



UPPER UWCHLAN TOWNSHIP
PLANNING COMMISSION
AGENDA

July 10, 2025

7:00 p.m. Meeting

Location: Township Building, 140 Pottstown Pike, Chester Springs PA 19425

- | | | Packet Page # |
|------|---|---------------|
| I. | 7:00 p.m. Meeting Call To Order | |
| II. | Byers Station Parcel 5C Lot 2B Commercial Amended PRD Plan – Phase 2
Review consultants' comments. Make recommendation
to the Board of Supervisors. | 2 |
| III. | Meeting Updates ~ Reports
A. Environmental Advisory Council (EAC)
B. Historical Commission (HC) | |
| IV. | Approval of Minutes: June 12, 2025 Meeting minutes | 170 |
| V. | Next Meeting Date: August 14, 2025 7:00 p.m. | |
| VI. | Open Session | |
| VII. | Adjournment | |



July 3, 2025

File No. 03-0434.07

E-MAIL ONLY

Mr. Tony Scheivert
Upper Uwchlan Township Manager
140 Pottstown Pike
Chester Springs, PA 19425

Reference: Parcel 5C (Byers Station) – Lot 2B (Phase 2)
Amended Final PRD Plans – First Review
Upper Uwchlan Township, Chester County, PA

Dear Tony:

Gilmore & Associates, Inc. (G&A) is in receipt of the following documents from Bohler Engineering, unless otherwise noted:

- Plan set consisting of Thirty Five (35) sheets titled “Byers Station Amended Final PRD Plans (Final Plan for Lot 2B of Parcel 5C)” dated March 15, 2022, last revised May 30, 2025.
- Byers Station Lot 2B, Parcel 5C – Traffic Impact Assessment, prepared by TPD, dated June 2, 2025.
- Byers Station Lot 2B, Parcel 5C - Parking and Traffic Analysis, prepared by TPD, dated June 2, 2025.
- General Project Description and Stormwater Management Calculations, dated March 25, 2019, last revised May 30, 2025.
- Correspondence from Alyson Zarro, Esq., RRH&C, dated June 4, 2025.

G&A, as well as the Township Traffic Consultant, Bowman, and Township Sewer Consultant, ARRO, have completed our first review of the above referenced Amended Final Plans for compliance with the Conditions of Tentative Approval Byers Station PRD, Township Zoning Ordinance, Subdivision and Land Development Ordinance, as well as the Stormwater Management Ordinance, and wish to submit the following comments for consideration.

I. OVERVIEW

The subject parcel is located at the northeastern corner of the intersection of Station Boulevard and Pottstown Pike. The tract is approximately 29.8 acres in size and is located in the R-4

184 West Main Street | Suite 300 | Trappe, PA 19426 | Phone: 610-489-4949 | Fax: 610-489-8447

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July 3, 2025

Residential District and C-1 Village District, being developed under the Planned Residential Development Option as set forth in the Byers Station conditions of tentative approval. The parcel was subdivided into three lots; Lot 1, Lot 2A, and Lot 2B. Lots 1 and 2A consisting of 16.353 acres and 9.468 acres respectively, are now fully constructed. This application is for a "Phase 2" for Lot 2B which is 3.971 acres in size. There is currently a 10,500 SF Daycare Center and 10,500 SF Retail Space under construction on the site. The applicant would now like to propose an additional 10,500 SF Retail Space on the north side of the parcel.

Stormwater management will be handled via two (2) bioretention basins located along the eastern ends of the property which were constructed during previous phases of the project.

II. TOWNSHIP ENGINEERS COMMENTS
GILMORE & ASSOCIATES, INC.

1. We would recommend all plans and documents be revised to reference "Phase 2" to differentiate this application from the previously approved one.
2. ZO §200-74.B., §200-73.B(2)(b) and §200-76.A(1). – Off-street loading and unloading is proposed to be handled as it was in the previous phase with standard parking spaces being identified for loading / unloading during off peak business hours. We have no objection to handling this issue in this manner for this phase as well.
3. There appears to be a large gap in the buffer landscaping at the northwest corner of the site. (Above the retaining wall) Please provide landscaping in this area in accordance with SALDO §162-57.
4. Design plans must be provided for the proposed retaining walls. This may be deferred until construction, however, at a minimum, a letter should be provided from a structural engineer confirming the proposed landscaping above the wall will not conflict with any tie-backs or other elements of the walls.
5. Please revise the reference to the Parking and Traffic Analysis in the Site Design Requirements Table on Sheet 2 to reference the latest version. (Dated June 2, 2025)
6. The existing curb lines for Begonia Drive appear to be missing on several plan sheets. Please review and correct.
7. Please provide plans to the Chester County Conservation District to determine what level of modification will be required to the NPDES Permit. Please copy the Township on all correspondence.

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July 3, 2025

III. TOWNSHIP TRAFFIC CONSULTANT COMMENTS
BOWMAN

1. SALDO Section 162-9.H(2) – The traffic study should be revised to include the missing figures.
2. ZO Section 200-73.F – The Byers Station Conditions of Tentative Approval allow for a reduction in the sum total of the required parking if there are efficiencies derived by shared parking for uses with complementary peak demands based on industry parking generation data. This method of calculating the required parking is consistent with the approach previously approved by the Township for this site. Based on the results of the submitted shared parking analysis, the total combined peak parking demand for all of the land uses on Lot 2B is 108 parking spaces. By comparison, the plan proposes 143 parking spaces, and therefore, the proposed parking supply is sufficient to serve the needs of the development.
3. SALDO Section 162-9.H(2) – Previous iterations of the plans and conditions of approval for this Lot 2B development proposed an extension of Iris Lane within a variable width access and utility easement for a driveway to Pottstown Pike. The current plan eliminates this access and proposes to extinguish the easement.. The current plan proposes more development square footage (31,500 sf vs. 25,520 sf) and generates more traffic than contemplated by the previous version of the plan when the Pottstown Pike access had been proposed. Permanent elimination of the access to Pottstown Pike will add more retail traffic to Begonia Drive. Furthermore, elimination of the access to Pottstown Pike precludes any opportunity to reduce development traffic pressure at the intersection of Pottstown Pike and Park Road/Station Boulevard. Because of the inter-relationship of the Pottstown Pike access and the adjacent residential community, we recommend further discussion regarding the plan at a public meeting which provides an opportunity for the neighbors to provide input.
4. It is our understanding that Begonia Drive is maintained by the neighboring HOA. As such, with all of the Lot 2B commercial traffic using Begonia Drive for access, then we question whether the Lot 2B development should participate in the maintenance of this road.
5. With all of the Lot 2B commercial traffic using Begonia Drive for access, we recommend consideration for measures to minimize interactions between residential/school

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July 3, 2025

pedestrian traffic and retail traffic. As contemplated by the current plan, residential pedestrians are required to cross Begonia Drive, as well as cross two retail driveways in order to walk to/from Station Boulevard and the Pickering Valley Elementary School. As such, measures should be considered, such as sidewalk on the east side of Begonia Drive and/or traffic calming devices along Begonia Drive. These strategies will help to slow traffic and better integrate the retail and residential traffic and pedestrian activity.

IV. TOWNSHIP SEWER CONSULTANT COMMENTS **ARRO**

1. The plans propose the construction of a second phase with a second 10,500 square foot (SF) commercial building and additional parking on the site. The applicant will need to indicate any change to the proposed estimated sanitary sewer capacity for the project. The capacity will need to be purchased by the applicant.
2. Should there be any increases in sanitary sewer capacity above that previously approved Sewage Facilities Planning Module (SFPM). An amended approval will need to be obtained by Pennsylvania Department of Environmental Protection (PADEP).
3. An appropriately sized oil grease interceptor shall be provided for any restaurants/establishments preparing food. If those proposed locations are known at this time please identify on the drawing, in order to ensure that oil grease interceptors are provided.
4. The necessary financial security shall be posted with the Township, which shall be in a form and amount acceptable to the Township.

This concludes our first review of the above referenced Amended Final Plans. We recommend the plans be revised to address the above referenced comments as well as any of those of the Township Planning Commission and Board of Supervisors. If you have any questions, please do not hesitate to contact me.

Mr. Tony Scheivert
Upper Uwchlan Township Manager
Reference: Parcel 5C (Byers Station) – Lot 2B (Phase 2)
Amended Final PRD Plans – First Review
Upper Uwchlan Township, Chester County, PA

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File No.: 03-0434.07
July 3, 2025

Sincerely,

David N. Leh

David N. Leh, P.E.
Vice President
Gilmore & Associates, Inc.

cc: Upper Uwchlan Township Planning Commission Members
Upper Uwchlan Township Board of Supervisors
Kristin S. Camp, Esq., BBM&M
Christopher J. Williams, P.E., Bowman
David Schlott, P.E., ARRO Consulting, Inc.
Matt Brown, P.E., DEE – UUTMA Authority Administrator
Alyson Zarro, Esq. – RRHC
Chris Puzinas, P.E., Bohler Engineering
Guy DiMartino, P.E., TPD
Allan Greenberg, Applicant
Gary Large, Applicant
Gwen Jonik, Township Secretary

ALYSON ZARRO
alyson@rrhc.com
extension 0202



June 4, 2025

Via email and hand delivery

Tony Scheivert, Township Manager
Upper Uwchlan Township
140 Pottstown Pike
Chester Springs, PA 19425
tscheivert@upperuwchlan-pa.gov

**Re: Byers Station Parcel 5C Lot 2B
Amended Final Planned Residential Development Plan Application – Phase 2**

Dear Tony:

As you know, I represent Chester Springs REI LLC c/o Celebree Property Investments, LLC (“Applicant”) in connection with Lot 2B of Parcel 5C in the Byers Station Planned Residential Development (“Property”). Applicant is the legal owner of the Property which is approximately 3.887 acres and is further identified as UPI Number 32-4-1090.1.

On September 22, 2022, Applicant received Amended Final Planned Residential Development Plan Approval for the development of the Property with a 1,820 sq. ft. eating and drinking establishment with a drive through, a 6,000 sq. ft. retail pad, a 7,200 sq. ft. retail pad, and a 10,500 sq. ft. daycare center with a 5,500 sq. ft. play area (“2022 Approval”). Subsequently, Applicant amended its plan to reconfigure the daycare center and play area, as well as to change the previously approved retail buildings such that a 10,500 sq. ft. building could be built along with the daycare center as a first phase of development on the Property. This amended plan was approved by the Board of Supervisors on May 20, 2024 and was subsequently recorded (“2024 Approval”). Construction pursuant to the 2024 Approval is ongoing.

Applicant now desires to amend the approvals for construction of a second phase of the development on the Property with a second 10, 500 sq. ft. commercial building and additional parking.

In connection with this amended plan, the Applicant is again proposing to utilize shared parking for the proposed uses pursuant to Section J.8 of the Tentative Approval for the Byers Station Planned Residential Development dated June 7, 1999.

Enclosed for filing in connection with this Amended Final PRD Plan Application (“Application”) for the Property are the following materials:

1. Four (4) copies of a plan entitled “ ‘Byers Station’ Amended Final PRD Plans (Final Plan for Lot 2B of Parcel 5C)” prepared by Bohler dated March 15, 2022, and last

revised May 30, 2025;

2. Four (4) copies of the General Project Description and Stormwater Management Calculations prepared by Bohler dated March 25, 2019, and last revised May 25, 2025;
3. Four (4) copies of a Parking and Traffic Analysis prepared by TPD dated June 2, 2025;
4. Four (4) copies of a Transportation Impact Assessment prepared by TPD dated June 2, 2025;
5. One (1) copy of the Township Reimbursement Agreement;
6. One (1) copy of the Chester County Act 247 Referral form;
7. A check in the amount of \$250.00 made payable to Upper Uwchlan Township, the final plan application fee;
8. A check in the amount of \$5,000.00 made payable to Upper Uwchlan Township for the Township consultant review fees escrow account; and
9. A check in the amount of \$1,194.50 made payable to the Chester County Planning Commission for its review.

The electronic version of this letter includes a link to download all of the materials comprising the Application.

As always, please feel free to contact me with any questions or if you require any additional information. Thank you for your assistance with this matter.

Very truly yours,

Alyson M. Zarro

Alyson M. Zarro

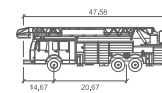
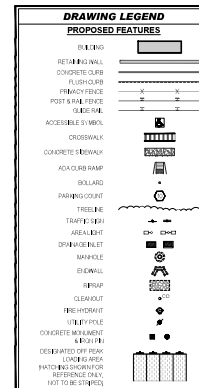
AMZ/kdj
Enclosures

cc: Gwen Jonik, Township Secretary *(via email, w/enclosures)*
Kristin Camp, Esquire, Township Solicitor *(via email, w/enclosures)*
Allan Greenberg, Celebree Property Investments, LLC *(via email, w/enclosures)*
Gary Large *(via email, w/enclosures)*
Chris Puzinas, P.E., Bohler Engineering *(via email, w/enclosures)*
Guy DiMartino, P.E., TPD *(via email, w/enclosures)*
Weston Blaney, JAM Architecture *(via email, w/enclosures)*

_____ FOR _____

PROPOSED

LOCATION OF SITE



Upper Uwchlan-Ladder	feet
Width	: 10.0
Track	: 9.00
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

REVISIONS			
REV	DATE	COMMENT	DESIGNER
1	05/25/2022	REV. PER TOWNSHIP COMMENTS	LJG
2	07/08/2022	REV. PER NPDES MINOR MOD	MJ
3	12/07/2022	REV. PER TOWNSHIP COMMENTS	LJG
4	04/21/2023	REV. PER TOWNSHIP COMMENTS	KH
5	04/18/2024	REV. PER CLIENT COMMENTS	LJG
6	05/01/2024	REV. PER TOWNSHIP COMMENTS	CD
7	12/18/2024	REV. PER RFIS	TW
8	05/30/2025	REV. PER NEW BUILDING	LL
			CD



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www.call811.org
SERIAL No.: 201825331377

PROJECT No.:	PG2111
DRAWN BY:	LG
CHECKED BY:	C.D.
DATE:	03/15/20
CAD ID:	PG211160-LDVP

PROJECT:

**AMENDED
FINAL PRD PLANS**

FOR
PROSPERITY PROPERTY
INVESTMENTS, LLC
"FINAL PLAN FOR LOT 2B OF
PARCEL 5C"
PROPOSED COMMERCIAL
DEVELOPMENT

GRAPHITE MINE ROAD &
STATION BOULEVARD
UPPER UWCHLAN TOWNSHIP
CHESTER COUNTY
COMMONWEALTH OF PENNSYLVANIA

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**1600 MANOR DRIVE, SUITE 200
CHALFONT, PA 18914**
Phone: (215) 996-9100
Fax: (215) 996-8102
www.BohlerEngineering.com



SHEET TITLE:

**FIRE TRUCK
CIRCULATION
PLAN**

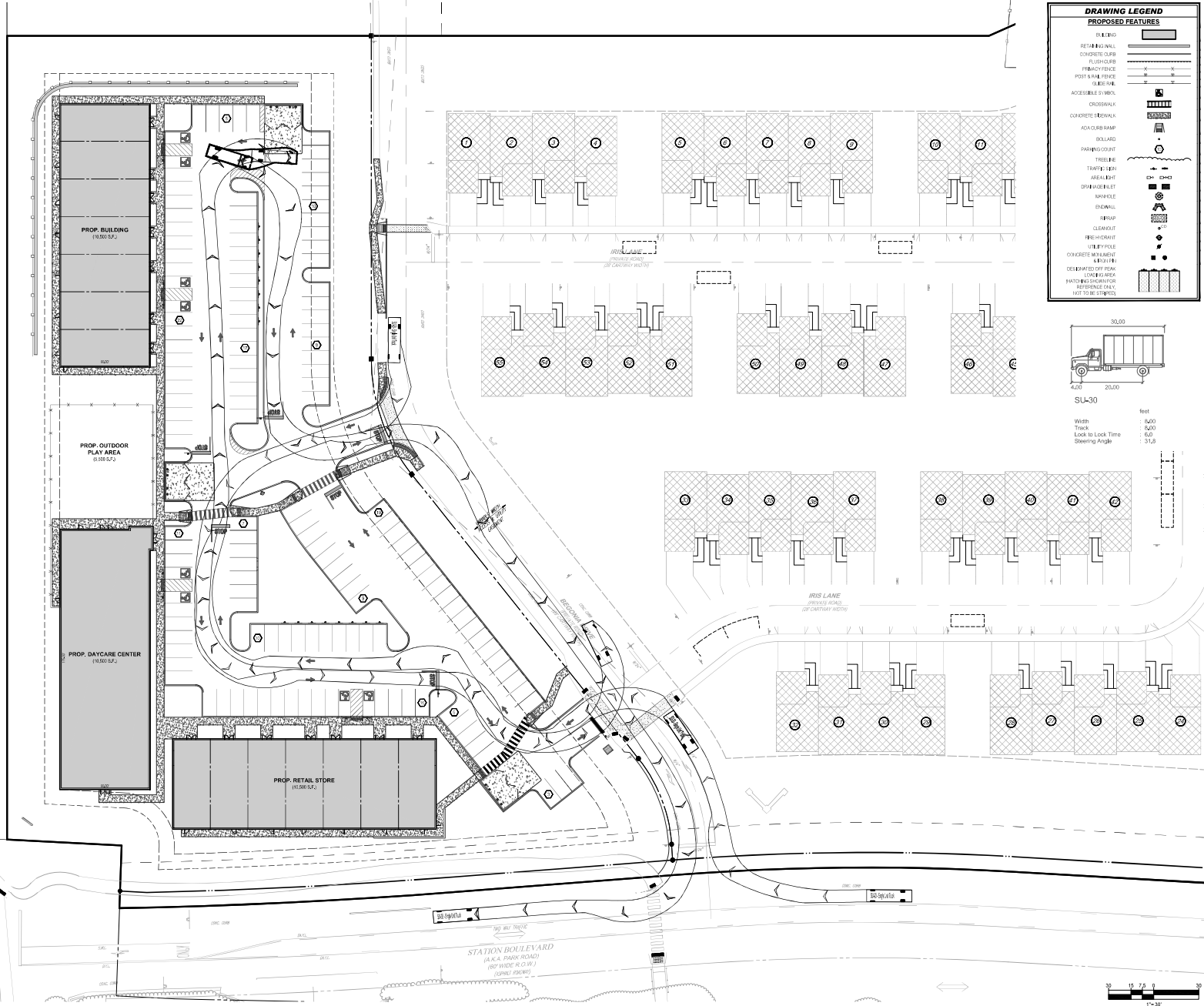
SHEET NUMBER:
C-302

REVISION 8 - 05/30/2025

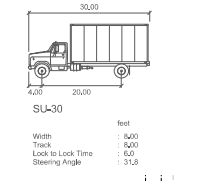
UNIFORM PARCEL IDENTIFIER: 32-4-1090.1



NOT TO SCALE
PROPORTION: 1" = 100'-0"
(AS SHOWN ON SHEET 00)
(SEE SHEET 00 FOR
GENERAL NOTES)



DRAWING LEGEND	
PROPOSED FEATURES	
BUILDING	
RETAINING WALL	
CONCRETE CURB	
PURCHASING	
POST AND RAIL FENCE	
CRACK LINE	
ACCESSIBLE TO MARK	
CROSSWALK	
CONCRETE SIDEWALK	
ASPHALT DRIVE	
BOLLARD	
PARKING LOT	
TRAP PILE	
WELLS	
SPRINKLER	
MANHOLE	
SEWER	
STORM	
CLEARANCE	
UNDERPASS	
CONCRETE SIDEWALK	
ASPHALT DRIVE	
DEBRIS OFF ROAD	
UNDERPASS	
REFERENCE ONLY	
NOT TO BE STREETS	



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PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS		
REV	DATE	COMMENT
1	05/02/2024	REV. PER TOWNSHIP COMMENTS
2	07/08/2024	REV. PER TOWNSHIP COMMENTS
3	10/07/2024	REV. PER TOWNSHIP COMMENTS
4	04/01/2025	REV. PER TOWNSHIP COMMENTS
5	04/01/2025	REV. PER CLIENT COMMENTS
6	05/01/2025	REV. PER TOWNSHIP COMMENTS
7	10/16/2024	REV. PER NEW BUILDING
8	05/01/2025	REV. PER NEW BUILDING

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PROJECT NO.	PC211105
DRAWN BY	C.D.P.
CHECKED BY	05/01/2025
DATE	05/01/2025
CAD ID	PC211105-01-PRD-ABA

AMENDED FINAL PRD PLANS
FOR
PROSPERITY PROPERTY INVESTMENTS, LLC
"FINAL PLAN FOR LOT 2B OF PARCEL 5C"
PROPOSED COMMERCIAL DEVELOPMENT
GRAPHITE MINE ROAD & STATION BOULEVARD
UPPER UICHLAN TOWNSHIP
CHESTER COUNTY
COMMONWEALTH OF PENNSYLVANIA

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Fax: (215) 996-4102
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C.D. PUZANAS

PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE # 0001100

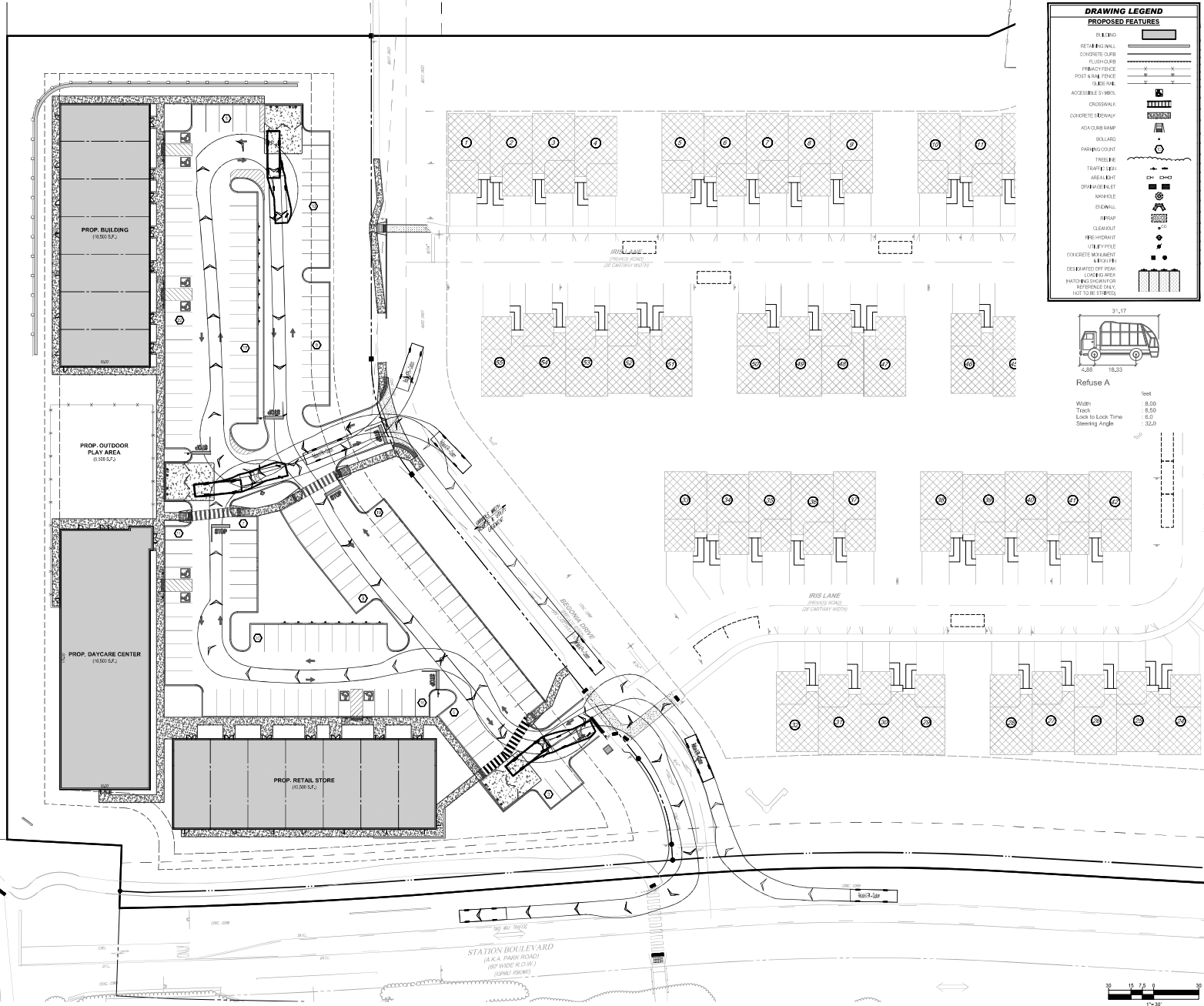
DELIVERY TRUCK CIRCULATION PLAN

SHEET NUMBER:
C-303

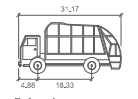
REVISION 8 - 05/30/2025



NOT TO SCALE
PROPORTION: 1" = 100'
(AS SHOWN ON SHEET 100)
(SEE SHEET 100 FOR
GENERAL NOTES)



DRAWING LEGEND	
PROPOSED FEATURES	
BUILDING	
RETAINING WALL	
CONCRETE CURB	
FLUSH CURB	
FRANCHISE FENCE	
POST AND RAIL FENCE	
CADASTRAL	
ACCESSIBLE TO MARK	
CROSSWALK	
CONCRETE SIDEWALK	
ASPHALT SIDEWALK	
BOLLARD	
PARKING COUNTER	
TREELINE	
TRAP AND PUMP	
WELLS	
SPRINKLER INLET	
MANHOLE	
SEWER	
STORM	
CLEARCUT	
PIPE HYDRANT	
UTILITY POLE	
CONCRETE RETAINMENT WALL	
DEGRADED OFF ROAD	
LOW WALL	
PAVING SIGNIFICANT	
REFERENCE ONLY	
HAD TO BE STORIES	



Refuse A

Width 8.00
Track 8.00
Look to Lock Time 6.0
Steering Angle 32.0

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PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
TRANSPORTATION SERVICES

REVISIONS		
REV	DATE	COMMENT
1	05/02/2024	REV. PER TOWNSHIP COMMENTS
2	07/08/2024	REV. PER TOWNSHIP COMMENTS
3	10/07/2024	REV. PER TOWNSHIP COMMENTS
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5	04/01/2025	REV. PER CLIENT COMMENTS
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8	05/02/2025	REV. PER NEW BUILDING

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SERIAL NO. 20180331372

PROJECT NO.	PC211105
DRAWN BY	CU
CHECKED BY:	C.D.P.
DATE	05/02/2025
CAD ID:	PC211105-01V9-AB

PROJECT:

**AMENDED
FINAL PRD PLANS**

FOR
**PROSPERITY PROPERTY
INVESTMENTS, LLC**

"FINAL PLAN FOR LOT 2B OF
PARCEL 5C"
PROPOSED COMMERCIAL
DEVELOPMENT

GRAPHITE HIRE ROAD &
STATION BOULEVARD
UPPER UICHLAN TOWNSHIP
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C.D. PUZINAS

PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE #201105

SHEET TITLE:

**TRASH TRUCK
CIRCULATION
PLAN**

SHEET NUMBER:

C-304

1 OF 36

REVISION 8 - 05/30/2025



DRAWING LEGEND	
EXISTING FEATURES	
PROPERTY BOUNDARY	---
EXIST. ASPHALT DRIVE	---
ADVANCED PROPOSED LINE	---
BASEMENT LINE	---
EXISTING STREAM LINE	---
EXISTING UTILITY LINE	---
BLDG.	---
RETAINING WALL	---
CONCRETE CURB	---
FLUSH CURB	---
TRUCK	---
GRASS PINE	---
TREELINE	---
UTILITY POLE IN LIGHT	---
TRUCK HIGHWAY	---
UTILITY POLE	---
TREE	---
UPSIDE INLET	---
STORMSEWER MANHOLE	---
MAJOR & MINOR CONTROLS	---
SPOT ELEVATION	---
SANITARY SEWER	---
STREET	---

DRAWING LEGEND	
PROPOSED FEATURES	
BLDG.	---
RETAINING WALL	---
CONCRETE CURB	---
FLUSH CURB	---
TRUCK	---
GRASS PINE	---
ACCESSIBLE SYMBOL	---
CROSSWALK	---
RAMP	---
BOLLARD	---
TRAFFIC LIGHT	---
TREELINE	---
AREA LIGHT	---
STAKEHOLDING	---
SPACE	---
ENDWALL	---
BRIDGE	---
CLEANOUT	---
RECEIVABLE	---
UTILITY POLE	---
MAJOR & MINOR CONTROLS	---
ELEVATION	---
SPOT ELEVATION	---
WATER LINE	---
SANITARY SEWER	---
STREET	---

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7	10/19/2024	REV. PER TOWNSHIP COMMENTS
8	05/01/2025	REV. PER NEW BUILDING

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WHERE THERE IS A RISK OF DAMAGE TO
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SERIAL NO. 20180313172

PROJECT NO.	PC211105
DRAWN BY:	LOU
CHECKED BY:	C.D.P.
DATE:	05/01/2025
CAD ID:	PC211105-01P-AB

PROJECT:
**AMENDED
FINAL PRD PLANS**
FOR
**PROSPERITY PROPERTY
INVESTMENTS, LLC**
"FINAL PLAN FOR LOT 2B OF
PARCEL 5C"
PROPOSED COMMERCIAL
DEVELOPMENT
GRAPHITE MINE ROAD &
STATION BOULEVARD
UPPER MERIDIAN TOWNSHIP
CHESTER COUNTY
COMMONWEALTH OF PENNSYLVANIA

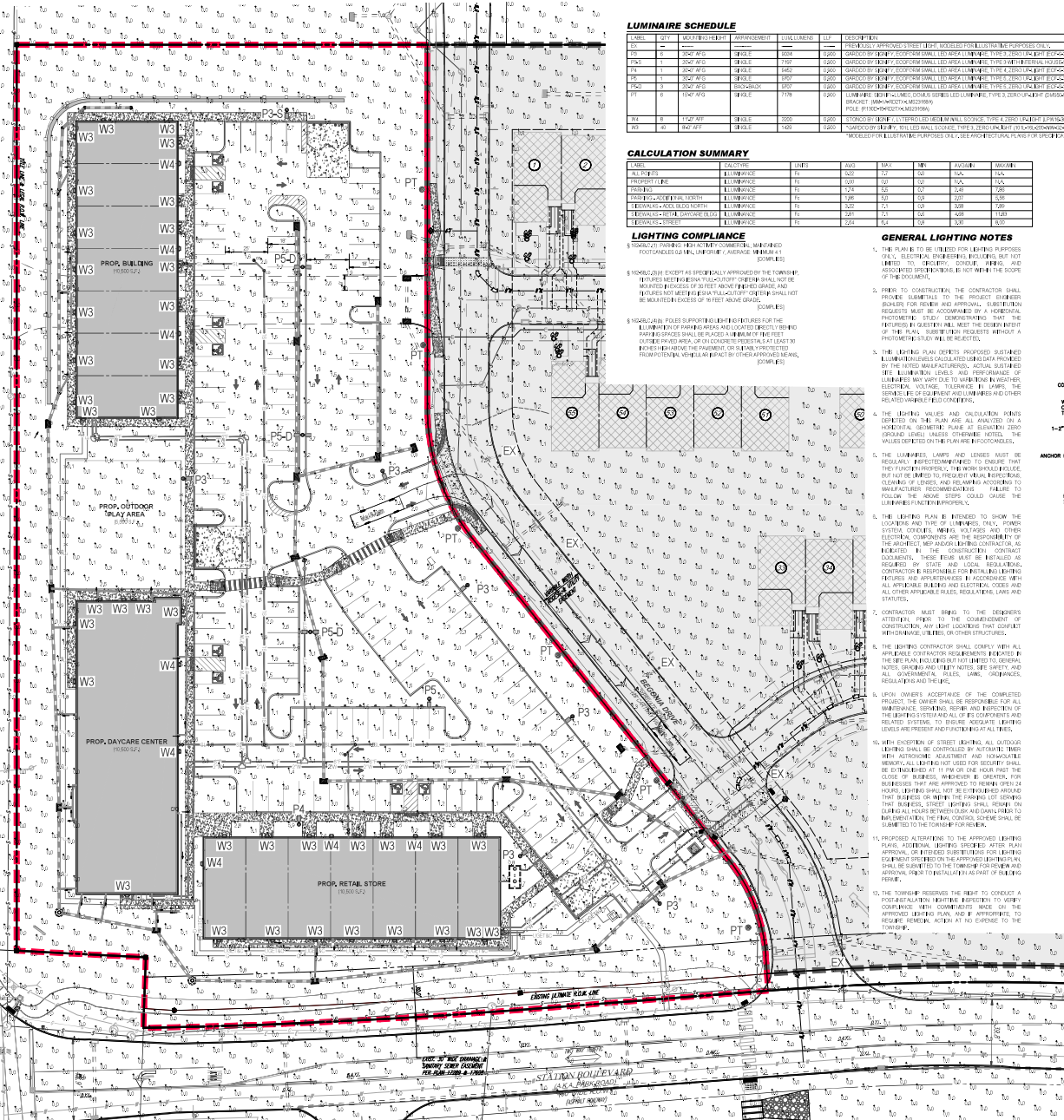
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C.D. PUZMAS
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE NO. 10010

GRADING PLAN
SHEET NUMBER:
C-401
1 OF 36
REVISION 8 - 05/30/2025



UNIFORM PARCEL IDENTIFIER: 52-4-1090-1



LUMINAIRE SCHEDULE

LINE	LOT	NOTES	SPACING	CU/SPACING	LF	DESCRIPTION	FOUNDATION	WIRE/FASE
EX	1	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	2	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	3	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	4	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	5	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	6	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	7	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	8	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	9	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	10	20'x40' BLDG	100'	100'	100'	100'	100'	100'

CALCULATION SUMMARY

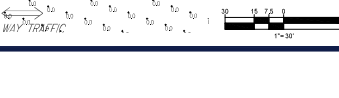
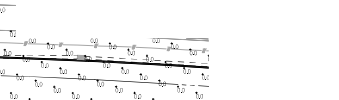
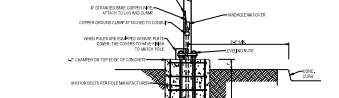
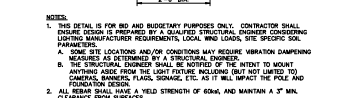
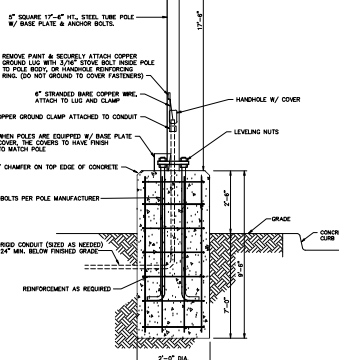
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EX	1	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	2	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	3	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	4	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	5	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	6	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	7	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	8	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	9	20'x40' BLDG	100'	100'	100'	100'	100'	100'
EX	10	20'x40' BLDG	100'	100'	100'	100'	100'	100'

LIGHTING COMPLIANCE

1. THE LIGHTING PLAN SHALL BE DESIGNED TO PROVIDE ADEQUATE ILLUMINATION FOR THE PROPOSED DEVELOPMENT AND TO MEET THE REQUIREMENTS OF THE TOWNSHIP OF PENNSYLVANIA, CHAPTER 100, TITLE 25, PA. STATUTES.
2. THE LIGHTING PLAN SHALL BE DESIGNED TO PROVIDE ADEQUATE ILLUMINATION FOR THE PROPOSED DEVELOPMENT AND TO MEET THE REQUIREMENTS OF THE TOWNSHIP OF PENNSYLVANIA, CHAPTER 100, TITLE 25, PA. STATUTES.
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GENERAL LIGHTING NOTES

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BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
PROGRAM MANAGER
LANDSCAPE ARCHITECTURE
PERMITTING SERVICES
TRANSPORTATION SERVICES

REV	DATE	COMMENT	BY	CHK
1	05/01/2020	REV. PER TOWNSHIP COMMENTS	LOU	
2	07/01/2020	REV. PER TOWNSHIP COMMENTS	LOU	
3	10/01/2020	REV. PER TOWNSHIP COMMENTS	LOU	
4	04/01/2021	REV. PER TOWNSHIP COMMENTS	LOU	
5	01/01/2021	REV. PER CLIENT COMMENTS	LOU	
6	05/01/2021	REV. PER TOWNSHIP COMMENTS	LOU	
7	07/01/2021	REV. PER TOWNSHIP COMMENTS	LOU	
8	05/01/2021	REV. PER NEW BUILDING	LOU	

811
Call before you dig.
YOU MUST CALL 811 BEFORE YOU DIG.
SERIAL NO. 2108231372

PROJECT NO. PC21100
DRAWN BY: C.P.P.
CHECKED BY: C.P.P.
DATE: 05/01/2021
PROJECT: PC21100-LT01-0A

AMENDED FINAL PRD PLANS
FOR
PROSPERITY PROPERTY INVESTMENTS, LLC
"FINAL PLAN FOR LOT 28 OF PARCEL 5C"
PROPOSED COMMERCIAL DEVELOPMENT
GRAPHITE HIRE ROAD & STATION BOULEVARD
UPPER UCHLAN TOWNSHIP
CHESTER COUNTY
COMMONWEALTH OF PENNSYLVANIA

BOHLER
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D.T. NORTH
REGISTERED LANDSCAPE ARCHITECT
PC21100-LT01-0A

SHEET TITLE:
LIGHTING PLAN
SHEET NUMBER:
C-701
23 OF 36
REVISION 8 - 05/30/2025

[illegible]



1025 Andrew Drive, Suite 110, West Chester, PA 19380
610.326.3100 | INFO@TPDINC.COM

WWW.TPDINC.COM

June 2, 2025

Allan Greenberg, CFO
CELEBREE, Inc.
1306 Bellona Avenue
Lutherville, MD 21093

RE: Byers Station Lot 2B, Parcel 5C – Parking and Traffic Analysis

Upper Uwchlan Township, Chester County, PA

TPD No. CELE.00001

Dear Allan:

Traffic Planning and Design, Inc. (TPD) has completed a parking and traffic analysis for the proposed Byers Station Lot 2B, Parcel 5C, located on the northeast corner of the intersection of Pottstown Pike and Station Boulevard in Upper Uwchlan Township, Chester County, Pennsylvania. Land development approvals were previously obtained for the subject site, with the most recent approval in 2024 being for a daycare and a 10,500 s.f. of commercial/retail space. Under the current plan, a 10,500 s.f. medical office building (MOB) is proposed in addition to the daycare and 10,500 s.f. commercial/retail building. As such, the purpose of this analysis is to evaluate the parking and traffic for the currently proposed development of the site.

PARKING ANALYSIS

Under the current site plan proposes a total of 143 parking spaces. To determine if the proposed parking is sufficient to support the site, the peak demand of each use was evaluated based on the Institute of Transportation Engineers' (ITE) Parking Generation Manual, 6th Edition, 2023. For the current plan, Land Use Code 565 (Day Care), Land Use Code 930 (Fast Casual Restaurant), and Land Use Code 822 (Strip Retail Plaza) were used to calculate the peak parking demand. ***Please note, the parking analysis assumes that the 10,500 s.f. commercial/retail building will include two (2) restaurants at 1,500 s.f. each. In addition, although the MOB use is proposed for one of the 10,500 s.f. buildings, this parking analysis utilizes the Retail land use (#822), as this results in a higher peak parking demand than a MOB use (#720).***

Table 1 shows the average peak parking demand rates for each use, including the MOB rates for information/comparison purposes.

TABLE 1
ITE PEAK PARKING DEMAND

Land Use	ITE #	X	Average Rate	Peak Parking Demand
Day Care	565	140 students	$P = 0.25*(X)$	35
Restaurants	930	3.0 ksf	$P = 9.77*(X)$	29
Strip Retail	822	18.0 ksf	$P = 2.79*(X)$	51
MOB	720	---	$P = 2.63*(X)$	---
Total Peak Parking Demand				115

P = Peak Parking Demand; X = Size

As shown in **Table 1**, if all the uses on-site experienced their peak parking demand simultaneously, the peak parking demand for the site would be 115 occupied spaces. However, mixed-use sites such as the proposed development have opportunities for shared parking. As such, the parking occupancy time of day from the ITE Parking Generation Manual methodology was utilized to evaluate the shared parking for the site. As shown in **Table 2**, the time-of-day parking demand distribution is summarized for the proposed uses. **Table 3** applies the time-of-day distributions to peak parking demand noted in **Table 1**, in order to determine the shared parking demand on an hourly basis.

TABLE 2
WEEKDAY TIME-OF-DAY VARIATION IN PARKING DEMAND (%)

Hour of Day	Percent of Peak Period		
	Day Care ¹	Restaurants ²	Retail ³
6:00 AM	11%	--	--
7:00 AM	45%	--	--
8:00 AM	89%	--	19%
9:00 AM	93%	--	33%
10:00 AM	100%	14%	47%
11:00 AM	100%	22%	55%
12:00 PM	97%	100%	89%
1:00 PM	93%	78%	100%
2:00 PM	88%	40%	73%
3:00 PM	82%	32%	73%
4:00 PM	88%	26%	66%
5:00 PM	96%	46%	70%
6:00 PM	61%	77%	75%
7:00 PM	30%	63%	70%
8:00 PM	--	34%	54%
9:00 PM	--	22%	48%
10:00 PM	--	14%	--
11:00 PM	--	--	--

1. Time-of-day data provided from 6 AM – 6 PM. 7 PM assumed to be 50% of 6PM.

2. Time-of-day data provided from 8 AM – 10 PM, but assumed 0% for 8-10 AM since the store is not typically open.

3. Time-of-day data provided from 8 AM – 9 PM.

TABLE 3
WEEKDAY TIME-OF-DAY VARIATION IN PARKING DEMAND

Hour of Day	Occupied Parking Spaces			
	Day Care	Restaurants	Retail	Total
6:00 AM	4	0	0	4
7:00 AM	16	0	0	16
8:00 AM	31	1	10	42
9:00 AM	33	3	17	53
10:00 AM	35	4	24	63
11:00 AM	35	6	28	69
12:00 PM	34	29	45	108
1:00 PM	33	23	51	107
2:00 PM	31	12	37	80
3:00 PM	29	9	37	75
4:00 PM	31	8	34	73
5:00 PM	34	13	36	83
6:00 PM	21	22	38	81
7:00 PM	11	18	36	65
8:00 PM	0	10	28	38
9:00 PM	0	6	24	30
10:00 PM	0	4	0	4
11:00 PM	0	0	0	0

As shown in **Table 3**, per the referenced data, the maximum peak parking demand at any point during the day is anticipated to be 108 spaces, which is less than the proposed 143 parking spaces proposed for the current site.

If you have any questions or comments, please feel free to contact us.

Sincerely,

TPD



Guido W. DiMartino, P.E.

Regional Leader – Transportation Planning



June 2, 2025
TPD# CELE.00001

BYERS STATION

Transportation Impact Assessment

Upper Uwchlan Township, Chester County, PA

For Submission To:

Upper Uwchlan Township

BYERS STATION TRANSPORTATION IMPACT ASSESSMENT

FOR SUBMISSION TO:

Upper Uwchlan Township, Chester County, PA

Prepared For:

Celebree

8029 Corporate Drive

Nottingham, MD 21236

June 2, 2025

TPD # CELE.00001



Prepared By:

TPD

1025 Andrew Drive, Suite 110

West Chester, Pennsylvania 19380

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Appendix A:	Study Area Photographs
Appendix B:	Manual Traffic Count Printouts
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Appendix E:	Traffic Signal Plans
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EXECUTIVE SUMMARY

The purpose of this study is to examine the potential traffic impact associated with the proposed Byers Station development on the roadway network in Upper Uwchlan Township, Chester County, PA. Based on this evaluation, the following conclusions were reached:

- » The project site is located on the northeast corner of Pottstown Pike (SR 0100) and Station Boulevard/Park Road and is comprised of three (3) 10,500 s.f. buildings. One building is proposed as a daycare for 140 students, with the other buildings planned for commercial/retail space. One commercial building is planned as medical office building (MOB) space, and the other is planned a 7,500 s.f. of retail and 3,000 s.f. of restaurant space.
- » The site will be served by driveways to Begonia Drive, with external access to Station Boulevard via Begonia Drive. No direct access to Route 100 is proposed.
- » The proposed development is expected to generate 108 new external trips during the weekday A.M. peak hour, 144 new external trips during the weekday P.M. peak hour, and 133 new external trips during the Saturday midday peak hour.
- » Under all projected (build) conditions with the development of the proposed site and with site-related recommendations, all study area intersections will satisfy PennDOT ILOS Standards.
- » 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	Time Period	Existing	2026 Conditions		Meets LOS Requirements?
			Base	Projected	
Pottstown Pike (SR 0100) & Park Road/Station Boulevard	Weekday AM Peak	C (25.6)	C (27.4)	C (29.4)	YES
	Weekday PM Peak	C (22.8)	C (25.1)	C (27.2)	
	Saturday Peak	C (21.7)	C (24.3)	C (24.5)	
Graphite Mine Road & Station Boulevard	Weekday AM Peak	C (28.0)	C (27.9)	C (28.1)	YES
	Weekday PM Peak	B (15.8)	B (16.1)	B (17.4)	
	Saturday Peak	A (9.6)	A (9.7)	B (10.2)	
Station Boulevard & Begonia Drive	Weekday AM Peak	A (4.2)	A (4.1)	A (7.5)	YES
	Weekday PM Peak	A (1.3)	A (1.2)	A (5.0)	
	Saturday Peak	A (1.4)	A (1.3)	A (4.8)	

Base = No-Build scenario, Projected = Build scenario

INTRODUCTION

Traffic Planning and Design, Inc. (TPD) has completed a Transportation Impact Assessment (TIA) for the proposed Village at Byers Station development (formerly known as Byers Station Parcel 5C) on the roadway network in Upper Uwchlan Township, Chester County, PA. As shown in **Figure 1**, the project site is located on the northeast corner of Pottstown Pike (SR 0100) and Station Boulevard/Park Road. As shown in **Figure 2**, the proposed development is comprised of three (3) 10,500 s.f. buildings. One building is proposed as a daycare for 140 students, with the other buildings planned for commercial/retail space. One commercial building is planned as medical office building (MOB) space, and the other is planned a 7,500 s.f. of retail and 3,000 s.f. of restaurant space.

The subject site is part of the overall Byers Station PRD that was approved by the Township in 1999. Byers Station funded and constructed much of the roadway improvements in the area that are currently in place, including Graphite Mine Road, Route 100 widening, Park Road extension, etc. These roadway improvements in the PRD approval were developed based on a maximum of 311,000 s.f. of retail/office space, or 175,000 s.f. of retail/office space and 220 multi-family units.

This report has been prepared in accordance with PennDOT's *Policies and Procedures for Transportation Impact Studies*, found in PennDOT's Publication 282, Appendix A, dated February 2024.

Site Access Locations

The proposed development will primarily be served by the driveways to Begonia Drive, with external access to Station Boulevard via Begonia Drive.

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 A**.

TABLE 1
ROADWAY CHARACTERISTICS WITHIN STUDY AREA

Roadway	Ownership	Functional Classification/ Roadway Type	Predominant Directional Orientation	Average Daily Traffic ¹	Posted Speed Limit
Pottstown Pike	State (SR 0100)	Principal Arterial Highway	North-South	12,936	35 mph
Graphite Mine Road	Local		North-South	12,080	40 mph
Station Boulevard	Local		East-West	6,230	30 mph

¹ = Based on PennDOT TIRe data or peak hour traffic counts and a k-factor

Land Use Context

In Section 1.2 of the Design Manual, Part 2, there is guidance pertaining to defining the land use context(s) for a given area. Based upon review of this information, the land uses surrounding the proposed site best fits Suburban Neighborhood designation, as described below:

Suburban Neighborhood, "predominately low density residential communities... typically arranged in a curvilinear internal system of streets with limited connections to regional road network or surrounding streets. . . .Neighborhoods can include community facilities such as schools, churches, recreational facilities, and some other stores and offices. When suburban houses line and arterial roadway but have their primary access to frontage roads or rear access roads, it is possible to classify this area as a suburban corridor."

Roadway Type

In Section 1.2 of the Design Manual, Part 2, there is guidance pertaining to defining the transportation context(s) for a given area. Comparing the existing condition roadway characteristics to the various options presented in Table 1.2, the study area roadways best fit the following categories, as described below:

Regional Arterial, traffic volumes of 10,000 to 40,000 vehicles per day, intersection spacing of 660 to 1,320 feet, a desired operating speed of 30-55 mph, and a description as follows: "Roadways in this category would be considered "Principal Arterial" in traditional functional classification."

» Pottstown Pike (SR 0100)

Community Collector, traffic volumes of 5,000 to 15,000 vehicles per day, intersection spacing of 300 to 660 feet, a desired operating speed of 25-55 mph, and a description as follows: "often similar in appearance to a community arterial. Typically classified as Major Collector."

» Graphite Mine Road

Local Road, traffic volumes of <3,000 vehicles per day, intersection spacing of 000 to 660 feet, a desired operating speed of 20-30 mph.

» Station Boulevard

Bicycle and Pedestrian Facilities

Based on observations during field visits at the study area intersections, there are no bicycle specific accommodations present. The pedestrian accommodations are detailed below:

- » Pottstown Pike (SR 0100) and Station Boulevard/Park Road – The traffic signal is provided with pedestrian push buttons, pedestrian hand-man signals, pedestrian ramps, and marked crosswalks on all four legs of the intersection.
- » Graphite Mine Road and Station Boulevard – The traffic signal is provided with pedestrian push buttons, pedestrian hand-man signals, pedestrian ramps, and marked crosswalks on the westbound approach of the intersection. Pedestrian activity is restricted via signage on the eastbound, northbound, and southbound approaches.

Mass Transit Facilities

Chester County is provided with public transportation by SEPTA. There is no public transportation via train within ½ mile of the site, and none serving Upper Uwchlan Township.

Crash Data Investigation

Crash data were obtained from PennDOT for the study area intersections. PennDOT defines a reportable crash as follows, “A reportable (crash) is one in which an injury or fatality occurs or if at least one of the vehicles involved requires towing from the scene.” Reportable crashes were tabulated for the five-year time period beginning 01/01/2020 and ending 12/31/2024. For a given intersection, PennDOT considers a crash occurrence of 5 reportable, correctable crashes over a continuous twelve-month period during the past five years to be a threshold value, above which the intersection design should be reviewed to examine if corrective measures can be taken to enhance safety. The number of reportable crashes at the study area intersections is shown in **Table 2**.

TABLE 2
PENNDOT REPORTABLE CRASH DATA

Study Area Intersection	Number of Reportable Crashes				
	2020	2021	2022	2023	2024
Pottstown Pike (SR 0100) & Station Boulevard/Park Road	0	1	1	1	0
Graphite Mine Road & Station Boulevard	0	1	2	4	0
Station Boulevard & Begonia Drive	0	0	0	0	0

Based on a review of the crash data, there was one continuous twelve-month period during the past five years where 5 or more crashes occurred that were deemed correctable at the Graphite Mine Road/Station Boulevard intersection:

- » Graphite Mine Road & Station Boulevard – The signalized intersection had 5 or more crashes that had occurred between October 2022 and September 2023. The primary type of crash was the angle crash. The primary causations of the crashes were driver error, such as running redlight, distracted driving or inexperienced driver.

EXISTING TRAFFIC CONDITIONS

Manual traffic counts were conducted on 15-minute intervals during the weekday morning (7:00 to 9:00 A.M.), weekday evening (4:00 to 6:00 P.M.) and Saturday midday (11:00 A.M. to 1:00 P.M.) peak periods. Peak hours and count dates for the study area intersections are identified in **Table 3**.

TABLE 3
MANUAL TRAFFIC COUNT INFORMATION

Intersection	Date of Traffic Counts	Time Period	Intersection Peak Hour ¹
<i>Pottstown Pike (SR 0100) & Station Boulevard/Park Road</i>	Thursday, May 1, 2025	Weekday A.M.	8:00 to 9:00 A.M.
		Weekday P.M.	4:30 to 5:30 P.M.
	Saturday, May 3, 2025	Saturday Midday	12:00 A.M. to 1:00 P.M.
<i>Station Boulevard & Begonia Drive</i>	Thursday, May 1, 2025	Weekday A.M.	7:30 to 8:30 A.M.
		Weekday P.M.	5:00 to 6:00 P.M.
	Saturday, May 3, 2025	Saturday Midday	12:00 A.M. to 1:00 P.M.
<i>Graphite Mine Road & Station Boulevard</i>	Thursday, May 1, 2025	Weekday A.M.	8:00 to 9:00 A.M.
		Weekday P.M.	4:45 to 5:45 P.M.
	Saturday, May 3, 2025	Saturday Midday	12:00 A.M. to 1:00 P.M.

1. Peak Hour consists of the four consecutive 15-minute intervals where the highest traffic volumes occur.

Existing condition traffic volumes for the weekday A.M., weekday P.M., and Saturday peak hours are illustrated in **Figures 3-5**, respectively. Manual traffic count data sheets are provided in **Appendix B**.

BASE (NO-BUILD) CONDITIONS

Annual Background Growth

A background growth factor for the roadways in the study area was developed based on growth factors for August 2024 to July 2025 obtained from the PennDOT Bureau of Planning and Research (BPR). The PennDOT BPR suggests using a background growth trend factor of 0.44% per year in Chester County for urban non-interstate roadways.

Nearby Proposed Developments

Base (no-build) traffic conditions were calculated to include traffic volumes from proposed developments, which, though not operating under existing conditions, may be operating by the opening year (2026) of the proposed development. The following nearby planned developments were specifically included in this study:

Automotive Service Center is a proposed development consisting of 45,774 s.f. service center space with a 300 space car storage lot. The site is located on the eastern side of Pottstown Pike (SR 0100), opposite Font Road. Trip generation and distribution for this site were developed based on the 4/10/25 TIS prepared by TPD.

Byers Station Parcel 6C is a 100-unit Continuing Care Retirement Facility. The project site is located on the northeast corner of the intersection of Byers Road (SR 1022) and Graphite Mine Road. Trip generation and distribution for this site was developed based on the 3/30/17 TIA prepared by TPD.

100 Greenridge Road is a proposed residential development consisting of 64 single-family homes. The site is located on the north side of Greenridge Road, west of Font Road. Trip generation and distribution for this site were developed based ITE data and existing travel patterns, respectively.

McKee-Fetters Tract is a proposed age-restricted residential development consisting of 97 senior-adult detached homes, and 156 senior adult townhomes. The site is located on the eastern side of Milford Road, south of Patricia Drive and opposite Krauser Road. Trip generation and distributions for this site were obtained from the Transportation Impact Study prepared by TPD, last revised 5/18/17.

The additional traffic volumes due to background growth and background developments were added to the existing traffic data to produce 2026 base (no-build) condition traffic volumes. Base condition volumes for the weekday A.M., weekday P.M., and Saturday midday peak hours are illustrated in **Figures 6-8** for the 2026 future no-build conditions. Trip distributions for the background developments are shown in the volume development worksheets provided in **Appendix C**.

SCHEDULED ROADWAY IMPROVEMENTS

Upper Uwchlan Township Traffic Capital Improvement Program

The following is a summary of roadway improvements identified in the Township's Transportation Capital Improvement Plan at the study area intersection for the Act 209 pre-development and post-development conditions:

Pottstown Pike & Park Road/Station Boulevard

- *Post-Development Conditions*
 - o Widen southbound Pottstown Pike to provide a separate right-turn lane
 - o Widen westbound Station Boulevard to provide a separate right-turn lane.

Graphite Mine Road & Station Boulevard

- *Post-Development Conditions*
 - o Widen northbound Graphite Mine Road for a second through lane;
 - o Widen southbound Graphite Mine Road for a second through lane.

In order to provide a conservative evaluation, the above improvements were not included in the evaluation of the study area intersections.

PROPOSED SITE ACCESS

The site will be served by driveways to Begonia Drive, with external access to Station Boulevard via Begonia Drive. No direct access to Route 100 is proposed.

TRIP GENERATION

The trip generation rates for the proposed development were obtained from the manual *Trip Generation*, Eleventh Edition, 2021, an Institute of Transportation Engineers (ITE) Informational Report. For the proposed development, Land Use Codes 565 (Daycare), 822 (Strip Retail Plaza <40k), and 930 (Fast Casual Restaurant) from *Trip Generation* was used to calculate the number of vehicular trips the development will generate during the following time periods: (1) average weekday; (2) weekday A.M. peak hour; (3) weekday P.M. peak hour; and (4) Saturday midday peak hour.

Please note, this analysis assumes that the 10,500 s.f. commercial/retail building will include two (2) restaurants at 1,500 s.f. each. In addition, although the MOB use is proposed for one of the 10,500 s.f. buildings, this analysis utilizes the Retail land use (#822), as this results in a higher trip generation than a MOB use (#720) during the weekday P.M. peak hour and Saturday midday peak hour. During the weekday A.M. peak hour, the MOB use generates slightly more, yet a comparable number of trips, than the retail land use.

In addition, according to the *Trip Generation* manual, not all of the trips generated by the proposed development will be new to the surrounding area. A distinction was made between “new” trips, which are trips made to/from the study area for the express purpose of visiting the site, “pass-by” trips, which are trips made to the site by traffic passing the retail center on the adjacent roadways en route to another destination. The pass-by trips do not add any additional traffic to the study area intersections but will result in shifts in turning movement at the site driveway intersections. **Table 4** shows the trip generation rates, directional and pass-by percentages for the analyzed time periods.

TABLE 4
ITE TRIP GENERATION DATA

Land Use	ITE #	Time Period	Rate/Equation	Entering %	Pass By %
Day Care	565	Average Weekday	$T = 47.62(X)$	50%	--
		Weekday A.M. Peak Hour	$T = 0.66(X) + 8.42$	53%	34% ¹
		Weekday P.M. Peak Hour	$\ln(T) = 0.87\ln(X) + 0.29$	47%	44%
		Saturday Midday Peak Hour	$T = 0.11(X)$	63%	34% ¹
Fast Casual Restaurant	930	Average Weekday	$T = 97.14(X)$	50%	--
		Weekday A.M. Peak Hour	$T = 1.43(X)$	50%	33% ¹
		Weekday P.M. Peak Hour	$T = 12.55(X)$	55%	43% ²
		Saturday Midday Peak Hour	$T = 32.64(X)$	55%	33% ¹
Strip Retail Plaza (<40k)	822	Average Weekday	$T = 42.2(X) + 229.68$	50%	--
		Weekday A.M. Peak Hour	$\ln(T) = 0.66\ln(X) + 1.84$	60%	30% ³
		Weekday P.M. Peak Hour	$T = 6.59(X)$	50%	40% ³
		Saturday Midday Peak Hour	$T = 6.57(X)$	51%	31% ³

T = total trips; *X* = independent variable, ksf = 1000 square feet

1 = No data available, used 10% less than PM Peak Hour

2 = No data available, utilized pass-by rate for LUC 932

3 = No data available, utilized pass-by rate for LUC 821

Internal Trips

For mixed-use developments, the *Trip Generation* manual recommends applying an interaction factor to the site trip generation to determine the quantity of “external trips” (trips from external roadways) and “internal capture trips” (trips between the various uses onsite that do not utilize the external roadways). The calculated trip generation for the proposed development is shown in **Table 5**. Interaction worksheets are provided in **Appendix C**. Please note, this trip generation for this study does not account for any interaction between the adjacent Byers Station homes and proposed development. Interaction between the residential uses and the proposed development would result in a reduced external trip generation when compared to the values in **Table 5**.

TABLE 5
TRIP GENERATION SUMMARY

Land Use	Size	Total Trips	Internal Trips		External Trips			Pass By Trips			New External Trips		
			Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
Weekday A.M. Peak Hour													
Fast Casual Restaurant	3 ksf	4	1	0	3	1	2	1	1	0	2	0	2
Day Care	10.5 ksf	116	0	0	116	61	55	39	20	19	77	41	36
Strip Retail Plaza (<40k)	18 ksf	42	0	1	41	25	16	12	6	6	29	19	10
Total	--	162	1	1	160	87	73	52	27	25	108	60	48
Weekday P.M. Peak Hour													
Fast Casual Restaurant	3 ksf	38	6	7	25	15	10	11	6	5	14	9	5
Day Care	10.5 ksf	117	0	0	117	55	62	51	26	25	66	29	37
Strip Retail Plaza (<40k)	18 ksf	119	7	6	106	52	54	42	21	21	64	31	33
Total	--	274	13	13	248	122	126	104	53	51	144	69	75
Saturday Midday Peak Hour													
Fast Casual Restaurant	3 ksf	98	21	9	68	33	35	22	11	11	46	22	24
Day Care	10.5 ksf	18	0	0	18	11	7	6	3	3	12	8	4
Strip Retail Plaza (<40k)	18 ksf	118	4	5	110	56	53	34	17	17	76	39	36
Total	--	234	25	14	195	100	95	62	31	31	133	69	64
Average Weekday Peak Hour													
Fast Casual Restaurant	3 ksf	291	54	41	196	92	104	--	--	--	--	--	--
Day Care	10.5 ksf	500	0	0	500	250	250	--	--	--	--	--	--
Strip Retail Plaza (<40k)	18 ksf	989	35	54	900	460	440	--	--	--	--	--	--
Total	--	1780	89	95	1596	802	794	--	--	--	--	--	--

Based on the trip generation analysis summarized in **Table 5**, the proposed development will generate approximately 108 new trips during the weekday A.M. peak hour, 144 new trips during the weekday P.M. peak hour, and 133 new trips during the Saturday midday peak hour.

TRIP DISTRIBUTION

The distribution of trips generated by the proposed development was based on the local road network, the existing traffic patterns, the proposed use of the site, and the site driveway location. 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 – NEW TRIPS

Direction - To/From	Assignment (To/From)	Distribution Percentage
North	via Pottstown Pike	36%
	via Graphite Mine Road	
South	via Pottstown Pike	44%
	via Graphite Mine Road	
East	via Station Boulevard	8%
West	via Park Road	12%

Pass-by trips were established based on the existing traffic patterns in the vicinity of the site and the location and configuration of the site driveways. The percentages used for the distribution of pass-by trips to the project site are shown below in **Table 7**.

TABLE 7
TRIP DISTRIBUTION PERCENTAGES – PASS-BY TRIPS

Direction - To/From	Pass-by Trip Distribution Percentages		
	Weekday A.M.	Weekday P.M.	Saturday Midday
North via Pottstown Pike	24%	42%	32%
South via Pottstown Pike	62%	46%	58%
East via Station Boulevard	8%	4%	5%
West via Station Boulevard	6%	8%	5%

The assignment of site-generated trips for the proposed development during the weekday A.M., weekday P.M., and Saturday midday peak hours are shown in **Figures 9-11**, respectively.

PROJECTED (BUILD) CONDITION TRAFFIC VOLUMES

The site-generated trips for the proposed development were added to the 2026 base (no-build) condition traffic volumes to develop the 2026 projected (build) condition traffic volumes. The 2026 projected condition traffic volumes for the weekday A.M., weekday P.M., and Saturday midday peak hours are shown in **Figure 12-14** 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 8**. 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 8
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., weekday P.M., and Saturday midday peak hours at the study area intersections. These analyses were conducted according to the methodologies contained in the 6th edition *Highway Capacity Manual* (HCM) using *Synchro 12* software, a Trafficware product.

The following conditions were analyzed, as applicable:

- Existing Conditions;
- 2026 Base Conditions (Build-out year without development);
- 2026 Projected Conditions (Build-out year with development).

It should be noted that based on methodologies contained in Chapter 10 of PennDOT's Publication 46, TPD adjusted the following 6th edition HCM default values in the *Synchro 12* capacity analysis. These adjustments were made at the signalized intersections within the study area for all time periods based on the study area location being classified as Suburban:

- Base saturation flow rates for signalized intersections. The saturation flow rate was changed from the default value of 1900 to 1800 based on Exhibit 10-9.
- Start-up lost time and extension of effective green time for signalized intersections. The startup lost time was changed from the default value of 2.0 seconds to 2.5 seconds. Based on the total clearance time (yellow plus all-red time) being greater than 5 seconds, the extension of green time was changed from the default value of 2 seconds to 3.5 seconds. These adjusted values were based on Exhibit 10-10.

In addition, capacity analyses were conducted at the proposed site driveway intersections under the 2026 projected conditions. The capacity analysis worksheets are included in **Appendix D**. The PennDOT-approved signal plans are included in **Appendix E**.

PennDOT's Transportation Impact Study Guidelines outlined PennDOT's *Policies and Procedures for Transportation Impact Studies*, found in PennDOT's Publication 282, Appendix A, dated September 2022 contain the following criteria regarding levels of service:

- Page 29 of the Guidelines state that if evaluation of the With Development Horizon Year Scenario to the Without Development Horizon Year Scenario indicates that the overall intersection level of service has dropped, the applicant will be required to mitigate the level of service if the increase in overall intersection delay is greater than 10-seconds. If the overall intersection delay increase is less than or equal to 10-seconds, mitigation of the intersection will not be required.
- Page 29 of the Guidelines state that for mitigation scenarios, applicants are expected to mitigate the overall intersection LOS to the original Without Development LOS; the 10-second delay variance is not applied to mitigation scenarios. Applicants may be required to address available storage and queue lengths at critical movements or approaches even if the overall LOS requirements are met.
- Page 31 of the Guidelines state that if signalization is the preferred alternative for mitigation, overall intersection LOS C in rural areas and LOS D in urban areas is acceptable.
- Page 31 of the Guidelines states new signalized or unsignalized intersection established to serve as access to the development shall be designed to operate at minimum LOS C for rural areas, and minimum LOS D for urban areas.

LEVELS OF SERVICE IN THE STUDY AREA

Level of service (LOS) matrices for the study area intersections are shown in **Table 10** for the weekday A.M., weekday P.M., and Saturday midday peak hours. Per PennDOT standards, the signal timings at the signalized study area intersections have been optimized under base conditions and projected conditions. Please note, the two (2) signalized study area intersections currently operate with traffic adaptive signal equipment which adjusts the signal timings in real-time based on the current traffic patterns.

TABLE 10
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY

Intersection	Approach/ Movement	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour			Saturday Midday Peak Hour		
		Existing	2026 Conditions		Existing	2026 Conditions		Existing	2026 Conditions	
			Base	Projected		Base	Projected		Base	Projected
Pottstown Pike & Park Road/Station Boulevard	EB L	D	D	D	D	D	D	D	D	D
	EB TR	D	D	D	D	D	C	C	C	C
	WB L	D	D	D	C	C	C	C	C	C
	WB TR	D	D	D	C	C	C	C	C	C
	NB L	B	C	C	B	C	C	B	C	C
	NB TR	A	A	A	A	A	A	A	A	A
	SB L	A	B	B	B	B	B	A	A	A
	SB TR	C	C	C	C	C	C	C	C	C
	ILOS	C (25.6)	C (27.4)	C (29.4)	C (22.8)	C (25.1)	C (27.2)	C (21.7)	C (24.3)	C (24.5)
Graphite Mine & Station Boulevard	EB L	C	C	C	A	A	A	C	C	C
	EB TR	C	C	C	D	D	D	C	C	C
	WB L	D	D	D	E	E	E	C	C	C
	WB TR	C	C	C	D	D	D	C	C	C
	NB L	B	B	B	A	A	A	A	A	A
	NB T	B	B	B	A	A	A	A	A	A
	NB R	B	B	B	A	A	A	A	A	A
	SB L	C	C	C	B	B	B	A	A	A
	SB TR	B	B	B	A	A	A	A	A	A
	ILOS	C (28.0)	C (27.9)	C (28.1)	B (15.8)	B (16.1)	B (17.4)	A (9.6)	A (9.7)	B (10.2)
Station Boulevard & Begonia Drive	EB L	A	A	A	A	A	A	A	A	A
	SB LR	B	B	C	A	A	B	A	A	B
	ILOS	A (4.2)	A (4.1)	A (7.5)	A (1.3)	A (1.2)	A (5.0)	A (1.4)	A (1.3)	A (4.8)

Base = No-Build scenario; Projected = Build scenario; ILOS = Overall Intersection Level of Service

As shown in **Table 10**, all levels of service at the study area intersection comply with the requirements outlined in PennDOT's TIS Guidelines.

95TH PERCENTILE QUEUE ANALYSIS

Queue analyses were conducted at the study area intersections using *Synchro 12* 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 **Tables 11** for the analyzed peak hours.

TABLE 11
95TH PERCENTILE QUEUE ANALYSIS

Intersection	Movement	Available Storage	2026 Conditions					
			Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
			Base	Projected	Base	Projected	Base	Projected
Pottstown Pike & Park Road/Station Boulevard	EB L	75	203	203	208	208	148	158
	EB TR	200+	115	120	70	75	65	73
	WB L	114	25	68	10	40	13	43
	WB TR	200+	103	148	83	118	53	93
	NB L	355	93	93	205	200	123	115
	NB TR	300+	83	100	195	225	80	90
	SB L	200	33	55	3	30	3	18
Graphite Mine & Station Boulevard	SB TR	700+	663	685	578	605	533	523
	EB L	100	0	0	0	0	0	0
	EB TR	200+	163	178	85	113	53	63
	WB L	210	398	400	243	258	85	85
	WB TR	100+	55	60	63	70	23	25
	NB L	95	33	43	25	30	13	20
	NB T	400+	255	260	353	353	133	143
	NB R	95	65	68	58	58	25	28
	SB L	90	0	0	5	5	5	5
Station Boulevard & Begonia Drive	SB TR	200+	40	48	48	50	60	68
	EB L	100+	3	8	0	8	0	5
	SB LR	100+	23	63	3	20	3	13

Base = No-Build scenario; Projected = Build scenario

As shown in **Table 11**, adequate queue storage will be provided for the turn lanes in 2026 with the proposed development or there will be no discernable change between base and projected conditions (i.e. one to two vehicles). In addition, the existing traffic adaptive signal equipment can adjust the signal timings in real-time based on the current traffic patterns. Queue analysis worksheets are included with the capacity analysis worksheets provided in **Appendix E**.

AUXILIARY TURN LANE WARRANT ANALYSIS

TPD evaluated auxiliary turn lane warrants at the Begonia Drive intersection with Station Boulevard. The warrant analysis methodology contained within Chapter 11 of PennDOT's *Publication 46*, Section 11.16 and Strike-Off Letter 470-08-07 was utilized for this evaluation. **Table 12** summarizes the results of the auxiliary turn lane analysis. The calculations for the auxiliary turn lane warrants are included in **Appendix F**.

TABLE 12
AUXILIARY TURN LANE ANALYSIS SUMMARY

Intersection	Auxiliary Lane	Warrant Satisfied?	Required Lane Length	Proposed Lane Length
Station Boulevard & Begonia Drive	EB Left-Turn Lane	No	--	Exists as a TWLTL
	WB Right-Turn Lane	No	--	--

CONCLUSIONS

The conclusions for this Transportation Impact Assessment are identified in the Executive Summary.

APPENDIX A:

Study Area Photographs





Direction / Road:	<u>Nb. Route 100</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>Nb. Route 100</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>200 Feet</u>



Direction / Road:	<u>Sb. Route 100</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>Sb. Route 100</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>200 Feet</u>



Direction / Road:	<u>Eb. Park Road</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>Eb. Park Road</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>200 Feet</u>



Direction / Road:	<u>Wb. Station Blvd</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>Wb. Station Blvd</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>200 Feet</u>



Direction / Road:	<u>Sb. Begonia Drive</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>Sb. Begonia Drive</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>200 Feet</u>



Direction / Road:	<u>Eb. Station Blvd</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>Eb. Station Blvd</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>200 Feet</u>



Direction / Road:	<u>Wb. Station Blvd</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>Wb. Station Blvd</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>200 Feet</u>



Direction / Road:	<u>Nb. Graphite Mill Road</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>Nb. Graphite Mill Road</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>200 Feet</u>



Direction / Road:	<u>Sb. Graphite Mill Road</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>Sb. Graphite Mill Road</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>200 Feet</u>



Direction / Road:	<u>Eb. Station Blvd</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>Eb. Station Blvd</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>200 Feet</u>



Direction / Road:	<u>Wb. Station Blvd</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>50 feet</u>



Direction / Road:	<u>Wb. Station Blvd</u>
Approach / Departure:	<u>Approach</u>
Distance:	<u>200 Feet</u>

APPENDIX B:

Manual Traffic Count Printouts





Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 1 Route 100 &
Station Blvd-Park Road
Site Code:
Start Date: 05/01/2025
Page No: 1

Turning Movement Data

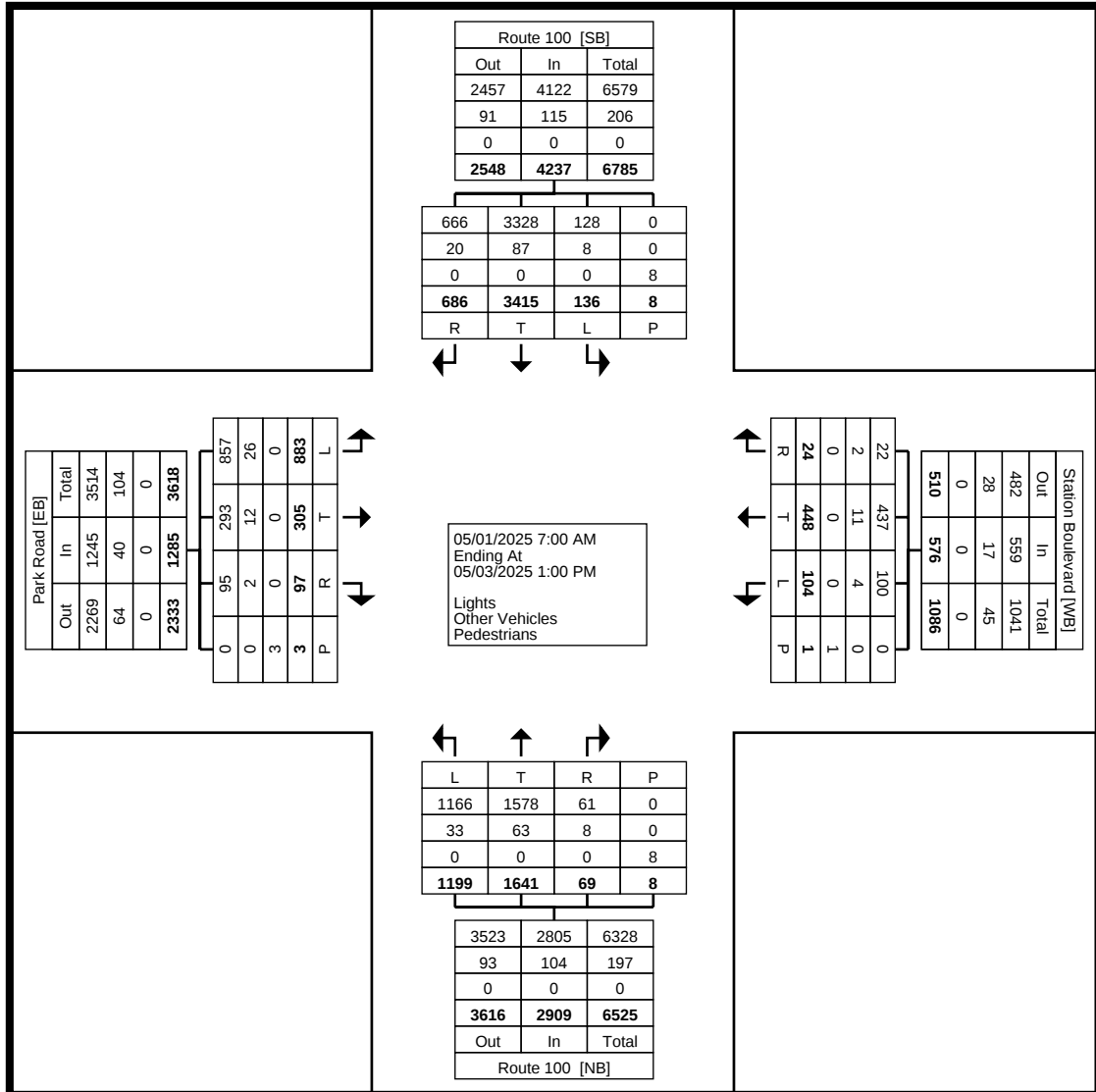
Start Time	Park Road Eastbound						Station Boulevard Westbound						Route 100 Northbound						Route 100 Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
7:00 AM	12	5	3	1	0	21	4	15	1	0	0	20	21	24	1	0	0	46	15	187	28	0	3	230	317
7:15 AM	31	11	2	0	0	44	6	17	1	0	0	24	7	32	0	0	0	39	13	151	19	2	0	185	292
7:30 AM	23	12	1	0	0	36	11	26	0	0	0	37	23	34	2	0	0	59	18	141	23	3	0	185	317
7:45 AM	32	18	4	0	0	54	5	18	0	0	0	23	17	50	0	0	0	67	8	160	13	2	0	183	327
Hourly Total	98	46	10	1	0	155	26	76	2	0	0	104	68	140	3	0	0	211	54	639	83	7	3	783	1253
8:00 AM	35	12	9	0	0	56	2	14	1	0	1	17	27	43	4	0	0	74	6	182	18	0	0	206	353
8:15 AM	31	20	5	0	0	56	3	13	0	0	0	16	31	45	0	0	0	76	18	171	13	0	0	202	350
8:30 AM	33	12	5	0	0	50	10	21	0	0	0	31	35	44	3	0	0	82	17	153	30	1	0	201	364
8:45 AM	43	14	8	0	0	65	3	21	0	0	0	24	33	50	10	0	0	93	18	164	19	3	0	204	386
Hourly Total	142	58	27	0	0	227	18	69	1	0	1	88	126	182	17	0	0	325	59	670	80	4	0	813	1453
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	42	18	3	0	0	63	9	27	1	2	0	39	78	92	6	0	2	176	3	107	23	1	0	134	412
4:15 PM	47	11	0	0	0	58	2	18	2	1	0	23	74	110	1	0	3	185	1	116	40	1	0	158	424
4:30 PM	45	16	3	0	0	64	4	19	2	1	0	26	72	102	3	0	0	177	0	123	32	1	0	156	423
4:45 PM	37	10	0	0	0	47	6	24	0	0	0	30	82	107	4	1	0	194	1	136	35	2	0	174	445
Hourly Total	171	55	6	0	0	232	21	88	5	4	0	118	306	411	14	1	5	732	5	482	130	5	0	622	1704
5:00 PM	34	17	3	0	0	54	1	36	1	0	0	38	65	107	5	0	0	177	0	141	34	0	0	175	444
5:15 PM	53	10	6	0	0	69	3	17	0	0	0	20	67	117	1	0	0	185	2	136	27	1	0	166	440
5:30 PM	36	14	2	0	0	52	5	28	0	0	0	33	79	78	6	0	1	163	2	111	38	0	0	151	399
5:45 PM	53	18	2	1	0	74	2	32	2	0	0	36	86	81	1	0	1	168	2	119	35	0	0	156	434
Hourly Total	176	59	13	1	0	249	11	113	3	0	0	127	297	383	13	0	2	693	6	507	134	1	0	648	1717
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	44	10	8	0	0	62	3	15	3	0	0	21	61	62	1	0	0	124	3	129	25	4	0	161	368
11:15 AM	48	10	8	0	0	66	7	12	0	0	0	19	49	66	0	0	0	115	1	129	27	1	5	158	358
11:30 AM	27	10	4	1	0	42	3	10	0	0	0	13	56	72	2	0	0	130	1	129	29	3	0	162	347
11:45 AM	34	7	1	0	0	42	2	13	0	2	0	17	45	67	4	1	0	117	1	130	18	1	0	150	326
Hourly Total	153	37	21	1	0	212	15	50	3	2	0	70	211	267	7	1	0	486	6	517	99	9	5	631	1399
12:00 PM	40	13	3	0	0	56	5	9	2	1	0	17	45	66	0	1	0	112	2	166	29	1	0	198	383
12:15 PM	35	9	6	0	0	50	5	15	1	0	0	21	60	56	3	0	0	119	2	157	30	0	0	189	379
12:30 PM	33	15	4	0	0	52	3	12	0	0	0	15	40	70	3	1	0	114	1	134	43	2	0	180	361
12:45 PM	35	13	4	0	3	52	0	16	0	0	0	16	46	66	5	0	1	117	1	143	27	2	0	173	358
Hourly Total	143	50	17	0	3	210	13	52	3	1	0	69	191	258	11	2	1	462	6	600	129	5	0	740	1481
Grand Total	883	305	94	3	3	1285	104	448	17	7	1	576	1199	1641	65	4	8	2909	136	3415	655	31	8	4237	9007
Approach %	68.7	23.7	7.3	0.2	-	-	18.1	77.8	3.0	1.2	-	-	41.2	56.4	2.2	0.1	-	-	3.2	80.6	15.5	0.7	-	-	-
Total %	9.8	3.4	1.0	0.0	-	14.3	1.2	5.0	0.2	0.1	-	6.4	13.3	18.2	0.7	0.0	-	32.3	1.5	37.9	7.3	0.3	-	47.0	-
Lights	857	293	92	3	-	1245	100	437	15	7	-	559	1166	1578	58	3	-	2805	128	3328	637	29	-	4122	8731
% Lights	97.1	96.1	97.9	100.0	-	96.9	96.2	97.5	88.2	100.0	-	97.0	97.2	96.2	89.2	75.0	-	96.4	94.1	97.5	97.3	93.5	-	97.3	96.9
Other Vehicles	26	12	2	0	-	40	4	11	2	0	-	17	33	63	7	1	-	104	8	87	18	2	-	115	276
% Other Vehicles	2.9	3.9	2.1	0.0	-	3.1	3.8	2.5	11.8	0.0	-	3.0	2.8	3.8	10.8	25.0	-	3.6	5.9	2.5	2.7	6.5	-	2.7	3.1
Pedestrians	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	8	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



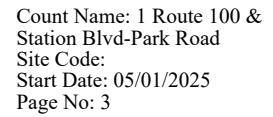
Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 1 Route 100 &
Station Blvd-Park Road
Site Code:
Start Date: 05/01/2025
Page No: 2



Turning Movement Data Plot

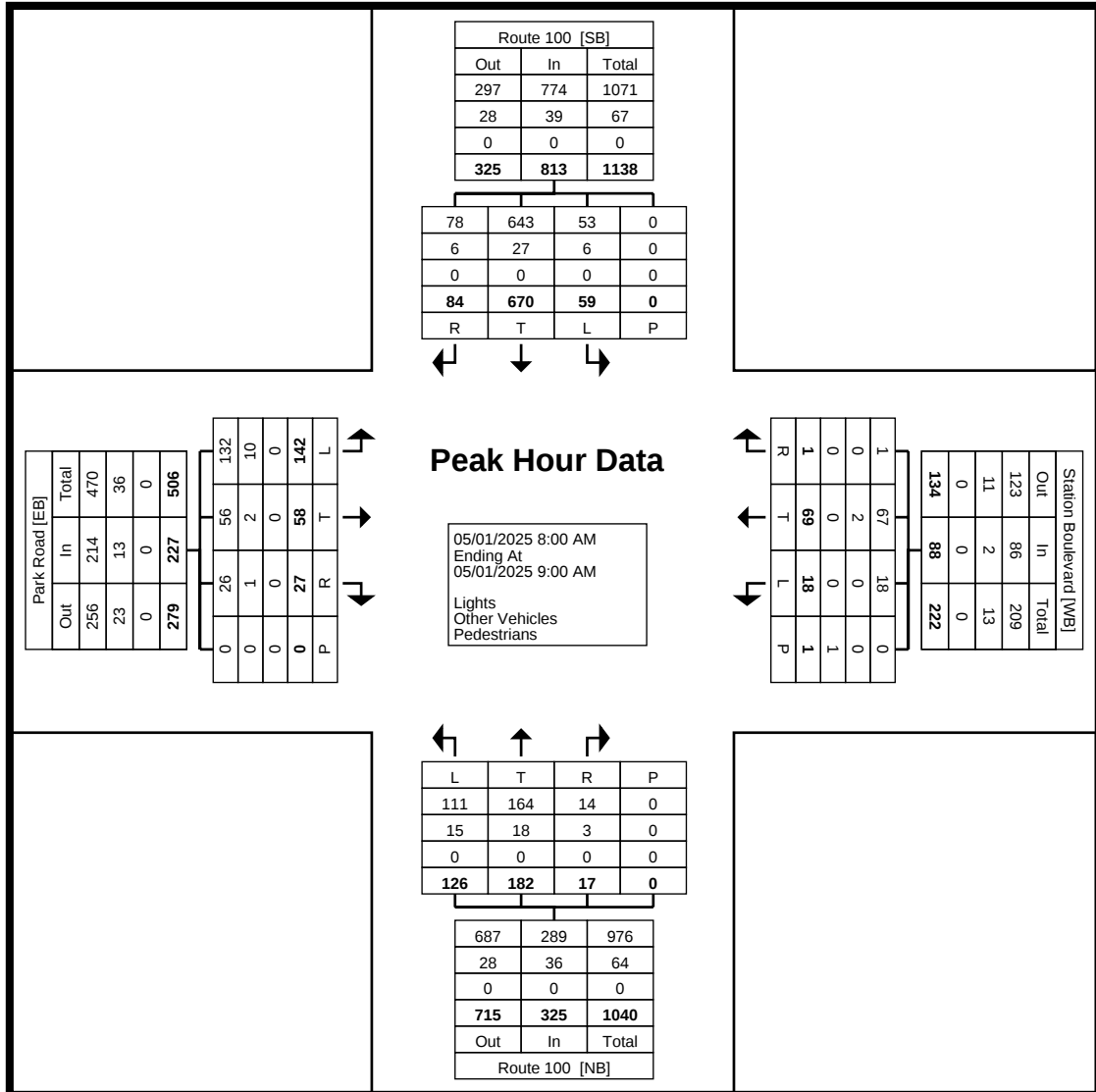
[illegible]



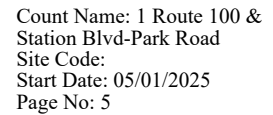
Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 1 Route 100 &
Station Blvd-Park Road
Site Code:
Start Date: 05/01/2025
Page No: 4



Turning Movement Peak Hour Data Plot (8:00 AM)

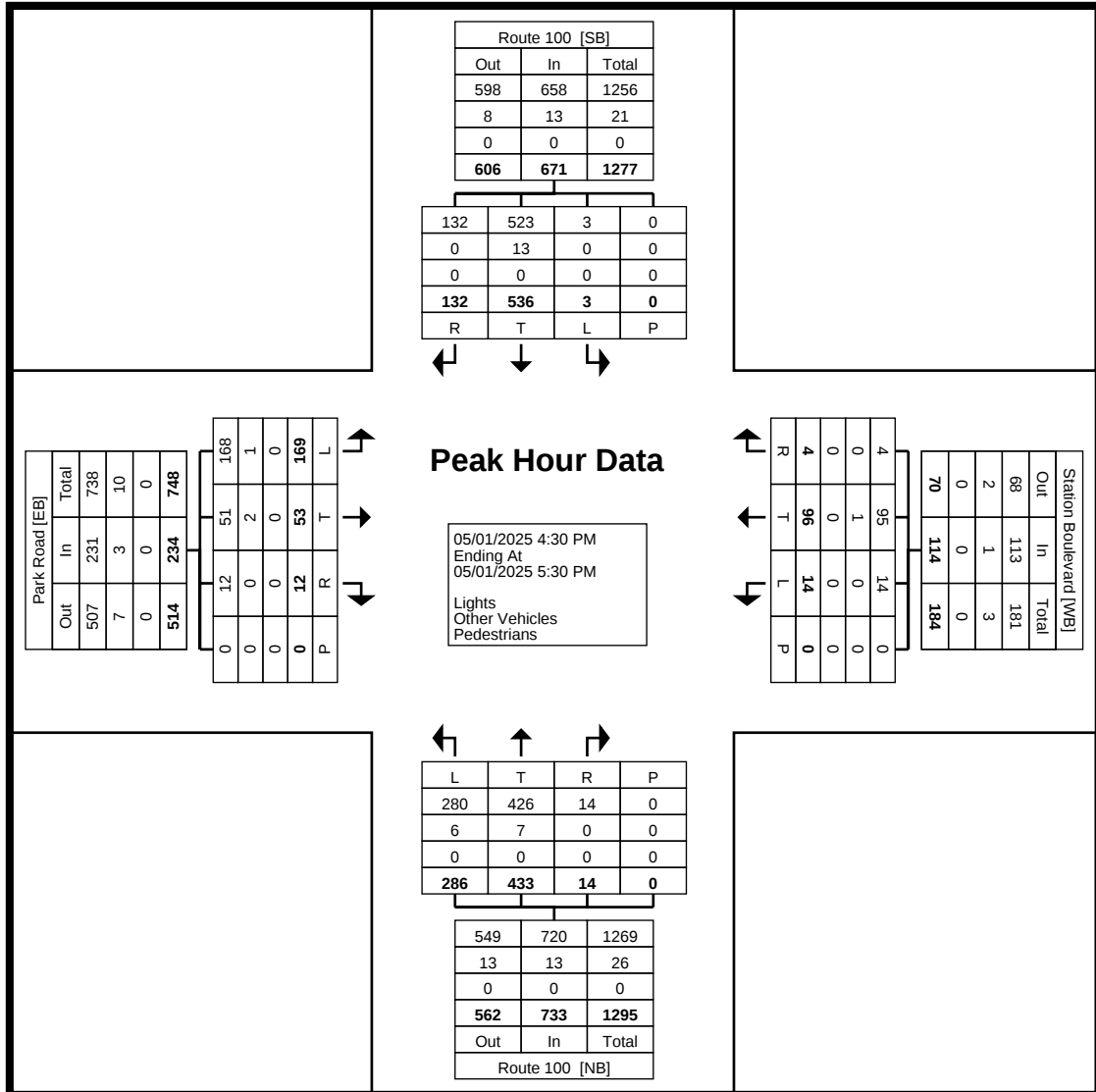
[illegible]



Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 1 Route 100 &
Station Blvd-Park Road
Site Code:
Start Date: 05/01/2025
Page No: 6



Turning Movement Peak Hour Data Plot (4:30 PM)



Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 1 Route 100 &
Station Blvd-Park Road
Site Code:
Start Date: 05/01/2025
Page No: 7

Turning Movement Peak Hour Data (12:00 PM)

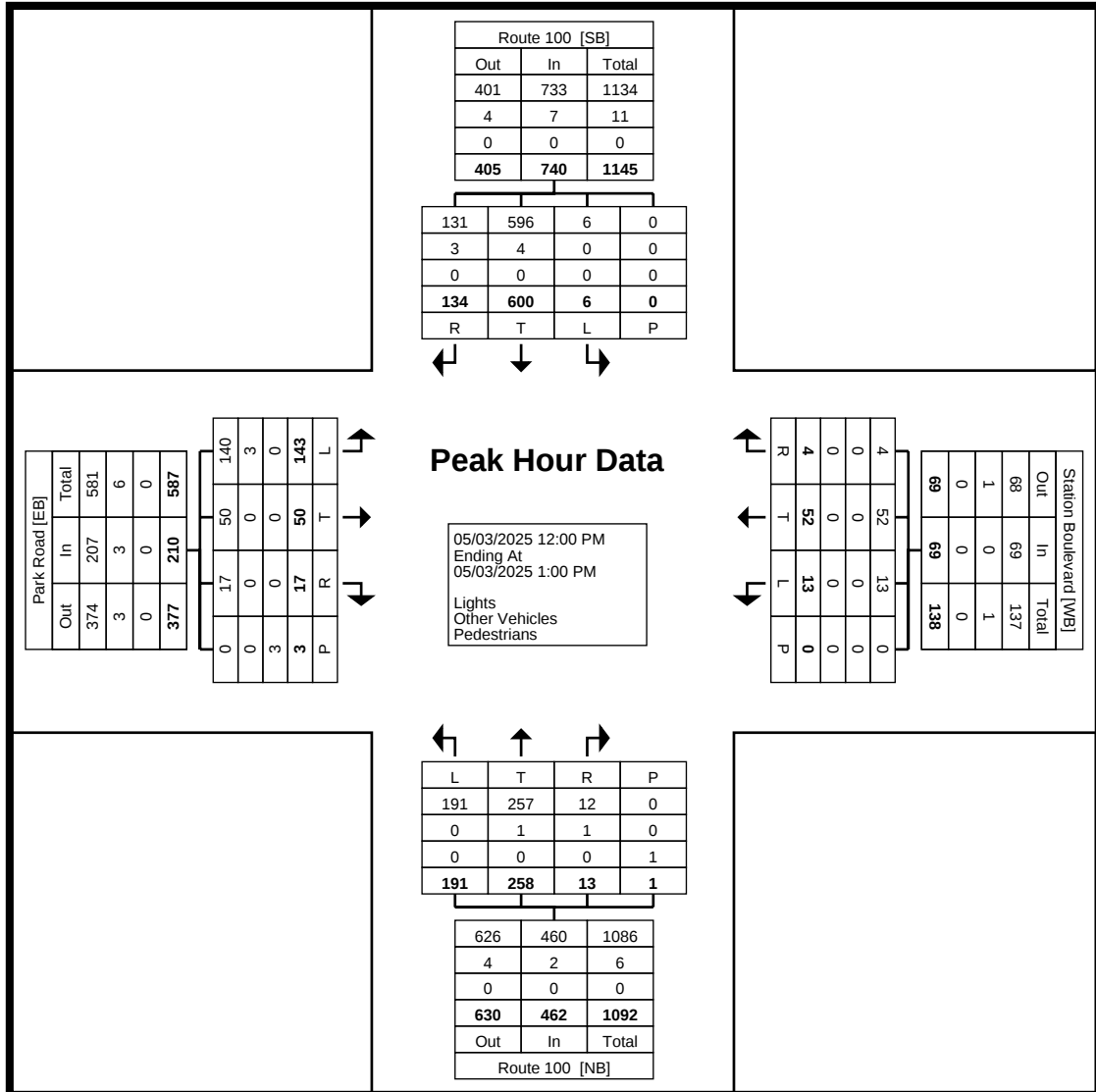
Start Time	Park Road Eastbound						Station Boulevard Westbound						Route 100 Northbound						Route 100 Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
12:00 PM	40	13	3	0	0	56	5	9	2	1	0	17	45	66	0	1	0	112	2	166	29	1	0	198	383
12:15 PM	35	9	6	0	0	50	5	15	1	0	0	21	60	56	3	0	0	119	2	157	30	0	0	189	379
12:30 PM	33	15	4	0	0	52	3	12	0	0	0	15	40	70	3	1	0	114	1	134	43	2	0	180	361
12:45 PM	35	13	4	0	3	52	0	16	0	0	0	16	46	66	5	0	1	117	1	143	27	2	0	173	358
Total	143	50	17	0	3	210	13	52	3	1	0	69	191	258	11	2	1	462	6	600	129	5	0	740	1481
Approach %	68.1	23.8	8.1	0.0	-	-	18.8	75.4	4.3	1.4	-	-	41.3	55.8	2.4	0.4	-	-	0.8	81.1	17.4	0.7	-	-	-
Total %	9.7	3.4	1.1	0.0	-	14.2	0.9	3.5	0.2	0.1	-	4.7	12.9	17.4	0.7	0.1	-	31.2	0.4	40.5	8.7	0.3	-	50.0	-
PHF	0.894	0.833	0.708	0.000	-	0.938	0.650	0.813	0.375	0.250	-	0.821	0.796	0.921	0.550	0.500	-	0.971	0.750	0.904	0.750	0.625	-	0.934	0.967
Lights	140	50	17	0	-	207	13	52	3	1	-	69	191	257	10	2	-	460	6	596	126	5	-	733	1469
% Lights	97.9	100.0	100.0	-	-	98.6	100.0	100.0	100.0	100.0	-	100.0	100.0	99.6	90.9	100.0	-	99.6	100.0	99.3	97.7	100.0	-	99.1	99.2
Other Vehicles	3	0	0	0	-	3	0	0	0	0	-	0	0	1	1	0	-	2	0	4	3	0	-	7	12
% Other Vehicles	2.1	0.0	0.0	-	-	1.4	0.0	0.0	0.0	0.0	-	0.0	0.0	0.4	9.1	0.0	-	0.4	0.0	0.7	2.3	0.0	-	0.9	0.8
Pedestrians	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 1 Route 100 &
Station Blvd-Park Road
Site Code:
Start Date: 05/01/2025
Page No: 8



Turning Movement Peak Hour Data Plot (12:00 PM)



Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 2 Begonia Drive &
Station Blvd
Site Code:
Start Date: 05/01/2025
Page No: 1

Turning Movement Data

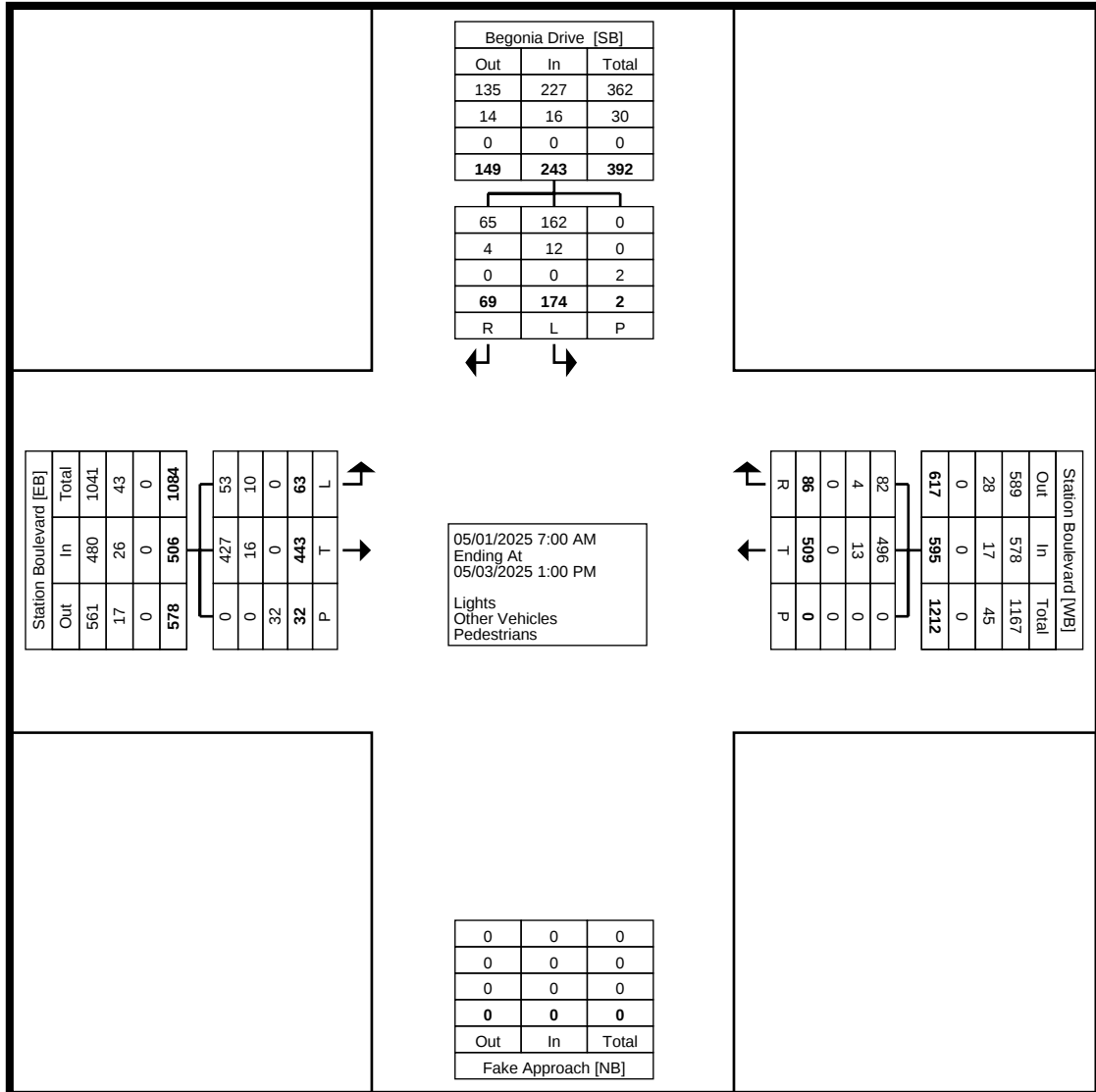
Start Time	Station Boulevard Eastbound				Station Boulevard Westbound				Begonia Drive Southbound				Int. Total
	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	
7:00 AM	2	19	4	21	20	2	0	22	6	0	1	6	49
7:15 AM	0	23	2	23	17	2	0	19	11	8	0	19	61
7:30 AM	3	32	2	35	24	0	0	24	48	11	0	59	118
7:45 AM	5	22	2	27	21	8	0	29	6	1	0	7	63
Hourly Total	10	96	10	106	82	12	0	94	71	20	1	91	291
8:00 AM	6	16	1	22	17	3	0	20	12	2	0	14	56
8:15 AM	2	35	0	37	14	3	0	17	14	3	0	17	71
8:30 AM	3	25	2	28	22	2	0	24	16	7	0	23	75
8:45 AM	8	33	4	41	25	6	0	31	12	1	1	13	85
Hourly Total	19	109	7	128	78	14	0	92	54	13	1	67	287
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	3	24	4	27	28	7	0	35	1	6	0	7	69
4:15 PM	2	11	0	13	26	3	0	29	4	2	0	6	48
4:30 PM	2	17	0	19	22	7	0	29	2	3	0	5	53
4:45 PM	3	14	1	17	26	1	0	27	3	3	0	6	50
Hourly Total	10	66	5	76	102	18	0	120	10	14	0	24	220
5:00 PM	2	19	0	21	35	4	0	39	5	0	0	5	65
5:15 PM	3	9	1	12	22	7	0	29	2	1	0	3	44
5:30 PM	3	19	1	22	25	5	0	30	3	6	0	9	61
5:45 PM	2	18	2	20	36	4	0	40	2	4	0	6	66
Hourly Total	10	65	4	75	118	20	0	138	12	11	0	23	236
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	1	13	0	14	21	6	0	27	3	2	0	5	46
11:15 AM	0	12	0	12	16	4	0	20	5	1	0	6	38
11:30 AM	3	10	0	13	12	0	0	12	3	1	0	4	29
11:45 AM	2	10	0	12	14	4	0	18	2	3	0	5	35
Hourly Total	6	45	0	51	63	14	0	77	13	7	0	20	148
12:00 PM	3	15	5	18	13	3	0	16	5	3	0	8	42
12:15 PM	2	10	0	12	22	3	0	25	3	0	0	3	40
12:30 PM	3	17	0	20	13	1	0	14	5	1	0	6	40
12:45 PM	0	20	1	20	18	1	0	19	1	0	0	1	40
Hourly Total	8	62	6	70	66	8	0	74	14	4	0	18	162
Grand Total	63	443	32	506	509	86	0	595	174	69	2	243	1344
Approach %	12.5	87.5	-	-	85.5	14.5	-	-	71.6	28.4	-	-	-
Total %	4.7	33.0	-	37.6	37.9	6.4	-	44.3	12.9	5.1	-	18.1	-
Lights	53	427	-	480	496	82	-	578	162	65	-	227	1285
% Lights	84.1	96.4	-	94.9	97.4	95.3	-	97.1	93.1	94.2	-	93.4	95.6
Other Vehicles	10	16	-	26	13	4	-	17	12	4	-	16	59
% Other Vehicles	15.9	3.6	-	5.1	2.6	4.7	-	2.9	6.9	5.8	-	6.6	4.4
Pedestrians	-	-	32	-	-	-	0	-	-	-	2	-	-
% Pedestrians	-	-	100.0	-	-	-	-	-	-	-	100.0	-	-



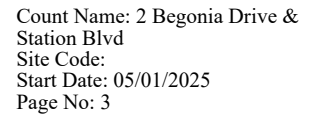
Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 2 Begonia Drive &
Station Blvd
Site Code:
Start Date: 05/01/2025
Page No: 2



Turning Movement Data Plot

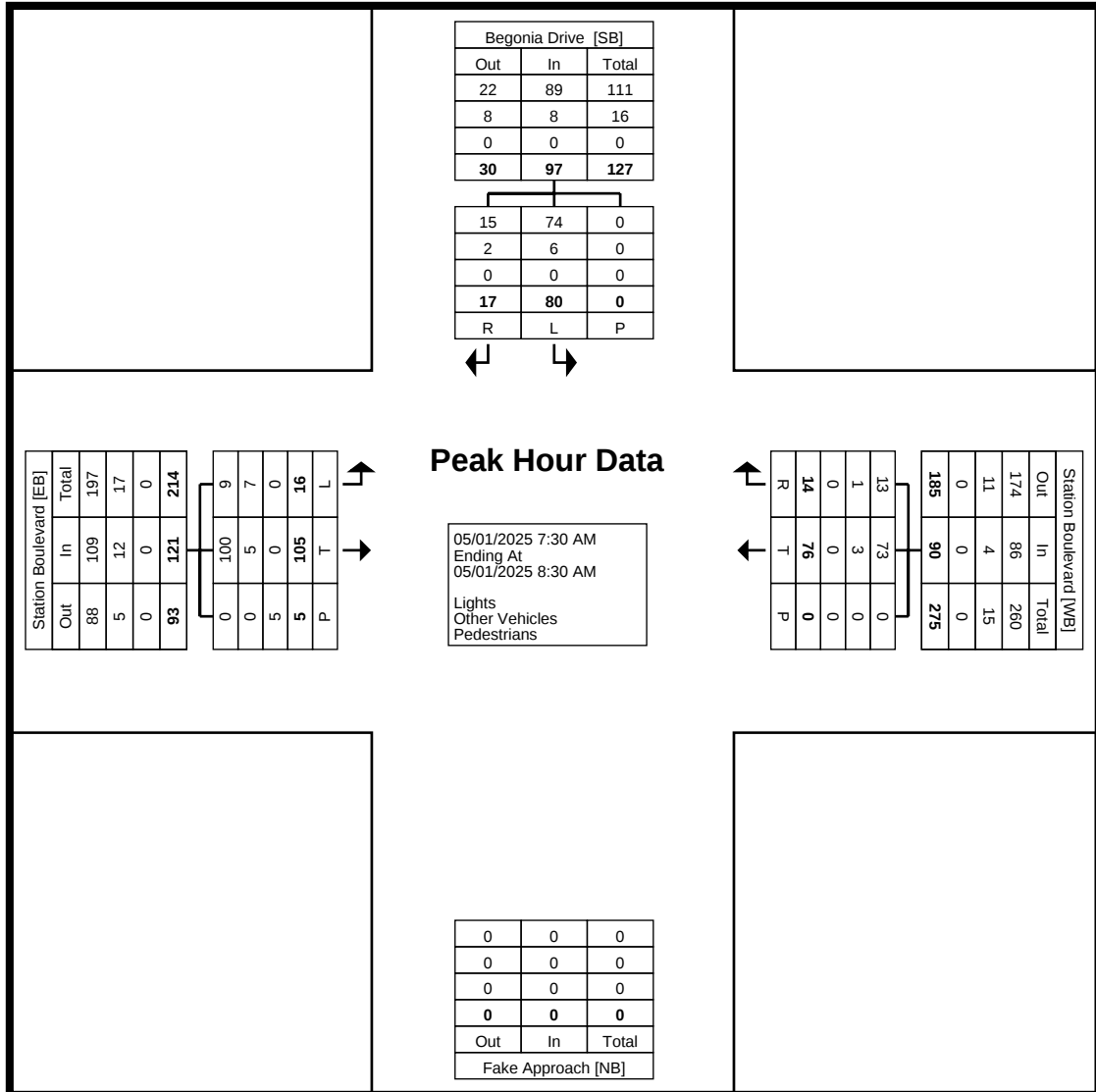
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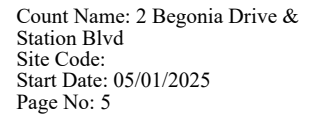
Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 2 Begonia Drive &
Station Blvd
Site Code:
Start Date: 05/01/2025
Page No: 4



Turning Movement Peak Hour Data Plot (7:30 AM)

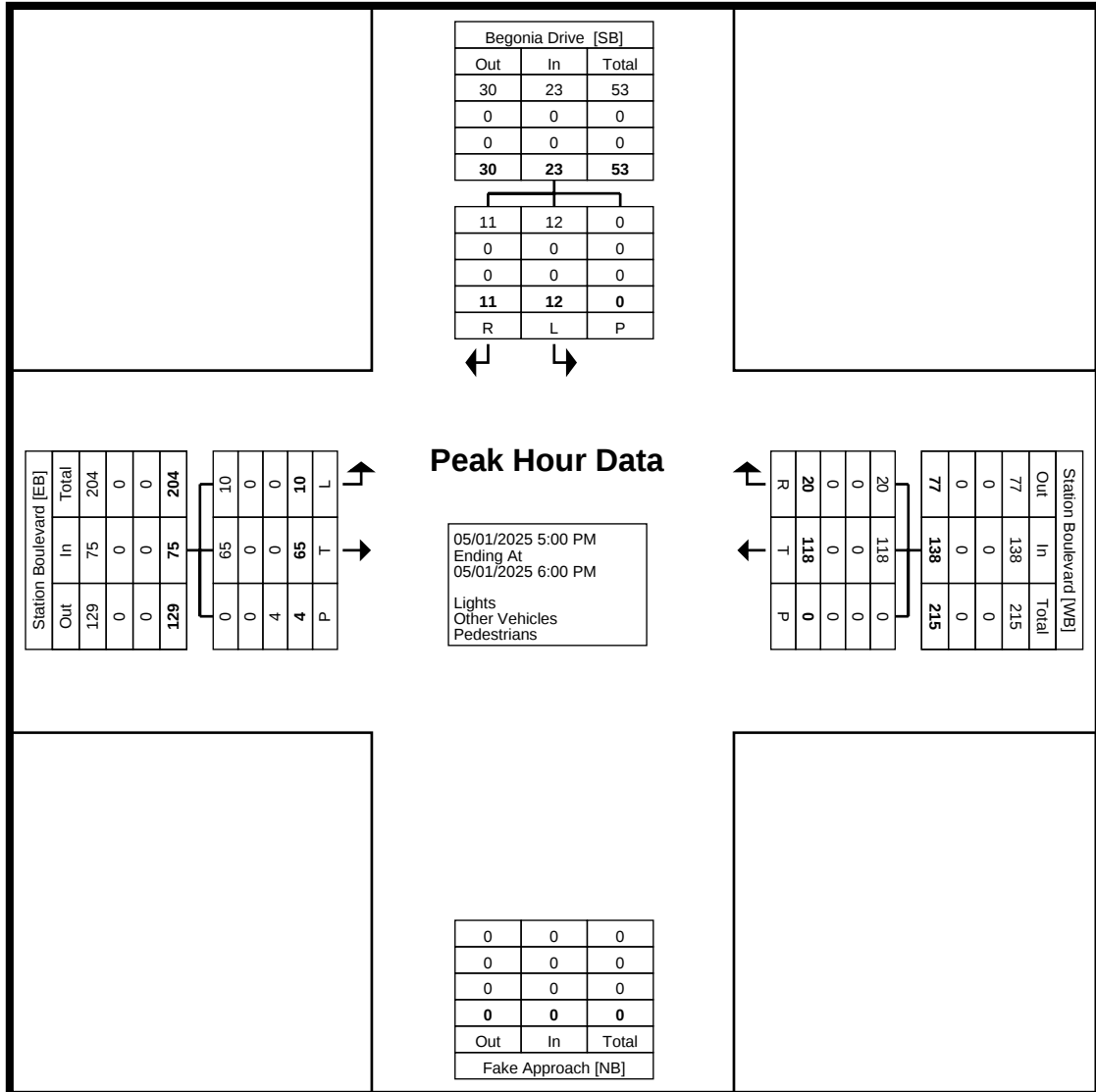
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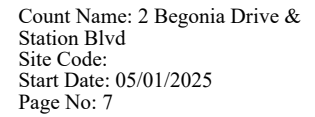
Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 2 Begonia Drive &
Station Blvd
Site Code:
Start Date: 05/01/2025
Page No: 6



Turning Movement Peak Hour Data Plot (5:00 PM)

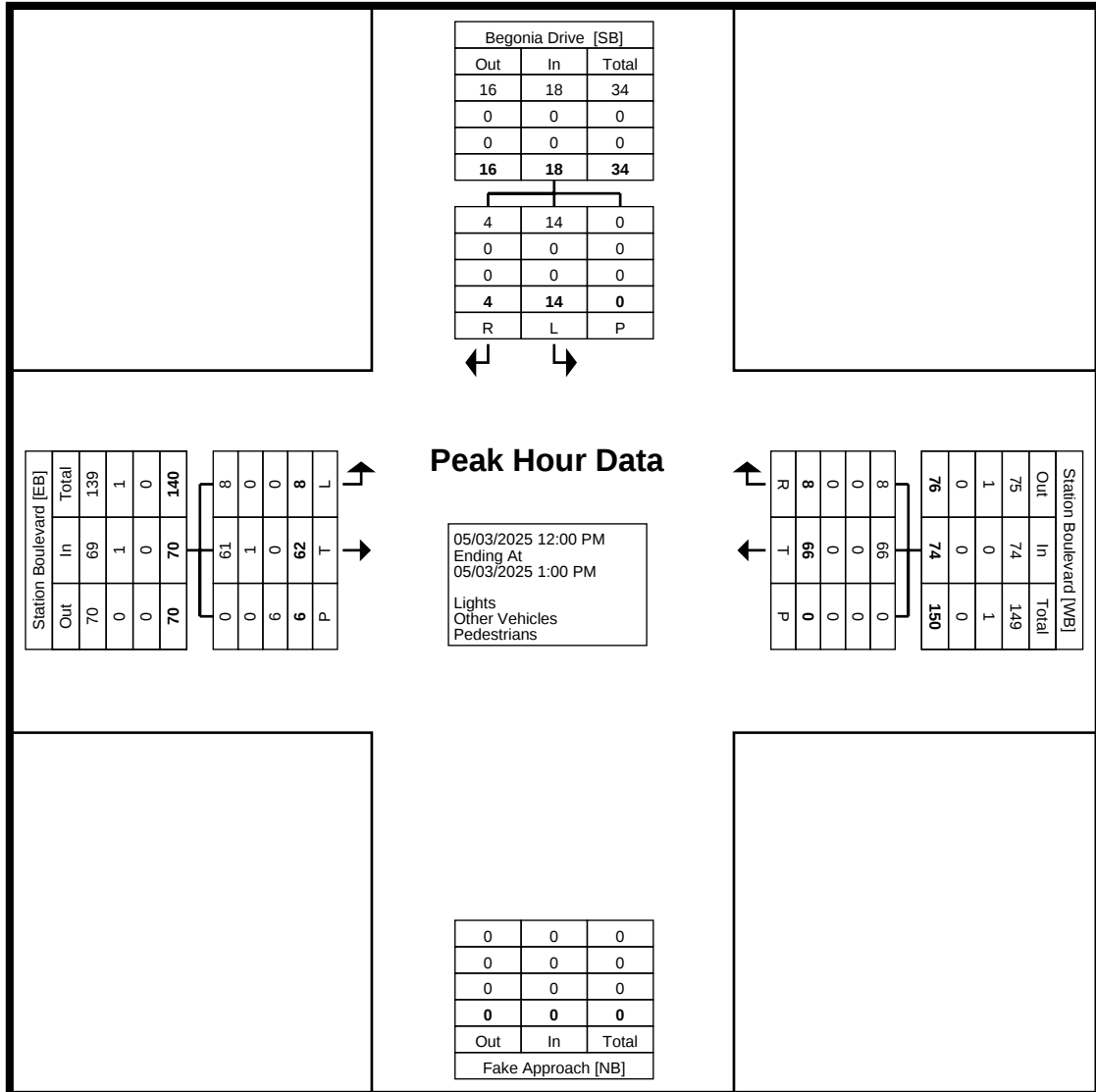
[illegible]



Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 2 Begonia Drive &
Station Blvd
Site Code:
Start Date: 05/01/2025
Page No: 8



Turning Movement Peak Hour Data Plot (12:00 PM)



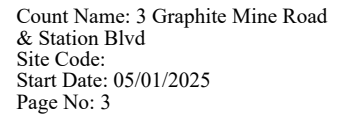
Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 3 Graphite Mine Road
& Station Blvd
Site Code:
Start Date: 05/01/2025
Page No: 1

Turning Movement Data

Start Time	Station Boulevard Eastbound						Station Boulevard Westbound						Graphite Mine Road Northbound						Graphite Mine Road Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
7:00 AM	0	2	14	8	0	24	51	19	4	1	1	75	2	44	9	1	0	56	0	7	0	1	0	8	163
7:15 AM	0	2	23	10	0	35	52	9	4	0	0	65	6	46	5	4	0	61	0	7	1	0	0	8	169
7:30 AM	0	3	49	29	0	81	78	20	1	0	3	99	6	54	7	4	0	71	2	23	0	0	0	25	276
7:45 AM	0	6	19	3	0	28	92	16	3	0	1	111	9	58	28	3	0	98	0	10	1	0	0	11	248
Hourly Total	0	13	105	50	0	168	273	64	12	1	5	350	23	202	49	12	0	286	2	47	2	1	0	52	856
8:00 AM	0	6	9	13	0	28	66	7	1	1	0	75	11	73	21	8	0	113	0	15	1	0	0	16	232
8:15 AM	0	8	26	10	0	44	65	8	3	2	1	78	10	71	15	4	0	100	1	5	0	0	0	6	228
8:30 AM	0	11	27	4	0	42	81	16	3	0	0	100	5	81	17	2	0	105	0	18	0	0	0	18	265
8:45 AM	1	7	28	9	0	45	86	15	3	1	1	105	16	74	22	3	0	115	0	12	0	0	0	12	277
Hourly Total	1	32	90	36	0	159	298	46	10	4	2	358	42	299	75	17	0	433	1	50	1	0	0	52	1002
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	20	3	2	0	25	30	20	3	0	0	53	18	172	29	5	0	224	2	34	0	0	0	36	338
4:15 PM	0	9	2	3	0	14	27	10	2	1	0	40	17	174	25	9	0	225	4	38	1	0	0	43	322
4:30 PM	1	9	6	2	0	18	30	12	5	1	0	48	15	178	35	7	0	235	2	29	0	0	0	31	332
4:45 PM	0	10	5	2	0	17	49	14	0	1	1	64	13	216	37	11	0	277	3	41	0	1	0	45	403
Hourly Total	1	48	16	9	0	74	136	56	10	3	1	205	63	740	126	32	0	961	11	142	1	1	0	155	1395
5:00 PM	0	14	4	6	0	24	37	12	3	0	2	52	29	202	46	7	0	284	3	42	0	0	0	45	405
5:15 PM	0	7	4	1	0	12	46	10	1	0	2	57	16	225	44	11	0	296	0	48	0	0	0	48	413
5:30 PM	0	13	4	4	0	21	37	12	3	0	3	52	18	186	45	8	0	257	2	31	0	0	0	33	363
5:45 PM	3	12	5	2	0	22	46	15	3	1	3	65	26	170	58	8	0	262	4	34	0	0	0	38	387
Hourly Total	3	46	17	13	0	79	166	49	10	1	10	226	89	783	193	34	0	1099	9	155	0	0	0	164	1568
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	4	8	1	3	0	16	30	16	3	1	1	50	13	101	27	11	0	152	3	33	0	1	0	37	255
11:15 AM	2	6	6	2	0	16	37	11	2	2	1	52	8	108	19	5	0	140	1	46	0	0	0	47	255
11:30 AM	0	7	5	2	0	14	25	8	2	0	9	35	3	91	21	10	0	125	2	55	0	0	0	57	231
11:45 AM	0	8	2	0	0	10	39	8	4	1	1	52	10	110	22	10	1	152	1	41	0	0	0	42	256
Hourly Total	6	29	14	7	0	56	131	43	11	4	12	189	34	410	89	36	1	569	7	175	0	1	0	183	997
12:00 PM	0	10	6	4	0	20	28	5	2	0	1	35	10	119	34	0	0	163	2	49	1	0	0	52	270
12:15 PM	1	8	3	3	0	15	31	9	1	1	2	42	12	122	32	0	0	166	3	104	4	0	0	111	334
12:30 PM	1	12	3	5	0	21	21	7	1	1	0	30	8	113	26	0	0	147	2	56	0	0	0	58	256
12:45 PM	0	17	2	3	0	22	32	4	1	2	1	39	14	114	33	0	0	161	7	45	0	0	0	52	274
Hourly Total	2	47	14	15	0	78	112	25	5	4	4	146	44	468	125	0	0	637	14	254	5	0	0	273	1134
Grand Total	13	215	256	130	0	614	1116	283	58	17	34	1474	295	2902	657	131	1	3985	44	823	9	3	0	879	6952
Approach %	2.1	35.0	41.7	21.2	-	-	75.7	19.2	3.9	1.2	-	-	7.4	72.8	16.5	3.3	-	-	5.0	93.6	1.0	0.3	-	-	-
Total %	0.2	3.1	3.7	1.9	-	8.8	16.1	4.1	0.8	0.2	-	21.2	4.2	41.7	9.5	1.9	-	57.3	0.6	11.8	0.1	0.0	-	12.6	-
Lights	13	208	238	124	-	583	1092	273	56	17	-	1438	291	2829	643	129	-	3892	40	817	8	2	-	867	6780
% Lights	100.0	96.7	93.0	95.4	-	95.0	97.8	96.5	96.6	100.0	-	97.6	98.6	97.5	97.9	98.5	-	97.7	90.9	99.3	88.9	66.7	-	98.6	97.5
Other Vehicles	0	7	18	6	-	31	24	10	2	0	-	36	4	73	14	2	-	93	4	6	1	1	-	12	172
% Other Vehicles	0.0	3.3	7.0	4.6	-	5.0	2.2	3.5	3.4	0.0	-	2.4	1.4	2.5	2.1	1.5	-	2.3	9.1	0.7	11.1	33.3	-	1.4	2.5
Pedestrians	-	-	-	-	0	-	-	-	-	-	34	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

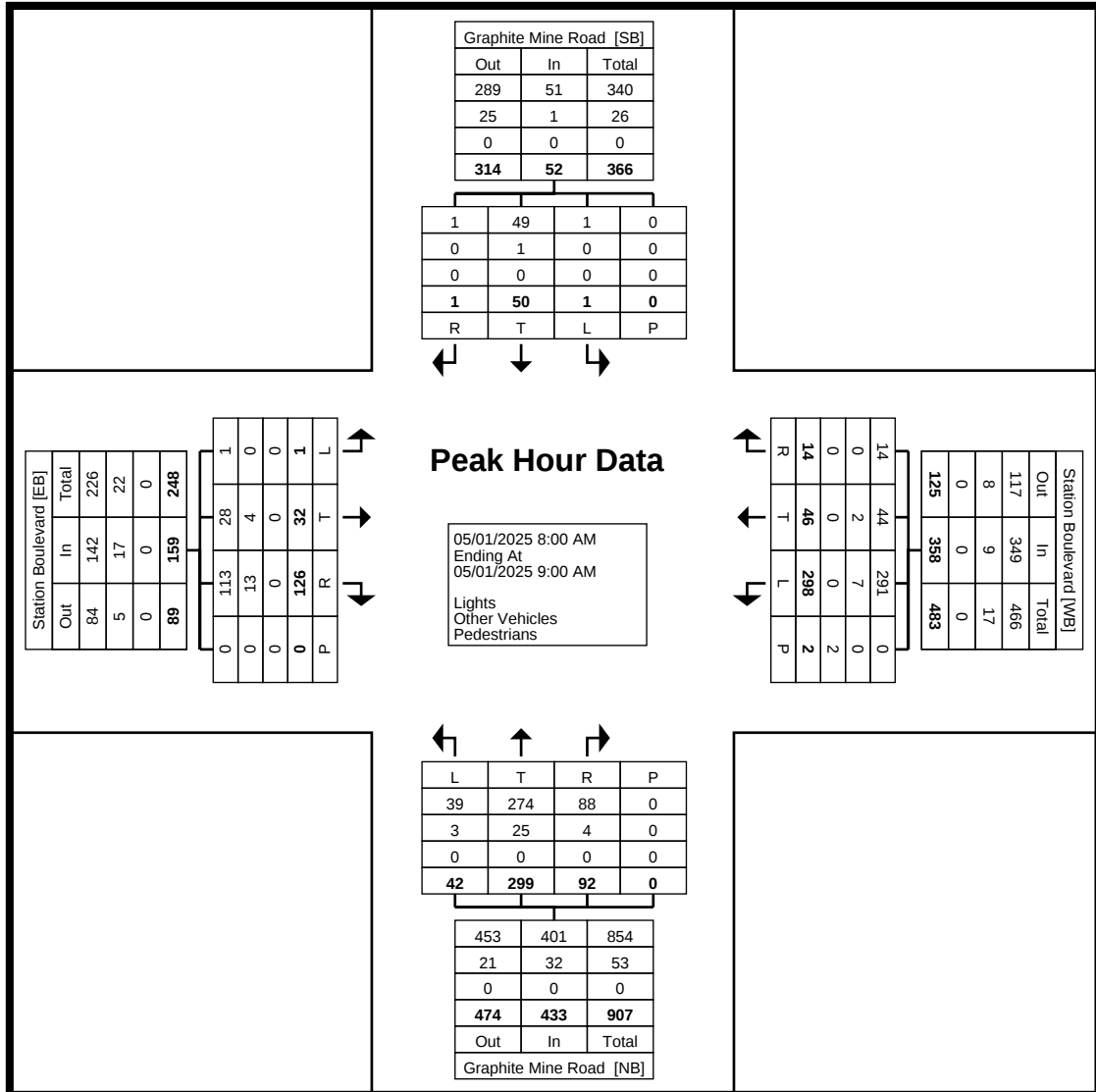
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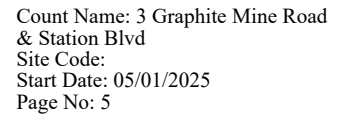
Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 3 Graphite Mine Road
& Station Blvd
Site Code:
Start Date: 05/01/2025
Page No: 4



Turning Movement Peak Hour Data Plot (8:00 AM)

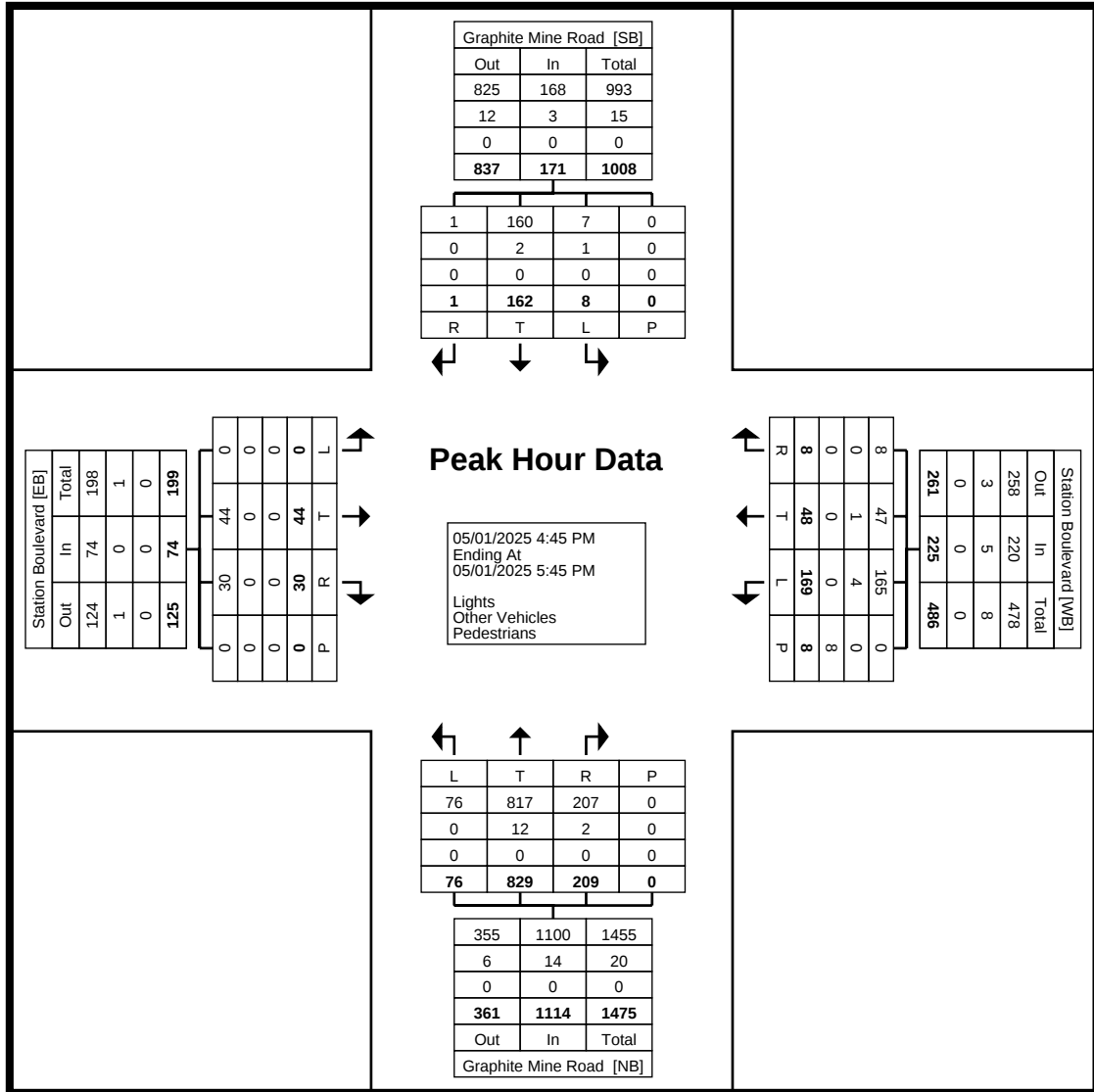
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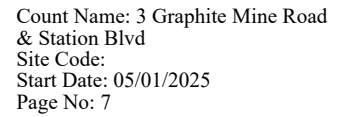
Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 3 Graphite Mine Road
& Station Blvd
Site Code:
Start Date: 05/01/2025
Page No: 6



Turning Movement Peak Hour Data Plot (4:45 PM)

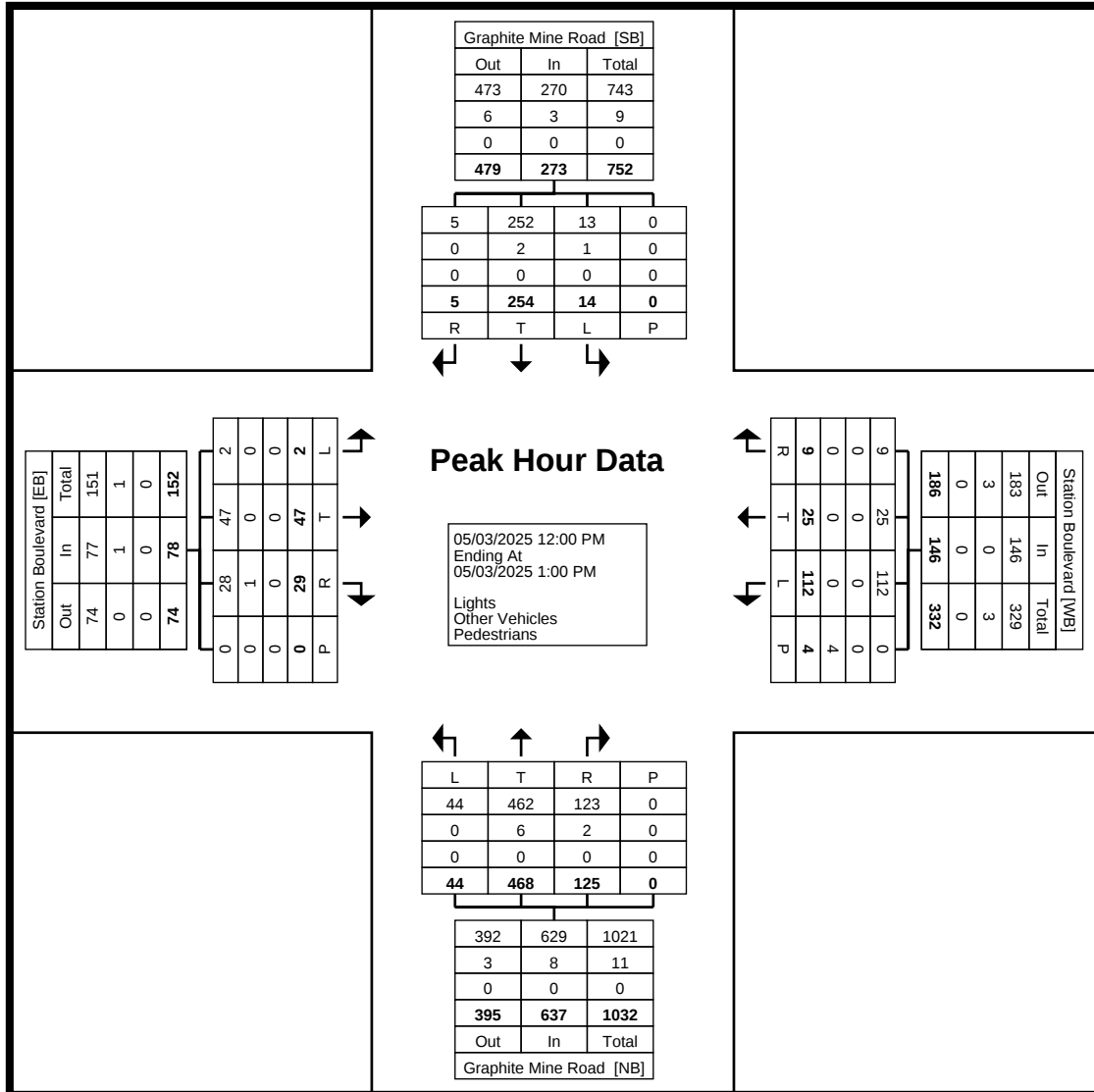
[illegible]



Counter: MIO:
Set up By JH::

Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100

Count Name: 3 Graphite Mine Road
& Station Blvd
Site Code:
Start Date: 05/01/2025
Page No: 8



Turning Movement Peak Hour Data Plot (12:00 PM)

APPENDIX C:

Volume Development Spreadsheets



TPD# CELE.00001

5/27/2025

Traffic Volumes Worksheet

Intersection:

Synchro Node:

Route 100 & Station Boulevard/Park Road									
1	Adjacent intersections:	West	0	East	2	North	0	South	5

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	
2025 Existing Counts	142	58	27	18	69	1	126	182	17	59	670	84	1453
Balancing													0
Existing Volumes (Balanced)	142	58	27	18	69	1	126	182	17	59	670	84	1453
Base growth (0.44% per year over 1 year)	1	0	0	0	0	0	1	1	0	0	3	0	6
Automotive Service Center								13			12		25
McKee-Fetters Tract	3	2	4		1		4	5			6		24
Byers Station Parcel 6C		1			1								2
100 Greenridge Road Residential Development								2			14		16
2026 Base (No-Build) Volumes	146	61	31	18	71	1	131	203	17	59	705	84	1526
New Trips		7		11	6	17			13	14			
Pass By Trips				16		6		-6	6	17	-17		
Total Trip Distribution	0	7	0	27	6	23	0	-6	19	31	-17	0	90
2026 Projected (Build) Volumes	146	68	31	45	77	24	131	197	36	90	688	84	1616

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	
2025 Existing Counts	169	53	12	14	96	4	286	433	14	3	536	132	1752
Balancing													0
Existing Volumes (Balanced)	169	53	12	14	96	4	286	433	14	3	536	132	1752
Base growth (0.44% per year over 1 year)	1	0	0	0	0	0	1	2	0	0	2	1	7
Automotive Service Center								7			23		30
McKee-Fetters Tract	2	1	2		2		7	9			5	1	29
Byers Station Parcel 6C		1			2								3
100 Greenridge Road Residential Development								7			9		16
2026 Base (No-Build) Volumes	172	55	14	14	100	4	294	458	14	3	575	134	1837
New Trips		8		17	9	27			15	16			
Pass By Trips				24		21		-22	22	25	-25		
Total Trip Distribution	0	8	0	41	9	48	0	-22	37	41	-25	0	137
2026 Projected (Build) Volumes	172	63	14	55	109	52	294	436	51	44	550	134	1974

Time Period: Saturday Midday Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts	143	50	17	13	52	4	191	258	13	6	600	134	1481
Balancing													0
Existing Volumes (Balanced)	143	50	17	13	52	4	191	258	13	6	600	134	1481
Base growth (1.75% per year over 3 years)	1	0	0	0	0	0	1	1	0	0	3	1	7
Automotive Service Center								7			21		28
McKee-Fetters Tract	3	2	4		2		7	9			6		33
Byers Station Parcel 6C		1			2								3
100 Greenridge Road Residential Development								6			10		16
2026 Base (No-Build) Volumes	147	53	21	13	56	4	199	281	13	6	640	135	1568
New Trips		8		14	8	15			15	16			
Pass By Trips				18		10		-10	10	18	-18		
Total Trip Distribution	0	8	0	32	8	25	0	-10	25	34	-18	0	104
2026 Projected (Build) Volumes	147	61	21	45	64	29	199	271	38	40	622	135	1672

TPD# CELE.00001

5/27/2025

Traffic Volumes Worksheet

Intersection:

Synchro Node:

Graphite Mine Road & Station Boulevard									
2	Adjacent intersections:	West	0	East	2	North	0	South	5

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	
2025 Existing Counts	1	32	126	298	46	14	42	299	92	1	50	1	1002
Balancing													0
Existing Volumes (Balanced)	1	32	126	298	46	14	42	299	92	1	50	1	1002
Base growth (0.44% per year over 1 year)	0	0	1	1	0	0	0	1	0	0	0	0	3
Automotive Service Center								21			1		22
McKee-Fetters Tract			2				1						3
Byers Station Parcel 6C			1	1			1	3	1		5		12
100 Greenridge Road Residential Development								4			1		5
2026 Base (No-Build) Volumes	1	32	130	300	46	14	44	328	93	1	57	1	1047
New Trips		4	10		5		13					8	
Pass By Trips													
Total Trip Distribution	0	4	10	0	5	0	13	0	0	0	0	8	40
2026 Projected (Build) Volumes	1	36	140	300	51	14	57	328	93	1	57	9	1087

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	
2025 Existing Counts	0	44	30	169	48	8	76	829	209	8	162	1	1584
Balancing													0
Existing Volumes (Balanced)	0	44	30	169	48	8	76	829	209	8	162	1	1584
Base growth (0.44% per year over 1 year)	0	0	0	1	0	0	0	4	1	0	1	0	7
Automotive Service Center								13			7		20
McKee-Fetters Tract			1				2						3
Byers Station Parcel 6C			1	1			2	6			4		14
100 Greenridge Road Residential Development								13			3		16
2026 Base (No-Build) Volumes	0	44	32	171	48	8	80	865	210	8	177	1	1644
New Trips		6	16		6		15					9	
Pass By Trips													
Total Trip Distribution	0	6	16	0	6	0	15	0	0	0	0	9	52
2026 Projected (Build) Volumes	0	50	48	171	54	8	95	865	210	8	177	10	1696

Time Period: Saturday Midday Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts	2	47	29	112	25	9	44	468	125	14	254	5	1134
Balancing													0
Existing Volumes (Balanced)	2	47	29	112	25	9	44	468	125	14	254	5	1134
Base growth (0.44% per year over 1 year)	0	0	0	0	0	0	0	2	1	0	1	0	4
Automotive Service Center								13			9		22
McKee-Fetters Tract			2				2						4
Byers Station Parcel 6C			1	1			2	6	1		5		16
100 Greenridge Road Residential Development								10			4		14
2026 Base (No-Build) Volumes	2	47	32	113	25	9	48	499	127	14	273	5	1194
New Trips	8	5	14		6		15					9	
Pass By Trips													
Total Trip Distribution	8	5	14	0	6	0	15	0	0	0	0	9	57
2026 Projected (Build) Volumes	10	52	46	113	31	9	63	499	127	14	273	14	1251

TPD# CELE.00001

5/27/2025

Traffic Volumes Worksheet

Intersection:

Synchro Node:

Station Boulevard & Begonia Drive										
3	Adjacent intersections:	West	0	East	2	North	0	South	5	

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2025 Existing Counts	16	105			76	14				80		17	308
Balancing													0
Existing Volumes (Balanced)	16	105	0	0	76	14	0	0	0	80	0	17	308
Base growth (0.44% per year over 1 year)	0	0	0	0	0	0	0	0	0	0	0	0	0
Automotive Service Center													0
McKee-Fetters Tract		2			1								3
Byers Station Parcel 6C		1			1								2
100 Greenridge Road Residential Development													0
2026 Base (No-Build) Volumes	16	108	0	0	78	14	0	0	0	80	0	17	313
New Trips	34					26				14		34	
Pass By Trips	25	-2			-2	2				2		23	
Total Trip Distribution	59	-2	0	0	-2	28	0	0	0	16	0	57	156
2026 Projected (Build) Volumes	75	106	0	0	76	42	0	0	0	96	0	74	469

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2025 Existing Counts	10	65			118	20				12		11	236
Balancing													0
Existing Volumes (Balanced)	10	65	0	0	118	20	0	0	0	12	0	11	236
Base growth (0.44% per year over 1 year)	0	0	0	0	1	0	0	0	0	0	0	0	1
Automotive Service Center													0
McKee-Fetters Tract		1			2								3
Byers Station Parcel 6C		1			2								3
100 Greenridge Road Residential Development													0
2026 Base (No-Build) Volumes	10	67	0	0	123	20	0	0	0	12	0	11	243
New Trips	39					30				22		53	
Pass By Trips	49	-2			-4	4				2		49	
Total Trip Distribution	88	-2	0	0	-4	34	0	0	0	24	0	102	242
2026 Projected (Build) Volumes	98	65	0	0	119	54	0	0	0	36	0	113	485

Time Period: Saturday Midday Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2025 Existing Counts	8	62			66	8				14		4	162
Balancing													0
Existing Volumes (Balanced)	8	62	0	0	66	8	0	0	0	14	0	4	162
Base growth (0.44% per year over 1 year)	0	0	0	0	0	0	0	0	0	0	0	0	0
Automotive Service Center													0
McKee-Fetters Tract		2			2								4
Byers Station Parcel 6C		1			2								3
100 Greenridge Road Residential Development													0
2026 Base (No-Build) Volumes	8	65	0	0	70	8	0	0	0	14	0	4	169
New Trips	39					30				27		37	
Pass By Trips	30	-2			-1	1				1		30	
Total Trip Distribution	69	-2	0	0	-1	31	0	0	0	28	0	67	192
2026 Projected (Build) Volumes	77	63	0	0	69	39	0	0	0	42	0	71	361

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	CELE.01			Organization:	TPD
Project Location:	Upper Uwchlan Township			Performed By:	PG
Scenario Description:				Date:	
Analysis Year:				Checked By:	
Analysis Period:	AM Street Peak Hour			Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office						
Retail	822	18	KSF	989	495	494
Restaurant	930	3	KSF	291	146	145
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses ²	565	11	KSF	85	42	43
				1,365	683	682

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		64	0	0	0
Restaurant	0	20		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,365	683	682
Internal Capture Percentage	12%	12%	12%
External Vehicle-Trips ⁵	1,197	599	598
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	4%	13%
Restaurant	44%	14%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	CELE.01			Organization:	TPD
Project Location:	Upper Uwchlan Township			Performed By:	PG
Scenario Description:	Projected Conditions			Date:	
Analysis Year:	2026			Checked By:	
Analysis Period:	PM Street Peak Hour			Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office						
Retail	822	18	KSF	989	495	494
Restaurant	930	3	KSF	291	146	145
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses ²	565	11	KSF	85	42	43
				1,365	683	682

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		42	0	0	0
Restaurant	0	59		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,365	683	682
Internal Capture Percentage	15%	15%	15%
External Vehicle-Trips ⁵	1,163	582	581
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	12%	9%
Restaurant	29%	41%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

¹ Land Use Codes (LUCs) from <i>Trip Generation Manual</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
³ Enter trips assuming no transit or non-motorized trips (as assumed in ITE <i>Trip Generation Manual</i>).
⁴ Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be
⁵ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.
⁶ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

APPENDIX D:

Capacity Analysis Worksheets



Existing Conditions



1: Pottstown Pike & Park Road/Station Boulevard

Existing Conditions

Timing Plan: Weekday AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	58	27	18	69	1	126	182	17	59	670	84
Future Volume (vph)	142	58	27	18	69	1	126	182	17	59	670	84
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			-4%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		650			405			444			409	
Travel Time (s)		12.7			9.2			8.6			8.0	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	3%	4%	0%	3%	0%	12%	10%	18%	10%	4%	7%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		10.0	30.0		30.0	30.0	
Total Split (s)	36.0	36.0		36.0	36.0		19.0	84.0		65.0	65.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		15.8%	70.0%		54.2%	54.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 120

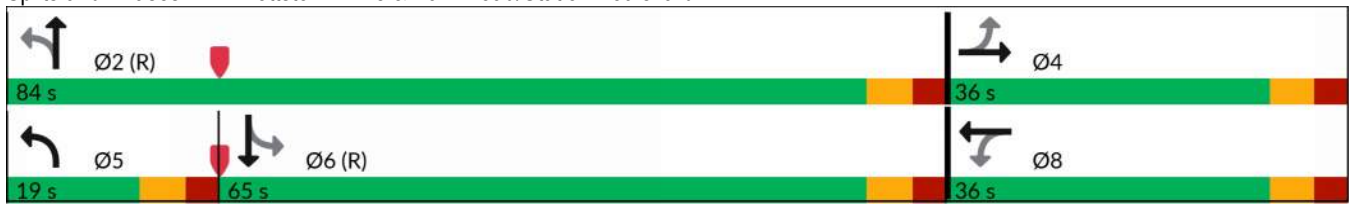
Actuated Cycle Length: 120

Offset: 74 (62%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

1: Pottstown Pike & Park Road/Station Boulevard

Existing Conditions
Timing Plan: Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	58	27	18	69	1	126	182	17	59	670	84
Future Volume (veh/h)	142	58	27	18	69	1	126	182	17	59	670	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1850	1983	1968	1750	1776	1820	1778	1807	1693	1609	1694	1652
Adj Flow Rate, veh/h	151	62	29	19	73	1	134	194	18	63	713	89
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	3	4	0	3	0	12	10	18	10	4	7
Cap, veh/h	251	231	108	235	316	4	320	1171	109	676	904	113
Arrive On Green	0.18	0.18	0.17	0.06	0.06	0.06	0.06	0.72	0.71	0.61	0.61	0.60
Sat Flow, veh/h	1311	1278	598	1221	1748	24	1694	1628	151	1006	1476	184
Grp Volume(v), veh/h	151	0	91	19	0	74	134	0	212	63	0	802
Grp Sat Flow(s),veh/h/ln	1311	0	1875	1221	0	1772	1694	0	1780	1006	0	1660
Q Serve(g_s), s	13.3	0.0	5.0	1.8	0.0	4.8	3.2	0.0	4.6	3.1	0.0	43.5
Cycle Q Clear(g_c), s	17.6	0.0	5.0	6.3	0.0	4.8	3.2	0.0	4.6	3.1	0.0	43.5
Prop In Lane	1.00		0.32	1.00		0.01	1.00		0.08	1.00		0.11
Lane Grp Cap(c), veh/h	251	0	339	235	0	321	320	0	1279	676	0	1017
V/C Ratio(X)	0.60	0.00	0.27	0.08	0.00	0.23	0.42	0.00	0.17	0.09	0.00	0.79
Avail Cap(c_a), veh/h	341	0	469	319	0	443	407	0	1279	676	0	1017
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	42.4	51.3	0.0	48.5	17.2	0.0	5.4	9.6	0.0	17.5
Incr Delay (d2), s/veh	2.3	0.0	0.4	0.1	0.0	0.4	0.9	0.0	0.3	0.3	0.0	6.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	0.0	4.2	1.0	0.0	4.0	3.0	0.0	2.9	1.3	0.0	23.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.8	0.0	42.9	51.5	0.0	48.8	18.0	0.0	5.7	9.9	0.0	23.7
LnGrp LOS	D		D	D		D	B		A	A		C
Approach Vol, veh/h	242			93			346			865		
Approach Delay, s/veh	48.5			49.4			10.5			22.7		
Approach LOS	D			D			B			C		
Timer - Assigned Phs	2			4		5	6	8				
Phs Duration (G+Y+Rc), s	92.3			27.7		12.8	79.5	27.7				
Change Period (Y+Rc), s	7.0			7.0		7.0	7.0	7.0				
Max Green Setting (Gmax), s	77.0			29.0		12.0	58.0	29.0				
Max Q Clear Time (g_c+I1), s	6.6			20.1		5.7	45.5	8.8				
Green Ext Time (p_c), s	1.3			0.6		0.2	4.8	0.4				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				25.6								
HCM 6th LOS				C								

2: Graphite Mine Road & Station Boulevard

Existing Conditions
Timing Plan: Weekday AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	32	126	298	46	14	42	299	92	1	50	1
Future Volume (vph)	1	32	126	298	46	14	42	299	92	1	50	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		601			192			486			211	
Travel Time (s)		13.7			5.2			8.3			3.6	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	13%	10%	2%	4%	0%	7%	8%	4%	0%	2%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		33.0	33.0	33.0	33.0	33.0	
Total Split (s)	55.0	55.0		55.0	55.0		65.0	65.0	65.0	65.0	65.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%	54.2%	54.2%	54.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 120

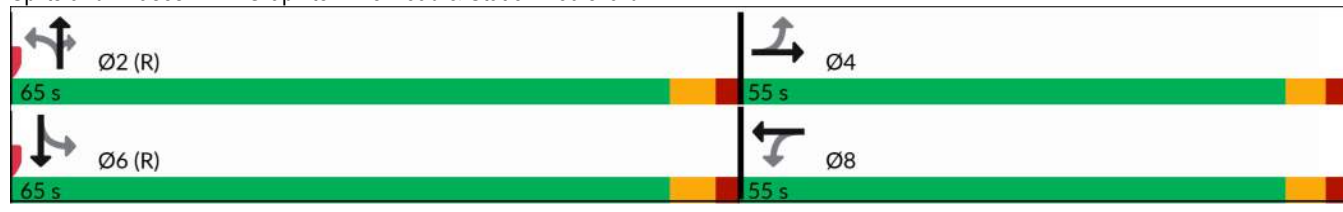
Actuated Cycle Length: 120

Offset: 9 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

Existing Conditions
Timing Plan: Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	32	126	298	46	14	42	299	92	1	50	1
Future Volume (veh/h)	1	32	126	298	46	14	42	299	92	1	50	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1682	1726	1766	1808	1866	1775	1761	1890	1778	1750	1778
Adj Flow Rate, veh/h	1	36	140	331	51	16	47	332	102	1	56	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	13	10	2	4	0	7	8	4	0	2	0
Cap, veh/h	539	118	460	419	519	163	712	922	837	434	897	16
Arrive On Green	0.39	0.39	0.38	0.39	0.39	0.38	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1284	301	1171	1141	1319	414	1276	1761	1599	907	1713	31
Grp Volume(v), veh/h	1	0	176	331	0	67	47	332	102	1	0	57
Grp Sat Flow(s),veh/h/ln	1284	0	1471	1141	0	1733	1276	1761	1599	907	0	1744
Q Serve(g_s), s	0.1	0.0	10.0	33.6	0.0	2.9	2.2	13.3	3.9	0.1	0.0	1.9
Cycle Q Clear(g_c), s	2.5	0.0	10.0	43.1	0.0	2.9	3.7	13.3	3.9	13.4	0.0	1.9
Prop In Lane	1.00		0.80	1.00		0.24	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	539	0	579	419	0	682	712	922	837	434	0	913
V/C Ratio(X)	0.00	0.00	0.30	0.79	0.00	0.10	0.07	0.36	0.12	0.00	0.00	0.06
Avail Cap(c_a), veh/h	569	0	613	445	0	722	712	922	837	434	0	913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.6	0.0	25.4	39.7	0.0	23.1	14.9	16.8	14.6	20.7	0.0	14.1
Incr Delay (d2), s/veh	0.0	0.0	0.3	8.9	0.0	0.1	0.2	1.1	0.3	0.0	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	6.4	15.7	0.0	2.2	1.2	9.2	2.6	0.0	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.6	0.0	25.7	48.6	0.0	23.1	15.0	17.9	14.9	20.7	0.0	14.2
LnGrp LOS	C		C	D		C	B	B	B	C		B
Approach Vol, veh/h		177			398			481			58	
Approach Delay, s/veh		25.7			44.3			17.0			14.3	
Approach LOS		C			D			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.8		52.2		67.8		52.2				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		59.0		49.0		59.0		49.0				
Max Q Clear Time (g_c+I1), s		15.8		12.0		15.9		45.6				
Green Ext Time (p_c), s		2.5		1.2		0.3		0.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				28.0								
HCM 6th LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												

3: Station Boulevard & Driveway

Existing Conditions
Timing Plan: Weekday AM Peak

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	105	76	14	80	17
Future Volume (vph)	16	105	76	14	80	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		405	601		221	
Travel Time (s)		9.2	16.4		5.0	
Confl. Peds. (#/hr)						5
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65
Heavy Vehicles (%)	44%	5%	4%	7%	8%	12%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Station Boulevard & Driveway

Existing Conditions
Timing Plan: Weekday AM Peak

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	105	76	14	80	17
Future Vol, veh/h	16	105	76	14	80	17
Conflicting Peds, #/hr	0	0	0	0	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	44	5	4	7	8	12
Mvmt Flow	25	162	117	22	123	26
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	139	0	-	0	340	133
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	212	-
Critical Hdwy	4.54	-	-	-	6.48	6.32
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	2.596	-	-	-	3.572	3.408
Pot Cap-1 Maneuver	1223	-	-	-	644	890
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	809	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1223	-	-	-	631	886
Mov Cap-2 Maneuver	-	-	-	-	631	-
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	809	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	1.1	0		12		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1223	-	-	-	665	
HCM Lane V/C Ratio	0.02	-	-	-	0.224	
HCM Control Delay (s/veh)	8	-	-	-	12	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q (veh)	0.1	-	-	-	0.9	

1: Pottstown Pike & Park Road/Station Boulevard

Existing Conditions

Timing Plan: Weekday PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	53	12	14	96	4	286	433	14	3	536	132
Future Volume (vph)	169	53	12	14	96	4	286	433	14	3	536	132
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			-4%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		650			344			444			499	
Travel Time (s)		12.7			7.8			8.6			9.7	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	4%	0%	0%	1%	0%	2%	2%	0%	0%	2%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	30.0		30.0	30.0	
Total Split (s)	40.0	40.0		40.0	40.0		27.0	70.0		43.0	43.0	
Total Split (%)	36.4%	36.4%		36.4%	36.4%		24.5%	63.6%		39.1%	39.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 110

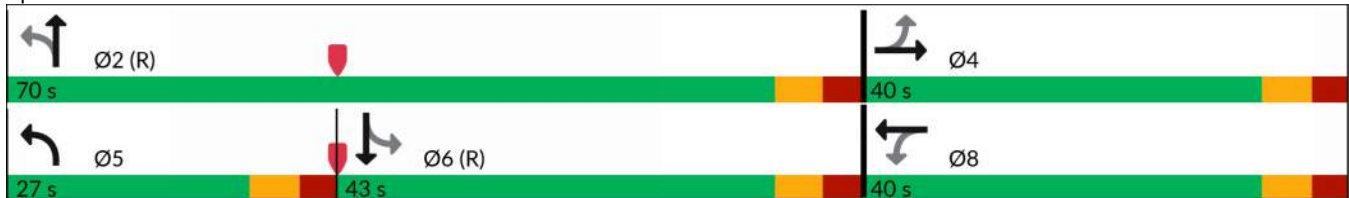
Actuated Cycle Length: 110

Offset: 12 (11%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

1: Pottstown Pike & Park Road/Station Boulevard

Existing Conditions
Timing Plan: Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	53	12	14	96	4	286	433	14	3	536	132
Future Volume (veh/h)	169	53	12	14	96	4	286	433	14	3	536	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1935	1968	2027	1750	1805	1820	1921	1921	1949	1750	1722	1750
Adj Flow Rate, veh/h	172	54	12	14	98	4	292	442	14	3	547	135
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	4	0	0	1	0	2	2	0	0	2	0
Cap, veh/h	282	306	68	280	338	14	424	1286	41	537	718	177
Arrive On Green	0.20	0.20	0.19	0.39	0.39	0.37	0.10	0.69	0.69	0.54	0.54	0.53
Sat Flow, veh/h	1337	1559	346	1249	1722	70	1829	1851	59	875	1333	329
Grp Volume(v), veh/h	172	0	66	14	0	102	292	0	456	3	0	682
Grp Sat Flow(s),veh/h/ln	1337	0	1905	1249	0	1793	1829	0	1910	875	0	1662
Q Serve(g_s), s	13.6	0.0	3.2	0.8	0.0	4.3	7.0	0.0	10.5	0.2	0.0	35.4
Cycle Q Clear(g_c), s	17.4	0.0	3.2	3.5	0.0	4.3	7.0	0.0	10.5	0.2	0.0	35.4
Prop In Lane	1.00		0.18	1.00		0.04	1.00		0.03	1.00		0.20
Lane Grp Cap(c), veh/h	282	0	374	280	0	352	424	0	1327	537	0	896
V/C Ratio(X)	0.61	0.00	0.18	0.05	0.00	0.29	0.69	0.00	0.34	0.01	0.00	0.76
Avail Cap(c_a), veh/h	433	0	589	421	0	554	587	0	1327	537	0	896
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.4	0.0	36.9	28.8	0.0	28.2	17.6	0.0	6.7	11.7	0.0	19.9
Incr Delay (d2), s/veh	2.1	0.0	0.2	0.1	0.0	0.5	2.0	0.0	0.7	0.0	0.0	6.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	2.7	0.4	0.0	3.2	6.5	0.0	7.2	0.1	0.0	20.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.5	0.0	37.1	28.9	0.0	28.7	19.6	0.0	7.4	11.8	0.0	26.0
LnGrp LOS	D		D	C		C	B		A	B		C
Approach Vol, veh/h	238			116			748			685		
Approach Delay, s/veh	43.9			28.7			12.2			26.0		
Approach LOS	D			C			B			C		
Timer - Assigned Phs	2			4		5	6	8				
Phs Duration (G+Y+Rc), s	82.4			27.6		17.2	65.3	27.6				
Change Period (Y+Rc), s	7.0			7.0		7.0	7.0	7.0				
Max Green Setting (Gmax), s	63.0			33.0		20.0	36.0	33.0				
Max Q Clear Time (g_c+l1), s	12.5			19.9		9.5	37.4	6.3				
Green Ext Time (p_c), s	3.1			0.7		0.6	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				22.8								
HCM 6th LOS				C								

2: Graphite Mine Road & Station Boulevard

Existing Conditions
Timing Plan: Weekday PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	44	30	169	48	8	76	829	209	8	162	1
Future Volume (vph)	0	44	30	169	48	8	76	829	209	8	162	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		661			192			486			211	
Travel Time (s)		15.0			5.2			8.3			3.6	
Confl. Peds. (#/hr)									8	8		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%	0%	1%	1%	13%	1%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		33.0	33.0	33.0	33.0	33.0	
Total Split (s)	24.0	24.0		24.0	24.0		86.0	86.0	86.0	86.0	86.0	
Total Split (%)	21.8%	21.8%		21.8%	21.8%		78.2%	78.2%	78.2%	78.2%	78.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 110

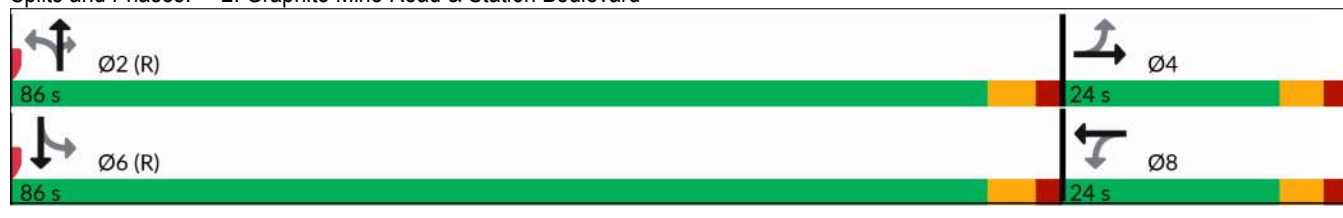
Actuated Cycle Length: 110

Offset: 53 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

Existing Conditions
Timing Plan: Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	44	30	169	48	8	76	829	209	8	162	1
Future Volume (veh/h)	0	44	30	169	48	8	76	829	209	8	162	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1872	1766	1837	1866	1875	1860	1935	1595	1764	1778
Adj Flow Rate, veh/h	0	46	31	176	50	8	79	864	218	8	169	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	2	0	0	1	1	13	1	0
Cap, veh/h	65	180	121	239	267	43	930	1370	1201	291	1290	8
Arrive On Green	0.00	0.17	0.16	0.17	0.17	0.16	0.74	0.74	0.74	0.74	0.74	0.73
Sat Flow, veh/h	1295	1043	703	1249	1545	247	1213	1860	1631	445	1751	10
Grp Volume(v), veh/h	0	0	77	176	0	58	79	864	218	8	0	170
Grp Sat Flow(s),veh/h/ln	1295	0	1746	1249	0	1792	1213	1860	1631	445	0	1762
Q Serve(g_s), s	0.0	0.0	4.2	15.3	0.0	3.0	2.2	25.1	4.5	1.0	0.0	3.1
Cycle Q Clear(g_c), s	0.0	0.0	4.2	19.0	0.0	3.0	4.8	25.1	4.5	26.1	0.0	3.1
Prop In Lane	1.00		0.40	1.00		0.14	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	65	0	301	239	0	310	930	1370	1201	291	0	1297
V/C Ratio(X)	0.00	0.00	0.26	0.74	0.00	0.19	0.08	0.63	0.18	0.03	0.00	0.13
Avail Cap(c_a), veh/h	65	0	301	239	0	310	930	1370	1201	291	0	1297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	39.6	47.5	0.0	39.0	4.9	7.1	4.4	13.6	0.0	4.2
Incr Delay (d2), s/veh	0.0	0.0	0.4	11.3	0.0	0.3	0.2	2.2	0.3	0.2	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	3.3	9.5	0.0	2.5	0.9	13.2	2.3	0.2	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	40.0	58.7	0.0	39.2	5.0	9.4	4.7	13.7	0.0	4.4
LnGrp LOS			D	E		D	A	A	A	B		A
Approach Vol, veh/h		77			234			1161			178	
Approach Delay, s/veh		40.0			53.9			8.2			4.9	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		86.0		24.0		86.0		24.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		80.0		18.0		80.0		18.0				
Max Q Clear Time (g_c+I1), s		27.6		6.2		28.6		21.5				
Green Ext Time (p_c), s		9.1		0.2		1.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				15.8								
HCM 6th LOS				B								

3: Station Boulevard & Driveway

Existing Conditions
Timing Plan: Weekday PM Peak

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	65	118	20	12	11
Future Volume (vph)	10	65	118	20	12	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		344	661		224	
Travel Time (s)		7.8	18.0		5.1	
Confl. Peds. (#/hr)						4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Station Boulevard & Driveway

Existing Conditions
Timing Plan: Weekday PM Peak

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	65	118	20	12	11
Future Vol, veh/h	10	65	118	20	12	11
Conflicting Peds, #/hr	0	0	0	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	73	133	22	13	12
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	155	0	-	0	239	148
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	95	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1438	-	-	-	754	904
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1438	-	-	-	748	901
Mov Cap-2 Maneuver	-	-	-	-	748	-
Stage 1	-	-	-	-	881	-
Stage 2	-	-	-	-	934	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	1	0		9.6		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1438	-	-	-	814	
HCM Lane V/C Ratio	0.008	-	-	-	0.032	
HCM Control Delay (s/veh)	7.5	-	-	-	9.6	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q (veh)	0	-	-	-	0.1	

1: Pottstown Pike & Park Road/Station Boulevard

Existing Conditions

Timing Plan: Saturday Midday

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	50	17	13	52	4	191	258	13	6	600	134
Future Volume (vph)	143	50	17	13	52	4	191	258	13	6	600	134
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			0%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		650			383			444			509	
Travel Time (s)		12.7			10.4			8.6			9.9	
Confl. Peds. (#/hr)			1	1			3					3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	8%	0%	1%	2%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		11.0	23.0		23.0	23.0	
Total Split (s)	22.0	22.0		22.0	22.0		13.0	68.0		55.0	55.0	
Total Split (%)	24.4%	24.4%		24.4%	24.4%		14.4%	75.6%		61.1%	61.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 90

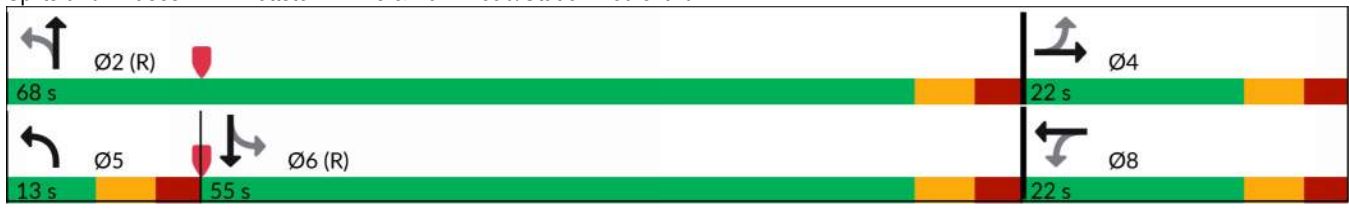
Actuated Cycle Length: 90

Offset: 26 (29%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

1: Pottstown Pike & Park Road/Station Boulevard

Existing Conditions

Timing Plan: Saturday MIDDAY

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	50	17	13	52	4	191	258	13	6	600	134
Future Volume (veh/h)	143	50	17	13	52	4	191	258	13	6	600	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1921	2027	2027	1750	1820	1820	1800	1786	1688	1750	1736	1722
Adj Flow Rate, veh/h	147	52	18	13	54	4	197	266	13	6	619	138
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	0	0	0	0	0	0	1	8	0	1	2
Cap, veh/h	276	237	82	252	275	20	349	1185	58	653	766	171
Arrive On Green	0.16	0.16	0.15	0.16	0.16	0.15	0.08	0.70	0.69	0.56	0.56	0.55
Sat Flow, veh/h	1378	1438	498	1242	1673	124	1714	1688	83	1027	1373	306
Grp Volume(v), veh/h	147	0	70	13	0	58	197	0	279	6	0	757
Grp Sat Flow(s),veh/h/ln	1378	0	1935	1242	0	1797	1714	0	1771	1027	0	1680
Q Serve(g_s), s	9.2	0.0	2.8	0.8	0.0	2.5	3.9	0.0	5.0	0.2	0.0	32.7
Cycle Q Clear(g_c), s	11.2	0.0	2.8	3.1	0.0	2.5	3.9	0.0	5.0	0.2	0.0	32.7
Prop In Lane	1.00		0.26	1.00		0.07	1.00		0.05	1.00		0.18
Lane Grp Cap(c), veh/h	276	0	319	252	0	296	349	0	1243	653	0	937
V/C Ratio(X)	0.53	0.00	0.22	0.05	0.00	0.20	0.56	0.00	0.22	0.01	0.00	0.81
Avail Cap(c_a), veh/h	294	0	344	269	0	319	349	0	1243	653	0	937
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	0.0	32.7	33.7	0.0	32.5	15.2	0.0	4.8	8.9	0.0	16.1
Incr Delay (d2), s/veh	1.6	0.0	0.3	0.1	0.0	0.3	2.1	0.0	0.4	0.0	0.0	7.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.6	0.0	2.4	0.5	0.0	2.0	3.6	0.0	2.9	0.1	0.0	18.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.7	0.0	33.0	33.8	0.0	32.8	17.3	0.0	5.2	8.9	0.0	23.6
LnGrp LOS	D		C	C		C	B		A	A		C
Approach Vol, veh/h	217			71			476			763		
Approach Delay, s/veh	36.8			33.0			10.2			23.5		
Approach LOS	D			C			B			C		
Timer - Assigned Phs	2			4		5	6		8			
Phs Duration (G+Y+Rc), s	69.2			20.8		13.0	56.2		20.8			
Change Period (Y+Rc), s	7.0			7.0		7.0	7.0		7.0			
Max Green Setting (Gmax), s	61.0			15.0		6.0	48.0		15.0			
Max Q Clear Time (g_c+I1), s	7.0			13.7		6.4	34.7		5.6			
Green Ext Time (p_c), s	1.7			0.1		0.0	4.5		0.2			
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				21.7								
HCM 6th LOS				C								

2: Graphite Mine Road & Station Boulevard

Existing Conditions

Timing Plan: Saturday MIDDAY

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	47	29	112	25	9	44	468	125	14	254	5
Future Volume (vph)	2	47	29	112	25	9	44	468	125	14	254	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		623			192			486			211	
Travel Time (s)		14.2			5.2			8.3			3.6	
Confl. Peds. (#/hr)									4	4		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	0%	1%	2%	7%	1%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	22.0	22.0		22.0	22.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	34.9%	34.9%		34.9%	34.9%		65.1%	65.1%	65.1%	65.1%	65.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 63

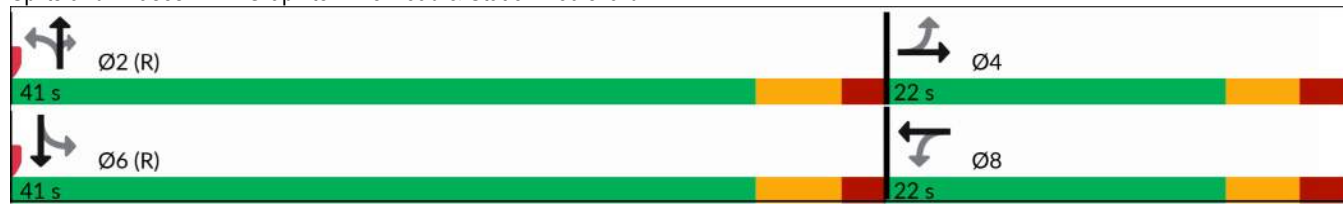
Actuated Cycle Length: 63

Offset: 14 (22%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

Existing Conditions

Timing Plan: Saturday MIDDAY

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	47	29	112	25	9	44	468	125	14	254	5
Future Volume (veh/h)	2	47	29	112	25	9	44	468	125	14	254	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1800	1872	1828	1794	1866	1866	1875	1860	1920	1679	1764	1778
Adj Flow Rate, veh/h	2	55	34	132	29	11	52	551	147	16	299	6
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	3	0	0	0	0	1	2	7	1	0
Cap, veh/h	353	208	129	311	248	94	741	1207	1052	450	1118	22
Arrive On Green	0.19	0.19	0.18	0.19	0.19	0.18	0.65	0.65	0.65	0.65	0.65	0.63
Sat Flow, veh/h	1316	1082	669	1255	1289	489	1075	1860	1622	671	1723	35
Grp Volume(v), veh/h	2	0	89	132	0	40	52	551	147	16	0	305
Grp Sat Flow(s),veh/h/ln	1316	0	1752	1255	0	1778	1075	1860	1622	671	0	1757
Q Serve(g_s), s	0.1	0.0	2.7	6.2	0.0	1.2	1.3	9.3	2.2	0.8	0.0	4.6
Cycle Q Clear(g_c), s	0.8	0.0	2.7	8.5	0.0	1.2	5.5	9.3	2.2	10.1	0.0	4.6
Prop In Lane	1.00		0.38	1.00		0.28	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	353	0	337	311	0	342	741	1207	1052	450	0	1140
V/C Ratio(X)	0.01	0.00	0.26	0.42	0.00	0.12	0.07	0.46	0.14	0.04	0.00	0.27
Avail Cap(c_a), veh/h	455	0	473	408	0	480	741	1207	1052	450	0	1140
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	21.8	25.0	0.0	21.1	5.8	5.5	4.3	8.0	0.0	4.7
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.9	0.0	0.2	0.2	1.2	0.3	0.1	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	2.0	3.4	0.0	0.9	0.5	4.7	1.0	0.2	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.1	0.0	22.2	25.9	0.0	21.3	5.9	6.8	4.5	8.2	0.0	5.3
LnGrp LOS	C		C	C		C	A	A	A	A		A
Approach Vol, veh/h	91			172			750			321		
Approach Delay, s/veh	22.2			24.9			6.3			5.4		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	45.9			17.1			45.9			17.1		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	35.0			16.0			35.0			16.0		
Max Q Clear Time (g_c+I1), s	11.8			4.7			12.6			11.0		
Green Ext Time (p_c), s	4.2			0.3			1.8			0.3		
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	9.6											
HCM 6th LOS	A											

3: Station Boulevard & Driveway

Existing Conditions

Timing Plan: Saturday MIDDAY

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	8	62	66	8	14	4
Future Volume (vph)	8	62	66	8	14	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		383	623		277	
Travel Time (s)		8.7	17.0		6.3	
Confl. Peds. (#/hr)						6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Station Boulevard & Driveway

Existing Conditions

Timing Plan: Saturday MIDDAY

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	62	66	8	14	4
Future Vol, veh/h	8	62	66	8	14	4
Conflicting Peds, #/hr	0	0	0	0	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	2	0	0	0	0
Mvmt Flow	8	65	69	8	15	4
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	77	0	-	0	154	79
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	81	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1535	-	-	-	842	987
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	947	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1535	-	-	-	838	982
Mov Cap-2 Maneuver	-	-	-	-	838	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	947	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0.8	0		9.2		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1535	-	-	-	866	
HCM Lane V/C Ratio	0.005	-	-	-	0.022	
HCM Control Delay (s/veh)	7.4	-	-	-	9.2	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q (veh)	0	-	-	-	0.1	

Base Conditions



1: Pottstown Pike & Park Road/Station Boulevard

2026 Base Conditions

Timing Plan: Weekday AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	61	31	18	71	1	131	203	17	59	705	84
Future Volume (vph)	146	61	31	18	71	1	131	203	17	59	705	84
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			-4%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		650			405			444			409	
Travel Time (s)		12.7			9.2			8.6			8.0	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	3%	4%	0%	3%	0%	12%	10%	18%	10%	4%	7%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		10.0	30.0		30.0	30.0	
Total Split (s)	36.0	36.0		36.0	36.0		19.0	84.0		65.0	65.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		15.8%	70.0%		54.2%	54.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 120

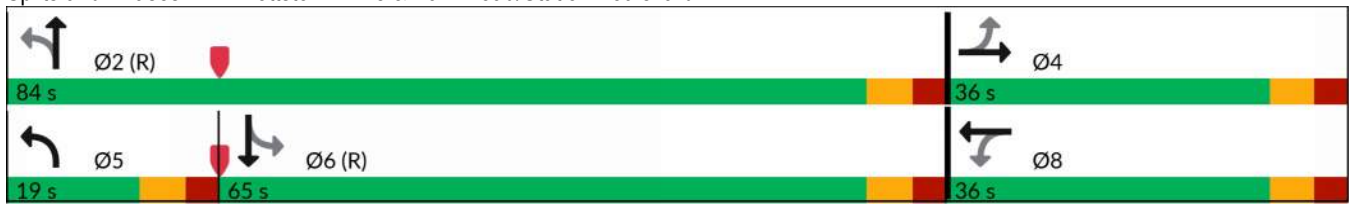
Actuated Cycle Length: 120

Offset: 74 (62%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

1: Pottstown Pike & Park Road/Station Boulevard

2026 Base Conditions

Timing Plan: Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	61	31	18	71	1	131	203	17	59	705	84
Future Volume (veh/h)	146	61	31	18	71	1	131	203	17	59	705	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1850	1983	1968	1750	1776	1820	1778	1807	1693	1609	1694	1652
Adj Flow Rate, veh/h	155	65	33	19	76	1	139	216	18	63	750	89
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	3	4	0	3	0	12	10	18	10	4	7
Cap, veh/h	254	231	117	236	325	4	288	1175	98	657	900	107
Arrive On Green	0.19	0.19	0.18	0.06	0.06	0.06	0.06	0.71	0.71	0.61	0.61	0.60
Sat Flow, veh/h	1307	1240	629	1214	1749	23	1694	1645	137	986	1485	176
Grp Volume(v), veh/h	155	0	98	19	0	77	139	0	234	63	0	839
Grp Sat Flow(s),veh/h/ln	1307	0	1869	1214	0	1772	1694	0	1782	986	0	1662
Q Serve(g_s), s	13.7	0.0	5.4	1.8	0.0	5.0	3.4	0.0	5.2	3.2	0.0	48.3
Cycle Q Clear(g_c), s	18.2	0.0	5.4	6.7	0.0	5.0	3.4	0.0	5.2	3.2	0.0	48.3
Prop In Lane	1.00		0.34	1.00		0.01	1.00		0.08	1.00		0.11
Lane Grp Cap(c), veh/h	254	0	348	236	0	329	288	0	1272	657	0	1007
V/C Ratio(X)	0.61	0.00	0.28	0.08	0.00	0.23	0.48	0.00	0.18	0.10	0.00	0.83
Avail Cap(c_a), veh/h	338	0	467	314	0	443	373	0	1272	657	0	1007
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.3	0.0	42.1	51.4	0.0	48.2	20.0	0.0	5.7	10.0	0.0	18.9
Incr Delay (d2), s/veh	2.3	0.0	0.4	0.1	0.0	0.4	1.3	0.0	0.3	0.3	0.0	8.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	4.6	1.0	0.0	4.1	3.7	0.0	3.3	1.3	0.0	26.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.7	0.0	42.5	51.5	0.0	48.5	21.3	0.0	6.0	10.2	0.0	27.0
LnGrp LOS	D		D	D		D	C		A	B		C
Approach Vol, veh/h	253			96			373			902		
Approach Delay, s/veh	48.1			49.1			11.7			25.8		
Approach LOS	D			D			B			C		
Timer - Assigned Phs	2			4			5			6		
Phs Duration (G+Y+Rc), s	91.7			28.3			13.0			78.7		
Change Period (Y+Rc), s	7.0			7.0			7.0			7.0		
Max Green Setting (Gmax), s	77.0			29.0			12.0			58.0		
Max Q Clear Time (g_c+I1), s	7.2			20.7			5.9			50.3		
Green Ext Time (p_c), s	1.5			0.6			0.2			3.7		
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	27.4											
HCM 6th LOS	C											

2: Graphite Mine Road & Station Boulevard

2026 Base Conditions

Timing Plan: Weekday AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	32	130	300	46	14	44	328	93	1	57	1
Future Volume (vph)	1	32	130	300	46	14	44	328	93	1	57	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		601			192			486			211	
Travel Time (s)		13.7			5.2			8.3			3.6	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	13%	10%	2%	4%	0%	7%	8%	4%	0%	2%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		33.0	33.0	33.0	33.0	33.0	
Total Split (s)	55.0	55.0		55.0	55.0		65.0	65.0	65.0	65.0	65.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%	54.2%	54.2%	54.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 120

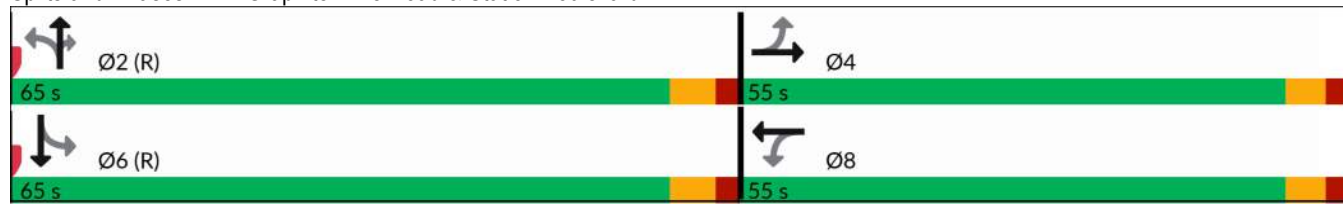
Actuated Cycle Length: 120

Offset: 9 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

2026 Base Conditions

Timing Plan: Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	32	130	300	46	14	44	328	93	1	57	1
Future Volume (veh/h)	1	32	130	300	46	14	44	328	93	1	57	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1682	1726	1766	1808	1866	1775	1761	1890	1778	1750	1778
Adj Flow Rate, veh/h	1	36	144	333	51	16	49	364	103	1	63	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	13	10	2	4	0	7	8	4	0	2	0
Cap, veh/h	544	117	467	420	524	164	700	915	831	407	892	14
Arrive On Green	0.40	0.40	0.39	0.40	0.40	0.39	0.52	0.52	0.52	0.52	0.52	0.51
Sat Flow, veh/h	1284	294	1176	1137	1319	414	1268	1761	1599	880	1717	27
Grp Volume(v), veh/h	1	0	180	333	0	67	49	364	103	1	0	64
Grp Sat Flow(s),veh/h/ln	1284	0	1470	1137	0	1733	1268	1761	1599	880	0	1745
Q Serve(g_s), s	0.1	0.0	10.2	34.0	0.0	2.9	2.4	15.0	4.0	0.1	0.0	2.2
Cycle Q Clear(g_c), s	2.5	0.0	10.2	43.6	0.0	2.9	4.1	15.0	4.0	15.1	0.0	2.2
Prop In Lane	1.00		0.80	1.00		0.24	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	544	0	584	420	0	689	700	915	831	407	0	906
V/C Ratio(X)	0.00	0.00	0.31	0.79	0.00	0.10	0.07	0.40	0.12	0.00	0.00	0.07
Avail Cap(c_a), veh/h	569	0	613	442	0	722	700	915	831	407	0	906
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.3	0.0	25.1	39.6	0.0	22.8	15.3	17.5	14.8	22.0	0.0	14.4
Incr Delay (d2), s/veh	0.0	0.0	0.3	9.2	0.0	0.1	0.2	1.3	0.3	0.0	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	6.5	15.9	0.0	2.2	1.3	10.2	2.6	0.0	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.3	0.0	25.4	48.8	0.0	22.8	15.5	18.8	15.1	22.1	0.0	14.5
LnGrp LOS	C		C	D		C	B	B	B	C		B
Approach Vol, veh/h		181			400			516			65	
Approach Delay, s/veh		25.4			44.4			17.7			14.7	
Approach LOS		C			D			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.3		52.7		67.3		52.7				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		59.0		49.0		59.0		49.0				
Max Q Clear Time (g_c+I1), s		17.5		12.2		17.6		46.1				
Green Ext Time (p_c), s		2.7		1.2		0.3		0.5				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				27.9								
HCM 6th LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												

3: Station Boulevard & Driveway

2026 Base Conditions

Timing Plan: Weekday AM Peak

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	108	78	14	80	17
Future Volume (vph)	16	108	78	14	80	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		405	601		221	
Travel Time (s)		9.2	16.4		5.0	
Confl. Peds. (#/hr)						5
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65
Heavy Vehicles (%)	44%	5%	4%	7%	8%	12%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Station Boulevard & Driveway

2026 Base Conditions

Timing Plan: Weekday AM Peak

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	108	78	14	80	17
Future Vol, veh/h	16	108	78	14	80	17
Conflicting Peds, #/hr	0	0	0	0	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	44	5	4	7	8	12
Mvmt Flow	25	166	120	22	123	26
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	142	0	-	0	347	136
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	216	-
Critical Hdwy	4.54	-	-	-	6.48	6.32
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	2.596	-	-	-	3.572	3.408
Pot Cap-1 Maneuver	1220	-	-	-	638	887
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	806	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1220	-	-	-	625	883
Mov Cap-2 Maneuver	-	-	-	-	625	-
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	806	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	1	0		12.1		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1220	-	-	-	659	
HCM Lane V/C Ratio	0.02	-	-	-	0.226	
HCM Control Delay (s/veh)	8	-	-	-	12.1	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q (veh)	0.1	-	-	-	0.9	

1: Pottstown Pike & Park Road/Station Boulevard

2026 Base Conditions

Timing Plan: Weekday PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	55	14	14	100	4	294	458	14	3	575	134
Future Volume (vph)	172	55	14	14	100	4	294	458	14	3	575	134
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			-4%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		650			344			444			499	
Travel Time (s)		12.7			7.8			8.6			9.7	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	4%	0%	0%	1%	0%	2%	2%	0%	0%	2%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	30.0		30.0	30.0	
Total Split (s)	40.0	40.0		40.0	40.0		27.0	70.0		43.0	43.0	
Total Split (%)	36.4%	36.4%		36.4%	36.4%		24.5%	63.6%		39.1%	39.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 110

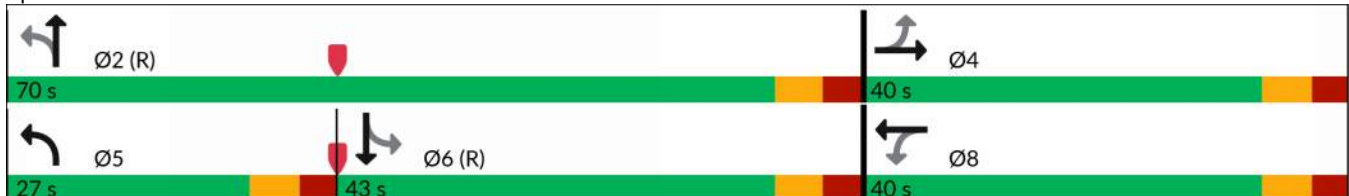
Actuated Cycle Length: 110

Offset: 12 (11%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

1: Pottstown Pike & Park Road/Station Boulevard

2026 Base Conditions

Timing Plan: Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	55	14	14	100	4	294	458	14	3	575	134
Future Volume (veh/h)	172	55	14	14	100	4	294	458	14	3	575	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1935	1968	2027	1750	1805	1820	1921	1921	1949	1750	1722	1750
Adj Flow Rate, veh/h	176	56	14	14	102	4	300	467	14	3	587	137
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	4	0	0	1	0	2	2	0	0	2	0
Cap, veh/h	285	305	76	283	346	14	387	1280	38	519	717	167
Arrive On Green	0.20	0.20	0.19	0.40	0.40	0.38	0.10	0.69	0.68	0.53	0.53	0.52
Sat Flow, veh/h	1332	1520	380	1245	1725	68	1829	1855	56	855	1350	315
Grp Volume(v), veh/h	176	0	70	14	0	106	300	0	481	3	0	724
Grp Sat Flow(s), veh/h/ln	1332	0	1899	1245	0	1793	1829	0	1911	855	0	1665
Q Serve(g_s), s	14.0	0.0	3.4	0.8	0.0	4.4	7.4	0.0	11.5	0.2	0.0	39.7
Cycle Q Clear(g_c), s	17.9	0.0	3.4	3.7	0.0	4.4	7.4	0.0	11.5	0.2	0.0	39.7
Prop In Lane	1.00		0.20	1.00		0.04	1.00		0.03	1.00		0.19
Lane Grp Cap(c), veh/h	285	0	381	283	0	360	387	0	1319	519	0	884
V/C Ratio(X)	0.62	0.00	0.18	0.05	0.00	0.29	0.77	0.00	0.36	0.01	0.00	0.82
Avail Cap(c_a), veh/h	430	0	587	418	0	554	545	0	1319	519	0	884
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.2	0.0	36.6	28.4	0.0	27.7	20.4	0.0	7.1	12.1	0.0	21.5
Incr Delay (d2), s/veh	2.2	0.0	0.2	0.1	0.0	0.5	4.5	0.0	0.8	0.0	0.0	8.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.3	0.0	2.8	0.4	0.0	3.3	8.2	0.0	7.8	0.1	0.0	23.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.3	0.0	36.8	28.4	0.0	28.1	24.9	0.0	7.8	12.2	0.0	29.9
LnGrp LOS	D		D	C		C	C		A	B		C
Approach Vol, veh/h		246			120			781			727	
Approach Delay, s/veh		43.6			28.2			14.4			29.8	
Approach LOS		D			C			B			C	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		81.9		28.1	17.5	64.4		28.1				
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s		63.0		33.0	20.0	36.0		33.0				
Max Q Clear Time (g_c+I1), s		13.5		20.4	9.9	41.7		6.4				
Green Ext Time (p_c), s		3.3		0.7	0.6	0.0		0.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			25.1									
HCM 6th LOS			C									

2: Graphite Mine Road & Station Boulevard

2026 Base Conditions

Timing Plan: Weekday PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	44	32	171	48	8	80	865	210	8	177	1
Future Volume (vph)	0	44	32	171	48	8	80	865	210	8	177	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		661			192			486			211	
Travel Time (s)		15.0			5.2			8.3			3.6	
Confl. Peds. (#/hr)									8	8		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%	0%	1%	1%	13%	1%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		33.0	33.0	33.0	33.0	33.0	
Total Split (s)	24.0	24.0		24.0	24.0		86.0	86.0	86.0	86.0	86.0	
Total Split (%)	21.8%	21.8%		21.8%	21.8%		78.2%	78.2%	78.2%	78.2%	78.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 110

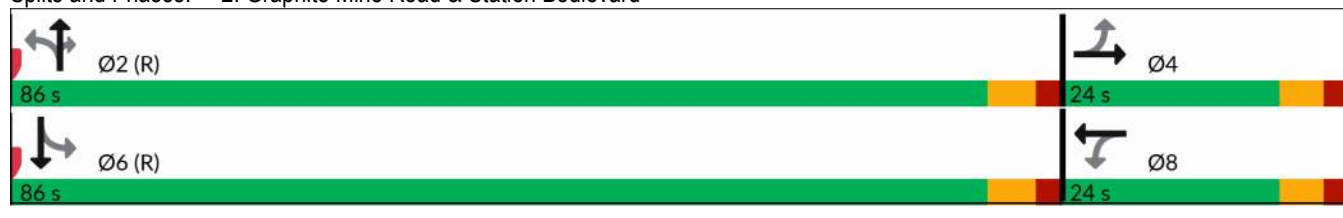
Actuated Cycle Length: 110

Offset: 53 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

2026 Base Conditions

Timing Plan: Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	44	32	171	48	8	80	865	210	8	177	1
Future Volume (veh/h)	0	44	32	171	48	8	80	865	210	8	177	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1872	1766	1837	1866	1875	1860	1935	1595	1764	1778
Adj Flow Rate, veh/h	0	46	33	178	50	8	83	901	219	8	184	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	2	0	0	1	1	13	1	0
Cap, veh/h	65	175	126	237	267	43	915	1370	1201	275	1290	7
Arrive On Green	0.00	0.17	0.16	0.17	0.17	0.16	0.74	0.74	0.74	0.74	0.74	0.73
Sat Flow, veh/h	1295	1014	727	1246	1545	247	1197	1860	1631	429	1752	10
Grp Volume(v), veh/h	0	0	79	178	0	58	83	901	219	8	0	185
Grp Sat Flow(s),veh/h/ln	1295	0	1741	1246	0	1792	1197	1860	1631	429	0	1762
Q Serve(g_s), s	0.0	0.0	4.3	15.2	0.0	3.0	2.4	27.2	4.5	1.1	0.0	3.4
Cycle Q Clear(g_c), s	0.0	0.0	4.3	19.0	0.0	3.0	5.3	27.2	4.5	28.3	0.0	3.4
Prop In Lane	1.00		0.42	1.00		0.14	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	65	0	301	237	0	310	915	1370	1201	275	0	1297
V/C Ratio(X)	0.00	0.00	0.26	0.75	0.00	0.19	0.09	0.66	0.18	0.03	0.00	0.14
Avail Cap(c_a), veh/h	65	0	301	237	0	310	915	1370	1201	275	0	1297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	39.6	47.7	0.0	39.0	5.0	7.4	4.4	14.6	0.0	4.3
Incr Delay (d2), s/veh	0.0	0.0	0.5	12.5	0.0	0.3	0.2	2.5	0.3	0.2	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	3.4	9.7	0.0	2.5	1.0	14.1	2.3	0.2	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	40.1	60.2	0.0	39.2	5.2	9.9	4.7	14.8	0.0	4.5
LnGrp LOS			D	E		D	A	A	A	B		A
Approach Vol, veh/h		79			236			1203			193	
Approach Delay, s/veh		40.1			55.0			8.6			4.9	
Approach LOS		D			E			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		86.0		24.0		86.0		24.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		80.0		18.0		80.0		18.0				
Max Q Clear Time (g_c+I1), s		29.7		6.3		30.8		21.5				
Green Ext Time (p_c), s		9.8		0.2		1.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				16.1								
HCM 6th LOS				B								

3: Station Boulevard & Driveway

2026 Base Conditions

Timing Plan: Weekday PM Peak

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	67	123	20	12	11
Future Volume (vph)	10	67	123	20	12	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		344	661		224	
Travel Time (s)		7.8	18.0		5.1	
Confl. Peds. (#/hr)						4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Station Boulevard & Driveway

2026 Base Conditions

Timing Plan: Weekday PM Peak

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	67	123	20	12	11
Future Vol, veh/h	10	67	123	20	12	11
Conflicting Peds, #/hr	0	0	0	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	75	138	22	13	12
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	160	0	-	0	246	153
Stage 1	-	-	-	-	149	-
Stage 2	-	-	-	-	97	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1432	-	-	-	747	898
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	932	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1432	-	-	-	741	895
Mov Cap-2 Maneuver	-	-	-	-	741	-
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	932	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	1	0		9.6		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1432	-	-	-	807	
HCM Lane V/C Ratio	0.008	-	-	-	0.032	
HCM Control Delay (s/veh)	7.5	-	-	-	9.6	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q (veh)	0	-	-	-	0.1	

1: Pottstown Pike & Park Road/Station Boulevard

2026 Base Conditions

Timing Plan: Saturday Midday

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	53	21	13	56	4	199	281	13	6	640	135
Future Volume (vph)	147	53	21	13	56	4	199	281	13	6	640	135
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			0%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		650			383			444			509	
Travel Time (s)		12.7			10.4			8.6			9.9	
Confl. Peds. (#/hr)			1	1			3					3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	8%	0%	1%	2%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		11.0	23.0		23.0	23.0	
Total Split (s)	22.0	22.0		22.0	22.0		13.0	68.0		55.0	55.0	
Total Split (%)	24.4%	24.4%		24.4%	24.4%		14.4%	75.6%		61.1%	61.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 90

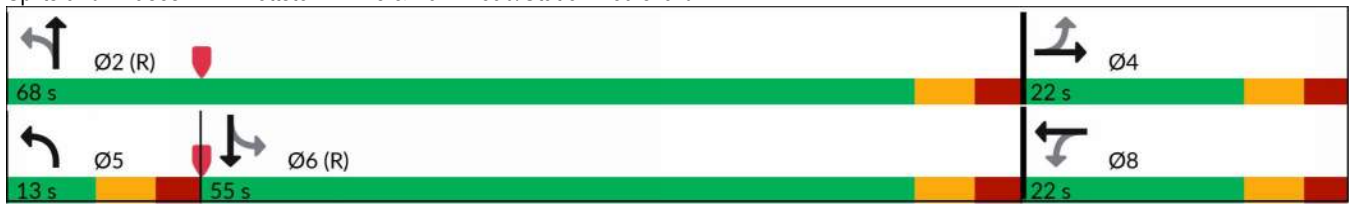
Actuated Cycle Length: 90

Offset: 26 (29%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

1: Pottstown Pike & Park Road/Station Boulevard

2026 Base Conditions

Timing Plan: Saturday MIDDAY

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	53	21	13	56	4	199	281	13	6	640	135
Future Volume (veh/h)	147	53	21	13	56	4	199	281	13	6	640	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1921	2027	2027	1750	1820	1820	1800	1786	1688	1750	1736	1722
Adj Flow Rate, veh/h	152	55	22	13	58	4	205	290	13	6	660	139
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	0	0	0	0	0	0	1	8	0	1	2
Cap, veh/h	280	234	94	254	286	20	313	1182	53	635	767	162
Arrive On Green	0.17	0.17	0.16	0.17	0.17	0.16	0.08	0.70	0.69	0.55	0.55	0.54
Sat Flow, veh/h	1373	1376	550	1234	1682	116	1714	1696	76	1005	1389	293
Grp Volume(v), veh/h	152	0	77	13	0	62	205	0	303	6	0	799
Grp Sat Flow(s),veh/h/ln	1373	0	1926	1234	0	1798	1714	0	1772	1005	0	1682
Q Serve(g_s), s	9.6	0.0	3.1	0.8	0.0	2.7	4.2	0.0	5.6	0.2	0.0	36.5
Cycle Q Clear(g_c), s	11.7	0.0	3.1	3.4	0.0	2.7	4.2	0.0	5.6	0.2	0.0	36.5
Prop In Lane	1.00		0.29	1.00		0.06	1.00		0.04	1.00		0.17
Lane Grp Cap(c), veh/h	280	0	327	254	0	306	313	0	1235	635	0	929
V/C Ratio(X)	0.54	0.00	0.24	0.05	0.00	0.20	0.66	0.00	0.25	0.01	0.00	0.86
Avail Cap(c_a), veh/h	291	0	342	263	0	320	313	0	1235	635	0	929
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.9	0.0	32.4	33.6	0.0	32.1	17.8	0.0	5.0	9.1	0.0	17.3
Incr Delay (d2), s/veh	1.9	0.0	0.4	0.1	0.0	0.3	4.9	0.0	0.5	0.0	0.0	10.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.9	0.0	2.6	0.5	0.0	2.1	4.9	0.0	3.2	0.1	0.0	21.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.8	0.0	32.8	33.7	0.0	32.5	22.7	0.0	5.5	9.1	0.0	27.5
LnGrp LOS	D		C	C		C	C		A	A		C
Approach Vol, veh/h	229			75			508			805		
Approach Delay, s/veh	36.8			32.7			12.4			27.4		
Approach LOS	D			C			B			C		
Timer - Assigned Phs	2			4		5	6		8			
Phs Duration (G+Y+Rc), s	68.7			21.3		13.0	55.7		21.3			
Change Period (Y+Rc), s	7.0			7.0		7.0	7.0		7.0			
Max Green Setting (Gmax), s	61.0			15.0		6.0	48.0		15.0			
Max Q Clear Time (g_c+I1), s	7.6			14.2		6.7	38.5		5.9			
Green Ext Time (p_c), s	1.9			0.1		0.0	3.9		0.2			
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	24.3											
HCM 6th LOS	C											

2: Graphite Mine Road & Station Boulevard

2026 Base Conditions

Timing Plan: Saturday MIDDAY

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	47	32	113	25	9	48	499	127	14	273	5
Future Volume (vph)	2	47	32	113	25	9	48	499	127	14	273	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		623			192			486			211	
Travel Time (s)		14.2			5.2			8.3			3.6	
Confl. Peds. (#/hr)									4	4		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	0%	1%	2%	7%	1%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	22.0	22.0		22.0	22.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	34.9%	34.9%		34.9%	34.9%		65.1%	65.1%	65.1%	65.1%	65.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 63

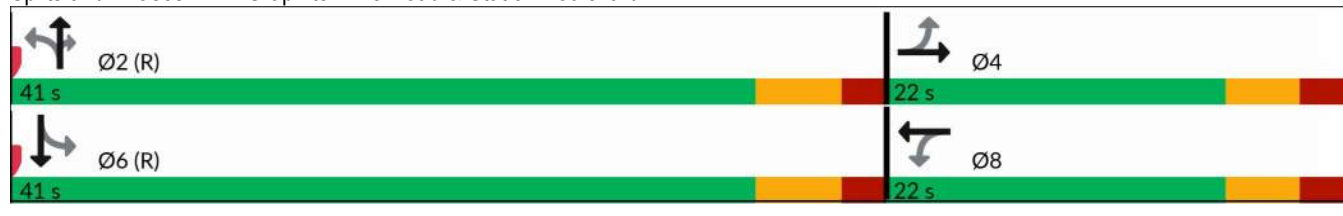
Actuated Cycle Length: 63

Offset: 14 (22%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

2026 Base Conditions

Timing Plan: Saturday MIDDAY

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	47	32	113	25	9	48	499	127	14	273	5
Future Volume (veh/h)	2	47	32	113	25	9	48	499	127	14	273	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1828	1794	1866	1866	1875	1860	1920	1679	1764	1778
Adj Flow Rate, veh/h	2	55	38	133	29	11	56	587	149	16	321	6
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	3	0	0	0	0	1	2	7	1	0
Cap, veh/h	358	202	139	312	252	96	718	1201	1047	427	1114	21
Arrive On Green	0.20	0.20	0.18	0.20	0.20	0.18	0.65	0.65	0.65	0.65	0.65	0.63
Sat Flow, veh/h	1316	1031	713	1250	1289	489	1054	1860	1622	648	1725	32
Grp Volume(v), veh/h	2	0	93	133	0	40	56	587	149	16	0	327
Grp Sat Flow(s),veh/h/ln	1316	0	1744	1250	0	1778	1054	1860	1622	648	0	1758
Q Serve(g_s), s	0.1	0.0	2.9	6.3	0.0	1.2	1.5	10.3	2.3	0.8	0.0	5.1
Cycle Q Clear(g_c), s	0.8	0.0	2.9	8.7	0.0	1.2	6.1	10.3	2.3	11.1	0.0	5.1
Prop In Lane	1.00		0.41	1.00		0.28	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	358	0	341	312	0	348	718	1201	1047	427	0	1135
V/C Ratio(X)	0.01	0.00	0.27	0.43	0.00	0.11	0.08	0.49	0.14	0.04	0.00	0.29
Avail Cap(c_a), veh/h	455	0	471	405	0	480	718	1201	1047	427	0	1135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	21.7	25.0	0.0	21.0	6.1	5.8	4.4	8.7	0.0	4.9
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.9	0.0	0.1	0.2	1.4	0.3	0.2	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	2.1	3.4	0.0	0.9	0.5	5.3	1.0	0.2	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.0	0.0	22.1	25.9	0.0	21.1	6.3	7.2	4.6	8.8	0.0	5.5
LnGrp LOS	C		C	C		C	A	A	A	A		A
Approach Vol, veh/h		95			173			792			343	
Approach Delay, s/veh		22.1			24.8			6.7			5.7	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.7		17.3		45.7		17.3				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		35.0		16.0		35.0		16.0				
Max Q Clear Time (g_c+I1), s		12.8		4.9		13.6		11.2				
Green Ext Time (p_c), s		4.4		0.3		1.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			9.7									
HCM 6th LOS			A									

3: Station Boulevard & Driveway

2026 Base Conditions

Timing Plan: Saturday MIDDAY

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	8	65	70	8	14	4
Future Volume (vph)	8	65	70	8	14	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		383	623		277	
Travel Time (s)		8.7	17.0		6.3	
Confl. Peds. (#/hr)						6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Station Boulevard & Driveway

2026 Base Conditions

Timing Plan: Saturday MIDDAY

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	65	70	8	14	4
Future Vol, veh/h	8	65	70	8	14	4
Conflicting Peds, #/hr	0	0	0	0	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	2	0	0	0	0
Mvmt Flow	8	68	73	8	15	4
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	81	0	-	0	161	83
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	84	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1529	-	-	-	835	982
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	944	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1529	-	-	-	831	977
Mov Cap-2 Maneuver	-	-	-	-	831	-
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	944	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0.8	0		9.3		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1529	-	-	-	860	
HCM Lane V/C Ratio	0.005	-	-	-	0.022	
HCM Control Delay (s/veh)	7.4	-	-	-	9.3	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q (veh)	0	-	-	-	0.1	

Projected Conditions



1: Pottstown Pike & Park Road/Station Boulevard

2026 Projected Conditions

Timing Plan: Weekday AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	68	31	45	77	24	131	197	36	90	688	84
Future Volume (vph)	146	68	31	45	77	24	131	197	36	90	688	84
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			-4%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		650			405			444			409	
Travel Time (s)		12.7			9.2			8.6			8.0	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	3%	4%	0%	3%	0%	12%	10%	18%	10%	4%	7%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		10.0	30.0		30.0	30.0	
Total Split (s)	36.0	36.0		36.0	36.0		19.0	84.0		65.0	65.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		15.8%	70.0%		54.2%	54.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 120

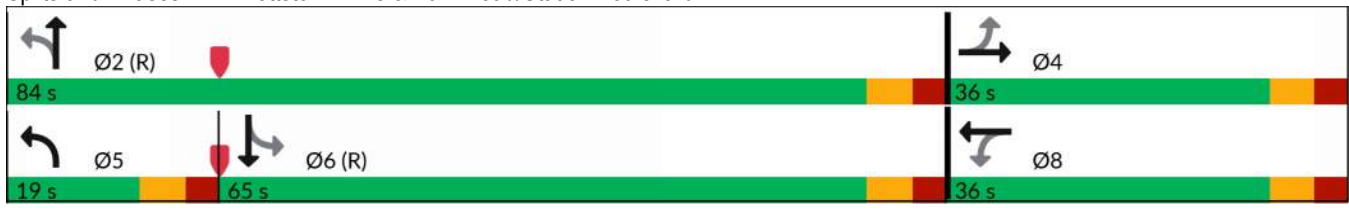
Actuated Cycle Length: 120

Offset: 74 (62%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

1: Pottstown Pike & Park Road/Station Boulevard

2026 Projected Conditions

Timing Plan: Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	68	31	45	77	24	131	197	36	90	688	84
Future Volume (veh/h)	146	68	31	45	77	24	131	197	36	90	688	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1850	1983	1968	1750	1776	1820	1778	1807	1693	1609	1694	1652
Adj Flow Rate, veh/h	155	72	33	48	82	26	139	210	38	96	732	89
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	3	4	0	3	0	12	10	18	10	4	7
Cap, veh/h	252	267	122	258	268	85	275	1031	187	627	863	105
Arrive On Green	0.21	0.21	0.20	0.07	0.07	0.07	0.06	0.69	0.68	0.58	0.58	0.57
Sat Flow, veh/h	1271	1287	590	1206	1292	410	1694	1489	269	973	1481	180
Grp Volume(v), veh/h	155	0	105	48	0	108	139	0	248	96	0	821
Grp Sat Flow(s),veh/h/ln	1271	0	1876	1206	0	1702	1694	0	1758	973	0	1661
Q Serve(g_s), s	14.1	0.0	5.7	4.6	0.0	7.2	3.6	0.0	6.1	5.5	0.0	49.0
Cycle Q Clear(g_c), s	20.9	0.0	5.7	9.7	0.0	7.2	3.6	0.0	6.1	5.5	0.0	49.0
Prop In Lane	1.00		0.31	1.00		0.24	1.00		0.15	1.00		0.11
Lane Grp Cap(c), veh/h	252	0	389	258	0	353	275	0	1218	627	0	968
V/C Ratio(X)	0.61	0.00	0.27	0.19	0.00	0.31	0.51	0.00	0.20	0.15	0.00	0.85
Avail Cap(c_a), veh/h	306	0	469	310	0	426	357	0	1218	627	0	968
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.2	0.0	40.1	51.3	0.0	47.7	21.3	0.0	6.6	11.6	0.0	20.7
Incr Delay (d2), s/veh	2.5	0.0	0.4	0.3	0.0	0.5	1.4	0.0	0.4	0.5	0.0	9.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	4.8	2.7	0.0	5.9	3.7	0.0	4.0	2.2	0.0	27.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.8	0.0	40.4	51.6	0.0	48.2	22.7	0.0	7.0	12.1	0.0	29.9
LnGrp LOS	D		D	D		D	C		A	B		C
Approach Vol, veh/h	260			156			387			917		
Approach Delay, s/veh	47.2			49.3			12.7			28.0		
Approach LOS	D			D			B			C		
Timer - Assigned Phs	2			4	5	6	8					
Phs Duration (G+Y+Rc), s	89.1			30.9	13.2	75.9	30.9					
Change Period (Y+Rc), s	7.0			7.0	7.0	7.0	7.0					
Max Green Setting (Gmax), s	77.0			29.0	12.0	58.0	29.0					
Max Q Clear Time (g_c+I1), s	8.1			23.4	6.1	51.0	12.2					
Green Ext Time (p_c), s	1.6			0.5	0.2	3.5	0.6					
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	29.4											
HCM 6th LOS	C											

2: Graphite Mine Road & Station Boulevard

2026 Projected Conditions

Timing Plan: Weekday AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	36	140	300	51	14	57	328	93	1	57	9
Future Volume (vph)	1	36	140	300	51	14	57	328	93	1	57	9
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		601			192			486			211	
Travel Time (s)		13.7			5.2			8.3			3.6	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	13%	10%	2%	4%	0%	7%	8%	4%	0%	2%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		33.0	33.0	33.0	33.0	33.0	
Total Split (s)	55.0	55.0		55.0	55.0		65.0	65.0	65.0	65.0	65.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%	54.2%	54.2%	54.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 120

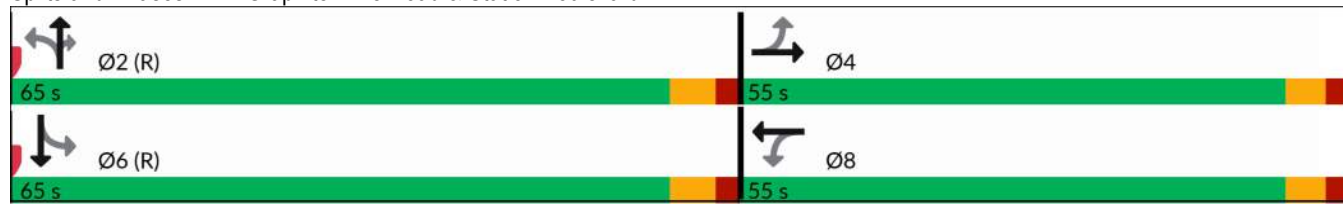
Actuated Cycle Length: 120

Offset: 9 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

2026 Projected Conditions

Timing Plan: Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	36	140	300	51	14	57	328	93	1	57	9
Future Volume (veh/h)	1	36	140	300	51	14	57	328	93	1	57	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1682	1726	1766	1808	1866	1775	1761	1890	1778	1750	1778
Adj Flow Rate, veh/h	1	40	156	333	57	16	63	364	103	1	63	10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	13	10	2	4	0	7	8	4	0	2	0
Cap, veh/h	552	122	477	418	553	155	678	897	815	396	751	119
Arrive On Green	0.41	0.41	0.40	0.41	0.41	0.40	0.51	0.51	0.51	0.51	0.51	0.50
Sat Flow, veh/h	1277	300	1171	1121	1358	381	1257	1761	1599	880	1473	234
Grp Volume(v), veh/h	1	0	196	333	0	73	63	364	103	1	0	73
Grp Sat Flow(s),veh/h/ln	1277	0	1471	1121	0	1739	1257	1761	1599	880	0	1707
Q Serve(g_s), s	0.1	0.0	11.0	34.5	0.0	3.1	3.2	15.3	4.1	0.1	0.0	2.6
Cycle Q Clear(g_c), s	2.7	0.0	11.0	45.1	0.0	3.1	5.4	15.3	4.1	15.4	0.0	2.6
Prop In Lane	1.00		0.80	1.00		0.22	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	552	0	599	418	0	708	678	897	815	396	0	870
V/C Ratio(X)	0.00	0.00	0.33	0.80	0.00	0.10	0.09	0.41	0.13	0.00	0.00	0.08
Avail Cap(c_a), veh/h	564	0	613	429	0	725	678	897	815	396	0	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	24.6	39.5	0.0	22.1	16.3	18.2	15.4	23.0	0.0	15.1
Incr Delay (d2), s/veh	0.0	0.0	0.3	9.9	0.0	0.1	0.3	1.4	0.3	0.0	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	7.1	16.0	0.0	2.4	1.7	10.4	2.7	0.0	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.7	0.0	24.9	49.4	0.0	22.1	16.6	19.6	15.7	23.0	0.0	15.3
LnGrp LOS	C		C	D		C	B	B	B	C		B
Approach Vol, veh/h		197			406			530			74	
Approach Delay, s/veh		24.9			44.5			18.5			15.4	
Approach LOS		C			D			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.1		53.9		66.1		53.9				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		59.0		49.0		59.0		49.0				
Max Q Clear Time (g_c+I1), s		17.8		13.0		17.9		47.6				
Green Ext Time (p_c), s		2.8		1.3		0.4		0.3				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				28.1								
HCM 6th LOS				C								

Notes

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

3: Station Boulevard & Driveway

2026 Projected Conditions

Timing Plan: Weekday AM Peak

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	75	106	77	42	96	74
Future Volume (vph)	75	106	77	42	96	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		405	601		221	
Travel Time (s)		9.2	16.4		5.0	
Confl. Peds. (#/hr)						5
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65
Heavy Vehicles (%)	44%	5%	4%	7%	8%	12%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Station Boulevard & Driveway

2026 Projected Conditions

Timing Plan: Weekday AM Peak

Intersection						
Int Delay, s/veh	7.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	75	106	77	42	96	74
Future Vol, veh/h	75	106	77	42	96	74
Conflicting Peds, #/hr	0	0	0	0	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	44	5	4	7	8	12
Mvmt Flow	115	163	118	65	148	114
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	183	0	-	0	544	156
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	393	-
Critical Hdwy	4.54	-	-	-	6.48	6.32
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	2.596	-	-	-	3.572	3.408
Pot Cap-1 Maneuver	1175	-	-	-	490	864
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1175	-	-	-	442	860
Mov Cap-2 Maneuver	-	-	-	-	442	-
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	669	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	3.5	0		16.9		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1175	-	-	-	561	
HCM Lane V/C Ratio	0.098	-	-	-	0.466	
HCM Control Delay (s/veh)	8.4	-	-	-	16.9	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q (veh)	0.3	-	-	-	2.5	

1: Pottstown Pike & Park Road/Station Boulevard

2026 Projected Conditions

Timing Plan: Weekday PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	63	14	55	109	52	294	436	51	44	550	134
Future Volume (vph)	169	63	14	55	109	52	294	436	51	44	550	134
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			-4%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		650			344			444			499	
Travel Time (s)		12.7			7.8			8.6			9.7	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	4%	0%	0%	1%	0%	2%	2%	0%	0%	2%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	30.0		30.0	30.0	
Total Split (s)	40.0	40.0		40.0	40.0		27.0	70.0		43.0	43.0	
Total Split (%)	36.4%	36.4%		36.4%	36.4%		24.5%	63.6%		39.1%	39.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 110

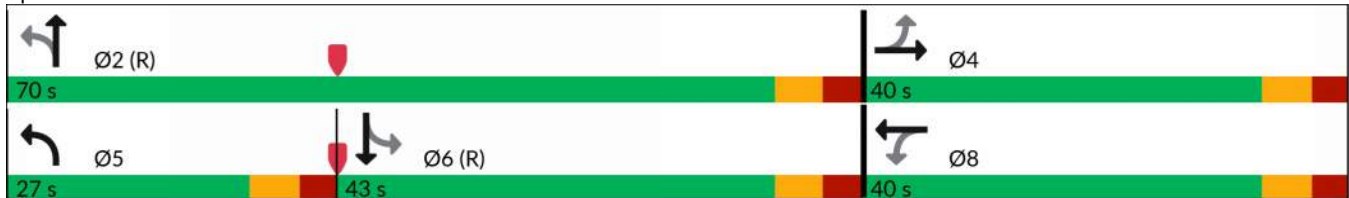
Actuated Cycle Length: 110

Offset: 12 (11%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

1: Pottstown Pike & Park Road/Station Boulevard

2026 Projected Conditions

Timing Plan: Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	63	14	55	109	52	294	436	51	44	550	134
Future Volume (veh/h)	169	63	14	55	109	52	294	436	51	44	550	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1935	1968	2027	1750	1805	1820	1921	1921	1949	1750	1722	1750
Adj Flow Rate, veh/h	172	64	14	56	111	53	300	445	52	45	561	137
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	4	0	0	1	0	2	2	0	0	2	0
Cap, veh/h	279	358	78	313	264	126	373	1117	131	484	665	162
Arrive On Green	0.23	0.23	0.22	0.46	0.46	0.44	0.11	0.66	0.65	0.50	0.50	0.49
Sat Flow, veh/h	1264	1564	342	1236	1155	551	1829	1688	197	843	1337	326
Grp Volume(v), veh/h	172	0	78	56	0	164	300	0	497	45	0	698
Grp Sat Flow(s),veh/h/ln	1264	0	1906	1236	0	1706	1829	0	1885	843	0	1663
Q Serve(g_s), s	14.4	0.0	3.6	3.3	0.0	7.2	8.0	0.0	13.3	3.1	0.0	40.0
Cycle Q Clear(g_c), s	21.1	0.0	3.6	6.4	0.0	7.2	8.0	0.0	13.3	3.1	0.0	40.0
Prop In Lane	1.00		0.18	1.00		0.32	1.00		0.10	1.00		0.20
Lane Grp Cap(c), veh/h	279	0	437	313	0	391	373	0	1248	484	0	827
V/C Ratio(X)	0.62	0.00	0.18	0.18	0.00	0.42	0.81	0.00	0.40	0.09	0.00	0.84
Avail Cap(c_a), veh/h	380	0	589	412	0	527	521	0	1248	484	0	827
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.0	0.0	34.2	25.7	0.0	25.2	21.2	0.0	8.6	14.7	0.0	24.0
Incr Delay (d2), s/veh	2.2	0.0	0.2	0.3	0.0	0.7	6.3	0.0	1.0	0.4	0.0	10.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	3.0	1.6	0.0	4.8	8.0	0.0	9.0	1.1	0.0	23.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.2	0.0	34.4	26.0	0.0	25.9	27.5	0.0	9.5	15.1	0.0	34.3
LnGrp LOS	D		C	C		C	C		A	B		C
Approach Vol, veh/h		250			220			797			743	
Approach Delay, s/veh		42.5			25.9			16.3			33.2	
Approach LOS		D			C			B			C	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		78.8		31.2	18.1	60.7		31.2				
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s		63.0		33.0	20.0	36.0		33.0				
Max Q Clear Time (g_c+I1), s		15.3		23.6	10.5	42.0		9.2				
Green Ext Time (p_c), s		3.5		0.6	0.6	0.0		1.1				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			26.8									
HCM 6th LOS			C									

2: Graphite Mine Road & Station Boulevard

2026 Projected Conditions

Timing Plan: Weekday PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	50	48	171	54	8	95	865	210	8	177	10
Future Volume (vph)	0	50	48	171	54	8	95	865	210	8	177	10
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		661			192			486			211	
Travel Time (s)		15.0			5.2			8.3			3.6	
Confl. Peds. (#/hr)									8	8		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%	0%	1%	1%	13%	1%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		33.0	33.0	33.0	33.0	33.0	
Total Split (s)	24.0	24.0		24.0	24.0		86.0	86.0	86.0	86.0	86.0	
Total Split (%)	21.8%	21.8%		21.8%	21.8%		78.2%	78.2%	78.2%	78.2%	78.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 110

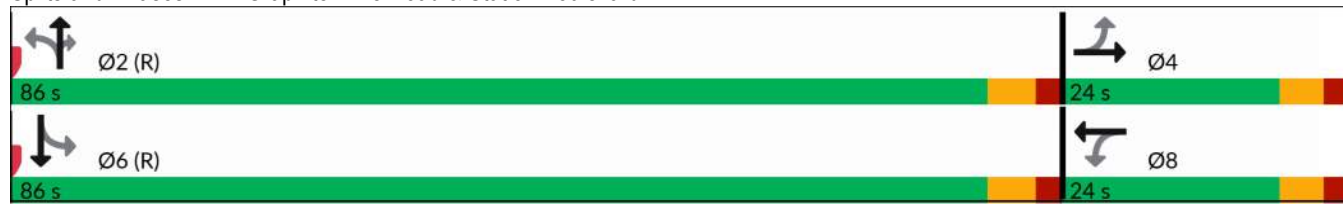
Actuated Cycle Length: 110

Offset: 53 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

2026 Projected Conditions

Timing Plan: Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	50	48	171	54	8	95	865	210	8	177	10
Future Volume (veh/h)	0	50	48	171	54	8	95	865	210	8	177	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1872	1766	1837	1866	1875	1860	1935	1595	1764	1778
Adj Flow Rate, veh/h	0	52	50	178	56	8	99	901	219	8	184	10
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	2	0	0	1	1	13	1	0
Cap, veh/h	65	151	146	218	272	39	906	1370	1201	275	1220	66
Arrive On Green	0.00	0.17	0.16	0.17	0.17	0.16	0.74	0.74	0.74	0.74	0.74	0.73
Sat Flow, veh/h	1288	877	843	1221	1572	225	1187	1860	1631	429	1657	90
Grp Volume(v), veh/h	0	0	102	178	0	64	99	901	219	8	0	194
Grp Sat Flow(s),veh/h/ln	1288	0	1720	1221	0	1797	1187	1860	1631	429	0	1747
Q Serve(g_s), s	0.0	0.0	5.8	13.7	0.0	3.4	2.9	27.2	4.5	1.1	0.0	3.6
Cycle Q Clear(g_c), s	0.0	0.0	5.8	19.0	0.0	3.4	6.1	27.2	4.5	28.3	0.0	3.6
Prop In Lane	1.00		0.49	1.00		0.13	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	65	0	297	218	0	310	906	1370	1201	275	0	1286
V/C Ratio(X)	0.00	0.00	0.34	0.82	0.00	0.21	0.11	0.66	0.18	0.03	0.00	0.15
Avail Cap(c_a), veh/h	65	0	297	218	0	310	906	1370	1201	275	0	1286
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	40.2	49.1	0.0	39.1	5.1	7.4	4.4	14.6	0.0	4.3
Incr Delay (d2), s/veh	0.0	0.0	0.7	20.9	0.0	0.3	0.2	2.5	0.3	0.2	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	4.5	10.3	0.0	2.8	1.2	14.1	2.3	0.2	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	40.9	70.0	0.0	39.4	5.4	9.9	4.7	14.8	0.0	4.6
LnGrp LOS			D	E		D	A	A	A	B		A
Approach Vol, veh/h		102			242			1219			202	
Approach Delay, s/veh		40.9			61.9			8.6			5.0	
Approach LOS		D			E			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		86.0		24.0		86.0		24.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		80.0		18.0		80.0		18.0				
Max Q Clear Time (g_c+I1), s		29.7		7.8		30.8		21.5				
Green Ext Time (p_c), s		9.9		0.3		1.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				17.4								
HCM 6th LOS				B								

3: Station Boulevard & Driveway

2026 Projected Conditions

Timing Plan: Weekday PM Peak

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	98	65	119	54	36	113
Future Volume (vph)	98	65	119	54	36	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		344	661		224	
Travel Time (s)		7.8	18.0		5.1	
Confl. Peds. (#/hr)						4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Station Boulevard & Driveway

2026 Projected Conditions

Timing Plan: Weekday PM Peak

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	98	65	119	54	36	113
Future Vol, veh/h	98	65	119	54	36	113
Conflicting Peds, #/hr	0	0	0	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	110	73	134	61	40	127
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	195	0	-	0	458	169
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	293	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1390	-	-	-	565	880
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	762	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1390	-	-	-	520	877
Mov Cap-2 Maneuver	-	-	-	-	520	-
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	762	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	4.7	0		11.2		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1390	-	-	-	752	
HCM Lane V/C Ratio	0.079	-	-	-	0.223	
HCM Control Delay (s/veh)	7.8	-	-	-	11.2	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q (veh)	0.3	-	-	-	0.8	

1: Pottstown Pike & Park Road/Station Boulevard

2026 Projected Conditions

Timing Plan: Saturday Midday

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	61	21	45	64	29	199	271	38	40	622	135
Future Volume (vph)	147	61	21	45	64	29	199	271	38	40	622	135
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			0%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		650			383			444			509	
Travel Time (s)		12.7			10.4			8.6			9.9	
Confl. Peds. (#/hr)			1	1			3					3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	8%	0%	1%	2%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		11.0	23.0		23.0	23.0	
Total Split (s)	22.0	22.0		22.0	22.0		13.0	68.0		55.0	55.0	
Total Split (%)	24.4%	24.4%		24.4%	24.4%		14.4%	75.6%		61.1%	61.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 90

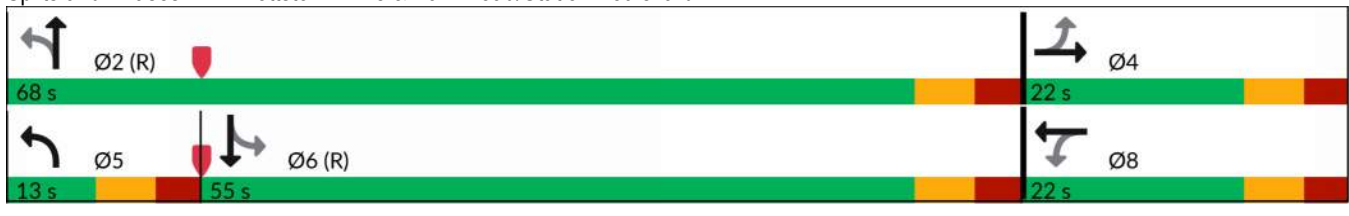
Actuated Cycle Length: 90

Offset: 26 (29%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

1: Pottstown Pike & Park Road/Station Boulevard

2026 Projected Conditions

Timing Plan: Saturday MIDDAY

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	61	21	45	64	29	199	271	38	40	622	135
Future Volume (veh/h)	147	61	21	45	64	29	199	271	38	40	622	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1921	2027	2027	1750	1820	1820	1800	1786	1688	1750	1736	1722
Adj Flow Rate, veh/h	152	63	22	46	66	30	205	279	39	41	641	139
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	0	0	0	0	0	0	1	8	0	1	2
Cap, veh/h	259	255	89	258	210	96	317	1056	148	620	752	163
Arrive On Green	0.18	0.18	0.17	0.18	0.18	0.17	0.08	0.69	0.68	0.54	0.54	0.53
Sat Flow, veh/h	1332	1434	501	1225	1183	538	1714	1533	214	991	1381	300
Grp Volume(v), veh/h	152	0	85	46	0	96	205	0	318	41	0	780
Grp Sat Flow(s),veh/h/ln	1332	0	1935	1225	0	1721	1714	0	1747	991	0	1681
Q Serve(g_s), s	10.0	0.0	3.4	3.0	0.0	4.4	4.3	0.0	6.3	1.8	0.0	35.5
Cycle Q Clear(g_c), s	13.9	0.0	3.4	5.9	0.0	4.4	4.3	0.0	6.3	1.8	0.0	35.5
Prop In Lane	1.00		0.26	1.00		0.31	1.00		0.12	1.00		0.18
Lane Grp Cap(c), veh/h	259	0	344	258	0	306	317	0	1203	620	0	915
V/C Ratio(X)	0.59	0.00	0.25	0.18	0.00	0.31	0.65	0.00	0.26	0.07	0.00	0.85
Avail Cap(c_a), veh/h	259	0	344	258	0	306	317	0	1203	620	0	915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	0.0	31.9	34.1	0.0	32.4	17.5	0.0	5.4	9.7	0.0	17.5
Incr Delay (d2), s/veh	3.4	0.0	0.4	0.3	0.0	0.6	4.5	0.0	0.5	0.2	0.0	9.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.2	0.0	2.9	1.7	0.0	3.4	4.6	0.0	3.6	0.7	0.0	20.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.4	0.0	32.3	34.5	0.0	32.9	22.0	0.0	5.9	9.9	0.0	27.4
LnGrp LOS	D		C	C		C	C		A	A		C
Approach Vol, veh/h	237			142			523			821		
Approach Delay, s/veh	38.2			33.4			12.2			26.5		
Approach LOS	D			C			B			C		
Timer - Assigned Phs	2			4		5	6		8			
Phs Duration (G+Y+Rc), s	68.0			22.0		13.0	55.0		22.0			
Change Period (Y+Rc), s	7.0			7.0		7.0	7.0		7.0			
Max Green Setting (Gmax), s	61.0			15.0		6.0	48.0		15.0			
Max Q Clear Time (g_c+l1), s	8.3			16.4		6.8	37.5		8.4			
Green Ext Time (p_c), s	2.0			0.0		0.0	4.1		0.3			
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	24.3											
HCM 6th LOS	C											

2: Graphite Mine Road & Station Boulevard

2026 Projected Conditions

Timing Plan: Saturday MIDDAY

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	52	46	113	31	9	63	499	127	14	273	14
Future Volume (vph)	10	52	46	113	31	9	63	499	127	14	273	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		623			192			486			211	
Travel Time (s)		14.2			5.2			8.3			3.6	
Confl. Peds. (#/hr)									4	4		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	0%	1%	2%	7%	1%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	22.0	22.0		22.0	22.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	34.9%	34.9%		34.9%	34.9%		65.1%	65.1%	65.1%	65.1%	65.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 63

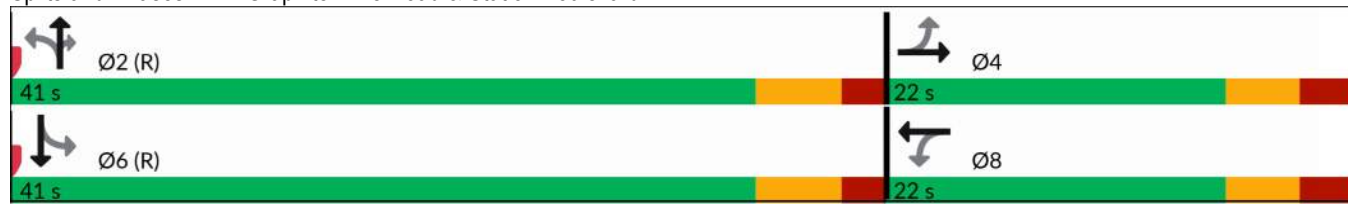
Actuated Cycle Length: 63

Offset: 14 (22%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

2026 Projected Conditions

Timing Plan: Saturday MIDDAY

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	52	46	113	31	9	63	499	127	14	273	14
Future Volume (veh/h)	10	52	46	113	31	9	63	499	127	14	273	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1800	1872	1828	1794	1866	1866	1875	1860	1920	1679	1764	1778
Adj Flow Rate, veh/h	12	61	54	133	36	11	74	587	149	16	321	16
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	3	0	0	0	0	1	2	7	1	0
Cap, veh/h	370	192	170	311	287	88	690	1176	1025	414	1052	52
Arrive On Green	0.21	0.21	0.19	0.21	0.21	0.19	0.63	0.63	0.63	0.63	0.63	0.62
Sat Flow, veh/h	1307	916	811	1226	1372	419	1044	1860	1622	648	1665	83
Grp Volume(v), veh/h	12	0	115	133	0	47	74	587	149	16	0	337
Grp Sat Flow(s),veh/h/ln	1307	0	1726	1226	0	1791	1044	1860	1622	648	0	1748
Q Serve(g_s), s	0.5	0.0	3.6	6.4	0.0	1.3	2.2	10.7	2.3	0.9	0.0	5.5
Cycle Q Clear(g_c), s	1.3	0.0	3.6	9.5	0.0	1.3	7.2	10.7	2.3	11.5	0.0	5.5
Prop In Lane	1.00		0.47	1.00		0.23	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	370	0	361	311	0	375	690	1176	1025	414	0	1105
V/C Ratio(X)	0.03	0.00	0.32	0.43	0.00	0.13	0.11	0.50	0.15	0.04	0.00	0.31
Avail Cap(c_a), veh/h	449	0	466	385	0	483	690	1176	1025	414	0	1105
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	21.3	24.9	0.0	20.3	6.8	6.2	4.7	9.3	0.0	5.3
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.9	0.0	0.1	0.3	1.5	0.3	0.2	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	2.5	3.4	0.0	1.0	0.8	5.7	1.1	0.2	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.6	0.0	21.8	25.8	0.0	20.5	7.1	7.8	5.0	9.5	0.0	6.0
LnGrp LOS	C		C	C		C	A	A	A	A		A
Approach Vol, veh/h	127			180			810			353		
Approach Delay, s/veh	21.7			24.4			7.2			6.2		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	44.8			18.2			44.8			18.2		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	35.0			16.0			35.0			16.0		
Max Q Clear Time (g_c+l1), s	13.2			5.6			14.0			12.0		
Green Ext Time (p_c), s	4.5			0.4			1.9			0.2		
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	10.3											
HCM 6th LOS	B											

3: Station Boulevard & Driveway

2026 Projected Conditions

Timing Plan: Saturday MIDDAY

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	77	63	69	39	42	71
Future Volume (vph)	77	63	69	39	42	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		383	623		277	
Travel Time (s)		8.7	17.0		6.3	
Confl. Peds. (#/hr)						6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: Station Boulevard & Driveway

2026 Projected Conditions

Timing Plan: Saturday MIDDAY

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	63	69	39	42	71
Future Vol, veh/h	77	63	69	39	42	71
Conflicting Peds, #/hr	0	0	0	0	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	2	0	0	0	0
Mvmt Flow	80	66	72	41	44	74
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	113	0	-	0	319	99
Stage 1	-	-	-	-	93	-
Stage 2	-	-	-	-	226	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1489	-	-	-	678	962
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	816	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1489	-	-	-	641	957
Mov Cap-2 Maneuver	-	-	-	-	641	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	816	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	4.2	0		10.2		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1489	-	-	-	809	
HCM Lane V/C Ratio	0.054	-	-	-	0.145	
HCM Control Delay (s/veh)	7.6	-	-	-	10.2	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q (veh)	0.2	-	-	-	0.5	

APPENDIX E:

Traffic Signal Plans



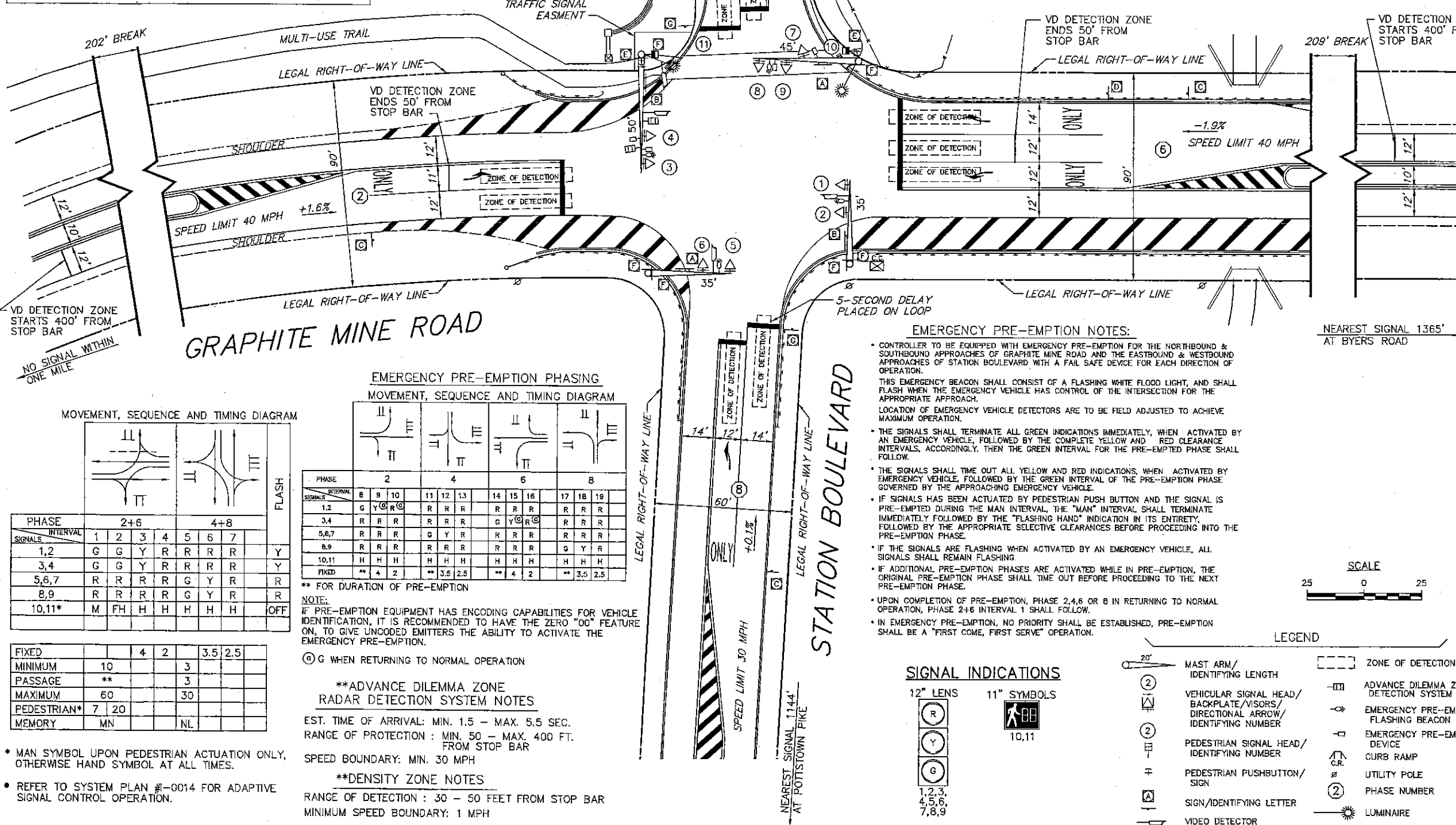
TOTALS		TOTALS	
1. 7:00AM TO 8:00AM	34	12. 6:00PM TO 7:00PM	12
2. 8:00AM TO 9:00AM	34	13. 7:00PM TO 8:00PM	11
3. 9:00AM TO 10:00AM	34	14. 8:00PM TO 9:00PM	10
4. 10:00AM TO 11:00AM	34	15. 9:00PM TO 10:00PM	9
5. 11:00AM TO 12:00PM	34	16. 10:00PM TO 11:00PM	8
6. 12:00PM TO 1:00PM	34	17. 11:00PM TO 12:00PM	7
7. 1:00PM TO 2:00PM	34	18. 12:00AM TO 1:00AM	6
8. 2:00PM TO 3:00PM	34	19. 1:00AM TO 2:00AM	5
9. 3:00PM TO 4:00PM	34	20. 2:00AM TO 3:00AM	4
10. 4:00PM TO 5:00PM	34	21. 3:00AM TO 4:00AM	3
11. 5:00PM TO 6:00PM	34	22. 4:00AM TO 5:00AM	2
12. 6:00PM TO 7:00PM	34	23. 5:00AM TO 6:00AM	1
TOTALS		TOTALS	
34		12	

GRAPHITE MINE RD

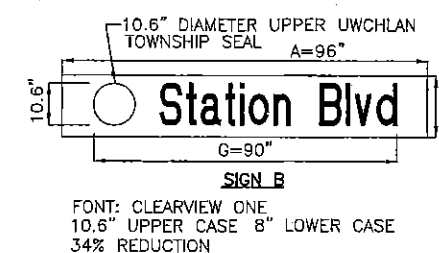
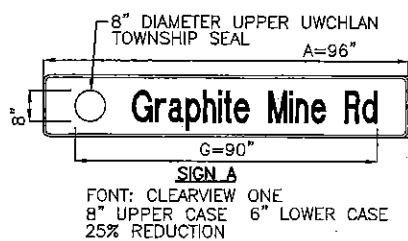
STATION BLVD

PROJECTED 2009 VOLUMES

*SATURDAY VOLUMES



SIGN TABULATION			
PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
A	D3-4	96X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
B	D3-4	96X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
C	R3-7L	30X30	LEFT LANE MUST TURN LEFT
D	R3-7R	30X30	RIGHT LANE MUST TURN RIGHT
E	R10-3E(R)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
F	R9-3A	18X18	NO PEDESTRIAN CROSSING
G	R10-6AL	24X30	STOP HERE ON RED

SIGN DETAILS
NOT TO SCALE

GENERAL NOTES

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.

ALL MAINTENANCE WORK INCLUDING TRIMMING OF TREES, NECESSARY FOR PROPER VISIBILITY OF THE SIGNALS IS THE RESPONSIBILITY OF THE PERMITTEE.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 212.

POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.

SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.

ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS FORM 408.

PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT, FOR REVIEW, PRIOR TO BIDDING.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

SYSTEM PERMIT # -0014

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: CHESTER

MUNICIPALITY: UPPER UWCHLAN TOWNSHIP

INTERSECTION: GRAPHITE MINE ROAD AND STATION BOULEVARD

REVIEWED:

DATE

GWEN JONIK JUNE 12, 2009

MUNICIPAL OFFICIAL DATE

RECOMMENDED:

PAUL LUTZ 6/11/09

ASHWIN B. PATEL, P.E. 6/11/09

DISTRICT TRAFFIC ENGINEER DATE

NO.	REVISION	DES./REV.	DATE	REV.	DATE	RECOM.	DATE
1	AS BUILT PLAN	McM	01/12/10	Lutz	1/13/10	LRB	1/13/10
2	ADAPTIVE SIGNAL SYSTEM	McM	1/12/12	LRB	3/1/12		
3							
4							
5							
6							
7							
8							

SHEET 2 OF 2 PERMIT # -62-3760 FILE # 3760

DETECTOR NOTES

- VIDEO STOP BAR DETECTION ON ALL APPROACHES FOR ALL SIGNALS
- WAVETRONIX ADVANCE DETECTION FOR MAIN APPROACHES, EXCEPT INT. #9

1. PROGRAM TO BE SELECTED BY ADAPTIVE SIGNAL CONTROL OR TRAFFIC RESPONSIVE BACKUP.
2. OFFSETS ARE REFERENCED TO THE START OF NEMA TS2 FIRST GREEN.
3. SYSTEM LIMITS : 11 INTERSECTIONS
MONITOR : PENNDOT DISTRICT 6-0
4. PRIMARY COORDINATION: FIBER OPTIC CABLE
SECONDARY COORDINATION: TBC (DEFAULT TO BACKUP TBC).
5. SYSTEM DESIGNED FOR ECONOLITE'S CENTRACS ATMS

REFER TO TRAFFIC SIGNAL PERMIT DRAWING FOR INDIVIDUAL
INTERSECTION OPERATION, GEOMETRY, PHASING AND CRITICAL TIMES.

TEST THE SYSTEM AT LOCAL INTERSECTION LEVEL, SUBSYSTEM LEVEL, MASTER CONTROLLER LEVEL, AND PERSONAL COMPUTER REMOTE DIAL UP LEVEL.

SET UP PENNDOT DISTRICT 6-O COMPUTER WITH THE SYSTEM
DATABASE AND GRAPHICS. MODIFY THE DATABASE AND GRAPHICS
FOR SYSTEMS REVISIONS.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO
INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

MAINTAIN MASTER CONTROLLER COMMUNICATION SUCH AS PHONE DROPS.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING
UNLESS THE PERMITEE COMPLIES WITH THE PROVISIONS OF THE
LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO
UNDERGROUND UTILITIES DATE DECEMBER 20, 1974.

WHEN LIQUID FUNELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT FOR REVIEW PRIOR TO BIDDING.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

EVENT	DAY	TIME	PROGRAM	REMARKS
1	1-5	06:00	5*	AM PEAK
2	1-5	07:00	5	AM PEAK
3	1-5	09:00	6*	MIDDAY
4	1-5	13:30	7	PM PEAK
5	1-5	19:00	6*	EVENINGS
6	1-7	22:00	MAX 1	OVERNIGHTS
7	6-7	09:00	6*	WEEKENDS

OFFSETS IN SECONDS

* DURING EVENTS 1, 3, 5, AND 7 INTERSECTIONS 7 AND 10 TO RUN MAX I
DURING EVENT 1 INTERSECTIONS 6 AND 8 TO RUN MAX I

[illegible][illegible][illegible]

SCALE: NOT TO SCALE

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION ENGINEERING DISTRICT 6-0

COUNTY: CHESTER

MUNICIPALITY: UPPER UWCHLAN TOWNSHIPINTERSECTION: UPPER UWCHLAN SYSTEM PLAN

REVIEWED:

ATE

MUNICIPAL OFFICIAL

ATE

DISTRICT TRAFFIC ENGINEER

DATE _____

NO.	REVISION	DES./ REVW.	DATE	REVW	DATE	RECOM.	DATE
1	ADAPTIVE SIGNAL SYSTEM	MCM	12/2	2/28	1/2	4/8	3/4/12
2							
3							
4							
5							
6							
7							
8							

INTERCONNECT PERMIT #1-0014

SHEET 1 OF 1

GENERAL NOTES

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.

REFER TO TRAFFIC SIGNAL PERMIT DRAWING FOR INDIVIDUAL INTERSECTION OPERATION, GEOMETRY, PHASING AND CRITICAL TIMES.

FOR CONSTRUCTION AND INSPECTION THE SYSTEM PERMIT SHOULD ALWAYS BE ACCOMPANIED WITH TRAFFIC SIGNAL PERMIT DRAWING.

TEST THE SYSTEM AT LOCAL INTERSECTION LEVEL, SUBSYSTEM LEVEL, MASTER CONTROLLER LEVEL AND PERSONAL COMPUTER REMOTE DIAL UP LEVEL.

GATHER THE SYSTEM FAILURE CRITICAL ALARMS REPORT AND ARCHIVE THEM WHERE APPLICABLE.

SET UP PENNDOT DISTRICT 6-0 COMPUTER WITH THE SYSTEM DATABASE AND GRAPHICS. MODIFY THE DATABASE AND GRAPHICS FOR SYSTEMS REVISIONS.

ASSIGN LOOP DETECTORS AND PROGRAM THE CONTROLLERS TO GATHER TRAFFIC VOLUMES IN 15 MINUTE INTERVAL, WHERE APPLICABLE.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

OBTAIN POLE ATTACHMENT PERMIT FOR AERIAL FIBER OPTIC INSTALLATION.

MAINTAIN MASTER CONTROLLER COMMUNICATION SUCH AS PHONE DROPS.

PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLETES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

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PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

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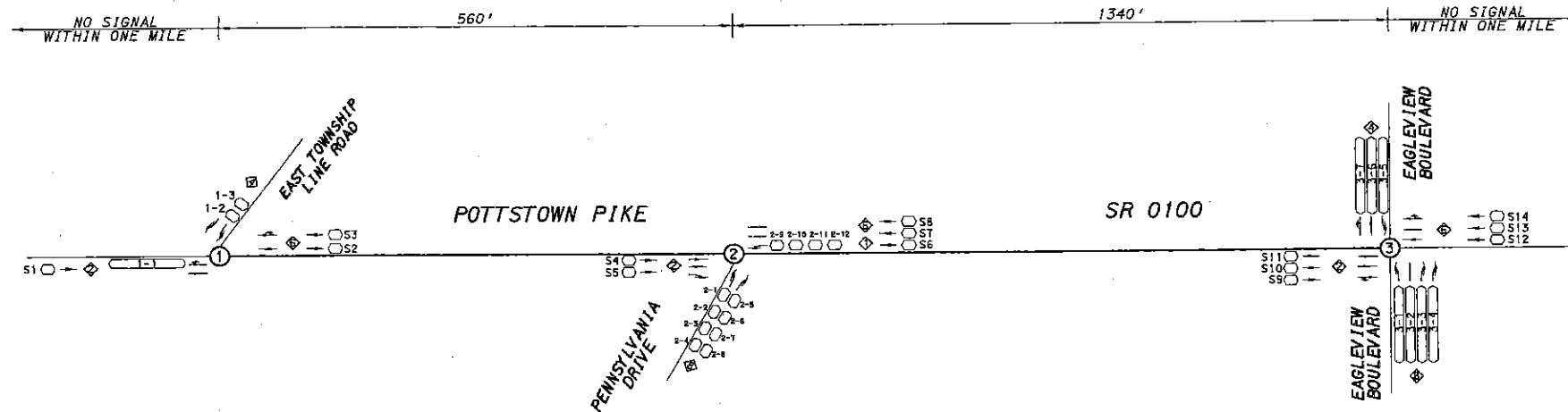
PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: CHESTER
MUNICIPALITY: UPPER UWCHLAN AND
UWCHLAN TOWNSHIPS
INTERSECTION: POTTSTOWN PIKE (SR 0100) FROM
EAST TOWNSHIP LINE ROAD
TO EAGLEVIEW BOULEVARD

REVIEWED: _____ DATE _____
MUNICIPAL OFFICIAL _____ DATE _____
RECOMMENDED: MARK L. KRAY 4-27-99
DOUGLAS MAY 4-28-99
DISTRICT TRAFFIC ENGINEER _____ DATE _____

NO	REVISION	DES/REVW	DATE	REVW	DATE	RECOM	DATE
1	RETIMING	TPD	3/10/09	LUTZ	3/10/09	LRB	3/10/09
2	RETIME INTERSECTION 2	TPD	4/27/09	LUTZ	4/27/09	LRB	4/27/09
3							
4							
5							
6							
7							
8							

SYSTEM PERMIT # I-0014



CYCLE / SPLIT / OFFSET

PROGRAM 1 = INTERSECTIONS	FILE #	1	2	3	4	5	6	7	8	CYCLE	OFFSET#1	OFFSET#2	OFFSET#3
11													
10													
9													
8													
7													
6													
5													
4													
3	POTTSTOWN PIKE / EAGLEVIEW BOULEVARD	2527		70	22		70	28	120	24			
2	POTTSTOWN PIKE / PENNSYLVANIA DRIVE	2931	32	64			96	24	120	0			
1	POTTSTOWN PIKE / EAST TOWNSHIP LINE ROAD	3040	17(LEAD)	72			88	31	120	14			
PROGRAM 2 = INTERSECTIONS	FILE #	1	2	3	4	5	6	7	8	CYCLE	OFFSET#1	OFFSET#2	OFFSET#3
11													
10													
9													
8													
7													
6													
5													
4													
3	POTTSTOWN PIKE / EAGLEVIEW BOULEVARD	2527		65	33		65	22	120	1			
2	POTTSTOWN PIKE / PENNSYLVANIA DRIVE	2931	28	52			80	30	120	0			
1	POTTSTOWN PIKE / EAST TOWNSHIP LINE ROAD	3040	13(LEAD)	83			98	24	120	115			
PROGRAM 3 = INTERSECTIONS	FILE #	1	2	3	4	5	6	7	8	CYCLE	OFFSET#1	OFFSET#2	OFFSET#3
11													
10													
9													
8													
7													
6													
5													
4													
3	POTTSTOWN PIKE / EAGLEVIEW BOULEVARD	2527		65	33		65	22	120	3			
2	POTTSTOWN PIKE / PENNSYLVANIA DRIVE	2931	30	58			89	31	120	0			
1	POTTSTOWN PIKE / EAST TOWNSHIP LINE ROAD	3040	17(LEAD)	72			89	31	120	6			
PROGRAM 4 = INTERSECTIONS	FILE #	1	2	3	4	5	6	7	8	CYCLE	OFFSET#1	OFFSET#2	OFFSET#3
11													
10													
9													
8													
7													
6													
5													
4													
3	POTTSTOWN PIKE / EAGLEVIEW BOULEVARD	2527		65	33		65	22	120	3			
2	POTTSTOWN PIKE / PENNSYLVANIA DRIVE	2931	30	58			89	31	120	0			
1	POTTSTOWN PIKE / EAST TOWNSHIP LINE ROAD	3040	17(LEAD)	72			89	31	120	6			

NOTES:
- ALL SPLIT TIMES INCLUDE YELLOW AND RED TIMES FOR A GIVEN PHASE.
- REFER TO SIGNAL PERMIT PLAN FOR MAX 1, MAX 2 AND CLEARANCE AND PED TIMES.

CLOSED LOOP SYSTEM NOTES
TRAFFIC RESPONSIVE OPERATION

- PROGRAMS TO BE SELECTED BY CLOSED LOOP SYSTEM OR TBC BACKUP.
- SYSTEM 1: POTTSTOWN PIKE (3 INTERSECTIONS).
- SYSTEM 1 LIMITS: EAGLEVIEW BOULEVARD AND EAST TOWNSHIP LINE ROAD.
- MASTER CONTROLLER LOCATION: POTTSTOWN PIKE AND PENNSYLVANIA DRIVE.
- PRIMARY COORDINATION: CLOSED LOOP SYSTEM/HARD-WIRE COMMUNICATION CABLE (FIBER OPTIC)
- SECONDARY COORDINATION: TIME BASED COORDINATION (DEFAULT TO BACKUP TBC PROGRAM CHART)
- OFFSETS REFERENCED TO THE BEGINNING OF TS-2 1ST GREEN

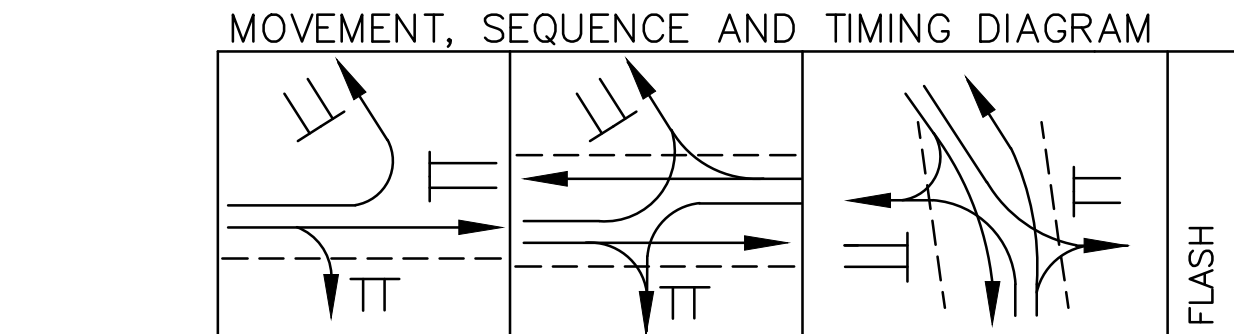
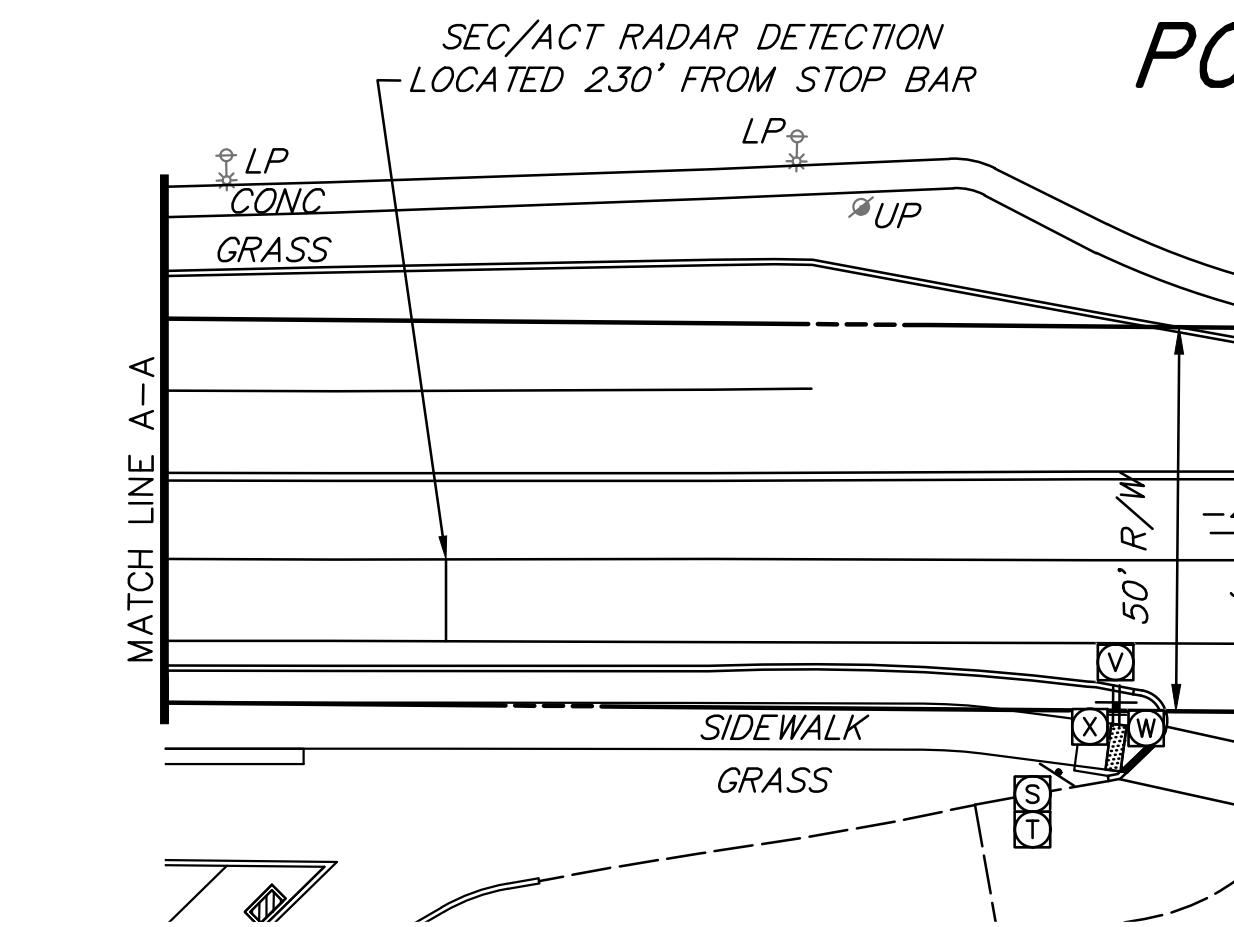
WEEKLY/BACKUP PROGRAM CHART				
EVENT	DAY	TIME	PROGRAM*	REMARKS
1	1-7	0000	FREE	VOLUME DENSITY
2	1-5	0600	1	AM PEAK
3	1-5	0900	2	OFF PEAK
4	1-5	1500	3	PM PEAK
5	1-7	1900	2	OFF PEAK
6	6,7	0600	2	OFF PEAK

* DAY 1 = MONDAY
* MAX / FREE WHERE NOTED IN CYCLE / SPLIT / OFFSET MATRIX.

LEGEND

- ① INTERSECTION ADDRESS
- ② SYSTEM LOOP/IDENTIFYING NUMBER
- ③ LOOP SENSOR / INTERSECTION X - LOOP NUMBER Y
- ④ MICROWAVE DETECTION AREA
- ⑤ PHASE NUMBER
- NOT TO SCALE

TOTALS											
1.	7:00AM TO 8:00AM										
2.	8:00AM TO 9:00AM										
3.	9:00AM TO 10:00AM										
4.	10:00AM TO 11:00AM										
5.	11:00AM TO 12:00PM										
6.	12:00PM TO 1:00PM										
7.	1:00PM TO 2:00PM										
8.	2:00PM TO 3:00PM										
9.	3:00PM TO 4:00PM										
10.	4:00PM TO 5:00PM										
11.	5:00PM TO 6:00PM										
12.	6:00PM TO 7:00PM										



PHASE	2+5				2+6				4+8					
INTERVAL	1	2	3	4	5	6	7	8	9	10	11	12	13	
SIGNAL														
1	G	G	Y ¹	R ²	G	G	Y	R	R	R	R	R	R	Y
2	G	G	Y ²	R ²	G	G	Y	R	R	R	R	R	R	Y
3,4	R	R	R	R	G	G	Y	R	R	R	R	R	R	Y
5,6	R	R	R	R	R	R	R	R	R	G	G	Y	R	R
7,8,9	R	R	R	R	R	R	R	R	R	G	G	Y	R	R
10,11	H	H	H	H	M	FH	H	H	H	H	H	H	H	OFF
12,13	M	FH ⁴	H ⁴	H ⁴	M	FH	H	H	H	H	H	H	H	OFF
14,15	H	H	H	H	H	H	H	H	M	M	FH	H	H	OFF
16,17	H	H	H	H	H	H	H	H	M	M	FH	H	H	OFF

FIXED		4	3		4	3		4	3
MINIMUM	3			15			3		
SEC/ACT				2					
MAX INT.				24					
PASSAGE	5			1++			3		
MAX 1	7			41			41		
MAX 2	7			46			46		
PED (RING 1)*	③			7	22		5	2	16
PED (RING 2)*				7	16		5	2	16
MEMORY	NL			MN			L		

OPERATION NOTES

- ① G/➤ WHEN FOLLOWED BY PHASE 2+6
- ② G IF FOLLOWED BY 2+6
- ③ TIMING TO BE AS SHOWN IN PHASE 2+6. IT MAY TIME OUT IN THIS PHASE OR IN PHASE 2+6.
- ④ M IF FOLLOWED BY 2+6

++ADVANCED DILEMMA ZONE NOTES

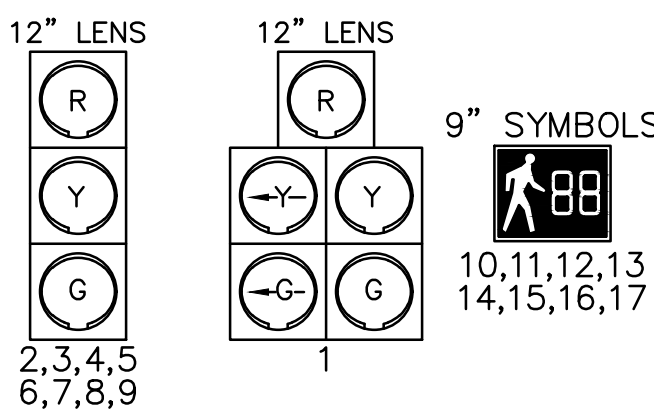
EST. TIME OF ARRIVAL: MIN. 2.5 - MAX. 5.5 SEC.
RANGE OF PROTECTION : MIN. 0 - MAX. 450 FT.
SPEED BOUNDARY: MIN. 27 MPH - MAX. 100 MPH

++ DENSITY ZONE NOTES

RANGE OF DETECTION: STOP BAR TO 450 FT
SPEED BOUNDARY: MIN. 5 MPH - MAX. 45 MPH

- * MAN SYMBOL UPON PEDESTRIAN ACTUATION ONLY, OTHERWISE HAND SYMBOL AT ALL TIMES.
- REFER TO SYSTEM PLAN #-0014 FOR ADAPTIVE SIGNAL CONTROL OPERATION.
- SIGNAL TO DWELL IN PHASE 2+6 UNTIL ACTUATED BY PHASE 4+8.

SIGNAL INDICATIONS



STATION - BLVD

NEAREST SIGNAL 1,144' AT GRAPHITE MINE ROAD (TOWNSHIP)

LEGAL RIGHT-OF-WAY LINE (TOWNSHIP)

LEGAL RIGHT-OF-WAY LINE (TOWNSHIP)

LEGAL RIGHT-OF-WAY LINE (TOWNSHIP)

LEGAL RIGHT-OF-WAY LINE (TOWNSHIP)

LEGAL RIGHT-OF-WAY LINE (TOWNSHIP)

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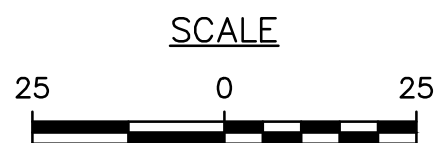
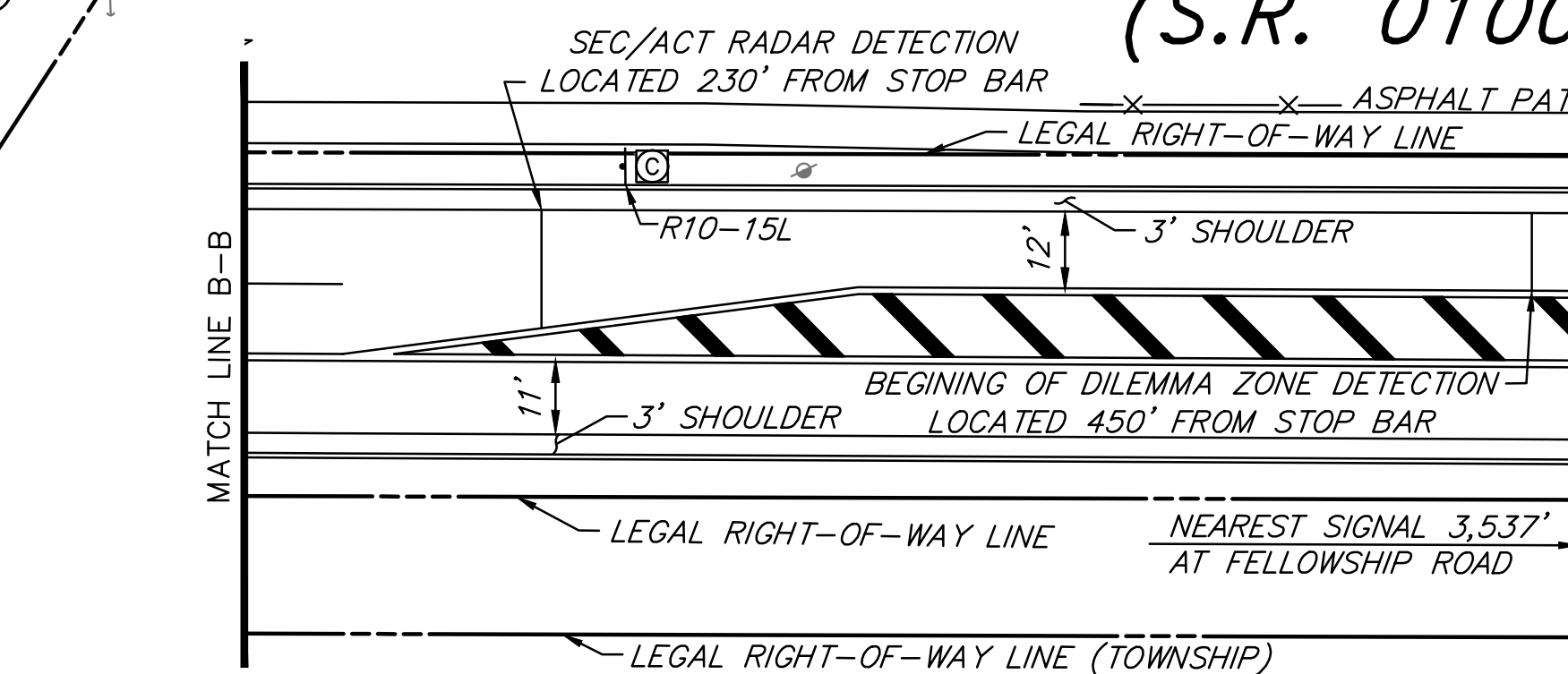
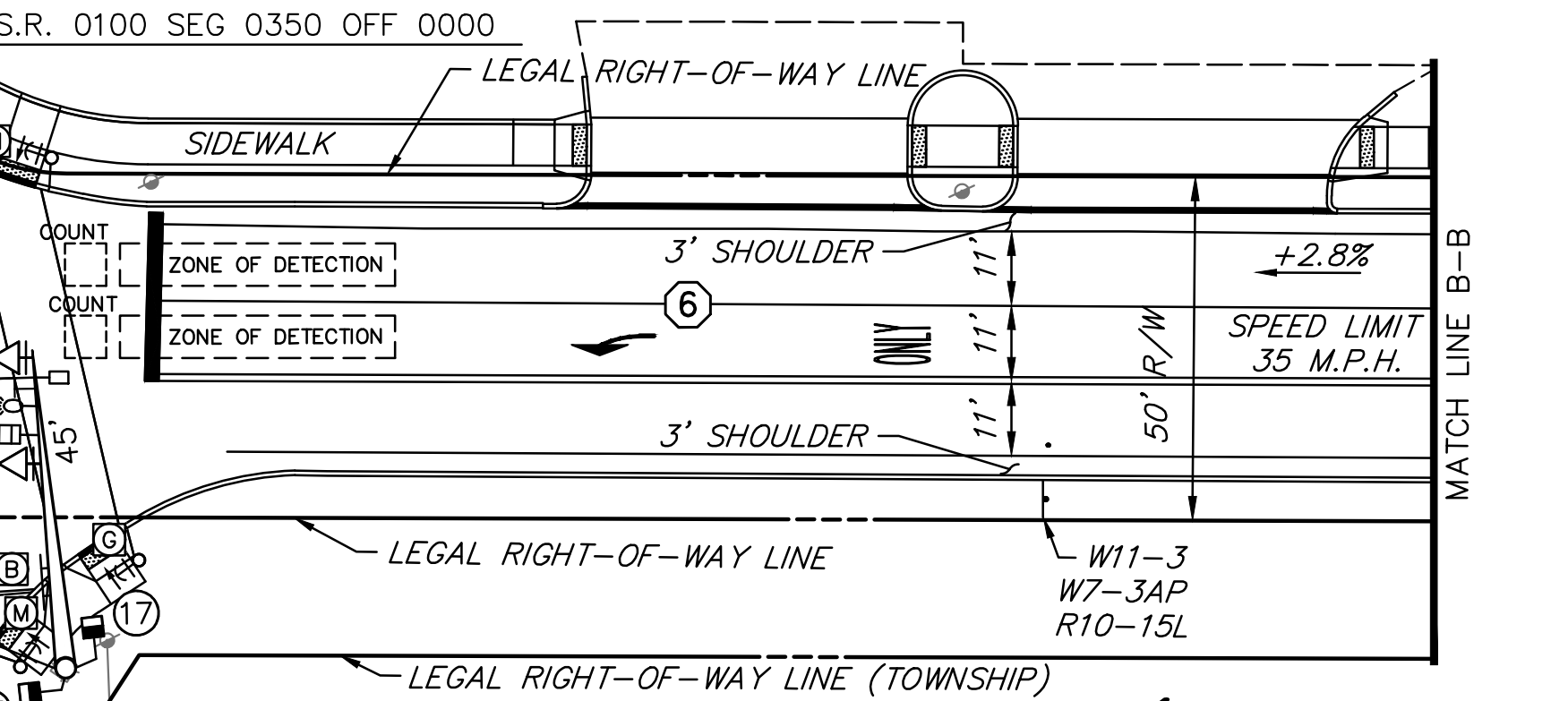
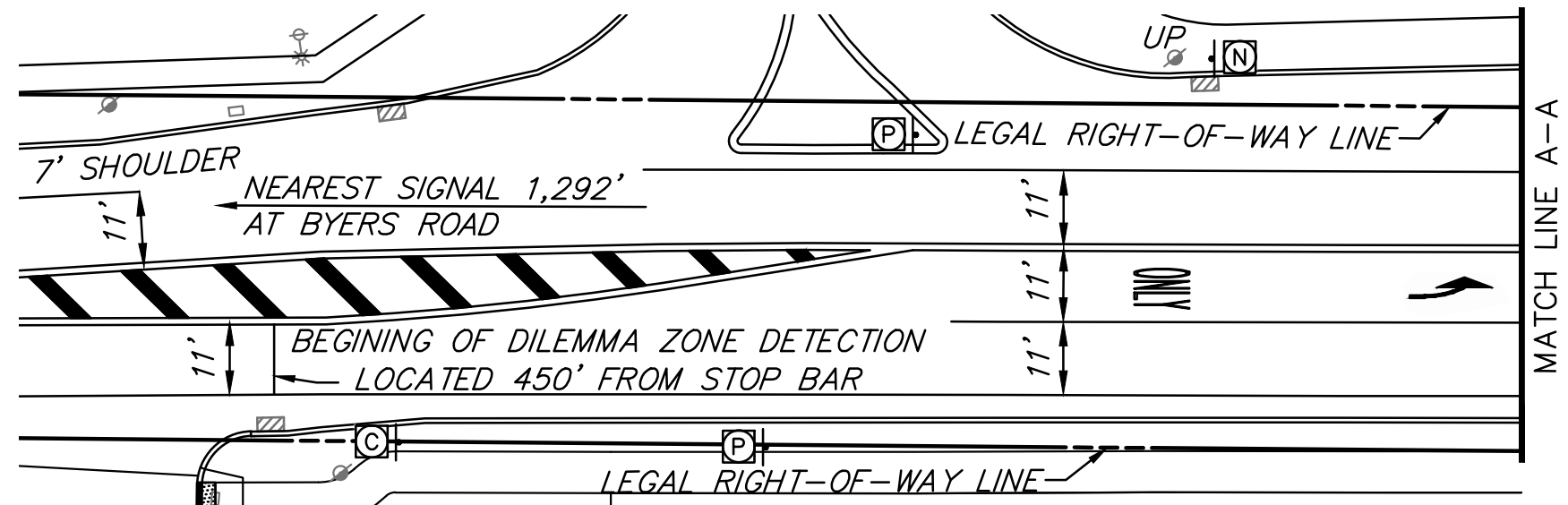
LEGAL RIGHT-OF-WAY LINE (TOWNSHIP)

LEGAL RIGHT-OF-WAY LINE (TOWNSHIP)

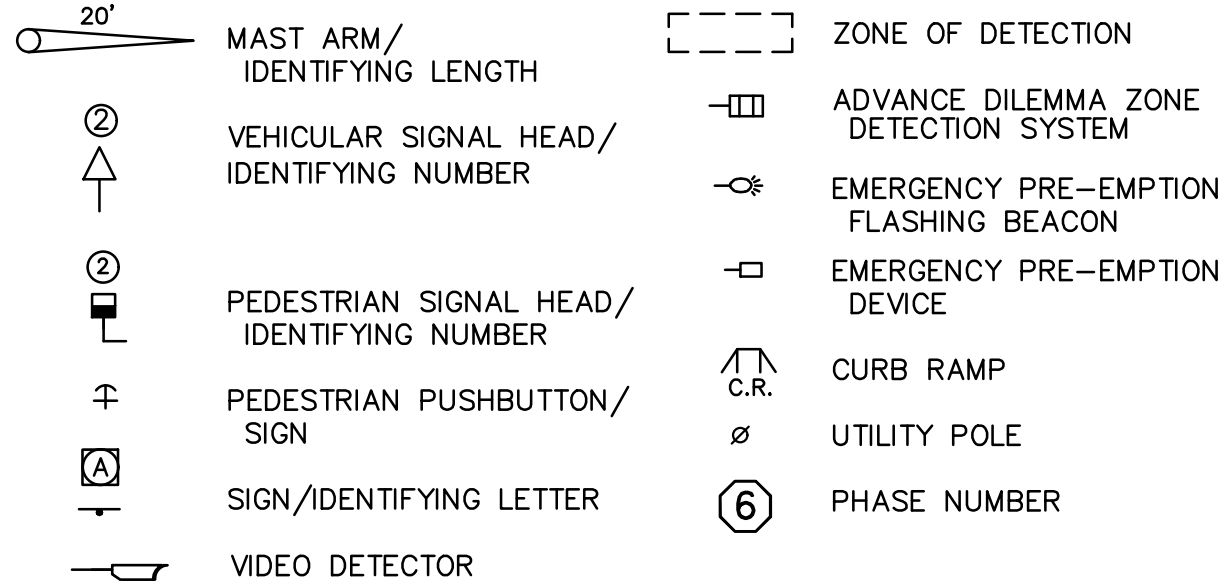
LEGAL RIGHT-OF-WAY LINE (TOWNSHIP)

LEGAL RIGHT-OF-WAY LINE (TOWNSHIP)

SIGN TABULATION				REMARKS
PLAN SYMBOL	SERIES NUMBER	SIZE		
A	R10-12	30X36		LEFT TURN YIELD ON GREEN
B	D3-5	96X28		OVERHEAD STREET NAME SIGN (SEE DETAIL)
C	R3-7L	30X30		LEFT LANE MUST TURN LEFT
D	R10-6L	24X30		STOP HERE ON RED, (LEFT)
E	R10-11	30X36		NO TURN ON RED
F	D3-4	96X16		OVERHEAD STREET NAME SIGN (SEE DETAIL)
G	R10-3E(L)	9X15		EDUCATIONAL PUSH BUTTON FOR WALK SIGNAL WITH COUNTDOWN TIMER
H	R10-3E(R)	9X15		EDUCATIONAL PUSH BUTTON FOR WALK SIGNAL WITH COUNTDOWN TIMER
I	R10-11	24X30		NO TURN ON RED
J	D3-5	96X28		OVERHEAD STREET NAME SIGN (SEE DETAIL)
K	R10-15R	30X30		TURNING TRAFFIC MUST YIELD TO PEDESTRIANS (RIGHT) SIGN
L	R3-7R	30X30		RIGHT LANE MUST TURN RIGHT
M	R3-2	24X24		NO LEFT TURN
N	W11-2	30X30		PEDESTRIAN SIGN
O	W16-7P	24X12		DIAGONAL DOWNWARD POINT ARROW
P	R5-1	30X30		DO NOT ENTER
Q	R6-1R	36X12		HORIZONTAL RIGHT ONE-WAY SIGN
R	R6-1L	36X12		HORIZONTAL LEFT ONE-WAY SIGN
S	R1-1	30X30		STOP SIGN



LEGEND



GENERAL NOTES

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.

ALL MAINTENANCE WORK INCLUDING TRIMMING OF TREES, NECESSARY FOR PROPER VISIBILITY OF THE SIGNALS IS THE RESPONSIBILITY OF THE PERMITTEE.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 212.

POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.

SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.

ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS FORM 408.

PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT, FOR REVIEW, PRIOR TO BIDDING.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

SYSTEM PERMIT #-0014

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: CHESTER

MUNICIPALITY: UPPER UWCHLAN TOWNSHIP

INTERSECTION: POTTSTOWN PIKE (S.R. 0100) AND
PARK ROAD/STATION BLVD

REVIEWED: _____ DATE _____

MUNICIPAL OFFICIAL _____ DATE _____

RECOMMENDED: _____

LOUIS R. BELMONTE 10/27/04
DISTRICT TRAFFIC ENGINEER DATE

NO.	REVISION	DES./REVW.	DATE	REVW.	DATE	RECOM.	DATE
1	AS-BUILT, REV. PED TIMES	MCM	6/8/09	LUTZ	6/8/09	LRB	6/8/09
2	ADAPTIVE SIGNAL SYSTEM	MCM	2/28/12	LUTZ	2/28/12	LRB	7/10/13
3	ADD LEFT TURN LANE TO EB PARK RD	MCM		ABP	7/10/13	LRB	7/10/13
4	AS-BUILTS	MCM	8/12/14	LUTZ	9/8/14	LRB	9/22/14
5	PROPOSED TRAIL AT NORTH WEST CORNER	MCM	4/28/16	LUTZ	5/4/16	ABP	5/10/16
6	ADAPTIVE SIGNAL SYSTEM REVISION	MCM	2/22/17	LUTZ	3/23/17	ABP	3/31/17
7	ADA CURB RAMP UPGRADES, RADAR DET. PARAMETERS UPDATED	MCM	4/19/19	LUTZ	5/15/19	ABP	5/25/19
8	ADD LEAD PED INTERVAL 9, REV. PED TIMES	MCM	6/23/20				

SHEET 2 OF 3 PERMIT # 62-2680 FILE # 2680

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GENERAL NOTES

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.

ALL MAINTENANCE WORK INCLUDING TRIMMING OF TREES, NECESSARY FOR PROPER VISIBILITY OF THE SIGNALS IS THE RESPONSIBILITY OF THE PERMITTEE.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 212.

POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.

SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.

ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS FORM 408.

PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT, FOR REVIEW, PRIOR TO BIDDING.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

SYSTEM PERMIT #-0014

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: CHESTER
MUNICIPALITY: UPPER UWCHLAN TOWNSHIP
INTERSECTION: POTTSTOWN PIKE (S.R. 0100) AND
PARK ROAD/STATION BLVD

REVIEWED: _____ DATE _____
MUNICIPAL OFFICIAL _____ DATE _____

RECOMMENDED: _____

LOUIS R. BELMONTE 10/27/04
DISTRICT TRAFFIC ENGINEER DATE

NO.	REVISION	DES./REVW.	DATE	REVW.	DATE	RECOM.	DATE
1	AS-BUILT, REV. PED TIMES	MCM	6/8/09	LUTZ	6/8/09	LRB	6/8/09
2	ADAPTIVE SIGNAL SYSTEM	MCM	2/28/12	LUTZ	2/28/12	LRB	7/10/13
3	ADD LEFT TURN LANE TO EB PARK RD	MCM		ABP	7/10/13	LRB	7/10/13
4	AS-BUILTS	MCM	8/12/14	LUTZ	9/8/14	LRB	9/22/14
5	PROPOSED TRAIL AT NORTH WEST CORNER	MCM	4/28/16	LUTZ	5/4/16	ABP	5/10/16
6	ADAPTIVE SIGNAL SYSTEM REVISION	MCM	2/22/17	LUTZ	3/23/17	ABP	3/31/17
7	ADA CURB RAMP UPGRADES, RADAR DET. PARAMETERS UPDATED	MCM	4/19/19	LUTZ	5/15/19	ABP	5/25/19
8	ADD LEAD PED INTERVAL 9, REV. PED TIMES	MCM	6/23/20				

SHEET 3 OF 3 | PERMIT # 62-2680 | FILE # 2680

EMERGENCY PRE-EMPTION PHASING
MOVEMENT, SEQUENCE AND TIMING DIAGRAM

PHASE	6			2			4			8		
INTERVAL	14	15	16	17	18	19	20	21	22	23	24	25
1	R	R	R	^{-Y} / _G	Y ②	R ①	R	R	R	R	R	R
2	R	R	R	G	Y ①	R ①	R	R	R	R	R	R
3,4	G	Y ①	R ①	R	R	R	R	R	R	R	R	R
7,8,9	R	R	R	R	R	R	G	Y	R	R	R	R
5,6	R	R	R	R	R	R	R	R	R	G	Y	R
10,11	H	H	H	H	H	H	H	H	H	H	H	H
12,13	H	H	H	H	H	H	H	H	H	H	H	H
14,15	H	H	H	H	H	H	H	H	H	H	H	H
16,17	H	H	H	H	H	H	H	H	H	H	H	H
FIXED TIME	*	4	3	*	4	3	*	4	3	*	4	3

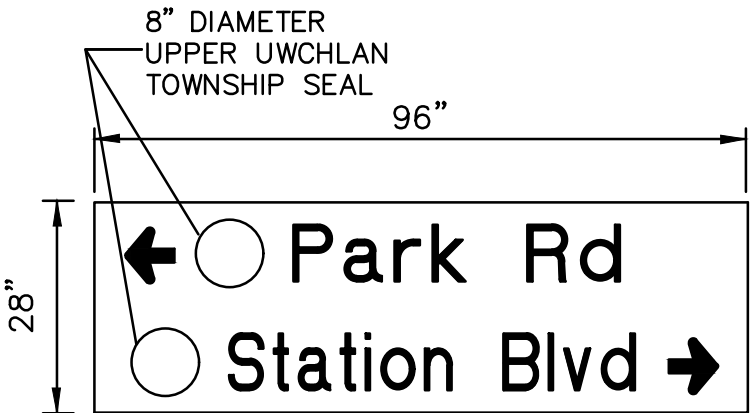
* FOR DURATION OF PRE-EMPTION

* NOTE: IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON, TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.

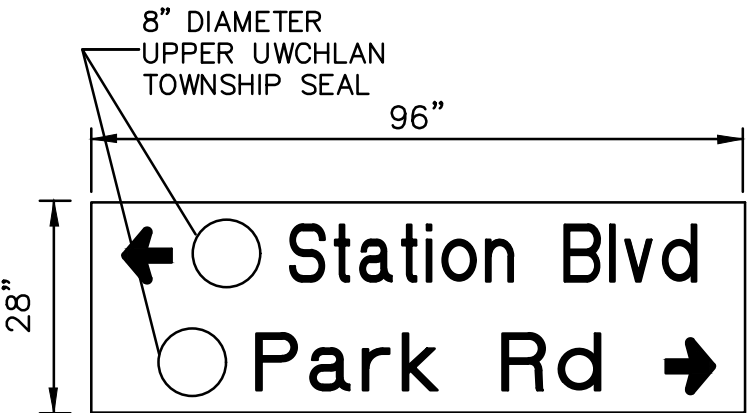
NOTES:

- ① G WHEN RETURNING TO NORMAL OPERATION.
② ^{-Y}/_G WHEN RETURNING TO NORMAL OPERATION.

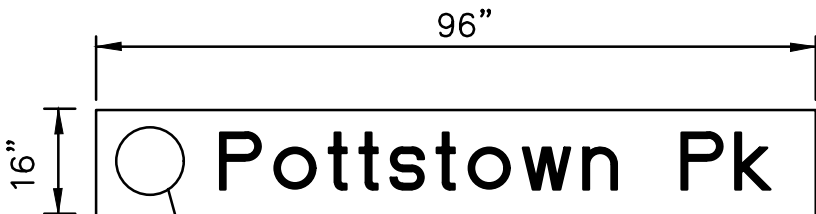
SIGN DETAILS
NOT TO SCALE



SIGN B
FONT: CLEARVIEW ONE
U.C. LET. 8"
L.C. LET. 6"
LEGEND: WHITE
BACKGROUND: GREEN



SIGN L
FONT: CLEARVIEW ONE
U.C. LET. 8"
L.C. LET. 6"
LEGEND: WHITE
BACKGROUND: GREEN



SIGN F
FONT: CLEARVIEW ONE
10% REDUCTION
U.C. LET. 8"
L.C. LET. 6"
LEGEND: WHITE
BACKGROUND: GREEN

EMERGENCY PRE-EMPTION NOTES:

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND & SOUTHBOUND APPROACHES OF S.R. 0100 AND THE EASTBOUND APPROACH OF PARK ROAD & EASTBOUND APPROACH OF STATION BLVD. WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS EMERGENCY BEACON SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL FLASH WHEN THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH. LOCATION OF EMERGENCY VEHICLE DETECTORS ARE TO BE FIELD ADJUSTED TO ACHIEVE MAXIMUM OPERATION.
- THE SIGNALS SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS, ACCORDINGLY. THEN THE GREEN INTERVAL FOR THE PRE-EMPTED PHASE SHALL FOLLOW. ONLY THOSE PHASES NOT POSING A YELLOW TRAP CONDITION MAY REMAIN GREEN (2+5) WHEN GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- THE SIGNALS SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, WHEN ACTIVATED BY EMERGENCY VEHICLE, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- IF SIGNALS HAS BEEN ACTUATED BY PEDESTRIAN PUSH BUTTON AND THE SIGNAL IS PRE-EMPTED DURING THE MAN INTERVAL, THE "MAN" INTERVAL SHALL TERMINATE IMMEDIATELY FOLLOWED BY THE "FLASHING HAND" INDICATION IN ITS ENTIRETY, FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES BEFORE PROCEEDING INTO THE PRE-EMPTION PHASE.
- IF THE SIGNALS ARE FLASHING WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ALL SIGNALS SHALL REMAIN FLASHING.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.
- UPON COMPLETION OF PRE-EMPTION, PHASE 2,4,6 OR 8 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 5 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED, PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.

APPENDIX F:

Turn Lane Warrant Analysis



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: Upper Uwchlan Township County: Chester County PennDOT Engineering District: 6	Analysis Date: 5/28/2025 Conducted By: PG Checked By: Agency/Company Name: Traffic Planning and Design, Inc.
Intersection & Approach Description: Station Boulevard & Site Driveway	
Analysis Period: 2026 Projected (Build) Design Hour: AM Peak Hour Intersection Control: Unsignalized Posted Speed Limit (MPH): 30 Type of Terrain: Level	Number of Approach Lanes: 1 Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis?: Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	75	44.0%	92
	Through	-	106	5.0%	109
	Right	Yes	0		0
Opposing	Left	Yes	0		0
	Through	-	76	4.0%	78
	Right	Yes	42	7.0%	44
Advancing Volume: 201 Opposing Volume: 122 Left Turn Volume: 92 % Left Turns in Advancing Volume: 45.77%					
Right Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0		N/A
	Through	-	76	4.0%	N/A
	Right	-	42	7.0%	N/A
Advancing Volume: N/A Right Turn Volume: N/A					

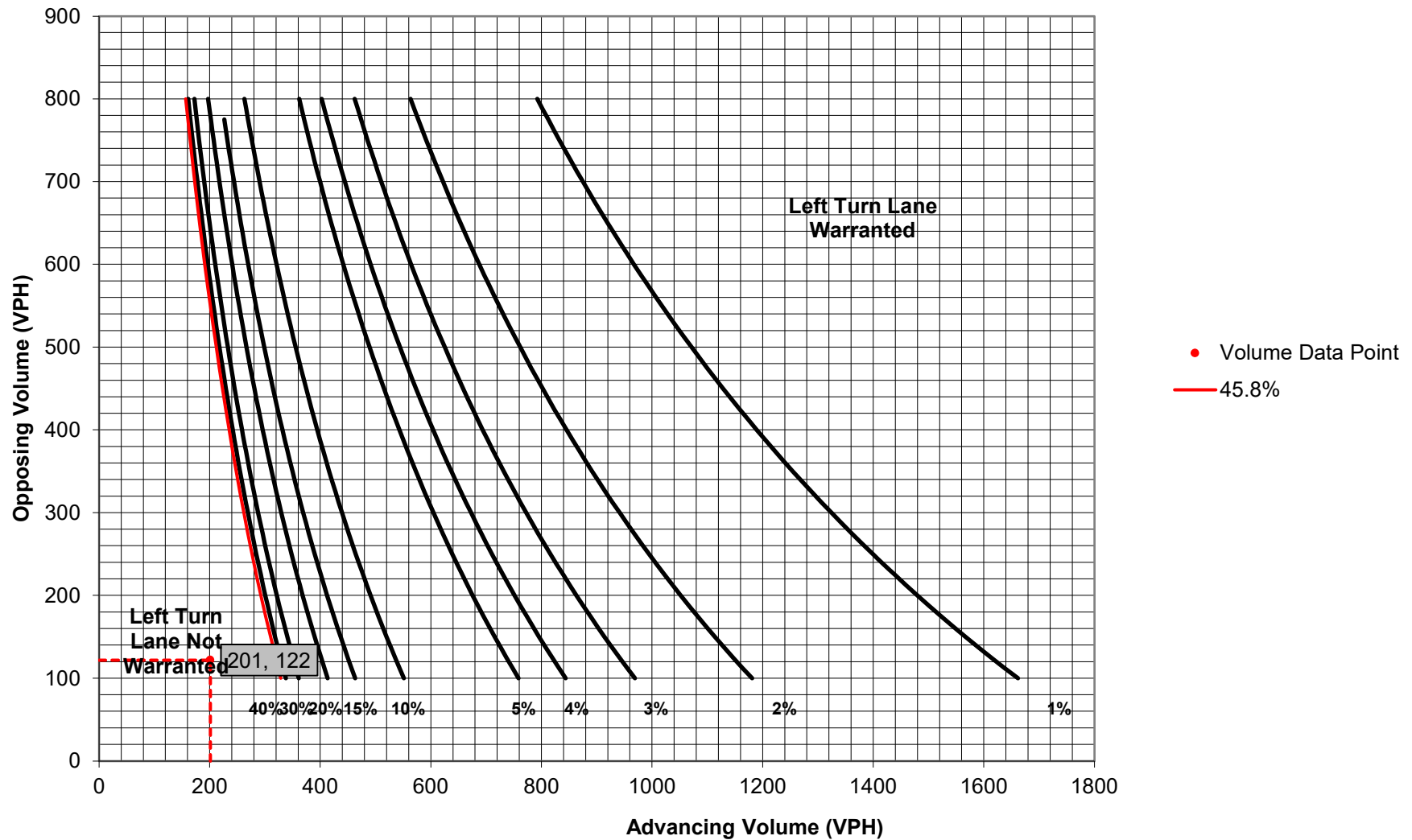
TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: Figure 1 Warrant Met?: No	Applicable Warrant Figure: N/A Warrant Met?: N/A

TURN LANE LENGTH CALCULATIONS

Intersection Control: Unsignalized Design Hour Volume of Turning Lane: 92 Cycles Per Hour (Assumed): 60 Cycles Per Hour (If Known): 	Average # of Vehicles/Cycle: N/A																																							
PennDOT Publication 46, Exhibit 11-6																																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th rowspan="4" style="width: 20%;">Type of Traffic Control</th> <th colspan="6" style="background-color: #f5deb3;">Speed (MPH)</th> </tr> <tr> <th colspan="2" style="background-color: #f5deb3;">25-35</th> <th colspan="2" style="background-color: #f5deb3;">40-45</th> <th colspan="2" style="background-color: #f5deb3;">50-60</th> </tr> <tr> <th colspan="6" style="background-color: #f5deb3;">Turn Demand Volume</th> </tr> <tr> <th style="background-color: #f5deb3;">High</th> <th style="background-color: #f5deb3;">Low</th> <th style="background-color: #f5deb3;">High</th> <th style="background-color: #f5deb3;">Low</th> <th style="background-color: #f5deb3;">High</th> <th style="background-color: #f5deb3;">Low</th> </tr> <tr> <td style="text-align: center;">Signalized</td> <td style="text-align: center;">A</td> <td style="text-align: center;">A</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B or C</td> </tr> <tr> <td style="text-align: center;">Unsignalized</td> <td style="text-align: center;">A</td> <td style="text-align: center;">A</td> <td style="text-align: center;">C</td> <td style="text-align: center;">B</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B</td> </tr> </table>		Type of Traffic Control	Speed (MPH)						25-35		40-45		50-60		Turn Demand Volume						High	Low	High	Low	High	Low	Signalized	A	A	B or C	B or C	B or C	B or C	Unsignalized	A	A	C	B	B or C	B
Type of Traffic Control	Speed (MPH)																																							
	25-35		40-45		50-60																																			
	Turn Demand Volume																																							
	High	Low	High	Low	High	Low																																		
Signalized	A	A	B or C	B or C	B or C	B or C																																		
Unsignalized	A	A	C	B	B or C	B																																		
Left Turn Lane Storage Length, Condition A: N/A Feet Condition B: N/A Feet Condition C: N/A Feet Required Left Turn Lane Storage Length: N/A Feet																																								
Additional Findings: N/A																																								
Additional Comments / Justifications: 																																								

Figure 1. Warrant for left turn lanes on two-lane roadways
 (speeds to 35 mph, unsignalized and signalized intersections)
 (L = % Left Turns in Advancing Volume)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: Upper Uwchlan Township County: Chester County PennDOT Engineering District: 6	Analysis Date: 5/28/2025 Conducted By: PG Checked By: Agency/Company Name: Traffic Planning and Design, Inc.
Intersection & Approach Description: Station Boulevard & Site Driveway	
Analysis Period: 2026 Projected (Build) Design Hour: AM Peak Hour Intersection Control: Unsignalized Posted Speed Limit (MPH): 30 Type of Terrain: Level	Number of Approach Lanes: 1 Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis?: Right Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	75	44.0%	N/A
	Through	-	106	5.0%	N/A
	Right	Yes	0		N/A
Opposing	Left	Yes	0		N/A
	Through	-	76	4.0%	N/A
	Right	Yes	42	7.0%	N/A
Advancing Volume: N/A Opposing Volume: N/A Left Turn Volume: N/A % Left Turns in Advancing Volume: N/A					
Right Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0		0
	Through	-	76	4.0%	78
	Right	-	42	7.0%	44
Advancing Volume: 122 Right Turn Volume: 44					

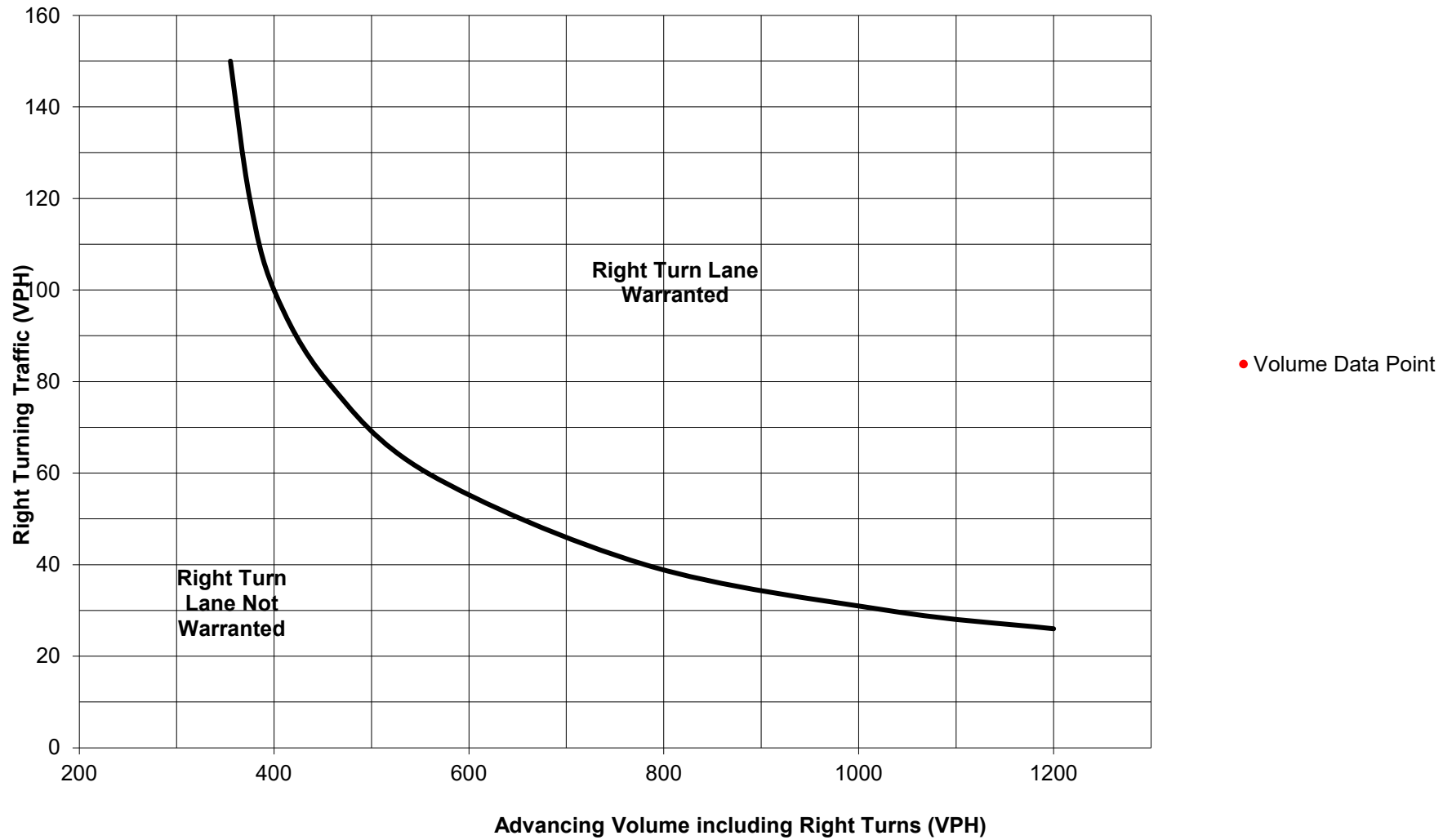
TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: N/A Warrant Met?: N/A	Applicable Warrant Figure: Figure 9 Warrant Met?: No

TURN LANE LENGTH CALCULATIONS

Intersection Control: Unsignalized Design Hour Volume of Turning Lane: 44 Cycles Per Hour (Assumed): 60 Cycles Per Hour (If Known): 	Average # of Vehicles/Cycle: N/A																																							
PennDOT Publication 46, Exhibit 11-6																																								
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th rowspan="4">Type of Traffic Control</th> <th colspan="6">Speed (MPH)</th> </tr> <tr> <th colspan="2">25-35</th> <th colspan="2" rowspan="2">40-45</th> <th colspan="2" rowspan="2">50-60</th> </tr> <tr> <th colspan="6">Turn Demand Volume</th> </tr> <tr> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> </tr> <tr> <td>Signalized</td> <td>A</td> <td>A</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> </tr> <tr> <td>Unsignalized</td> <td>A</td> <td>A</td> <td>C</td> <td>B</td> <td>B or C</td> <td>B</td> </tr> </table>		Type of Traffic Control	Speed (MPH)						25-35		40-45		50-60		Turn Demand Volume						High	Low	High	Low	High	Low	Signalized	A	A	B or C	B or C	B or C	B or C	Unsignalized	A	A	C	B	B or C	B
Type of Traffic Control	Speed (MPH)																																							
	25-35		40-45		50-60																																			
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	High	Low	High	Low	High	Low																																		
Signalized	A	A	B or C	B or C	B or C	B or C																																		
Unsignalized	A	A	C	B	B or C	B																																		
Right Turn Lane Storage Length, Condition A: N/A Feet Condition B: N/A Feet Condition C: N/A Feet Required Right Turn Lane Storage Length: N/A Feet																																								
Additional Findings: N/A																																								
Additional Comments / Justifications:																																								

**Figure 9. Warrant for right turn lanes on two-lane roadways
(40 mph or lower speeds, unsignalized and signalized intersections)**



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: Upper Uwchlan Township County: Chester County PennDOT Engineering District: 6	Analysis Date: 5/28/2025 Conducted By: SL Checked By: Agency/Company Name: Traffic Planning and Design, Inc.
Intersection & Approach Description: Station Boulevard & Site Driveway	
Analysis Period: 2026 Projected (Build) Design Hour: PM Peak Hour Intersection Control: Unsignalized Posted Speed Limit (MPH): 30 Type of Terrain: Level	Number of Approach Lanes: 1 Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis?: Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	98	0.0%	98
	Through	-	65	0.0%	65
	Right	Yes	0		0
Opposing	Left	Yes	0		0
	Through	-	119	0.0%	119
	Right	Yes	54	0.0%	54
Advancing Volume: 163 Opposing Volume: 173 Left Turn Volume: 98 % Left Turns in Advancing Volume: 60.12%					
Right Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0		N/A
	Through	-	119	0.0%	N/A
	Right	-	54	0.0%	N/A
Advancing Volume: N/A Right Turn Volume: N/A					

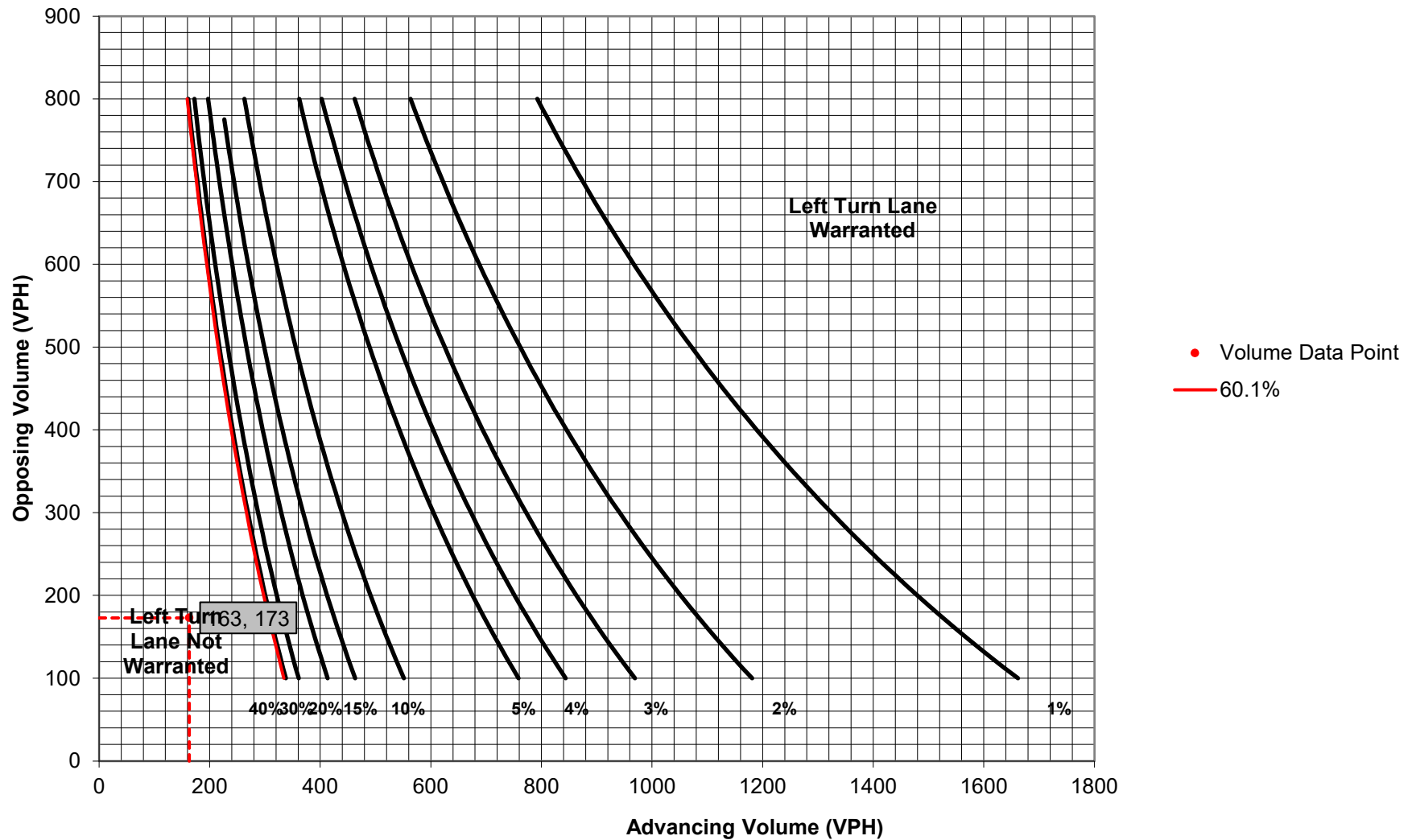
TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: Figure 1 Warrant Met?: No	Applicable Warrant Figure: N/A Warrant Met?: N/A

TURN LANE LENGTH CALCULATIONS

Intersection Control: Unsignalized Design Hour Volume of Turning Lane: 98 Cycles Per Hour (Assumed): 60 Cycles Per Hour (If Known): 	Average # of Vehicles/Cycle: N/A																																							
PennDOT Publication 46, Exhibit 11-6																																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th rowspan="4" style="width: 15%;">Type of Traffic Control</th> <th colspan="6" style="background-color: #f5deb3;">Speed (MPH)</th> </tr> <tr> <th colspan="2" style="background-color: #f5deb3;">25-35</th> <th colspan="2" style="background-color: #f5deb3;">40-45</th> <th colspan="2" style="background-color: #f5deb3;">50-60</th> </tr> <tr> <th colspan="6" style="background-color: #f5deb3;">Turn Demand Volume</th> </tr> <tr> <th style="background-color: #f5deb3;">High</th> <th style="background-color: #f5deb3;">Low</th> <th style="background-color: #f5deb3;">High</th> <th style="background-color: #f5deb3;">Low</th> <th style="background-color: #f5deb3;">High</th> <th style="background-color: #f5deb3;">Low</th> </tr> <tr> <td style="text-align: center;">Signalized</td> <td style="text-align: center;">A</td> <td style="text-align: center;">A</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B or C</td> </tr> <tr> <td style="text-align: center;">Unsignalized</td> <td style="text-align: center;">A</td> <td style="text-align: center;">A</td> <td style="text-align: center;">C</td> <td style="text-align: center;">B</td> <td style="text-align: center;">B or C</td> <td style="text-align: center;">B</td> </tr> </table>		Type of Traffic Control	Speed (MPH)						25-35		40-45		50-60		Turn Demand Volume						High	Low	High	Low	High	Low	Signalized	A	A	B or C	B or C	B or C	B or C	Unsignalized	A	A	C	B	B or C	B
Type of Traffic Control	Speed (MPH)																																							
	25-35		40-45		50-60																																			
	Turn Demand Volume																																							
	High	Low	High	Low	High	Low																																		
Signalized	A	A	B or C	B or C	B or C	B or C																																		
Unsignalized	A	A	C	B	B or C	B																																		
Left Turn Lane Storage Length, Condition A: N/A Feet Condition B: N/A Feet Condition C: N/A Feet Required Left Turn Lane Storage Length: N/A Feet																																								
Additional Findings: N/A																																								
Additional Comments / Justifications: 																																								

Figure 1. Warrant for left turn lanes on two-lane roadways
 (speeds to 35 mph, unsignalized and signalized intersections)
 (L = % Left Turns in Advancing Volume)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: Upper Uwchlan Township County: Chester County PennDOT Engineering District: 6	Analysis Date: 5/28/2025 Conducted By: SL Checked By: Agency/Company Name: Traffic Planning and Design, Inc.
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Analysis Period: 2026 Projected (Build) Design Hour: PM Peak Hour Intersection Control: Unsignalized Posted Speed Limit (MPH): 30 Type of Terrain: Level	Number of Approach Lanes: 1 Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis?: Right Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	98	0.0%	N/A
	Through	-	65	0.0%	N/A
	Right	Yes	0		N/A
Opposing	Left	Yes	0		N/A
	Through	-	119	0.0%	N/A
	Right	Yes	54	0.0%	N/A
Advancing Volume: N/A Opposing Volume: N/A Left Turn Volume: N/A % Left Turns in Advancing Volume: N/A					
Right Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0		0
	Through	-	119	0.0%	119
	Right	-	54	0.0%	54
Advancing Volume: 173 Right Turn Volume: 54					

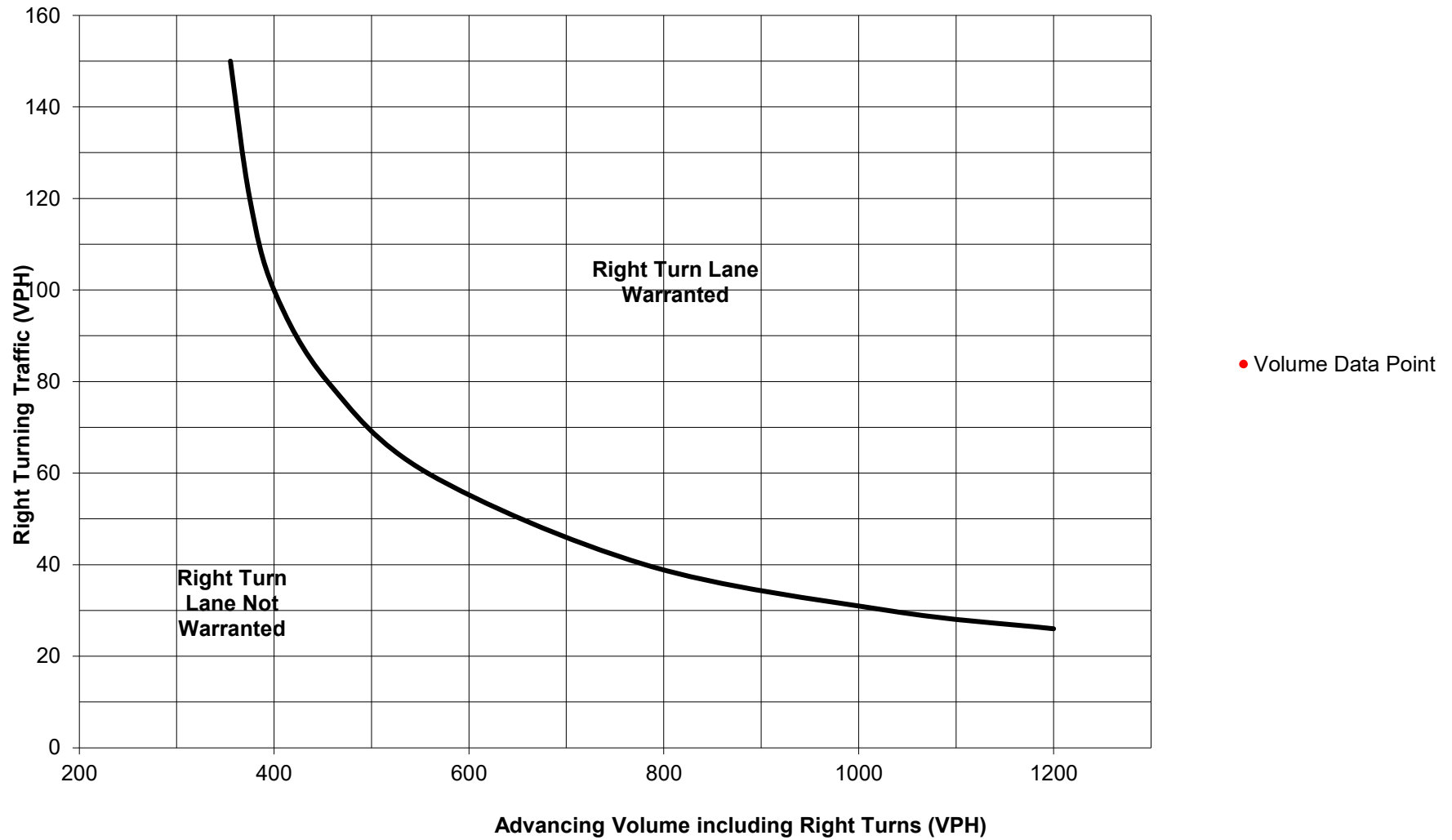
TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: N/A Warrant Met?: N/A	Applicable Warrant Figure: Figure 9 Warrant Met?: No

TURN LANE LENGTH CALCULATIONS

Intersection Control: Unsignalized Design Hour Volume of Turning Lane: 54 Cycles Per Hour (Assumed): 60 Cycles Per Hour (If Known):	Average # of Vehicles/Cycle: N/A																																								
PennDOT Publication 46, Exhibit 11-6																																									
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th rowspan="3">Type of Traffic Control</th> <th colspan="6">Speed (MPH)</th> </tr> <tr> <th colspan="2">25-35</th> <th colspan="2" rowspan="2">40-45</th> <th colspan="2" rowspan="2">50-60</th> </tr> <tr> <th colspan="6">Turn Demand Volume</th> </tr> <tr> <th></th> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> </tr> <tr> <td>Signalized</td> <td>A</td> <td>A</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> </tr> <tr> <td>Unsignalized</td> <td>A</td> <td>A</td> <td>C</td> <td>B</td> <td>B or C</td> <td>B</td> </tr> </table>		Type of Traffic Control	Speed (MPH)						25-35		40-45		50-60		Turn Demand Volume							High	Low	High	Low	High	Low	Signalized	A	A	B or C	B or C	B or C	B or C	Unsignalized	A	A	C	B	B or C	B
Type of Traffic Control	Speed (MPH)																																								
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Signalized	A	A	B or C	B or C	B or C	B or C																																			
Unsignalized	A	A	C	B	B or C	B																																			
Right Turn Lane Storage Length, Condition A: N/A Feet Condition B: N/A Feet Condition C: N/A Feet Required Right Turn Lane Storage Length: N/A Feet																																									
Additional Findings: N/A																																									
Additional Comments / Justifications:																																									

**Figure 9. Warrant for right turn lanes on two-lane roadways
(40 mph or lower speeds, unsignalized and signalized intersections)**



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Upper Uwchlan Township	Analysis Date:	5/28/2025
County:	Chester County	Conducted By:	SL
PennDOT Engineering District:	6	Checked By:	
		Agency/Company Name:	Traffic Planning and Design, Inc.
Intersection & Approach Description: Station Boulevard & Site Driveway			
Analysis Period:	2026 Projected (Build)	Number of Approach Lanes:	1
Design Hour:	Sat Peak Hour	Undivided or Divided Highway:	Undivided
Intersection Control:	Unsignalized		
Posted Speed Limit (MPH):	30		
Type of Terrain:	Level	Left or Right-Turn Lane Analysis?:	Type of Analysis Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV	
Advancing	Left	Yes	77	0.0%	77	Advancing Volume: 141
	Through	-	63	2.0%	64	Opposing Volume: 108
	Right	Yes	0		0	Left Turn Volume: 77
Opposing	Left	Yes	0		0	
	Through	-	69	0.0%	69	
	Right	Yes	39	0.0%	39	% Left Turns in Advancing Volume: 54.61%

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV	
Advancing	Left	Yes	0		N/A	Advancing Volume: N/A
	Through	-	69	0.0%	N/A	Right Turn Volume: N/A
	Right	-	31	0.0%	N/A	

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure: **Figure 1**

Warrant Met?: **No**

Right Turn Lane Warrant Findings

Applicable Warrant Figure: **N/A**

Warrant Met?: **N/A**

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	77
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	
Average # of Vehicles/Cycle:	N/A

PennDOT Publication 46, Exhibit 11-6

Type of Traffic Control	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Left Turn Lane Storage Length, Condition A: **N/A** Feet

Condition B: **N/A** Feet

Condition C: **N/A** Feet

Required Left Turn Lane Storage Length: **N/A** Feet

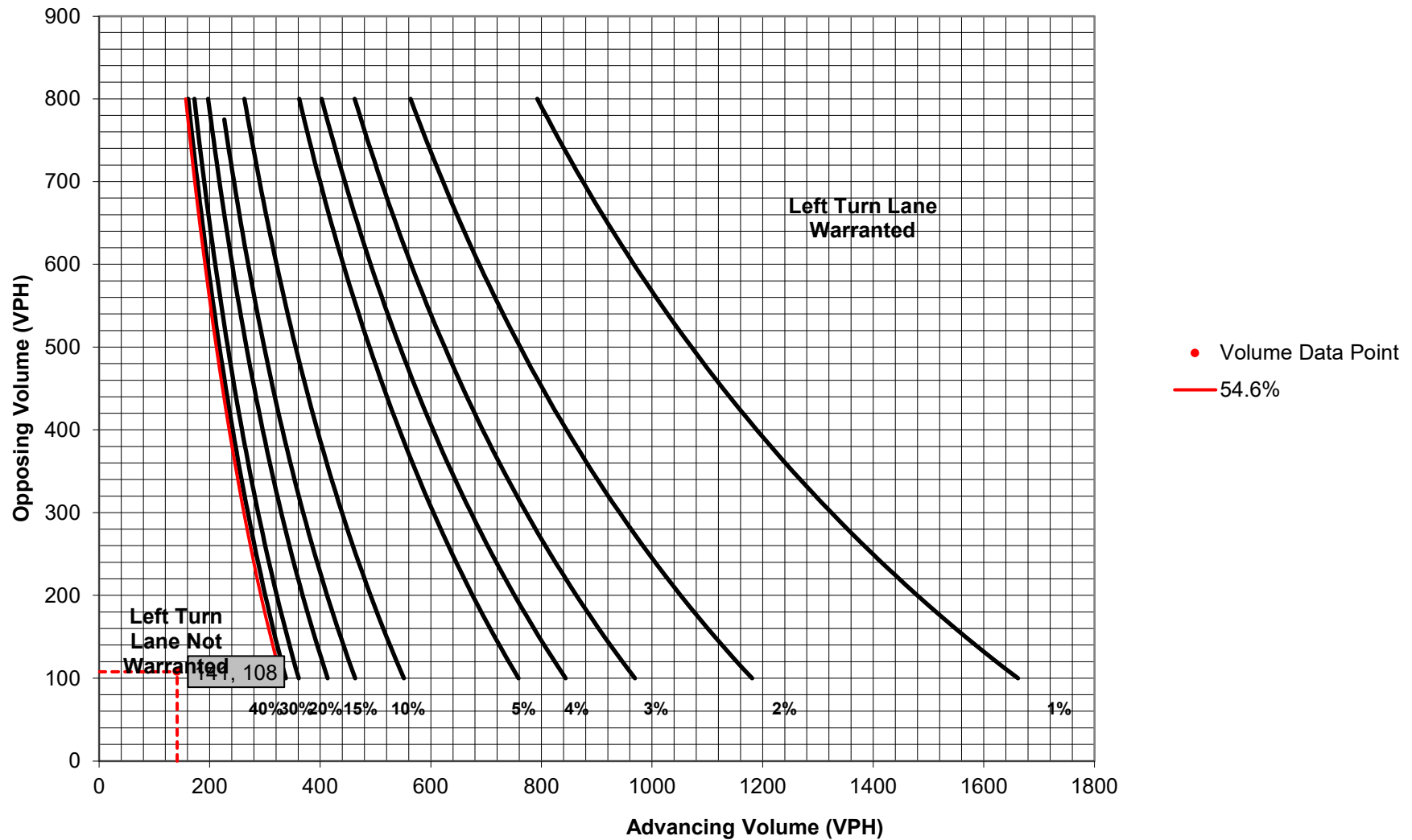
Additional Findings:

N/A

Additional Comments / Justifications:

--

Figure 1. Warrant for left turn lanes on two-lane roadways
 (speeds to 35 mph, unsignalized and signalized intersections)
 (L = % Left Turns in Advancing Volume)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: Upper Uwchlan Township County: Chester County PennDOT Engineering District: 6	Analysis Date: 5/28/2025 Conducted By: SL Checked By: Agency/Company Name: Traffic Planning and Design, Inc.
Intersection & Approach Description: Station Boulevard & Site Driveway	
Analysis Period: 2026 Projected (Build) Design Hour: Sat Peak Hour Intersection Control: Unsignalized Posted Speed Limit (MPH): 30 Type of Terrain: Level	Number of Approach Lanes: 1 Undivided or Divided Highway: Undivided Type of Analysis Left or Right-Turn Lane Analysis?: Right Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	77	0.0%	N/A
	Through	-	63	2.0%	N/A
	Right	Yes	0		N/A
Opposing	Left	Yes	0		N/A
	Through	-	69	0.0%	N/A
	Right	Yes	39	0.0%	N/A
Advancing Volume: N/A Opposing Volume: N/A Left Turn Volume: N/A % Left Turns in Advancing Volume: N/A					
Right Turn Lane Volume Calculations					
Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0		0
	Through	-	69	0.0%	69
	Right	-	31	0.0%	31
Advancing Volume: 100 Right Turn Volume: 31					

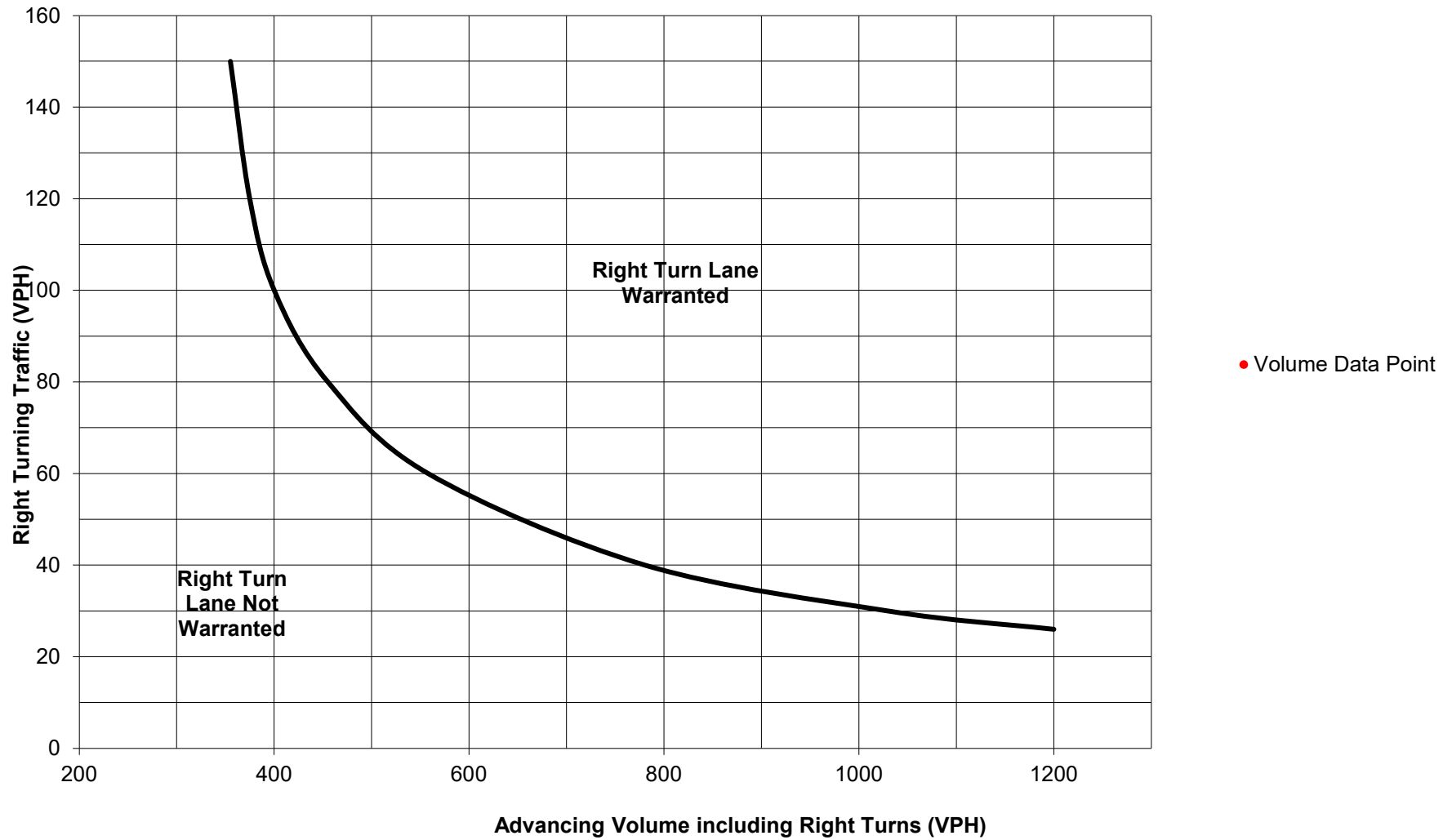
TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: N/A Warrant Met?: N/A	Applicable Warrant Figure: Figure 9 Warrant Met?: No

TURN LANE LENGTH CALCULATIONS

Intersection Control: Unsignalized Design Hour Volume of Turning Lane: 31 Cycles Per Hour (Assumed): 60 Cycles Per Hour (If Known): 	Average # of Vehicles/Cycle: N/A																																								
PennDOT Publication 46, Exhibit 11-6																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="3">Type of Traffic Control</th> <th colspan="6">Speed (MPH)</th> </tr> <tr> <th colspan="2">25-35</th> <th colspan="2">40-45</th> <th colspan="2">50-60</th> </tr> <tr> <th colspan="6">Turn Demand Volume</th> </tr> <tr> <th></th> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> <th>High</th> <th>Low</th> </tr> </thead> <tbody> <tr> <td>Signalized</td> <td>A</td> <td>A</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> <td>B or C</td> </tr> <tr> <td>Unsignalized</td> <td>A</td> <td>A</td> <td>C</td> <td>B</td> <td>B or C</td> <td>B</td> </tr> </tbody> </table>		Type of Traffic Control	Speed (MPH)						25-35		40-45		50-60		Turn Demand Volume							High	Low	High	Low	High	Low	Signalized	A	A	B or C	B or C	B or C	B or C	Unsignalized	A	A	C	B	B or C	B
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	High	Low	High	Low	High	Low																																			
Signalized	A	A	B or C	B or C	B or C	B or C																																			
Unsignalized	A	A	C	B	B or C	B																																			
Right Turn Lane Storage Length, Condition A: N/A Feet Condition B: N/A Feet Condition C: N/A Feet Required Right Turn Lane Storage Length: N/A Feet																																									
Additional Findings: N/A																																									
Additional Comments / Justifications: 																																									

**Figure 9. Warrant for right turn lanes on two-lane roadways
(40 mph or lower speeds, unsignalized and signalized intersections)**





1600 Manor Drive, Suite 200
Chalfont, PA 18914

General Project Description & Stormwater Management Calculations

Project: **Final Plan for Lot 2B of Parcel 5C**
Graphite Mine Road & Station Boulevard
Upper Uwchlan Township
Chester County, PA

Client: **Prosperity Property Investments, LLC**
1306 Bellona Avenue
Lutherville-Timonium, MD 21093

Project
Number: **PC211160**

Date: **March 25, 2019**

Last
Revised: **May 30, 2025**

Plans Referenced:

- "Preliminary / Final PRD Plans (Final Plan for Lot 2B of Parcel 5C) for Prosperity Property Investments, LLC" by Bohler, dated 03/15/2022, Revision 8, dated 05/30/25.

Professional
Engineer: Chris Puzinas
PA License #PE083200



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General Project Description/ Stormwater Management.....	1
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NOAA Atlas 14 Rainfall Data (used in StormCAD).....	5
Inlet Runoff Calculations C Worksheets	6
100-Year Design Reports.....	7

General Project Description/Stormwater Management

GENERAL PROJECT DESCRIPTION

Byers Retail Acquisition, L.P. proposes to develop Lot #2B of Parcel 5C of the existing 29.79-acre tract at Graphite Mine Road & Station Boulevard known as parcel 5C. The existing 29.79-acre tract was subdivided into two lots – Lot #1 and Lot #2. Lot #1, which consists of 16.35 acres, contains 121 unit townhomes and was previously approved by the township and currently under construction.

Lot #2, the subject of this application, consists of 13.44 acres, and will be subdivided further into Lots #2A and #2B. Lot #2A will contain 55 Townhome units, bringing the total number of residential units for Parcel 5C to 176 residential units.

Lot #2B will be developed into 31,500 square feet of commercial space consisting of a daycare and retail space. The proposal includes the installation of parking, utilities, landscaping and stormwater management controls necessary to support the development. Pertinent data characterizing the existing and future site conditions are shown on the accompanying plans.

STORMWATER MANAGEMENT

Pre-Development

The pre-development condition of Lot #2 consists of one Point of Interest (POI#2) which is indicated on the Pre-Development Drainage Area Plan. POI #2 is located across Graphite Mine Road near the southeast corner of the site at endwalls which discharge into Pickering Creek, which is part of the Delaware River Basin. The on-site area tributary to the point of interest has been delineated. The pre-development conditions were analyzed based on existing conditions for all areas tributary to the points of interest. There are currently two (2) existing sediment basins located on the site. Since these sediment basins were meant to only be on the site temporarily, they were disregarded in the pre-development stormwater analysis.

The development of Lot #2B does not have any impact to the pre-development conditions.

Post-Development

The post-development condition of the site maintains the same Point of Interest and relative drainage patterns. There is an increase in the total impervious surface coverage with a subsequent increase in runoff rates and volume. Therefore, above ground stormwater management basins (AGBs) have been designed to reduce peak rates of runoff and runoff volume. The area tributary to each basin has been delineated and hydrographs have been generated for the 1, 2, 5, 10, 25, 50 and 100 year storms. The inflow hydrographs to each basin have been routed and peak flow rate from each routed basin has been added to the hydrographs generated for any bypass areas to determine the total post-development discharge rate.

The development of Lot #2B does not alter any of the stormwater design for POI #1. The previously approved plan for Lot #2B had allocated 103,038 square feet of impervious coverage, while the current plan proposes only 101,100 square feet of impervious coverage (difference of 1,938 square feet). Since Bioretention Basin 2 was previously designed to manage the entire drainage area, including Lot #2B, the reduction of impervious area results in a reduced volume of runoff getting to the basin. As such, no adjustments are necessary for Bioretention Basin 2. As such, calculations are only provided for conveyance of stormwater to ensure the proposed stormwater conveyance pipes and inlets have the required design capacity.

Requirements

The following requirements are from Chapter 152 "Stormwater Management" of the Upper Uwchlan Ordinances.

§152-311. Conveyance and System Design Standards

- §152-311.F(1) Storm drain system(s), where provided, shall be designed to carry a 25-year peak flow rate, and a 50-year peak flow rate at the sump area.
- §152-311.F(3)(a) All inlets must be designed to accommodate the 25-year peak flow rate.
- §152-311.G(1) All pipe within the paved cartway shall be reinforced concrete or high-density polyethylene pipe.
- §152-311.G(2) All pipe outside of the paved cartway can consist of interior polyethylene pipe.
- §152-311.G(4) Minimum pipe size is 15 inches and have a minimum pipe slope of 0.50%.
- §152-311.G(9) Minimum pipe cover of 18 inches.
- §152-311.J(2) A fence or suitable vegetation shall be provided around all detention basins upon recommendation of the Township Engineer. All fencing shall be at least 3'-6" in height.

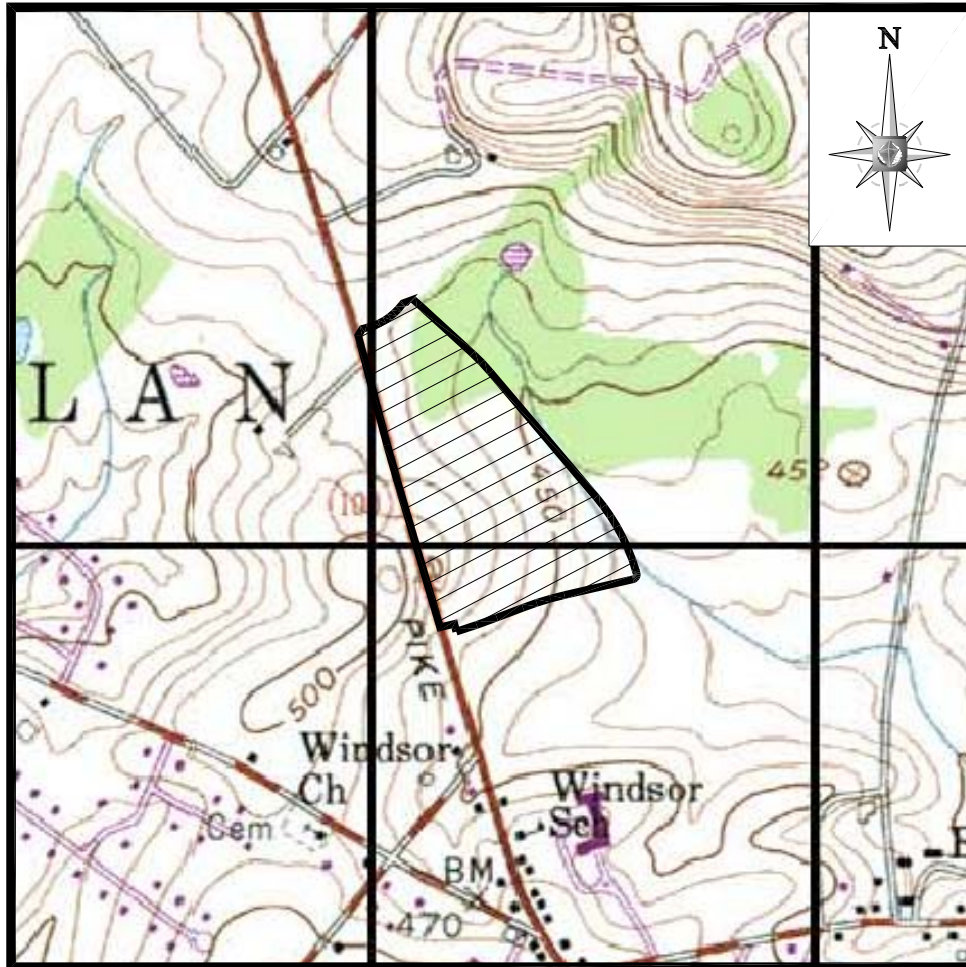
STORM DRAINAGE

The storm drainage system has been designed to intercept runoff at topographic low points and areas of significant runoff quantities and convey stormwater to the stormwater management basins. StormCAD Version V8i has been utilized for designing the storm conveyance system. Conveyance design precipitation amounts are based on NOAA Atlas 14, Volume 2, Version 3 obtained on April 28, 2016 for Chester Springs, PA for the 100-year storm event.

CONCLUSIONS

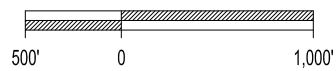
The proposed stormwater management program described above has been designed to comply with the Upper Uwchlan Township Subdivision and Land Development and Stormwater Management Ordinances, Chapter 102 CG-1 Guidelines, and the Stormwater Management Act of 1978.

R:\21\PC211160\Technical\Reports\SWM\Rev-1\PC211160_SWM Report-1.docx



USGS MAP
(DOWNINGTOWN QUAD)

1"=1,000'



Storm Drainage

NOAA Atlas 14, Volume 2, Version 3
Location name: Chester Springs, Pennsylvania,
USA*

Latitude: 40.0831°, Longitude: -75.6887°

Elevation: m/ft**

* source: ESRI Maps

** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerals](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.347 (0.317-0.381)	0.413 (0.377-0.454)	0.482 (0.439-0.529)	0.531 (0.483-0.581)	0.585 (0.530-0.641)	0.622 (0.560-0.681)	0.657 (0.589-0.720)	0.687 (0.614-0.754)	0.720 (0.638-0.790)	0.743 (0.654-0.819)
10-min	0.555 (0.506-0.608)	0.661 (0.604-0.726)	0.772 (0.704-0.847)	0.848 (0.772-0.929)	0.933 (0.845-1.02)	0.990 (0.892-1.08)	1.04 (0.936-1.14)	1.09 (0.973-1.20)	1.14 (1.01-1.25)	1.17 (1.03-1.29)
15-min	0.693 (0.633-0.761)	0.830 (0.759-0.912)	0.976 (0.890-1.07)	1.07 (0.977-1.18)	1.18 (1.07-1.30)	1.25 (1.13-1.37)	1.32 (1.18-1.45)	1.37 (1.23-1.51)	1.43 (1.27-1.57)	1.47 (1.29-1.62)
30-min	0.950 (0.868-1.04)	1.15 (1.05-1.26)	1.39 (1.26-1.52)	1.56 (1.42-1.70)	1.75 (1.59-1.92)	1.89 (1.70-2.07)	2.02 (1.81-2.22)	2.14 (1.91-2.35)	2.28 (2.02-2.50)	2.38 (2.10-2.62)
60-min	1.18 (1.08-1.30)	1.44 (1.32-1.58)	1.78 (1.62-1.95)	2.02 (1.84-2.22)	2.33 (2.11-2.55)	2.56 (2.30-2.80)	2.79 (2.50-3.05)	3.00 (2.68-3.29)	3.27 (2.90-3.59)	3.47 (3.06-3.82)
2-hr	1.41 (1.28-1.57)	1.72 (1.55-1.90)	2.13 (1.92-2.36)	2.45 (2.20-2.72)	2.87 (2.56-3.17)	3.20 (2.84-3.54)	3.52 (3.12-3.90)	3.86 (3.38-4.26)	4.30 (3.73-4.76)	4.64 (3.99-5.14)
3-hr	1.54 (1.39-1.71)	1.86 (1.68-2.07)	2.32 (2.09-2.58)	2.67 (2.40-2.96)	3.13 (2.80-3.46)	3.48 (3.10-3.85)	3.85 (3.40-4.25)	4.21 (3.69-4.66)	4.69 (4.07-5.20)	5.06 (4.35-5.62)
6-hr	1.90 (1.72-2.12)	2.30 (2.08-2.56)	2.86 (2.58-3.18)	3.30 (2.97-3.67)	3.92 (3.50-4.34)	4.42 (3.92-4.88)	4.94 (4.34-5.45)	5.48 (4.77-6.05)	6.22 (5.35-6.88)	6.82 (5.78-7.55)
12-hr	2.31 (2.08-2.59)	2.78 (2.52-3.13)	3.48 (3.14-3.89)	4.05 (3.63-4.53)	4.87 (4.33-5.42)	5.56 (4.89-6.17)	6.30 (5.48-6.99)	7.09 (6.10-7.86)	8.23 (6.94-9.13)	9.16 (7.61-10.2)
24-hr	2.69 (2.47-2.96)	3.24 (2.97-3.56)	4.06 (3.71-4.45)	4.74 (4.32-5.19)	5.72 (5.19-6.25)	6.54 (5.91-7.14)	7.42 (6.67-8.09)	8.37 (7.48-9.12)	9.75 (8.61-10.6)	10.9 (9.54-11.9)
2-day	3.12 (2.85-3.45)	3.77 (3.44-4.16)	4.73 (4.30-5.21)	5.50 (5.00-6.07)	6.60 (5.97-7.26)	7.51 (6.76-8.26)	8.47 (7.58-9.31)	9.50 (8.45-10.4)	11.0 (9.66-12.0)	12.1 (10.6-13.4)
3-day	3.29 (3.00-3.64)	3.97 (3.62-4.39)	4.97 (4.52-5.49)	5.77 (5.24-6.37)	6.92 (6.25-7.62)	7.86 (7.07-8.65)	8.85 (7.93-9.74)	9.91 (8.82-10.9)	11.4 (10.1-12.6)	12.6 (11.1-13.9)
4-day	3.46 (3.16-3.83)	4.17 (3.80-4.62)	5.21 (4.74-5.76)	6.05 (5.49-6.68)	7.23 (6.54-7.98)	8.21 (7.38-9.04)	9.24 (8.27-10.2)	10.3 (9.20-11.4)	11.9 (10.5-13.1)	13.1 (11.5-14.5)
7-day	4.06 (3.72-4.44)	4.86 (4.46-5.32)	6.00 (5.50-6.57)	6.94 (6.34-7.59)	8.28 (7.54-9.04)	9.38 (8.50-10.2)	10.5 (9.51-11.5)	11.8 (10.6-12.8)	13.5 (12.1-14.8)	15.0 (13.2-16.4)
10-day	4.62 (4.27-5.03)	5.52 (5.09-6.01)	6.73 (6.20-7.31)	7.70 (7.07-8.35)	9.04 (8.28-9.80)	10.1 (9.24-11.0)	11.2 (10.2-12.2)	12.4 (11.2-13.4)	14.0 (12.6-15.2)	15.3 (13.7-16.6)
20-day	6.25 (5.81-6.73)	7.41 (6.90-7.99)	8.84 (8.21-9.52)	9.96 (9.24-10.7)	11.5 (10.6-12.3)	12.6 (11.7-13.6)	13.8 (12.7-14.8)	15.0 (13.8-16.1)	16.6 (15.2-17.9)	17.8 (16.2-19.2)
30-day	7.77 (7.30-8.28)	9.16 (8.61-9.76)	10.7 (10.0-11.4)	11.8 (11.1-12.6)	13.4 (12.5-14.2)	14.5 (13.6-15.5)	15.7 (14.6-16.7)	16.8 (15.6-17.9)	18.3 (16.9-19.5)	19.3 (17.8-20.7)
45-day	9.86 (9.33-10.5)	11.6 (11.0-12.3)	13.3 (12.6-14.1)	14.6 (13.8-15.5)	16.2 (15.3-17.2)	17.5 (16.5-18.5)	18.6 (17.5-19.7)	19.7 (18.5-20.8)	21.0 (19.7-22.3)	22.0 (20.5-23.3)
60-day	11.8 (11.2-12.5)	13.8 (13.1-14.6)	15.8 (15.0-16.7)	17.2 (16.4-18.2)	19.1 (18.1-20.1)	20.4 (19.3-21.5)	21.6 (20.4-22.8)	22.7 (21.4-24.0)	24.1 (22.7-25.5)	25.1 (23.6-26.6)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical

Peak Discharge Calculations

Project: Byers Station

Description: Conveyance

Runoff Coefficients

Impervious	0.99
Lawn	0.25

PennDOT Region 5

Conversion Factor, k^* 1.0083

* $Q = k \text{ CIA}$

Catchment Areas

Name	Tc (min.)	Groundcover Areas (Ac.)					Total Area (Ac)	C	Q (cfs)
		Impervious	Lawn						100-year
RD01	5.00	0.05	0.00				0.05	0.99	0.44
RD02	5.00	0.05	0.00				0.05	0.99	0.41
RD03	5.00	0.07	0.00				0.07	0.99	0.55
RD04	5.00	0.07	0.00				0.07	0.99	0.58
RD05	5.00	0.03	0.00				0.03	0.99	0.21
RD06	5.00	0.01	0.00				0.01	0.99	0.06
RD07	6.00	0.00	0.00				0.00	0.99	0.03
RD08	7.00	0.01	0.00				0.01	0.99	0.07
RD09	8.00	0.02	0.00				0.02	0.99	0.12
RD10	9.00	0.02	0.00				0.02	0.99	0.16
RD11	10.00	0.02	0.00				0.02	0.99	0.16
RD12	11.00	0.03	0.00				0.03	0.99	0.21
RD13	12.00	0.01	0.00				0.01	0.99	0.08
RD14	13.00	0.01	0.00				0.01	0.99	0.09
RD15	14.00	0.02	0.00				0.02	0.99	0.10
RD16	15.00	0.03	0.00				0.03	0.99	0.19
RD17	16.00	0.03	0.00				0.03	0.99	0.18
RD18	17.00	0.05	0.00				0.05	0.99	0.31
RD19	18.00	0.05	0.00				0.05	0.99	0.29
RD20	19.00	0.07	0.00				0.07	0.99	0.38
RD21	20.00	0.07	0.00				0.07	0.99	0.39
CB01	5.00	0.11	0.01				0.11	0.99	0.95
IN40A	5.00	0.12	0.02				0.15	0.87	1.07
IN43	5.00	0.08	0.01				0.09	0.87	0.66
IN204	5.00	0.00	0.16				0.16	0.25	0.33
IN215	5.00	0.03	0.00				0.04	0.95	0.29
IN216	5.00	0.01	0.12				0.13	0.29	0.31
IN304	5.00	0.00	0.01				0.01	0.25	0.02
IN304A	5.00	0.00	0.01				0.01	0.25	0.02
IN504	5.00	0.15	0.05				0.20	0.82	1.36
IN505	5.00	0.00	0.05				0.05	0.25	0.11
IN506	5.00	0.09	0.01				0.10	0.91	0.74
IN507	5.00	0.08	0.01				0.10	0.89	0.73
IN508	5.00	0.10	0.00				0.11	0.96	0.87
IN509	5.00	0.07	0.00				0.07	0.97	0.59
IN510	5.00	0.10	0.01				0.11	0.94	0.86
IN511	5.00	0.00	0.07				0.07	0.27	0.16
IN512	5.00	0.19	0.05				0.23	0.84	1.62
IN513	5.00	0.09	0.02				0.11	0.88	0.79
IN514	5.00	0.22	0.01				0.23	0.97	1.87
YD515	5.00	0.00	0.01				0.01	0.55	0.06
YD514	5.00	0.01	0.01				0.02	0.55	0.11
YD513	5.00	0.01	0.02				0.03	0.56	0.13
YD512	5.00	0.01	0.01				0.02	0.65	0.12
IN516	5.00	0.00	0.65				0.65	0.25	1.35
IN517	5.00	0.02	0.31				0.33	0.30	0.83
IN518	5.00	0.00	0.20				0.20	0.26	0.44
IN519	5.00	0.01	0.12				0.13	0.31	0.34
IN520	5.00	0.01	0.07				0.07	0.33	0.21
IN521	5.00	0.02	0.11				0.13	0.34	0.37
IN522	5.00	0.05	0.02				0.07	0.79	0.43
IN520+(RD01+RD02+RD03+RD04)	5.00	0.25	0.07				0.32	0.83	2.18
IN519+(RD05+RD06+RD07+RD08+RD17)	5.00	0.09	0.12				0.21	0.56	0.97
IN518+(RD09+RD10+RD11+RD12)	5.00	0.09	0.20				0.29	0.49	1.19
IN517+(RD13+RD14+RD15+RD16)	5.00	0.09	0.31				0.41	0.42	1.42
YD515+(RD18)	6.00	0.06	0.01				0.07	0.91	0.48
YD514+(RD19+RD20)	7.00	0.13	0.01				0.14	0.92	1.02
YD513+(RD21)	5.00	0.08	0.01				0.08	0.93	0.64

The provided calculations demonstrate the inlets have capacity to handle the flow draining to them. None of the inlets receive a flow that exceeds 4 cfs in the 100 year storm event. Please refer to plans entitled "Final Plan for Lot 2B of Parcel 5C", dated 03/15/2022, last revised, 05/30/2025, for the associated inlet drainage areas.

Scenario: 100-Year
Current Time Step: 0.000Hr
Catch Basin FlexTable: Gutter Spread

Label	Inlet	Inlet Location	Ground Elevation (ft)	Rim Elevation (ft)	Local Surface Flow (ft³/s)	Carryover Rational Flow (ft³/s)	Total Surface Flow to Inlet (ft³/s)	Capture Efficiency (Calculated) (%)	Intercepted Rational Flow (ft³/s)	Bypassed Rational Flow (ft³/s)	Bypass Target	Gutter Depth (in)	Gutter Spread (ft)	Cross Slope (ft/ft)	Longitudinal Slope (ft/ft)
EX.IN216	PADOT Type 'M'	In Sag	437.00	437.00	0.30	0.00	0.30	100.0	0.30	0.00	(N/A)	1.0	4.2	0.0200	(N/A)
HW01	PADOT Type 'C'	In Sag	437.00	437.00	1.99	0.00	1.99	100.0	1.99	0.00	(N/A)	2.2	9.0	0.0200	(N/A)
HW02	PADOT Type 'C'	In Sag	437.00	437.00	2.44	0.00	2.44	100.0	2.44	0.00	(N/A)	2.5	10.3	0.0200	(N/A)
IN35	PADOT Type 'C'	On Grade	445.11	445.11	0.72	0.00	0.72	82.5	0.59	0.13	IN38	1.2	5.2	0.0200	0.0200
IN36	PADOT Type 'C'	On Grade	445.08	445.08	0.39	0.00	0.39	90.0	0.35	0.04	IN37	1.0	4.1	0.0200	0.0200
IN37	PADOT Type 'C'	On Grade	443.13	443.13	0.22	0.04	0.26	94.3	0.24	0.01	IN39	0.8	3.5	0.0200	0.0200
IN38	PADOT Type 'C'	On Grade	443.50	443.50	0.27	0.13	0.40	89.9	0.36	0.04	IN40	1.0	4.2	0.0200	0.0200
IN39	PADOT Type 'C'	On Grade	439.56	439.56	1.02	0.80	1.82	68.5	1.25	0.57	IN41	1.8	7.3	0.0200	0.0200
IN40	PADOT Type 'C'	On Grade	441.27	441.27	0.51	0.04	0.56	85.9	0.48	0.08	IN40A	1.1	4.7	0.0200	0.0200
IN40A	PADOT Type 'C'	On Grade	439.52	439.52	1.04	0.08	1.11	76.1	0.85	0.27	IN42	1.5	6.1	0.0200	0.0200
IN41	PADOT Type 'C'	On Grade	436.41	436.41	0.39	0.57	0.97	78.2	0.76	0.21	IN44A	1.4	5.8	0.0200	0.0200
IN42	PADOT Type 'C'	On Grade	436.40	436.40	0.57	0.27	0.84	80.3	0.67	0.17	IN43	1.3	5.5	0.0200	0.0200
IN43	PADOT Type 'C'	On Grade	434.78	434.78	0.62	0.17	0.79	81.2	0.64	0.15	IN46	1.3	5.4	0.0200	0.0200
IN44	PADOT Type 'C'	On Grade	433.57	433.57	0.17	0.70	0.87	79.7	0.69	0.18	IN45	1.3	5.6	0.0200	0.0200
IN44A	PADOT Type 'C'	On Grade	434.47	434.47	1.15	0.93	2.08	66.5	1.38	0.70	IN44	1.8	7.7	0.0200	0.0200
IN45	PADOT Type 'C'	On Grade	432.24	432.24	0.16	0.18	0.33	91.8	0.31	0.03	(N/A)	0.9	3.9	0.0200	0.0200
IN46	PADOT Type 'C'	On Grade	432.40	432.40	0.39	0.15	0.54	86.2	0.47	0.07	(N/A)	1.1	4.7	0.0200	0.0200
IN49	PADOT Type 'M'	In Sag	451.25	451.25	0.89	0.00	0.89	100.0	0.89	0.00	(N/A)	1.7	7.1	0.0200	(N/A)
IN204	PADOT Type 'M'	In Sag	443.50	443.50	0.32	0.00	0.32	100.0	0.32	0.00	(N/A)	1.0	4.3	0.0200	(N/A)
IN215	PADOT Type 'C'	In Sag	435.97	435.97	0.30	0.00	0.30	100.0	0.30	0.00	(N/A)	0.5	2.1	0.0200	(N/A)
IN304	PADOT Type 'C'	On Grade	442.69	442.69	0.02	0.00	0.02	100.0	0.02	0.00	IN40	0.3	1.3	0.0200	0.0200
IN304A	PADOT Type 'C'	In Sag	442.25	442.25	0.02	0.00	0.02	100.0	0.02	0.00	(N/A)	0.0	0.1	0.0200	(N/A)
IN305	PADOT Type 'C'	On Grade	442.50	442.50	0.28	0.27	0.55	86.0	0.47	0.08	IN39	1.1	4.7	0.0200	0.0200
IN306	PADOT Type 'C'	On Grade	443.09	443.09	2.09	0.00	2.09	66.4	1.39	0.70	IN39	1.9	7.7	0.0200	0.0200
IN307	PADOT Type 'C'	On Grade	443.26	443.26	1.02	0.11	1.13	75.9	0.86	0.27	IN305	1.5	6.1	0.0200	0.0200
IN308	PADOT Type 'C'	On Grade	444.58	444.58	0.65	0.00	0.65	83.8	0.55	0.11	IN307	1.2	5.0	0.0200	0.0200
IN309	PADOT Type 'C'	On Grade	444.18	444.18	1.24	0.00	1.24	74.4	0.93	0.32	IN314	1.5	6.4	0.0200	0.0200
IN310	PADOT Type 'C'	On Grade	443.90	443.90	1.09	0.00	1.09	76.4	0.83	0.26	IN311	1.5	6.1	0.0200	0.0200
IN311	PADOT Type 'C'	On Grade	442.53	442.53	1.05	0.26	1.31	73.7	0.96	0.34	IN313	1.6	6.5	0.0200	0.0200
IN313	PADOT Type 'C'	In Sag	440.56	440.56	0.73	0.34	1.08	100.0	1.08	0.00	(N/A)	1.4	5.9	0.0200	(N/A)
IN314	PADOT Type 'C'	In Sag	440.56	440.56	3.54	0.32	3.85	100.0	3.85	0.00	(N/A)	3.4	14.0	0.0200	(N/A)
IN315	PADOT Type 'C'	In Sag	442.32	442.32	1.42	0.00	1.42	100.0	1.42	0.00	(N/A)	1.7	7.2	0.0200	(N/A)
IN316	PADOT Type 'C'	On Grade	439.22	439.22	1.54	0.00	1.54	71.2	1.09	0.44	IN318	1.7	6.9	0.0200	0.0200
IN317	PADOT Type 'C'	On Grade	439.12	439.12	1.56	0.00	1.56	70.9	1.11	0.45	IN319	1.7	6.9	0.0200	0.0200
IN318	PADOT Type 'C'	On Grade	436.94	436.94	0.76	0.44	1.21	74.9	0.90	0.30	IN44A	1.5	6.3	0.0200	0.0200
IN319	PADOT Type 'C'	On Grade	436.83	436.83	1.29	0.45	1.74	69.2	1.21	0.54	IN320	1.7	7.2	0.0200	0.0200
IN320	PADOT Type 'C'	On Grade	436.23	436.23	0.94	0.54	1.47	71.8	1.06	0.41	IN44A	1.6	6.8	0.0200	0.0200
IN322	PADOT Type 'C'	In Sag	439.00	439.00	1.47	0.00	1.47	100.0	1.47	0.00	(N/A)	1.8	7.3	0.0200	(N/A)
IN504	PADOT Type 'C'	In Sag	444.16	444.16	1.30	0.00	1.30	100.0	1.30	0.00	(N/A)	1.6	6.8	0.0200	(N/A)
IN505	PADOT Type 'C'	In Sag	442.08	442.08	0.10	0.00	0.10	100.0	0.10	0.00	(N/A)	0.0	0.1	0.0200	(N/A)
IN506	PADOT Type 'C'	In Sag	443.04	443.04	0.72	0.00	0.72	100.0	0.72	0.00	(N/A)	1.1	4.4	0.0200	(N/A)
IN507	PADOT Type 'C'	In Sag	444.96	444.96	0.71	0.00	0.71	100.0	0.71	0.00	(N/A)	1.0	4.4	0.0200	(N/A)
IN508	PADOT Type 'C'	In Sag	444.86	444.86	0.84	0.00	0.84	100.0	0.84	0.00	(N/A)	1.2	5.0	0.0200	(N/A)
IN509	PADOT Type 'C'	In Sag	444.00	444.00	0.54	0.00	0.54	100.0	0.54	0.00	(N/A)	0.9	3.6	0.0200	(N/A)
IN510	PADOT Type 'C'	In Sag	442.33	442.33	0.82	0.00	0.82	100.0	0.82	0.00	(N/A)	1.2	4.9	0.0200	(N/A)
IN511	PADOT Type 'M'	In Sag	440.81	440.81	1.02	0.00	1.02	100.0	1.02	0.00	(N/A)	1.8	7.6	0.0200	(N/A)
IN512	PADOT Type 'M'	In Sag	441.50	441.50	1.53	0.00	1.53	100.0	1.53	0.00	(N/A)	2.3	9.5	0.0200	(N/A)
IN513	PADOT Type 'C'	On Grade	441.00	441.00	0.77	0.00	0.77	81.5	0.63	0.14	IN514	1.3	5.3	0.0200	0.0200
IN514	PADOT Type 'C'	In Sag	437.85	437.85	1.77	0.14	1.91	100.0	1.91	0.00	(N/A)	2.1	8.8	0.0200	(N/A)
IN516	PADOT Type 'C'	In Sag	445.60	445.60	1.29	0.00	1.29	100.0	1.29	0.00	(N/A)	1.6	6.7	0.0200	(N/A)
IN517	PADOT Type 'M'	In Sag	443.00	443.00	0.79	0.00	0.79	100.0	0.79	0.00	(N/A)	1.6	6.6	0.0200	(N/A)
IN518	PADOT Type 'M'	In Sag	441.85	441.85	0.41	0.00	0.41	100.0	0.41	0.00	(N/A)	1.2	4.8	0.0200	(N/A)
IN519	PADOT Type 'M'	In Sag	441.50	441.50	0.32	0.00	0.32	100.0	0.32	0.00	(N/A)	1.0	4.3	0.0200	(N/A)
IN520	PADOT Type 'M'	In Sag	441.00	441.00	0.18	0.00	0.18	100.0	0.18	0.00	(N/A)	0.8	3.4	0.0200	(N/A)
IN521	PADOT Type 'M'	In Sag	435.60	435.60	0.35	0.00	0.35	100.0	0.35	0.00	(N/A)	1.1	4.5	0.0200	(N/A)
IN522	PADOT Type 'C'	In Sag	437.32	437.32	0.44	0.00	0.44	100.0	0.44	0.00	(N/A)	0.7	3.0	0.0200	(N/A)
YD512	Grate 18 Nyloplast	In Sag	445.70	445.70	0.10	0.00	0.10	100.0	0.10	0.00	(N/A)	46.5	193.6	0.0200	(N/A)
YD513	PADOT Type 'C'	In Sag	446.20	446.20	0.13	0.00	0.13	100.0	0.13	0.00	(N/A)	0.0	0.1	0.0200	(N/A)
YD514	PADOT Type 'C'	In Sag	446.20	446.20	0.09	0.00	0.09	100.0	0.09	0.00	(N/A)	0.0	0.1	0.0200	(N/A)
YD515	PADOT Type 'M'	In Sag	446.20	446.20	0.04	0.00	0.04	100.0	0.04	0.00	(N/A)	0.5	2.1	0.0200	(N/A)

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Scenario: 100-Year
Current Time Step: 0.000Hr
Catch Basin FlexTable: Inlet Report

Label	Inlet	Inlet Location	Ground Elevation (ft)	Rim Elevation (ft)	Invert Out (ft)	Inlet DA (acres)	Inlet C	Inlet Intensity (in/h)	Inlet Tc (min)
EX.IN216	PADOT Type 'M'	In Sag	437.00	437.00	433.75	0.130	0.290	7.880	5.000
HW01	PADOT Type 'C'	In Sag	437.00	437.00	432.47	0.610	0.410	7.880	5.000
HW02	PADOT Type 'C'	In Sag	437.00	437.00	431.76	0.640	0.480	7.880	5.000
IN35	PADOT Type 'C'	On Grade	445.11	445.11	441.46	0.210	0.430	7.880	5.000
IN36	PADOT Type 'C'	On Grade	445.08	445.08	440.84	0.080	0.620	7.880	5.000
IN37	PADOT Type 'C'	On Grade	443.13	443.13	438.83	0.050	0.550	7.880	5.000
IN38	PADOT Type 'C'	On Grade	443.50	443.50	439.87	0.050	0.690	7.880	5.000
IN39	PADOT Type 'C'	On Grade	439.56	439.56	431.31	0.150	0.860	7.880	5.000
IN40	PADOT Type 'C'	On Grade	441.27	441.27	437.07	0.080	0.810	7.880	5.000
IN40A	PADOT Type 'C'	On Grade	439.52	439.52	436.92	0.150	0.870	7.880	5.000
IN41	PADOT Type 'C'	On Grade	436.41	436.41	430.53	0.050	0.990	7.880	5.000
IN42	PADOT Type 'C'	On Grade	436.40	436.40	432.00	0.080	0.900	7.880	5.000
IN43	PADOT Type 'C'	On Grade	434.78	434.78	431.66	0.090	0.870	7.880	5.000
IN44	PADOT Type 'C'	On Grade	433.57	433.57	428.90	0.050	0.440	7.880	5.000
IN44A	PADOT Type 'C'	On Grade	434.47	434.47	429.32	0.210	0.690	7.880	5.000
IN45	PADOT Type 'C'	On Grade	432.24	432.24	427.39	0.020	0.990	7.880	5.000
IN46	PADOT Type 'C'	On Grade	432.40	432.40	429.00	0.080	0.620	7.880	5.000
IN49	PADOT Type 'M'	In Sag	451.25	451.25	447.03	0.450	0.250	7.880	5.000
IN204	PADOT Type 'M'	In Sag	443.50	443.50	440.54	0.160	0.250	7.880	5.000
IN215	PADOT Type 'C'	In Sag	435.97	435.97	433.10	0.040	0.950	7.880	5.000
IN304	PADOT Type 'C'	On Grade	442.69	442.69	439.72	0.010	0.250	7.880	5.000
IN304A	PADOT Type 'C'	In Sag	442.25	442.25	440.25	0.010	0.250	7.880	5.000
IN305	PADOT Type 'C'	On Grade	442.50	442.50	439.33	0.040	0.880	7.880	5.000
IN306	PADOT Type 'C'	On Grade	443.09	443.09	438.44	0.310	0.850	7.880	5.000
IN307	PADOT Type 'C'	On Grade	443.26	443.26	438.19	0.150	0.860	7.880	5.000
IN308	PADOT Type 'C'	On Grade	444.58	444.58	437.59	0.090	0.910	7.880	5.000
IN309	PADOT Type 'C'	On Grade	444.18	444.18	441.43	0.180	0.870	7.880	5.000
IN310	PADOT Type 'C'	On Grade	443.90	443.90	436.32	0.160	0.860	7.880	5.000
IN311	PADOT Type 'C'	On Grade	442.53	442.53	435.70	0.150	0.880	7.880	5.000
IN313	PADOT Type 'C'	In Sag	440.56	440.56	425.22	0.110	0.840	7.880	5.000
IN314	PADOT Type 'C'	In Sag	440.56	440.56	424.94	0.530	0.840	7.880	5.000
IN315	PADOT Type 'C'	In Sag	442.32	442.32	439.28	0.210	0.850	7.880	5.000
IN316	PADOT Type 'C'	On Grade	439.22	439.22	436.47	0.220	0.880	7.880	5.000
IN317	PADOT Type 'C'	On Grade	439.12	439.12	436.18	0.240	0.820	7.880	5.000
IN318	PADOT Type 'C'	On Grade	436.94	436.94	434.19	0.120	0.800	7.880	5.000
IN319	PADOT Type 'C'	On Grade	436.83	436.83	433.90	0.180	0.900	7.880	5.000
IN320	PADOT Type 'C'	On Grade	436.23	436.23	433.28	0.190	0.620	7.880	5.000
IN322	PADOT Type 'C'	In Sag	439.00	439.00	435.50	0.450	0.410	7.880	5.000
IN504	PADOT Type 'C'	In Sag	444.16	444.16	439.68	0.200	0.820	7.880	5.000
IN505	PADOT Type 'C'	In Sag	442.08	442.08	439.33	0.050	0.250	7.880	5.000
IN506	PADOT Type 'C'	In Sag	443.04	443.04	439.05	0.100	0.910	7.880	5.000
IN507	PADOT Type 'C'	In Sag	444.96	444.96	441.04	0.100	0.890	7.880	5.000
IN508	PADOT Type 'C'	In Sag	444.86	444.86	439.85	0.110	0.960	7.880	5.000
IN509	PADOT Type 'C'	In Sag	444.00	444.00	438.64	0.070	0.970	7.880	5.000
IN510	PADOT Type 'C'	In Sag	442.33	442.33	438.23	0.110	0.940	7.880	5.000
IN511	PADOT Type 'M'	In Sag	440.81	440.81	437.75	0.180	0.710	7.880	5.000
IN512	PADOT Type 'M'	In Sag	441.50	441.50	436.94	0.230	0.840	7.880	5.000
IN513	PADOT Type 'C'	On Grade	441.00	441.00	436.23	0.110	0.880	7.880	5.000
IN514	PADOT Type 'C'	In Sag	437.85	437.85	434.93	0.230	0.970	7.880	5.000

IN516	PADOT Type 'C'	In Sag	445.60	445.60	441.70	0.650	0.250	7.880	5.000
IN517	PADOT Type 'M'	In Sag	443.00	443.00	436.54	0.330	0.300	7.880	5.000
IN518	PADOT Type 'M'	In Sag	441.85	441.85	435.73	0.200	0.260	7.880	5.000
IN519	PADOT Type 'M'	In Sag	441.50	441.50	434.79	0.130	0.310	7.880	5.000
IN520	PADOT Type 'M'	In Sag	441.00	441.00	433.91	0.070	0.330	7.880	5.000
IN521	PADOT Type 'M'	In Sag	435.60	435.60	432.68	0.130	0.340	7.880	5.000
IN522	PADOT Type 'C'	In Sag	437.32	437.32	432.06	0.070	0.790	7.880	5.000
YD512	Grate 18 Nyloplast	In Sag	445.70	445.70	443.82	0.020	0.650	7.880	5.000
YD513	PADOT Type 'C'	In Sag	446.20	446.20	442.90	0.030	0.560	7.880	5.000
YD514	PADOT Type 'C'	In Sag	446.20	446.20	442.43	0.020	0.550	7.880	5.000
YD515	PADOT Type 'M'	In Sag	446.20	446.20	441.96	0.010	0.550	7.880	5.000

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Scenario: 100-Year
Current Time Step: 0.000Hr
Conduit FlexTable: Pipe Report

Start Node	Stop Node	Section Size (Catalog Conduit)	Material	Length (User Defined) (ft)	Slope (ft/ft)	Capacity (Full Flow) (ft ³ /s)	Flow (Link) (ft ³ /s)	Velocity (Average) (ft/s)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	Invert (Upstream) (ft)	Invert (Downstream) (ft)	Cover (Start) (ft)	Cover (Stop) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Energy Grade Line (In Link) (ft)
DB500	DB501	15 inch	HDPE	16.0	0.0050	4.95	0.10	1.61	446.81	446.55	443.51	443.43	2.05	1.87	443.63	443.55	443.67
DB501	YD513	15 inch	HDPE	36.0	0.0053	5.08	0.10	1.64	446.55	446.20	443.26	443.07	2.04	1.88	443.38	443.27	443.42
YD512	DB500	15 inch	HDPE	27.0	0.0052	5.04	0.10	1.64	445.70	446.81	443.82	443.68	0.63	1.88	443.94	443.80	443.99
IN504	IN506	15 inch	HDPE	91.4	0.0050	4.96	1.30	3.41	444.16	443.04	439.68	439.22	3.23	2.57	440.47	440.45	440.51
IN505	IN506	15 inch	HDPE	21.9	0.0050	4.96	0.10	1.60	442.08	443.04	439.33	439.22	1.50	2.57	440.45	440.45	440.45
IN507	IN508	15 inch	HDPE	67.6	0.0151	8.60	0.71	4.23	444.96	444.86	441.04	440.02	2.67	3.59	441.37	440.37	441.49
IN506	IN509	15 inch	HDPE	49.4	0.0049	4.88	2.09	1.70	443.04	444.00	439.05	438.81	2.74	3.94	440.43	440.38	440.47
IN508	IN509	15 inch	HDPE	79.9	0.0130	7.98	1.53	5.02	444.86	444.00	439.85	438.81	3.76	3.94	440.34	440.36	440.52
IN509	IN510	15 inch	HDPE	47.3	0.0051	5.01	4.05	3.30	444.00	442.33	438.64	438.40	4.11	2.68	440.29	440.13	440.46
IN510	IN511	15 inch	HDPE	61.6	0.0050	4.96	4.79	3.90	442.33	440.81	438.23	437.92	2.85	1.64	440.03	439.74	440.26
YD513	YD514	15 inch	HDPE	60.0	0.0050	4.95	0.81	2.97	446.20	446.20	442.90	442.60	2.05	2.35	443.25	442.94	443.38
YD514	YD515	15 inch	HDPE	60.0	0.0050	4.95	1.27	3.38	446.20	446.20	442.43	442.13	2.52	2.82	442.87	442.56	443.04
IN522	IN43	15 inch	HDPE	45.8	0.0083	6.37	5.47	5.84	437.32	434.78	432.06	431.68	4.01	1.85	433.09	432.93	433.49
IN521	IN522	15 inch	HDPE	54.1	0.0050	4.94	5.13	4.58	435.60	437.32	432.68	432.41	1.67	3.66	433.72	433.33	434.07
IN520	IN521	15 inch	HDPE	166.7	0.0064	5.58	4.91	5.13	441.00	435.60	433.91	432.85	5.84	1.50	434.82	433.90	435.23
MH503	IN520	15 inch	HDPE	72.2	0.0050	4.94	3.42	4.35	443.15	441.00	434.44	434.08	7.46	5.67	435.21	434.91	435.50
IN519	MH503	15 inch	HDPE	36.3	0.0050	4.93	3.44	4.34	441.50	443.15	434.79	434.61	5.46	7.29	435.56	435.36	435.85
MH502	IN519	15 inch	HDPE	58.2	0.0050	4.94	3.31	4.31	442.97	441.50	435.25	434.96	6.47	5.29	436.00	435.70	436.29
IN518	MH502	15 inch	HDPE	62.0	0.0050	4.95	3.33	4.33	441.85	442.97	435.73	435.42	4.87	6.30	436.48	436.17	436.77
IN517	IN518	15 inch	HDPE	129.1	0.0050	4.93	2.86	4.17	443.00	441.85	436.54	435.90	5.21	4.70	437.22	436.58	437.49
EX.IN216	IN42	15 inch	HDPE	27.5	0.0564	16.62	0.30	5.21	437.00	436.40	433.75	432.20	2.00	2.95	433.96	432.44	434.04
IN514	IN215	15 inch	HDPE	42.6	0.0390	13.81	9.24	12.06	437.85	435.97	434.93	433.27	1.67	1.45	436.09	435.01	437.03
IN513	IN514	15 inch	HDPE	66.6	0.0170	9.12	7.53	8.30	441.00	437.85	436.23	435.10	3.52	1.50	437.32	436.47	438.00
IN512	IN513	15 inch	HDPE	107.5	0.0050	4.96	7.06	5.75	441.50	441.00	436.94	436.40	3.31	3.35	438.65	437.50	439.16
IN511	IN512	15 inch	HDPE	72.7	0.0051	4.99	5.69	4.64	440.81	441.50	437.75	437.38	1.81	2.87	439.66	439.17	439.99
IN516	IN517	15 inch	HDPE	97.0	0.0149	8.55	1.99	5.68	445.60	443.00	441.70	440.25	2.65	1.50	442.26	440.66	442.48
YD515	IN516	15 inch	HDPE	19.3	0.0047	4.78	0.79	2.88	446.20	445.60	441.96	441.87	2.99	2.48	442.31	442.29	442.43
IN304A	IN304	15 inch	HDPE	24.0	0.0108	7.28	0.02	1.28	442.25	442.69	440.25	439.99	0.75	1.45	440.30	440.04	440.32
IN215	MH305	15 inch	HDPE	48.0	0.0429	14.50	9.49	12.59	435.97	435.42	433.10	431.04	1.62	3.13	434.27	432.48	435.25
IN204	IN38	15 inch	HDPE	21.0	0.0186	9.54	0.32	3.59	443.50	443.50	440.54	440.15	1.71	2.10	440.76	440.31	440.83
MH305	IN44A	24 inch	HDPE	29.0	0.0328	44.35	20.07	13.77	435.42	434.47	430.29	429.34	3.13	3.13	431.90	431.44	432.75
MH304	IN313	24 inch	HDPE	116.0	0.0100	24.51	9.26	7.26	442.29	440.56	435.32	434.16	4.97	4.40	436.41	435.01	436.84
MH303	EW303	30 inch	HDPE	15.0	0.0067	36.28	16.68	3.40	436.75	434.71	422.60	422.50	11.65	9.71	426.27	426.25	426.45
EXMH63	EXMH62	24 inch	HDPE	188.0	0.0106	25.28	1.42	4.34	442.59	440.40	433.13	431.13	7.46	7.27	433.54	431.45	433.69
EXMH62	EW301	24 inch	HDPE	28.0	0.0300	42.45	1.38	6.18	440.40	434.00	430.34	429.50	8.06	2.50	430.75	429.75	430.89
IN309	IN310	15 inch	HDPE	29.0	0.0097	6.88	0.93	3.91	444.18	443.90	441.43	441.15	1.50	1.50	441.81	441.46	441.94
IN308	IN310	24 inch	HDPE	221.0	0.0050	17.29	5.75	4.95	444.58	443.90	437.59	436.49	4.99	5.41	438.44	437.28	438.76
IN305	IN307	15 inch	HDPE	35.0	0.0111	7.39	0.47	3.38	442.50	443.26	439.33	438.94	1.92	3.07	439.60	439.15	439.69
IN307	IN308	24 inch	HDPE	85.0	0.0051	17.43	5.30	4.87	443.26	444.58	438.19	437.76	3.07	4.82	439.00	438.52	439.31
IN310	IN311	24 inch	HDPE	89.0	0.0051	17.43	7.20	5.28	443.90	442.53	436.32	435.87	5.58	4.66	437.27	436.77	437.64
HW02	IN313	15 inch	HDPE	21.0	0.0100	7.00	2.44	5.19	437.00	440.56	431.76	431.55	3.99	7.76	432.39	432.07	432.63
IN319	IN320	15 inch	HDPE	24.0	0.0217	10.30	4.24	7.98	436.83	436.23	433.90	433.38	1.68	1.60	434.73	434.30	435.10
IN320	MH305	15 inch	HDPE	25.0	0.0268	11.46	5.26	9.14	436.23	435.42	433.28	432.61	1.70	1.56	434.21	433.26	434.66
IN44A	IN44	24 inch	HDPE	30.0	0.0133	28.30	21.30	9.89	434.47	433.57	429.32	428.92	3.15	2.65	431.26	431.05	431.99
MH08	IN35	18 inch	HDPE	66.0	0.0259	18.32	0.89	5.36	450.13	445.11	443.68	441.97	4.95	1.64	444.03	442.20	444.16
MH302	EW304	24 inch	HDPE	21.0	0.0052	17.74	26.00	8.28	430.22	426.00	422.61	422.50	5.61	1.50	424.64	424.29	425.70
MH301	MH302	24 inch	HDPE	207.0	0.0140	28.96	26.40	10.45	433.00	430.22	425.67	422.78	5.33	5.44	427.47	424.76	428.69
IN322	EXMH63	24 inch	HDPE	206.0	0.0107	25.33	1.47	4.39	439.00	442.59	435.50	433.30	1.50	7.29	435.92	433.63	436.07
IN315	MH304	15 inch	HDPE	22.0	0.0050	4.95	1.42	3.48	442.32	442.29	439.28	439.17	1.79	1.87	439.75	439.63	439.93
IN311	MH304	24 inch	HDPE	21.0	0.0100	24.51	7.99	6.97	442.53	442.29	435.70	435.49	4.83	4.80	436.71	436.70	437.10
IN313	IN314	30 inch	HDPE	22.0	0.0050	31.42	12.31	6.01	440.56	440.56	425.22	425.11	12.84	12.95	426.40	426.37	426.85
IN314	MH303	30 inch	HDPE	83.0	0.0065	35.84	16.82	7.18	440.56	436.75	424.94	424.40	13.12	9.85	426.33	426.30	426.89
IN316	IN317	15 inch	HDPE	24.0	0.0050	4.95	1.09	3.24	439.22	439.12	436.47	436.35	1.50	1.52	436.88	436.89	437.03
IN317	IN319	15 inch	HDPE	115.0	0.0183	9.46	2.19	6.27	439.12	436.83	436.18	434.08	1.69	1.50	436.77	434.88	437.00
IN306	IN307	24 inch	HDPE	29.0	0.0028	12.87	4.03	3.62	443.09	443.26	438.44	438.36	2.65	2.90	439.21	439.11	439.41
HW01	IN39	15 inch	HDPE	21.0	0.0386	13.74	1.99	7.97	437.00	439.56	432.47	431.66	3.28	6.65	433.03	432.24	433.25
IN318	IN319	15 inch	HDPE	24.0	0.0050	4.95	0.90	3.07	436.94	436.83	434.19	434.07	1.50	1.51	434.80	434.80	434.84
IN304	IN40	15 inch	HDPE	51.0	0.0490	15.49	0.04	2.66	442.69	441.27	439.72	437.22	1.72	2.80	439.80	437.36	439.82
IN40A	IN39	15 inch	HDPE	22.0	0.0314	12.39	0.85	5.78	439.52	439.56	436.92	436.23	1.35	2.08	437.28	436.45	437.41
IN49	MH08	15 inch	HDPE	20.0	0.0140	8.28	0.89	4.41	451.25	450.13	447.03	446.75	2.97	2.13	447.40	447.03	447.53
IN45	MH301	24 inch	HDPE	116.0	0.0134	28.33	26.63	10.25	432.24	433.00	427.39	425.84	2.85	5.16	429.19	427.78	430.43
IN46	IN45	15 inch	HDPE	34.0	0.0400	14.00	0.47	5.28	432.40	432.24	429.00	427.64	2.15	3.35	429.59	429.60	429.60
IN44	IN45	24 inch	HDPE	38.0	0.0384	48.04	26.04	15.60	433.57	432.24	428.90	427.44	2.67	2.80	430.69	430.05	431.89
IN41	MH305	24 inch	HDPE	40.0	0.0017	10.25	5.94	3.38	436.41	435.42	430.53	430.46	3.88	2.96	432.01	431.99	432.10
IN42	IN41	15 inch	HDPE	22.0	0.0041	4.48	0.97	2.91	436.40	436.41	432.00	431.91	3.15	3.25	432.40	432.30	432.53
IN43	IN44	15 inch	HDPE	50.0	0.0482	15.36	5.98	11.73	434.78	433.57	431.66	429.25	1.87	3.07	432.65	431.00	433.16
IN39	IN41	24 inch	HDPE	151.0	0.0045												

IN35	IN36	24 inch	HDPE	22.0	0.0195	34.26	1.47	5.43	445.11	445.08	441.46	441.03	1.65	2.05	441.88	441.32	442.03
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UPPER UWCHLAN TOWNSHIP
PLANNING COMMISSION WORKSHOP, MEETING
June 12, 2025
Minutes
DRAFT

LOCATION: Township Building, 140 Pottstown Pike, Chester Springs 19425

Attendees:

Sally Winterton, Chair; Joe Stoyack, Vice-Chair; Chad Adams, David Colajezzi, Jeff Smith (Meeting), Taylor Young

Chris Garrity, RGS (Workshop)

Gwen Jonik, Planning Commission Secretary

6:00 p.m. Workshop

Sally Winterton called the Workshop to order at 6:02 p.m. There was 1 citizen in attendance.

Landscaping / screening regulations. The Commission reviewed landscaping / screening regulation amendments prepared by Chris Garrity of RGS via a slide presentation, highlighting suggestions that could reduce the number of waivers requested and to simplify the regulations.

Discussion included:

1. compensatory tree replacement requirement – woodland disturbance. There are too many categories and size / quantities of replacement trees; simplify the tree replacement chart, increase the size range of each category, allow different types of trees and shrubs – some shade, some evergreens -- dependent on the site; for the commercial district uses on wooded lots, perhaps leave restrictions out of that zoning district; we won't be able to avoid all waiver requests; developer to make a conscious effort to replace trees being disturbed; allow other required trees to count toward the tree replacement requirement; only require replacement trees for those that were healthy, viable trees. In the villages, focus on landscaping with shrubs and screening rather than just planting trees; perhaps a hedge and berm combination. When an area is too heavily planted, they crowd out each other, requiring removal. Screening between zoning districts needs to be balanced. Plant trees of value.

2. buffer tree requirement. Existing code can be vague regarding quantities, and when and where they're needed; propose a land use chart to clarify when and where a buffer is needed, specifying quantities and types, different "levels" depending on the use. Perhaps a performance standard to measure such as within "x" years, this is what it'll look like". Heavy landscaping causes issues with underground infrastructure – sanitary and storm sewers, etc. Require and enforce a pleasing, appealing buffer between districts.

Suggestions:

Remove compensatory tree replacement from commercial (C3) and industrial districts and the remaining landscaping ordinances take care of it. Keep the compensatory replacement in C1 Village District and all Residential Districts.

Chris Garrity suggested a list similar to PECO's that says what types of trees are good along roads and under utility lines; use other amenities to enhance landscaping, such as fencing, flowers, etc. He suggested replacement trees should be 2.5" so they establish quicker.

Consensus reached regarding tree replacements: require replacement of healthy, valuable trees, not 'junk' trees. Buffers between districts are needed and if categorized by a land use chart can provide flexibility. Examples of land use charts were provided in Mr. Garrity's February 2025 draft.

Briefly discussed was the type of trees for parking lots; perhaps a smaller leaf that doesn't clog storm drains.

3. Standards and Guarantees. There are a lot of repetitive or scattered standards in our subdivision/land development (SALDO) and zoning ordinances (ZO). Propose moving them to one section, everything in one spot. It was discussed to move them to SALDO where it's easier to modify as needed. Guaranteed plantings should be within the 18-month maintenance bond period.

4. Approved Tree List. Chris proposes removing the approved tree list and instead, reference DCNR's, Cornell's, or Penn State's as they are constantly updating those lists. There will be native trees on those lists. Perhaps a certain percentage can be ornamental, non-native trees.

Next steps. Chris will prepare a 'clean copy' of our ordinance and compare it with an existing project. Neal Fisher offered Eagleview Lot 1A, currently under construction as the test project.

If Commission members have any further comments, send them to Chris. He'll return to the Commission's August 14 Workshop.

Sally adjourned the Workshop at 6:59 p.m.

7:00 p.m. Meeting

Sally Winterton called the Meeting to order at 7:04 p.m. There were 3 citizens in attendance.

Conditional Use Application – 705 N. Reeds Road.

The Applicant, Michaela Kolbe attended to answer questions. The Commission reviewed the Application. There are 2 cottages on the property. Currently one is a short-term rental and she's living in the other, but she confirmed her plans are to rent both in the future. She is seeking approval for both cottages to be used as short-term rentals. She has 90% occupancy of the one, which is a 1 bedroom, 2-guests cottage, typically couples getting away from the city or holiday visitors.

Joe Stoyack moved to recommend the Board of Supervisors approve the Conditional Use Application for parcel 32-5-15 as presented. Taylor Young seconded and all were in favor, motion carried.

Byers Station Parcel 5C Lot 2B Commercial Phase 2.

Alyson Zarro, Esq., summarized the previous approval for Lot 2B which included a drive-through restaurant and access to Pottstown Pike. The Phase 2 ~ Amended PRD Plan includes Celebree Daycare, the 6-space retail building, extension of the parking, elimination of the restaurant and Route 100 access, and another 10,500 SF 6-space building parallel to Route 100. There has been interest from medical office users. It might not be retail. Some leases have been signed for the previously approved retail building; no leases yet for anything medical. The aesthetics of Celebree will be repeated on the newly proposed 10,500 SF building. The parking had been evaluated using small retail shops and 2 restaurants; 143 parking spaces are proposed which exceeds the maximum need.

Discussion included:

- Consider left turn signals at Park Road and Station Boulevard;
- The trash enclosure is next to the playground – can it be relocated?
- The retaining wall on the north side is concerning. It looks like it's only 8' from the building.
- Alyson Zarro noted the retaining wall is not as high as previously planned, and there is 2,000 SF less impervious coverage with this plan.

Jeff Smith moved, seconded by Taylor Young, to accept the Plan for consultant review. David Colajezzi inquired of the Phase 1 construction completion date. Ms. Zarro noted they are targeting occupancy beginning early 2026 for Celebree. Gerry Stein asked if the parking can be used by the public off-hours. Ms. Zarro noted yes, that's part of the original approval. All were in favor, the motion carried.

Meeting Reports

Environmental Advisory Council (EAC). There was no report.

Historical Commission (HC). The next Lecture is June 17 regarding transportation.

Sally noted that Jessica has been serving on the Eagle Mobility Study, looking at enhancing all transportation modes; please fill out the public survey; discussing reconfiguring both ends of the Village; discussing how to improve traffic flow.

Approval of Minutes

Sally Winterton had a correction to the May 8 meeting adjournment time – 8:10 p.m.

Chad Adams moved, seconded by David Colajezzi, to approve as corrected the minutes of the May 8, 2025 Planning Commission meeting. All were in favor, motion carried.

The Commission's next meeting is July 10, 2025, 7:00 p.m. There will not be a 6:00 Workshop.

Open Session

The Township Block Party is this Saturday, June 14, 2025.

Gerry Stein asked if the Commission had seen the proposed 160-180 Park Road development that was coming before the Zoning Hearing Board later this month. Sally Winterton said it had not. Gerry asked what could be developed there by-right. Chad Adams believes there would be limitations regarding sanitary sewer capacity.

Sally Winterton questioned the Supervisors approving the updated Comprehensive Plan. Gwen Jonik confirmed it had been approved at the Board's April 2025 meeting and it would be posted on the website in the near future.

Adjournment

Jeff Smith moved to adjourn the Meeting at 7:48 p.m. All were in favor.

Respectfully submitted,

Gwen A. Jonik
Planning Commission Secretary