per a weekly peak hour and / or 500 vehicle trips per day but fewer than 200 vehicle trips per a weekly peak hour and 2,000 vehicle trips per day. Because of this impact, we recommend that the applicant be required to perform a Traffic Impact Study (TIS) for the subject application. However, our Development Coordination Manual provides that where a TIS is required only because the volume warrants are met, and the projected trip generation will be fewer than 200 vehicle trips per a weekly peak hour and fewer than 2,000 vehicle trips per day, DelDOT may permit the developer to pay an Area-Wide Study Fee of \$10 per daily trip in lieu of doing a TIS. For this application, if the County were agreeable, we would permit the developer to pay an Area-wide Study Fee.

Based on our review of site-specific data provided by the applicant, the proposed 157,000 square-foot special needs school would generate 420 vehicle trips per day, 199



vehicle trips during the morning peak hour, and 158 vehicle trips during the evening peak hour. As stated above, because this development would generate fewer than 2,000 vehicle trips per day and fewer than 200 vehicle trips during a weekly peak hour, the applicant has the option to pay the Area-Wide Study Fee in lieu of doing a TIS. The Area-Wide Study Fee for the proposed development would be \$4,200.00. Payment of the Area-Wide Study Fee does not preclude a developer from having to make or participate in off-site improvements including a Traffic Operational Analysis (TOA) if one is found to be necessary.

On September 12, 2019, the applicant's consultant met with DelDOT to conduct a TOA scoping meeting for the subject development. In our TOA scope of work memorandum, issued October 14, 2019, DelDOT identified the facilities where analysis would be required. A copy of the scope of work memorandum is enclosed with this letter.

If the County approves this application, the applicant should be reminded that DelDOT requires compliance with State regulations regarding plan approvals and entrance permits, whether or not a TIS is required.

Please contact Mr. Claudy Joinville, at (302) 760-2124, if you have questions concerning this correspondence.

Sincerely,



T. William Brockenbrough, Jr.
County Coordinator
Development Coordination

TWB:cjm
Enclosure

cc: Constance C. Holland, Coordinator, Cabinet Committee on State Planning Issues
Indian River School District, Applicant
J. Marc Coté, Assistant Director, Development Coordination
Gemez Norwood, South District Public Works Manager, Maintenance and Operations
Susanne Laws, Sussex County Subdivision Coordinator, Development Coordination
Derek Sapp, Subdivision Manager, Development Coordination
Kevin Hickman, Subdivision Manager, Development Coordination
Brian Yates, Subdivision Manager, Development Coordination
John Andrescavage, Subdivision Manager, Development Coordination
James Argo, South District Project Reviewer, Maintenance & Operations
Troy Brestel, Project Engineer, Development Coordination
Claudy Joinville, Project Engineer, Development Coordination



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. Box 778
DOVER, DELAWARE 19903

JENNIFER COHAN
SECRETARY

MEMORANDUM

TO: File

FROM: Claudy Joinville, Project Engineer *C.J.*

DATE: October 14, 2019

**SUBJECT: Howard T. Ennis School
Traffic Operational Analysis (TOA) - Scoping Meeting (9/12/19)
Scope of Work**

ATTENDANCE: Janelle Cornwell, Sussex County Planning and Zoning (via skype)
Colmcille DeAscanis, CDA Engineering, Inc. (via skype)
Zak Kerstetter, CDA Engineering, Inc.
Eric Ostimchuk, Traffic Planning & Design (TPD)
Ken Fearn, Fearn Clendaniel Architects
Peter Haag, DelDOT Traffic (via skype)
Marc Coté, DelDOT Planning
Susanne Laws, DelDOT Planning
John Andrescavage, DelDOT Planning
T. William Brockenbrough, Jr., DelDOT Planning
Claudy Joinville, DelDOT Planning

Background and Discussion

Indian River School District seeks to develop a 157,000 square-foot Special Needs school on an approximately 32.43-acre parcel (Tax Parcel: 133-7.00-8.01). The land is located on the east side of Patriots Way (Sussex Road 318), directly opposite the Sussex Central High School, south of Georgetown. The land is currently zoned as AR-1 (Agricultural Residential), and the developer does not plan to rezone the land.

One full access point is proposed along Patriots Way. Construction is anticipated to be complete in 2022.

Cases to be Evaluated

The study shall evaluate the weekday morning and weekday evening peak hours for the following situations:

- 1) Existing (2019);
- 2) 2022 without development; and
- 3) 2022 with development.

Facilities to be Evaluated

The TOA should evaluate conditions at the following intersections for capacity and level of service using the Highway Capacity Software (HCS). It should also evaluate the extent to which they meet the relevant DelDOT, AASHTO and MUTCD standards for geometry and traffic control devices.

- 1) Patriots Way (Sussex Road 318) / Site Entrance / Sussex Central High School Entrance (center)
- 2) Patriots Way / Sussex Central High School Entrance (north)
- 3) Patriots Way / Sussex Central High School Entrance (south)

Traffic Counts

The Consultant should conduct traffic counts for the intersections listed above from 7:00 a.m. to 9:00 a.m. and from 2:00 p.m. to 4:00 p.m., on a Tuesday, Wednesday or Thursday to determine when the peaks occur. The weekday traffic counts should be performed during a time when schools are open and operating at a normal capacity.

Additionally, an Automatic Traffic Recorder (ATR) should be used to collect traffic data on Patriots Way south of the south high school entrance. The ATR should be placed for a one-week time period that includes the date(s) of the manual traffic counts. The ATR data will be used to verify the manual counts and determine whether adjustments are required.

Section 2.2.8.5, item 19, under Existing Traffic and Transportation Conditions in the Development Coordination Manual, addresses how oversaturated intersections are to be counted.

The traffic counts should be submitted to DelDOT both electronically as Portable Document Format (PDF)/Excel files and as draft report figures showing peak hour volumes (labeled with date and peak hour interval) posted on diagrams of the road network.

The Consultant should include counts of pedestrians, a separate count of right-turn on red (in addition to right-turn movement counts), and a separate count of heavy vehicles.

The Consultant should be alert for events affecting the traffic counts, such as accidents or nearby construction and shall make note of any such events when submitting the counts. As necessary, DelDOT reserves the right to reject the counts or require adjustments to them.

Trip Generation

DelDOT is agreeable to the Consultant's use of historical and site specific data to calculate the trips for the proposed school.

Trip Distribution

A trip distribution to be used for the site were developed using DelDOT's Travel Demand Model and is attached. School bus and parent traffic should reflect the school's feeder patterns as the model distribution only applies to staff traffic.

Future Growth

The Consultant shall apply growth factors to the traffic counts. DelDOT will develop those factors after we receive the Consultant's traffic counts.

Pedestrian Traffic Analysis

The Consultant shall complete a pedestrian crossing analysis using NCHRP 562. The analysis should evaluate multiple crossing scenarios, such as, but not limited to, a single crossing and a two-stage crossing with a median refuge island. In addition, the analysis should assume the pedestrian volume has met the NCHRP threshold. For more guidance on this analysis, the Consultant shall contact Peter Haag, Traffic Studies Manager of DelDOT's Traffic Section. Mr. Haag may be reached at (302) 659-4084.

Highway Capacity Software & Synchro

The Consultant shall use the most recent version of the Highway Capacity Software (HCS) that implements the 6th Edition of the Highway Capacity Manual (HCM). Presently, that is HCS7.

In addition, the Consultant shall use Synchro to conduct 15-minute analysis periods to accurately model the peak traffic volumes associated with the Sussex Central High School opposite the proposed school.

Seasonal Adjustment Factors for the roads in the study area are as follows:

Roads	September	October	November
Patriots Way (Sussex Road 318)	0.96	0.95	0.98
All Other Roads	1.00	1.00	1.00

DelDOT Projects

Currently, DelDOT has no active projects within the study area.

Transit, Bicycle, and Pedestrian Facilities

The study should describe the existing and proposed transit service in the project area and should also describe the existing and needed transit, bicycle, and pedestrian facilities on or near the project site. In determining these items, the Consultant shall contact Mr. David Dooley, a Service Development Planner at the Delaware Transit Corporation (DTC), and Mr. Anthony Aglio, of DelDOT's Local Systems Section. Mr. Dooley may be reached at (302) 576-6064. Mr. Aglio may be reached at (302) 760-2509.

General Notes

- 1) All submissions relating to this study should be made electronically via the Planning and Development Coordination Application (PDCA), preferably in Portable Document Format (PDF).
- 2) The Consultant should e-mail DelDOT's Transportation Management Center (TMC) at tmc1@delaware.gov to obtain advance approval for the use of any signal timings.
- 3) Before deploying temporary unmanned devices, e.g. cameras or radar detectors, in the State-maintained right-of-way, the individual or company proposing to do so shall execute and file a Right-of-Way Use Agreement. Before each specific deployment of devices, the individual or company shall email a completed Temporary Data Collection Device Notification Form to TMC1@delaware.gov. Deployment of Automatic Traffic Recorders, a.k.a. tube counters, and devices on portable trailers does not require a Right-of-Way Use Agreement but does require submission of the Temporary Data Collection Device Notification Form. Copies of the standard agreement and the form are available from Ms. Lara Brown at (302) 659-4062 or Lara.Brown@delaware.gov.
- 4) The Consultant should refer to the attached memorandum from Scott Neidert of DelDOT's Traffic Section for guidance regarding requests for crash data within the study area. The Consultant shall report on this data and make recommendations for improvements if safety problems exist in the study area. Mr. Neidert may be reached at (302) 659-4075.

Memorandum to File
October 14, 2019
Page 5 of 5

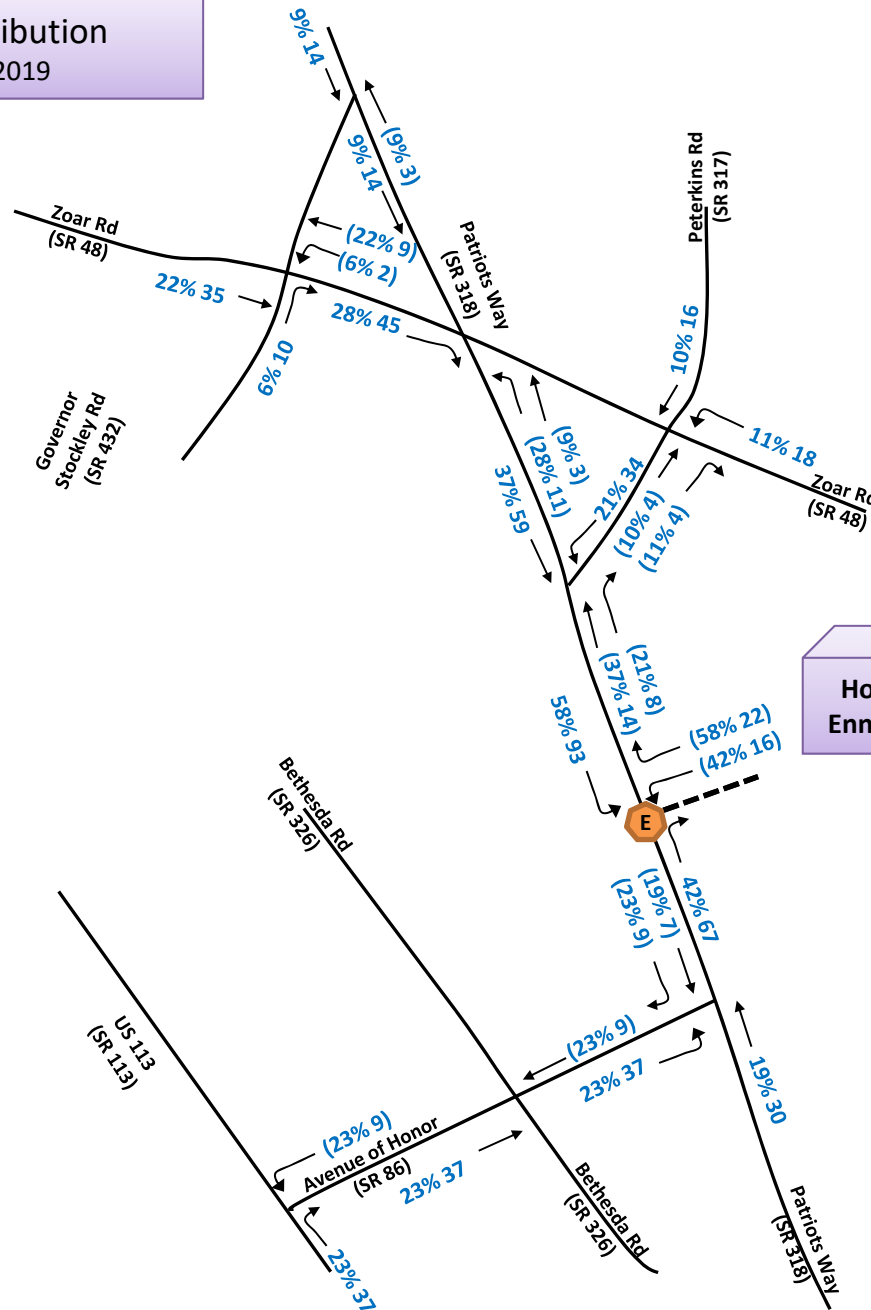
- 5) Both DelDOT and Sussex County reserve the right to change this scope of work if the study is not performed within a reasonable time.
- 6) The developer may choose to have DelDOT's Consultant perform the TOA rather than use their own Consultant. If this option is of interest, the developer should contact Mr. Troy Brestel at (302) 760-2167 to request a cost estimate.
- 7) By copy of this memorandum I ask those copied to contact me at (302) 760-2124 regarding any significant errors or omissions.

CJ:cjm
Enclosure

cc: Drew Boyce, Director, Planning
Joseph Booth, Indian River School District
Michael Simmons, Assistant Director for Project Development South, DOTS
Alastair Probert, South District Engineer, DOTS
Gemez Norwood, South District Public Works Supervisor, DOTS
William Kirsch, South District Permit Supervisor, DOTS
Mark Whiteside, Project Manager, Project Development – South, DOTS
Scott Neidert, Design Resource Engineer, Traffic Section
Mark Buckalew, Traffic Safety Engineer, DelDOT Traffic
David Dooley, Service Development Planner, Delaware Transit Corporation
Anthony Aglio, Planning Supervisor, Local Systems
Lara Brown, Administrative Specialist, DelDOT Traffic DOTS
Kari Glanden, Statistical Information Supervisor, DelDOT Traffic, DOTS
Mark Galipo, Traffic Engineer, DelDOT Traffic, DOTS
Andrew Parker, McCormick & Taylor, Inc.
Mir Wahed, Johnson, Mirmiran, & Thompson, Inc.

AM Peak Distribution October 14, 2019

Howard T. Ennis School			
157,000 SF / 235-student Special Needs School (Site Data)			
Trip Generation			
	Total	IN	OUT
ADT	420	210	210
AM	207	161	38



**Howard T.
Ennis School**

Legend	
	State-maintained road
	Site Entrance
	Traffic lost / gained before intersections
	State-maintained Intersections
	Inbound Trips
	Outbound Trips



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. Box 778
DOVER, DELAWARE 19903

JENNIFER COHAN
SECRETARY

TO: Requestors of Crash Data via DelDOT's Development Coordination Process

FROM: Scott Neidert, Design Resource Engineer, Traffic Section

DATE: September 5, 2019

SUBJECT: Revisions to Crash Data Requests and Releases

As of July 23, 2019, Governor Carney has signed SB 147 into law containing amendments to the release of crash data, namely permitting DelDOT to release certain de-identified data based on the nature of the requestor. Specifically, newly enacted 21 *Del. C.* §313(c)(1) provides that:

"The Department of Transportation may provide the information under this subsection if the person requesting the information provides proof of identity and a sworn representation that the data will be strictly used for any of the following purposes:

- a. To comply with federal, State, or local law or regulations.*
- b. By a municipality or municipal planning organization in carrying out official functions."*

To conform with the "proof of identity and... sworn representation..." clause, requestors will be required to complete an online crash data request as well as provide a notarized release form to be submitted with each crash request prior to being processed. A link to the release form is provided within the online crash request.

Effective immediately, all requests for crash data, when required, must be made at:
<https://tmc.deldot.gov/tmcx/app/crashdata/public/info.html>

Requests for crash data will not be processed until all required fields are completed, and the release form has been completed and received.

SN

cc: Nicole Majeski, Deputy Secretary
Shanté Hastings, Chief Engineer
Drew Boyce, Director, Planning
Annie Cordo, Deputy Attorney General
Mark Luszcz, Deputy Director, Division of Transportation Solutions
Kari Glanden Thompson, Statistical Information Supervisor, Traffic Section



January 17, 2020

TPD# CDAE.00008



TRAFFIC PLANNING AND DESIGN, INC.



Howard T. Ennis School

Traffic Operational Analysis

Georgetown, Sussex County, Delaware

For Submission To:

DeIDOT

HOWARD T. ENNIS SCHOOL DEVELOPMENT TRAFFIC OPERATIONAL ANALYSIS

Georgetown, Sussex County, Delaware

Prepared For:

CDA Engineering, Inc.

6 Larch Avenue, Suite 401
Wilmington, DE 19804

January 17, 2020

TPD # CDAE.00008



TRAFFIC PLANNING AND DESIGN, INC.

Prepared By:

Traffic Planning and Design, Inc.

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EXECUTIVE SUMMARY

The purpose of this study is to examine the potential traffic impact associated with the proposed Howard T. Ennis School on the roadway network in Georgetown, Sussex County, Delaware. Based on this evaluation, the following conclusions were reached:

1. The project scope and the extent of the study area were based on the Scoping Memo issued by DelDOT on 10/14/2019. The study area intersections included in this TIS are as follows:
 - » Patriots Way (Sussex Road 318) and Sussex Central High School Entrance (north)
 - » Patriots Way (Sussex Road 318) and Sussex Central High School Entrance (center)
 - » Patriots Way (Sussex Road 318) and Sussex Central High School Entrance (south)
2. The project site is located on the east side of Patriots way, north of Boyd Boulevard and opposite the existing Sussex Central High School. The proposed site will consist of a 157,000 square foot (s.f.) special needs school;
3. Access to the site is proposed via one full-access driveway to Patriots Way, opposite the existing Sussex Central School Driveway (center).
4. All proposed driveway location sight distances will exceed AASHTO's Safe Stopping Sight Distance (SSSD) criteria.
5. Upon full build-out, the proposed development is expected to generate 199 new vehicle-trips during the weekday A.M. peak hour, and 158 new vehicle-trips during the weekday P.M. peak hour.
6. Under the 2022 projected conditions, with implementation of the site-related recommendations, all approaches and turning movements at the site driveway intersection with the external roadway network will operate at LOS C or better during weekday A.M. and P.M. peak hours.
7. All overall intersection levels of service (ILOS) will operate at an ILOS A during the 2022 projected condition scenarios.
8. Traffic Planning and Design Inc. (TPD) recommends the following roadway improvements as outlined at the study area intersections:

Patriots Way & Proposed Site Driveway

- » Provide a stop sign to control exiting traffic
 - » Construct a 225-foot southbound left turn lane within the existing painted median
 - » Consider installation of a painted crosswalk between the proposed Howard T. Ennis School driveway and the existing Sussex Central High School driveway (center)
9. Levels of Service (LOS) for the study area intersections have been summarized in matrix form. **Table I** details the overall intersection LOS for each study area intersection.

TABLE I
OVERALL INTERSECTION LEVEL OF SERVICE SUMMARY

Intersection	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
	Existing	2023 Conditions		Existing	2023 Conditions	
		Base	Projected		Base	Projected
Patriots Way & Sussex Central High School Driveway (north)	A (7.4)	A (7.6)	A (7.4)	A (8.6)	A (8.7)	A (8.2)
Patriots Way & Sussex Central High School Driveway (center)	A (1.3)	A (1.2)	A (3.1)	A (0.4)	A (0.3)	A (5.2)
Patriots Way & Sussex Central High School Driveway (south)	A (5.5)	A (5.5)	A (4.8)	A (8.1)	A (8.1)	A (7.9)

Base = No-Build scenario

Projected = Build scenario

INTRODUCTION

Traffic Planning and Design, Inc. (TPD) has completed a Transportation Impact Study (TIS) for the proposed Howard T. Ennis School in Georgetown, Sussex County, Delaware. As shown in **Figure 1**, the proposed development is located on the east side of Patriots way, north of Boyd Boulevard and opposite the existing Sussex Central High School. As shown in **Figure 2**, the proposed site will consist of a 157,000 square foot (s.f.) special needs school.

The project scope and the extent of the study area were confirmed with representatives of DelDOT through the scoping process. All relevant correspondence pertaining to this project has been included in **Appendix A**.

Site Access Locations

The proposed site will be served by one full-access driveway to Patriots Way, opposite the existing Sussex Central School Center Driveway

EXISTING ROADWAY NETWORK

A field review of the existing roadway system in the study area was conducted. The existing roadway characteristics within the study area are summarized in **Table 1**. Photographs of the study area intersections are included in **Appendix B**.

TABLE 1
ROADWAY CHARACTERISTICS WITHIN STUDY AREA

Roadway	Ownership	Functional Classification/ Roadway Type	Predominant Directional Orientation	Average Daily Traffic	Posted Speed Limit
Patriots Way	County (Road 318)	Local	North-South	2,913	25/35 mph ¹

¹School zone speed limit = 20 mph

Transit, Bicycle and Pedestrian Facilities

There is no mass transit provided in Georgetown, Sussex County, Delaware. Based on observations during field visits at the study area intersections, there are no pedestrian accommodations present in the vicinity of the proposed development. A bike lane is provided southbound on Patriots Way. A paved shoulder on the east side of Patriots Way accommodates pedestrian and bicycle activity traveling north.

TPD reached out to Mr. David Dooley and Mr. Anthony Aglio regarding existing, proposed and needed transit services, bicycle and pedestrian facilities in the area but has not received a response.

Crash Data Investigation

Crash data were obtained from DelDOT for the study area intersections for the three-year time period beginning 12/20/2016 and ending 12/20/2019. The number of crashes at the study area intersections is shown in **Table 2**.

TABLE 2
DELDOT CRASH DATA

Study Area Intersection	Number of Reportable Crashes		
	2017	2018	2019
Patriots Way & Central High School Driveway (north)	1	2	1
Patriots Way & Central High School Driveway (center)	1	0	0
Patriots Way & Central High School Driveway (south)	0	0	0

EXISTING TRAFFIC CONDITIONS

Manual Turning Movement Counts

Manual traffic counts were conducted on 15-minute intervals during the weekday morning (7:00 to 9:00 A.M.) and weekday afternoon (2:00 to 4:00 P.M.) peak periods. Data pertaining to heavy vehicles, and pedestrians were observed during the manual counts. Peak hours and count dates for the study area intersections are identified in **Table 3**.

TABLE 3
MANUAL TRAFFIC COUNT INFORMATION

Intersection ¹	Date of Traffic Counts	Time Period	Peak Hour ²
Patriots Way & Sussex Central High School Driveway (north)	Thursday November 7, 2019	Weekday A.M.	7:00 to 8:00 A.M.
		Weekday P.M.	2:30 to 3:30 P.M.
Patriots Way & Sussex Central High School Driveway (center)	Thursday November 7, 2019	Weekday A.M.	7:00 to 8:00 A.M.
		Weekday P.M.	2:30 to 3:30 P.M.
Patriots Way & Sussex Central High School Driveway (south)	Thursday November 7, 2019	Weekday A.M.	7:00 to 8:00 A.M.
		Weekday P.M.	2:30 to 3:30 P.M.

¹Peak hours of the existing Sussex Central High School occurred from 7:00-8:00 AM and 2:15-3:15 PM

²Peak Hour consists of the four consecutive 15-minute intervals where the highest traffic volumes occur. Peak hours utilized are consistent among the Sussex Central High School driveways.

Existing condition traffic volumes for the weekday A.M. and weekday P.M. peak hours are illustrated in **Figures 4 and 5**, respectively. Manual traffic count data sheets are provided in **Appendix C**.

BASE (NO-BUILD) CONDITIONS

Annual Background Growth

Background growth factors for the roadways in the study area were provided by DelDOT. As such, the background growth factors of 0.5% for Patriots Way and 0% for all other roadways were applied annually to yield an overall growth percentage of 1.51% (0.5% per year compounded over 3 years) for Patriots Way and 0% for the Sussex Central High School Driveways.

The additional traffic volumes due to background growth were added to the existing traffic data to produce 2022 base (no-build) condition traffic volumes. Base condition volumes for the weekday A.M. and weekday P.M. peak hours are illustrated in **Figures 5 and 6**.

PROPOSED SITE ACCESS

The proposed site will be served by one full-movement driveway to Patriots Way, opposite the existing Sussex Central High School Driveway (center)

Sight Distance Analysis

A sight distance analysis was prepared for the proposed site driveways. In general, recommended safe sight distances depend upon the posted speed limit and roadway grades. The measured sight distances at the proposed driveway were compared to AASHTO's safe stopping sight distance standard, which is calculated by the following equation:

$$SSSD = 1.47VT + V^2/[30(f \pm g)]$$

SSSD = safe stopping sight distance (acceptable sight distance)

V = Vehicle Speed

T = Perception Reaction Time of Driver (2.5 seconds)

f = Coefficient of Friction for Wet Pavements

g = Percent of Roadway Grade Divided by 100

Tables 4 shows the measured and required sight distances at the site driveways for vehicles entering and exiting the site.

TABLE 4
SIGHT DISTANCE ANALYSIS
SITE DRIVEWAY TO PATRIOTS WAY

	Direction	Speed ¹	Grade ²	Sight Distances (feet)	
				SSSD	EXIST
Exiting Movements	To the left	35 mph	1%	245	600+
	To the right	35 mph	-1%	252	600+
Entering Left Turns	Approaching same direction	35 mph	-1%	252	600+
	Approaching opposite direction	35 mph	1%	245	600+

SSSD = AASHTO Safe Stopping Sight Distance

EXIST = Existing (measured) Sight Distance

1 = Posted speed limit

2 = Roadway Grade Approaching Driveway

As shown in **Table 4** above, the measured sight distances at the site driveway exceeds AASHTO's safe stopping sight distance requirements.

TRIP GENERATION

The trip generation for the proposed school was developed based on site specific data provided by Howard T. Ennis School staff as coordinated previously with DelDOT. **Table 5** summarizes the peak hour trip generation of the proposed school.

TABLE 5
TRIP GENERATION SUMMARY

Time Period	Howard T. Ennis School		
	Total	Enter	Exit
Weekday A.M. Peak Hour	199	161	38
Weekday P.M. Peak Hour	158	0	158
Average Weekday	420	210	210

Based on the trip generation summarized in **Table 6**, the proposed development will generate approximately 199 new trips during the weekday A.M. peak hour, and 158 new trips during the weekday P.M. peak hour. Details of the trip generation calculations are included in **Appendix D**.

TRIP DISTRIBUTION

The distribution of staff trips generated by the proposed development was based on information provided by DelDOT. The distribution of bus and parent pick-up/drop-off traffic is consistent with the school's feeder patterns based on the following information provided by the district.

- » School buses serve the entirety of Sussex County
- » Most buses serve Georgetown and Millsboro
- » 1 bus serving Lewis
- » 3 buses serving western Sussex, including Delmar and Greenwood

The new trips for the proposed development were distributed to the local roadway network based on the percentages shown in **Table 6**.

TABLE 6
TRIP DISTRIBUTION PERCENTAGES

Direction - To/From	Assignment (To/From)	Distribution Percentage	
		Staff	Bus/Parent
North	via Patriots Way	58%	60%
South	via Patriots Way	42%	40%

This distribution is also consistent with the distribution noted at the high school driveways. The assignment of site-generated trips for the proposed development during the weekday A.M. and P.M. peak hours are shown in **Figures 7 and 8**, respectively.

PROJECTED (BUILD) CONDITION TRAFFIC VOLUMES

The site-generated trips for the proposed development were added to the 2022 base (no-build) condition traffic volumes to develop 2022 projected (build) condition traffic volumes.

In order to accurately model the peak traffic volumes associated with Sussex Central High School in conjunction with the Howard T. Ennis School peak hour traffic volumes, as requested in the DelDOT scoping memo, TPD developed future traffic volumes in 15-minute intervals over the duration of the A.M. and P.M. count periods. As such, the projected condition peak hour traffic volumes calculated based on the 15-minute interval volume development were utilized in the projected condition capacity analyses along with the corresponding calculated peak hour factor. Furthermore, since the P.M. peak hour of the proposed Howard T. Ennis School is slightly offset from the existing high school driveway P.M. peak hour, TPD shifted the proposed school P.M. peak hour traffic to coincide with the existing high school driveway P.M. peak hour traffic, providing a conservative (i.e. highest volume) evaluation. The 15-minute volume development worksheets are provided in **Appendix D**.

Projected condition traffic volumes for the future year of 2022 for the weekday A.M. and P.M. peak hours are shown in **Figures 9 and 10**, respectively.

LEVELS OF SERVICE FOR AN INTERSECTION

For analysis of intersections, level of service is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. LOS criteria is stated in terms of control delay per vehicle for a one-hour analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The criteria are shown in **Table 7**. Delay, as it relates to level of service, is a complex measure and is dependent upon a number of variables. For signalized intersections, these variables include the quality of vehicle progression, the cycle length, the green time ratio, and the volume/capacity ratio for the lane group in question. For unsignalized intersections, delay is related to the availability of gaps in the flow of traffic on the major street and the driver's discretion in selecting an appropriate gap for a particular movement from the minor street (straight across, left or right turn).

TABLE 7
LEVEL OF SERVICE CRITERIA
UNSIGNALIZED AND SIGNALIZED INTERSECTIONS 1

Level of Service	Control Delay Per Vehicle (Seconds)	
	Signalized	Unsignalized
A	< 10	< 10
B	> 10 and < 20	> 10 and < 15
C	> 20 and < 35	> 15 and < 25
D	> 35 and < 55	> 25 and < 35
E	> 55 and < 80	> 35 and < 50
F	> 80 or v/c > 1.0	> 50 or v/c > 1.0

¹ Obtained from Exhibits 18-4 and 19-1 of the Transportation Research Board's Highway Capacity Manual 2010

CAPACITY ANALYSIS METHODOLOGY

Capacity analyses were conducted for the weekday A.M. and P.M. peak hours at the study area intersections. These analyses were conducted according to the methodologies contained in the *Highway Capacity Manual* (HCM) 6th Edition using *Synchro 10* software, a Trafficware product.

The following conditions were analyzed, as applicable:

- » Existing conditions;
- » 2022 Base conditions (Build-out year without development);
- » 2022 Projected conditions (Build-out year with development);

In addition, capacity analyses were conducted at the proposed site driveway intersection under the 2022 projected conditions. The capacity analysis worksheets are included in **Appendix E**.

LEVELS OF SERVICE IN THE STUDY AREA

Level of service (LOS) matrices for the study area intersections are shown in **Tables 8** for the weekday A.M., and weekday P.M. peak hours.

TABLE 8
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY

Intersection	Movement	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
		Existing Conditions	2022 Conditions		Existing Conditions	2022 Conditions	
			Base	Projected		Base	Projected
Patriots Way & Sussex Central High School Driveway (north)	EB LR	E	E	E	C	C	C
	NB L	B	B	B	A	A	A
	ILOS	A (7.4)	A (7.6)	A (7.4)	A (8.6)	A (8.7)	A (8.2)
Patriots Way & Sussex Central High School Driveway (center)	WB LTR	--	--	C	--	--	C
	NB L	A	A	A	A	A	A
	SB L	--	--	A	--	--	A
	ILOS	A (1.3)	A (1.2)	A (3.1)	A (0.4)	A (0.3)	A (5.2)
Patriots Way & Sussex Central High School Driveway (south)	EB LR	C	C	C	C	C	C
	NB L	A	A	A	A	A	A
	ILOS	A (5.5)	A (5.5)	A (4.8)	A (8.1)	A (8.1)	A (7.9)

Base = No-Build scenario; Projected = Build scenario; ILOS = intersection level of service

As shown in **Table 8** under 2022 projected conditions with the development of the proposed site, the study area intersections will operate at ILOS A during the weekday A.M. and P.M. peak hours.

All approaches and turning movements at the proposed site driveway intersection will operate at LOS C or better under 2022 Projected Conditions during the weekday A.M. and P.M. peak hours.

The capacity analysis worksheets are included in **Appendix E**.

95TH PERCENTILE QUEUE ANALYSIS

Queue analyses were conducted at the study area intersections using *Synchro 10* software. For this analysis, the 95th percentile queue is defined as the queue length that is exceeded in 5% of the signal cycles. As an example, for a signal with a 90-second cycle, this means that the 95th percentile queue length will be exceeded during 2 of the 40 signal cycles that occur during the peak hour. The queue analysis results are summarized in **Table 9** for the analyzed peak hours.

TABLE 9
95TH PERCENTILE QUEUE ANALYSIS

Intersection	Movement	Available Storage	2022 Conditions			
			Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
			Base	Projected	Base	Projected
Patriots Way & Sussex Central High School Driveway (north)	EB LR	200+	120	123	98	108
	NB L	120	23	23	3	3
Patriots Way & Sussex Central High School Driveway (center)	WB LTR	100+	--	15	--	48
	NB L	235	8	8	3	3
	SB L	225	--	8	--	0
Patriots Way & Sussex Central High School Driveway (south)	EB LR	100+	70	63	90	98
	NB L	210	8	5	0	0

As shown in **Table 9**, adequate queue storage will be provided for the turn lanes in 2022 with construction and full build-out of the proposed development. Queue analysis worksheets are included with the capacity analysis worksheets provided in **Appendix E**.

TPD also completed a visual observation of the operations at the northern driveway of Sussex Central High School on Wednesday December 12, 2018 from 7:00 – 7:45 A.M. The existing northbound auxiliary left turn lane has approximately 100' of storage with a 75' taper length.

Based on this observation, the busiest time for northbound left turns entering the high school was between 7:15 and 7:35 A.M. Overall, the queue moved efficiently and was typically only one or two vehicles. The maximum queue of 6 vehicles, which occurred twice throughout the observed time period, did not extend beyond the provided left turn storage and the median area was therefore never occupied by a standing queue at any point.

AUXILIARY TURN LANE ANALYSIS

Methodology

Based on the ADT on Patriots Way, the daily trip generation for the site and the distribution of traffic, TPD evaluated the provision of a northbound right turn lane and southbound left turn lane for traffic entering the site.

Findings:

Table 10 summarizes the results of the auxiliary turn lane analysis at the proposed site driveway.

TABLE 10
AUXILIARY TURN LANE ANALYSIS SUMMARY

Intersection	Auxiliary Lane	Warrant Satisfied?	Required Lane Length ¹	Proposed Lane Length
Patriots Way & Proposed Site Access	NB Right-Turn Lane	No	--	--
	SB Left-Turn Lane	Yes	220'	225'

¹Based on a 35 mph speed limit

The calculations for the auxiliary turn lane warrants are included in **Appendix F**.

PEDESTRIAN CROSSING ANALYSIS

Based on the *Guidelines for Pedestrian Crossing Treatments* contained in Appendix A of the NCHRP Report 562 "Improving Pedestrian Safety at Unsignalized Crossing" the following pedestrian crossing treatment could be considered at the proposed site.

- » Painted crosswalk between the proposed Howard T. Ennis School Driveway and the existing Sussex Central High School center driveway

It should be noted, for purposes of this evaluation and at the request of DelDOT, TPD assumed the pedestrian peak hour volume threshold of 20 pedestrians per hour for both directions would be met under future conditions, despite the negligible existing pedestrian volumes and minimal pedestrian accommodations on the surrounding roadway network.

The completed NCHRP worksheets for the weekday A.M. and P.M. peak hours is provided in **Appendix G**.

RECOMMENDATIONS

TPD has made the following recommendations in relation to the proposed development in Sussex County Delaware:

Patriots Way & Proposed Site Driveway

- » Provide a stop sign to control exiting traffic
- » Construct a 225-foot southbound left turn lane within the existing painted median
- » Consider installation of a painted crosswalk between the proposed Howard T. Ennis School driveway and the existing Sussex Central High School Driveway (center)

CONCLUSIONS

Based on the results of the transportation impact study, TPD offers the following conclusions:

- » The project site is located on the east side of Patriots way, north of Boyd Boulevard and opposite the existing Sussex Central High School. The proposed site will consist of a 157,000 s.f. special needs school
- » Access to the site is proposed via one full-access driveway to Patriots Way, opposite the existing Sussex Central School Driveway (center)
- » All proposed driveway location sight distances will exceed AASHTO's Safe Stopping Sight Distance (SSSD) criteria.
- » Upon full build-out, the proposed development is expected to generate 199 new vehicle-trips during the weekday A.M. peak hour, and 158 new vehicle-trips during the weekday P.M. peak hour.
- » Under the 2022 projected conditions, with implementation of the site-related recommendations, all approaches and turning movements at the site driveway intersection with the external roadway network will operate at LOS C or better during weekday A.M. and P.M. peak hours.
- » All overall intersection levels of service (ILOS) will operate at an ILOS A during the 2022 projected condition scenarios.



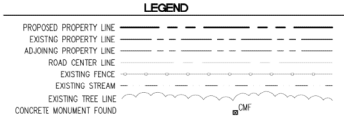
TRAFFIC PLANNING AND DESIGN, INC.
www.TrafficPD.com | 610.326.3100 | TPD@TrafficPD.com

FIGURE 1

SITE LOCATION

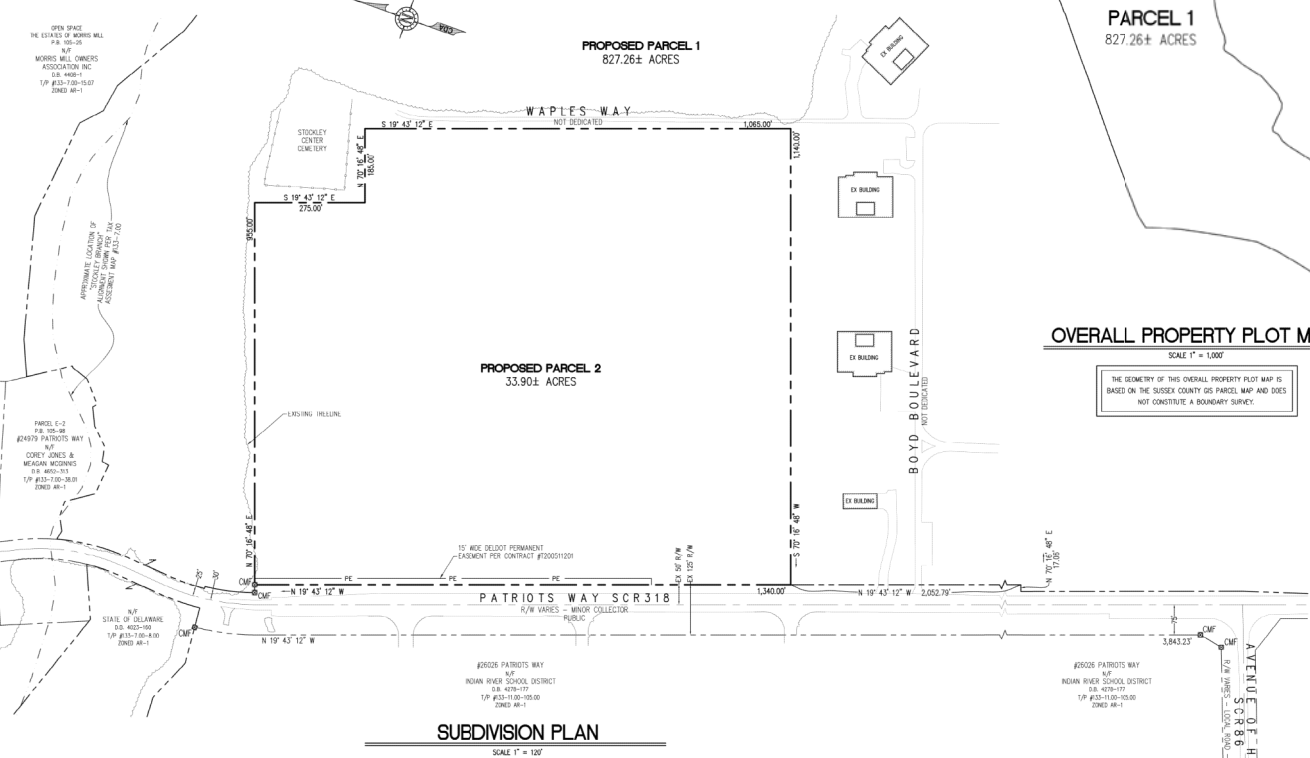
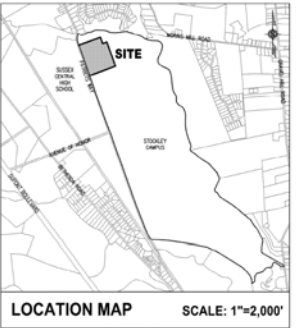
SITE DATA

1. OWNER ADDRESS: STATE OF DELAWARE
DEPARTMENT OF HEALTH AND SOCIAL SERVICES
P.O. BOX 178
DOVER, DELAWARE
2020 PATRIOTS WAY
GEORGETOWN, DELAWARE 19447
2. PROPERTY ADDRESS: #632-7-100-4-00
3. TAX PARCEL NUMBER: #632-7-100-4-00
4. AREA OF PARCEL: 827.26± ACRES (PARCEL 1)
33.90± ACRES (PARCEL 2)
TOTAL: 861.16± ACRES
5. ZONING: AB-1
- | LOT AREA | LOT WIDTH | STREET FRONT | SIDE YARD | REAR YARD | BUILDING SETBACK |
|----------|-----------|--------------|-----------|-----------|------------------|
| 33.90± | 100' | 250' | 10' | 10' | 5' |
6. DEED REFERENCE: DEED BOOK 465L PAGE 160; DEED BOOK 478L PAGE 171;
DEED CONTRACT #20001101
7. DATE OF SURVEY: JUNE 2018 BY CDA ENGINEERING, INC.
8. DATUM: VERTICAL - NAD 83
HORIZONTAL - COORDINATE SYSTEM AND BASIS OF BEARING
DELAWARE STATE PLANE NAD 83/11



PARCEL 2
33.90± ACRES

PARCEL 1
827.26± ACRES



OVERALL PROPERTY PLOT MAP

THE GEOMETRY OF THIS OVERALL PROPERTY PLOT MAP IS BASED ON THE SUESS COUNTY DEED MAP AND DOES NOT CONSTITUTE A BOUNDARY SURVEY.

CDA ENGINEERING, INC.

CIVIL/SITE ENGINEERING AND LAND PLANNING
6 LARCH AVENUE
SUITE 401
WILMINGTON, DE 19804
Tel: 302.998.3202
Fax: 302.691.1314
cdengineering.com

DRAWN BY: ZK
CHECKED BY: CD
PROJECT NO.: 17.136.00
SCALE: AS SHOWN
DATE: JULY 16, 2018
CADD FILE: \\DWG1713600 BASE.DWG
1" = 120'

RECORD MINOR SUBDIVISION PLAN
PREPARED FOR
INDIAN RIVER
SCHOOL DISTRICT
TAX PARCEL #133-7-00-8-00
ALSO KNOWN AS
STOCKLEY
CENTER

PLATYFORM: HORIZONTALS: SUESS COUNTY: DELAWARE

DRAWING TITLE: RECORD MINOR SUBDIVISION PLAN

DRAWING NUMBER: REC 1 of 1

CERTIFICATION OF OWNERSHIP

I, USA BOND, HEREBY CERTIFY THAT I AM THE LEGAL REPRESENTATIVE OF THE OWNER OF THE PROPERTY WHICH IS SUBJECT OF THIS PLAN AND THAT THE LAND USE ACTION PROPOSED BY THIS PLAN IS MADE IN MY CAPACITY.

USA BOND
DELAWARE HEALTH AND SOCIAL SERVICES
DATE:

CERTIFICATION OF PLAN ACCURACY

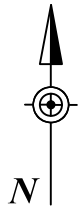
I, GEORGE DEANES, HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER WITH A BACKGROUND IN CIVIL ENGINEERING IN THE STATE OF DELAWARE AND THAT ALL OF THE INFORMATION SHOWN ON THIS PLAN IS BASED ON THE PROVIDED SUBDIVISION IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY ACCEPTED SURVEYING CONVENTIONS AND PRACTICES OF THE STATE OF DELAWARE.

GEORGE DEANES
REGISTRATION #10494
DATE:

TPD
TRAFFIC PLANNING AND DESIGN, INC.
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FIGURE 2

SITE PLAN



Sussex Central
High School

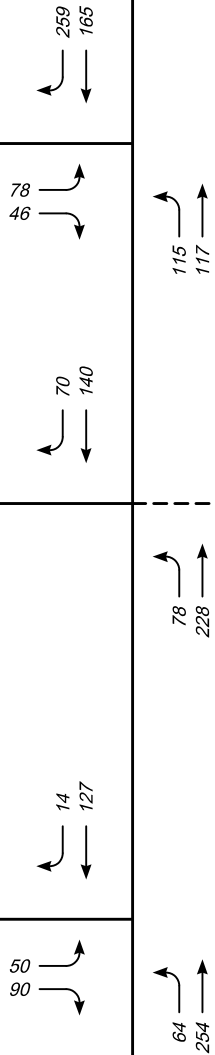
North
Driveway

Center
Driveway

South
Driveway

Patriots
Way

Proposed
Site



KEY:

----- PROPOSED DRIVEWAY

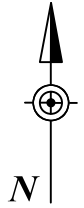
SCHEMATIC DRAWING: NOT TO SCALE



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FIGURE 3

**2019 EXISTING CONDITIONS
WEEKDAY A.M. PEAK HOUR
TRAFFIC VOLUMES**



Sussex Central
High School

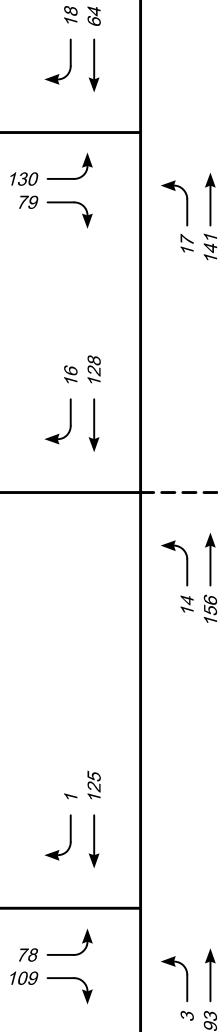
North
Driveway

Center
Driveway

South
Driveway

Patriots
Way

Proposed
Site



KEY:

----- PROPOSED DRIVEWAY

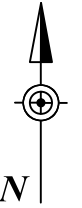
SCHEMATIC DRAWING: NOT TO SCALE



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FIGURE 4

**2019 EXISTING CONDITIONS
WEEKDAY P.M. PEAK HOUR
TRAFFIC VOLUMES**



Sussex Central
High School

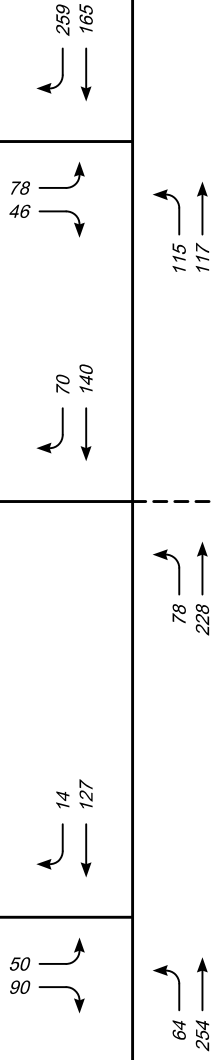
North
Driveway

Center
Driveway

South
Driveway

Patriots
Way

Proposed
Site



KEY:

----- PROPOSED DRIVEWAY

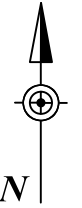
SCHEMATIC DRAWING: NOT TO SCALE



TRAFFIC PLANNING AND DESIGN, INC.
www.TrafficPD.com | 610.326.3100 | TPD@TrafficPD.com

FIGURE 5

2022 BASE CONDITIONS
WEEKDAY A.M. PEAK HOUR
TRAFFIC VOLUMES



Sussex Central
High School

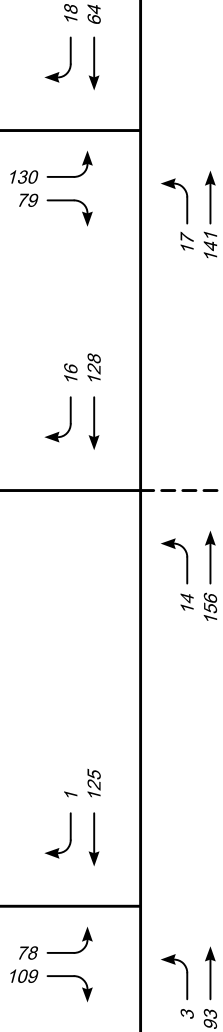
North
Driveway

Center
Driveway

South
Driveway

Patriots
Way

Proposed
Site



KEY:

----- PROPOSED DRIVEWAY

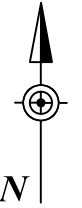
SCHEMATIC DRAWING: NOT TO SCALE



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FIGURE 6

2022 BASE CONDITIONS
WEEKDAY P.M. PEAK HOUR
TRAFFIC VOLUMES



Sussex Central
High School

North
Driveway

Center
Driveway

South
Driveway

Patriots
Way

70 (6) [18]

70 (6) [18]

(4) [11]

(6) [17]

(6) [17]
(4) [11]

51 (4) [12]

51 (4) [12]

Proposed
Site

Enter = 121 (10) [30]
Exit = 0 (10) [28]

KEY:

----- PROPOSED DRIVEWAY

SCHEMATIC DRAWING: NOT TO SCALE

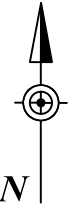
STAFF (PARENT) [BUS] TRIPS



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FIGURE 7

TRIP DISTRIBUTION
WEEKDAY A.M. PEAK HOUR



Sussex Central
High School

North
Driveway

Center
Driveway

South
Driveway

Patriots
Way

Proposed
Site
Enter = 0 (0) [0]
Exit = 118 (10) [30]

68 (6) [18]

68 (6) [18]
50 (4) [12]

50 (4) [12]

KEY:

----- PROPOSED DRIVEWAY

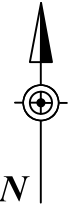
SCHEMATIC DRAWING: NOT TO SCALE



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FIGURE 8

**TRIP DISTRIBUTION
WEEKDAY P.M. PEAK HOUR**



Sussex Central
High School

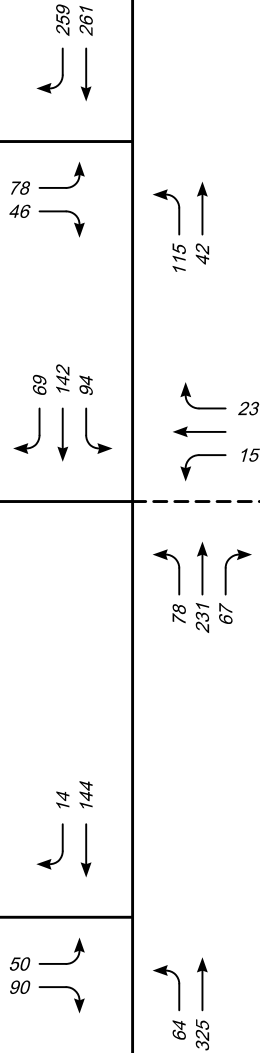
North
Driveway

Center
Driveway

South
Driveway

Patriots
Way

Proposed
Site



KEY:

----- PROPOSED DRIVEWAY

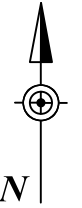
SCHEMATIC DRAWING: NOT TO SCALE



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FIGURE 9

**2022 PROJECTED CONDITIONS
WEEKDAY A.M. PEAK HOUR
TRAFFIC VOLUMES**



Sussex Central
High School

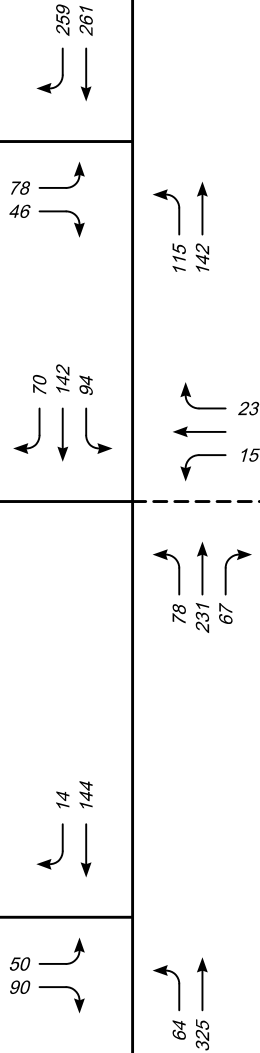
North
Driveway

Center
Driveway

South
Driveway

Patriots
Way

Proposed
Site



KEY:

----- PROPOSED DRIVEWAY

SCHEMATIC DRAWING: NOT TO SCALE



TRAFFIC PLANNING AND DESIGN, INC.
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FIGURE 10

**2022 PROJECTED CONDITIONS
WEEKDAY P.M. PEAK HOUR
TRAFFIC VOLUMES**

Appendix A

PROJECT CORRESPONDENCE



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

JENNIFER COHAN
SECRETARY

December 20, 2019

Mr. Eric Ostimchuk
Traffic Planning and Design, Inc.
2500 East High Street
Suite 650
Pottstown, PA 19464

Dear Mr. Ostimchuk:

We have reviewed the traffic counts that we received on December 6, 2019 for the **Howard T. Ennis School** (Protocol Tax Parcel 133-7.00-8.00) traffic impact study (TIS). Upon our review, we find that the traffic counts are acceptable as submitted.

Considering background growth factors, please apply the following growth factors to the seasonally adjusted traffic volumes in developing future traffic:

<u>Road</u>	<u>Growth Factor</u>	<u>Total Growth from 2019 to 2022</u>
Patriots Way (Sussex Road 318)	1.005	1.015
All Other Roads	1.000	1.000

You may contact Mr. Troy Brestel at (302) 760-2167 if you have any questions concerning this correspondence.

Sincerely,

 for

T. William Brockenbrough, Jr.
County Coordinator

TWB:tbtf

cc: Shelby Lynch, Traffic Planning and Design, Inc.
Janelle Cornwell, Sussex County Planning and Zoning
J. Marc Coté, Assistant Director, Development Coordination
Troy Brestel, Project Engineer, Development Coordination
Claudy Joinville, Project Engineer, Development Coordination





STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. Box 778
DOVER, DELAWARE 19903

JENNIFER COHAN
SECRETARY

MEMORANDUM

TO: File

FROM: Claudy Joinville, Project Engineer *C.J.*

DATE: October 14, 2019

**SUBJECT: Howard T. Ennis School
Traffic Operational Analysis (TOA) - Scoping Meeting (9/12/19)
Scope of Work**

ATTENDANCE: Janelle Cornwell, Sussex County Planning and Zoning (via skype)
Colmcille DeAscanis, CDA Engineering, Inc. (via skype)
Zak Kerstetter, CDA Engineering, Inc.
Eric Ostimchuk, Traffic Planning & Design (TPD)
Ken Fearn, Fearn Clendaniel Architects
Peter Haag, DelDOT Traffic (via skype)
Marc Coté, DelDOT Planning
Susanne Laws, DelDOT Planning
John Andrescavage, DelDOT Planning
T. William Brockenbrough, Jr., DelDOT Planning
Claudy Joinville, DelDOT Planning

Background and Discussion

Indian River School District seeks to develop a 157,000 square-foot Special Needs school on an approximately 32.43-acre parcel (Tax Parcel: 133-7.00-8.01). The land is located on the east side of Patriots Way (Sussex Road 318), directly opposite the Sussex Central High School, south of Georgetown. The land is currently zoned as AR-1 (Agricultural Residential), and the developer does not plan to rezone the land.

One full access point is proposed along Patriots Way. Construction is anticipated to be complete in 2022.



Cases to be Evaluated

The study shall evaluate the weekday morning and weekday evening peak hours for the following situations:

- 1) Existing (2019);
- 2) 2022 without development; and
- 3) 2022 with development.

Facilities to be Evaluated

The TOA should evaluate conditions at the following intersections for capacity and level of service using the Highway Capacity Software (HCS). It should also evaluate the extent to which they meet the relevant DelDOT, AASHTO and MUTCD standards for geometry and traffic control devices.

- 1) Patriots Way (Sussex Road 318) / Site Entrance / Sussex Central High School Entrance (center)
- 2) Patriots Way / Sussex Central High School Entrance (north)
- 3) Patriots Way / Sussex Central High School Entrance (south)

Traffic Counts

The Consultant should conduct traffic counts for the intersections listed above from 7:00 a.m. to 9:00 a.m. and from 2:00 p.m. to 4:00 p.m., on a Tuesday, Wednesday or Thursday to determine when the peaks occur. The weekday traffic counts should be performed during a time when schools are open and operating at a normal capacity.

Additionally, an Automatic Traffic Recorder (ATR) should be used to collect traffic data on Patriots Way south of the south high school entrance. The ATR should be placed for a one-week time period that includes the date(s) of the manual traffic counts. The ATR data will be used to verify the manual counts and determine whether adjustments are required.

Section 2.2.8.5, item 19, under Existing Traffic and Transportation Conditions in the Development Coordination Manual, addresses how oversaturated intersections are to be counted.

The traffic counts should be submitted to DelDOT both electronically as Portable Document Format (PDF)/Excel files and as draft report figures showing peak hour volumes (labeled with date and peak hour interval) posted on diagrams of the road network.

The Consultant should include counts of pedestrians, a separate count of right-turn on red (in addition to right-turn movement counts), and a separate count of heavy vehicles.

The Consultant should be alert for events affecting the traffic counts, such as accidents or nearby construction and shall make note of any such events when submitting the counts. As necessary, DelDOT reserves the right to reject the counts or require adjustments to them.

Trip Generation

DelDOT is agreeable to the Consultant's use of historical and site specific data to calculate the trips for the proposed school.

Trip Distribution

A trip distribution to be used for the site were developed using DelDOT's Travel Demand Model and is attached. School bus and parent traffic should reflect the school's feeder patterns as the model distribution only applies to staff traffic.

Future Growth

The Consultant shall apply growth factors to the traffic counts. DelDOT will develop those factors after we receive the Consultant's traffic counts.

Pedestrian Traffic Analysis

The Consultant shall complete a pedestrian crossing analysis using NCHRP 562. The analysis should evaluate multiple crossing scenarios, such as, but not limited to, a single crossing and a two-stage crossing with a median refuge island. In addition, the analysis should assume the pedestrian volume has met the NCHRP threshold. For more guidance on this analysis, the Consultant shall contact Peter Haag, Traffic Studies Manager of DelDOT's Traffic Section. Mr. Haag may be reached at (302) 659-4084.

Highway Capacity Software & Synchro

The Consultant shall use the most recent version of the Highway Capacity Software (HCS) that implements the 6th Edition of the Highway Capacity Manual (HCM). Presently, that is HCS7.

In addition, the Consultant shall use Synchro to conduct 15-minute analysis periods to accurately model the peak traffic volumes associated with the Sussex Central High School opposite the proposed school.

Seasonal Adjustment Factors for the roads in the study area are as follows:

Roads	September	October	November
Patriots Way (Sussex Road 318)	0.96	0.95	0.98
All Other Roads	1.00	1.00	1.00

DelDOT Projects

Currently, DelDOT has no active projects within the study area.

Transit, Bicycle, and Pedestrian Facilities

The study should describe the existing and proposed transit service in the project area and should also describe the existing and needed transit, bicycle, and pedestrian facilities on or near the project site. In determining these items, the Consultant shall contact Mr. David Dooley, a Service Development Planner at the Delaware Transit Corporation (DTC), and Mr. Anthony Aglio, of DelDOT's Local Systems Section. Mr. Dooley may be reached at (302) 576-6064. Mr. Aglio may be reached at (302) 760-2509.

General Notes

- 1) All submissions relating to this study should be made electronically via the Planning and Development Coordination Application (PDCA), preferably in Portable Document Format (PDF).
- 2) The Consultant should e-mail DelDOT's Transportation Management Center (TMC) at tmc1@delaware.gov to obtain advance approval for the use of any signal timings.
- 3) Before deploying temporary unmanned devices, e.g. cameras or radar detectors, in the State-maintained right-of-way, the individual or company proposing to do so shall execute and file a Right-of-Way Use Agreement. Before each specific deployment of devices, the individual or company shall email a completed Temporary Data Collection Device Notification Form to TMC1@delaware.gov. Deployment of Automatic Traffic Recorders, a.k.a. tube counters, and devices on portable trailers does not require a Right-of-Way Use Agreement but does require submission of the Temporary Data Collection Device Notification Form. Copies of the standard agreement and the form are available from Ms. Lara Brown at (302) 659-4062 or Lara.Brown@delaware.gov.
- 4) The Consultant should refer to the attached memorandum from Scott Neidert of DelDOT's Traffic Section for guidance regarding requests for crash data within the study area. The Consultant shall report on this data and make recommendations for improvements if safety problems exist in the study area. Mr. Neidert may be reached at (302) 659-4075.

Memorandum to File
October 14, 2019
Page 5 of 5

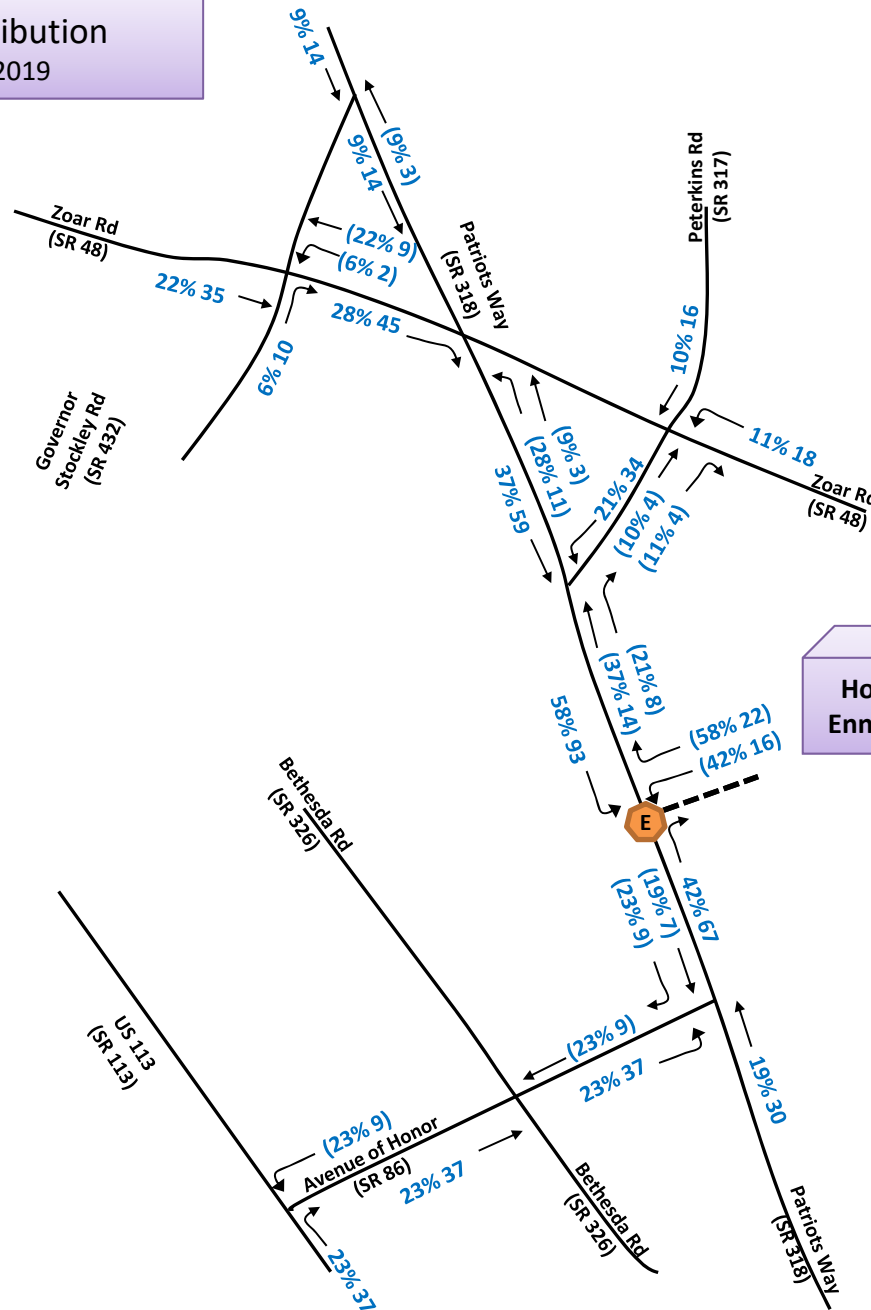
- 5) Both DelDOT and Sussex County reserve the right to change this scope of work if the study is not performed within a reasonable time.
- 6) The developer may choose to have DelDOT's Consultant perform the TOA rather than use their own Consultant. If this option is of interest, the developer should contact Mr. Troy Brestel at (302) 760-2167 to request a cost estimate.
- 7) By copy of this memorandum I ask those copied to contact me at (302) 760-2124 regarding any significant errors or omissions.

CJ:cjm
Enclosure

cc: Drew Boyce, Director, Planning
Joseph Booth, Indian River School District
Michael Simmons, Assistant Director for Project Development South, DOTS
Alastair Probert, South District Engineer, DOTS
Gemez Norwood, South District Public Works Supervisor, DOTS
William Kirsch, South District Permit Supervisor, DOTS
Mark Whiteside, Project Manager, Project Development – South, DOTS
Scott Neidert, Design Resource Engineer, Traffic Section
Mark Buckalew, Traffic Safety Engineer, DelDOT Traffic
David Dooley, Service Development Planner, Delaware Transit Corporation
Anthony Aglio, Planning Supervisor, Local Systems
Lara Brown, Administrative Specialist, DelDOT Traffic DOTS
Kari Glanden, Statistical Information Supervisor, DelDOT Traffic, DOTS
Mark Galipo, Traffic Engineer, DelDOT Traffic, DOTS
Andrew Parker, McCormick & Taylor, Inc.
Mir Wahed, Johnson, Mirmiran, & Thompson, Inc.

AM Peak Distribution October 14, 2019

Howard T. Ennis School			
157,000 SF / 235-student Special Needs School (Site Data)			
Trip Generation			
	Total	IN	OUT
ADT	420	210	210
AM	207	161	38



**Howard T.
Ennis School**

Legend	
	State-maintained road
	Site Entrance
	Traffic lost / gained before intersections
	State-maintained Intersections
	Inbound Trips
	Outbound Trips



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

JENNIFER COHAN
SECRETARY

TO: Requestors of Crash Data via DelDOT's Development Coordination Process

FROM: Scott Neidert, Design Resource Engineer, Traffic Section

DATE: September 5, 2019

SUBJECT: Revisions to Crash Data Requests and Releases

As of July 23, 2019, Governor Carney has signed SB 147 into law containing amendments to the release of crash data, namely permitting DelDOT to release certain de-identified data based on the nature of the requestor. Specifically, newly enacted 21 *Del. C.* §313(c)(1) provides that:

"The Department of Transportation may provide the information under this subsection if the person requesting the information provides proof of identity and a sworn representation that the data will be strictly used for any of the following purposes:

- a. To comply with federal, State, or local law or regulations.*
- b. By a municipality or municipal planning organization in carrying out official functions."*

To conform with the "proof of identity and... sworn representation..." clause, requestors will be required to complete an online crash data request as well as provide a notarized release form to be submitted with each crash request prior to being processed. A link to the release form is provided within the online crash request.

Effective immediately, all requests for crash data, when required, must be made at:
<https://tmc.deldot.gov/tmcx/app/crashdata/public/info.html>

Requests for crash data will not be processed until all required fields are completed, and the release form has been completed and received.

SN

cc: Nicole Majeski, Deputy Secretary
Shanté Hastings, Chief Engineer
Drew Boyce, Director, Planning
Annie Cordo, Deputy Attorney General
Mark Luszczyk, Deputy Director, Division of Transportation Solutions
Kari Glanden Thompson, Statistical Information Supervisor, Traffic Section



Appendix B

STUDY AREA PHOTOGRAPHS



Direction / Road:	NB Patriots Way
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	NB Patriots Way
Approach / Departure:	Approach
Distance:	200 feet



Direction / Road:	<u>NB Patriots Way</u>
Approach / Departure:	<u>Departure</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>NB Patriots Way</u>
Approach / Departure:	<u>Departure</u>
Distance:	<u>200 feet</u>



Direction / Road:	SB Patriots Way
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	SB Patriots Way
Approach / Departure:	Approach
Distance:	200 feet



Direction / Road:	SB Patriots Way
Approach / Departure:	Departure
Distance:	50 feet



Direction / Road:	SB Patriots Way
Approach / Departure:	Departure
Distance:	200 feet



Direction / Road:	EB Sussex Central High School DW (North)
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	EB Sussex Central High School DW (North)
Approach / Departure:	Approach
Distance:	200 feet



Direction / Road:	EB Sussex Central High School DW (North)
Approach / Departure:	Departure
Distance:	50 Feet



Direction / Road:	EB Sussex Central High School DW (North)
Approach / Departure:	Departure
Distance:	200 feet



Direction / Road:	NB Patriots Way
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	NB Patriots Way
Approach / Departure:	Approach
Distance:	200 feet



Direction / Road:	<u>NB Patriots Way</u>
Approach / Departure:	<u>Departure</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>NB Patriots Way</u>
Approach / Departure:	<u>Departure</u>
Distance:	<u>200 feet</u>



Direction / Road:	<u>SB Patriots Way</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>SB Patriots Way</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>200 feet</u>



Direction / Road:	SB Patriots Way
Approach / Departure:	Departure
Distance:	50 feet



Direction / Road:	SB Patriots Way
Approach / Departure:	Departure
Distance:	200 feet



Direction / Road:	EB Sussex Central High School DW (Center)
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	EB Sussex Central High School DW (Center)
Approach / Departure:	Approach
Distance:	200 feet



Direction / Road:	EB Sussex Central High School DW (Center)
Approach / Departure:	Departure
Distance:	50 Feet



Direction / Road:	EB Sussex Central High School DW (Center)
Approach / Departure:	Departure
Distance:	200 feet



Direction / Road:	NB Patriots Way
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	NB Patriots Way
Approach / Departure:	Approach
Distance:	200 feet



Direction / Road:	<u>NB Patriots Way</u>
Approach / Departure:	<u>Departure</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>NB Patriots Way</u>
Approach / Departure:	<u>Departure</u>
Distance:	<u>200 feet</u>



Direction / Road:	SB Patriots Way
Approach / Departure:	Approach
Distance:	50 feet



Direction / Road:	SB Patriots Way
Approach / Departure:	Approach
Distance:	200 feet



Direction / Road:	<u>SB Patriots Way</u>
Approach / Departure:	<u>Departure</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>SB Patriots Way</u>
Approach / Departure:	<u>Departure</u>
Distance:	<u>200 feet</u>



Direction / Road: EB Sussex Central High School DW (South)

Approach / Departure: Approach

Distance: 50 feet



Direction / Road: EB Sussex Central High School DW (South)

Approach / Departure: Approach

Distance: 200 feet



Direction / Road:	EB Sussex Central High School DW (South)
Approach / Departure:	Departure
Distance:	50 Feet



Direction / Road:	EB Sussex Central High School DW (South)
Approach / Departure:	Departure
Distance:	200 feet

Appendix C

MANUAL TRAFFIC COUNT PRINTOUTS

Counted By: Mio:
Set Up By: JH:
Weather: Clear:

Count Name: Patriots Way &
Sussex Central High School DW
(North)
Site Code:
Start Date: 11/07/2019
Page No: 1

Turning Movement Data

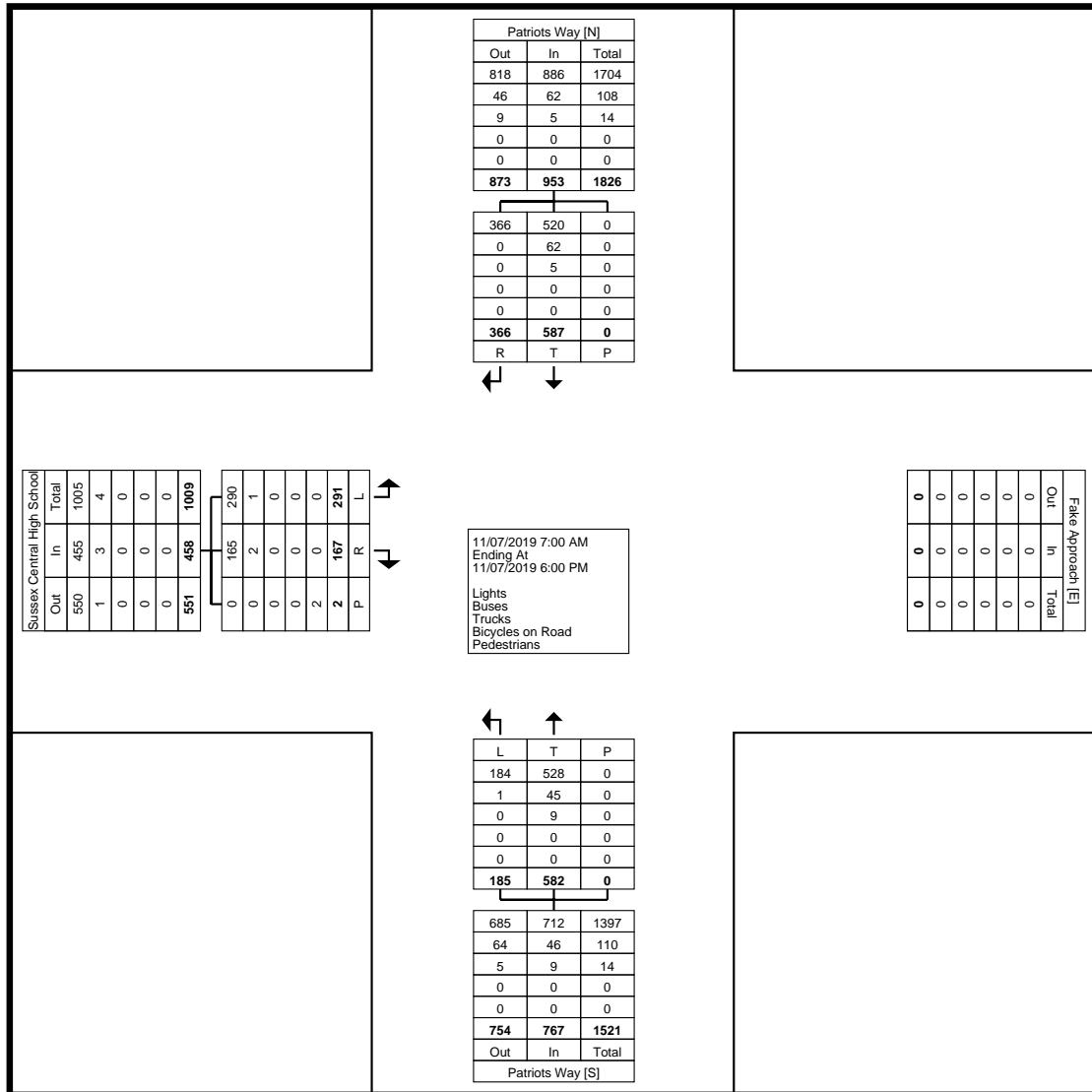
Start Time	Sussex Central High School DW (North)				Patriots Way				Patriots Way				Int. Total
	Eastbound				Northbound				Southbound				
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	
7:00 AM	14	13	0	27	44	28	0	72	51	75	0	126	225
7:15 AM	30	22	0	52	62	32	0	94	56	146	0	202	348
7:30 AM	29	9	0	38	10	38	0	48	32	37	0	69	155
7:45 AM	5	2	0	7	1	21	0	22	29	6	0	35	64
Hourly Total	78	46	0	124	117	119	0	236	168	264	0	432	792
8:00 AM	3	0	0	3	6	13	0	19	21	5	0	26	48
8:15 AM	0	0	0	0	5	19	0	24	19	9	0	28	52
8:30 AM	3	1	0	4	1	17	0	18	19	4	0	23	45
8:45 AM	4	2	0	6	1	16	0	17	17	6	0	23	46
Hourly Total	10	3	0	13	13	65	0	78	76	24	0	100	191
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	4	4	0	8	5	23	0	28	22	6	0	28	64
2:15 PM	3	1	0	4	14	19	0	33	20	25	0	45	82
2:30 PM	64	46	0	110	11	70	0	81	13	5	0	18	209
2:45 PM	17	12	0	29	0	19	0	19	14	5	0	19	67
Hourly Total	88	63	0	151	30	131	0	161	69	41	0	110	422
3:00 PM	24	8	1	32	2	31	0	33	15	7	0	22	87
3:15 PM	25	13	1	38	4	24	0	28	23	1	0	24	90
3:30 PM	12	5	0	17	5	22	0	27	20	2	0	22	66
3:45 PM	12	9	0	21	3	25	0	28	25	5	0	30	79
Hourly Total	73	35	2	108	14	102	0	116	83	15	0	98	322
4:00 PM	4	5	0	9	0	31	0	31	25	6	0	31	71
4:15 PM	12	4	0	16	2	24	0	26	23	10	0	33	75
4:30 PM	7	10	0	17	4	26	0	30	29	2	0	31	78
4:45 PM	13	0	0	13	1	13	0	14	19	2	0	21	48
Hourly Total	36	19	0	55	7	94	0	101	96	20	0	116	272
5:00 PM	3	1	0	4	4	24	0	28	19	0	0	19	51
5:15 PM	0	0	0	0	0	15	0	15	35	2	0	37	52
5:30 PM	1	0	0	1	0	19	0	19	24	0	0	24	44
5:45 PM	2	0	0	2	0	13	0	13	17	0	0	17	32
Hourly Total	6	1	0	7	4	71	0	75	95	2	0	97	179
Grand Total	291	167	2	458	185	582	0	767	587	366	0	953	2178
Approach %	63.5	36.5	-	-	24.1	75.9	-	-	61.6	38.4	-	-	-
Total %	13.4	7.7	-	21.0	8.5	26.7	-	35.2	27.0	16.8	-	43.8	-
Lights	290	165	-	455	184	528	-	712	520	366	-	886	2053
% Lights	99.7	98.8	-	99.3	99.5	90.7	-	92.8	88.6	100.0	-	93.0	94.3
Buses	1	2	-	3	1	45	-	46	62	0	-	62	111
% Buses	0.3	1.2	-	0.7	0.5	7.7	-	6.0	10.6	0.0	-	6.5	5.1
Trucks	0	0	-	0	0	9	-	9	5	0	-	5	14
% Trucks	0.0	0.0	-	0.0	0.0	1.5	-	1.2	0.9	0.0	-	0.5	0.6
Bicycles on Road	0	0	-	0	0	0	-	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	2	-	-	-	0	-	-	-	0	-	-
% Pedestrians	-	-	100.0	-	-	-	-	-	-	-	-	-	-



Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 jhudak@trafficpd.com

Count Name: Patriots Way &
Sussex Central High School DW
(North)
Site Code:
Start Date: 11/07/2019
Page No: 2

Counted By: Mio:
Set Up By: JH:
Weather: Clear:



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Count Name: Patriots Way &
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Turning Movement Peak Hour Data (7:00 AM)

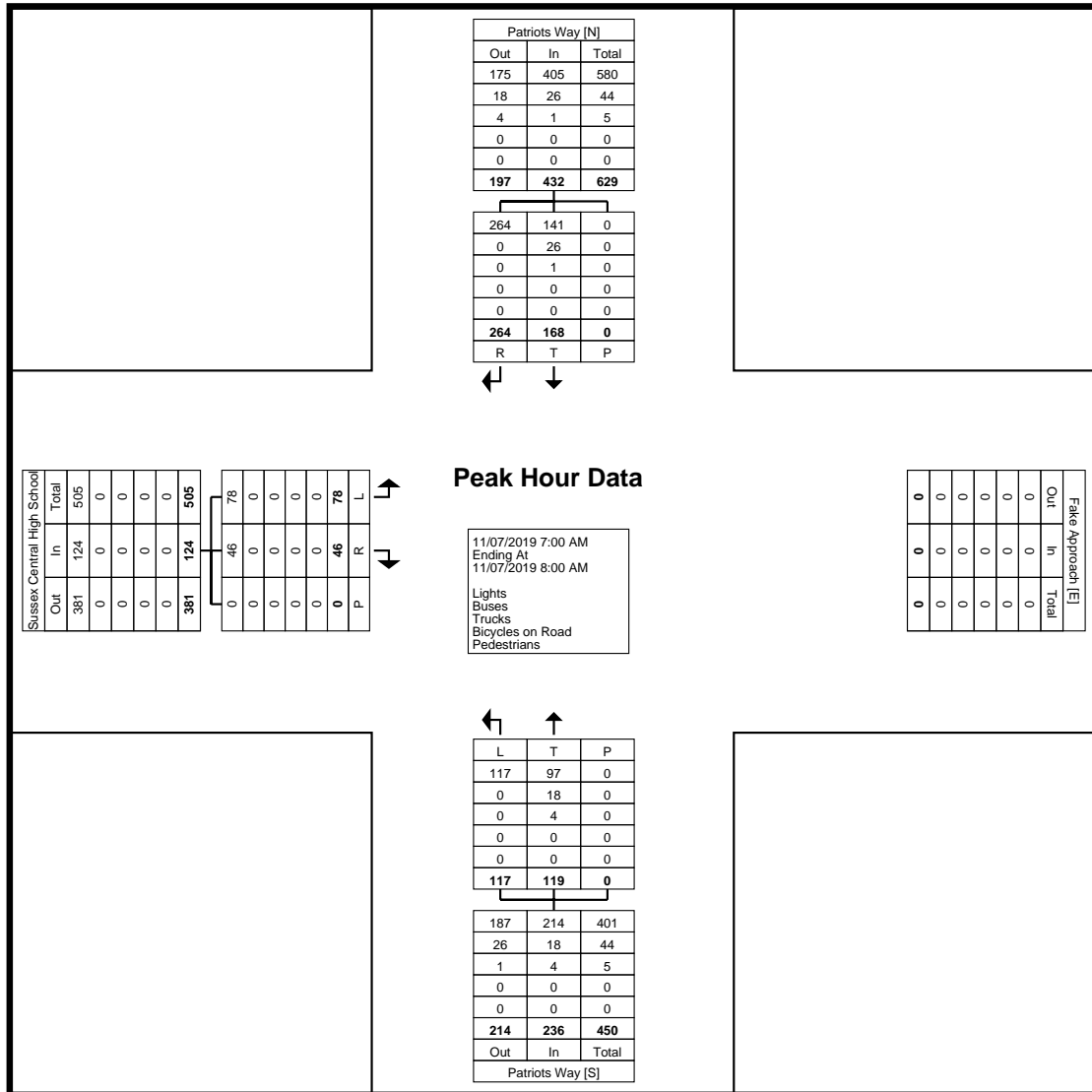
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Turning Movement Peak Hour Data Plot (7:00 AM)

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Count Name: Patriots Way &
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Turning Movement Peak Hour Data (2:30 PM)

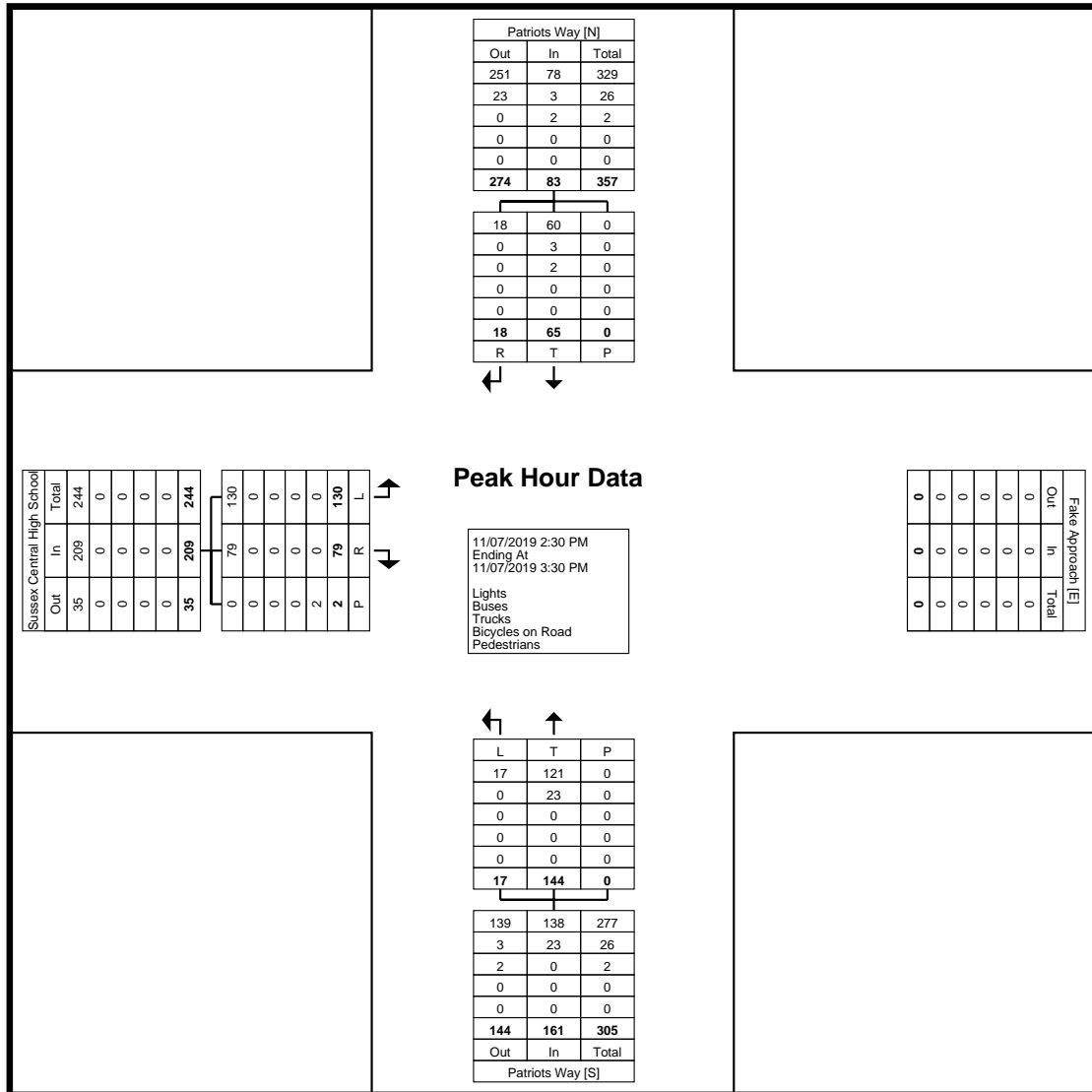
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Turning Movement Peak Hour Data Plot (2:30 PM)



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Set Up By: JH:
Weather: Clear:

Count Name: Patriots Way &
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(Center)
Site Code:
Start Date: 11/07/2019
Page No: 1

Turning Movement Data

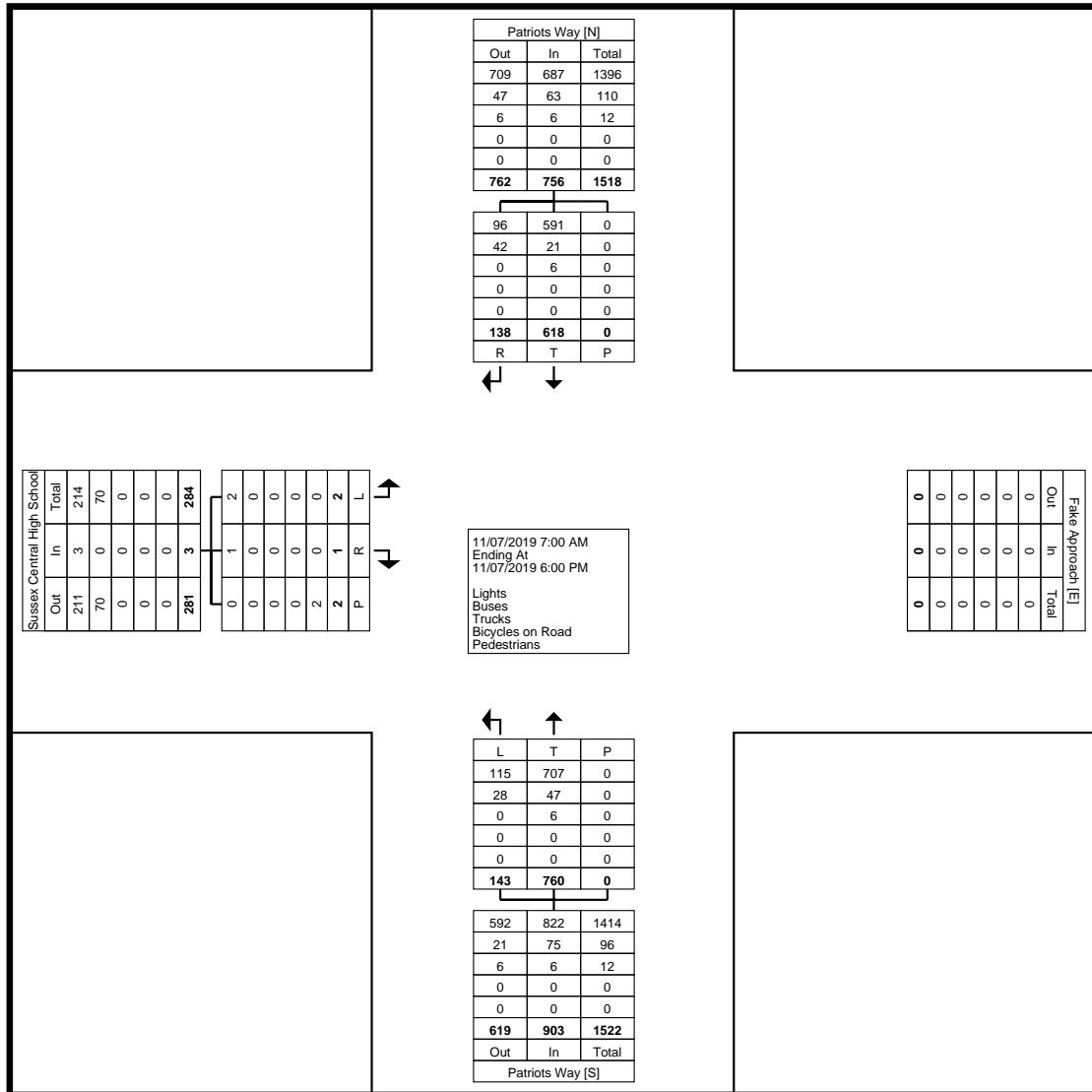
Start Time	Sussex Central High School DW (Center Eastbound				Patriots Way Northbound				Patriots Way Southbound				Int. Total
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	
7:00 AM	0	0	0	0	28	78	0	106	34	34	0	68	174
7:15 AM	0	0	0	0	32	90	0	122	50	27	0	77	199
7:30 AM	0	0	0	0	17	44	0	61	32	10	0	42	103
7:45 AM	0	0	0	0	3	21	0	24	27	0	0	27	51
Hourly Total	0	0	0	0	80	233	0	313	143	71	0	214	527
8:00 AM	0	0	0	0	5	21	0	26	18	5	0	23	49
8:15 AM	0	0	0	0	2	23	0	25	21	0	0	21	46
8:30 AM	1	0	0	1	5	17	0	22	17	3	0	20	43
8:45 AM	0	0	0	0	2	18	0	20	16	1	0	17	37
Hourly Total	1	0	0	1	14	79	0	93	72	9	0	81	175
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	0	0	0	0	9	32	0	41	11	11	0	22	63
2:15 PM	0	0	0	0	9	30	0	39	14	9	0	23	62
2:30 PM	0	0	0	0	5	79	0	84	52	6	0	58	142
2:45 PM	1	0	0	1	5	19	0	24	25	4	0	29	54
Hourly Total	1	0	0	1	28	160	0	188	102	30	0	132	321
3:00 PM	0	0	1	0	3	36	0	39	25	4	0	29	68
3:15 PM	0	0	1	0	1	25	0	26	29	2	0	31	57
3:30 PM	0	0	0	0	4	29	0	33	22	2	0	24	57
3:45 PM	0	0	0	0	4	27	0	31	28	4	0	32	63
Hourly Total	0	0	2	0	12	117	0	129	104	12	0	116	245
4:00 PM	0	0	0	0	3	33	0	36	28	5	0	33	69
4:15 PM	0	0	0	0	3	23	0	26	24	1	0	25	51
4:30 PM	0	0	0	0	0	27	0	27	33	5	0	38	65
4:45 PM	0	0	0	0	2	20	0	22	20	0	0	20	42
Hourly Total	0	0	0	0	8	103	0	111	105	11	0	116	227
5:00 PM	0	0	0	0	0	22	0	22	19	2	0	21	43
5:15 PM	0	0	0	0	1	14	0	15	34	2	0	36	51
5:30 PM	0	1	0	1	0	19	0	19	20	1	0	21	41
5:45 PM	0	0	0	0	0	13	0	13	19	0	0	19	32
Hourly Total	0	1	0	1	1	68	0	69	92	5	0	97	167
Grand Total	2	1	2	3	143	760	0	903	618	138	0	756	1662
Approach %	66.7	33.3	-	-	15.8	84.2	-	-	81.7	18.3	-	-	-
Total %	0.1	0.1	-	0.2	8.6	45.7	-	54.3	37.2	8.3	-	45.5	-
Lights	2	1	-	3	115	707	-	822	591	96	-	687	1512
% Lights	100.0	100.0	-	100.0	80.4	93.0	-	91.0	95.6	69.6	-	90.9	91.0
Buses	0	0	-	0	28	47	-	75	21	42	-	63	138
% Buses	0.0	0.0	-	0.0	19.6	6.2	-	8.3	3.4	30.4	-	8.3	8.3
Trucks	0	0	-	0	0	6	-	6	6	0	-	6	12
% Trucks	0.0	0.0	-	0.0	0.0	0.8	-	0.7	1.0	0.0	-	0.8	0.7
Bicycles on Road	0	0	-	0	0	0	-	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	2	-	-	-	0	-	-	-	0	-	-
% Pedestrians	-	-	100.0	-	-	-	-	-	-	-	-	-	-



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Turning Movement Peak Hour Data (7:00 AM)

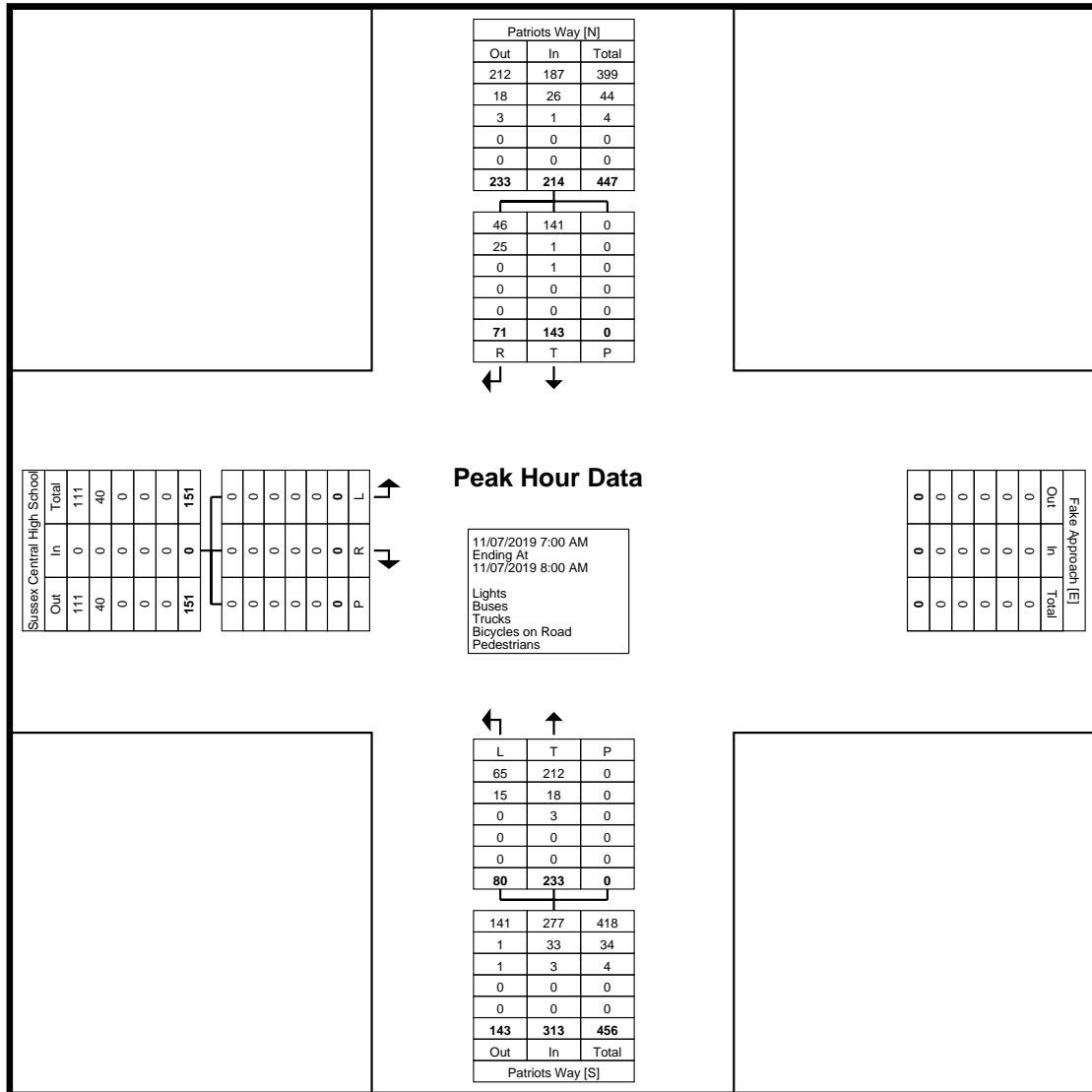
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Count Name: Patriots Way &
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Turning Movement Peak Hour Data (2:30 PM)

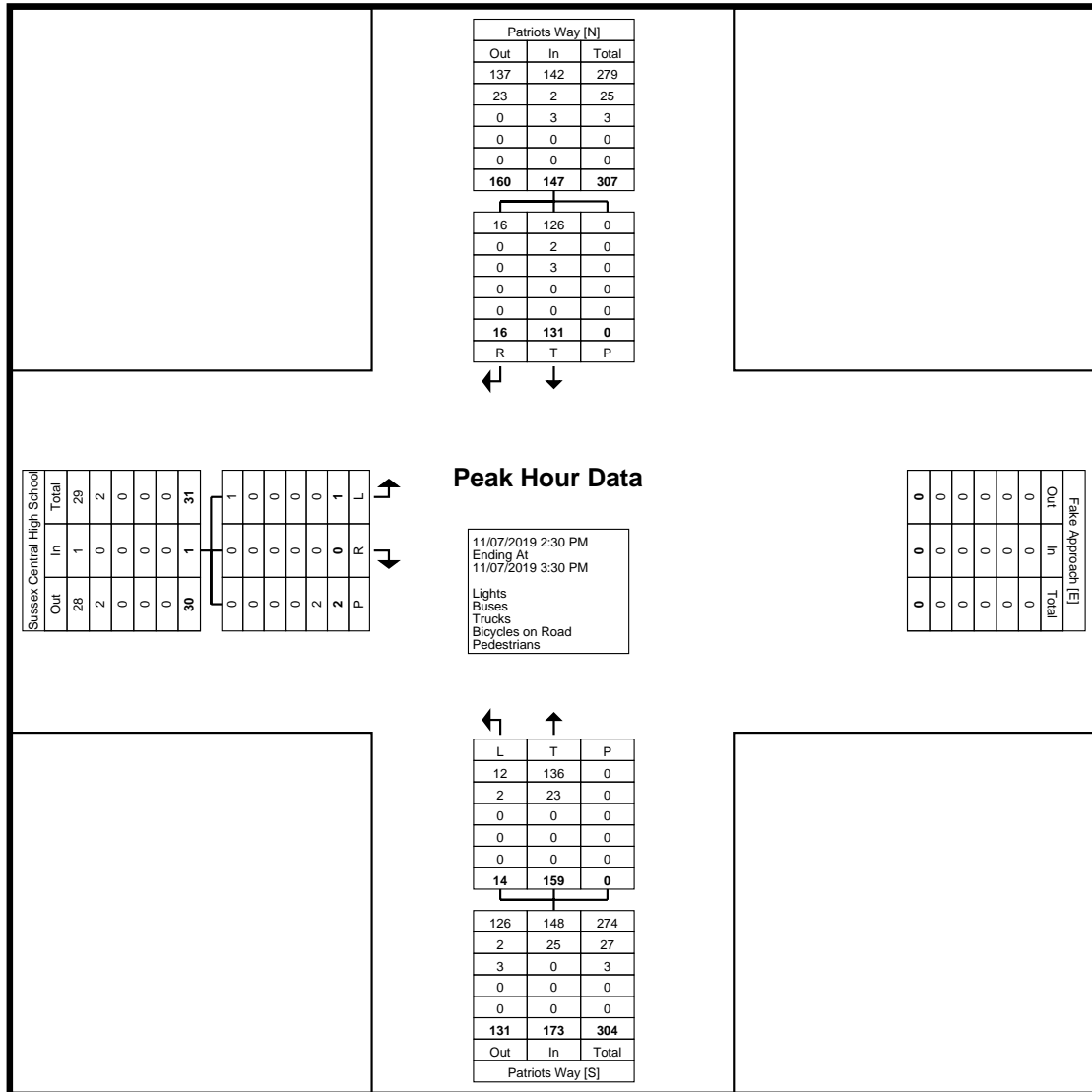
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Count Name: Patriots Way &
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Site Code:
Start Date: 11/07/2019
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Counted By: Mio:
Set Up By: JH:
Weather: Clear:

Turning Movement Data

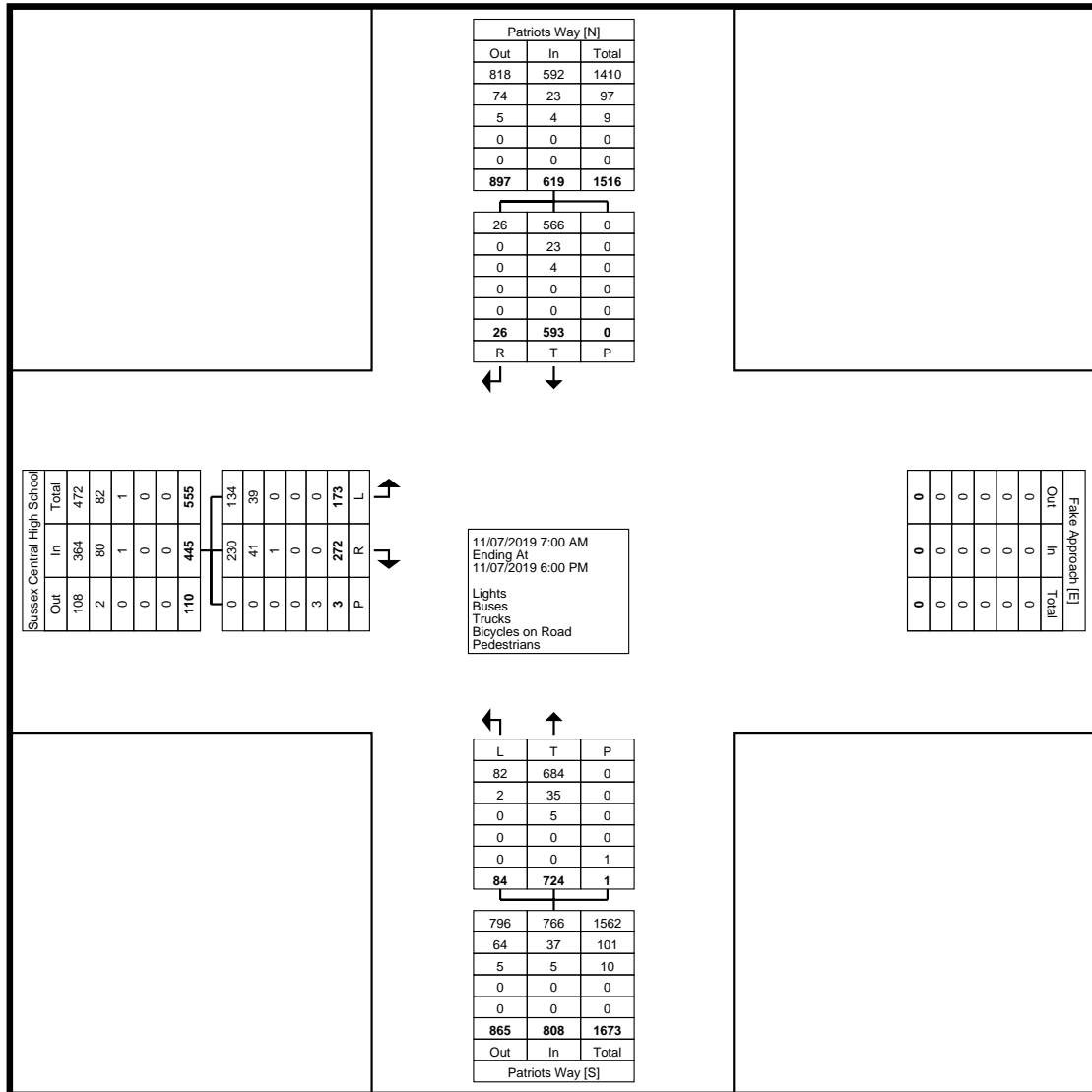
Start Time	Sussex Central High School DW (South)				Patriots Way Northbound				Patriots Way Southbound				Int. Total
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	
7:00 AM	15	16	0	31	21	88	0	109	29	5	0	34	174
7:15 AM	18	39	0	57	40	105	1	145	41	9	0	50	252
7:30 AM	15	31	0	46	2	47	0	49	32	0	0	32	127
7:45 AM	2	4	0	6	2	19	0	21	28	0	0	28	55
Hourly Total	50	90	0	140	65	259	1	324	130	14	0	144	608
8:00 AM	3	4	0	7	1	23	0	24	16	2	0	18	49
8:15 AM	2	5	0	7	2	23	0	25	21	0	0	21	53
8:30 AM	3	3	0	6	2	18	0	20	16	1	0	17	43
8:45 AM	3	4	0	7	1	18	0	19	15	1	0	16	42
Hourly Total	11	16	0	27	6	82	0	88	68	4	0	72	187
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	4	6	0	10	4	35	0	39	12	1	0	13	62
2:15 PM	2	1	1	3	2	37	0	39	9	4	0	13	55
2:30 PM	57	66	0	123	0	27	0	27	52	0	0	52	202
2:45 PM	6	19	0	25	0	19	0	19	24	0	0	24	68
Hourly Total	69	92	1	161	6	118	0	124	97	5	0	102	387
3:00 PM	11	14	1	25	2	27	0	29	22	1	0	23	77
3:15 PM	4	10	1	14	1	22	0	23	30	0	0	30	67
3:30 PM	3	11	0	14	2	28	0	30	21	0	0	21	65
3:45 PM	6	9	0	15	0	25	0	25	29	0	0	29	69
Hourly Total	24	44	2	68	5	102	0	107	102	1	0	103	278
4:00 PM	5	9	0	14	1	32	0	33	28	0	0	28	75
4:15 PM	4	2	0	6	0	22	0	22	24	0	0	24	52
4:30 PM	1	2	0	3	1	26	0	27	32	0	0	32	62
4:45 PM	4	6	0	10	0	18	0	18	20	0	0	20	48
Hourly Total	14	19	0	33	2	98	0	100	104	0	0	104	237
5:00 PM	2	3	0	5	0	21	0	21	19	0	0	19	45
5:15 PM	1	3	0	4	0	15	0	15	31	2	0	33	52
5:30 PM	2	5	0	7	0	16	0	16	21	0	0	21	44
5:45 PM	0	0	0	0	0	13	0	13	21	0	0	21	34
Hourly Total	5	11	0	16	0	65	0	65	92	2	0	94	175
Grand Total	173	272	3	445	84	724	1	808	593	26	0	619	1872
Approach %	38.9	61.1	-	-	10.4	89.6	-	-	95.8	4.2	-	-	-
Total %	9.2	14.5	-	23.8	4.5	38.7	-	43.2	31.7	1.4	-	33.1	-
Lights	134	230	-	364	82	684	-	766	566	26	-	592	1722
% Lights	77.5	84.6	-	81.8	97.6	94.5	-	94.8	95.4	100.0	-	95.6	92.0
Buses	39	41	-	80	2	35	-	37	23	0	-	23	140
% Buses	22.5	15.1	-	18.0	2.4	4.8	-	4.6	3.9	0.0	-	3.7	7.5
Trucks	0	1	-	1	0	5	-	5	4	0	-	4	10
% Trucks	0.0	0.4	-	0.2	0.0	0.7	-	0.6	0.7	0.0	-	0.6	0.5
Bicycles on Road	0	0	-	0	0	0	-	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	3	-	-	-	1	-	-	-	0	-	-
% Pedestrians	-	-	100.0	-	-	-	100.0	-	-	-	-	-	-



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Turning Movement Peak Hour Data (7:00 AM)

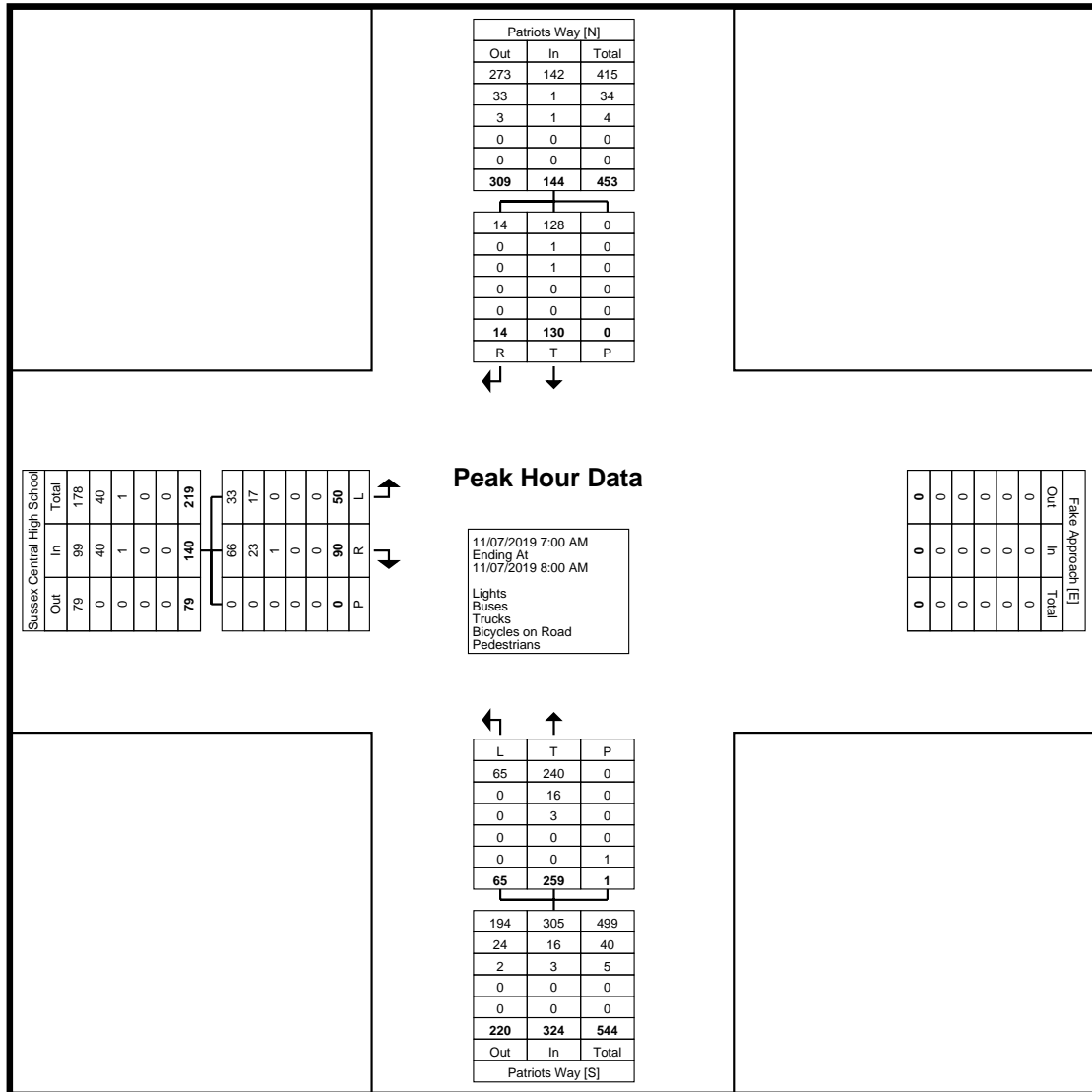
Start Time	Sussex Central High School DW (South) Eastbound				Patriots Way Northbound				Patriots Way Southbound				Int. Total
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	
7:00 AM	15	16	0	31	21	88	0	109	29	5	0	34	174
7:15 AM	18	39	0	57	40	105	1	145	41	9	0	50	252
7:30 AM	15	31	0	46	2	47	0	49	32	0	0	32	127
7:45 AM	2	4	0	6	2	19	0	21	28	0	0	28	55
Total	50	90	0	140	65	259	1	324	130	14	0	144	608
Approach %	35.7	64.3	-	-	20.1	79.9	-	-	90.3	9.7	-	-	-
Total %	8.2	14.8	-	23.0	10.7	42.6	-	53.3	21.4	2.3	-	23.7	-
PHF	0.694	0.577	-	0.614	0.406	0.617	-	0.559	0.793	0.389	-	0.720	0.603
Lights	33	66	-	99	65	240	-	305	128	14	-	142	546
% Lights	66.0	73.3	-	70.7	100.0	92.7	-	94.1	98.5	100.0	-	98.6	89.8
Buses	17	23	-	40	0	16	-	16	1	0	-	1	57
% Buses	34.0	25.6	-	28.6	0.0	6.2	-	4.9	0.8	0.0	-	0.7	9.4
Trucks	0	1	-	1	0	3	-	3	1	0	-	1	5
% Trucks	0.0	1.1	-	0.7	0.0	1.2	-	0.9	0.8	0.0	-	0.7	0.8
Bicycles on Road	0	0	-	0	0	0	-	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	0	-	-	-	1	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	100.0	-	-	-	-	-	-



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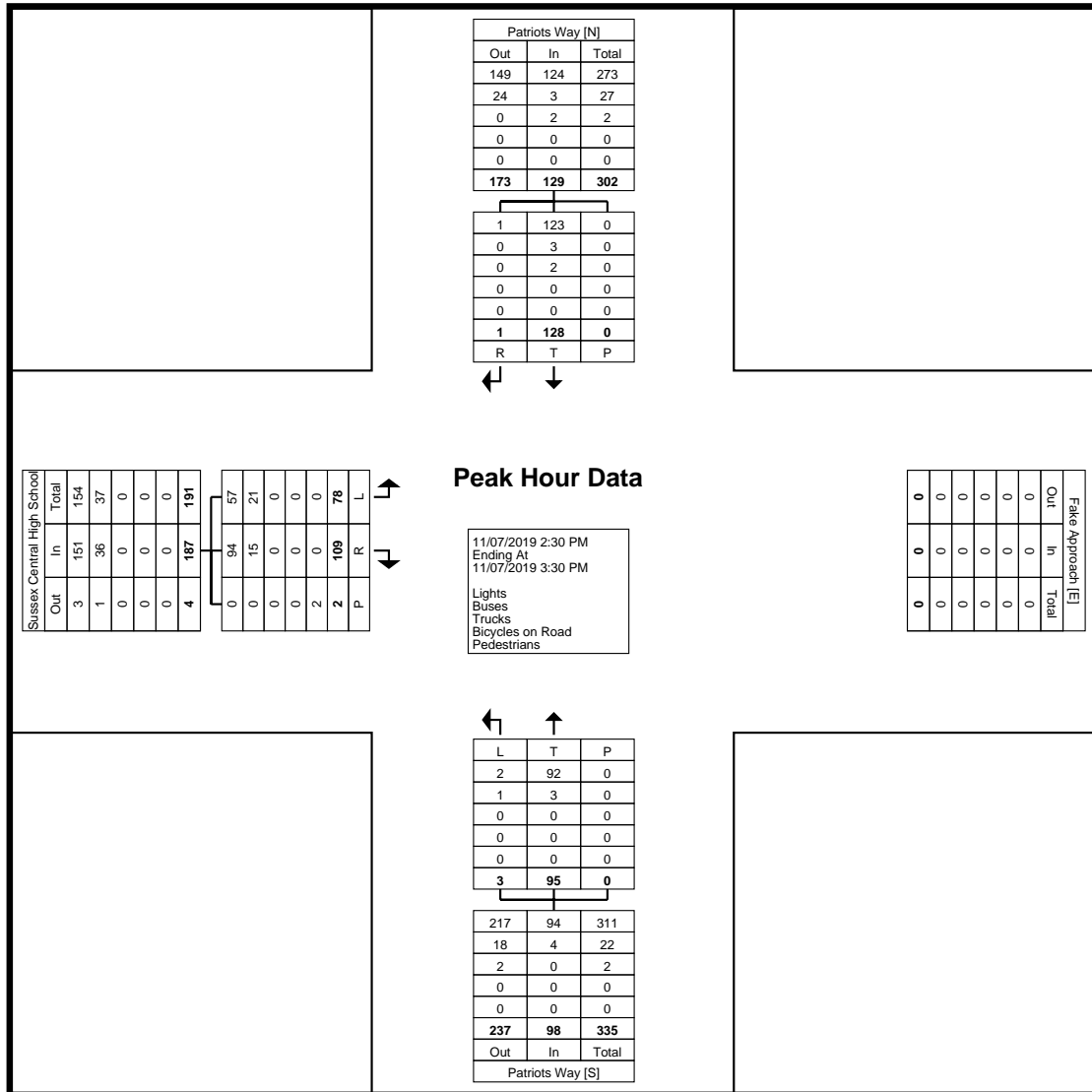
Turning Movement Peak Hour Data Plot (7:00 AM)



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Turning Movement Peak Hour Data Plot (2:30 PM)

Appendix D

VOLUME DEVELOPMENT INFORMATION

TPD# CDAE.00008
 1/16/2020
 Traffic Volumes Worksheet
 Intersection:
 Synchro Node:

Patriots Way & Existing High School Entrance (north)											
1	Adjacent intersections:	West	0	East	0	North	0	South	2		

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
Existing Counts	78		46				117	119			168	264	792
Seasonal Adjustment Factor	1.00		1.00				0.98	0.98			0.98	0.98	6
Existing Volumes (Seasonally Adjusted)	78	0	46	0	0	0	115	117	0	0	165	259	779
Base growth	0	0	0	0	0	0	0	2	0	0	2	0	4
Base growth (1% compounded for 2 years)	0	0	0	0	0	0	0	0	0	0	0	0	
2022 Base Volumes	78	0	46	0	0	0	115	119	0	0	167	259	783
Staff Trips											70		70
Parent Trips								6			6		
Bus Trips								(17)			(18)		35
Total Trip Distribution	0	0	0	0	0	0	0	23	0	0	94	0	117
2022 Projected Volumes	78	0	46	0	0	0	115	142	0	0	261	259	900

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
Existing Counts	130		79				17	144			65	18	453
Seasonal Adjustment Factor	1.00		1.00				0.98	0.98			0.98	0.98	6
Existing Volumes (Seasonally Adjusted)	130	0	79	0	0	0	17	141	0	0	64	18	448
Base growth	0	0	0	0	0	0	0	2	0	0	1	0	3
Base growth (1% compounded for 2 years)	0	0	0	0	0	0	0	0	0	0	0	0	0
2022 Base Volumes	130	0	79	0	0	0	17	143	0	0	65	18	451
Staff Trips								68					68
Parent Trips								6					
Bus Trips								(18)					18
Total Trip Distribution	0	0	0	0	0	0	0	92	0	0	0	0	92
2022 Projected Volumes	130	0	79	0	0	0	17	235	0	0	65	18	543

TPD# CDAE.00008
 1/16/2020
 Traffic Volumes Worksheet
 Intersection:
 Synchro Node:

Patriots Way & Existing High School Entrance (Center)/Proposed Site Entrance											
3	Adjacent intersections:	West	0	East	0	North	0	South	2		

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
Existing Counts	0		0				80	233			143	71	527
Seasonal Adjustment Factor	1.00		1.00				0.98	0.98			0.98	0.98	6
Existing Volumes (Seasonally Adjusted)	0	0	0	0	0	0	78	228	0	0	140	70	516
Base growth	0	0	0	0	0	0	0	3	0	0	2	0	5
Base growth (1% compounded for 2 years)	0	0	0	0	0	0	0	0	0	0	0	0	
2022 Base Volumes	0	0	0	0	0	0	78	231	0	0	142	70	521
Staff Trips									51		70		121
Parent Trips				4		6			4		6		
Bus Trips				(11)		(17)			(12)		(18)		58
Total Trip Distribution	0	0	0	15	0	23	0	0	67	94	0	0	199
2022 Projected Volumes	0	0	0	15	0	23	78	231	67	94	142	70	720

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
Existing Counts			0				14	159			131	16	320
Seasonal Adjustment Factor	1.00		1.00				0.98	0.98			0.98	0.98	6
Existing Volumes (Seasonally Adjusted)	0	0	0	0	0	0	14	156	0	0	128	16	314
Base growth	0	0	0	0	0	0	0	2	0	0	2	0	4
Base growth (1% compounded for 2 years)	0	0	0	0	0	0	0	0	0	0	0	0	0
2022 Base Volumes	0	0	0	0	0	0	14	158	0	0	130	16	318
Staff Trips				50		68							118
Parent Trips				4		6							
Bus Trips				(12)		(18)							30
Total Trip Distribution	0	0	0	66	0	92	0	0	0	0	0	0	158
2022 Projected Volumes	0	0	0	66	0	92	14	158	0	0	130	16	476

TPD# CDAE.00008
1/16/2020
Traffic Volumes Worksheet
Intersection:
Synchro Node:

Patriots Way & Existing High School Entrance (south)											
3	Adjacent intersections:	West	0	East	0	North	0	South	2		

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
Existing Counts	50		90				65	259			130	14	608
Seasonal Adjustment Factor	1.00		1.00				0.98	0.98			0.98	0.98	6
Existing Volumes (Seasonally Adjusted)	50	0	90	0	0	0	64	254	0	0	127	14	599
Base growth	0	0	0	0	0	0	0	4	0	0	2	0	6
Base growth (1% compounded for 2 years)	0	0	0	0	0	0	0	0	0	0	0	0	
2022 Base Volumes	50	0	90	0	0	0	64	258	0	0	129	14	605
Staff Trips								51					51
Parent Trips								4			4		
Bus Trips								(12)			(11)		23
Total Trip Distribution	0	0	0	0	0	0	0	67	0	0	15	0	82
2022 Projected Volumes	50	0	90	0	0	0	64	325	0	0	144	14	687

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
Existing Counts	78		109				3	95			128	1	414
Seasonal Adjustment Factor	1.00		1.00				0.98	0.98			0.98	0.98	6
Existing Volumes (Seasonally Adjusted)	78	0	109	0	0	0	3	93	0	0	125	1	409
Base growth	0	0	0	0	0	0	0	1	0	0	2	0	3
Base growth (1% compounded for 2 years)	0	0	0	0	0	0	0	0	0	0	0	0	0
2022 Base Volumes	78	0	109	0	0	0	3	94	0	0	127	1	412
Staff Trips											50		50
Parent Trips											4		
Bus Trips											(12)		12
Total Trip Distribution	0	0	0	0	0	0	0	0	0	0	66	0	66
2022 Projected Volumes	78	0	109	0	0	0	3	94	0	0	193	1	478

15-MIN VOLUME DEVELOPMENT WORKSHEETS

Patriots Way & Sussex Central HS Driveway (north)																																					
Existing Counts						Seasonally Adjusted												Base Growth 1.0151	Base						New Trips					Projected Volumes						PHF	
Time	Eastbound		Northbound		Southbound	Time	Eastbound		Northbound		Southbound		Time	Eastbound		Northbound		Southbound		Time	Eastbound		Northbound		Southbound		Time	Eastbound		Northbound		Southbound		15 min	Total		Hour
	Left	Right	Left	Thru	Right		Left	Right	Left	Thru	Right	Thru	Right		Left	Right	Left	Thru	Right	Thru	Right		Left	Right	Left	Thru	Right	Thru	Right	Thru	Right	Thru	Right				
7:00	14	13	44	28	51	75	7:00	14	13	43	27	50	74	7:00	14	13	43	28	51	74	7:00				17	2		7:00	14	13	43	45	53	74	242	901	0.633
7:15	30	22	62	32	56	146	7:15	30	22	61	31	55	143	7:15	30	22	61	32	56	143	7:15				0	12		7:15	30	22	61	32	68	143	356	707	
7:30	29	9	10	38	32	37	7:30	29	9	10	37	31	36	7:30	29	9	10	38	31	36	7:30				0	0		7:30	29	9	10	38	31	36	153	403	
7:45	5	2	1	21	29	6	7:45	5	2	1	21	28	6	7:45	5	2	1	21	28	6	7:45				6	81		7:45	5	2	1	27	109	6	150	295	
8:00	3	0	6	13	21	5	8:00	3	0	6	13	21	5	8:00	3	0	6	13	21	5	8:00				0	0		8:00	3	0	6	13	21	5	48	191	
8:15	0	0	5	19	19	9	8:15	0	0	5	19	19	9	8:15	0	0	5	19	19	9	8:15				0	0		8:15	0	0	5	19	19	9	52		
8:30	3	1	1	17	19	4	8:30	3	1	1	17	19	4	8:30	3	1	1	17	19	4	8:30				0	0		8:30	3	1	1	17	19	4	45		
8:45	4	2	1	16	17	6	8:45	4	2	1	16	17	6	8:45	4	2	1	16	17	6	8:45				0	0		8:45	4	2	1	16	17	6	46		
2:00	4	4	5	23	22	6	2:00	4	4	5	23	22	6	2:00	4	4	5	23	22	6	2:00				1	0		2:00	4	4	5	24	22	6	65	454	
2:15	3	1	14	19	20	25	2:15	3	1	14	19	20	25	2:15	3	1	14	19	20	25	2:15				0	6		2:15	3	1	14	19	26	25	88	474	
2:30	64	46	11	70	13	5	2:30	64	46	11	68	13	5	2:30	64	46	11	70	14	5	2:30				24	0		2:30	64	46	11	94	14	5	234	544	0.581
2:45	17	12	0	19	14	5	2:45	17	12	0	19	14	5	2:45	17	12	0	19	14	5	2:45				0	0		2:45	17	12	0	19	14	5	67	376	
3:00	24	8	2	31	15	7	3:00	24	8	2	30	14	7	3:00	24	8	2	30	14	7	3:00				0	0		3:00	24	8	2	30	14	7	85	406	
3:15	25	13	4	24	23	1	3:15	25	13	4	24	23	1	3:15	25	13	4	24	23	1	3:15				68	0		3:15	25	13	4	92	23	1	158	391	
3:30	12	5	5	22	20	2	3:30	12	5	5	22	20	2	3:30	12	5	5	22	20	2	3:30				0	0		3:30	12	5	5	22	20	2	66	308	
3:45	12	9	3	25	25	5	3:45	12	9	3	25	25	5	3:45	12	9	3	25	25	5	3:45				0	18		3:45	12	9	3	25	43	5	97	318	
4:00	4	5	0	31	25	6	4:00	4	5	0	30	25	6	4:00	4	5	0	30	25	6	4:00				0	0		4:00	4	5	0	30	25	6	70	269	
4:15	12	4	2	24	23	10	4:15	12	4	2	24	23	10	4:15	12	4	2	24	23	10	4:15				0	0		4:15	12	4	2	24	23	10	75	250	
4:30	7	10	4	26	29	2	4:30	7	10	4	25	28	2	4:30	7	10	4	25	28	2	4:30				0	0		4:30	7	10	4	25	28	2	76	227	
4:45	13	0	1	13	19	2	4:45	13	0	1	13	19	2	4:45	13	0	1	13	19	2	4:45				0	0		4:45	13	0	1	13	19	2	48	195	
5:00	3	1	4	24	19	0	5:00	3	1	4	24	19	0	5:00	3	1	4	24	19	0	5:00				0	0		5:00	3	1	4	24	19	0	51	179	
5:15	0	0	0	15	35	2	5:15	0	0	0	15	34	2	5:15	0	0	0	15	35	2	5:15				0	0		5:15	0	0	0	15	35	2	52		
5:30	1	0	0	19	24	0	5:30	1	0	0	19	24	0	5:30	1	0	0	19	24	0	5:30				0	0		5:30	1	0	0	19	24	0	44		
5:45	2	0	0	13	17	0	5:45	2	0	0	13	17	0	5:45	2	0	0	13	17	0	5:45				0	0		5:45	2	0	0	13	17	0	32		

AM Peak	78	46	115	142	261	259	901
PHF	0.650	0.523	0.471	0.789	0.599	0.453	0.633
PM Peak	130	79	17	235	65	18	544
PHF	0.508	0.429	0.386	0.625	0.707	0.643	0.581

Patriots Way & Sussex Central HS Driveway (center)																															
Existing Counts					Seasonally Adjusted					Base Growth 1.0151	Base					New Trips					Projected Volumes										PHF
Time	Northbound		Southbound		Time	Northbound		Southbound			Time	Northbound		Southbound		Time	Westbound		Northbound		Southbound		Time	Westbound		Northbound		Southbound		Total	
	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	15 min.	Hour	
7:00	28	78	34	34	7:00	27	76	33	34	7:00	27	77	34	34	7:00	11	0	17	27	77	2	1	34	34	203	720	0.833				
7:15	32	90	50	27	7:15	31	88	49	26	7:15	31	89	50	26	7:15	0	0	0	8	12	0	31	89	8	12	50	26	216	566		
7:30	17	44	32	10	7:30	17	43	31	10	7:30	17	44	32	10	7:30	0	0	0	0	0	0	17	44	0	0	32	10	103	396		
7:45	3	21	27	0	7:45	3	21	26	0	7:45	3	21	26	0	7:45	4	0	6	57	81	0	3	21	57	81	26	0	198	335		
8:00	5	21	18	5	8:00	5	21	18	5	8:00	5	21	18	5	8:00	0	0	0	0	0	0	5	21	0	0	18	5	49	174		
8:15	2	23	21	0	8:15	2	23	21	0	8:15	2	23	21	0	8:15	0	0	0	0	0	0	2	23	0	0	21	0	46			
8:30	5	17	17	3	8:30	5	17	17	3	8:30	5	17	17	3	8:30	0	0	0	0	0	0	5	17	0	0	17	3	42			
8:45	2	18	16	1	8:45	2	18	16	1	8:45	2	18	16	1	8:45	0	0	0	0	0	0	2	18	0	0	16	1	37			
2:00	9	32	11	11	2:00	9	31	11	11	2:00	9	31	11	11	2:00	0	0	1	0	0	0	9	31	0	0	11	11	63	368		
2:15	9	30	14	9	2:15	9	29	14	9	2:15	9	29	14	9	2:15	0	0	0	4	6	0	9	29	4	6	14	9	71	373		
2:30	5	79	52	6	2:30	5	77	50	6	2:30	5	78	51	6	2:30	16	24	0	0	0	78	51	6	78	0	0	51	6	180	476	0.661
2:45	5	19	25	4	2:45	5	19	25	4	2:45	5	19	26	4	2:45	0	0	0	0	0	0	5	19	0	0	26	4	54	352		
3:00	3	36	25	4	3:00	3	35	25	4	3:00	3	36	25	4	3:00	0	0	0	0	0	0	3	36	0	0	25	4	68	389		
3:15	1	25	29	2	3:15	1	25	28	2	3:15	1	25	28	2	3:15	50	68	0	0	0	0	1	25	0	0	28	2	174	368		
3:30	4	29	22	2	3:30	4	28	22	2	3:30	4	28	22	2	3:30	0	0	0	0	0	0	4	28	0	0	22	2	56	265		
3:45	4	27	28	4	3:45	4	26	27	4	3:45	4	26	27	4	3:45	0	0	0	12	18	0	4	26	12	18	27	4	91	272		
4:00	3	33	28	5	4:00	3	32	27	5	4:00	3	32	27	5	4:00	0	0	0	0	0	0	0	3	32	0	0	27	5	67	223	
4:15	3	23	24	1	4:15	3	23	24	1	4:15	3	23	24	1	4:15	0	0	0	0	0	0	0	3	23	0	0	24	1	51	199	
4:30	0	27	33	5	4:30	0	26	32	5	4:30	0	26	32	5	4:30	0	0	0	0	0	0	0	0	26	0	0	32	5	63	198	
4:45	2	20	20	0	4:45	2	20	20	0	4:45	2	20	20	0	4:45	0	0	0	0	0	0	0	2	20	0	0	20	0	42	175	
5:00	0	22	19	2	5:00	0	22	19	2	5:00	0	22	19	2	5:00	0	0	0	0	0	0	0	22	0	0	19	2	43	165		
5:15	1	14	34	2	5:15	1	14	33	2	5:15	1	14	33	2	5:15	0	0	0	0	0	0	0	1	14	0	0	33	2	50		
5:30	0	19	20	1	5:30	0	19	20	1	5:30	0	19	20	1	5:30	0	0	0	0	0	0	0	0	19	0	0	20	1	40		
5:45	0	13	19	0	5:45	0	13	19	0	5:45	0	13	19	0	5:45	0	0	0	0	0	0	0	0	13	0	0	19	0	32		

AM Peak	15	0	23	78	231	67	94	142	70		720
PHF	0.341		0.338	0.629	0.649	0.294	0.290	0.710	0.515		0.833
PM Peak	66	0	92	14	158	0	0	130	16		476
PHF	0.330		0.338	0.700	0.506			0.637	0.667		0.661

Existing Counts														Seasonally Adjusted														Base Growth	Patriots Way & Sussex Central HS Driveway (south)														New Trips														Projected Volumes														PHF
Time	Eastbound			Northbound			Time	Eastbound			Northbound			Southbound			Time	Eastbound			Northbound			Southbound			Time	Eastbound			Northbound			Southbound			15 min.	Hour	Total	PHF																															
	Left	Right	Thru	Left	Right	Thru		Left	Right	Thru	Left	Right	Thru	Left	Right	Thru		Left	Right	Thru	Left	Right	Thru	Left	Right	Thru		Left	Right	Thru	Left	Right	Thru	Left	Right	Thru																																			
7:00	15	16	21	88	29	5	7:00	15	16	21	86	28	5	1.0151	7:00	15	16	21	87	29	5	7:00				2	11		7:00	15	16	21	89	40	5	186	687	0.663																																	
7:15	18	39	40	105	41	9	7:15	18	39	39	103	40	9		7:15	18	39	39	105	41	9	7:15				8	0		7:15	18	39	39	113	41	9	259	550																																		
7:30	15	31	2	47	32	0	7:30	15	31	2	46	31	0		7:30	15	31	2	47	32	0	7:30				0	0		7:30	15	31	2	47	32	0	127	344																																		
7:45	2	4	2	19	28	0	7:45	2	4	2	19	27	0		7:45	2	4	2	19	27	0	7:45				57	4		7:45	2	4	2	26	31	0	115	260																																		
8:00	3	4	1	23	16	2	8:00	3	4	1	23	16	2		8:00	3	4	1	23	16	2	8:00				0	0		8:00	3	4	1	23	16	2	49	187																																		
8:15	2	5	2	23	21	0	8:15	2	5	2	23	21	0		8:15	2	5	2	23	21	0	8:15				0	0		8:15	2	5	2	23	21	0	53																																			
8:30	3	3	2	18	16	1	8:30	3	3	2	18	16	1		8:30	3	3	2	18	16	1	8:30				0	0		8:30	3	3	2	18	16	1	43																																			
8:45	3	4	1	18	15	1	8:45	3	4	1	18	15	1		8:45	3	4	1	18	15	1	8:45				0	0		8:45	3	4	1	18	15	1	42																																			
2:00	4	6	4	35	12	1	2:00	4	6	4	34	12	1		2:00	4	6	4	35	12	1	2:00				12	1		2:00	4	6	4	35	12	1	63	407																																		
2:15	2	1	2	37	9	4	2:15	2	1	2	36	9	4		2:15	2	1	2	37	9	4	2:15				9	4		2:15	2	1	2	41	9	4	59	421																																		
2:30	57	66	0	27	52	0	2:30	57	66	0	26	51	0		2:30	57	66	0	27	52	0	2:30				0	16		2:30	57	66	0	27	68	0	218	478	0.548																																	
2:45	6	19	0	19	24	0	2:45	6	19	0	19	24	0		2:45	6	19	0	19	24	0	2:45				0	0		2:45	6	19	0	19	24	0	68	324																																		
3:00	11	14	2	27	22	1	3:00	11	14	2	26	22	1		3:00	11	14	2	27	22	1	3:00				13	26		3:00	11	14	2	26	22	1	76	336																																		
3:15	4	10	1	22	30	0	3:15	4	10	1	22	29	0		3:15	4	10	1	22	29	0	3:15				0	50		3:15	4	10	1	22	29	0	116	333																																		
3:30	3	11	2	28	21	0	3:30	3	11	2	27	21	0		3:30	3	11	2	27	21	0	3:30				0	0		3:30	3	11	2	27	21	0	64	269																																		
3:45	6	9	0	25	29	0	3:45	6	9	0	25	28	0		3:45	6	9	0	25	28	0	3:45				12	0		3:45	6	9	0	37	28	0	80	265																																		
4:00	5	9	1	32	28	0	4:00	5	9	1	31	27	0		4:00	5	9	1	31	27	0	4:00				0	0		4:00	5	9	1	31	27	0	73	233																																		
4:15	4	2	0	22	24	0	4:15	4	2	0	22	24	0		4:15	4	2	0	22	24	0	4:15				0	0		4:15	4	2	0	22	24	0	52	205																																		
4:30	1	2	1	26	32	0	4:30	1	2	1	25	31	0		4:30	1	2	1	25	31	0	4:30				0	0		4:30	1	2	1	25	31	0	60	204																																		
4:45	4	6	0	18	20	0	4:45	4	6	0	18	20	0		4:45	4	6	0	18	20	0	4:45				0	0		4:45	4	6	0	18	20	0	48	198																																		
5:00	2	3	0	21	19	0	5:00	2	3	0	21	19	0		5:00	2	3	0	21	19	0	5:00				0	0		5:00	2	3	0	21	19	0	45	174																																		
5:15	1	3	0	15	31	2	5:15	1	3	0	15	30	2		5:15	1	3	0	15	30	2	5:15				2	5		5:15	1	3	0	15	30	2	51																																			
5:30	2	5	0	16	21	0	5:30	2	5	0	16	21	0		5:30	2	5	0	16	21	0	5:30				0	0		5:30	2	5	0	16	21	0	44																																			
5:45	0	0	0	13	21	0	5:45	0	0	0	13	21	0		5:45	0	0	0	13	21	0	5:45				0	0		5:45	0	0	0	13	21	0	34																																			

AM Peak	50	90	64	325	144	14		687
PHF	0.694	0.577	0.410	0.719	0.878	0.389		0.663
PM Peak	78	109	3	94	193	1		478
PHF	0.342	0.413	0.375	0.870	0.611	0.250		0.548

Appendix E












CAPACITY ANALYSES

EXISTING CONDITIONS

1: Patriots Way & Sussex HS Driveway (north)

Existing Conditions

Timing Plan: AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	78	46	115	117	165	259
Future Volume (vph)	78	46	115	117	165	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	9	9	9	9
Grade (%)	0%			1%	0%	
Storage Length (ft)	0	0	120			210
Storage Lanes	1	0	1			1
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	725			447	479	
Travel Time (s)	19.8			12.2	13.1	
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Heavy Vehicles (%)	0%	0%	0%	19%	16%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					






1: Patriots Way & Sussex HS Driveway (north)

Existing Conditions

Timing Plan: AM Peak Hour

Intersection

Int Delay, s/veh 7.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	78	46	115	117	165	259
Future Vol, veh/h	78	46	115	117	165	259
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	-	120	-	-	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	0	-
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	0	0	0	19	16	0
Mvmt Flow	137	81	202	205	289	454

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	898	289	743
Stage 1	289	-	-
Stage 2	609	-	-
Critical Hdwy	6.4	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	312	755	873
Stage 1	765	-	-
Stage 2	547	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	240	755	873
Mov Cap-2 Maneuver	240	-	-
Stage 1	588	-	-
Stage 2	547	-	-












Approach	EB	NB	SB
HCM Control Delay, s	36.9	5.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	873	-	321	-	-
HCM Lane V/C Ratio	0.231	-	0.678	-	-
HCM Control Delay (s)	10.4	-	36.9	-	-
HCM Lane LOS	B	-	E	-	-
HCM 95th %tile Q(veh)	0.9	-	4.6	-	-

2: Patriots Way & Sussex HS Driveway (center)

Existing Conditions

Timing Plan: AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	78	228	140	70
Future Volume (vph)	0	0	78	228	140	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	9	9
Grade (%)	-1%			1%	-1%	
Storage Length (ft)	0	0	235			210
Storage Lanes	1	0	1			1
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	427			549	447	
Travel Time (s)	11.6			15.0	12.2	
Confl. Peds. (#/hr)		1	1			
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles (%)	0%	0%	19%	9%	1%	36%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					






2: Patriots Way & Sussex HS Driveway (center)

Existing Conditions

Timing Plan: AM Peak Hour

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	78	228	140	70
Future Vol, veh/h	0	0	78	228	140	70
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	235	-	-	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-1	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	19	9	1	36
Mvmt Flow	0	0	118	345	212	106

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	794	214	319
Stage 1	213	-	-
Stage 2	581	-	-
Critical Hdwy	6.2	6.1	4.29
Critical Hdwy Stg 1	5.2	-	-
Critical Hdwy Stg 2	5.2	-	-
Follow-up Hdwy	3.5	3.3	2.371
Pot Cap-1 Maneuver	376	836	1151
Stage 1	837	-	-
Stage 2	582	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	337	835	1150
Mov Cap-2 Maneuver	337	-	-
Stage 1	750	-	-
Stage 2	581	-	-











Approach	EB	NB	SB
HCM Control Delay, s	0	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1150	-	-	-	-
HCM Lane V/C Ratio	0.103	-	-	-	-
HCM Control Delay (s)	8.5	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-	-

3: Patriots Way & Sussex HS Driveway (south)

Existing Conditions






Timing Plan: AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	50	90	64	254	127	14
Future Volume (vph)	50	90	64	254	127	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	9	9
Grade (%)	-1%			-1%	-1%	
Storage Length (ft)	0	0	210			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	578			700	549	
Travel Time (s)	15.8			19.1	15.0	
Peak Hour Factor	0.60	0.60	0.60	0.60	0.60	0.60
Heavy Vehicles (%)	34%	27%	0%	7%	2%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Patriots Way & Sussex HS Driveway (south)

Existing Conditions

Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	5.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	90	64	254	127	14
Future Vol, veh/h	50	90	64	254	127	14
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	-	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	-1	-1	-
Peak Hour Factor	60	60	60	60	60	60
Heavy Vehicles, %	34	27	0	7	2	0
Mvmt Flow	83	150	107	423	212	23

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	861	224	235	0	-	0
Stage 1	224	-	-	-	-	-
Stage 2	637	-	-	-	-	-
Critical Hdwy	6.54	6.37	4.1	-	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.806	3.543	2.2	-	-	-
Pot Cap-1 Maneuver	302	762	1344	-	-	-
Stage 1	753	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	278	762	1344	-	-	-
Mov Cap-2 Maneuver	278	-	-	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	488	-	-	-	-	-












Approach	EB	NB	SB
HCM Control Delay, s	20	1.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1344	-	470	-	-
HCM Lane V/C Ratio	0.079	-	0.496	-	-
HCM Control Delay (s)	7.9	-	20	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	2.7	-	-

1: Patriots Way & Sussex HS Driveway (north)

Existing Conditions






Timing Plan: PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	130	79	17	141	64	18
Future Volume (vph)	130	79	17	141	64	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	9	9	9	9
Grade (%)	0%			1%	0%	
Storage Length (ft)	0	0	120			210
Storage Lanes	1	0	1			1
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	725			447	479	
Travel Time (s)	19.8			12.2	13.1	
Confl. Peds. (#/hr)			2			2
Peak Hour Factor	0.54	0.54	0.54	0.54	0.54	0.54
Heavy Vehicles (%)	0%	0%	0%	16%	8%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

1: Patriots Way & Sussex HS Driveway (north)

Existing Conditions












Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	8.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	130	79	17	141	64	18
Future Vol, veh/h	130	79	17	141	64	18
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	120	-	-	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	0	-
Peak Hour Factor	54	54	54	54	54	54
Heavy Vehicles, %	0	0	0	16	8	0
Mvmt Flow	241	146	31	261	119	33
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	444	121	154	0	-	0
Stage 1	121	-	-	-	-	-
Stage 2	323	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	575	936	1439	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	560	934	1436	-	-	-
Mov Cap-2 Maneuver	560	-	-	-	-	-
Stage 1	887	-	-	-	-	-
Stage 2	737	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17.9	0.8		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1436	-	660	-	-	
HCM Lane V/C Ratio	0.022	-	0.586	-	-	
HCM Control Delay (s)	7.6	-	17.9	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	3.8	-	-	

2: Patriots Way & Sussex HS Driveway (center)

Existing Conditions

Timing Plan: PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	14	156	128	16
Future Volume (vph)	0	0	14	156	128	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	9	9
Grade (%)	-1%			1%	-1%	
Storage Length (ft)	0	0	235			210
Storage Lanes	1	0	1			1
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	427			549	447	
Travel Time (s)	11.6			15.0	12.2	
Confl. Peds. (#/hr)			1			1
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Heavy Vehicles (%)	0%	0%	14%	15%	2%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					






2: Patriots Way & Sussex HS Driveway (center)

Existing Conditions

Timing Plan: PM Peak Hour

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	14	156	128	16
Future Vol, veh/h	0	0	14	156	128	16
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	235	-	-	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-1	-
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	0	0	14	15	2	0
Mvmt Flow	0	0	25	274	225	28

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	550	226	254
Stage 1	226	-	-
Stage 2	324	-	-
Critical Hdwy	6.2	6.1	4.24
Critical Hdwy Stg 1	5.2	-	-
Critical Hdwy Stg 2	5.2	-	-
Follow-up Hdwy	3.5	3.3	2.326
Pot Cap-1 Maneuver	515	824	1244
Stage 1	827	-	-
Stage 2	751	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	504	823	1243
Mov Cap-2 Maneuver	504	-	-
Stage 1	810	-	-
Stage 2	750	-	-











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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1243	-	-	-	-
HCM Lane V/C Ratio	0.02	-	-	-	-
HCM Control Delay (s)	8	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-

3: Patriots Way & Sussex HS Driveway (south)

Existing Conditions






Timing Plan: PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	78	109	3	93	125	1
Future Volume (vph)	78	109	3	93	125	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	9	9
Grade (%)	-1%			-1%	-1%	
Storage Length (ft)	0	0	210			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	578			700	549	
Travel Time (s)	15.8			19.1	15.0	
Confl. Peds. (#/hr)			2			2
Peak Hour Factor	0.51	0.51	0.51	0.51	0.51	0.51
Heavy Vehicles (%)	27%	14%	33%	3%	4%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Patriots Way & Sussex HS Driveway (south)

Existing Conditions

Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	8.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	78	109	3	93	125	1
Future Vol, veh/h	78	109	3	93	125	1
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	-1	-1	-
Peak Hour Factor	51	51	51	51	51	51
Heavy Vehicles, %	27	14	33	3	4	0
Mvmt Flow	153	214	6	182	245	2

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	442	248	249
Stage 1	248	-	-
Stage 2	194	-	-
Critical Hdwy	6.47	6.24	4.43
Critical Hdwy Stg 1	5.47	-	-
Critical Hdwy Stg 2	5.47	-	-
Follow-up Hdwy	3.743	3.426	2.497
Pot Cap-1 Maneuver	542	767	1156
Stage 1	749	-	-
Stage 2	791	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	537	766	1154
Mov Cap-2 Maneuver	537	-	-
Stage 1	744	-	-
Stage 2	789	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.5	0.3	0
HCM LOS	C		












Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1154	-	650	-	-
HCM Lane V/C Ratio	0.005	-	0.564	-	-
HCM Control Delay (s)	8.1	-	17.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	3.5	-	-

2022 BASE CONDITIONS

1: Patriots Way & Sussex HS Driveway (north)

2022 Base Conditions






Timing Plan: AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	78	46	115	119	167	259
Future Volume (vph)	78	46	115	119	167	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	9	9	9	9
Grade (%)	0%			1%	0%	
Storage Length (ft)	0	0	120			210
Storage Lanes	1	0	1			1
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	725			447	479	
Travel Time (s)	19.8			12.2	13.1	
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Heavy Vehicles (%)	2%	2%	0%	19%	16%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

1: Patriots Way & Sussex HS Driveway (north)

2022 Base Conditions

Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	7.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	78	46	115	119	167	259
Future Vol, veh/h	78	46	115	119	167	259
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	-	120	-	-	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	0	-
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	2	2	0	19	16	0
Mvmt Flow	137	81	202	209	293	454
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	906	293	747	0	-	0
Stage 1	293	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	307	746	870	-	-	-
Stage 1	757	-	-	-	-	-
Stage 2	541	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	236	746	870	-	-	-
Mov Cap-2 Maneuver	236	-	-	-	-	-
Stage 1	581	-	-	-	-	-
Stage 2	541	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	38.2	5.1		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	870	-	316	-	-	
HCM Lane V/C Ratio	0.232	-	0.688	-	-	
HCM Control Delay (s)	10.4	-	38.2	-	-	
HCM Lane LOS	B	-	E	-	-	
HCM 95th %tile Q(veh)	0.9	-	4.8	-	-	

2: Patriots Way & Sussex HS Driveway (center)

2022 Base Conditions






Timing Plan: AM Peak Hour

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	78	231	142	70
Future Volume (vph)	0	0	78	231	142	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	9	9
Grade (%)	-1%			1%	-1%	
Storage Length (ft)	0	0	235			210
Storage Lanes	1	0	1			1
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	427			549	447	
Travel Time (s)	11.6			15.0	12.2	
Confl. Peds. (#/hr)		1	1			
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles (%)	0%	0%	19%	9%	1%	36%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2: Patriots Way & Sussex HS Driveway (center)

2022 Base Conditions

Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	78	231	142	70
Future Vol, veh/h	0	0	78	231	142	70
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	235	-	-	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-1	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	19	9	1	36
Mvmt Flow	0	0	118	350	215	106

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	802	217	322	0	-	0
Stage 1	216	-	-	-	-	-
Stage 2	586	-	-	-	-	-
Critical Hdwy	6.2	6.1	4.29	-	-	-
Critical Hdwy Stg 1	5.2	-	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.371	-	-	-
Pot Cap-1 Maneuver	372	833	1148	-	-	-
Stage 1	835	-	-	-	-	-
Stage 2	579	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	333	832	1147	-	-	-
Mov Cap-2 Maneuver	333	-	-	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	578	-	-	-	-	-











Approach	EB	NB	SB
HCM Control Delay, s	0	2.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1147	-	-	-	-
HCM Lane V/C Ratio	0.103	-	-	-	-
HCM Control Delay (s)	8.5	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-	-

3: Patriots Way & Sussex HS Driveway (south)

2022 Base Conditions

Timing Plan: AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	50	90	64	258	129	14
Future Volume (vph)	50	90	64	258	129	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	9	9
Grade (%)	-1%			-1%	-1%	
Storage Length (ft)	0	0	210			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	578			700	549	
Travel Time (s)	15.8			19.1	15.0	
Peak Hour Factor	0.60	0.60	0.60	0.60	0.60	0.60
Heavy Vehicles (%)	34%	27%	0%	7%	2%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Patriots Way & Sussex HS Driveway (south)





2022 Base Conditions

Timing Plan: AM Peak Hour

Intersection

Int Delay, s/veh 5.5

Movement

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	90	64	258	129	14
Future Vol, veh/h	50	90	64	258	129	14
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	-	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	-1	-1	-
Peak Hour Factor	60	60	60	60	60	60
Heavy Vehicles, %	34	27	0	7	2	0
Mvmt Flow	83	150	107	430	215	23

Major/Minor

	Minor2	Major1	Major2
Conflicting Flow All	871	227	238
Stage 1	227	-	-
Stage 2	644	-	-
Critical Hdwy	6.54	6.37	4.1
Critical Hdwy Stg 1	5.54	-	-
Critical Hdwy Stg 2	5.54	-	-
Follow-up Hdwy	3.806	3.543	2.2
Pot Cap-1 Maneuver	297	759	1341
Stage 1	750	-	-
Stage 2	484	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	273	759	1341
Mov Cap-2 Maneuver	273	-	-
Stage 1	690	-	-
Stage 2	484	-	-

Approach

	EB	NB	SB
HCM Control Delay, s	20.3	1.6	0
HCM LOS	C		

Minor Lane/Major Mvmt

	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1341	-	464	-	-
HCM Lane V/C Ratio	0.08	-	0.503	-	-
HCM Control Delay (s)	7.9	-	20.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	2.8	-	-

1: Patriots Way & Sussex HS Driveway (north)

2022 Base Conditions

Timing Plan: PM Peak Hour

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	130	79	17	143	65	18
Future Volume (vph)	130	79	17	143	65	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	9	9	9	9
Grade (%)	0%			1%	0%	
Storage Length (ft)	0	0	120			210
Storage Lanes	1	0	1			1
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	725			447	479	
Travel Time (s)	19.8			12.2	13.1	
Confl. Peds. (#/hr)			2			2
Peak Hour Factor	0.54	0.54	0.54	0.54	0.54	0.54
Heavy Vehicles (%)	0%	0%	0%	16%	8%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

1: Patriots Way & Sussex HS Driveway (north)

2022 Base Conditions

Timing Plan: PM Peak Hour

Intersection

Int Delay, s/veh 8.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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Lane Configurations						
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Traffic Vol, veh/h	130	79	17	143	65	18
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Future Vol, veh/h	130	79	17	143	65	18
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Conflicting Peds, #/hr	0	0	2	0	0	2
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Sign Control	Stop	Stop	Free	Free	Free	Free
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RT Channelized	-	None	-	None	-	None
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Storage Length	0	-	120	-	-	210
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	1	0	-
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Peak Hour Factor	54	54	54	54	54	54
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Heavy Vehicles, %	0	0	0	16	8	0
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Mvmt Flow	241	146	31	265	120	33
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Major/Minor	Minor2	Major1	Major2
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Conflicting Flow All	449	122	155
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Stage 1	122	-	-
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Stage 2	327	-	-
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Critical Hdwy	6.4	6.2	4.1
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Critical Hdwy Stg 1	5.4	-	-
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Critical Hdwy Stg 2	5.4	-	-
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Follow-up Hdwy	3.5	3.3	2.2
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Pot Cap-1 Maneuver	571	935	1438
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Stage 1	908	-	-
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Stage 2	735	-	-
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Platoon blocked, %			
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Mov Cap-1 Maneuver	556	933	1435
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Mov Cap-2 Maneuver	556	-	-
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Stage 1	886	-	-
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Stage 2	734	-	-
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Approach	EB	NB	SB
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HCM Control Delay, s	18.1	0.8	0
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HCM LOS	C		
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Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
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Capacity (veh/h)	1435	-	656	-	-
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HCM Lane V/C Ratio	0.022	-	0.59	-	-
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HCM Control Delay (s)	7.6	-	18.1	-	-
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HCM Lane LOS	A	-	C	-	-
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HCM 95th %tile Q(veh)	0.1	-	3.9	-	-
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2: Patriots Way & Sussex HS Driveway (center)

2022 Base Conditions

Timing Plan: PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	14	158	130	16
Future Volume (vph)	0	0	14	158	130	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	9	9
Grade (%)	-1%			1%	-1%	
Storage Length (ft)	0	0	235			210
Storage Lanes	1	0	1			1
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	427			549	447	
Travel Time (s)	11.6			15.0	12.2	
Confl. Peds. (#/hr)			1			1
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Heavy Vehicles (%)	0%	0%	14%	15%	2%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2: Patriots Way & Sussex HS Driveway (center)

2022 Base Conditions

Timing Plan: PM Peak Hour

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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Lane Configurations						
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Traffic Vol, veh/h	0	0	14	158	130	16
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Future Vol, veh/h	0	0	14	158	130	16
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Conflicting Peds, #/hr	0	0	1	0	0	1
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Sign Control	Stop	Stop	Free	Free	Free	Free
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RT Channelized	-	None	-	None	-	None
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Storage Length	0	-	235	-	-	210
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	-1	-	-	1	-1	-
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Peak Hour Factor	57	57	57	57	57	57
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Heavy Vehicles, %	0	0	14	15	2	0
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Mvmt Flow	0	0	25	277	228	28
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Major/Minor	Minor2	Major1	Major2
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Conflicting Flow All	556	229	257
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Stage 1	229	-	-
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Stage 2	327	-	-
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Critical Hdwy	6.2	6.1	4.24
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Critical Hdwy Stg 1	5.2	-	-
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Critical Hdwy Stg 2	5.2	-	-
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Follow-up Hdwy	3.5	3.3	2.326
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Pot Cap-1 Maneuver	511	820	1241
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Stage 1	824	-	-
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Stage 2	749	-	-
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Platoon blocked, %			
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Mov Cap-1 Maneuver	500	819	1240
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Mov Cap-2 Maneuver	500	-	-
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Stage 1	807	-	-
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Stage 2	748	-	-
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Approach	EB	NB	SB
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HCM Control Delay, s	0	0.6	0
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HCM LOS	A		
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Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
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Capacity (veh/h)	1240	-	-	-	-
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HCM Lane V/C Ratio	0.02	-	-	-	-
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HCM Control Delay (s)	8	-	0	-	-
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HCM Lane LOS	A	-	A	-	-
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HCM 95th %tile Q(veh)	0.1	-	-	-	-
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3: Patriots Way & Sussex HS Driveway (south)

2022 Base Conditions






Timing Plan: PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	78	109	3	94	127	1
Future Volume (vph)	78	109	3	94	127	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	9	9
Grade (%)	-1%			-1%	-1%	
Storage Length (ft)	0	0	210			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	578			700	549	
Travel Time (s)	15.8			19.1	15.0	
Confl. Peds. (#/hr)			2			2
Peak Hour Factor	0.51	0.51	0.51	0.51	0.51	0.51
Heavy Vehicles (%)	27%	14%	33%	3%	4%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Patriots Way & Sussex HS Driveway (south)

2022 Base Conditions

Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	8.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	78	109	3	94	127	1
Future Vol, veh/h	78	109	3	94	127	1
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	-1	-1	-
Peak Hour Factor	51	51	51	51	51	51
Heavy Vehicles, %	27	14	33	3	4	0
Mvmt Flow	153	214	6	184	249	2

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	448	252	253
Stage 1	252	-	-
Stage 2	196	-	-
Critical Hdwy	6.47	6.24	4.43
Critical Hdwy Stg 1	5.47	-	-
Critical Hdwy Stg 2	5.47	-	-
Follow-up Hdwy	3.743	3.426	2.497
Pot Cap-1 Maneuver	538	764	1151
Stage 1	745	-	-
Stage 2	789	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	533	763	1149
Mov Cap-2 Maneuver	533	-	-
Stage 1	740	-	-
Stage 2	787	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	0.3	0
HCM LOS	C		












Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1149	-	647	-	-
HCM Lane V/C Ratio	0.005	-	0.567	-	-
HCM Control Delay (s)	8.1	-	17.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	3.6	-	-

2022 PROJECTED CONDITIONS

1: Patriots Way & Sussex HS Driveway (north)

2022 Projected Conditions

Timing Plan: AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	78	46	115	142	261	259
Future Volume (vph)	78	46	115	142	261	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	9	9	9	9
Grade (%)	0%			1%	0%	
Storage Length (ft)	0	0	120			210
Storage Lanes	1	0	1			1
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	725			447	479	
Travel Time (s)	19.8			12.2	13.1	
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles (%)	0%	0%	0%	19%	16%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

1: Patriots Way & Sussex HS Driveway (north)

2022 Projected Conditions

Timing Plan: AM Peak Hour

Intersection

Int Delay, s/veh 7.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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Lane Configurations						
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Traffic Vol, veh/h	78	46	115	142	261	259
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Future Vol, veh/h	78	46	115	142	261	259
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Stop	Stop	Free	Free	Free	Free
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RT Channelized	-	None	-	None	-	None
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Storage Length	0	-	120	-	-	210
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	1	0	-
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Peak Hour Factor	63	63	63	63	63	63
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Heavy Vehicles, %	0	0	0	19	16	0
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Mvmt Flow	124	73	183	225	414	411
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Major/Minor	Minor2	Major1	Major2
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Conflicting Flow All	1005	414	825
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Stage 1	414	-	-
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Stage 2	591	-	-
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Critical Hdwy	6.4	6.2	4.1
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Critical Hdwy Stg 1	5.4	-	-
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Critical Hdwy Stg 2	5.4	-	-
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Follow-up Hdwy	3.5	3.3	2.2
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Pot Cap-1 Maneuver	270	643	814
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Stage 1	671	-	-
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Stage 2	557	-	-
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Platoon blocked, %			
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Mov Cap-1 Maneuver	209	643	814
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Mov Cap-2 Maneuver	209	-	-
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Stage 1	520	-	-
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Stage 2	557	-	-
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Approach	EB	NB	SB
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HCM Control Delay, s	43.8	4.8	0
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HCM LOS	E		
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Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
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Capacity (veh/h)	814	-	279	-	-
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HCM Lane V/C Ratio	0.224	-	0.705	-	-
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HCM Control Delay (s)	10.7	-	43.8	-	-
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

















HCM Lane LOS	B	-	E	-	-
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HCM 95th %tile Q(veh)	0.9	-	4.9	-	-
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2: Patriots Way & Sussex HS Driveway (center)/Site Driveway

2022 Projected Conditions

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	15	0	23	78	231	67	94	142	70
Future Volume (vph)	0	0	0	15	0	23	78	231	67	94	142	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	9	9	12	12	9	9
Grade (%)		-1%			0%			1%			-1%	
Storage Length (ft)	0		0	0		0	235		0	225		210
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		427			556			549			447	
Travel Time (s)		11.6			15.2			15.0			12.2	
Confl. Peds. (#/hr)			1				1					
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	2%	0%	73%	2%	74%	19%	9%	18%	19%	1%	36%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↕		↗	↘		↗	↑	↘
Traffic Vol, veh/h	0	0	0	15	0	23	78	231	67	94	142	70
Future Vol, veh/h	0	0	0	15	0	23	78	231	67	94	142	70
Conflicting Peds, #/hr	0	0	1	0	0	0	1	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	-	-	-	-	-	-	235	-	-	225	-	210
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	1	-	-	-1	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	2	0	73	2	74	19	9	18	19	1	36
Mvmt Flow	0	0	0	18	0	28	94	278	81	113	171	84

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	-	945	-	946	989	319	256	0	0	359	0	0
Stage 1	-	398	-	507	507	-	-	-	-	-	-	-
Stage 2	-	547	-	439	482	-	-	-	-	-	-	-
Critical Hdwy	-	6.32	-	7.83	6.52	6.94	4.29	-	-	4.29	-	-
Critical Hdwy Stg 1	-	5.32	-	6.83	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.32	-	6.83	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	-	4.157	4.018	3.966	2.371	-	-	2.371	-	-
Pot Cap-1 Maneuver	0	276	0	182	247	582	1216	-	-	1111	-	-
Stage 1	0	616	0	437	539	-	-	-	-	-	-	-
Stage 2	0	533	0	480	553	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	229	-	158	205	582	1215	-	-	1111	-	-
Mov Cap-2 Maneuver	-	229	-	158	205	-	-	-	-	-	-	-
Stage 1	-	553	-	403	497	-	-	-	-	-	-	-
Stage 2	-	492	-	431	496	-	-	-	-	-	-	-











Approach	EB	WB	NB	SB
HCM Control Delay, s	0	20.2	1.7	2.6
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1215	-	-	- 283	1111	-	-
HCM Lane V/C Ratio	0.077	-	-	- 0.162	0.102	-	-
HCM Control Delay (s)	8.2	-	-	0 20.2	8.6	-	-
HCM Lane LOS	A	-	-	A C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	- 0.6	0.3	-	-

3: Patriots Way & Sussex HS Driveway (south)

2022 Projected Conditions





Timing Plan: AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	50	90	64	325	144	14
Future Volume (vph)	50	90	64	325	144	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	9	9
Grade (%)	-1%			-1%	-1%	
Storage Length (ft)	0	0	210			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	578			700	549	
Travel Time (s)	15.8			19.1	15.0	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles (%)	34%	27%	0%	7%	2%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Patriots Way & Sussex HS Driveway (south)

2022 Projected Conditions












Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	90	64	325	144	14
Future Vol, veh/h	50	90	64	325	144	14
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	-	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	-1	-1	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	34	27	0	7	2	0
Mvmt Flow	76	136	97	492	218	21
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	915	229	239	0	-	0
Stage 1	229	-	-	-	-	-
Stage 2	686	-	-	-	-	-
Critical Hdwy	6.54	6.37	4.1	-	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.806	3.543	2.2	-	-	-
Pot Cap-1 Maneuver	280	757	1340	-	-	-
Stage 1	749	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	260	757	1340	-	-	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	19.9	1.3		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1340	-	450	-	-	
HCM Lane V/C Ratio	0.072	-	0.471	-	-	
HCM Control Delay (s)	7.9	-	19.9	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.2	-	2.5	-	-	

1: Patriots Way & Sussex HS Driveway (north)

2022 Projected Conditions

Timing Plan: PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	130	79	17	235	65	18
Future Volume (vph)	130	79	17	235	65	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	9	9	9	9
Grade (%)	0%			1%	0%	
Storage Length (ft)	0	0	120			210
Storage Lanes	1	0	1			1
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	725			447	479	
Travel Time (s)	19.8			12.2	13.1	
Confl. Peds. (#/hr)			2			2
Peak Hour Factor	0.58	0.58	0.58	0.58	0.58	0.58
Heavy Vehicles (%)	0%	0%	0%	16%	8%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

1: Patriots Way & Sussex HS Driveway (north)

2022 Projected Conditions

Timing Plan: PM Peak Hour

Intersection

Int Delay, s/veh 8.2

Movement EBL EBR NBL NBT SBT SBRLane Configurations 

Traffic Vol, veh/h 130 79 17 235 65 18

Future Vol, veh/h 130 79 17 235 65 18

Conflicting Peds, #/hr 0 0 2 0 0 2

Sign Control Stop Stop Free Free Free Free

RT Channelized - None - None - None

Storage Length 0 - 120 - - 210

Veh in Median Storage, # 0 - - 0 0 -

Grade, % 0 - - 1 0 -

Peak Hour Factor 58 58 58 58 58 58

Heavy Vehicles, % 0 0 0 16 8 0

Mvmt Flow 224 136 29 405 112 31

Major/Minor Minor2 Major1 Major2

Conflicting Flow All 577 114 145 0 - 0

Stage 1 114 - - - - -

Stage 2 463 - - - - -

Critical Hdwy 6.4 6.2 4.1 - - -

Critical Hdwy Stg 1 5.4 - - - - -

Critical Hdwy Stg 2 5.4 - - - - -

Follow-up Hdwy 3.5 3.3 2.2 - - -

Pot Cap-1 Maneuver 482 944 1450 - - -

Stage 1 916 - - - - -

Stage 2 638 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 470 942 1447 - - -

Mov Cap-2 Maneuver 470 - - - - -

Stage 1 896 - - - - -

Stage 2 637 - - - - -

Approach EB NB SB

HCM Control Delay, s 20.8 0.5 0

HCM LOS C

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h) 1447 - 580 - -

HCM Lane V/C Ratio 0.02 - 0.621 - -

HCM Control Delay (s) 7.5 - 20.8 - -




















HCM Lane LOS A - C - -

HCM 95th %tile Q(veh) 0.1 - 4.3 - -

2: Patriots Way & Sussex HS Driveway (center)/Site Driveway

2022 Projected Conditions

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	66	0	92	14	158	0	0	130	16
Future Volume (vph)	0	0	0	66	0	92	14	158	0	0	130	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	9	9	12	12	9	9
Grade (%)		-1%			0%			1%			-1%	
Storage Length (ft)	0		0	0		0	235		0	225		210
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		427			545			549			447	
Travel Time (s)		11.6			14.9			15.0			12.2	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles (%)	0%	2%	0%	18%	2%	20%	14%	15%	2%	2%	2%	0%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2: Patriots Way & Sussex HS Driveway (center)/Site Driveway

2022 Projected Conditions











Timing Plan: PM Peak Hour

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	0	0	0	66	0	92	14	158	0	0	130	16
Future Vol, veh/h	0	0	0	66	0	92	14	158	0	0	130	16
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	235	-	-	225	-	210
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	1	-	-	-1	-
Peak Hour Factor	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	0	2	0	18	2	20	14	15	2	2	2	0
Mvmt Flow	0	0	0	100	0	139	21	239	0	0	197	24
Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	-	479	-	490	503	239	222	0	0	239	0	0
Stage 1	-	198	-	281	281	-	-	-	-	-	-	-
Stage 2	-	281	-	209	222	-	-	-	-	-	-	-
Critical Hdwy	-	6.32	-	7.28	6.52	6.4	4.24	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.32	-	6.28	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.32	-	6.28	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	-	3.662	4.018	3.48	2.326	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	499	0	463	471	758	1279	-	-	1328	-	-
Stage 1	0	745	0	692	678	-	-	-	-	-	-	-
Stage 2	0	689	0	758	720	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	491	-	457	463	758	1278	-	-	1328	-	-
Mov Cap-2 Maneuver	-	491	-	457	463	-	-	-	-	-	-	-
Stage 1	-	744	-	681	667	-	-	-	-	-	-	-
Stage 2	-	678	-	758	719	-	-	-	-	-	-	-
Approach	EB		WB		NB			SB				
HCM Control Delay, s	0		15.1		0.6			0				
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1278	-	-	-	594	1328	-					
HCM Lane V/C Ratio	0.017	-	-	-	0.403	-	-					
HCM Control Delay (s)	7.9	-	-	0	15.1	0	-					
HCM Lane LOS	A	-	-	A	C	A	-					
HCM 95th %tile Q(veh)	0.1	-	-	-	1.9	0	-					

3: Patriots Way & Sussex HS Driveway (south)

2022 Projected Conditions






Timing Plan: PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	78	109	3	94	193	1
Future Volume (vph)	78	109	3	94	193	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	9	9	9	9
Grade (%)	-1%			-1%	-1%	
Storage Length (ft)	0	0	210			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Link Speed (mph)	25			25	25	
Link Distance (ft)	578			700	549	
Travel Time (s)	15.8			19.1	15.0	
Confl. Peds. (#/hr)			2			2
Peak Hour Factor	0.55	0.55	0.55	0.55	0.55	0.55
Heavy Vehicles (%)	27%	14%	33%	3%	4%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Patriots Way & Sussex HS Driveway (south)

2022 Projected Conditions

Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	7.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	78	109	3	94	193	1
Future Vol, veh/h	78	109	3	94	193	1
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	-1	-1	-
Peak Hour Factor	55	55	55	55	55	55
Heavy Vehicles, %	27	14	33	3	4	0
Mvmt Flow	142	198	5	171	351	2
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	535	354	355	0	-	0
Stage 1	354	-	-	-	-	-
Stage 2	181	-	-	-	-	-
Critical Hdwy	6.47	6.24	4.43	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.743	3.426	2.497	-	-	-
Pot Cap-1 Maneuver	479	670	1051	-	-	-
Stage 1	671	-	-	-	-	-
Stage 2	801	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	475	669	1049	-	-	-
Mov Cap-2 Maneuver	475	-	-	-	-	-
Stage 1	666	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	20.1	0.3	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1049	-	572	-	-	
HCM Lane V/C Ratio	0.005	-	0.594	-	-	
HCM Control Delay (s)	8.4	-	20.1	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0	-	3.9	-	-	

Appendix F

AUXILIARY TURN LANE WARRANT ANALYSES

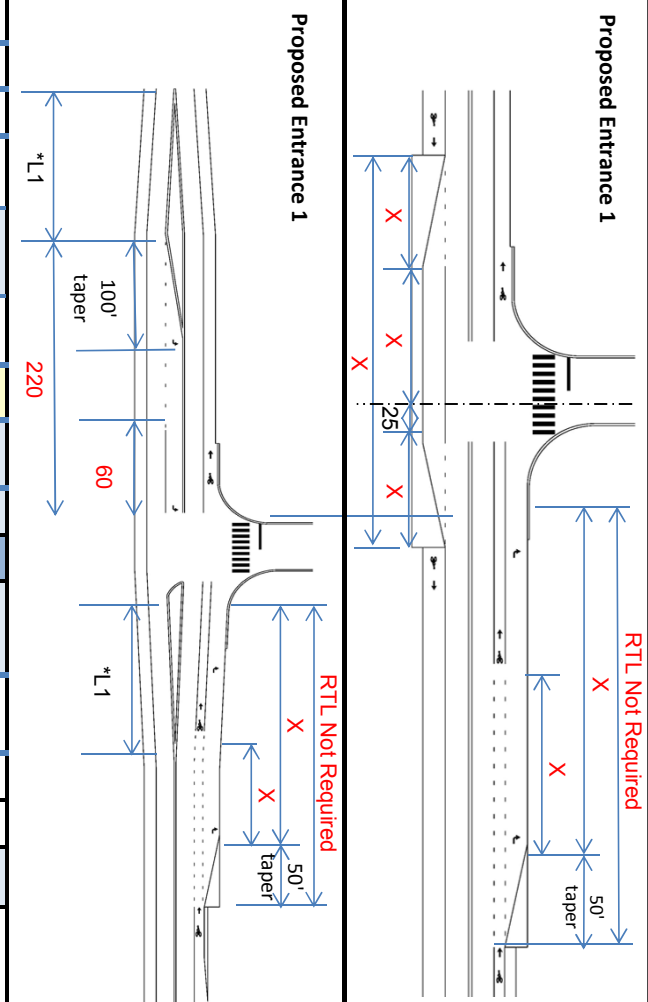


DelDOT Auxiliary Lane Worksheet

Roadway Information and Entrance

Manually Update Cell	XX
Auto-Calculated Cells	XX

Name of Project		Howard T. Ennis		Date of Submittal		1/16/2020	
Maintenance Road No. (i.e. K234A)				Road Name		Patriots Way	
Signalized / Unsignalized		Unsignalized		Posted Speed Limit		35	
Roadway ADT (From DelDOT Traffic Manual)		2913		Traffic Pattern Group		7	
Left Approach Site ADT	248	Committed Development ADT	0	Total Left Approach ADT	248	Right Approach Site ADT	172
						Committed Development ADT	0
Total Number of Through Lanes (Does Not Include Turn Lanes)		2 lanes		Number of intersection legs		4	
Roadway Functional Classification		Local		Calculation for (specify leg)		Proposed Entrance 1	
Left-Approach Projected 10 yr Roadway ADT + Total Site + Committed Development ADT		3627		Right-Approach Projected 10 yr Roadway ADT + Total Site + Committed Development ADT		3551	
K Factor		14.15		D Factor		62.08	
Left Turn Information				Right Turn Information			
Left Turn VPH		94		Right Turn ADT		51 - 100	
Left Turn Approach Grade		-1.0%		Right Turn Approach Grade		1.0%	
Heavy Vehicle %		20		Effective Radius of Entrance		R≤50'	
10 Yr Opposing Vol. (Manual Input - Veh/hr)		0					
10 Yr Opposing Volume (Calculated)		297 Veh/hr		Right Turn Length		RTL Not Required	
10 Yr Opposing Volume (Calculated Vol.)		297 Veh/hr					
Left Turn Length		220 ft					



The Engineer shall submit a separate spreadsheet for the existing entrance.

Howard T. Ennis

NOTE:

This worksheet is for Right Turn Auxiliary Lanes, and Unsignalized Left Turn Auxiliary Lanes. If a signal analysis is required, please refer to signalized intersection analysis spreadsheet (Tab 6).

*L1 - See Typical Entrance Diagram located at: http://www.deldot.gov/information/business/subdivisions/Typical_Entrance_Diagrams.pdf

Appendix G

PEDESTRIAN CROSSING WORKSHEETS

2022 Projected Conditions - Weekday A.M. Peak Hour

WORKSHEET 1: PEAK-HOUR, 35 MPH (55 KM/H) OR LESS		
Analyst and Site Information		
Analyst: Shelby Lynch Analysis Date: 1/16/2020 Data Collection Date: 11/7/19	Major Street: Patriots Way Minor Street or Location: Proposed Site Access opposite Sussex Central HS Access (center) Peak Hour: AM	
Step 1: Select worksheet (speed reflects posted or statutory speed limit or 85 th percentile speed on the major street): a) Worksheet 1 – 35 mph (55 km/h) or less b) Worksheet 2 – exceeds 35 mph (55 km/h), communities with less than 10,000, or where major transit stop exists		
Step 2: Does the crossing meet minimum pedestrian volumes to be considered for a TCD type of treatment?		
Peak-hour pedestrian volume (ped/h), V_p	2a	20
If $2a \geq 20$ ped/h, then go to Step 3. (assumed per DelDOT)		
If $2a < 20$ ped/h, then consider median refuge islands, curb extensions, traffic calming, etc. as feasible.		
Step 3: Does the crossing meet the pedestrian volume warrant for a traffic signal?		
Major road volume, total of both approaches during peak hour (veh/h), V_{maj-s}	3a	682
Minimum signal warrant volume for peak hour (use 3a for V_{maj-s}), SC $SC = (0.00021 V_{maj-s}^2 - 0.74072 V_{maj-s} + 734.125)/0.75$ OR $[(0.00021 3a^2 - 0.74072 3a + 734.125)/0.75]$	3b	436
If $3b < 133$, then enter 133. If $3b \geq 133$, then enter 3b.	3c	436
If 15 th percentile crossing speed of pedestrians is less than 3.5 ft/s (1.1 m/s), then reduce 3c by up to 50 percent; otherwise enter 3c.	3d	436
If $2a \geq 3d$, then the warrant has been met and a traffic signal should be considered if not within 300 ft (91 m) of another traffic signal. Otherwise, the warrant has not been met. Go to Step 4. Warrant NOT Met		
Step 4: Estimate pedestrian delay.		
Pedestrian crossing distance, curb to curb (ft), L	4a	55
Pedestrian walking speed (ft/s), S_p	4b	3.5
Pedestrian start-up time and end clearance time (s), t_s	4c	3
Critical gap required for crossing pedestrian (s), $t_c = (L/S_p) + t_s$ OR $[(4a/4b) + 4c]$	4d	18.7
Major road volume, total both approaches or approach being crossed if median refuge island is present during peak hour (veh/h), V_{maj-d}	4e	682
Major road flow rate (veh/s), $v = V_{maj-d}/3600$ OR $[4e/3600]$	4f	0.189
Average pedestrian delay (s/person), $d_p = (e^{v t_c} - v t_c - 1) / v$ OR $[(e^{4f \times 4d} - 4f \times 4d - 1) / 4f]$	4g	157.3
Total pedestrian delay (h), $D_p = (d_p \times V_p)/3,600$ OR $[(4g \times 2a)/3600]$ (this is estimated delay for all pedestrians crossing the major roadway without a crossing treatment – assumes 0% compliance). This calculated value can be replaced with the actual total pedestrian delay measured at the site.	4h	0.874
Step 5: Select treatment based upon total pedestrian delay and expected motorist compliance.		
Expected motorist compliance at pedestrian crossings in region, Comp = high or low	5a	high
Total Pedestrian Delay, D_p (from 4h) and Motorist Compliance, Comp (from 5a)	Treatment Category (see Descriptions of Sample Treatments for examples)	
$D_p \geq 21.3$ h (Comp = high or low) OR $5.3 \text{ h} \leq D_p < 21.3$ h and Comp = low	RED	
$1.3 \text{ h} \leq D_p < 5.3$ h (Comp = high or low) OR $5.3 \text{ h} \leq D_p < 21.3$ h and Comp = high	ACTIVE OR ENHANCED	
$D_p < 1.3$ h (Comp = high or low)	CROSSWALK	

Figure A-2. Worksheet 1.

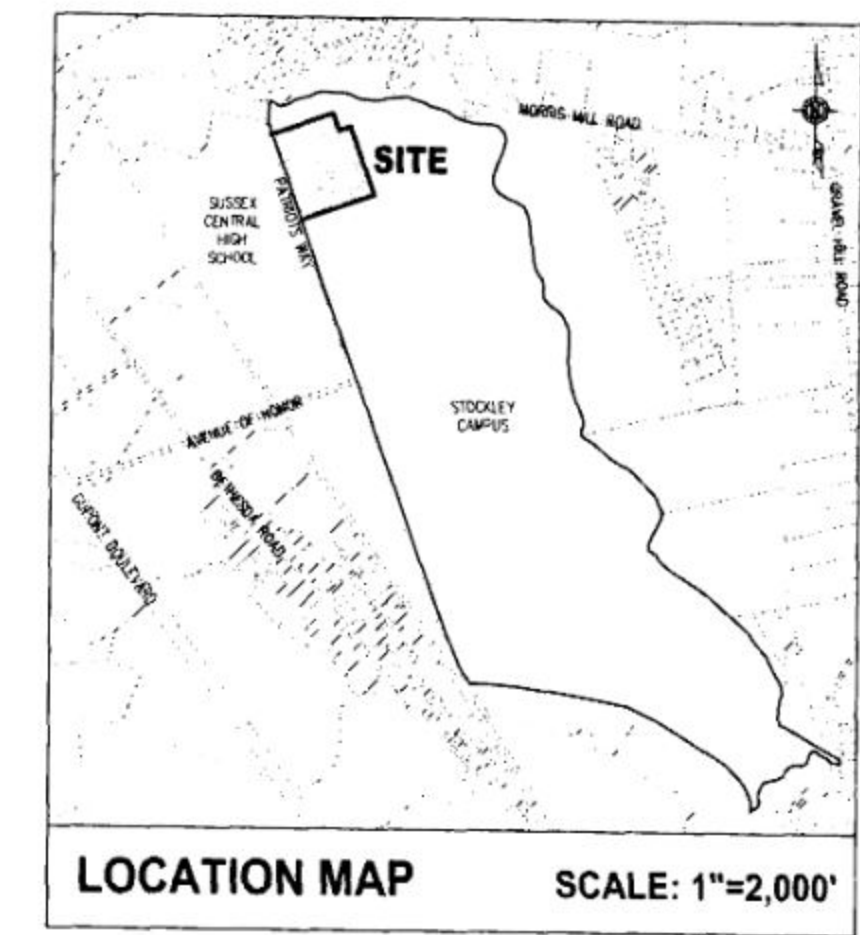
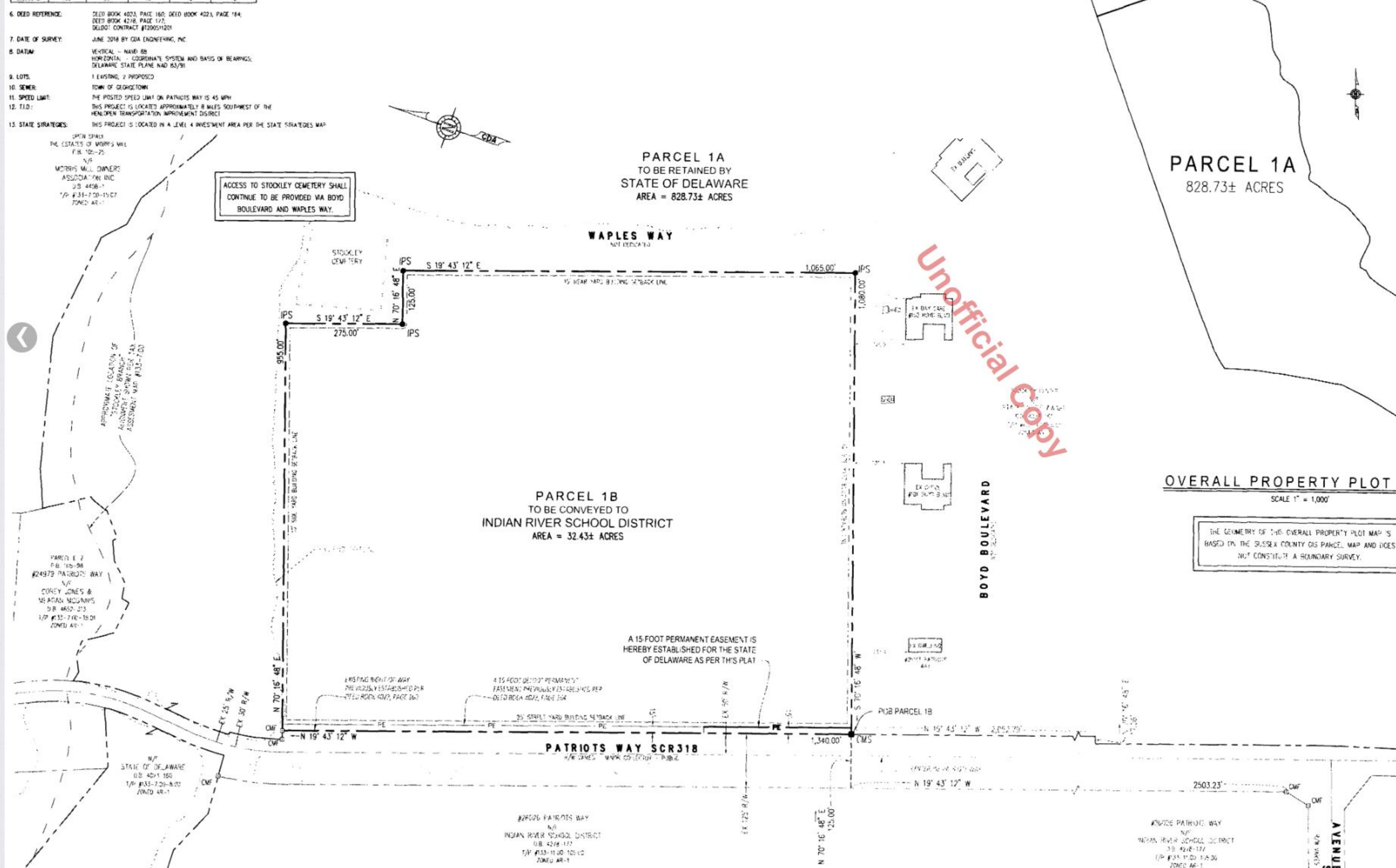
WORKSHEET 1: PEAK-HOUR, 35 MPH (55 KM/H) OR LESS		
Analyst and Site Information		
Analyst: Shelby Lynch Analysis Date: 1/16/2020 Data Collection Date: 11/7/19	Major Street: Patriots Way Minor Street or Location: Proposed Site Access opposite Sussex Central HS Access (center) Peak Hour: PM	
Step 1: Select worksheet (speed reflects posted or statutory speed limit or 85 th percentile speed on the major street): a) Worksheet 1 – 35 mph (55 km/h) or less b) Worksheet 2 – exceeds 35 mph (55 km/h), communities with less than 10,000, or where major transit stop exists		
Step 2: Does the crossing meet minimum pedestrian volumes to be considered for a TCD type of treatment?		
Peak-hour pedestrian volume (ped/h), V_p	2a	20
If $2a \geq 20$ ped/h, then go to Step 3. (assumed per DelDOT)		
If $2a < 20$ ped/h, then consider median refuge islands, curb extensions, traffic calming, etc. as feasible.		
Step 3: Does the crossing meet the pedestrian volume warrant for a traffic signal?		
Major road volume, total of both approaches during peak hour (veh/h), V_{maj-s}	3a	324
Minimum signal warrant volume for peak hour (use 3a for V_{maj-s}), SC $SC = (0.00021 V_{maj-s}^2 - 0.74072 V_{maj-s} + 734.125)/0.75$ OR $[(0.00021 3a^2 - 0.74072 3a + 734.125)/0.75]$	3b	688
If $3b < 133$, then enter 133. If $3b \geq 133$, then enter 3b.	3c	688
If 15 th percentile crossing speed of pedestrians is less than 3.5 ft/s (1.1 m/s), then reduce 3c by up to 50 percent; otherwise enter 3c.	3d	688
If $2a \geq 3d$, then the warrant has been met and a traffic signal should be considered if not within 300 ft (91 m) of another traffic signal. Otherwise, the warrant has not been met. Go to Step 4. Warrant NOT Met		
Step 4: Estimate pedestrian delay.		
Pedestrian crossing distance, curb to curb (ft), L	4a	55
Pedestrian walking speed (ft/s), S_p	4b	3.5
Pedestrian start-up time and end clearance time (s), t_s	4c	3
Critical gap required for crossing pedestrian (s), $t_c = (L/S_p) + t_s$ OR $[(4a/4b) + 4c]$	4d	18.7
Major road volume, total both approaches or approach being crossed if median refuge island is present during peak hour (veh/h), V_{maj-d}	4e	324
Major road flow rate (veh/s), $v = V_{maj-d}/3600$ OR $[4e/3600]$	4f	0.09
Average pedestrian delay (s/person), $d_p = (e^{v t_c} - v t_c - 1) / v$ OR $[(e^{4f \times 4d} - 4f \times 4d - 1) / 4f]$	4g	30
Total pedestrian delay (h), $D_p = (d_p \times V_p)/3,600$ OR $[(4g \times 2a)/3600]$ (this is estimated delay for all pedestrians crossing the major roadway without a crossing treatment – assumes 0% compliance). This calculated value can be replaced with the actual total pedestrian delay measured at the site.	4h	0.167
Step 5: Select treatment based upon total pedestrian delay and expected motorist compliance.		
Expected motorist compliance at pedestrian crossings in region, Comp = high or low	5a	high
Total Pedestrian Delay, D_p (from 4h) and Motorist Compliance, Comp (from 5a)	Treatment Category (see Descriptions of Sample Treatments for examples)	
$D_p \geq 21.3$ h (Comp = high or low) OR $5.3 \text{ h} \leq D_p < 21.3$ h and Comp = low	RED	
$1.3 \text{ h} \leq D_p < 5.3$ h (Comp = high or low) OR $5.3 \text{ h} \leq D_p < 21.3$ h and Comp = high	ACTIVE OR ENHANCED	
$D_p < 1.3$ h (Comp = high or low)	CROSSWALK	

Figure A-2. Worksheet 1.

1. OWNER ADDRESS:	STATE OF DELAWARE DEPARTMENT OF HEALTH AND SOCIAL SERVICES PO BOX 718 DOVER, DELAWARE
2. PROPERTY ADDRESS:	26251 PATRIOTS WAY GEORGETOWN, DELAWARE 19347
3. TAX PARCEL NUMBERS:	#133-7.00-8.00
4. AREA OF PARCEL:	828.73± ACRES (PARCEL 1A) 32.43± ACRES (PARCEL 1B)
5. ZONING:	AR-1 - AGRICULTURAL RECREATION EXISTING USE: INSTITUTIONAL PROPOSED USE: INSTITUTIONAL
6. DEED REFERENCE:	DEED BOOK 4023, PAGE 160; DEED BOOK 4023, PAGE 164; DEED BOOK 4276, PAGE 177; DEED CONTRACT #100001201
7. DATE OF SURVEY:	JUNE 2018 BY CDA ENGINEERING, INC.
8. DATUM:	VERTICAL - NAVD 83 HORIZONTAL - COORDINATE SYSTEM AND BASIS OF BEARINGS: DELAWARE STATE PLANE 83/91
9. LOTS:	1 EXISTING, 2 PROPOSED
10. OWNER:	TOWN OF GEORGETOWN
11. SPEED LIMIT:	THE POSTED SPEED LIMIT ON PATRIOTS WAY IS 45 MPH
12. T.I.D.:	THIS PROJECT IS LOCATED APPROXIMATELY 8 MILES SOUTHWEST OF THE HENDON TRANSPORTATION IMPROVEMENT DISTRICT
13. STATE STRATEGIES:	THIS PROJECT IS LOCATED IN A LEVEL 4 INVESTMENT AREA PER THE STATE STRATEGIES MAP

DEEDDOT NOTES:

1. NO LANDSCAPING SHALL BE ALLOWED WITHIN R/W UNLESS THE PLANS ARE COMPLIANT WITH SECTION 3.7 OF THE DEVELOPMENT COORDINATION MANUAL (DCM).
2. ALL ENTRANCES SHALL CONFORM TO THE DELAWARE DEPARTMENT OF TRANSPORTATION'S (DDOT'S) CURRENT DEVELOPMENT COORDINATION MANUAL (DCM) AND SHALL BE SUBJECT TO ITS APPROVAL.
3. SHULDER PLANTINGS, BUSHES AND/OR OTHER VEGETATION THAT COULD OBSTRUCT THE SIGHT DISTANCE OF A DRIVER PREPARING TO ENTER THE ROADWAY ARE PROHIBITED WITHIN THE DEFINED DEPARTURE SIGHT TRIANGLE AREA ESTABLISHED ON THIS PLAN. IF THE ESTABLISHED DEPARTURE SIGHT TRIANGLE AREA IS OUTSIDE THE RIGHT-OF-WAY OR IMPOSES ON AN ADJACENT PROPERTY OWNER'S LAND, A SIGHT TRIANGLE SHOULD BE ESTABLISHED AND RECORDED WITH ALL APPLICABLE PROPERTY OWNERS TO MAINTAIN THE REQUIRED SIGHT DISTANCE.
4. UPON COMPLETION OF THE CONSTRUCTION OF THE SIDEWALK OR SHOULDER USE PATH ADJACENT THIS PROJECT'S FRONTAGE AND PHYSICAL CONNECTION TO ADJACENT EXISTING FACILITIES, THE DEVELOPER, THE PROPERTY OWNERS OR BOTH ASSOCIATED WITH THIS PROJECT, SHALL BE RESPONSIBLE TO REMOVE ANY EXISTING ROAD TIE-IN CONNECTIONS LOCATED ALONG ADJACENT PROPERTIES, AND RESTORE THE AREA TO GRADE. SUCH ACTIONS SHALL BE COMPLETED AT DEEDDOT'S DISCRETION AND IN CONFORMANCE WITH DEEDDOT'S SHARED-USE PATH AND/OR SIDEWALK TERMINATION POLICY.
5. TO MINIMIZE HITTING AND OBSTRUCTION OF THE ROADSIDE CURB TO ON-STREET PARKING, DRIVEWAY AND BUILDING LAYOUTS MUST BE CONFIGURED TO ALLOW FOR VEHICLES TO BE STORED IN THE DRIVEWAY BEYOND THE RIGHT-OF-WAY, WITHOUT INTERFERING WITH SIDEWALK ACCESS AND CLEARANCE.
6. THE DEVELOPER SHALL BE REQUIRED TO FURNISH AND PLACE RIGHT-OF-WAY MARKERS TO PROVIDE A PERMANENT REFERENCE FOR RE-ESTABLISHING THE RIGHT-OF-WAY AND PROPERTY CORNERS ON LOCAL AND HIGHER ORDER FRONTAGE ROADS. RIGHT-OF-WAY MARKERS SHALL BE SET AND/OR PLACED ALONG THE FRONTAGE ROAD RIGHT-OF-WAY AT PROPERTY CORNERS AND AT EACH CHANGE IN RIGHT-OF-WAY ALIGNMENT IN ACCORDANCE WITH SECTION 3.04.2 OF THE DEVELOPMENT COORDINATION MANUAL.



NO COMMITMENTS ARE STATED OR IMPLIED BY DEEDDOT THROUGH THE ISSUANCE OF THIS LETTER WITH RESPECT TO: ENTRANCE LOCATION(S), ACCESS CONFIGURATIONS, AUXILIARY LANES AND/OR ROADWAY IMPROVEMENT WHICH WILL BE EVALUATED AND REQUIRED AS NECESSARY AT THE TIME OF ENTRANCE CONSTRUCTION PLAN REVIEW OR APPROVAL FOR THE SITE.

CDA ENGINEERING INC.
CIVIL/SITE ENGINEERING AND LAND PLANNING
6 LARCH AVENUE
SUITE 401
WILMINGTON, DE 19804
Tel: 302.998.9202
Fax: 302.691.1314
cdaengineering.com

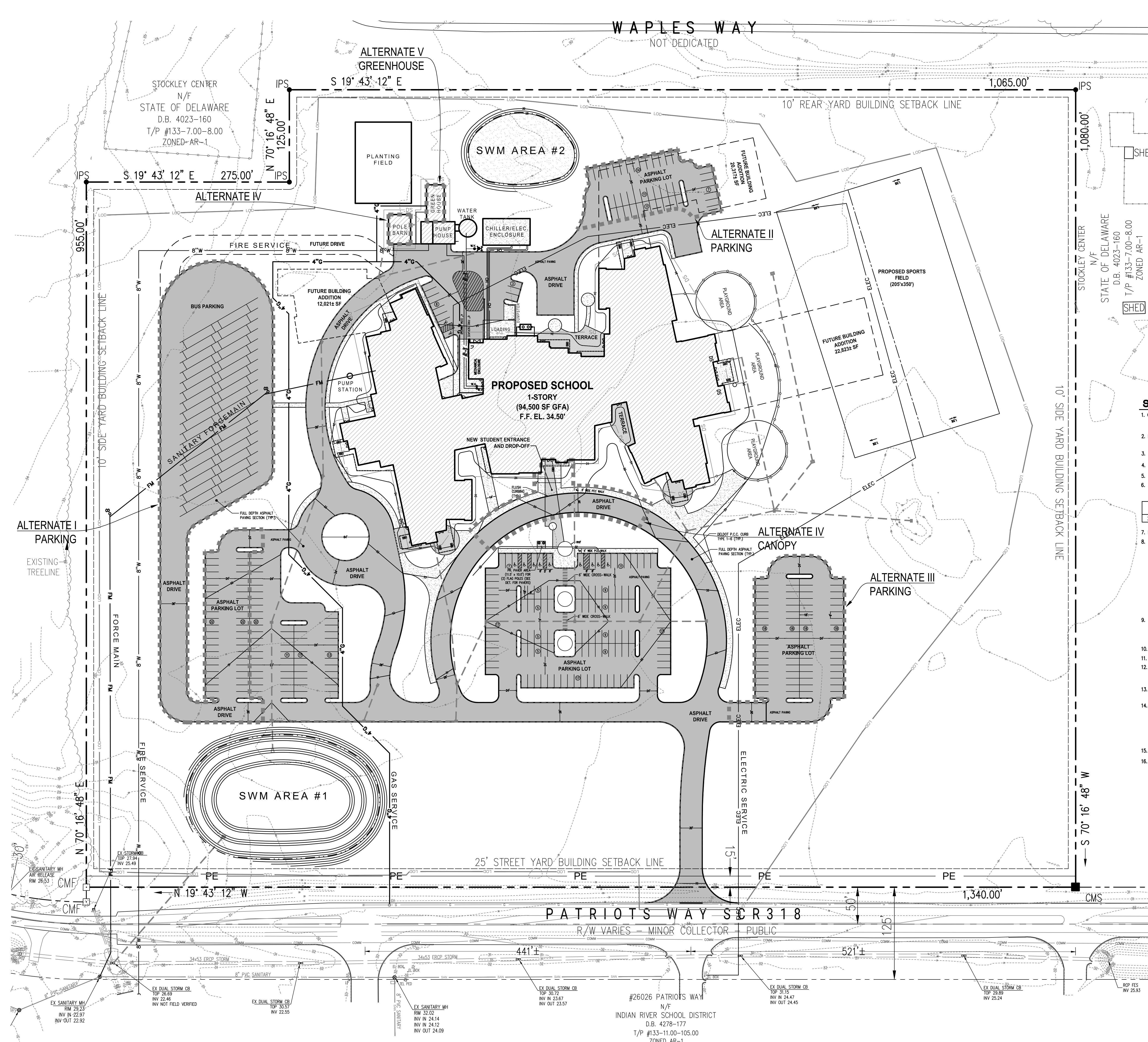
REVISED PER DEEDDOT COMMENTS	1.30.19
DATE	
BY	
PROJECT NO.	17.136.00
SCALE	AS SHOWN
DATE	JANUARY 25, 2019
FILE NO.	...DWG1713600 BASE.DWG
SCALE	1" = 120'

RECORD MINOR SUBDIVISION PLAN
PREPARED FOR
INDIAN RIVER SCHOOL DISTRICT
FOR PROPERTY KNOWN AS
TAX PARCEL #133-7.00-8.00
ALSO KNOWN AS
STOCKLEY CENTER
DAGSBORO HUNTER SUSSEX COUNTY DELAWARE

RECORD PLAN
DATE 2/25/19
REC 1 of 1

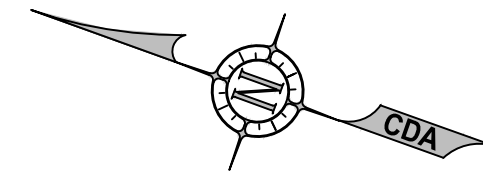
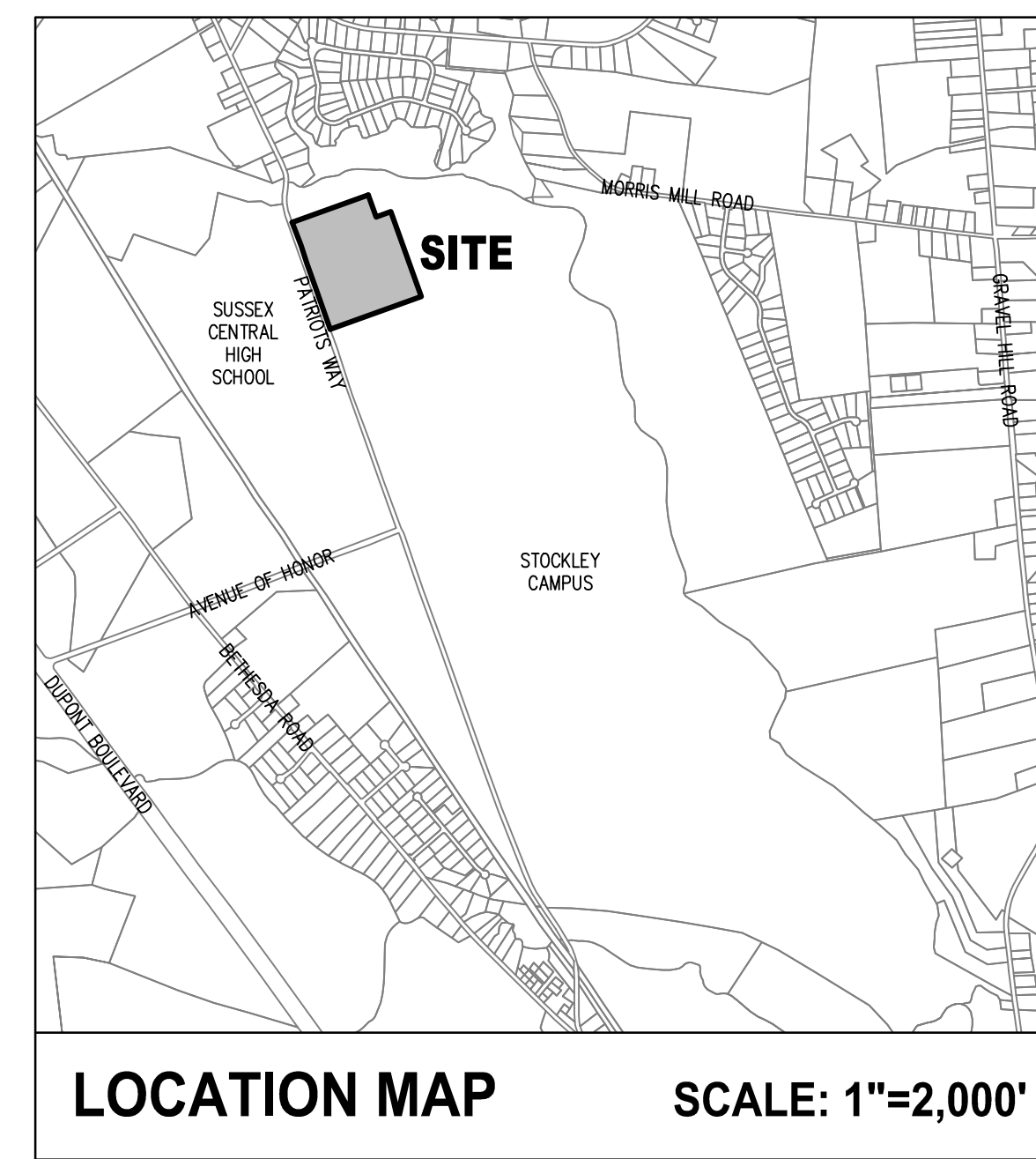
CERTIFICATION OF OWNERSHIP
I, LISA BELL, HEREBY CERTIFY THAT I AM THE LEGAL REPRESENTATIVE OF THE OWNER OF THE PROPERTY WHICH IS SUBJECT OF THIS PLAN AND THAT THE LAND USE ACTION PROPOSED BY THIS PLAN IS MADE AT MY DIRECTION.
Lisa Bell 2/25/19
DATE
DELAWARE HEALTH AND SOCIAL SERVICES

CERTIFICATION OF PLAN ACCURACY
I, COLLETT DEASMAN, HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER WITH A BACKGROUND IN CIVIL ENGINEERING IN THE STATE OF DELAWARE AND THAT ALL OF THE INFORMATION AND DATA ON THIS PLAN IS IN ACCORDANCE WITH THE PROPOSED SUBDIVISION IS THE PROPERTY OF THE ENGINEER AND THAT THE ACCURACY REQUIRED BY ACCEPTED SURVEYING STANDARDS AND PRACTICES OF THE STATE OF DELAWARE.
Collett Deasman 2/25/19
DATE
DELAWARE HEALTH AND SOCIAL SERVICES



SITE DATA

1. OWNER ADDRESS: INDIAN RIVER SCHOOL DISTRICT
31 WEST HOSIER STREET
SELBYVILLE, DELAWARE 19975
2. PROPERTY ADDRESS: 26351 PATRIOTS WAY
GEORGETOWN, DELAWARE 19947
3. TAX PARCEL NUMBER: #133-7.00-8.01
4. AREA OF PARCEL: 32.43± ACRES
5. LOTS: 1 EXISTING; 1 PROPOSED
6. ZONING: AR-1 - AGRICULTURAL REGIONAL
EXISTING USE: INSTITUTIONAL
PROPOSED USE: INSTITUTIONAL
- | LOT AREA | LOT WIDTH | STREET YARD | SIDE YARD | REAR YARD | BUILDING HEIGHT |
|-----------|-----------|-------------|-----------|-----------|-----------------|
| 20,000 SF | 100' | 25' | 10' | 10' | 42' |
7. DEED REFERENCE: DEED BOOK 5076, PAGE 301
8. SURVEY: JUNE 2018 BY CDA ENGINEERING, INC.
- DATUM: VERTICAL - NAVD 88
HORIZONTAL - COORDINATE SYSTEM AND BASIS OF BEARINGS:
DELAWARE STATE PLANE NAD 83/91
- BENCHMARK: CAPPED REBAR
POINT NO. 1
NORTHING: 229,158.8873
EASTING: 682,806.6949
ELEVATION: 31.85
- MONUMENTATION: EXISTING: 2 FOUND
PROPOSED: 0
9. GROSS FLOOR AREA: EXISTING: 0± SF
PROPOSED: 94,500± SF (PER THIS PLAN)
TOTAL PROPOSED: 149,861± SF (FUTURE ADDITIONS/EXPANSION)
10. SEWER: TOWN OF GEORGETOWN
11. WATER: ON-SITE WELL
12. FLOOD ZONE: THIS PROPERTY LIES ENTIRELY WITHIN ZONE "X" AREA OF MINIMAL FLOOD HAZARD ACCORDING TO FEMA FLOOD INSURANCE RATE MAP #1000500452K WITH AN EFFECTIVE DATE OF JUNE 20, 2018.
13. SOILS: FhA - FORT MOTT-HENLOPEN COMPLEX, 0 TO 2 PERCENT SLOPES
FhB - FORT MOTT-HENLOPEN COMPLEX, 2 TO 5 PERCENT SLOPES
PxA - PEPPERBOX-ROSEDALE COMPLEX, 0 TO 2 PERCENT SLOPES
14. AREA BREAKDOWN:
- | | EXISTING | PROPOSED |
|----------------------------|-------------------|---------------------|
| BUILDING COVERAGE: | 0 AC. (0%) | 3.44± AC. (10.6%) |
| OTHER IMPERVIOUS SURFACES: | 0 AC. (0%) | 7.29± AC. (22.5%) |
| OPEN SPACE: | 32.43± AC. (100%) | 21.70± AC. (66.9%) |
| TOTAL: | 32.43± AC. (100%) | 32.43± AC. (100.0%) |
15. LIMIT OF DISTURBANCE: 25.7± ACRES
16. PARKING: REQUIRED: 72 SPACES = 3 SPACES/ADMIN ROOM x 24 ADMIN ROOMS
34 SPACES = 1 SPACE/CLASSROOM x 34 CLASSROOMS
+ 96 SPACES = 1 SPACE/5 SEATS x 480 SEATS
202 SPACES TOTAL
- PROVIDED: 352 PARKING SPACES (INCLUDING 11 A.D.A. SPACES)
34 BUS PARKING SPACES



REVISION

NO.	DESCRIPTION	DATE

CDA ENGINEERING INC.

CIVIL/SITE ENGINEERING AND LAND PLANNING

6 LARCH AVENUE
SUITE 401
WILMINGTON, DE 19804

Tel: 302 998 9202
Fax: 302 691 1314
cdaengineering.com

DRAWN BY: **ZK**

CHECKED BY: **CD**

PROJECT No.: **19.106.00**

SCALE: **1" = 60'**

DATE: **NOVEMBER 19, 2019**

CAD FILE: **...IDWG\1910600 BASE.DWG**

0' 30' 60' 120' 180'

1" = 60'

CONDITIONAL USE APPLICATION
PRELIMINARY SITE PLAN
OF
**HOWARD T. ENNIS
SCHOOL**

TAX PARCEL NO 133-7.00-8.01
#26531 PATRIOTS WAY
GEORGETOWN, DELAWARE 19947

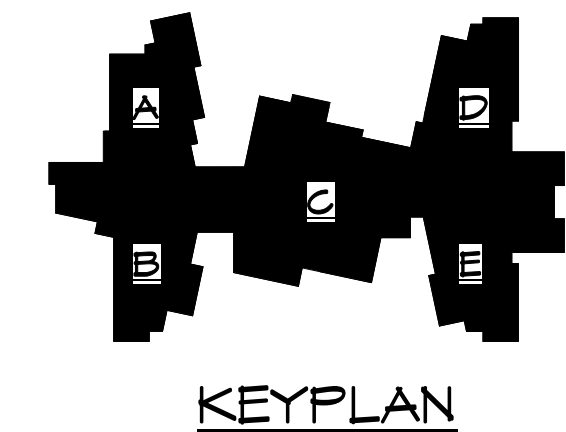
DAGSBORO HUNDRED SUSSEX COUNTY DELAWARE

DRAWING TITLE: **PRELIMINARY SITE PLAN**

DRAWING NUMBER: **PRE 1 of 1**



1 OVERALL FIRST FLOOR PLAN
Scale: 1/16" = 1'-0"



CONSULTANTS:

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CORSI ASSOCIATES
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ISSUE DATES:

1. CONDITIONAL USE 02-13-2020
APPLICATION (NOT FOR CONSTRUCTION)

Fearn Clendaniel Architects, Inc.
6 Larch Avenue Suite 398 Wilmington, Delaware 19804
Ph. 302-998-7615 www.fearnclendaniel.com

PROJECT

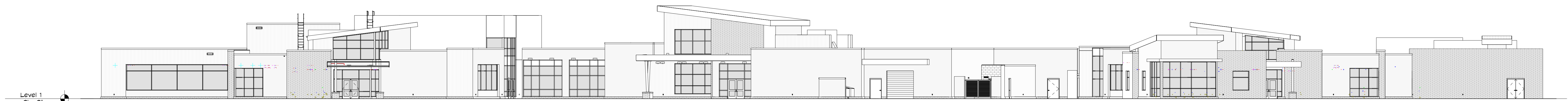
INDIAN RIVER SCHOOL DISTRICT

HOWARD T ENNIS SCHOOL

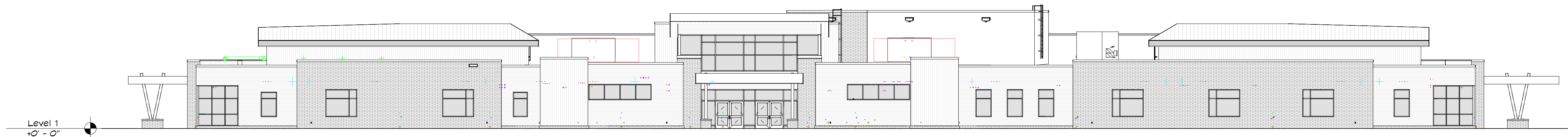
26351 PATRIOTS WAY
GEORGETOWN, DE 19947

DRAWING TITLE:

OVERALL FIRST FLOOR PLAN
DWN BY: FCA CHK BY: FCA PROJ. NUMBER: 17004
DATE: 02-11-20 DRAWING NUMBER: A10-01
SCALE: 1/16" = 1'-0"



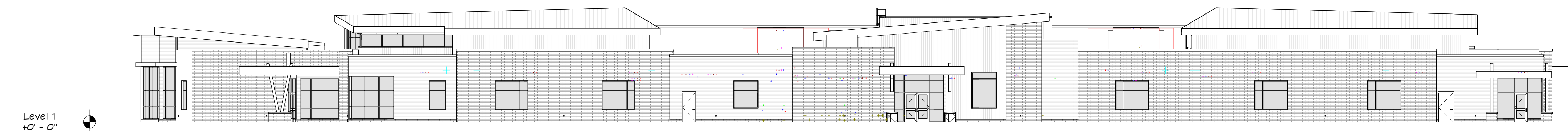
4 OVERALL ELEVATION - NORTH
Scale: 1/16" = 1'-0"



3 OVERALL ELEVATION - EAST
Scale: 1/16" = 1'-0"



2 OVERALL ELEVATION - SOUTH
Scale: 1/16" = 1'-0"



1 OVERALL ELEVATION - WEST
Scale: 1/16" = 1'-0"

CONSULTANTS:

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SPECIALIST

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ISSUE DATES:

1 DD SUBMISSION 07-22-19
(NOT FOR
CONSTRUCTION)

Fearn Clendaniel
Architects
INC.

6 Larch Avenue Suite 398 Wilmington, Delaware 19804
Ph. 302-998-7615 www.fearnclendaniel.com

PROJECT

INDIAN RIVER SCHOOL
DISTRICT

HOWARD T ENNIS SCHOOL

26351 PATRIOTS WAY
GEORGETOWN, DE 19947

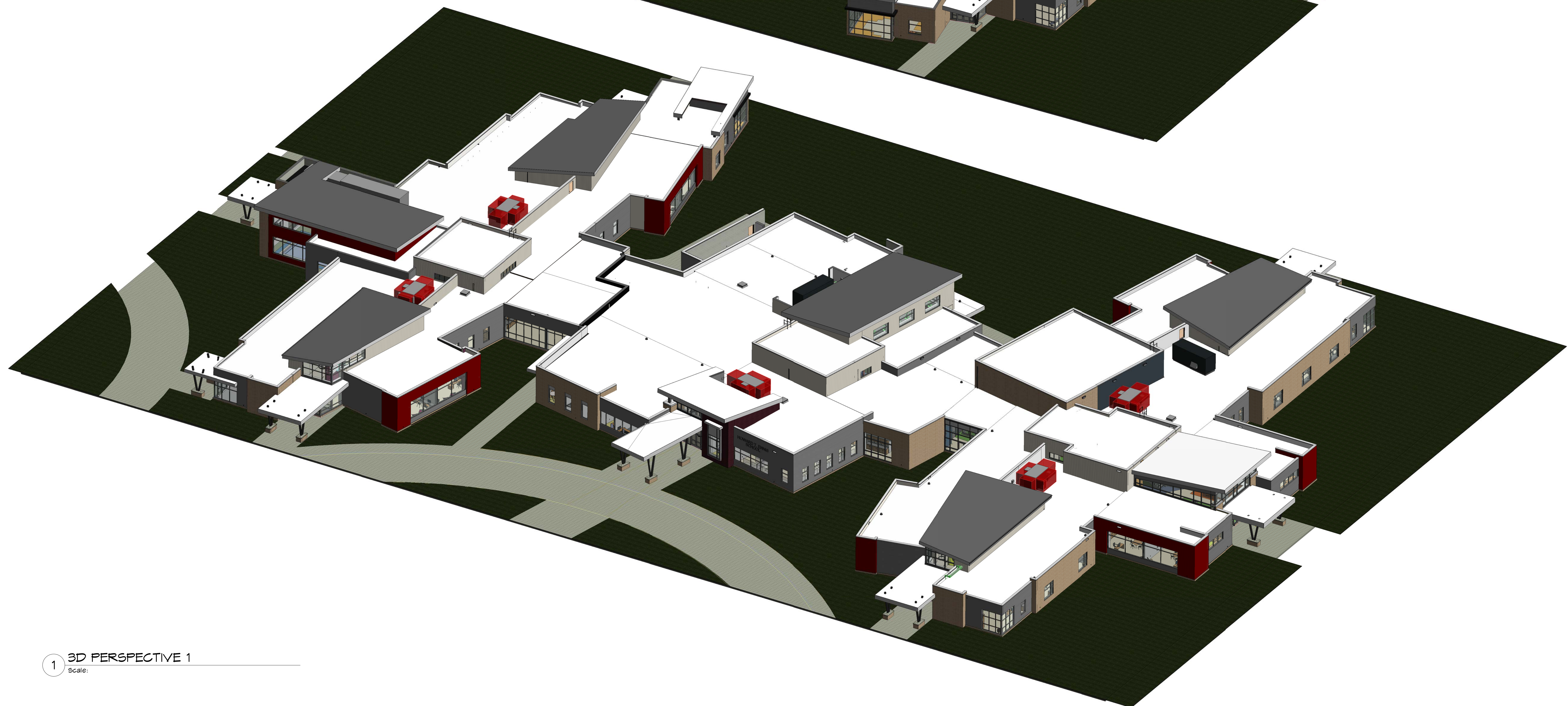
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OVERALL EXTERIOR ELEVATIONS

DWN BY: FCA CHK BY: FCA PROJ. NUMBER: 17004

DATE: 02-05-20 DRAWING NUMBER: A20-01

SCALE: 1/16" = 1'-0"



CONSULTANTS:

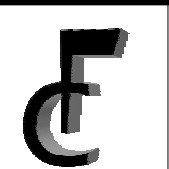
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ISSUE DATES:

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Architects INC.
6 Larch Avenue Suite 398 Wilmington, Delaware 19804
Ph. 302-998-7615 www.fcarchitects.net

PROJECT

INDIAN RIVER SCHOOL
DISTRICT

HOWARD T ENNIS SCHOOL

26351 PATRIOTS WAY
GEORGETOWN, DE 19947

DRAWING TITLE:

AXONOMETRICS - EXTERIOR

DWN BY:	CHK BY:	PROJ. NUMBER:
FCA	FCA	17004

DATE:	DRAWING NUMBER:
02-05-20	

SCALE: **A20-02**

