



# **martin and martin, incorporated**

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May 27, 2026

PaDEP – Waste Management  
Attn: Roger Bellas  
2 Public Square  
Wilkes-Barre, PA 18701-1915

RE: Blythe Recycling and Demolition Site  
(BRADS) Permit #101679  
Major Modification - Leachate Hauling  
Our file: b/1312.4/MM-Leachate Haul/TL

Dear Roger:

On behalf of BRADS, we are transmitting the landfill's Application to include leachate hauling as the primary means for managing leachate produced by the landfill. We will forward copies of the application to Blythe Township and Schuylkill County.

In accordance with applicable regulations; public notice, Act 14 Notification, and notifications of contiguous landowners have been sent.

In the event there are any questions concerning this correspondence, please don't hesitate to contact this office at your convenience.

Very truly yours,  
**MARTIN AND MARTIN, INCORPORATED**

Kevin N. Bodner

cc: BRADS Landfill  
Schuylkill County

**BLYTHE RECYCLING AND  
DEMOLITION SITE HOLDINGS, INC.**  
A Construction and Demolition Waste Facility



**WASTE CONNECTIONS INC.**  
*Connect with the Future®*

**MAJOR PERMIT MODIFICATION TO UTILIZE  
LEACHATE HAULING AS A BASIC TREATMENT  
METHOD FOR MANAGING LEACHATE**

**PERMIT #101679**

**Blythe Township, Schuylkill County,  
Pennsylvania**

**May 2026**

Prepared by:



**Martin and Martin, Incorporated**  
37 South Main Street, Suite A  
Chambersburg, PA 17201  
Phone: 717-264-6759  
Website: [martinandmartininc.com](http://martinandmartininc.com)

# **BLYTHE RECYCLING AND DEMOLITION SITE HOLDINGS, INC.**

## **MAJOR PERMIT MODIFICATION TO UTILIZE LEACHATE HAULING AS A BASIC TREATMENT METHOD FOR MANAGING LEACHATE**

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# Checklist

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Checklist Major



Pennsylvania  
Department of  
Environmental Protection

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

**CHECKLIST – NEW PERMIT FOR OR MAJOR MODIFICATION TO A MUNICIPAL WASTE LANDFILL PERMIT OR A RESIDUAL WASTE LANDFILL OR IMPOUNDMENT PERMIT**

This checklist is to assist the Department and the Applicant in assuring that all the forms, notices, documentation and fees required for an application for a major modification to a municipal waste landfill or residual waste landfill or impoundment permit have been addressed. This checklist should be signed by the Applicant and submitted to the Department as part of the application package. Failure to do so may cause the application to be administratively incomplete and ineligible for Permit Decision Guarantee (PDG).<sup>1</sup>

This checklist will be utilized by the Department and Applicant during the pre-application meeting to indicate the forms and other information which must be included in the application and public notifications that are needed. The Department will check the appropriate box in the first two columns to indicate the forms and information required ("Req") or not applicable ("N/A"). The Applicant will then ensure the required forms and information are included in the application by checking the corresponding box in the third column.

In cases where no pre-application meeting is held, the Applicant will indicate what forms are included in the application by checking the appropriate boxes in the third column.

The most current version of the forms found on the Department's online eLibrary should be utilized.

Name of Applicant or Permittee Blythe Recycling & Demolition Site Holdings Inc. (BRADS) Permit No. (if applicable) 101679

Links to the Department Website for All Permit Application Forms:

Municipal Waste	<a href="http://www.pa.gov/agencies/dep/programs-and-services/business/municipal-waste-permitting/mw-permit-forms.html">www.pa.gov/agencies/dep/programs-and-services/business/municipal-waste-permitting/mw-permit-forms.html</a>
Residual Waste	<a href="http://www.pa.gov/agencies/dep/programs-and-services/business/residual-waste-permitting/rw-permit-forms.html">www.pa.gov/agencies/dep/programs-and-services/business/residual-waste-permitting/rw-permit-forms.html</a>

Standard Permit Forms

Req.	N/A	√	Name	Form No. (Municipal)	Form No. (Residual)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	GIF - General Information Form	4700-PM-CEE0001	4700-PM-CEE0001
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form A - Application	2540-PM-BWM0357	2540-PM-BWM0357
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form B - Professional Certification	2540-PM-BWM0358	2540-PM-BWM0358
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form B1 - Application for Certification	2540-PM-BWM0359	2540-PM-BWM0359

<sup>1</sup>DISCLAIMER: The process and procedures outlined in this Checklist are intended to supplement existing requirements. Nothing in the Checklist shall affect regulatory requirements.

The process, procedures, and interpretations herein are not an adjudication or a regulation. There is no intent on the part of DEP to give the rules in this Checklist that weight or deference. This document establishes the framework within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

DEP reserves the right to supplement the list of forms and information included on this Checklist at any time during the permit review process. This Checklist should not be construed as an exhaustive list of forms and information to be submitted by the Applicant.

**Standard Permit Forms (cont.)**

Req.	N/A	√	Name	Form No. (Municipal)	Form No. (Residual)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form C1 - Compliance History Certification <sup>2</sup>	2540-PM-BWM0351	2540-PM-BWM0351
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form HW-C - Compliance History <sup>2</sup>	2540-FM-BWM0058	2540-FM-BWM0058
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form MRW-C - Identification of Interests & Compliance History <sup>2</sup>	2540-FM-BWM0124	2540-FM-BWM0124

<sup>2</sup> Form C1, Form HW-C, or Form MRW-C should be submitted depending on the modification requested.

**Additional Forms Required Based on the Modification Requested**

Req.	N/A	√	Name	Form No. (Municipal)	Form No. (Residual)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form D - Environmental Assessment	2540-PM-BWM0172	2540-PM-BWM0172
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form E – Contractual Consent of Landowner	2540-PM-BWM0353	2540-PM-BWM0353
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form F – Soils Information – Phase I	2540-PM-BWM0371	2540-PM-BWM0371
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form FC-1 - Disposal of Virgin Fuel Contaminated Soil	2540-PM-BWM0244	2540-PM-BWM0244
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form G (A) - Air Resource Protection	2540-FM-BWM0391a	2540-FM-BWM0391a
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form G(B) - Non Methane Organic Compounds (NMOC) Emissions Estimate	2540-FM-BWM0391b	2540-FM-BWM0391b
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form H - Revegetation Plan	2540-PM-BWM0375	2540-PM-BWM0375
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form I - Soil Erosion and Sedimentation Control	2540-PM-BWM0390	2540-PM-BWM0390
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form J - Soils Phase II	2540-PM-BWM0376	2540-PM-BWM0376
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form K - Gas Management	2540-PM-BWM0379	2540-PM-BWM0379
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form L - Contingency Plan for Emergency Procedures - Guidelines for the Development and Implementation of Environmental Response Plans <a href="http://greenport.pa.gov/elibrary//GetFolder?FolderID=4582">greenport.pa.gov/elibrary//GetFolder?FolderID=4582</a>	2540-PM-BWM0384	2540-PM-BWM0384
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form Q - Equivalency Review Request	2540-PM-BWM0386	2540-PM-BWM0386
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form R - Waste Analyses/Classification	2540-PM-BWM0396	2540-PM-BWM0396
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form R1 - Waste Analysis and Classification	2540-PM-BWM0001	2540-PM-BWM0001
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form X - Radiation Protection Action Plan	2500-FM-BWM0430	2500-FM-BWM0430
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 1 - Facility Plan	2540-PM-BWM0170	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 1R - Facility Plan		2540-PM-BWM0355
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 2 - Map Requirement – Phase I	2540-PM-BWM0173	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 2R - Map Requirements, Phase I		2540-PM-BWM0360
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 3 - Map Requirement – Phase II	2540-PM-BWM0007	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 3R - Map Requirement – Phase II		2540-PM-BWM0361
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 4R - Map Requirements		2540-PM-BWM0362

**Additional Forms Required Based on the Modification Requested (cont.)**

Req.	N/A	√	Name	Form No. (Municipal)	Form No. (Residual)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 5 - Map Requirements	2540-PM-BWM0154	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 5R - Map Requirements		2540-PM-BWM0363
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 6 - Geological Information	2540-PM-BWM0176	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 6R - Geological Information		2540-PM-BWM0365
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 7 - Hydrogeological Information	2540-PM-BWM0177	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 7R - Hydrogeological Information		2540-PM-BWM0366
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 8 - Baseline Groundwater Analysis, Phase I	2540-PM-BWM0178	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 8R - Baseline Groundwater Analysis		2540-PM-BWM0367
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 10 - Baseline Groundwater Analysis C/D Landfill	2540-PM-BWM0180	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 10R - Mineral Deposits Information, Phase I		2540-PM-BWM0368
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 11 - Mineral Deposits Information, Phase I	2540-PM-BWM0181	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 11R - Alternative Water Supply		2540-PM-BWM0369
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 12 - Alternative Water Supply, Phase I	2540-PM-BWM0182	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 12R - Operation Plan		2540-PM-BWM0081
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 13R - Water Quality Monitoring System, Phase II		2540-PM-BWM0372
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form 14 - Operation Plan	2540-PM-BWM0011	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 16R - Liner System		2540-PM-BWM0393
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 17R - Leachate Management		2540-PM-BWM0378
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 18 - Water Quality Monitoring System, Phase II	2540-PM-BWM0040	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 18R - Closure-Post Closure Land Use Plan		2540-PM-BWM0385
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 21R - Groundwater Assessment Plan		2540-PM-BWM0388
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 22R - Abatement Plan		2540-FM-BWM0389
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 23R - Control Plans		2540-PM-BWM0392
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 24 - Liner System, Phase II	2540-PM-BWM0150	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 24R - Residual Waste Disposal Impoundments		2540-PM-BWM0500
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form 25 - Leachate Management, Phase II	2540-PM-BWM0152	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 25R - Source Reduction Strategy		2540-PM-BWM0349
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 28 - Closure-Post Closure Land Use Plan	2540-PM-BWM0153	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 35 - Approval to Process or Dispose of Processed Infectious/Chemotherapeutic Waste	2540-PM-BWM0157	

**Additional Forms Required Based on the Modification Requested (cont.)**

Req.	N/A	√	Name	Form No. (Municipal)	Form No. (Residual)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 36 - Approval Request to Dispose Incinerator Ash Residue	2540-PM-BWM0155	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 37 - Certification of Facility Construction Activity	2540-PM-BWM0012	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 43 - Request for Approval to Dispose or Process Sewage Sludge	2540-PM-BWM0199	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 45 - Protection of Capacity	2540-PM-BWM0209	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 51 - Municipal Waste Landfill Groundwater Assessment Plan	2540-PM-BWM0005	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 53 - MW Landfill - C/D Waste Landfill Abatement Plan	2540-PM-BWM0207	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 54 - Background Meteorological Monitoring	2540-PM-BWM0503	

**Bonding Worksheets**

Req.	N/A	√	Name	Form No. (Municipal)	Form No. (Residual)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Bonding Worksheet Instructions	2540-FM-BWM0580	2540-FM-BWM0580
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Landfills and Disposal Impoundments	2540-FM-BWM0581	2540-FM-BWM0581

**Proof of Liability Insurance Under 25 Pa. Code Chapters 271.371(b) and 287.371(b)**

Req.	N/A	√	Description
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A certificate of liability insurance that contains the information noted in 25 Pa. Code Chapters 271.374(a) for municipal waste facilities or 287.373(a) for residual waste facilities

**Public Notification Under 25 Pa. Code Chapters 271.141 and 287.151**

Req.	N/A	√	Type
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Newspaper of general circulation <u>Three (3) consecutive weeks beginning _____</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Contiguous land owners (list) _____
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Host Municipality or Municipalities: <u>Schuylkill County, Blythe Township</u>

**Confidential Information Under 25 Pa. Code Chapters 271.5 and 287.5, and the Bureau of Waste Management's "Procedures for Handling Confidential Information Requests" document.**

Req.	N/A	√	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If proposed by the applicant, a demonstration that application information satisfies the regulatory requirements for confidentiality.

**Registration with Pennsylvania Department of Revenue**

Req.	√	Name	Form No.
<input type="checkbox"/>	<input type="checkbox"/>	Pennsylvania Online Business Tax Registration ( <a href="http://www.mypath.pa.gov">www.mypath.pa.gov</a> )	N/A

**Application Fee**

Req.	N/A	√	Authorization Type	Amount
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Additional Types of Waste Not Approved in the Permit (Municipal)	\$300
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Additional Types of Waste Not Approved in the Permit (Residual)	\$600
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Major Modification to a Residual Waste Disposal Impoundment	\$4,600
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Major Modification to a Residual or Municipal Waste Landfill, or Construction/Demolition Waste Landfill Permit	\$7,800
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New Permit for a Residual Waste Disposal Impoundment	\$8,500
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New Permit for a Residual Waste Landfill	\$25,900
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New Permit for a Municipal Waste Landfill	\$18,500
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New Permit for a Construction/Demolition Waste Landfill	\$19,250

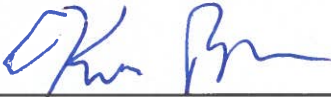
**Submittal of Application**

Req.	N/A	√	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Documents may be submitted electronically through Public Upload with Electronic Payment at <a href="http://www.dep.pa.gov/DataandTools/ElectronicSubmissions/Pages/default.aspx">www.dep.pa.gov/DataandTools/ElectronicSubmissions/Pages/default.aspx</a> .

**Public Notification and Comment Under 25 Pa. Code Chapters 271.142-144, 271.202, and 287.152-154, and the Department's "Local Municipality Involvement Process" Policy, Document Number 254-2100-100.**

√	Type
<input type="checkbox"/>	Publication in the <i>Pennsylvania Bulletin</i>
<input type="checkbox"/>	60-day Public Comment Period
<input type="checkbox"/>	Public Hearing(s) may be required
<input type="checkbox"/>	Local Municipality Involvement Process

**Notes/Additional Comments**

Signature of Applicant or Authorized Representative:  Date: 5/26/26

Printed Name: Kevin Bodner Title: VP

# Project Narrative

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**BLYTHE RECYCLING AND DEMOLITION SITE HOLDINGS, INC.**  
A Construction and Demolition Waste Facility

***Major Permit Modification***  
***Utilize Leachate Hauling as a Basic Treatment Method for Managing Leachate***

**Introduction**

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**Leachate Hauling** Blythe Recycling and Demolition Site Holdings, Inc. owns and operates the Blythe Recycling and Demolition Site (BRADS) located at 1061 Burma Road in Blythe Township, Schuylkill County, Pennsylvania, Inc. The landfill has been in operation since 2019 and as part of normal operations produces a wastewater, which is referred to as leachate. The leachate is formed through precipitation percolating through the landfill's waste mass. Leachate is collected at the base of the landfill with the use of a liner system and is then conveyed to an onsite storage area.

In response to passage of Act 45, BRADS is seeking PaDEP's approval to include leachate hauling as primary means for managing leachate produced by the Landfill. Leachate hauling has been employed by BRADS as the means to manage leachate generated by the Landfill. Since opening in 2019, BRADS has transported without incident and via tanker trucks, over 51 million gallons of leachate, or approximately 9,275 truckloads, to off-site wastewater treatment facilities for disposal. The success associated with the safe transfer of leachate is attributed to BRADS, and the industry's current infrastructure and protocols. In particular, BRADS maintains a designated transfer location which is equipped with a containment system, along with retaining licensed/registered haulers.

One principal item that should be noted for this permit modification request pertains to vehicle traffic associated with the leachate hauling trucks. Based on 2025 data, the daily number of vehicles transporting leachate was 6.3% of the total number of vehicles delivering waste to the site. Thus, significantly less than the 10% threshold referenced in Act 45. BRADS does not anticipate that this request will result in significant impacts due to traffic associated with the leachate transportation based on their successful, safe and timely handling of leachate disposal to date.

Per Act 45, consistent with the requirements for changing a landfill's Primary Leachate Management methodology to include hauling as a principal means of managing leachate, following is a summary of the forms and the items addressed within each form:

- Form D – Environmental Assessment: The response provided for Form D is limited to Section N & Section J (Traffic), regarding a discussion on the potential benefits and harms associated with the proposed activity;
- Form 14 – Operation Plan: The previously approved form narrative has been modified to reflect that leachate hauling will be an alternative primary means for managing leachate generated by the Landfill;
- Form 25 – Leachate Management – Phase II: The previously approved Form narrative has been modified to reflect that leachate hauling will be the primary means for managing leachate from the Landfill; and,
- Bonding – The bonding worksheets (along with supporting data) are limited to the Leachate Management costs (Worksheet I) and Summary Cost Worksheet (Worksheet L) reflecting the use of leachate hauling as an alternative primary means for managing leachate produced by the Landfill.

GIF

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**GENERAL INFORMATION FORM – AUTHORIZATION APPLICATION**

Before completing this General Information Form (GIF), read the step-by-step instructions provided in this application package. This form is used by the Department of Environmental Protection (DEP) to inform our programs regarding what other DEP permits or authorizations may be needed for the proposed project or activity. This version of the General Information Form (GIF) must be completed and returned with any program-specific application being submitted to the DEP.

<b>Related ID#s (If Known)</b>		<b>DEP USE ONLY</b>
Client ID# 101679	APS ID#	Date Received & General Notes
Site ID# 636694	Auth ID#	
Facility ID#		

**CLIENT INFORMATION**

DEP Client ID#	Client Type/Code MUNI	Dun & Bradstreet ID#
----------------	--------------------------	----------------------

Legal Organization Name or Registered Fictitious Name Blythe Recycling and Demolition Site Holdings, Inc.	Employer ID# (EIN) 20-0892431	Is the EIN a SSN? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	----------------------------------	--

State of Incorporation or Registration of Fictitious Name PA	<input checked="" type="checkbox"/> Corporation <input type="checkbox"/> LLC <input type="checkbox"/> Partnership <input type="checkbox"/> LLP <input type="checkbox"/> LP <input type="checkbox"/> Sole Proprietorship <input type="checkbox"/> Association/Organization <input type="checkbox"/> Estate/Trust <input type="checkbox"/> Other
---	--

Individual Last Name	First Name	MI	Suffix
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Additional Individual Last Name	First Name	MI	Suffix
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Mailing Address Line 1 P.O. Box 335	Mailing Address Line 2
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Address Last Line – City St. Clair	State PA	ZIP+4 17970	Country USA
---------------------------------------	-------------	----------------	----------------

Client Contact Last Name Pannucci	First Name David	MI	Suffix
--------------------------------------	---------------------	----	--------

Client Contact Title Region Engineer	Phone 570-429-2023	Ext	Cell Phone
---	-----------------------	-----	------------

Email Address david.pannucci@wasteconnections.com	FAX 570-429-2101
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**SITE INFORMATION**

DEP Site ID#	Site Name BRADS - Blythe Recycling and Demolition Site Holdings, Inc.
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EPA ID#	Estimated Number of Employees to be Present at Site	10
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Description of Site Construction and Demolition Landfill
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Tax Parcel ID(s):
-------------------

County Name(s)	Municipality(ies)	City	Boro	Twp	State
Schuylkill	Blythe	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Site Location Line 1**

1061 Burma Road

**Site Location Line 2**

**Site Location Last Line – City**

New Philadelphia

**State**

PA

**ZIP+4**

17959

**Detailed Written Directions to Site**

I-81 to Mahanoy City Exit. South to SR1006 (Burma Road), then Southwest 7 Miles to the Site on the Right.

**Site Contact Last Name**

Pannucci

**First Name**

David

**MI**

**Suffix**

**Site Contact Title**

Region Engineer

**Site Contact Firm**

BRADS

**Mailing Address Line 1**

P.O. Box 335

**Mailing Address Line 2**

**Mailing Address Last Line – City**

St. Clair

**State**

PA

**ZIP+4**

17970

**Phone**

570-429-2023

**Ext**

**FAX**

570-429-2101

**Email Address**

david.pannucci@wasteconnections.com

**NAICS Codes (Two- & Three-Digit Codes – List All That Apply)**

4953

**6-Digit Code (Optional)**

**Client to Site Relationship**

OWNOP (BRADS Holdings, Inc. Owns and Operates BRADS Landfill)

**FACILITY INFORMATION**

**Modification of Existing Facility**

**Yes**

**No**

1. Will this project modify an existing facility, system, or activity?  Yes  No

2. Will this project involve an addition to an existing facility, system, or activity?  Yes  No

*If "Yes", check all relevant facility types and provide DEP facility identification numbers below.*

Facility Type	DEP Fac ID#	Facility Type	DEP Fac ID#
<input type="checkbox"/> Air Emission Plant	_____	<input type="checkbox"/> Industrial Minerals Mining Operation	_____
<input type="checkbox"/> Beneficial Use (water)	_____	<input type="checkbox"/> Laboratory Location	_____
<input type="checkbox"/> Blasting Operation	_____	<input type="checkbox"/> Land Recycling Cleanup Location	_____
<input type="checkbox"/> Captive Hazardous Waste Operation	_____	<input type="checkbox"/> Mine Drainage Treatment / Land Recycling Project Location	_____
<input type="checkbox"/> Coal Ash Beneficial Use Operation	_____	<input checked="" type="checkbox"/> Municipal Waste Operation	101679
<input type="checkbox"/> Coal Mining Operation	_____	<input type="checkbox"/> Oil & Gas Encroachment Location	_____
<input type="checkbox"/> Coal Pillar Location	_____	<input type="checkbox"/> Oil & Gas Location	_____
<input type="checkbox"/> Commercial Hazardous Waste Operation	_____	<input type="checkbox"/> Oil & Gas Water Poll Control Facility	_____
<input type="checkbox"/> Dam Location	_____	<input type="checkbox"/> Public Water Supply System	_____
<input type="checkbox"/> Deep Mine Safety Operation -Anthracite	_____	<input type="checkbox"/> Radiation Facility	_____
<input type="checkbox"/> Deep Mine Safety Operation -Bituminous	_____	<input type="checkbox"/> Residual Waste Operation	_____
<input type="checkbox"/> Deep Mine Safety Operation -Ind Minerals	_____	<input type="checkbox"/> Storage Tank Location	_____
<input type="checkbox"/> Encroachment Location (water, wetland)	_____	<input type="checkbox"/> Water Pollution Control Facility	_____
<input type="checkbox"/> Erosion & Sediment Control Facility	_____	<input type="checkbox"/> Water Resource	_____
<input type="checkbox"/> Explosive Storage Location	_____	<input type="checkbox"/> Other:	_____

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
	40	44	23	76	9	22
<b>Horizontal Accuracy Measure</b>	Feet	--or--		Meters		
<b>Horizontal Reference Datum Code</b>	<input type="checkbox"/>	North American Datum of 1927				
	<input type="checkbox"/>	North American Datum of 1983				
	<input type="checkbox"/>	World Geodetic System of 1984				
<b>Horizontal Collection Method Code</b>						
<b>Reference Point Code</b>						
<b>Altitude</b>	Feet	--or--		Meters		
<b>Altitude Datum Name</b>	<input type="checkbox"/>	The National Geodetic Vertical Datum of 1929				
	<input type="checkbox"/>	The North American Vertical Datum of 1988 (NAVD88)				
<b>Altitude (Vertical) Location Datum Collection Method Code</b>						
<b>Geometric Type Code</b>						
<b>Data Collection Date</b>						
<b>Source Map Scale Number</b>		Inch(es)	=		Feet	
	--or--	Centimeter(s)	=		Meters	

**PROJECT INFORMATION**

<b>Project Name</b>			
BRADS			
<b>Project Description</b>			
Major Permit Modification to Utilize Leachate Hauling as a Basic Treatment Method for Managing Leachate.			
<b>Project Consultant Last Name</b>	<b>First Name</b>	<b>MI</b>	<b>Suffix</b>
Bodner	Kevin		
<b>Project Consultant Title</b>	<b>Consulting Firm</b>		
Engineer	Martin and Martin, Inc.		
<b>Mailing Address Line 1</b>	<b>Mailing Address Line 2</b>		
37 S. Main Street	Suite A		
<b>Address Last Line - City</b>	<b>State</b>	<b>ZIP+4</b>	
Chambersburg	PA	17201-2200	
<b>Phone</b>	<b>Ext</b>	<b>FAX</b>	<b>Email Address</b>
717-264-6759		717-264-7339	knbodner@yahoo.com
<b>Time Schedules</b>	<b>Project Milestone (Optional)</b>		
ASAP			

1. Is the project located in or within a 0.5-mile radius of an Environmental Justice community as defined by DEP?  Yes  No

To determine if the project is located in or within a 0.5-mile radius of an environmental justice community, please use [the online PennEnviroScreen tool](#). To see specific EJ areas, select the appropriate year of your submittal from the themes box on the right.

2. Have you informed the surrounding community prior to submitting the application to the Department?  Yes  No

Method of notification: \_\_\_\_\_

3. Have you addressed community concerns that were identified?  Yes  No  N/A

If no, please briefly describe the community concerns that have been expressed and not addressed.

4. Is your project funded by state or federal grants?  Yes  No

Note: If "Yes", specify what aspect of the project is related to the grant and provide the grant source, contact person and grant expiration date.

Aspect of Project Related to Grant \_\_\_\_\_

Grant Source: \_\_\_\_\_

Grant Contact Person: \_\_\_\_\_

Grant Expiration Date: \_\_\_\_\_

5. Is this application for an authorization on Appendix A of the Land Use Policy? (For referenced list, see Appendix A of the Land Use Policy attached to GIF instructions)  Yes  No

Note: If "No" to Question 5, the application is not subject to the Land Use Policy.

If "Yes" to Question 5, the application is subject to this policy and the Applicant should answer the additional questions in the Land Use Information section.

### LAND USE INFORMATION

Note: Applicants should submit copies of local land use approvals or other evidence of compliance with local comprehensive plans and zoning ordinances.

1. Is there an adopted county or multi-county comprehensive plan?  Yes  No

2. Is there a county stormwater management plan?  Yes  No

3. Is there an adopted municipal or multi-municipal comprehensive plan?  Yes  No

4. Is there an adopted county-wide zoning ordinance, municipal zoning ordinance or joint municipal zoning ordinance?  Yes  No

Note: If the Applicant answers "No" to either Questions 1, 3 or 4, the provisions of the PA MPC are not applicable and the Applicant does not need to respond to questions 5 and 6 below.

If the Applicant answers "Yes" to questions 1, 3 and 4, the Applicant should respond to questions 5 and 6 below.

5. Does the proposed project meet the provisions of the zoning ordinance or does the proposed project have zoning approval? If zoning approval has been received, attach documentation.  Yes  No

6. Have you attached Municipal and County Land Use Letters for the project?  Yes  No

**COORDINATION INFORMATION**

**Note:** The PA Historical and Museum Commission must be notified of proposed projects in accordance with DEP Technical Guidance Document 012-0700-001 [at PHMC's online portal, PA-SHARE](#).

If the activity will be a mining project (i.e., mining of coal or industrial minerals, coal refuse disposal and/or the operation of a coal or industrial minerals preparation/processing facility), respond to questions 1.0 through 2.5 below.

If the activity will not be a mining project, skip questions 1.0 through 2.5 and begin with question 3.0.

1.0	Is this a coal mining project? If "Yes", respond to 1.1-1.6. If "No", skip to Question 2.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
1.1	Will this coal mining project involve coal preparation/processing activities in which the total amount of coal prepared/processed will be equal to or greater than 200 tons/day?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
1.2	Will this coal mining project involve coal preparation/processing activities in which the total amount of coal prepared/processed will be greater than 50,000 tons/year?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
1.3	Will this coal mining project involve coal preparation/processing activities in which thermal coal dryers or pneumatic coal cleaners will be used?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
1.4	For this coal mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
1.5	Will this coal mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
1.6	Will this coal mining project involve underground coal mining to be conducted within 500 feet of an oil or gas well?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
2.0	Is this a non-coal (industrial minerals) mining project? If "Yes", respond to 2.1-2.6. If "No", skip to Question 3.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
2.1	Will this non-coal (industrial minerals) mining project involve the crushing and screening of non-coal minerals other than sand and gravel?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
2.2	Will this non-coal (industrial minerals) mining project involve the crushing and/or screening of sand and gravel with the exception of wet sand and gravel operations (screening only) and dry sand and gravel operations with a capacity of less than 150 tons/hour of unconsolidated materials?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
2.3	Will this non-coal (industrial minerals) mining project involve the construction, operation and/or modification of a portable non-metallic (i.e., non-coal) minerals processing plant under the authority of the General Permit for Portable Non-metallic Mineral Processing Plants (i.e., BAQ-PGPA/GP-3)?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
2.4	For this non-coal (industrial minerals) mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No

2.5	Will this non-coal (industrial minerals) mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3.0	Will your project, activity, or authorization have anything to do with a well related to oil or gas production, have construction within 200 feet of, affect an oil or gas well, involve the waste from such a well, or string power lines above an oil or gas well? If "Yes", respond to 3.1-3.3. If "No", skip to Question 4.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
3.1	Does the oil- or gas-related project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water (including wetlands)?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3.2	Will the oil- or gas-related project involve discharge of industrial wastewater or stormwater to a dry swale, surface water, ground water or an existing sanitary sewer system or storm water system? If "Yes", discuss in <i>Project Description</i> .	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3.3	Will the oil- or gas-related project involve the construction and operation of industrial waste treatment facilities?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
4.0	Will the project involve a construction activity that results in earth disturbance? If "Yes", specify the total disturbed acreage.	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
4.0.1	Total Disturbed +/- 7 ac. temporary cap Acreage				
4.0.2	Will the project discharge or drain to a special protection water (EV or HQ) or an EV wetland?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
4.0.3	Will the project involve a construction activity that results in earth disturbance in the area of the earth disturbance that are contaminated at levels exceeding residential or non-residential medium-specific concentrations (MSCs) in 25 Pa. Code Chapter 250 at residential or non-residential construction sites, respectively?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
5.0	Does the project involve any of the following: water obstruction and/or encroachment, wetland impacts, or floodplain project by the Commonwealth/political subdivision or public utility? If "Yes", respond to 5.1-5.7. If "No", skip to Question 6.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
5.1	Water Obstruction and Encroachment Projects – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.2	Wetland Impacts – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a wetland?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No

5.3	<b>Floodplain Projects by the Commonwealth, a Political Subdivision of the Commonwealth or a Public Utility – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a floodplain?</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.4	<b>Is your project an interstate transmission natural gas pipeline?</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.5	<b>Does your project consist of linear construction activities which result in earth disturbance in two or more DEP regions AND three or more counties?</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.6	<b>Does your project utilize Floodplain Restoration as a best management practice for Post Construction Stormwater Management?</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.7	<b>Does your project utilize Class V Gravity / Injection Wells as a best management practice for Post Construction Stormwater Management?</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
6.0	<b>Will the project involve discharge of construction related stormwater to a dry swale, surface water, ground water or separate storm water system?</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
6.1	<b>Will the project involve discharge of industrial waste stormwater or wastewater from an industrial activity or sewage to a dry swale, surface water, ground water or an existing sanitary sewer system or separate storm water system?</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
7.0	<b>Will the project involve the construction and operation of industrial waste treatment facilities?</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
8.0	<b>Will the project involve construction of sewage treatment facilities, sanitary sewers, or sewage pumping stations? If "Yes", indicate estimated proposed flow (gal/day). Also, discuss the sanitary sewer pipe sizes and the number of pumping stations/treatment facilities/name of downstream sewage facilities in the <i>Project Description</i>, where applicable.</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
	<b>8.0.1 Estimated Proposed Flow (gal/day)</b>				
9.0	<b>Will the project involve the subdivision of land, or the generation of 800 gpd or more of sewage on an existing parcel of land or the generation of an additional 400 gpd of sewage on an already-developed parcel, or the generation of 800 gpd or more of industrial wastewater that would be discharged to an existing sanitary sewer system?</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
	<b>9.0.1 Was Act 537 sewage facilities planning submitted and approved by DEP? If "Yes" attach the approval letter. Approval required prior to 105/NPDES approval.</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
10.0	<b>Is this project for the beneficial use of biosolids for land application within Pennsylvania? If "Yes" indicate how much (i.e. gallons or dry tons per year).</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
	<b>10.0.1 Gallons Per Year (residential septage)</b>				
	<b>10.0.2 Dry Tons Per Year (biosolids)</b>				

11.0	Does the project involve construction, modification or removal of a dam? If "Yes", identify the dam.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
11.0.1	Dam Name	_____			
12.0	Will the project interfere with the flow from, or otherwise impact, a dam? If "Yes", identify the dam.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
12.0.1	Dam Name	_____			
13.0	Will the project involve operations (excluding during the construction period) that produce air emissions (i.e., NOX, VOC, etc.)?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
13.0.1	If "Yes", is the operation subject to the agricultural exemption in 35 P.S. § 4004.1?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
13.0.2	If the answer to 13.0.1 is "No", identify each type of emission followed by the estimated amount of that emission. Enter all types & amounts of emissions; separate each set with semicolons.	_____			
14.0	Does the project include the construction or modification of a drinking water supply to serve 15 or more connections or 25 or more people, at least 60 days out of the year? If "Yes," check all proposed sub-facilities.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
14.0.1	Number of Persons Served	_____			
14.0.2	Number of Employee/Guests	_____			
14.0.3	Number of Connections	_____			
14.0.4	Sub-Fac: Distribution System	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.5	Sub-Fac: Water Treatment Plant	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.6	Sub-Fac: Source	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.7	Sub-Fac: Pump Station	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.8	Sub-Fac: Transmission Main	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.9	Sub-Fac: Storage Facility	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
15.0	Will your project include infiltration of storm water or waste water to ground water within one-half mile of a public water supply well, spring or infiltration gallery?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
16.0	Is your project to be served by an existing public water supply? If "Yes", indicate name of supplier and attach letter from supplier stating that it will serve the project.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
16.0.1	Supplier's Name	_____			
16.0.2	Letter of Approval from Supplier is Attached	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
17.0	Will this project be served by on-lot drinking water wells?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
18.0	Will this project involve a new or increased drinking water withdrawal from a river, stream, spring, lake, well or other water bod(ies)? If "Yes," reference Safe Drinking Water Program.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
18.0.1	Source Name	_____			

19.0	Will the construction or operation of this project involve treatment, storage, reuse, or disposal of waste? If "Yes," indicate what type (i.e., hazardous, municipal (including infectious & chemotherapeutic), residual) and the amount to be treated, stored, re-used or disposed.	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
19.0.1	Type & Amount	C&D Landfill			
20.0	Will your project involve the removal of coal, minerals, contaminated media, or solid waste as part of any earth disturbance activities?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
21.0	Does your project involve installation of a field constructed underground storage tank? If "Yes," list each Substance & its Capacity. <b>Note:</b> Applicant may need a Storage Tank Site Specific Installation Permit.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
21.0.1	Enter all substances & capacity of each; separate each set with semicolons.				
22.0	Does your project involve installation of an aboveground storage tank greater than 21,000 gallons capacity at an existing facility? If "Yes," list each Substance & its Capacity. <b>Note:</b> Applicant may need a Storage Tank Site Specific Installation Permit.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
22.0.1	Enter all substances & capacity of each; separate each set with semicolons.				
23.0	Does your project involve installation of a tank greater than 1,100 gallons which will contain a highly hazardous substance as defined in DEP's Regulated Substances List, 2570-BK-DEP2724? If "Yes," list each Substance & its Capacity. <b>Note:</b> Applicant may need a Storage Tank Site Specific Installation Permit.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
23.0.1	Enter all substances & capacity of each; separate each set with semicolons.				
24.0	Does your project involve installation of a storage tank at a new facility with a total AST capacity greater than 21,000 gallons? If "Yes", list each Substance & its Capacity. <b>Note:</b> Applicant may need a Storage Tank Site Specific Installation Permit.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
24.0.1	Enter all substances & capacity of each; separate each set with semicolons.				
<b>NOTE:</b> If the project includes the installation of a regulated storage tank system, including diesel emergency generator systems, the project may require the use of a Department Certified Tank Handler. For a full list of regulated storage tanks and substances, please go to <a href="http://www.dep.pa.gov">www.dep.pa.gov</a> search term storage tanks					
25.0	Will the intended activity involve the use of a radiation source?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No

**CERTIFICATION**

I certify that I have the authority to submit this application on behalf of the applicant named herein and that the information provided in this application is true and correct to the best of my knowledge and information.

For applicants supplying an EIN number: I am applying for a permit or authorization from the Pennsylvania Department of Environmental Protection (DEP). As part of this application, I will provide DEP with an accurate EIN number for the applicant entity. By filing this application with DEP, I hereby authorize DEP to confirm the accuracy of the EIN number provided with the Pennsylvania Department of Revenue. As applicant, I further consent to the Department of Revenue discussing the same with DEP prior to issuance of the Commonwealth permit or authorization.

Type or Print Name	David Pannucci		
		Region Engineer	5/26/2026
Signature		Title	Date

# Form A

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Coordination #

**FORM A**  
**APPLICATION FOR MUNICIPAL OR RESIDUAL WASTE PERMIT**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided herein. Replacement/substitution of or attachment to this form is prohibited. Improperly completed forms may be rejected by the Department, may be considered to be violations of the Department's Rules and Regulations, and may result in assessment of fines and penalties.

**SECTION A. APPLICANT IDENTIFIER (Check one of the boxes and identify both)**

Owner Name: Blythe Recycling and Demolition Site Holdings, Inc. Phone #: 570-429-2023  
Address: P.O. Box 335, St. Clair, PA 17970 Email: [David.pannucci@wasteconnections.com](mailto:David.pannucci@wasteconnections.com)

Operator Name: Blythe Recycling and Demolition Site Holdings, Inc. Phone #: 570-429-2023  
Address: P.O. Box 335, St. Clair, PA 17970 Email: [David.pannucci@wasteconnections.com](mailto:David.pannucci@wasteconnections.com)

**SECTION B. TYPE OF FACILITY**

Municipal Waste Landfill.....	<input type="checkbox"/>	Residual Waste Landfill .....	<input type="checkbox"/>
Construction/Demolition Waste Landfill .....	<input checked="" type="checkbox"/>	Class I .....	<input type="checkbox"/>
Municipal Waste Composting Facility.....	<input type="checkbox"/>	Class II .....	<input type="checkbox"/>
Municipal Waste Incinerator or Resource Recovery Facility...	<input type="checkbox"/>	Class III .....	<input type="checkbox"/>
Municipal Waste Demonstration Facility.....	<input type="checkbox"/>	Residual Waste Disposal Impoundment	
Municipal Waste Transfer Facility.....	<input type="checkbox"/>	Class I .....	<input type="checkbox"/>
Municipal Waste Processing Facility .....	<input type="checkbox"/>	Class II .....	<input type="checkbox"/>
Other, Specify.....	<input type="checkbox"/>	Residual Waste Composting Facility.....	<input type="checkbox"/>
		Residual Waste Demonstration Facility.....	<input type="checkbox"/>
		Residual Waste Transfer Facility.....	<input type="checkbox"/>
		Residual Waste Incinerator or Other Processing Facility ...	<input type="checkbox"/>
		Residual Waste Agricultural Utilization.....	<input type="checkbox"/>
		Residual Waste Land Reclamation .....	<input type="checkbox"/>
		Oil and Gas Wastewater Storage Impoundment.....	<input type="checkbox"/>
		Other, Specify .....	<input type="checkbox"/>

**SECTION C. MAP LOCATION**

U.S.G.S. Map Location of Facility (attach the map and identify location on the USGS map)  
7.5" Map Name Pottsville  
Center of Facility:  
Latitude 40 ° 44 ' 23 " Longitude 76 ° 09 ' 22 "

**SECTION D. GENERAL INFORMATION**

Number of New Acres Proposed for Permit (Issued) 0 • Number of Acres Proposed for Permit (New) 0 •  
Total Acres of the Property 400 •  
Number of Previously Permitted Acres 252 • Current Permit ID Number(s) 101679

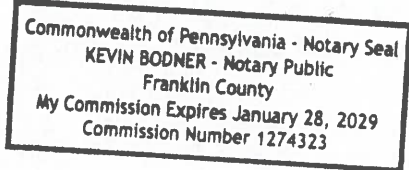
**SECTION E. AFFIDAVIT**

COMMONWEALTH/STATE OF PA

COUNTY OF Franklin SS: \_\_\_\_\_

Sworn and subscribed to before me this 26<sup>th</sup> day of May ~~18~~ 2026






NOTARY PUBLIC

My Commission Expires 1/28/29

Print or type name to be Signed: Astor Lawson Date 5/26/26

Date: \_\_\_\_\_

I,  do hereby certify pursuant to the penalties of 18 Pa. C.S.A.  
(Signature of Applicant)

Section 4904 to the best of my knowledge, information, and belief that the information contained in this application is true and correct and is in conformance with 25 PA. Code Chapters 271 or 287, whichever is applicable, of the rules and regulations of the Department of Environmental Protection.

**SECTION F. APPLICATION FEE**

**A. Municipal Facilities**

**i. Application for new permit, or repermitting. (ref. 271.128)**

- \$18,500 - Municipal Waste Landfill
- \$19,250 - Construction/Demolition Waste Landfill
- \$4,400 - Transfer Facility
- \$1,900 - Incinerator or Resource Recovery Facility
- \$4,000 - Other Municipal Waste Processing Facility, including Composting Facility
- \$17,300 - Demonstration Facility

**ii. Application for a major permit modification.**

- \$300 - Addition of types of waste not approved in the permit
- \$7,800 - Municipal Waste Landfill and Construction/Demolition Waste Landfill
- \$700 - Transfer Facility
- \$1,500 - Incinerator or Resource Recovery Facility
- \$700 - Other Municipal Waste Processing Facility, including Composting Facility
- \$6,700 - Demonstration Facility

**iii.  \$300 - Permit Reissuance**

**iv.  \$300 - Permit Renewal**

**v.  \$300 - Minor Permit Modification**

**SECTION F. APPLICATION FEE (Continued)****A. Residual Facilities****i. Application for new permit, or repermitting. (ref. 287.141)**

- \$25,900 – Residual Waste Landfill
- \$8,500 – Residual Waste Disposal Impoundment
- \$5,200 – Residual Waste Transfer Facility
- \$8,300 – Residual Waste Noncaptive Incinerator
- \$2,200 – Residual Waste Captive Incinerator
- \$5,200 – Other Waste Processing Facility, including Composting Facility
- \$8,500 – Residual Waste Demonstration Facility
- \$5,100 – Residual Waste Land Reclamation
- \$5,100 – Residual Waste Agricultural Utilization
- \$8,500 – Oil and Gas Wastewater Storage Impoundment

**ii. Application for a major permit modification.**

- \$600 – Addition of types of waste not approved in the permit
- \$7,800 – Residual Waste Landfill
- \$600 – Residual Waste Agricultural Utilization
- \$1,900 – Residual Waste Land Reclamation
- \$1,500 – Residual Waste Incinerator Facility
- \$700 – Residual Waste Transfer or Other Processing Facility, including Composting Facility
- \$5,800 – Residual Waste Demonstration Facility
- \$4,600 – Residual Waste Disposal Impoundment
- \$4,600 – Oil and Gas Wastewater Storage Impoundment

**iii.  \$400 – Residual Waste Permit Reissuance****iv.  \$300 – Residual Waste Permit Renewal****v.  \$300 – Residual Waste Minor Permit Modification****SECTION G. PUBLIC NOTICE - SECTION 271.141 (MUNICIPAL), 287.151 (RESIDUAL)**

For a new permit, major permit modification, permit renewal, permit reissuance, and submission of a closure plan, attach the proof of public notice for each of the following: **See Attached**

1. Newspaper - Attach the name of the newspaper, circulation location, copies of the notice, and dates of publication. **See Attachment A-1**
2. Municipality - Attach copies of the written notices sent to the host township and host county, and copies of the returned certified mail signature cards. **See Attachment A-2**
3. Contiguous Landowners - Attach copies of the written notice(s) sent to each landowner and copies of the returned certified mail signature cards. **See Attachment A-3**

**SECTION H. MUNICIPAL WASTE MANAGEMENT PLANS AND PERMITS**

For a new permit, major permit modification, permit renewal, or permit reissuance of a municipal waste landfill or resource recovery facility permit, is the proposed facility located in a county that has an approved municipal waste management plan that complies with Section 513 of Act 101? Yes  No

If the above answer is "yes", the applicant must complete form 46 - Relationship between Municipal Waste Management Plans and Permits. **See Form 46**

**NOTE:** For each permit application, please submit the original (mark as such) and additional copies as requested by the Department's regional office.

**Form A**  
**Attachment 1**

---

**Public Notice**

## **PUBLIC NOTICE**

Public Notice of a Municipal Waste Permit Application to allow for hauling of leachate from the facility as the principal means for managing leachate generated by the BRADS Landfill.

Notice is hereby given that Blythe Recycling and Demolition Site Holdings, Inc. will file an application with the Pennsylvania Department of Environmental Protection (DEP) Northeast Regional Office.

Copies of the application will be available for review and copying at the DEP Northeast Regional Office at 2 Public Square, Wilkes-Barre, PA between the hours of 8:00 a.m. and 4:00 p.m. by appointment. Fees for copying may be charged by the DEP.

The host municipality and the County may within 60 days submit recommendations for permit conditions, revisions, permit approval or disapproval, and other comments to the DEP.

The DEP will also accept and consider comments from the public during the permit review. Comments would be sent to Mr. Roger Bellas, Program Manager, Northeast Regional Office, 2 Public Square, Wilkes-Barre, PA 18701.

**Form A**  
**Attachment 2**

---

**Municipal & County**  
**Notifications**



# **martin and martin, incorporated**

37 South Main Street • Suite A • Chambersburg, Pennsylvania • 17201-2251  
Phone: (717) 264-6759; Fax: (717) 264-7339; Website: martinandmartininc.com

May 27, 2026

Blythe Township  
PO Box 91  
Cumbola, PA 17930

**CERTIFIED MAIL: 7019 1120 0000 1384 3523**

RE: BRADS – Major Permit Modification  
Our file: 1312.4/MM/NL

To Whom It May Concern:

Please be advised that the Blythe Recycling and Demolition Site Holdings, Inc., Blythe Township, Schuylkill County, is applying to the Pennsylvania Department of Environment Protection for a Major Permit Modification of their existing Solid Waste Permit No. 101679. The modification proposes to incorporate hauling of leachate as the principal means for managing leachate at the BRADS facility.

The permit application will be filed with:

Mr. Roger Bellas  
Department of Environmental Protection, Bureau of Waste Mgmt.  
Northeast Regional Office  
2 Public Square, 4th floor  
Wilkes-Barre, PA 18701-1915

You are being advised of this application in accordance with Act 14, Acts 67 and 68 of the Commonwealth's Administrative Code. Please let DEP know if you have any comments in this regard. As always, you will be provided with a full copy of the permit modification.

In the event any questions should arise concerning this correspondence, please do not hesitate to contact this office at your convenience.

Very truly yours,  
**MARTIN AND MARTIN, INCORPORATED**

Kevin Bodner

**MUNICIPAL • URBAN • REGIONAL • LAND DEVELOPMENT AND ENVIRONMENTAL PLANNERS**

**MUNICIPAL • CIVIL • SANITARY • SOLID WASTE AND ENVIRONMENTAL ENGINEERS**

7019 1120 0000 1384 3523

# U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

Domestic Mail Only

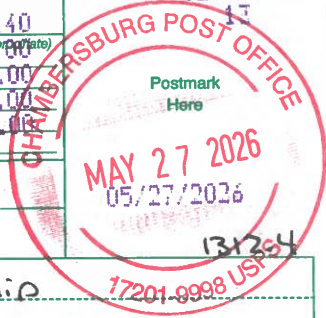
For delivery information, visit our website at [www.usps.com](http://www.usps.com)®.

Cumbola, PA 17930

## OFFICIAL USE

Certified Mail Fee	\$15.50
	\$4.40
Extra Services & Fees (check box, add fee as appropriate)	\$16.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.78
Total Postage and Fees	\$10.48



Sent To: Blythe Township  
 Street and Apt. No., or PO Box No.: PO Box 91  
 City, State, ZIP+4®: Cumbola, PA 17930

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

### SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
Blythe Township  
PO Box 91  
Cumbola, PA 17930



9590 9402 8697 3310 0020 41

2. Article Number (Transfer from service label)  
 7019 1120 0000 1384 3523

### COMPLETE THIS SECTION ON DELIVERY

A. Signature  Agent  
 Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type
- |  |   |
|--|---|
| <input type="checkbox"/> Adult Signature                               | <input type="checkbox"/> Priority Mail Express®                     |
| <input type="checkbox"/> Adult Signature Restricted Delivery           | <input type="checkbox"/> Registered Mail™                           |
| <input checked="" type="checkbox"/> Certified Mail®                    | <input type="checkbox"/> Registered Mail Restricted Delivery        |
| <input type="checkbox"/> Certified Mail Restricted Delivery            | <input type="checkbox"/> Signature Confirmation™                    |
| <input type="checkbox"/> Collect on Delivery                           | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery       |   |
| <input type="checkbox"/> Insured Mail                                  |   |
| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) |   |

13124



# **martin and martin, incorporated**

37 South Main Street • Suite A • Chambersburg, Pennsylvania • 17201-2251  
Phone: (717) 264-6759; Fax: (717) 264-7339; Website: martinandmartininc.com

May 27, 2026

Schuylkill County Board of Commissioners  
Schuylkill County Court House  
401 N. 2<sup>nd</sup> Street, 3<sup>rd</sup> Floor  
Pottsville, PA 17901

**CERTIFIED MAIL: 7019 1120 0000 1384 3530**

RE: BRADS – Major Permit Modification  
Our file: 1312.4/MM/NL

To Whom It May Concern:

Please be advised that the Blythe Recycling and Demolition Site Holdings, Inc., Blythe Township, Schuylkill County, is applying to the Pennsylvania Department of Environment Protection for a Major Permit Modification of their existing Solid Waste Permit No. 101679. The modification proposes to incorporate hauling of leachate as the principal means for managing leachate at the BRADS facility.

The permit application will be filed with:

Mr. Roger Bellas  
Department of Environmental Protection, Bureau of Waste Mgmt.  
Northeast Regional Office  
2 Public Square, 4th floor  
Wilkes-Barre, PA 18701-1915

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Very truly yours,  
**MARTIN AND MARTIN, INCORPORATED**

Kevin Bodner

**MUNICIPAL • URBAN • REGIONAL • LAND DEVELOPMENT AND ENVIRONMENTAL PLANNERS**

**MUNICIPAL • CIVIL • SANITARY • SOLID WASTE AND ENVIRONMENTAL ENGINEERS**

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7019 1120 0000 1384 3530

Certified Mail Fee	\$7.50	
Extra Services & Fees (check box, add fee as appropriate)	\$4.40	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
Postage	\$0.78	
<b>Total Postage and Fees</b>	<b>\$12.68</b>	<b>1312.4</b>
Sent To Schuylkill County Board of Commissioners Street and Apt. No., or PO Box No. 401 N. 2nd Street, 3rd Floor City, State, ZIP+4® Pottsville, PA 17901		

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Schuylkill County Board of Comm.  
 Schuylkill County Court House  
 401 N. 2nd Street, 3rd Floor  
 Pottsville, PA 17901



9590 9402 8697 3310 0020 27

2. Article Number (Transfer from service label)

7019 1120 0000 1384 3530

PS Form 3811, July 2020 PSN 7530-02-000-9053

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
 Addressee

X

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type

<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®
<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™
<input checked="" type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restricted Delivery
<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Signature Confirmation™
<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery
<input type="checkbox"/> Collect on Delivery Restricted Delivery	
<input type="checkbox"/> Insured Mail	
<input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)	

1312.4

Domestic Return Receipt

**Form A**  
**Attachment 3**

---

**Contiguous Property Owner  
Notifications**



# **martin and martin, incorporated**

---

37 South Main Street • Suite A • Chambersburg, Pennsylvania • 17201-225 1  
Phone: (717) 264-6759; Fax: (717) 264-7339; Website: martinandmartininc.com

May 27, 2026

Blythe Recycling and Demolition Holdings, Inc.  
PO Box 335  
St. Clair, PA 17970

**CERTIFIED MAIL: 7019 1120 0000 1384 3547**

RE: BRADS – Major Permit Modification  
Our file: 1312.4/MM/CL

To Whom It May Concern:

In accordance with Section 271.141 of the Regulations adopted under the Pennsylvania Solid Waste Management Act this letter is to inform you the BRADS Landfill Company intends to file a Major Permit Modification of their existing Solid Waste Permit No. 101679. The modification proposes to incorporate hauling of leachate as the principal means for managing leachate at the BRADS facility.

This application will be available for your public review and copying at the DEP Northeast Regional Office located at 2 Public Square, 4th floor, Wilkes-Barre, PA 18701 between the hours of 8:00 a.m. and 4:00 p.m. by appointment. Fees for copying may be charged by the Department. Copies of the application will also be sent to Blythe Township and Schuylkill County Commissioners.

In the event any questions should arise concerning this correspondence, please do not hesitate to contact this office at your convenience.

Very truly yours,  
**MARTIN AND MARTIN, INCORPORATED**

Kevin Bodner

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1312.4

17201-9998 USPS

1312.4

Postmark Here  
27 2026  
05/27/2026

1312.4

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Certified Mail Fee	\$5.30
Extra Services & Fees (check box, add fees as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$0.78
<b>Total Postage and Fees</b>	<b>\$10.78</b>

Sent To  
Blythe Recycling & Demolition Holdings, Inc.  
Street and Apt. No., or PO Box No.  
PO Box 335  
City, State, ZIP+4®  
St. Clair, PA 17970

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
Blythe Recycling & Demolition Holdings, Inc.  
PO Box 335  
St. Clair, PA 17970



2. Article Number (Transfer from service label)  
7019 1120 0000 1384 3547

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
**X**  Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

3. Service Type

<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®
<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™
<input checked="" type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restricted Delivery
<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Signature Confirmation™
<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery
<input type="checkbox"/> Collect on Delivery Restricted Delivery	
<input type="checkbox"/> Insured Mail	
<input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)	



# **martin and martin, incorporated**

37 South Main Street • Suite A • Chambersburg, Pennsylvania • 17201-225 1  
Phone: (717) 264-6759; Fax: (717) 264-7339; Website: martinandmartininc.com

May 27, 2026

Reading Anthracite Company  
200 Mahantongo Street  
Pottsville, PA 17901

**CERTIFIED MAIL: 7019 1120 0000 1384 3554**

RE: BRADS – Major Permit Modification  
Our file: 1312.4/MM/CL

To Whom It May Concern:

In accordance with Section 271.141 of the Regulations adopted under the Pennsylvania Solid Waste Management Act this letter is to inform you the BRADS Landfill Company intends to file a Major Permit Modification of their existing Solid Waste Permit No. 101679. The modification proposes to incorporate hauling of leachate as the principal means for managing leachate at the BRADS facility.

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Very truly yours,  
**MARTIN AND MARTIN, INCORPORATED**

Kevin Bodner

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Pottsville, PA 17901

Certified Mail Fee \$5.30  
 \$4.40  
 Extra Services & Fees (check box, add fee as appropriate)  
 Return Receipt (hardcopy) \$0.00  
 Return Receipt (electronic) \$0.00  
 Certified Mail Restricted Delivery \$0.00  
 Adult Signature Required \$0.00  
 Adult Signature Restricted Delivery \$0.00

Postage \$0.78

Total Postage and Fees \$10.48

Sent To  
 Reading Anthracite Company  
 Street and Apt. No. or PO Box No.  
 200 Mahantongo Street  
 City, State, ZIP+4®  
 Pottsville, PA 17901

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

7019 1120 0000 1384 3554



**SENDER: COMPLETE THIS SECTION**

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Reading Anthracite Company  
 200 Mahantongo Street  
 Pottsville, PA 17901



9590 9402 8697 3310 0012 11

2. Article Number (Transfer from service label)

7019 1120 0000 1384 3554

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

**X**

- Agent
- Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Insured Mail
- Insured Mail Restricted Delivery (over \$500)
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053

1312.4

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# **martin and martin, incorporated**

---

37 South Main Street • Suite A • Chambersburg, Pennsylvania • 17201-2251  
Phone: (717) 264-6759; Fax: (717) 264-7339; Website: martinandmartininc.com

May 27, 2026

n/f Fatula, Sciuchetti, Bucklar and Bucklar  
204 North Mill Street  
St. Clair, PA 17970

**CERTIFIED MAIL: 7019 1120 0000 1384 3561**

RE: BRADS – Major Permit Modification  
Our file: 1312.4/MM/CL

To Whom It May Concern:

In accordance with Section 271.141 of the Regulations adopted under the Pennsylvania Solid Waste Management Act this letter is to inform you the BRADS Landfill Company intends to file a Major Permit Modification of their existing Solid Waste Permit No. 101679. The modification proposes to incorporate hauling of leachate as the principal means for managing leachate at the BRADS facility.

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In the event any questions should arise concerning this correspondence, please do not hesitate to contact this office at your convenience.

Very truly yours,  
**MARTIN AND MARTIN, INCORPORATED**

Kevin Bodner

**U.S. Postal Service™**  
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Saint Clair, PA 17970

Certified Mail Fee \$15.30  
 Extra Services & Fees (check box, add fee as appropriate)  
 Return Receipt (hardcopy) \$0.00  
 Return Receipt (electronic) \$0.00  
 Certified Mail Restricted Delivery \$0.00  
 Adult Signature Required \$0.00  
 Adult Signature Restricted Delivery \$0.00

Postage \$0.78

Total Postage and Fees \$10.48

Sent To n/f Fatula, Sciuchetti, Bucklar & Bucklar  
 Street and Apt. No., or PO Box No. 204 North M:11 Street  
 City, State, ZIP+4® St. Clair, PA 17970

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

7019 1120 0000 1384 3561



**SENDER: COMPLETE THIS SECTION**

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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

n/f Fatula, Sciuchetti, Bucklar & Bucklar  
 204 North M:11 Street  
 St. Clair, PA 17970



9590 9402 8697 3310 0012 28

2. Article Number (Transfer from service label)

7019 1120 0000 1384 3561

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

- Agent
- Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Insured Mail
- Insured Mail Restricted Delivery (over \$500)
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053

1312.4

Domestic Return Receipt



# **martin and martin, incorporated**

---

37 South Main Street • Suite A • Chambersburg, Pennsylvania • 17201-2251  
Phone: (717) 264-6759; Fax: (717) 264-7339; Website: martinandmartininc.com

May 27, 2026

Municipal Authority of the Township of Blythe  
375 Valley Street  
New Philadelphia, PA 17959

**CERTIFIED MAIL: 7019 1120 0000 1384 3578**

RE: BRADS – Major Permit Modification  
Our file: 1312.4/MM/CL

To Whom It May Concern:

In accordance with Section 271.141 of the Regulations adopted under the Pennsylvania Solid Waste Management Act this letter is to inform you the BRADS Landfill Company intends to file a Major Permit Modification of their existing Solid Waste Permit No. 101679. The modification proposes to incorporate hauling of leachate as the principal means for managing leachate at the BRADS facility.

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Very truly yours,  
**MARTIN AND MARTIN, INCORPORATED**

Kevin Bodner

---

MUNICIPAL • URBAN • REGIONAL • LAND DEVELOPMENT AND ENVIRONMENTAL PLANNERS

MUNICIPAL • CIVIL • SANITARY • SOLID WASTE AND ENVIRONMENTAL ENGINEERS

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For delivery information, visit our website at [www.usps.com](http://www.usps.com)®.

New Philadelphia, PA 17959

Certified Mail Fee \$5.30  
 \$44.40  
 Extra Services & Fees (check box, add fee as appropriate)  
 Return Receipt (hardcopy) \$1.00  
 Return Receipt (electronic) \$1.00  
 Certified Mail Restricted Delivery \$10.00  
 Adult Signature Required \$10.00  
 Adult Signature Restricted Delivery \$

Postage \$0.78

Total Postage and Fees \$10.78



Sent To  
 Municipal Authority of the Township of Blythe  
 Street and Apt. No., or PO Box No.  
 375 Valley Street  
 City, State, ZIP+4®  
 New Philadelphia, PA 17959

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7019 1120 0000 1384 3578

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
 Municipal Auth. of the Township of Blythe  
 375 Valley Street  
 New Philadelphia, PA 17959



9590 9402 8697 3310 0012 04

2. Article Number (Transfer from service label)  
 7019 1120 0000 1384 3578

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
 Addressee  
 B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type
- Adult Signature
  - Adult Signature Restricted Delivery
  - Certified Mail®
  - Certified Mail Restricted Delivery
  - Collect on Delivery
  - Collect on Delivery Restricted Delivery
  - Insured Mail
  - Insured Mail Restricted Delivery (over \$500)
  - Priority Mail Express®
  - Registered Mail™
  - Registered Mail Restricted Delivery
  - Signature Confirmation™
  - Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053

1312.4

Domestic Return Receipt

# Form B

---



Date Prepared/Revised 5/2026
<b>DEP USE ONLY</b>
Date Received

## FORM B PROFESSIONAL CERTIFICATION

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form B, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 271.122, 287.122

### SECTION A. SITE IDENTIFIER

Applicant/permittee: **Blythe Recycling and Demolition Site Holdings, Inc.**

Site Name: **Blythe Recycling and Demolition Site (BRADS)**

Facility ID (as issued by DEP): **101679**

### SECTION B. REGISTERED PROFESSIONAL ENGINEER

I, **Joshph M. McDowell, P.E.**

(Engineer's Name – Print or Type)

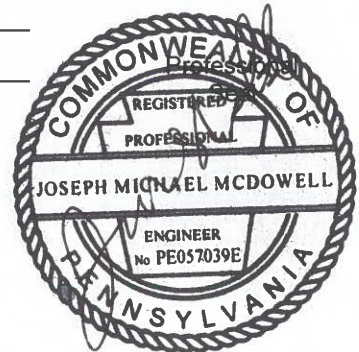
being a Registered Professional Engineer in accordance with the Pennsylvania Professional Engineer's Registration Law, do hereby certify to the best of my knowledge, information, and belief that the information contained in the accompanying application, plans, specifications, and reports has been prepared in accordance with accepted practice of engineering, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I also certify that those individuals indicated in the following paragraphs prepared this application under my supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Signature *Josh M McDowell* Date 5/27/26

License Number 57039-E Expiration Date 9/30/2027

Address **Martin and Martin, Inc.**  
**37 S. Main Street, Suite A**  
**Chambersburg, PA 17201**

Telephone No. ( 717 ) 264-6759



# Form B-1

---



Date Prepared/Revised 5/2026
<b>DEP USE ONLY</b>
Date Received

## FORM B1 APPLICATION FORM CERTIFICATION

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form B1, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

### SECTION A. SITE IDENTIFIER

Applicant/permittee: **Blythe Recycling and Demolition Site Holdings, Inc.**

Site Name: **Blythe Recycling and Demolition Site (BRADS)**

Facility ID (as issued by DEP): **101679**

### SECTION B. CERTIFICATION

**Professional Engineer**

I, **Joseph M. McDowell, P.E.**

*(Engineer's Name -Print or Type)*

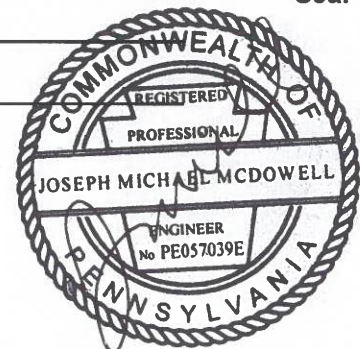
being a Registered Professional Engineer in accordance with the Pennsylvania Professional Engineer's Registration Law, do hereby certify that the forms used in the accompanying application have been reproduced under my supervision and have the same exact content and the same format as the forms prepared by the Department. I am aware that there are significant penalties for altering the content of the Department's forms, including the possibility of fines and imprisonment.

Signature *Joseph M. McDowell* Date 5/27/26  
 License Number 57039-E Expiration Date 9/30/2027

Address **Martin and Martin, Inc.**  
**37 S. Main Street, Suite A**  
**Chambersburg, PA 17201**

Telephone No. ( 717 ) 264-6759

**Professional Seal**



# Form C-1

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DEP USE ONLY  
Date Received

# FORM C1 COMPLIANCE HISTORY CERTIFICATION

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided herein. Improperly completed forms may be rejected by the Department, may be considered to be violations of the Department's Rules and Regulations, and may result in assessment of fines and penalties.

**Instructions:**

If your last Form HW-C or Form MRW-C does not require to be amended, execute the certification Form C1 Compliance History Certification (2540-PM-BWM0351) indicating that the Form HW-C or Form MRW-C, on file is complete and current. Be sure the form is properly signed, sealed, and notarized. Please note that the date on the certification Form C1 must be the date the HW-C or MRW-C, on file, was notarized.

If the applicant, permittee, or licensee ("application") is a corporation, this form must be signed by two corporate officers (a president or vice-president and a secretary or treasurer) authorized to execute the form or by one corporate officer and one corporate employee in Pennsylvania with sufficient authority over the solid waste management activity being licensed or permitted to execute this form on behalf of the corporation. **ATTACH A COPY OF THE ARTICLES OF INCORPORATION OF THE APPLICANT.**

**SECTION A. APPLICANT IDENTIFIER**

Facility Name: BRADS - Blythe Recycling and Demolition Site Holdings, Inc.

**SECTION B. CERTIFICATION**

This is to certify that no changes, additions, or other supplemental data are required to amend the most recent Form HW-C or MRW-C, Compliance History dated April 29, 2026 and submitted to the Pennsylvania Department of Environmental Protection by BRADS, which amendments would update and make current and complete all the information provided therein. The Compliance History now in the Department's possession reflects the Company's current status of officers, corporate structure as applicable, and compliance with environmental laws and regulations, and there are no instances of unlawful conduct as defined by the Pennsylvania Solid Waste Management Act of July 7, 1980 (35 P.S. §6018.610) that have not been corrected to the satisfaction of the Department.

(Signature)

Name: David Pannucci

(Print or Type Name)

Title: Region Engineer

(Print or Type Title)

Sworn to and subscribed before me this

26<sup>th</sup> day of May, 2026.

Notary Public

Commonwealth of Pennsylvania - Notary Seal  
KEVIN BODNER - Notary Public  
Franklin County  
My Commission Expires January 28, 2029  
Commission Number 1274323

**SECTION B. (Continued)**



(Signature)

Name: Astor Lawson

(Print or Type Name)

Title: District Manager

(Print or Type Title)

Sworn to and subscribed before me this

26th day of May, 20 26.

Previously Submitted

Attach copy of Articles of Incorporation



Commonwealth of Pennsylvania - Notary Seal  
KEVIN BODNER - Notary Public  
Franklin County  
My Commission Expires January 28, 2029  
Commission Number 1274323

Notary Public

# Form D

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Date Prepared/Revised 10/2022, Rev 5/2026
<b>DEP USE ONLY</b>
Date Received

**FORM D  
ENVIRONMENTAL ASSESSMENT FOR  
MUNICIPAL AND RESIDUAL WASTE MANAGEMENT FACILITIES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form D, reference the item number and identify the date prepared. The “date prepared/revised” on any attached sheets needs to match the “date prepared/revised” on this page.

General References: 271.126, 271.127, 287.126 and 287.127

**SECTION A. SITE IDENTIFIER**

Applicant/permittee **Blythe Township**

Site Name **Blythe Recycling and Demolition Site Holdings, Inc. (BRADS)**

Facility ID (as issued by DEP) **101679**

**ENVIRONMENT ASSESSMENT CRITERIA NOTE: BRADS completed and PaDEP approved a Form D Environmental Assessment (EA) as a part of the Permitting Process for this facility. Consistent with DEP EA guidance and Department’s recent request, this updated Form D – EA identifies any changes to the EA process that are triggered by this leachate hauling Modification. “N/A” entries indicate that the prior Form D response is not altered by this requested Modification.**

**A. Geologic**

1. Is the proposed facility within an area with a 10% or greater probability that a maximum horizontal acceleration will exceed 0.10g in 250 years as mapped by the Pennsylvania Geologic Survey or the United States Geological Survey? If yes, the applicant shall specify design measures necessary to withstand potential seismic events, and the Department will determine whether the proposed design measures provide adequate protection from earthquake damage. **N/A**
2. Are there any potential geologic hazards, foundation problems, or groundwater conditions which require site investigation? If yes, identify and describe. **N/A**

Note: The Bureau of Topographic and Geologic Survey does not certify whether any site has potential geologic problems, but will provide lists of published geologic reports that will aid the applicant to determine the nature of the site. Design measures to withstand potential seismic events are specified in EPA/600/R-95/051, RCRA Subtitle D (258), Seismic Design Guidance for Municipal Solid Waste Landfill Facilities, 1995.

**B. Scenic Rivers - Describe any affirmative responses and proposals to minimize or mitigate any environmental impact.**

1. Is the project located in the waterway or corridor of a stream or river designated as a Pennsylvania Scenic River or a waterway included in the National Wild and Scenic River System? **NO – The Clarion and Allegheny Rivers are the only National Wild and Scenic Rivers in Pennsylvania (www.nps.gov/rivers/pa.html). Portions of the Schuylkill River are designated as a Pennsylvania Scenic River, the closest of which is approximately 6 miles from the project site. (www.dcnr.state.pa.us/rivers/scenicrivers/schuylkillhome.htm)**

**No Change. N/A**

2. Is the project located within one mile of the stream or river bank of a 1-A priority waterway, as identified by the Department of Conservation and Natural Resources? **NO – The project is not located within one mile of a stream**

designated as a 1-A priority waterway. The following website – [www.dcnr.state.pa.us/brc/rivers/scenicrivers/prioritywaterways.aspx](http://www.dcnr.state.pa.us/brc/rivers/scenicrivers/prioritywaterways.aspx) – indicates that the Department of Conservation and Natural Resources is no longer maintaining the list of Priority 1-A Waterways.

**No Change. N/A**

3. Is the project located within one mile of the stream or river bank of a waterway under study for designation as a Pennsylvania Scenic River or inclusion in the National Wild and Scenic River System? **NO** – The project is not located within one mile of a stream under study for designation as a Pennsylvania Scenic River ([www.dcnr.state.pa.us/rivers/scenicrivers.html](http://www.dcnr.state.pa.us/rivers/scenicrivers.html)) or inclusion in the National Wild and Scenic River System ([www.nps.gov/rivers/study.html](http://www.nps.gov/rivers/study.html)).

**No Change. N/A**

4. Is the project located in the drainage area (watershed) of a stream or river designated as a Pennsylvania Scenic River or a National Wild and Scenic River? **NO** – Portions of the Schuylkill River are designated as a Pennsylvania Scenic River, however the portion of the Schuylkill River that serves as the watershed for the project is not designated as such. ([www.dcnr.state.pa.us/rivers/scenicrivers/schuylkillhome.htm](http://www.dcnr.state.pa.us/rivers/scenicrivers/schuylkillhome.htm)) The Clarion and Allegheny Rivers are the only National Wild and Scenic Rivers in Pennsylvania ([www.nps.gov/rivers.pa](http://www.nps.gov/rivers.pa)). **NO Change. N/A**
5. Will the project result in discharges of any kind to the waterway or corridor of a stream or river designated as a Pennsylvania Scenic River or National Wild and Scenic River? **NO** – See Question 1

**No Change. N/A**

6. Will the project result in increased railroad or highway traffic having an adverse impact upon a waterway designated as a Pennsylvania Scenic River or a National Wild and Scenic River? **NO** – See Question 1

**No Change. N/A**

7. Can the project be seen from the waterway or corridor of a stream or river designated as a Pennsylvania Scenic River or National Wild and Scenic River? **No.**

**No Change. N/A**

8. Does the project impact, visually or physically, the aesthetic environment or recreational activities or opportunities of a stream or river designated as a Pennsylvania Scenic River or National Wild and Scenic River? **No.**

**No Change. N/A**

9. Are remedial or mitigating measures necessary to make the project conform to land and water management guidelines that were developed for this specific Pennsylvania Scenic River or National Wild and Scenic River?

**No.**

**No Change. N/A**

10. Is the project located within a Special Protection Watershed, as designated in Chapter 93 (relating to Pennsylvania's Stream Water Quality Criteria) of the Rules and Regulations of the Pennsylvania Department of Environmental Protection? If yes:

**NO** – The four streams in the vicinity of the project are Mill Creek, Silver Creek, Wolf Creek, and the Schuylkill River. The pertinent zones for each of these streams in relation to the Project are all classified as Cold Water Fisheries (CWF) as shown in 25 Pennsylvania Code Chapter 93.

**No Change. N/A**

- a. Identify the stream and watershed, and the distance of the stream from the project.
- b. Describe the characteristics of the project which might create adverse impacts on the stream.
- c. Describe measures to be taken to minimize adverse impacts on the stream.
11. Will the project, absent control measures, result in an increase in the peak discharge rate for storm water drainage from the project site? If yes:

**N/A**

- a. Describe the amount of increase in the peak discharge rate for storm water drainage.
- b. Describe adverse impacts that might result from the increase in peak discharge rate for stormwater drainage.
- c. Describe measures to be taken to minimize adverse impacts from the increase in the peak discharge rate for storm water drainage.

12. Are remedial or mitigating measures required as part of the implementation and management plans for this project? If yes, identify and demonstrate the degree of mitigation.

**N/A**

C. Wetlands

1. Are wetlands present within the facility or adjacent areas? If yes, Wetlands must be identified by using the 1987 Corp of Engineers Wetland Delineation Manual for the Department's regulatory purposes. Current wetland identification and delineation procedures are available from DEP Regional Offices. Direct impacts to wetlands (changing their cross section by grading or excavating) will require a Chapter 105 permit. A Chapter 105 permit will not be issued until the applicant demonstrates that impacts have minimized or avoided to the greatest extent practicable and approved plans for mandatory replacement of wetlands have been submitted. A determination must be made as to whether the wetlands are Exceptional Value (EV) according to Chapter 105. These wetlands have a higher level of protection.

**N/A – There is no earth disturbance associated with this modification.**

2. An environmental assessment shall be included with the permit application. It shall evaluate the wetland's functions and values. According to application requirements an assessment of the functions and values of wetlands may include, but not limited to, the items listed below. (Proposed indirect impacts to wetlands, which do not include a change in the wetland cross section, such as an alteration in hydrology alone, will not require a Chapter 105 permit, but will require an environmental assessment.)

**N/A – There is no earth disturbance associated with this modification.**

a. Do the wetlands serve an important natural biological function, including food chain production; providing general habitat; and providing nesting, spawning, rearing and resting sites for aquatic or land species?

**N/A**

b. Are the wetlands set aside for study of the aquatic environment or as sanctuaries or refuges? **No.**

**N/A**

c. Would alteration or destruction of the wetlands detrimentally affect natural drainage characteristics, sedimentation patterns, salinity distribution, flushing characteristics, natural water filtration process, current patterns or other environmental characteristics? **No.**

**N/A**

d. Are the wetlands significant in shielding other areas from wave action erosion, or storm damage? **No.**

**N/A**

e. Do the wetlands serve as valuable storage areas for storm and flood waters? **No.**

**N/A**

f. Are the wetlands prime natural recharge areas (i.e., locations where surface and groundwater are directly interconnected)? **No.**

**N/A**

g. To assist with an assessment of the functions and values please provide a description of the wetland classification according to the Cowardin classification system, including the wetland's water regime. **N/A**

#### D. Parks

1. Is the project located within one mile of: a unit of the National Parks System; a state, county, local or municipal park; a recreation facility operated by the U.S. Army Corps of Engineers; a state forest picnic area; a national landmark; or the Allegheny River Reservoir in the Allegheny National Forest? If yes:

**NO – There are no parks or recreation facilities within one mile of the proposed project area. The closest state park is the Locust Lake State Park, which is approximately 1.6 miles to the north of the project area.**

**No Change. N/A**

- a. Identify the park or other area and its distance from the project. **N/A**
  - b. Conduct visual and traffic analyses. **N/A**
  - c. Describe the characteristics of the project which might create adverse environmental, visual, or traffic impacts on or in the vicinity of the park or other area. **N/A**
  - d. Describe measures to be taken to minimize adverse impacts on the park or other area. **N/A**
2. Is the project within one mile of the foot path of the Appalachian Trail? If yes:

**NO – The Appalachian Trail is approximately 14 miles to the south of the project area.**

**No Change. N/A**

- a. Indicate the distance from the project to the Appalachian Trail. **N/A**
  - b. Conduct visual and traffic analyses. **N/A**
  - c. Describe the characteristics of the project which might create adverse environmental, visual, or traffic impacts on the Appalachian Trail. **None – The project is 14 miles from the Appalachian Trail.**
  - d. Describe measures to be taken to minimize adverse impacts on the Appalachian Trail. **N/A**
3. Is the project located within one mile of a national natural landmark designated by the U.S. National Park Service; or of a natural area, or of a wild area designated by the Pennsylvania Environmental Quality Board? If yes:

**NO – No national natural landmarks, natural areas, or wild areas are present within one mile of the proposed project site.**

**No Change. N/A**

- a. Identify the natural landmark, natural area, or wild area and its distance from the project. **N/A**
- b. Conduct visual and traffic analyses. **N/A**
- c. Describe the characteristics of the project which might create adverse environmental, visual, or traffic impacts on the natural landmark, natural area, or wild area. **N/A**
- d. Describe measures to be taken to minimize adverse impacts on the natural landmark, natural area, or wild area. **N/A**

#### E. Fish, Game and Plants

1. Is the project located within one mile or within an identified potential impact area of a national wildlife refuge, national fish hatchery, or national environmental center operated by the U.S. Fish and Wildlife Service? If yes:

**NO – The project is not located within one mile of a national wildlife refuge, national fish hatchery, or national environmental center operated by the U.S. Fish and Wildlife Service (See attached maps).**

**No Change. N/A**

- a. Identify the wildlife refuge, fish hatchery, or environmental center and its distance from the project. **N/A**
- b. Conduct visual and traffic analyses. **N/A**

- c. Describe the characteristics of the project which might create adverse environmental, visual, or traffic impacts on the wildlife refuge, fish hatchery, or environmental center. **N/A**
  - d. Describe measures to be taken to minimize adverse impacts on the wildlife refuge, fish hatchery, or environmental center. **N/A**
2. Is the project located within 1/4 mile of the boundary of a state forest or state game land; or of the proclamation boundary of the Allegheny Natural Forest? If yes:

**No Change. N/A**

- a. Identify the forest or game land and its distance from the project. **N/A**
  - b. Describe the characteristics of the project which might create adverse impacts on the forest or game land. **N/A**
  - c. Describe measures to be taken to minimize adverse impacts of the project on the forest and game land. **N/A**
3. Is the project located within an area which supports endangered, threatened, rare plant or animal species listed under the Federal Endangered Species Act, 16 U.S.C.A. §1531 et seq. (1973); the Act of June 23, 1982 (P.L. 597, No. 170), as amended, known as the Wild Resources Conservation Act, 32 P.S. §5301 et seq.; the Act of October 16, 1980 (P.L. 996, No. 175), as amended, known as the Pennsylvania Fish and Boat Code, 30 Pa. C.S.A. §101 et seq. or the Act of July 8, 1986 (P.L. 442, No. 93), as amended, known as the Pennsylvania Game and Wildlife Code, 34 Pa. C.S.A. §101 et seq. or located in exemplary natural communities as defined by the Pennsylvania Natural Diversity Inventory? If yes:

**N/A**

- a. Identify the species and the habitat area or natural community and the location of the project within the area.  
**N/A**
- b. Describe the characteristics of the project which might create adverse impacts on the species, habitat, or natural community.

**None- No earth disturbance is associated with this modification.**

**N/A**

- c. Describe measures to be taken to minimize adverse impacts on the species, habitat, or natural community.

**N/A No earth disturbance is associated with this modification.**

**No Change. N/A**

- d. Describe any contact you have had with the Pennsylvania Fish and Boat Commission, Pennsylvania Game Commission, U.S. Fish and Wildlife Service, or the Pennsylvania Department of Environmental Protection (Plant Program) about the project.

**N/A**

4. Does the proposed project impact critical and unique wildlife habitats (deer wintering areas, caves, denning sites, rock outcrops, or similar habitats)? If yes, please identify these habitats and describe proposals to minimize or mitigate these impacts.

**N/A**

5. Is the facility within 1/4 mile of a water resource listed as stocked waters by the Pennsylvania Fish and Boat Commission? **N/A**

6. Is the facility within 1/4 mile of a water resource designated as a wild trout stream by the Pennsylvania Fish and Boat Commission? **N/A**

7. Is the facility within 1/4 mile of a High Quality or Exceptional Value stream listed in 25 Pa. Code Ch. 93? If yes, indicate stream classification. **No. N/A**

8. Is there any perennial stream(s) within or directly hydrologically connected to the project? if yes:

**N/A**

- a. Identify the streams and watershed and the location of the stream(s) in relation to the project. **Little Wolf Creek – east of site.**
- b. Identify the fish species present within the perennial stream(s). **None**
- c. Identify the protected uses, as designated in 25 Pa. Code Ch. 93 (relating to Pennsylvania's Stream Water Quality Criteria), that are listed for the stream(s)/watershed(s). **None**
- d. Describe the characteristics of the project which might create adverse impacts on the stream(s). **None – Project helps restore former stream.**
- e. Describe measures to be taken to minimize adverse impacts on the stream(s). **N/A- No earth disturbance is associated with this modification.**

9. Is the facility within one mile of a stream commonly used for recreational activities? If yes:

**NO – Two streams are located within 1 mile of the project – Silver Creek and Wolf Creek. Neither of these streams is considered high-quality or exceptional value. Also, neither is listed as Approved Trout Waters.**

**N/A**

- a. Describe the characteristics of the project which may create adverse visual and traffic impacts. **N/A**
- b. Describe measures to be taken to minimize the adverse impacts. **N/A**

#### F. Water Uses

1. Is the project located within the watershed or aquifer, and within one mile, of a public water supply facility dependent on groundwater sources; or upstream, within the watershed, and within three miles of a public water supply facility dependent on surface sources? If yes:

**No. N/A**

- a. Identify the public water supply facility and its supply sources, locate both on a topographic map, and indicate their distances from the project. **N/A**
- b. Briefly describe the public water supply facility, including capacity and population served. **N/A**
- c. Describe measures to be taken to protect the public water supply facility from any potential harm. **N/A**

2. Is the project within the groundwater recharge area for any public or private water supplies? If yes, provide the following:

**No. N/A**

- a. Delineate the position of the proposed permit area within relevant groundwater flow systems. **N/A**
- b. Identify public and private water supplies which may potentially be adversely affected by groundwater flow associated with the proposed facility, including a detailed hydrogeologic study addressing the potential effect of the proposed facility on the water supplies. **N/A**
- c. Does the hydrogeologic study mentioned above indicate adverse affects on any public or private water supplies? If yes, provide the following: feasibility of permanently replacing or restoring the water supply to like quantity and quality with the existing supply and at no additional cost to the owner. A description of the means to restore or replace the water supply shall also be provided. **N/A**

3. Is the project located within a high quality or exceptional value watershed? If yes:

**NO – The four streams in the vicinity of the project are Mill Creek, Silver Creek, Wolf Creek, and the Schuylkill River. None of the pertinent zones for each of these streams in relation to the Project are classified as high quality or exceptional value as shown in 25 Pennsylvania Code Chapter 93.**

**N/A**

- a. Identify the stream segment. **N/A**
- b. List any physical or chemical parameters that would be associated with the discharge or runoff from the facility. **N/A**

G. Recreation

Is there a potential impact the facility will have on recreational areas or facilities within one mile of the proposed project? If yes, identify any mitigation proposals to eliminate or reduce adverse impacts and any mitigation proposals to enhance these areas.

**NO – There are no recreation areas within 1 mile of the Project area.**

**N/A**

H. Historic/Archaeologic

1. Is the project located within one mile of an historic or archaeological property owned by the Pennsylvania Historical and Museum Commission? If yes:

**N/A**

- a. Identify the historic or archaeological property and its distance from the project. **N/A**
- b. Conduct visual and traffic analyses and impact on the historic or archaeological property. **N/A**
- c. Describe the characteristics of the project which might create adverse environmental, visual, or traffic impacts on the historic and archeological properties. **N/A**
- d. Describe measures to be taken to minimize adverse impacts on the historic and archeological properties. **N/A**

2. Is the project located within 1/4 mile of a historic site listed in the National Register of Historic Places or the Pennsylvania Inventory of Historic Places or an archaeological site listed in the Pennsylvania Archaeological Site Survey? If yes:

**NO – A letter from the PHMC is included stating that no historic or archaeological property is within 1 mile of the Project.**

**N/A**

- a. Identify the historic or archaeological site and its distance from the project. **N/A**
- b. Describe the characteristics of the project which might create adverse impacts on the historic or archaeological site. **N/A**
- c. Describe measures to be taken to minimize adverse impacts on the historic or archaeological site. **N/A**
- d. Indicate any contact you have had with the Pennsylvania Historical and Museum Commission about the project. **N/A**

I. Airports (applies to landfill only)

1. Is the proposed landfill located within 6 miles of a public airport and subject to 49 U.S.C. §44718(d) (relating to limitation on construction of landfills)? If yes:

**NO – The closest public airport is the Schuylkill County (Joe Zerby) Airport located approximately 12 miles to the west of the Project location. N/A**

- a. Has the public airport received grants under Chapter 471 and is primarily served by general aviation aircraft and regularly scheduled flights of aircraft designed for 60 passengers or less? **N/A**
- b. Has the Pa. State aviation agency requested the FAA Administration to exempt the landfill from the application of Section 44718(d) and the FAA Administration has issued the exemption in writing stating that the facility will have no adverse impact on aviation safety? **N/A**

2. Is the existing landfill or proposed expansion within 6 miles of an airport runway? If yes:

**NO – The closest public airport is the Schuylkill County (Joe Zerby) Airport located approximately 12 miles to the west of the Project location. N/A**

Attach Proof of Notice to the Bureau of Aviation of the Pennsylvania Department of Transportation, the Federal Aviation Administration and the airport and the response received to each notification.

J. Traffic

The following information is requested, in part, to assist the Department of Environmental Protection, in consultation with the Department of Transportation or their designee or other appropriate reviewers, in determining whether further traffic and/or roadway studies are necessary as part of this permit application. The information will also assist in determining the scope of such a study, should one be required. Department of Transportation guidelines and criteria are available to advise the applicant of the scope and manner in which such studies shall be conducted and presented.

**SEE ATTACHED TRAFFIC STUDY**

1. Identify routes from the nearest limited access (or major) highway used by vehicles traveling to and from the facility ('approach routes'). Submit PennDOT Type 10 maps clearly showing the location of the facility, approach routes and the nearest limited access (or other major) highway. Highlight all municipalities on approach routes on these maps. Submit a site plan showing the location of all existing or proposed driveways to the facility.
2. Identify daily and hourly traffic volumes that will result along each approach route, hourly and daily, from construction and operation of the facility. Identify the traffic volumes by the number, direction (to or from the site), type (use AASHTO vehicle designations), size, weight and distribution of vehicles used for construction and operation of the facility. Project the same data out for each of the next ten years.
3. Identify locations on approach routes where bridge and/or roadway conditions (e.g., weight limits, vertical clearance restrictions, one-lane or narrow bridges, insufficient lane widths, or roadway surfaces) may require repair or improvement to accommodate traffic related to the proposed facility. Describe necessary improvements.
4. Identify sections of roadway along the approach routes that are congested (e.g., that experience traffic backups or queuing), or are expected to be congested within the next ten years. Identify the impact that the additional facility traffic will have on traffic flow, and describe measures to mitigate related congestion.
5. Identify, by location, land uses along the approach routes, such as residential, commercial, industrial and agricultural, and identify residences fronting the roadways (50 feet setback or less), schools, hospitals, nursing homes and other significant buildings. Describe potential adverse impacts of increased facility traffic volumes and recommend countermeasures.
6. Identify locations on approach routes where intersection turning radii are insufficient to allow turns to be made within the physical boundaries of the roadway pavement and without encroaching on opposing travel lanes. Describe necessary improvements.
7. Identify locations on approach routes where horizontal alignment, lane width, and other factors would result in encroachment onto sidewalk areas, or opposing/adjacent travel lanes, or onto shoulder areas. Identify locations of shoulder drop-offs, and of potential shoulder deterioration caused by the volume of traffic from the facility. Describe proposed solutions.

8. Identify locations on approach routes where shoulders or a roadside clear zone are not present and a combination of factors such as curvature, lane width, etc. would result in off-tracking or run-off-the-road concerns. Describe necessary improvements.
9. Identify locations on approach routes where long steep grades, hazardous grade speed limits, truck pull off areas or truck escape ramps exist.
10. Identify locations on approach routes where substantial lengths of grade, without climbing lanes or passing lanes, would impede truck speed. Describe countermeasures.
11. Identify locations on approach routes which may present under clearance problems. Describe countermeasures.
12. Identify locations on approach routes where sight distance or turning, acceleration or deceleration lane lengths are inadequate for the type, size and weight of vehicles that will be generated by the proposed facility. Describe mitigation measures.
13. Identify other safety-related considerations relative to waste facility traffic on approach routes. Assess impacts on school bus traffic. Describe countermeasures.
14. Does the applicant have a Highway Occupancy Permit for this facility issued by PennDOT or by the local municipality? If yes, please attach the permit and any conditions. If no, please explain.
15. Has a traffic impact study previously been completed for this project? If yes, attach the study.
16. Identify potential adverse environmental impacts to parks, playgrounds, recreation areas, forests, picnic areas, natural landmarks, wild areas, rivers, wetlands, public water supplies, historic sites, or other areas, that may result from traffic to and from the proposed facility. Take into account exhaust fumes, odors, noise, and other environmental factors. Describe measures to be taken to minimize or mitigate potential adverse impacts which you identify.

K. Zoning and Land Use **N/A**

1. Does the county where this project is located or proposed have a comprehensive local land use plan? **YES**
2. Does the municipality where this project is located or proposed have a comprehensive local land use plan? **YES**
3. Does the county or municipality where your project is located have a zoning ordinance? **YES**
  - a. Provide a copy of the local zoning ordinance and land use plans adopted by the county or local government.  
**N/A**
  - b. Identify possible conflicts the new facility will have with local zoning ordinances and land use plans  
**N/A**
  - c. Submit copy of the expanded notice sent to county and local government asking information if the permit application conflicts with their zoning ordinances and land use plans. **N/A**
  - d. Identify measures that have or will be taken to obtain municipal approval.  
**N/A**
  - e. If municipal approval is already secured, provide copies of such land-use approvals. **N/A**
4. Is the project located on preserved farmland that is restricted to agricultural use by (a) an agricultural conservation easement under the authority of the Act of June 30, 1981 (P.L. 128, No. 43), as amended, known as the Agricultural Area Security Law, 3 Pa. C.S.A. §901 et seq. or (b) deed restrictions that have been imposed under the authority of the Act of January 19, 1967 (P.L. 992, No. 442) as amended, known as the Open Space Law, 53 P.S. §5001 et seq. and that have been recorded in the appropriate county land records office (c) easements owned by any other "qualified conservation organization," as that term is defined at Section 170(h)(3) of the Internal Revenue Code? If yes, identify the location and acreage of preserved farmland and an explanation on how the facility can be located on this area and still be in compliance with the conservation easement. If the project is located adjacent to preserved farmland: identify the location and acreage of preserved farmland, the location of the project and the potential impact the project may have on the preserved farmland.

**NO N/A**

5. Is the project located on farmland in agricultural security areas that have been approved by local government units after public review and comment according to the procedure in the act of June 30, 1981 (P.L. 128, No. 43), as amended, known as the Agricultural Area Security Law, 3 Pa. C.S.A. §901 et seq.? If yes, identify the location and acreage of farmland in agricultural security areas and the location of the project. Secure and attach comments and recommendations from the township Agricultural Security Area advisory committee.

**NO N/A**

6. Is the project located on farmland that is enrolled for preferential tax assessments as land in "agricultural use" under the Act of December 19, 1974 (P.L. 973, No. 319), as amended, known as the Pennsylvania Farmland and Forest Land Assessment Act of 1974, 72 P.S. §5490.1 et seq. Or as "farmland" under the Act of January 13, 1966 (1965 P.L. 1292, No. 515), as amended, known as "An act enabling certain counties of the Commonwealth to covenant with land owners for preservation of land in farm, forest, water supply, or open space uses." If yes, identify the location and acreage of farmland enrolled for preferential tax assessments and the location of the project.

**NO N/A**

7. Is the project located on farmland planned for agricultural use, subject to agricultural use and subject to agricultural zoning under the authority of the Act of July 31, 1968 (P.L. 805, No. 247), as amended, known as the Pennsylvania Municipalities Planning Code, 53 P.S. §10101 et seq.? If yes, identify the location and acreage of this farmland and the location of the project. Include comments and recommendations from the county planning commission and/or the local planning commission.

**NO N/A**

8. Is the project located on active farmland? If yes, does the active farmland include land capability classes designated as I, II, III, IV or unique? If yes, identify possible alternatives to avoid these classes of soils and measures taken to minimize impacts. Attach recommendations from the local Cooperative Extension Service or the county Natural Resources Conservation Service.

**NO N/A**

9. If the project is not located on active farmland, will the project affect land identified as prime farmland, farmland of state-wide importance, or farmland of local importance? If yes, attach comments and recommendations from the Natural Resources Conservation Service.

**NO N/A**

L. Planning

1. Will disposal of the waste at this facility be inconsistent with municipal, county, regional or state solid waste plans or laws in the area where the waste is generated? **NO N/A**
2. For municipal waste disposal and processing facilities, list the approved municipal, county, regional or state solid waste plans or laws that will be implemented by the proposed facility. Provide the name and telephone number of a contact person from the agency that approved the plan as well as relevant documentation for each plan. List the waste streams that are affected by the planning laws in place where the waste is generated.

**SEE FORM 46**

M. Air Quality Impact

1. Describe briefly the impacts on ambient air quality. This includes the emissions of volatile organic compounds, toxic air compounds, fugitive particulate emissions and other air pollutants.

**N/A**

2. Based upon site specific meteorological data describe the prevailing wind direction and speed and describe potential adverse air impacts to the surrounding community. **Prevailing wind direction from west to east.**

**N/A**

3. Describe the control measures to be taken to mitigate or minimize the potential adverse air impacts which you identify. **See Form 14**

**N/A**

4. Does this facility have an existing air program? If yes, please attach. **N/A**

5. Has an air plan approval application been submitted for this project? If yes, identify when and where this application was submitted. **N/A**

**N. Benefits and Harms: Environmental, Social and Economic**

**See the attached Harms-Benefits analysis, showing that the benefits clearly outweigh the known and/or potential harms.**

Complete this section for municipal waste landfills, construction/demolition waste landfills, municipal waste resource recovery facilities, noncaptive residual waste landfills, noncaptive residual waste disposal impoundments and residual waste incinerators and other facilities where a known and/or potential environmental harm exists after mitigation.

1. Environmental benefits of the project, both on-site and off-site.
2. Benefits to local businesses.
3. Benefits to local economy.
4. Benefits of local employment.
5. Benefits to local residents and local government.
6. Benefits from host agreements.
7. Benefits based on demographics.
8. Harms and potential harms to property values.
9. Harms and potential harms to aesthetics/community character of the surrounding community.
10. Harms and potential harms to the health and safety of the surrounding population.
11. Impacts on environmental justice communities.
12. Harms and potential harms associated with uncompensated losses to local government (i.e. road maintenance).
13. Harms and potential harms associated with the quality of life within the local area.
14. Harms and potential harms on the local economy.
15. Harms and potential harms on the quality of the surrounding environment.

**MW:**

MW Landfill  
 CD Landfill  
 RRF

or

Other if K or P env. Harms remain despite mitigation

**RW:**

Noncaptive landfill  
 Disposal impoundment  
 Incinerator

or

Other if K or P env. Harm remains despite mitigation

# Harms and Benefits Analysis

**BRADS Landfill  
Trucking of Leachate Permit Modification  
Harms and Benefits Analysis**

---

Blythe Recycling and Demolition Site (“BRADS”) has prepared this Harms and Benefits Analysis pursuant to the Department’s municipal waste regulations at 25 Pa. Code §271.127, and in conformance with the Department’s guidance no. 254-2100-101, Environmental Assessment Process, Phase I Review. This Analysis demonstrates that the actual benefits of the pending request to include leachate hauling as a primary means for managing leachate at the BRADS Landfill (“Landfill”) clearly outweigh known or potential environmental harms that may remain after minimization and mitigation.

The identification and evaluation of known or potential environmental harms is based on the applicant’s thorough knowledge of the site and the community and of operating experience at this as well as other facilities, and relies on the information contained in both this pending application and the site’s currently approved permit documentation, including specifically that contained in its Form D – Environmental Assessment for Municipal and Residual Waste Management Facilities.

As described therein, the only known or potential harms associated with this request are the potential impact to traffic along the approach route to the site and the potential nuisance impacts such as dust, odor, litter, and noise. These potential harms are minimized, mitigated and clearly outweighed by the real social and economic benefits proposed herein. These benefits include additional financial benefits to be provided by the site. Each benefit and known or potential harm is evaluated below to assess the relative “weight” of the associated impact – i.e., minimal, limited, moderate or significant – taking into account the duration, intensity, frequency and reach of the impact, and the sensitivity of receptors.

In summary, this request is to include leachate hauling as a primary means of managing leachate produced by the landfill. BRADS has efficiently and effectively handled over 51 million gallons of leachate since the site opened without incident.

**EVALUATION OF KNOWN OR POTENTIAL HARMS**

Consistent with the Department’s guidance, BRADS has identified additional traffic along the approach route and the potential for odor, dust, litter, and noise nuisances as the known or potential harms associated with the proposed modification. As described below, BRADS contends that these potential harms are individually of minimal to no weight, and collectively should be afforded no more than minimal to no weight, in the Department’s balancing of harms and benefits.

**Social Harms - Truck Safety Hazards, Traffic, and Public Safety along Approach Route**

A social harm to be considered is truck traffic to and from the facility. It should be noted that the BRADS facility has been managing their leachate via hauling since the site opened without incident. In this regard, traffic impacts were evaluated via a detailed Traffic Impact Study (“TIS”) conducted by Traffic Planning and Design, which is included as a separate document in this submittal. This TIS was prepared consistent with the Department’s regulations and guidance. Specifically, the TIS indicates that there are negligible adverse traffic impacts associated with the proposed increase in daily waste volumes.

As detailed in the DEP-approved Transportation Compliance Plan (“TCP”) for the Landfill, there are various protocols utilized by site personnel to encourage hauler compliance with local, state, and federal transportation requirements. For instance, the TCP established procedures for directing long-haul truck traffic to specific routes (i.e. Interstate 81, Mahanoy City route) to enter and exit the facility. This route is also utilized and enforced for the trucks hauling leachate. Moreover, other TCP procedures - e.g., compliance checks, warnings and various corrective options (i.e. directives, driver delay time, and even

denial of access) exist to encourage haulers to properly observe landfill-imposed rules and access route requirements.

These mitigation efforts in place at the Landfill serve to reduce the frequency and severity of, and potential for occurrence of, adverse impacts associated with the existing and proposed Landfill-related truck traffic. Furthermore, note that the duration and intensity of adverse impact, if such did occur, would be brief given that the corrective measures set forth in the TCP exist to promptly address a potential situation.

Consistent with the PennDOT TIS policy, the potential for traffic impacts has been minimized and mitigated and BRADS contends that the weight of any potential harm to users of the local roadways associated with truck traffic is of minimal to no weight.

#### Environmental Harms – Odors, Dust, Litter and Noise

As mentioned previously, BRADS has been hauling leachate since 2019. The facility has consistently operated devoid of complaint or related violation relative to leachate hauling. As such, the facility has demonstrated the ability to safely and properly manage nuisance related concerns. For example, BRADS requires the leachate hauling trucks to utilize the same access roads as the garbage trucks so that the site can better manage dust issues via the truck wash and dust control from the water truck.

Nonetheless, to the extent odor, dust, litter, and noise is required to be considered a harm, past analysis of harms at this facility reveals that frequency, intensity, reach, and duration of adverse impact does not correlate to the amount of waste disposed. Rather, the potential for such nuisance impacts is found to be driven by a variety of other conditions (e.g., velocity and direction of wind).

Based on the ability of the site to safely and properly implement successful operating procedures to manage leachate production on a daily basis, and the minimal to negligible potential for adverse impact from site operations, BRADS contends that the weight of the remaining nuisance harms associated with odors, dust, litter or noise is of minimal to no weight.

#### Spills

There is a potential for spills associated with leachate filling and transportation operations as well as during highway trucking of waste, and thus a potential harm associated with these activities. BRADS has addressed this concern through the employment of a designated leachate load-out point, which maintains containment structures together with spill protocols for vehicles transferring leachate, and with regards to releases from trucks during the transport process, BRADS has and will continue to retain contractors which are experienced and licensed to transport wastewaters in the Commonwealth of Pennsylvania and which provide vehicles and enclosed tanks that are compliant with Chapter 49 of the Code of Federal Regulations. Based on the historical record of no spills, and in light of its previously noted performance, BRADS feels the current operating system /plans in place are sufficient to mitigate the potential for spills associated with leachate hauling vehicles. In the event that a spill does occur at some point in the future, BRADS would employ the protocols outlined in the PPC Plan. Thus, relative to potential harm from spills, the assigned intensity is deemed to be “moderate”, the frequency “rare”, the potential “unlikely” and the impact (were a spill to occur) “moderate”.

## EVALUATION OF SOCIAL AND ECONOMIC BENEFITS

### Monies Paid to POTW's

BRADS' Agreement with Schuylkill Haven POTW (SH) requires BRADS to pay \$0.011 per gallon for each gallon delivered to SH for treatment. Over the past several years, leachate production has averaged approximately 7,300,000 gallons/year, and this is likely to increase as additional disposal cells are brought on-line. At that average, BRADS will make annual payments of approximately \$80,300 to the Borough of Schuylkill Haven (or approved other POTW) at current leachate generation rates and would be substantially more if/when the gallonage trucked increases. This benefit will continue for approximately 30 years after the site closes.

Being conservative in basing the Benefit on the above analysis rather than estimating future gallonage increases, the assigned benefit intensity is "high", the frequency "daily", the potential "certain", and the impact "high".

### Monies Spent with Leachate Haulers

BRADS utilizes local haulers to transport its leachate to POTW's at the current cost of \$0.057 per gallon. Using the same gallonages as above, this amounts to \$416,100 per year in payments to local liquids haulers; and again, this would substantially increase if/when gallonages trucked increase.

Being conservative in basing the Benefit on the above analysis, the assigned benefit intensity is "high", the frequency "daily", the potential "certain", and the impact "high".

### Monies Spent Locally on Truck O&M

The hauling of leachate under this request results in additional trucks (and their drivers) operating in the area. The harms associated with this increased trucking were addressed above. There are, however, also benefits; those being that these trucks require drivers who are paid wages, they require that fuel be purchased, they require tires/oil changes/maintenance, etc. Without assigning a dollar value to these benefits, the assigned intensity of this benefit is "moderate", the frequency is "daily", the potential benefit is "certain", and the impact is "moderate".

## BALANCING

As outlined and described above, BRADS has presented the harms and the benefits associated with this request to allow leachate trucking to wastewater treatment plants as a primary leachate management method. There are potential harms such as noise, dust, litter, spillage, etc. associated with approving any additional traffic; which harms have been addressed herein. Fortunately, BRADS current operational procedures associated with the request have been very successful in mitigating these types of harms, as evidenced by the absence of historic issues associated with the harms. BRADS will continue to implement these operational procedures.

There are also some potential and some very real benefits associated with the requested modification which have also been addressed herein. The additional monies paid to SH (or any alternative receiving WWTP) and to the truckers is substantial, as is the additional money spent locally and regionally of wages of drivers and on fuel, tires, and maintenance of the trucks.

We have evaluated the harms and benefits, tabulated them in the attached "Balancing of Harms and Benefits" spreadsheet, and believe that we have demonstrated that the benefits to the public clearly outweigh the known and potential harms associated with this modification.

## CONCLUSION

BRADS Landfill has demonstrated that individually and collectively, the net social and economic benefits associated with the proposed use of leachate hauling as the primary means of managing leachate production clearly outweigh the known and potential environmental harms of the project.

**BLYTHE RECYCLING AND DEMOLITION SITE**  
A Construction and Demolition Waste Facility

*Major Permit Modification for Trucking of Leachate*

**Attachment 1**

<b>BALANCING OF HARMS vs BENEFITS</b>						
	<b>POTENTIAL HARMS</b>	<b>DURATION</b>	<b>INTENSITY</b>	<b>FREQUENCY</b>	<b>POTENTIAL</b>	<b>IMPACT</b>
	<b><u>Traffic</u></b>	(1)				
1.	Highway levels of service impacts					
a.	Leachate	Site Life +30 yrs	Negligible	Rare	Unlikely	Negligible
2.	Noise	Site Life +30 yrs	Minimal	Daily	Likely	Insignificant
3.	Dust	Site Life +30 yrs	Minimal	Occasional	Possible	Insignificant
4.	Litter	Site Life	Minimal	Rare	Possible	Slight
5.	Spills	Site Life +30 yrs	Moderate	Rare	Unlikely	Moderate
	<b>POTENTIAL BENEFITS</b>	<b>DURATION</b>	<b>INTENSITY</b>	<b>FREQUENCY</b>	<b>POTENTIAL</b>	<b>IMPACT</b>
1.	Monies Paid to POTW	Site Life +30 yrs	High	Daily	Certain	High
2.	Monies Spent with Leachate Haulers	Site Life +30 yrs	High	Daily	Certain	High
3.	Monies Spent Locally on Truck O&M	Site Life +30 yrs	Moderate	Daily	Certain	Moderate

# Form 14

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# Form 14

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# Insert

Monitoring of the perimeter gas monitoring probes (GMP) will be accordance with the detailed explanation of the proposed gas monitoring plan as presented in Form K.

Upon notification from DEP that the gas management system (or portions of it) is no longer required, a deactivation plan will be submitted to DEP for review and approval.

Stormwater runoff will be managed by a series of terraces (benches), diversion channels, culverts, storm sewers and sedimentation basin(s).

Leachate will be collected by the leachate management system within the landfill, pumped by slope riser systems, and drained to the leachate storage and management system with ultimate disposal at a POTW Sewage Treatment Plant, which will be an NPDES permitted facility. BRADS will continue to haul leachate from their facility to approved POTW's as their principle means for measuring leachate generation. The leachate would be stored on site in the leachate equalization storage tanks. From there it would be trucked off site to approved POTW's. The leachate equalization storage tanks are of sufficient capacity to meet the facility's 30-day storage requirement. Alternately, BRADS has constructed a dual-contained leachate conveyance pipeline from the BRADS leachate storage tanks to a connection point with SVSA (Schuylkill Valley Sewer Authority) conveyance piping to their POTW. If an agreement with SVSA comes to fruition, BRADS will convey leachate to SVSA as agreed upon.

The equipment that is anticipated to be used for daily disposal operations as well as construction/development is as follows:

Equipment (Landfill Operations)

- 1 Caterpillar 836 Compactor
- 1 50 Ton Off-Road Dump Truck
- 1 Backhoe
- 1 D-6 Wide Track Dozer
- 1 D-8 Dozer
- 1 Water Truck
- 1 Utility Truck

All equipment will be maintained in an operable condition by on-site mechanics. Replacement equipment is available from equipment suppliers, contractors, and/or nearby landfill operations, in the event of equipment breakdown. Additional equipment may be required for construction activities and will be obtained on an as needed basis. Standby equipment shall be located on the site or at a place where it can be available within 24 hours. If a breakdown of equipment occurs, the operator shall utilize the standby equipment as necessary to comply with the permit conditions and all applicable laws and regulations.

# Form 25

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Date Prepared/Revised 5/2026
<b>DEP USE ONLY</b>
Date Received

## FORM 25 LEACHATE MANAGEMENT - PHASE II

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 25, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets should match the "date prepared/revised" on this page.

General References: 273.162, 273.163, 273.271 to 273.275/277.162, 277.163, 277.271 to 277.275, 285.122, 285.123

### SECTION A. SITE IDENTIFIER

Applicant/permittee: Blythe Recycling and Demolition Site Holdings, Inc.

Site Name: Blythe Recycling and Demolition Site (BRADS)

Facility ID (as issued by DEP): 101679

### SECTION B. BASIC TREATMENT METHODS

- 1. Discharge to permitted POTW, following pretreatment, if required, by federal, state or local law or by discharge into another permitted treatment facility.
- 2. On-site treatment and discharge to stream.
- 3. Spray irrigation following treatment.
- 4. Other: Hauling of leachate as primary means of leachate management.

For Proposed Site: Will permanent leachate pre-treatment method be in-place before placement of waste? \_\_\_\_\_

### SECTION C. COMPONENTS OF LEACHATE TREATMENT PLAN

Check and/or Describe

- |   |                            |
|---|----------------------------|
| 1. Estimate of annual leachate quantity and quality and supporting calculations.  | <u>No change</u>           |
| <input type="checkbox"/> 2. Plans, designs, and cross sections for the proposed collection and handling system.   | <u>No change</u>           |
| <input type="checkbox"/> 3. Plans, designs, and cross-sections for on-site leachate treatment or disposal systems.  | <u>No change</u>           |
| <input type="checkbox"/> 4. Description of on-site treatment system already in operation, including NPDES number, capability to treat leachate, and compliance status under The Clean Streams Law.                    | _____                      |
| 5. If interim vehicular transportation to an off-site treatment facility is proposed, provide:  |                            |
| <input checked="" type="checkbox"/> a. Copy of signed contractual agreement with operator of off-site facility, or  | <u>See Attachment 25-1</u> |
| <input type="checkbox"/> b. Signed letter of intent from operator of the off-site facility to enter a contractual agreement for leachate treatment.   | _____                      |
| <input type="checkbox"/> c. Copy of signed contractual agreement with the operator of a 2nd off-site facility as backup, or   | _____                      |
| <input checked="" type="checkbox"/> d. Signed letter of intent from operator of the 2nd off-site facility to enter a contractual agreement for or leachate treatment.   | <u>See Attachment 25-1</u> |
| <input checked="" type="checkbox"/> e. Additional bond in amount sufficient to pay for the cost of vehicular transportation and off-site leachate treatment until final closure; if off-site treatment is negligible. | <u>See Bonding</u>         |
| <input type="checkbox"/> f. Submit plans, designs, and cross-sections for an on site pretreatment facility.   | _____                      |
| 6. If recirculation of raw or pretreated leachate is proposed in conjunction with another method, describe:   |                            |
| <input type="checkbox"/> a. Designs and cross-sections of leachate distribution method.   | <u>N/A</u>                 |
| <input type="checkbox"/> b. Methods to prevent leachate seeps and breakouts.  | _____                      |
| <input type="checkbox"/> c. Methods to prevent odors, runoff, and ponding.  | _____                      |
| <input type="checkbox"/> 7. Schedule and method for cleaning sludges from the leachate storage and treatment system, and a plan for disposing of such sludges.  | <u>No change</u>           |
| <input type="checkbox"/> 8. Method for measuring average flow rate of leachate from landfill to leachate storage/treatment system.  | <u>No change</u>           |
| <input type="checkbox"/> 9. Identify if leachate pumping occurs.  | <u>No change</u>           |
| <input type="checkbox"/> 10. Plans and designs for secondary containment of underground pipes used for the transport of leachate from the liner system.   | <u>No change</u>           |

**SECTION D. ADDITIONAL INFORMATION**

Location in Application

1. Interim Leachate Transportation

See Form 25 Narrative

Check appropriate items:

- 1. A permitted and fully operating system for fully pre-treating leachate will be installed before disposal of waste.
- 2. Direct discharge into a POTW or other permitted treatment facility is attainable within 3 years.
- 3. Discharge of treated leachate into a receiving stream in a manner consistent with The Clean Stream Law is attainable within 3 years.
- 4. A leachate recirculation system will be constructed and operated.

2. Leachate Recirculation: (Prohibited, except for landfills with composite liners)

N/A

Describe design of system. Show that there is sufficient municipal waste capacity to absorb leachate and that the area subject to leachate recirculation is underlain by a composite liner. Describe system used to recirculate leachate:

3. Leachate Collection and Storage (for storage impoundments, submit Form 24):  
Design leachate volume (gal./year)

\_\_\_\_\_

Tanks or Impoundments:

	#1	#2	#3
1. Volume (gallons)	<u>500,000</u>	<u>500,000</u>	_____
2. Dimensions (feet)	<u>56'x29'</u>	<u>56'x29'</u>	_____
3. Freeboard (feet)	<u>2 ft.</u>	<u>2 ft.</u>	_____
4. Function (equalization, storage, etc.)	<u>eq/sto</u>	<u>eq/sto</u>	_____
5. Aeration Capacity	<u>All</u>	<u>All</u>	_____
6. Detention Time	<u>30+ days</u>	<u>30+ days</u>	_____
7. Secondary containment or liner	<u>Steel ring</u>	<u>Steel ring</u>	_____

**Attachment 25-1**

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**Leachate Discharge  
Agreements**

## LEACHATE TREATMENT AGREEMENT

THIS AGREEMENT is made on the 9th day of ~~August, 2024~~, by and between the Borough of Schuylkill Haven ("BSH") a Pennsylvania Municipal Authority duly organized and authorized under the laws of the Commonwealth of Pennsylvania, with a mailing address of 333 Center Avenue, Schuylkill Haven, Pennsylvania 17972, and Blythe Recycling and Demolition Site Holdings, Inc. ("BRDSH"), a Delaware corporation with a mailing address of 1061 Burma Road, New Philadelphia, Pennsylvania 17959.

WHEREAS, BSH owns and operates a publicly owned and fully permitted sewage treatment plant (Sewage Treatment Plant) located at St. Charles Street, Schuylkill Haven, Pennsylvania 17972 for the treatment and disposal of sewage and other wastewaters;

WHEREAS, the Blythe Township Solid Waste Authority, a Pennsylvania Municipal Authority duly organized under the laws of the Commonwealth of Pennsylvania ("BTSWA"), previously owned the Blythe Recycling and Demolition Waste Landfill ("BRADS" or "Landfill"), a construction and demolition waste disposal facility located in Blythe Township;

WHEREAS, BTSWA previously entered into a Landfill Operation Agreement, dated December 1, ~~2018~~, with Blythe Township, a Second Class Township duly organized under the laws of the Commonwealth of Pennsylvania ("BLYTHE"), pursuant to which (among other things) the parties thereto agreed that BLYTHE would operate the Landfill for the benefit of BTSWA under a certain Permit that was issued to BLYTHE by the Pennsylvania Department of Environmental Protection on or about January 20, 2015, in consideration for which BTSWA agreed to reimburse BLYTHE for its operating expenses and to further compensate BLYTHE for its operation services as defined thereunder;

WHEREAS, BSH previously entered into a Leachate Treatment Agreement, dated December 19, 2018 (the "Leachate Treatment Agreement") with BTSWA and BLYTHE, pursuant to which BLYTHE, by or on behalf of BSAW, proposed to deliver to the Sewage Treatment Plant leachate and other wastewater from BRADS, and BSH agreed to treat and dispose of same in accordance with the terms and conditions contained therein;

WHEREAS, sometime in 2021, BRDSH purchased the Landfill pursuant to a certain Asset Purchase Agreement, dated December 27, 2021;

WHEREAS, BRDSH and BSH desire to enter into a new agreement in which BRDSH shall deliver to the Sewage Treatment Plant leachate and other wastewater from BRADS, and BSH is agreeable to treat and dispose of the BRADS leachate and other wastewater in accordance with the terms and conditions contained herein;

NOW THEREFORE, in consideration of the mutual covenants herein and intending to be legally bound hereby, the parties agree as follows:

**SECTION 1. PURPOSE.** The purpose of this Agreement is to establish criteria and restrictions for an upon the quality of leachate and other wastewater delivered by or on behalf of BRDSH from BRADS to BSH's Sewage Treatment Plant, subject to which the BSH Sewage Treatment Plant agrees to accept such deliveries upon approval from Pennsylvania Department of Environmental Protection ("PADEP"), the Delaware River Basin Commission ("DRBC") and the Environmental Protection Agency ("EPA"), to the extent required.

**SECTION 2. QUALIFICATION OF BRDSH AND HAULER.** BRDSH agrees to become a part of the BSH Pretreatment Program as approved by the United States Environmental Protection Agency (hereinafter "EPA"), by obtaining a permit and using haulers that are owned/operated or leased or subcontracted by BSWA but are "qualified by BSH" pursuant to the provisions of Chapter 173 Article V of the BSH Industrial Sewer Use Ordinance No. 1065, as revised, and pay the applicable costs required thereunder to implement the pretreatment program.

BRDSH agrees that all haulers of leachate and other wastewater employed by BRDSH, whether temporary or permanent employees, agents or subcontractors, must be qualified in advance by BSH before disposing leachate at BSH's Sewage Treatment Plant. Qualification of a hauler to deliver leachate to the BSH Sewage Treatment Plant requires the hauler, whether individual, corporation, partnership, or association to present to BSH the following:

(a) Type and size of trucks that will be utilized to make delivery to the Sewage Treatment Plant, including License Number, make and capacity of all vehicles, other materials hauled in vehicles other than leachate;

(b) Proof of insurance in the amount of One Million Dollars (\$1,000,000.00); said certificate of insurance to be in the nature of an "occurrence" policy ("claims made" policies shall not be acceptable) naming BSH as an additional insured;

(c) Documentation or other form of information identifying the entity, whether a corporation, partnership, association or individual, on behalf of whom the delivery to the Sewage Treatment Plant is being made.

(d) The name, address and phone number of a representative or responsible individual from the entity, corporation, partnership, association or individual must be available for contact by BSH twenty-four (24) hours per day in case of an emergency

**SECTION 3. PROHIBITED DISCHARGES.** BRDSH hereby agrees that it shall not delivery to the Sewage Treatment Plant, any of the following Prohibited Discharges:

(1) Pollutant(s) which would cause Pass Through or Interference with the operation of the Sewage Treatment Plant.

(2) Having a temperature higher than 150°F (65° C) or less than 32°F (0°C), or which will inhibit biological activity in the treatment plant, resulting in interference, but in no case wastewater which causes the temperature at the introduction into the treatment plant to exceed 104°F (40°C).

(3) Discharging pollutants to points that are not designated.

(4) Pollutants which create a fire or explosive hazard in the POTW, including, but not limited to, waste streams with a closed-cup flashpoint of less than 140°F (60°C) using the test methods specified in 40 CFR 261.21.

(5) Fats, oils or greases of animal or vegetable origin in concentrations greater than 100 milligrams per liter (mg/L).

(6) Containing any gasoline, benzene, naphtha, fuel oil, paint products, acid, base or other inflammable or explosive liquids, solids or gases.

(7) Containing any noxious or malodorous gas or substance which, either singly or by interaction with other wastes, is capable of creating a public nuisance or hazard to life or preventing entry into sewers for their maintenance and repair.

(8) Petroleum oil, non-biodegradable cutting oil or products of mineral origin in amounts that will cause interference or pass through.

(9) Pollutants which result in the presence of toxic gases, vapors or fumes within the POTW in a quantity that may cause acute worker health and safety problems.

(10) Trucked or hauled pollutants, except at discharge points designated by the Compliance Officer in accordance with § 173-400

(11) Containing unground garbage.

(12) Where the pH, stabilized, is lower than 6.0 or higher than 9.0 or having any corrosive or scale-forming property capable of causing damage or hazards to structures, equipment, bacterial action or personnel of the sewer system or the sewage treatment plant.

(13) Containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, to constitute a hazard to humans or animals or to create any hazard in the receiving stream of the sewage treatment plant or exceeding the concentration in milligrams per liter (mg/l) of the following pollutants in the discharges into the sewer system:

- a. Cyanide, arsenic and phenol: 0.5 milligrams per liter.
- b. Lead and mercury: 1.0 milligrams per liter.
- c. Chromium, trivalent and chromium hexavalent: 2.0 milligrams per liter.
- d. Cadmium, copper, nickel, silver, tin and zinc: 2.0 milligrams per liter.
- e. Iron: 5.0 milligrams per liter.

(14) Pollutants, including oxygen-demanding pollutants (CBOD, etc.) released in a discharge at a flow rate and/or pollutant concentration which, either singly or by interaction with other pollutants will cause interference with the POTW.

(15) Containing total solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant except as otherwise provided herein.

(16) Containing any radioactive wastes or isotopes, except as granted by special permit by the Borough in compliance with applicable state or federal regulations.

(17) Containing or imparting color from any source which:

a. When diluted 1 to 10 will have a luminescence of 90% or better and a purity of 10% or less at its dominant wavelength by the tristimulus method.

b. Cannot be removed by the treatment process, such as, but not limited to, dye wastes and vegetable tanning solutions, which consequently impart color to the treatment plant's effluent, thereby violating the BSH NPDES permit.

c. In combination with turbidity, shall not cause the treatment plant effluent to reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonable established norm for aquatic life.

(18) Having a chlorine demand in excess of 12 milligrams per liter.

(19) Sludges, screenings or other residues from the pretreatment of industrial wastes.

(20) Medical wastes, except as specifically authorized by the BSH by a wastewater discharge permit.

(21) Wastewater causing, alone or in conjunction with other sources, the treatment plant's effluent to fail a toxicity test.

(22) Detergents, surfactants or other substances which may cause excessive foaming in the POTW.

(23) Prohibited by any permit issued by the Commonwealth of Pennsylvania or agency of the federal government.

(24) Containing wastes which are not amenable to biological treatment or reduction in the sewage treatment plant, specifically non-biodegradable complex carbon compounds.

(25) Containing solid or viscous substances in amounts which will cause obstruction of the flow in the POTW, resulting in interference.

(26) Containing but not limited to any ashes, cinders, sand, mud, straw, shavings, metal, glass, bones, rags, feathers, tar, plastic, wood, paunch manure, butcher's offal, whole blood, bentonite, lye, building materials, rubber, hair, leather, porcelain, china, ceramic wastes or any other solids or viscous substances capable of causing obstruction to the flow in the sewer system or other interference with the proper operation of the sewer system or the sewage treatment works.

**SECTION 4. DISCHARGE CRITERIA.** The criteria for discharge into the Sewage Treatment Plant shall be in accordance with the applicable effluent limitations and the BSH Sewer Use Ordinance. If the quantity or quality of the discharge changes, BSH may require

**BRDSH to apply for and obtain an Industrial User Wastewater Discharge permit (Permit) per BSH's Pretreatment Program, as approved by the U.S. Environmental Protection Agency (EPA).**

**BRDSH agrees that BRDSH shall discharge the hauled waste on a consistent basis and as approved by BSH and the plant staff, so as to prevent discharging large quantities at one time. The level of discharge is to be approved by the BSH plant's staff and in accordance with the BSH Ordinance.**

**SECTION 5. SAMPLING.** BRDSH agrees that BSH, its employees, servants, agents or other designated officials may collect a sample of each truck load of the leachate prior to accepting delivery into the Sewage Treatment Plant. At the discretion of the BSH plant's staff, the sample may be tested prior to accepting delivery of the load or be maintained for future testing. Sampling will also be required to be completed at the BRDSH facilities from time to time as reasonably required and as reasonably deemed necessary by BSH and as specified in the Permit.

**SECTION 6. BSH COMMITMENT.** Provided BRDSH and its haulers are in compliance with the provisions of this Agreement and the conditions of its Permit, and subject to the provisions of Section 7 below, BSH shall receive and process for disposal deliveries of leachate and other wastewater, as approved, from the BRADS Landfill on a daily basis during the term of this Agreement.

**SECTION 7. CLOSURE OF PLANT.** BRDSH hereby acknowledges and agrees that BSH reserves the right to close the Sewage Treatment Plant to all incoming deliveries of leachate and other wastewater, if required by regulation, order, or administrative directive of the Commonwealth of Pennsylvania, Department of Environmental Protection, the EPA, the Delaware River Basin Commission, or other regulatory agency, plant operating conditions or whenever routine or emergency maintenance is required. In the case of unplanned closure, BSH will notify BRDSH as soon as it is determined that an unplanned closure is necessary. In the case of major planned maintenance, BSH will notify BRDSH of same.

**SECTION 8. INDEMNIFICATION.** BRDSH hereby agrees to indemnify and hold harmless BSH, its officers, servants, employees, agents or their designated officials or engineers and their agents and employees from and against all cost, claims, injuries, damages to persons or property, losses, fines, or penalties as may be imposed upon BSH and expenses, including without limitation, reasonable attorney's fees, to the extent the same results from the negligence or willful misconduct of BRDSH, or its agents, servants, employees, or subcontractors.

BRDSH hereby further agrees to indemnify BSH from and against all damage to the Sewage Treatment Plant or other BSH property which may occur during the course of a delivery or during treatment or processing of leachate or other wastewater by BRDSH, but only to the extent the same results from the negligence or willful misconduct of BRDSH, or its agents, servants, employees, or subcontractors. Furthermore, BRDSH agrees that in the event of a breach of any provision of this Agreement, BRDSH shall reimburse BSH or their designated officials from any expenses incurred by BSH as a result of such breach. So long as BRDSH's performance of its commitments under this Agreement do not endanger or impair the viability of the Sewage Treatment Plant, BSH shall give BRDSH a reasonable period of time within which to cure a breach of this Agreement.

Notwithstanding anything contained herein to the contrary, BRDSH shall have no obligation to indemnify BSH, or any other party, to the extent any claims, suits, actions, losses, damages, liabilities, costs or expenses arise out of: (i) the negligence, reckless or willful misconduct of the BSH, its officers, servants, employees, agents or their designated officials or engineers and their agents and employees, or (ii) the violation of any law, rule, regulations, ordinance, order, permit, or license by the BSH, its officers, servants, employees, agents or their designated officials or engineers and their agents and employees.

**SECTION 9.** PRICE. It is agreed that the charge for the acceptance and treatment of leachate and other wastewater delivered to the Sewage Treatment Plant by BRDSH shall be ~~\$11.00~~ per 1000 gallons. All such charges for treatment, testing, special handling surcharge or otherwise, shall be paid to BSH within sixty (60) days of the date of invoice. In the absence of payment within sixty (60) days, further deliveries shall be precluded, in addition to the assessment of penalties, late fees, interest and other charges for delinquencies in accordance with applicable BSH ordinances, rules and regulations.

**SECTION 10.** TERM OF AGREEMENT. This Agreement shall be valid for a period of five (5) years from the date of its execution and may be terminated at the end of said term by giving the other party written notice thereof at least thirty (30) days prior thereto, but in default of such notice, this Agreement shall continue upon the same terms and conditions in force immediately prior to the expiration of the term thereof, as are herein contained for a further period of one (1) year and so on from year to year, when and until terminated by either party hereto, giving the other thirty (30) days written notice prior to the expiration of the then current term.

**SECTION 11. NON-ASSIGNABILITY.** This Agreement may not be assigned by BRDSH to a successor until such time as it is replaced by a new Agreement. This Agreement shall inure to the benefit of BSH or their designated officials and their successors and assigns. BRDSH agrees to provide reasonable advanced written notice to BSH in the event BRDSH intends to sell its interests in the Landfill to an unaffiliated third party.

**SECTION 12. SEVERABILITY.** If any sentences, clause, section of this Agreement is, for any reason, found to be unconstitutional, illegal or invalid, such unconstitutionality, illegality or invalidity shall not affect or impair any of the remaining provisions, sentences, clauses, sections or parts of this Agreement. It is hereby declared to be the intent of the parties to this Agreement that this Agreement would have been entered into had such unconstitutional, illegal or invalid sentence, clause, section or part thereof not been included herein.

**SECTION 13. MATERIAL BREACH.** If an unmitigated and uncured material breach of this ~~agreement/permit~~ is committed and is traced back to the Landfill, BSH may terminate ~~BRDSH's permit and~~ this Agreement to receive leachate and other wastewater from the Landfill upon one hundred eight (180) days prior written notice. BSH acknowledges and agrees that it is prohibited from terminating this Agreement to receive leachate and other wastewater from the Landfill except upon one hundred eighty (180) days prior written notice. Notwithstanding the foregoing, BSH may immediately suspend the performance of this Agreement for either ~~Permit~~ ~~non-~~compliance by BRDSH or if the Sewage Treatment Plant suffers a significant upset or interruption of its operations as a result of an unforeseen force majeure event traced back to the Landfill beyond the Sewage Treatment Plant's control. In such an instance, BSH shall provide immediate notice of the suspension to BRDSH and BSH shall conduct an evaluation of the corresponding corrective action to be taken at the Sewage Treatment Plant and be paid for by BRDSH as soon as possible. In the event that there is no corrective action that may be reasonably taken to resume normal plant operations and acceptance of leachate and other wastewater, or BRDSH does not agree to pay for the evaluation and/or the corrective action, BSH may terminate this Agreement.

**SECTION 14. DISPUTES.** Any disputes arising under this Agreement shall be resolved exclusively in the Court of Common Pleas of Schuylkill County, Pennsylvania. The parties hereto irrevocably consent to the jurisdiction of said Court and further expressly waive any objection that venue in said Court is proper.

**SECTION 15. FORCE MAJEURE.** Except for the payment of amounts owed hereunder, the performance of this Agreement may be suspended and the obligations hereunder excused in the

event and during the period that such performance is prevented by a cause or causes beyond reasonable control of such party, but only until the condition preventing performance is remedied. Such conditions shall include, but not be limited to, acts of God, acts of war, accident, explosion, fire, flood, riot, sabotage, acts of terrorists, epidemic, pandemic, unusually severe weather, lack of adequate fuel, or judicial or governmental laws or regulations.

**SECTION 16. NOTICES.** Any notices ~~required or permitted~~ to be delivered hereunder shall be in writing and deemed to be delivered when deposited in the United States mail, postage prepaid, certified mail, return receipt requested, or sent by recognized overnight courier, addressed to the respective party at the address set forth below:

If to BSH:

Jessica Seiders  
333 Center Ave  
Schuylkill Haven, PA 17972  
Attn: Jessica Seiders

If to BRDSH/BRADS:

Blythe Recycling and Demolition Site Holdings, Inc.  
1061 Burma Rd.  
New Philadelphia, PA 17959  
Attn: District Manager

With a copy to:

Waste Connections, Inc.  
3 Waterway Square Place, Suite 110  
The Woodlands, TX 77380  
Attn: Legal Department

or such other addresses as the parties may hereafter specify by written notice and delivered in accordance herewith.

**SECTION 17. WAIVER.** No delay or omission by a party in exercising any right under this Agreement will operate as a waiver of that or any other right. A waiver or consent given by a party on any occasion is effective only in that instance and will not be construed as a bar to or waiver of any right on any other occasion.

**SECTION 18. SAVINGS PROVISION; ENTIRE AGREEMENT.** This Agreement supersedes all prior agreements, written or oral, with respect to the subject matter of this agreement. This Agreement may be changed only by a written instrument signed by all parties hereto. In the

event that any term or provision of this Agreement shall be determined by a court of competent jurisdiction to be invalid or unenforceable, this Agreement shall, to the extent reasonably possible, remain in force as to the balance of its terms and provisions as if such invalid term or provision were not a part hereof.

(Signature Page to Follow)

IN WITNESS WHEREOF, the Borough of Schuylkill Haven and Blythe Recycling and Demolition Site Holdings, Inc. have caused these presents to be signed by their respective officers duly authorized, and this Agreement to be dated as of the date written.

{00117504.DOCX.}10

ATTEST:

BOROUGH OF SCHUYLKILL HAVEN

Kaitlyn Tinari

Secretary

Jessica Seiders

Jessica Seiders, Borough Administrator

ATTEST:

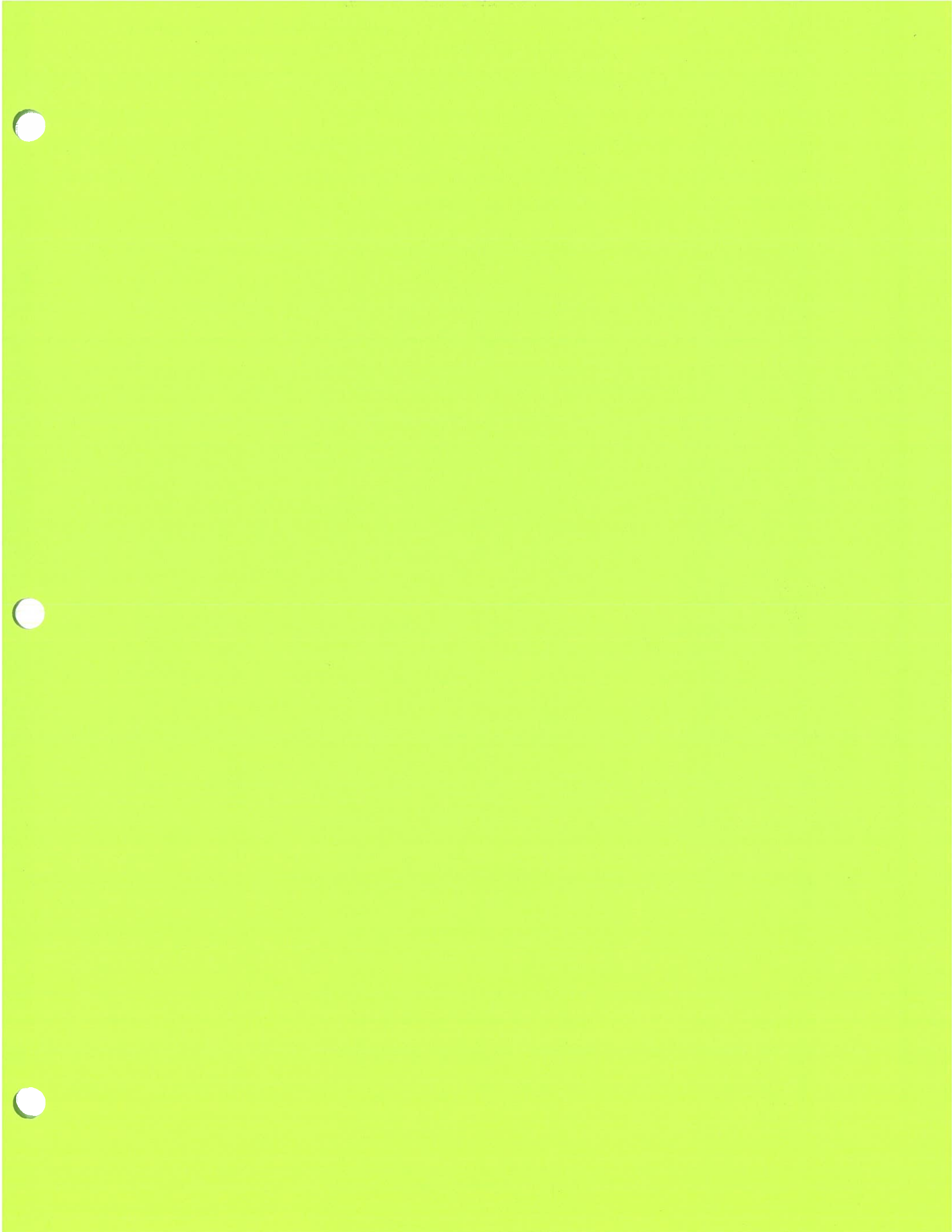
BLYTHE RECYCLING AND DEMOLITION SITE  
HOLDINGS, INC.

\_\_\_\_\_

Assistant Secretary

Kyle Byler

Kyle Byler,  
Division Vice President



CAPITAL REGION WATER  
ADVANCED WASTEWATER TREATMENT FACILITY  
1662 South Cameron Street  
Harrisburg, Pennsylvania 17104

CONTRACT WASTE HAULING PERMIT

Company Name: **BRADS Landfill**

Division Name:

Mailing Address: **1061 Burma Road  
PO Box 335  
St. Clair, PA 17970**

Facility Address: **1061 Burma Road  
New Philadelphia, PA 17959**

Principal Signatory: **Robert Motto**

The above **Contract Waste Hauler** is hereby authorized to discharge **Process Waste (leachate)** to Capital Region Water's Advanced Wastewater Treatment Facility (AWTF) in compliance with Capital Region Water's Wastewater and Stormwater Rules and Regulations, any applicable provisions of Federal or State law or regulation, and in accordance with discharge point(s), effluent limitations, monitoring requirements, and other conditions set forth herein.

This Contract Waste Hauler Permit is granted in accordance with the application filed on **February 13, 2026**, in the office of the AWTF and in conformity with plans, specifications, and other data submitted in support of the above application.

Effective Date: **February 1, 2026**

Expiration Date: **February 28, 2027**

The Contract Waste Hauler shall not discharge after the date of expiration. If the Contract Waste Hauler wishes to continue to discharge after this expiration date, an application must be filed for reissuance of this permit in accordance with the requirements of Capital Region Water's Wastewater and Stormwater Rules and Regulations, a minimum of ninety (90) days prior to the expiration date.

Brian Hart  
Pretreatment Coordinator  
Capital Region Water AWTF

**Part I - COMPENSATION, DISCHARGE THRESHOLD LIMITATIONS, GENERAL LIMITATIONS, PROHIBITED DISCHARGES AND OTHER CONSIDERATIONS**

**COMPENSATION:**

Rate of compensation to be paid to Capital Region Water:

**\$0.027 Per Gallon**

The rate of compensation is based on (1.5) percent solids.

Should the average percent solids vary plus or minus 1.5 percent during the period of this permit, the hauler will be notified, and the rate of compensation will be adjusted accordingly.

**DISCHARGE THRESHOLD LIMITATIONS:**

Threshold Limits	1. Cadmium	39 mg/kg
	2. Chromium	1200 mg/kg
	3. Copper	1500 mg/kg
	4. Lead	300 mg/kg
	5. Mercury	17 mg/kg
	6. Nickel	420 mg/kg
	7. Zinc	2500 mg/kg

**GENERAL LIMITATIONS:**

pH	5.0 - 10 Std. Units
TVS (Process only)	55% Minimum
Oil/Grease	100 mg/L

**PROHIBITED DISCHARGES:**

Grease trap waste  
Medical, infectious or biohazard waste  
Priority pollutant waste  
Characteristic or listed hazardous waste  
Digester, lagoon, or tank cleaning.....waste, grit, or mat.

**CONSIDERATIONS:**

Waste Transporter: **Biros Septic**

Hauler will not exceed (**65000**) gallons discharged per (**Day**)

Waste to be delivered from (**BRADS Landfill Leachate**) ONLY.

**Part II - SPECIAL CONDITIONS/COMPLIANCE**

1. Such waste to be accepted by Capital Region Water will be only that material previously approved by the Advanced Wastewater Treatment Facility. Any other form of waste from any other treatment system may not be discharged into the AWTF. **Discharge of such non-approved wastes** into the AWTF will constitute a violation of the terms of this permit, will render said permit null and void, and will subject the Hauler to the penalties provided in Capital Region Water's Wastewater and Stormwater Rules and Regulations. In addition, the Contract Waste Hauler will be charged at the compensatory rate of **\$0.182 per gallon for the non-approved discharge.**
2. The AWTF will accept the discharges between the hours of 7:00 A.M. and 7:00 P.M., Monday through Friday, only at the discharge point specified by the AWTF. After hours or weekend discharges will be considered upon special request by the Hauler.
3. The **compensation to be paid by the Hauler to the AWTF** for such use of the facilities shall be determined by the AWTF and listed under Part I "Compensation, Discharge Threshold Limitations, General Limitations, Prohibited Discharges and Other Considerations", of this permit. The AWTF will bill the Hauler monthly, predicated on a minimum waste volume of 1,000 gallon per load or the maximum capacity of the tanker. **Payment must be made within 30 days of receipt of the bill.**
4. Hauler agrees to keep very accurate records regarding the volumes discharged into the AWTF's system and to have these records available and open for inspection and audit by designated representatives of the AWTF.
5. Prior to each discharge, the Hauler shall relinquish to AWTF personnel a **Contract Waste Hauling Manifest**. The manifest is to be completed in its entirety as well as include the list of all customers, customer addresses and approximate volumes.
6. Upon demand, hauler will furnish the AWTF with a representative sample of the material to be discharged into the system. The sample will be preserved, if necessary, to provide a valid result when analyzed. Preservation of samples will follow commonly accepted practices for sampling. The AWTF will have the submitted sample analyzed to establish the concentration of contamination present. A copy of the analysis will be supplied to the Hauler. If the analysis of the sample proves not to be within the threshold limits, the Hauler agrees to meet with the AWTF to determine future discharges.
7. The AWTF's laboratory will analyze or designate a contract laboratory to analyze any samples in question.
8. Upon 30 days written notice or at the expiration of this permit, the AWTF may change the schedule of rates to reflect any increase in operational costs. This is in addition to any adjustments to the rates specified in Part I "Compensation, Discharge Threshold Limitations, General Limitations, Prohibited Discharges and Other Considerations".

**Part III - STANDARD CONDITIONS**

1. The Contract Waste Hauler shall comply with all the general prohibitive discharge standards in Capital Region Water's Wastewater and Stormwater Rules and Regulations. Namely, the Contract Waste Hauler shall not discharge waste to the AWTF:
  - a) Having heat in such quantities that the discharge causes the temperature at the AWTF to exceed one hundred and four degrees Fahrenheit (104°F).
  - b) Containing fats, wax, grease, or oils of petroleum origin whether emulsified or not in excess of 100 mg/L, or petroleum oil, nonbiodegradable cutting oil, or petroleum products of mineral origin in amounts that will cause interference or pass through at the AWTF unless a variance is granted.
  - c) Containing any gasoline, benzene, naphtha, fuel oil or other explosive liquids, solids or gases or any other pollutants which will create a fire or explosion hazard, including but not limited to wastestreams with closed cup flashpoint of less than one hundred and forty degrees Fahrenheit (140°F) using the test methods specified in 40 CFR Part 261.21.
  - d) Containing any garbage that has not been ground by household type or other suitable garbage grinders.
  - e) Containing any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure, or any other solids or viscous substances capable of causing obstructions or other interferences with proper operation of the sewer system.
  - f) Having a pH lower than 5.0 or higher than 10.0 standard units or having any other corrosive property capable of causing damage or hazards to structures, equipment, or personnel of the sewer system unless a variance is granted.
  - g) Containing toxic or poisonous substances in sufficient quantity to injure or interfere with any wastewater treatment process, or to constitute hazards to humans or animals, or to create any hazard in waters which receive treated effluent from the sewer system treatment plant. Toxic wastes shall include, but not by way of limitation, wastes containing cyanide, chromium, cadmium, mercury, copper or nickel or any characteristic or listed hazardous waste.
  - h) Containing noxious or malodorous gases or substances capable of creating a public nuisance.
  - i) Containing solids of such character and quantity that special and unusual attention is required for their handling.
  - j) Containing any substance which may affect the AWTF's effluent and cause violation of the NPDES Permit requirements.
  - k) Containing any substance which would cause the AWTF to be in noncompliance with sludge use, recycle, or disposal criteria pursuant to guidelines or regulations developed under Section 405 of the Federal Act, the Clean Air Act or regulations criteria for sludge management and disposal as required by the PA DEP.

- l) Containing color which is not removed in the treatment processes.
- m) Containing any radioactive wastes or isotopes.
- n) Containing any pollutant, including conventional pollutants, released at a flow rate and/or pollutant concentration which would cause interference with the AWTF.
- o) Containing substances which may solidify or become viscous at temperatures between thirty-two degrees Fahrenheit (32°F) and one hundred and forty degrees Fahrenheit (140°F).
- p) Containing chemical constituents which alone or in combination result in the release of toxic gases, vapors, or fumes in a quantity that may cause acute worker health and safety problems.

2. RIGHT OF INSPECTION AND ENTRY

The Contract Waste Hauler shall provide the AWTF or its representatives, exhibiting proper credentials and identification, with whatever is necessary to enter the premises, without delay, for the purpose of performing inspection, sampling, record inspection or any other duties and responsibilities. The premises shall mean, but not be limited to, the Contract Waste Hauler's business office or the location from which the waste was generated.

3. RECORDS RETENTION

The Contract Waste Hauler shall retain and preserve for no less than three (3) years, any records, books, documents, memoranda, reports, correspondence and any and all summaries thereof, relating to monitoring, sampling and chemical analyses made by or on behalf of the user in connection with its discharge. All records that pertain to matters that are the subject of special orders or any other enforcement or litigation activities brought by the AWTF shall be retained and preserved by the Contract Waste Hauler until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired.

4. CONFIDENTIAL INFORMATION

Except for data determined to be confidential under Capital Region Water's Wastewater and Stormwater Rules and Regulations, all reports required by this permit shall be available for public inspection at the office of the AWTF.

5. RECORDING OF MONITORING RESULTS

For each measurement or sample taken pursuant to the requirements of Part I and II of this permit, the Contract Waste Hauler shall record the following information:

- a) The exact place, date, and time of sampling,
- b) The person(s) who collects the sample(s),
- c) Sample type (Composite or Grab),
- d) The dates the analyses were performed,
- e) The person(s) who performed the analyses,

- f) The analytical techniques or methods used,
- g) The results of all required analyses, and
- h) Chain of custody.

6. MONITORING PERFORMED BY THE AWTF

Monitoring will be performed by the AWTF based on the type of waste, type and concentrations of pollutants in the discharge, and the past performances of and compliance by the Contract Waste Hauler. Examples of analysis include, but are not limited to, a permit scan, surveillance scans or random analysis.

When monitoring occurs, the following itemized charges will be levied against the Contract Waste Hauler:

<u>Parameter</u>	<u>Unit Cost</u>
Arsenic as As, (T)	35.00
Cyanide as CN, (T)	35.00
Cadmium as Cd, (T)	20.00
Chromium as Cr, (T)	20.00
Copper as Cu, (T)	20.00
Lead as Pb, (T)	20.00
Mercury as Hg, (T)	40.00
Nickel as Ni, (T)	20.00
Zinc as Zn, (T)	20.00
 Total Toxic Organics	
Volatile Organic Compounds GC/MS	\$220.00
Acid Extractables/Base Neutrals GC/MS	460.00
Pesticides/PCB's	160.00
Dioxins (Qualitative)	150.00
 pH	 5.00
BOD <sub>5</sub>	25.00
COD	20.00
TS/TVS	10.00
TSS/VSS	10.00
Ammonia Nitrogen as N	25.00
Total Nitrogen as N	55.00
Phosphorous as P, (T)	15.00
Oil and Grease	30.00
Temperature, °C	-
Phenols, (T)	30.00

All prices subject to change upon notification.

7. ESTABLISHED TEST PROCEDURES

The measurement of specified pollutants by Capital Region Water and Contract Waste Hauler will be consistent with Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR Part 136 or Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 40 CFR Part 261, Appendix III. Test procedures will include a Quality Assurance and Sample Preservation Program referenced to United States Environmental Protection Agency (US EPA), Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), Association of Official Analytical Chemists (AOAC), or United States Geological Survey (USGS) texts or manuals.

8. SIGNATORY REQUIREMENTS

All reports required by this permit shall be signed by a responsible corporate officer, ranking public official, a general partner, proprietor, or duly authorized representative of that individual. Any change in signatory identified on page 1 of this permit shall be submitted to the Superintendent, in writing within thirty (30) days after the change.

9. REVOCAION OF PERMIT

The permit issued to the Contract Waste Hauler by Capital Region Water may be revoked when, after inspection, monitoring or analysis it is determined that the discharge of waste to Capital Region Water's AWTF is considered by AWTF personnel to be detrimental to the plant processes or equipment, or is in violation of Federal, State, or local laws, ordinances, or regulations. Falsification or intentional misrepresentation of data or statements pertaining to the permit application, or any other required reporting form shall be cause for permit revocation. Also, non-payment of permit fees or disposal charges shall be cause for permit revocation.

10. LIMITATION OF PERMIT TRANSFER

Contract Waste Hauler permits are issued to a specific user for a specific operation and are not assignable to another user or transferable to any other location without the prior written approval of Capital Region Water. Sale of the Contract Waste Hauler's business shall obligate the purchaser to seek prior written approval of the Authority for continued discharge to the sewerage system.

11. FALSIFYING INFORMATION OR TAMPERING WITH MONITORING

Knowingly making any false statement on any report, manifest or other document required by this permit or knowingly rendering any sample for analysis inaccurate, may result in punishment under the criminal laws, as well as being subjected to civil penalties and relief.

12. PERMIT MODIFICATION OR REVISION

- a) The terms and conditions of this permit may be subject to modification by the AWTF at any time as limitations or requirements identified in Capital Region Water's Wastewater Rules and Regulations are modified or other just cause exists.

- b) This permit may also be modified to incorporate special conditions resulting from the issuance of a special order.
- c) The terms and conditions may be modified as a result of Federal, State or local promulgation of new pretreatment standards or requirements.
- d) Any permit modifications which result in new conditions in the permit shall include a reasonable time schedule for compliance if necessary.
- e) The permit may be modified as a result of any modification or requirement of Capital Region Water's NPDES Permit.

13. DUTY TO COMPLY

The Contract Waste Hauler must comply with all conditions of this permit. Failure to comply with the requirements of this permit may be grounds for administrative action, or enforcement proceedings including civil or criminal penalties, injunctive relief, and summary abatements.

14. DUTY TO MITIGATE

The Contract Waste Hauler shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of a waste for discharge.

15. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

16. PROPERTY RIGHTS

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any invasion of personal rights, nor any infringements of Federal, State or local regulations.

17. CIVIL PENALTY

If the Contract Waste Hauler violates any of the terms, provisions or requirements of Capital Region Water's Wastewater and Stormwater Rules and Regulations or any other applicable rules and regulations, or whoever fails to comply with any notice given pursuant to this permit to such person, or whoever obstructs or interferes with any person in the enforcement of this permit shall, upon conviction thereof, severally for each and every such violation or noncompliance respectively be fined not more than twenty-five thousand dollars (\$25,000.00) per day of violation. Each twenty-four (24) hour period during which a violation continues shall be considered a separate offense and punishable as such.

18. CRIMINAL PENALTY

If the Contract Waste Hauler knowingly or negligently violates any of the terms, provisions or requirements of Harrisburg Ordinance Title Nine, Part Five or any of the applicable rules and regulations, or whoever refuses to comply with any notice given pursuant to this ordinance to such

person, or whoever obstructs or interferes with any person in the enforcement of this ordinance shall, upon conviction thereof, severally for each and every such violation or noncompliance respectively be fined not more than one thousand dollars (\$1,000.00) or imprisoned for a term not exceeding ninety (90) days, or both. Each twenty-four (24) hour period during which a violation continues shall be considered a separate offense and punishable as such.

19. CIVIL LIABILITY

The Contract Waste Hauler shall be liable for any and all damages to the treatment plant and sewer system resulting from said Contract Waste Hauler's discharge and indemnify Capital Region Water for any and all fines or penalties incurred by the AWTF resulting from said Contract Waste Hauler's discharge. Nothing in this permit shall be construed to relieve the Contract Waste Hauler from civil and/or criminal penalties for noncompliance.

20. RECOVERY OF COSTS INCURRED

In addition to civil and criminal liability, the Contract Waste Hauler violating any of the provisions of this permit, Capital Region Water's Wastewater and Stormwater Rules and Regulations or City Ordinance Part Nine, Title Three, or causing damage to or otherwise inhibiting the AWTF's treatment system shall be liable to Capital Region Water for any expense, loss, or damage caused by such violation or discharge. Capital Region Water shall bill the Contract Waste Hauler for the costs incurred for any cleaning, repair, or replacement work caused by the violation or discharge.

# Form 46

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Date Prepared

5/2026

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

I.D. Number

101679

**FORM 46**  
**RELATIONSHIP BETWEEN MUNICIPAL**  
**WASTE**  
**MANAGEMENT PLANS AND PERMITS**

**General References: 271.201, 273.1 39, 283.1 1 2, Section 507 of Act 101**

Instructions: Attach required information 8 1/2 x 11 inch sheets. Complete all items for municipal waste landfills and resource recovery facilities.

Provide a written narrative that describes the following:

1. To what extent do the county plan implementing documents submitted by the host county designate the facility to receive a specified volume of waste? **BRADS is included in the Schuylkill County Municipal Solid Waste Plan. Volumes of waste to be delivered to the landfill are not specified.**
2. To what extent do other plan implementing documents designate the facility to receive a specified volume of waste?  
**None at this time.**
3. If the facility is not provided for in the host county plan; **N/A**
  - a. Does the proposed facility interfere with the implementation of the approved plan? Explain.
  - b. Does the proposed facility interfere with municipal waste collection, storage, transportation, processing, or disposal in the host county? Explain.
  - c. Does the environmental assessment, as described in 25 Pa. Code §271.127, demonstrate that the proposed location of the facility is at least as suitable as alternative locations?

In addition, the applicant must provide evidence that the governing body of the proposed host county has received written notice of the proposed facility from the applicant according to Section 504 of the Solid Waste Management Act.

**See Form A Attachments**

2016

PREPARED BY  
THE OFFICE OF SOLID WASTE &  
RESOURCE MANAGEMENT

# Schuylkill County Municipal Solid Waste Management Plan




**Nestor Resources, Inc.**

---

Confirmed w/  
Kyle @ the  
County that this  
is the latest version  
of Solid Waste  
Management Plan  
5/5/26 AB

# Schuylkill County Municipal Solid Waste Management Plan Update and Revision 2016



This project was paid for in part with funding made possible by an Act 101, Section 901 Planning Grant provided by the Pennsylvania Department of Environmental Protection, Bureau of Planning and Waste Minimization.

**PROJECT CONSULTANT  
NESTOR RESOURCES, INC.  
VALENCIA, PA**

## Acknowledgements

### **Schuylkill County Board of Commissioners**

George F. Halcovage Jr. Gary J. Hess Frank J. Staudenmeier

### **Schuylkill County Real Estate/Engineering**

Lisa Mahall, County Engineer & Real Estate Director

### **Schuylkill County Office of Solid Waste & Resource Management**

Joseph Scribbick, Recycling Coordinator

### **Project Consultant**

Michele Nestor, President

Nestor Resources, Inc.

### **Solid Waste Advisory Committee**

#### **Cities**

Tom Palamar City of Pottsville

#### **Boroughs**

Mike Devlin Schuylkill Haven Borough

#### **Townships**

Jim Thomas Cass Township

#### **Waste & Recycling Industry**

Steve Field Weiner Iron & Metal Corp.

Larry Wittig Tamaqua Transfer Station

Brett Dexter CES Landfill

Jonas Kreitzer Kreitzer Sanitation

Mike Walborn Kreitzer Sanitation

#### **Industry**

Clay Long SAPA

#### **School**

Chris Brommer Blue Mountain High School

#### **Civic Group**

Bob Stablum – SKIP

## SECTION 1 CONTRACTORS, PROPOSED FACILITIES, LEGAL FORMALITIES

Site Name	Facility		Contacts		Capacity Agreement		
	Owner	Site Location	Technical	Operational	All Required Forms and Signatures	Agreed to Contract Terms and Conditions Exceptions or Comments	Requires Put or Pay or Minimum Tonnage
Alliance Landfill	Waste Management	398 South Keyser Avenue Taylor, PA 18517	Tara Hemmer	Tara Hemmer	YES	YES	NO
Blythe Recycling & Demolition Site	FKV, LLC	PO Box 91 Cumbola, PA 17930	Rick Bodner	Charlie Nowak	YES	YES	NO
Commonwealth Environmental Landfill	Commonwealth Environmental Systems LP	9 Commonwealth Road Hegins, PA 17938	Brett Dexter	David Leung	YES	YES	NO
Conestoga Landfill	BFI Waste Systems of North America, LLC Republic Services, Inc	420 Quarry Road PO Box 128 Morgantown, PA 19543	Mark Pedersen	Mark Pedersen	YES	YES	NO
Cumberland County Landfill	Advanced Disposal Services	620 Newville Road Newburg, PA 17240	Kevin Bush	Kevin Bush	YES	YES	NO
Grand Central Landfill	Waste Management	910 W. Pennsylvania Avenue Pen Argyl, PA 18072	Scott Perin	Scott Perin	YES	YES	NO
Hyland Landfill	Casella Waste	6653 Herdman Road Angelica, NY	Joseph Boyles	Joseph Boyles	YES	YES	NO
Keystone Sanitary Landfill	Keystone Sanitary Landfill Inc	249 Dunham Drive Dunmore, PA 18512	Joe Dexter	Joe Dexter	YES	YES	NO
Lancaster County Waste to Energy Facility	Lancaster County Solid Waste Management Authority	1299 Harrisburg Pike PO Box 4425 Lancaster, PA 17604	James Warner	Robert Zorbaugh	YES	YES	NO
McKean	Casella Waste	19 Ness Lane Kane, PA 16735	Larry Shilling	Raymond Duerr	YES	YES	NO
Modern Landfill	Republic Services, Inc	4400 Mount Pisgah Road York, PA 17406	Mark Pedersen	Mark Pedersen	YES	YES	NO

**SECTION 2 PERMIT STATUS AND CONDITIONS OF OPERATIONS**

Facility		Local		Permitted	Accessibility and Terms of Use		
Site Name	Host Agreements	Permit # Issuing State Expiration Date	Remaining Permitted Capacity 2014	Current Constraints or Limitations	Operating Days Per Year	Operating Hours	
Alliance Landfill	Taylor Borough Ransom Township Lackawanna County	PA 100933 10/31/20	29,605,544 cyds	NONE	Monday-Saturday (305)	7:00 AM-3:00 PM Monday-Friday 7:00 AM-11:00 AM Saturday	
Blythe Recycling & Demolition Site	Blythe Township Schuylkill County	PA 101679 1/20/2025	PENDING CONSTRUCTION	PENDING CONSTRUCTION	PENDING CONSTRUCTION	PENDING CONSTRUCTION	
Commonwealth Environmental Landfill	Reilly Township Foster Township Frailey Township Schuylkill County	PA 101615 1/31/2017	17,516,254 cyds	NONE	Monday-Friday (305)	6:00 AM-3:00 PM Monday-Friday	
Conestoga Landfill	New Morgan Borough Caernarvon Township Berks County	PA 101509 9/1/2017	19,824,585 cyds	NONE	Monday-Saturday (274)	5:00 AM-7:30 PM Monday-Friday (Sat-6:00 AM-11:00 AM)	
Cumberland County Landfill	Hopewell Township North Newton Township Newburgh Borough	PA 100945 12/8/2017	14,844,127 cyds	NONE	Monday-Saturday (312)	7:00 AM-4:00 PM Monday-Friday (Sat-7:00 AM-noon)	
Grand Central Landfill	Pen Argyl Borough Wind Gap Borough Plainfield Township Northampton County	PA 100265	1, 127, 993 cyds.	NONE	Monday-Saturday (305)	6:00 AM-6:00 PM Monday-Friday 6:00 AM-11:00 AM Saturday	
Hyland	Angelica Allegany County, NY	NY 9-0232-00003/00002 5/1/2015	9,733,784 cyds	NONE Proposed as back-up facility only	Monday-Saturday (266)	7:00 AM-9:00 PM Monday-Saturday	

## Recommendations for Disposal Facility Designation

Based upon the review and evaluation of the proposals, it was determined all of the facilities meet the established selection criteria. Some of the facilities are operating with permits that will expire before 2024. A few have capacity that could be greatly depleted during the term of the contract, but have room for expansion and design modifications. In these instances, actions to modify or renew existing permits are expected to result in approvals. One of the facilities currently has an active permit, but during the planning and procurement process it was not yet constructed and in operation. This same facility is restricted to accepting only construction and demolition waste.

All qualify to become designated disposal facilities in the Schuylkill County Municipal Solid Waste Management Plan. The facility with pending construction otherwise satisfies the requirements, and will be considered a designated facility contingent on receipt of PADEP's approval for it to physically receive waste.

In summary, the Schuylkill County Board of Commissioners will execute and enter into disposal capacity agreements with the facilities shown here. The table is arranged in alphabetical order by the owner/operator with each corresponding facility listed below.

<b>Advanced Disposal</b> Cumberland County Western Berks Landfill	<b>Keystone Environmental (DeNaples)</b> Commonwealth Environmental Systems Landfill Keystone Sanitary Landfill
<b>FKV, LLC</b> Blythe Recycling & Demolition Site (upon approval of Construction QA & QC)	<b>Lancaster County Solid Waste Management Authority</b> LCSWMA Waste to Energy Facility Susquehanna Resource Recovery Complex
<b>Casella Waste Management</b> McKean County Landfill Hyland Landfill* *Back-up Facility:	<b>Republic Services</b> Conestoga Landfill Modern Landfill
<b>Clinton County Solid Waste Authority</b> Wayne Township Landfill	<b>Waste Management</b> Alliance Landfill Grand Central Landfill Mountain View Reclamation Landfill
<b>J.P. Mascaro &amp; Sons</b> Pioneer Crossing Landfill	<b>York County Solid Waste &amp; Refuse Authority</b> York County Resource Recovery Center

# Bonding

---

Date Prepared

5/2026

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

I.D. Number

101679

**BONDING WORKSHEET I  
LEACHATE MANAGEMENT**

**Leachate Management System Narrative:** Provide a detailed description of the leachate management system. You need to include all features of the system including but not limited to landfill sumps (with number and size of pumps and controllers), length of conveyance system, number and type of storage facilities, and treatment/disposal method. A schematic should be attached as back up.

- 1. Number of years of leachate management (30 years + closure period) \_\_\_\_\_ 31 years
- 2. Annual leachate volume generated \_\_\_\_\_ 172,139 gallons
- 3. Annual cost to manage leachate volume (include pump and pipe maintenance, electricity and monitoring)<sup>1</sup> \$ \_\_\_\_\_ 7,500

**Discharge to POTW**

- 4. Unit cost to discharge leachate to a POTW \_\_\_\_\_ \$0.011 \$/gal

**On-site Treatment (including pretreatment)**

- 5. Unit cost for treatment of leachate (include equipment maintenance, electricity, personnel, chemicals, sludge disposal, etc.) \_\_\_\_\_ \$0.02 \$/gal
- 6. Annual cost to maintain NPDES permit (include sampling, analysis, report preparation, and factor in five year renewal application preparation and fees) \$ \_\_\_\_\_ 1,500

**Trucking of Leachate**

- 7. Unit cost to transport and dispose of leachate \_\_\_\_\_ \$0.057 Truck/\$0.011 Treat\$/gal
- 8. NPDES Permit (cost to prepare application, fees and sampling/analysis) \$ \_\_\_\_\_ N/A
- 9. Cost to construct on-site treatment or pretreatment system or connection to POTW \$ \_\_\_\_\_ N/A
- 10. Unit cost for treatment of leachate (include equipment maintenance, electricity, personnel, chemicals, etc.) \_\_\_\_\_ N/A \$/gal
- 11. Annual cost to maintain NPDES permit (include sampling, analysis, report preparation, and factor in five year renewal application preparation and fees) \$ \_\_\_\_\_ 3,000

<sup>1</sup> Does not include storage of leachate which is contained on Worksheet K

## 12. Cost Summary:

a. Cost to manage/convey leachate  
(line 1 x line 3) \$ 232,500

*If discharge to POTW*

b. Discharge to POTW cost (line 1 x line 2 x line 4) \$ 58,699

*If have on-site treatment*

c. Treatment cost (line 1 x line 2 x line 5) \$ 106,726

d. NPDES maintenance cost (line 1 x line 6) \$ 46,500

*If you currently truck leachate*

e. Cost of trucking leachate for three years  
(line 2 x "31" x line 7) (trucking) \$ 304,170

f. NPDES permit (line 8) \$ N/A

g. Cost to construct on-site treatment system or connection to  
POTW (line 9) \$ N/A

h. Treatment cost ((line 1] x line 2 x line 7(dispose)) \$ 58,699

i. NPDES maintenance cost ((line 1] x line 11) \$ 93,000

*If you currently store leachate in impoundments*

j. Size of pond(s) N/A acres

k. Estimate volume of material to be removed (including liner  
system and minimum of 12" of soil) N/A CY

l. Unit cost to dispose of materials (Worksheet A, line 4) N/A \$/CY

m. Cost to dispose of materials (line k x line l) \$ N/A

n. Volume of structural backfill N/A CY

o. Cost for backfill (line n x Worksheet B, line 8a) \$ N/A

p. Revegetation cost \$ N/A LS

**Subtotal** \$ **900,295**  
(sum of a - i) +m+o+p)

Adjustment for maintenance, equipment replacement and contingencies, etc. Please note that these are cumulative and you must add all of the percentages that apply to arrive at the final adjustment percentage. The minimum adjustment is 10%.

a. Add 10% of subtotal if pumps are used to convey leachate.

b. Add 5 % of subtotal if flow volume to POTW is restricted.

c. Add 10% of subtotal if leachate is stored in ponds

d. Add 10% of subtotal if onsite treatment

e. Add 15% if trucking leachate

f. Add 10% if current leachate generation exceeds 5MG/year

Final adjustment factor: 35 %

g. Adjustment (subtotal x factor) \$ 315,103

**Total** (subtotal + adjustment) \$ **1,215,398**

(Place this total on Summary Cost Worksheet - line 9)

**CALCULATION BRIEF  
BONDING WORKSHEET I  
LEACHATE MANAGEMENT  
BRADS LANDFILL**

---

**OBJECTIVE:** Determine the total bond amount required for leachate management.

**METHODOLOGY:** Estimate leachate management costs at the landfill, as required in DEP Bonding Worksheet I.

**LEACHATE MANAGEMENT SYSTEM DESCRIPTION:**

Leachate generated from the disposal areas at the landfill will be trucked.

Leachate generated is collected in a piping network located within base areas of the landfill. The leachate is drained from the landfill and pumped to the double contained storage tank prior to discharge.

**LINE ITEM ASSUMPTIONS AND CALCULATIONS**

1. The number of years of sampling assumes that the closure of the landfill will require one year, and that 30 years of post closure remain, for a total of 31 years.
2. Annual leachate volume generated was calculated based on HELP flows, assuming the final year estimated flow reduces over 5 years to the post closure Q.
3. The estimated annual pumping cost and maintenance cost is \$7,500.
4. The cost for hauling and treatment cost is \$0.057/gallon for hauling (see attached invoice) and treatment cost is \$0.011/gallon (see Schuylkill Haven agreement)
5. Item No. 9 is 0. A leachate conveyance pipeline is already constructed connecting the BRADS facility to SVSA POTW.
6. Items 12 e and h assume 31 years of leachate trucking.

**Annual leachate volume generated was derived as follows:**

Year	Gallons/Year	Cumulative Gallons
Closure Year(1)	774,144	774,144
1	580,608 (2)	1,354,752
2	435,456	1,790,208
3	326,592	2,116,800
4	244,944	2,361,744
5	183,708	2,545,452
6	137,781	2,683,233
30-Jul	110,545 (3)	2,653,076
	<b>Total Gallons</b>	<b>5,336,309</b>

Average Over 31 Years = 172,139 gal/yr

- (1) Closure year leachate flow = 64,512 gal/mo Per HELP
- (2) Assume 25% per year annual reduction in flow following capping.
- (3) Ultimate long-term flow = 2.75 gal/acre/day cap liner  
infiltration rate = 2.75 gal/ac/day \* 110.13 \* 365 days/year  
= 110,545 gallons/year



**Biros Septic & Drain Cleaning, Inc.**  
 1365 State Road  
 Zion Grove, Pa 17985

kim@biroseptic.com

www.biroseptic.com

PA 036190

**Phone:**  
 570-889-3738  
**Fax:**  
 570-889-3819

NOT AFFILIATED WITH BIROS UTILITIES, INC. PORTABLE TOILETS!!!

# Invoice

**Bill To**

Blythe Recycling and Demolitions Site Hol  
 1061 Burma Road, PO Box 335  
 St. Clair, PA 17970

**Date**

1/31/2024

**Invoice #**

48748

**P.O. No.**

**Terms**

Net 30

Description	Serviced	Receipt #	Amount
PUMPING OF LEACHATE FROM H.T. -44,000 G SCH.HAVEN FUEL SURCHARGE 15.60 X 8	1/11/2024	79810	2,376.00 124.80
PUMPING OF LEACHATE FROM H.T. -44,000 G SCH.HAVEN FUEL SURCHARGE 15.60 X 8	1/11/2024	79907	2,376.00 124.80
PUMPING OF LEACHATE FROM H.T. -5500 G GHISA FUEL SURCHARGE 43.50 X 1	1/11/2024	79920	379.50 43.50
PUMPING OF LEACHATE FROM H.T. -27,500 G SCH.HAVEN FUEL SURCHARGE 15.60 X 5	1/12/2024	79747	1,485.00 78.00
PUMPING OF LEACHATE FROM H.T. -11,000 G SCH.HAVEN FUEL SURCHARGE 15.60 X 2	1/12/2024	79933	594.00 31.20

If this invoice remains unpaid you will be held responsible for the following fees including but not limited to, collection & attorney fees & legal & court costs. Past due accounts over 90 days will have a 1.5% finance charge added per month.

Credit Card Payments add 4% fee.  
 Insufficient or Stop Check Fee: \$60.00

**Total**

**Total Amount Due:**

Page 2



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PA 036190

**Phone:**  
 570-889-3738  
**Fax:**  
 570-889-3819

NOT AFFILIATED WITH BIROS UTILITIES, INC. PORTABLE TOILETS!!!

# Invoice

Date Prepared

Rev. 5/2026

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

I.D. Number

101679

**BONDING WORKSHEET L  
SUMMARY COST WORKSHEET****Cost Summary - Landfills**

1. Decontaminating the Facility	\$	<u>10,302</u>
2. Capping/Closure	\$	<u>3,813,561</u>
3. Groundwater Monitoring System	\$	<u>326,461</u>
4. Surface Water Monitoring	\$	<u>11,076</u>
5. Private Water Supply Monitoring	\$	<u>0</u>
6. Gas Monitoring	\$	<u>69,875</u>
7. Gas Collection and Maintenance	\$	<u>2,623,862</u>
8. Other Monitoring	\$	<u>43,400</u>
9. Leachate Management	\$	<u>1,215,398</u>
10. Borrow Area Closure	\$	<u>66,893</u>
11. Maintenance Costs	\$	<u>519,014</u>
12. Other Costs <sup>1</sup> _____	\$	<u>-</u>
13. Other Costs <sup>1</sup> _____	\$	<u>-</u>
<b>Subtotal</b>	\$	<u><b>8,699,842</b></u>

**Inflation**

14. Inflation rate (projected inflation for the next three years based on the inflation for the prior three years).		<u>10.47 %</u>
15. Inflation cost for facility (subtotal x line 14)	\$	<u>910,873</u>

**Contingency and administrative fees**

16. Administrative fees (5%) (subtotal x 0.05)	\$	<u>434,992</u>
17. Project Management (5%) (subtotal x 0.05)	\$	<u>434,992</u>
18. Contingency fee amount (subtotal x rate of contingency fee from Table 1)	\$	<u>869,984</u>

**Total** (subtotal + line 15 + line 16 + line 17 + 18)      \$ **11,350,684**

<sup>1</sup> You should include any costs that would be incurred by the Department, but were not included in these sheets. Provide separate sheets for documentation.

# Inflation Rate

## GNP - Implicit Price Deflator

1st Quarter 2025	-	<b>127.485</b>
1st Quarter 2024	-	<b>124.284</b>
1st Quarter 2023	-	<b>121.200</b>
1st Quarter 2022	-	<b>115.045</b>

$$\frac{127.485 - 124.284}{124.284} + \frac{124.284 - 121.200}{121.200} + \frac{121.200 - 115.045}{115.045}$$

**10.47%**

$$\frac{3.201}{0.025756} \quad \frac{3.084}{0.025446} \quad \frac{6.155}{0.053501} \quad 0.1047$$

# ☆ Gross National Product: Implicit Price Deflator (GNPDEF)

Observations ▾

Q3 2025: 129.337

Updated: Jan 22, 2026 7:46 AM CST

Next Release Date: Apr 9, 2026

Units:

Index 2017=100,

Seasonally Adjusted

Frequency:

Quarterly

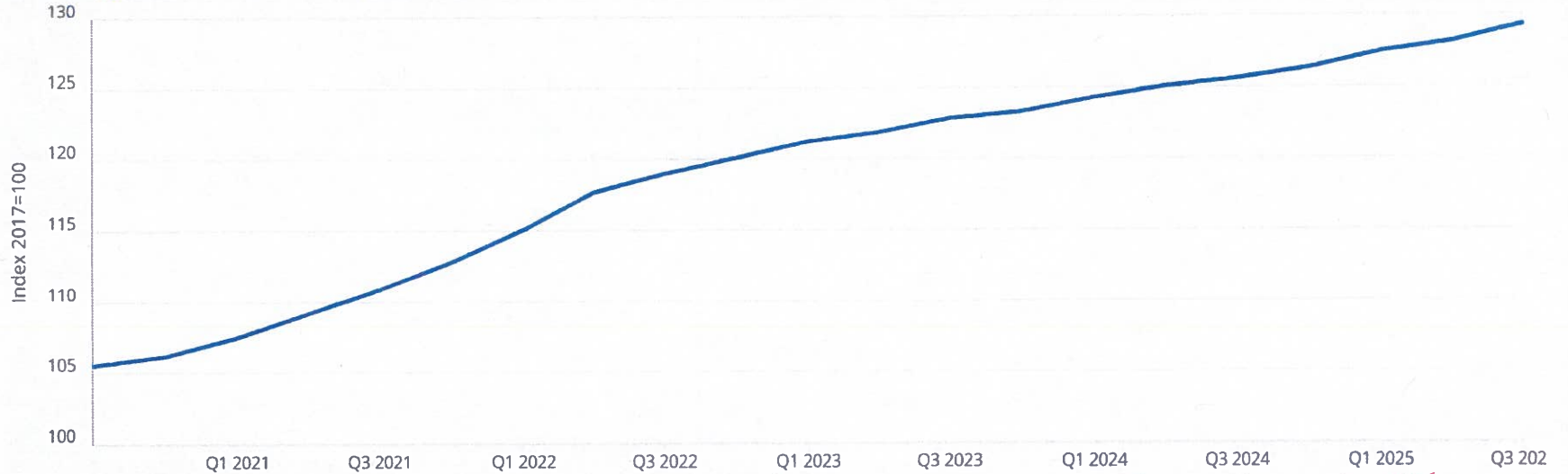
1Y | 5Y | 10Y | Max

2020-07-01 to 2025-07-01

Edit Graph ↗

Download ⬇

**FRED** — Gross National Product: Implicit Price Deflator



Source: U.S. Bureau of Economic Analysis via FRED®

Shaded areas indicate U.S. recessions.

fred.stlouisfed.org

Fullscreen 🗲

# Transportation Impact Study

August 6, 2020

TPD# FKV.00001



TRAFFIC PLANNING AND DESIGN, INC.



## Blythe Recycling & Demolition Site

Transportation Impact Study

*Blythe Township, Schuylkill County*

**For Submission To:**

PADEP

# BLYTHE RECYCLING AND DEMOLITION SITE TRANSPORTATION IMPACT STUDY

FOR SUBMISSION TO:

PADEP

Prepared For:

**Blythe Township Landfill**

Charlie Nowak

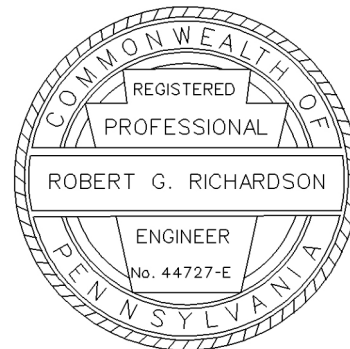
1061 Burma Road

New Philadelphia, PA 17959

August 6, 2020

*TPD # FKV.00001*

Phone: (570) 429-2023



Prepared By:

**Traffic Planning and Design, Inc.**

1720 Spillman Drive, Suite 260

Bethlehem, Pennsylvania 18015

A handwritten signature in blue ink that reads "Robert G. Richardson".

Robert G. Richardson, P.E.

*Senior Vice President*

Phone: (610) 625-4242

E-mail: [TPD@TrafficPD.com](mailto:TPD@TrafficPD.com)

Web Site: [www.trafficpd.com](http://www.trafficpd.com)

Pennsylvania License No. 044727-E

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### TECHNICAL APPENDICES

- Appendix A: Study Area Photographs
- Appendix B: Manual Traffic and ATR Count Printouts
- Appendix C: Trip Generation Documentation
- Appendix D: Volume Development Worksheets
- Appendix E: Capacity Analysis and Queue Analysis
- Appendix F: Signal Plans
- Appendix G: Critical and Follow-up Headway Calculations
- Appendix H: Auxiliary Turn Lane Warrants

## EXECUTIVE SUMMARY

The purpose of this study is to examine the potential traffic impact associated with the Blythe Recycling and Demolition Site (BRADS) expansion on the roadway network in Blythe Township, Schuylkill County, PA. Based on this evaluation, the following conclusions were reached:

- » The existing Blythe Recycling and Demolition Site (BRADS) facility located on the northern side of Burma Road (S.R. 1006), approximately 2.2 miles east of the West Hancock Street and Second Street intersection.
- » BRADS is proposing to increase the maximum tonnage from 1,500 tons per day (tpd) to 3,000 tons per day (tpd).
- » Access to the site is served by one (1) full-access roadway to Burma Road. All truck traffic will continue to enter via I-81.
- » The measured sight distance at the site driveways exceed PennDOT's acceptable sight distance requirements.
- » With the increase in tonnage, the landfill will generate approximately 36 new truck trips and 2 new car trips during the weekday A.M. peak hour and 7 new truck trips and 2 new car trips during the weekday P.M. peak hour. Note that the additional car trips are conservative as no additional employee traffic is anticipated due to the increase in tonnage.
- » Under 2030 projected conditions with the expansion of the landfill, the study area intersections will operate at the same overall intersection level of service (ILOS) as under 2030 base conditions, during the weekday A.M. and P.M. peak hours. Furthermore, all overall intersection delays fall within PennDOT's allowable 10-second variance between base (no-build) and projected (build) condition scenarios.
- » Overall intersection level of service (ILOS) at the site driveway intersections will operate at LOS A under 2030 Projected Conditions. Turning movements at site driveway intersections will operate at LOS B or better. The study area site driveways will operate at the same overall intersection level of service (ILOS) as under 2030 base conditions, during the weekday A.M. and P.M. peak hours.
- » Under 2030 projected conditions, the right and left turn lane warrants are not satisfied to any of the proposed driveways. A 300-foot westbound right-turn lane is provided into the site and will remain under future conditions.
- » 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	Design Year 2030		Meets LOS Requirements?
			Base	Projected	
S.R. 61 & Hancock Street	A.M. Peak	B (13.4)	B (13.6)	B (13.6)	YES
	P.M. Peak	B (17.6)	B (18.2)	B (18.3)	YES
2 <sup>nd</sup> Street & Hancock Street	A.M. Peak	B (13.4)	B (13.6)	B (13.6)	YES
	P.M. Peak	B (14.4)	B (14.5)	B (14.6)	YES
Burma Road & Site Driveway	A.M. Peak	A (1.7)	A (1.7)	A (2.9)	YES
	P.M. Peak	A (0.4)	A (0.4)	A (0.7)	YES
Burma Road & Morea Road	A.M. Peak	A (4.0)	A (4.0)	A (4.6)	YES
	P.M. Peak	A (4.2)	A (4.2)	A (4.4)	YES
I-81 SB on/off ramps & Morea Road	A.M. Peak	A (3.1)	A (3.2)	A (3.1)	YES
	P.M. Peak	A (1.3)	A (2.4)	A (2.4)	YES
I-81 SB on/off ramps & S.R. 0054/Morea Road	A.M. Peak	A (3.1)	A (3.1)	A (3.2)	YES
	P.M. Peak	A (3.0)	A (3.0)	A (3.0)	YES
I-81 NB on/off ramps & S.R. 0054	A.M. Peak	A (0.0)	A (0.0)	A (0.0)	YES
	P.M. Peak	A (0.0)	A (0.0)	A (0.0)	YES

*Base = No-Build scenario*

*Projected = Build scenario*

*ILOS = Overall Intersection Level of Service; Unsignalized ILOS calculated in accordance with Figure 5 of Policies and Procedures for Transportation Impact Studies.*

## INTRODUCTION

Traffic Planning and Design, Inc. (TPD) has completed a traffic impact study for the Blythe Recycling and Demolition Site (BRADS) expansion in Blythe Township, Schuylkill County, PA. As shown in **Figure 1**, the site is located on the northern side of Burma Road (S.R. 1006), approximately 2.2 miles east of the West Hancock Street and Second Street intersection. BRADS is proposing to increase the maximum tonnage from 1,500 tons per day (tpd) to 3,000 tons per day (tpd). The site plan is shown in **Figure 2**.

This report has been prepared in accordance with PennDOT's *Policies and Procedures for Transportation Impact Studies*, dated January 28, 2009.

## STUDY AREA – SITE LOCATION AND APPROACH ROUTES

### Site Description and Location

Blythe Recycling and Demolition Site (BRADS) facility is located on the northern side of Burma Road (S.R. 1006) in Blythe Township, Schuylkill County. The approach route for vehicles traveling to and from the BRADS Facility is shown on **Figure 3**. Traffic generated by the site will access Burma Road from the Interstate 81 northbound and southbound on/off ramps (Approach Route 1) and from Route 61 (Approach Route 2). ***It should be noted that all tractor-trailer trucks which desire to access the site will travel via Approach Route 1 and will be prohibited from traveling through Saint Clair Borough.***

### Approach Routes

#### APPROACH ROUTE 1

##### Entering the Site

From the I-81 northbound on/off ramps and traveling to the site, vehicles will access westbound Route 54 (S.R. 0054). At approximately 0.1 miles, Route 54 intersects with Morea Road (S.R. 1008) to form an unsignalized intersection. Vehicles will perform a left-turn movement onto westbound Morea Road. Vehicles traveling to the site which utilize the I-81 southbound on/off ramps will perform a left-turn movement from the off-ramp onto westbound Morea Road.

Vehicles will travel on Morea Road for approximately 1.2 miles to the unsignalized intersection with Burma Road (S.R. 1006). Vehicles will perform a left-turn movement onto Burma Road. The segment of Burma Road between Morea Road and the site driveway is approximately 6.3 miles. From Burma Road, vehicles will perform a right-turn movement into the site driveway. ***Again, it should be noted that all tractor-trailer trucks which desire to access the site will travel via Approach Route 1 and will be prohibited from traveling through Saint Clair Borough.***

##### Exiting the Site

From the site driveway, vehicles will perform a left-turn movement onto eastbound Burma Road and continue toward Morea Road. At the intersection of Burma Road and Morea Road, vehicles will perform a right-turn movement. Vehicles desiring to travel southbound on I-81 will perform a right-turn movement onto the southbound I-81 on-ramps, while vehicles desiring to travel northbound on I-81 will continue approximately

0.2 miles on Morea Road, perform a right-turn movement onto eastbound Route 54, and will perform a right-turn movement onto the northbound I-81 on-ramp.

### APPROACH ROUTE 2

#### **Entering the Site**

From Route 61 and traveling to the site, vehicles will perform either a left- or right-turn movement onto West Hancock Street at the signalized intersection. At approximately 0.1 miles, West Hancock Street intersects Second Street to form a signalized intersection. Vehicles will travel through the intersection and continue eastbound on West Hancock Street, which is named Burma Road outside of Saint Clair Borough. Vehicles will travel on Burma Road for approximately 2.2 miles and perform a left-turn movement into the site driveway.

#### **Exiting the Site**

From the site driveway, vehicles will perform a right-turn movement onto westbound Burma Road and continue toward Route 61. At the intersection of West Hancock Street and Route 61, vehicles will perform either a left- or right-turn movement. ***Again, it should be noted that all tractor-trailer trucks which desire to access the site will travel via Approach Route 1 and will be prohibited from traveling through Saint Clair Borough.***

## **EXISTING ROADWAY NETWORK**

*A SURVEY OF THE EXISTING ROADWAY SYSTEM IN THE STUDY AREA IS AS FOLLOWS:*

Interstate 81 (I-81) is a four-lane, north-south, rural interstate highway with posted speed limit of 65 mph. I-81 contains an interchange (Mahanoy City) with Route 54, with two on-ramps and two off-ramps for both the northbound and southbound direction of I-81, depending on which direction a vehicle desires to travel on Route 54. The pavement and lane markings are in good condition.

Route 54 (S.R. 0054) is a four-lane, east-west, rural minor arterial with a posted speed limit of 55 miles per hour (m.p.h.) in the vicinity of the study area. Route 54 contains a separate westbound left-turn lane at its unsignalized T-intersection with Morea Road, with Morea Road as the STOP-controlled approach. The pavement and lane markings are in good condition.

Morea Road (S.R. 1008) is a two-lane, east-west rural major collector with a posted speed limit of 45 mph in the vicinity of the study area. Morea Road forms an unsignalized T-intersection with Burma Road, with Burma Road as the STOP-controlled approach. The pavement and lane markings are in good condition.

Burma Road (S.R. 1006) is a two-lane, east-west rural minor collector with a posted speed limit of 45 mph in the vicinity of the site. The pavement and lane markings are in good condition.

West Hancock Street is a two-lane, east-west local road with a posted speed limit of 25 mph in the vicinity of the study area. West Hancock Street forms a signalized intersection with Second Street. The pavement and lane markings are in fair condition.

Second Street (S.R. 1027) is a two-lane, north-south rural minor arterial with a posted speed limit of 35 mph in the vicinity of the study area. The pavement and lane markings are in fair condition.

Route 61 (Route 61 By-Pass) (S.R. 6061) is a four-lane, north-south rural principal arterial with a posted speed limit of 45 mph in the vicinity of the study area. Route 61 contains separate left-turn lanes at

its signalized intersection with West Hancock Street. The pavement and lane markings are in good condition.

The existing lane configurations for the intersections within the study area are shown in **Figure 3**. Study area photographs are included in **Appendix A**.

## SCHEDULED ROADWAY IMPROVEMENTS

### Programmed Improvements

Based on a review of the Pennsylvania Transportation Improvement Program (TIP), there are no programmed roadway improvements in the vicinity of the proposed site. There are programmed improvements along PA Route 61. These improvements include pavement resurfacing. These improvements are expected to cost a total of \$56,562,000 and are scheduled during the second and third four-year period of the PennDOT 12-Year Plan. It is TPD's understanding that the construction for this project is estimated to be completed in the year 2032. These improvements will not impact the landfill.

## TRAFFIC VOLUME DEVELOPMENT

### Existing Traffic Volumes

Manual traffic counts were conducted on 15-minute intervals during the weekday morning (7:00 to 9:00 A.M.) and weekday evening (4:00 to 6:00 P.M.) peak periods. Data pertaining to heavy vehicles, pedestrians and transit vehicles were observed during the manual counts. Peak hours and count dates for the study area intersections are identified in **Table 1**.

TABLE 1  
MANUAL TRAFFIC COUNT INFORMATION

Intersection	Date of Traffic Counts <sup>2</sup>	Time Period	Intersection Peak Hour <sup>1</sup>
S.R. 61 & Hancock Street	Tuesday May 14, 2019	Weekday A.M.	7:30 to 8:30 A.M.
		Weekday P.M.	4:00 to 5:00 P.M.
2 <sup>nd</sup> Street & Hancock Street	Tuesday May 14, 2019	Weekday A.M.	7:30 to 8:30 A.M.
		Weekday P.M.	4:15 to 5:15 P.M.
Burma Road & Site Driveway	Tuesday May 14, 2019	Weekday A.M.	7:15 to 8:15 A.M.
		Weekday P.M.	4:00 to 5:00 P.M.
Burma Road & Morea Road	Tuesday May 14, 2019	Weekday A.M.	7:15 to 8:15 A.M.
		Weekday P.M.	4:00 to 5:00 P.M.
I-81 SB on/off ramps & Morea Road	Tuesday May 14, 2019	Weekday A.M.	7:00 to 8:00 A.M.
		Weekday P.M.	4:00 to 5:00 P.M.
I-81 SB on/off ramps & S.R. 0054/Morea Road	Tuesday May 14, 2019	Weekday A.M.	7:00 to 8:00 A.M.
		Weekday P.M.	4:00 to 5:00 P.M.
I-81 NB on/off ramps & S.R. 0054	Tuesday May 14, 2019	Weekday A.M.	7:00 to 8:00 A.M.
		Weekday P.M.	4:00 to 5:00 P.M.

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

*2 - Schools were confirmed to be in session*

### Automatic Traffic Recorder Counts

24-hour Automatic Traffic Recorder (ATR) counts were conducted along the BRADS access road east and west of the existing driveway to Burma Road in order to determine the existing traffic volumes/patterns from 6:00 A.M. to 7:00 P.M. on a typical work day.

The ATR counts were conducted on Wednesday, May 15 2019. The weekday A.M. peak hour occurred from 7:00 to 8:00 A.M. and the weekday P.M. peak hour occurred from 4:00 to 5:00 P.M.

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

### Roadway and Bridge Conditions

The approach routes are free of constrictive roadway deficiencies such as one-lane or narrow bridges and vertical clearance restrictions. It should also be noted the pavement and lane markings along the approach routes are in good or fair condition, except for the northbound Second Street approach to West Hancock Street, which indicates some deterioration and rutting. A 10-Ton Weight Limit exists for the segment of West Hancock Road between Second Street and Route 61. ***Again, it should be noted that all tractor-trailer trucks which desire to access the site will travel via Approach Route 1 and will be prohibited from traveling through Saint Clair Borough.***

TPD also observed two (2) golf-cart crossing tunnels underneath Burma Road associated with the nearby golf course (Mountain Valley Golf Course). No signage is associated with these tunnel crossings.

## Traffic Congestion

The approach routes were observed in the field to determine if any areas along these roadway segments are congested now or may be congested within the next ten years. As will be discussed later in the report, all intersections within the study will operate at acceptable levels of service for Base (no-build) and Projected (build) Conditions for Year 2030.

## Land Use Context

Burma Road (S.R. 1006): In addition to being fronted primarily by wooded areas, land uses along Burma Road include a golf course (containing a minimum 30-foot wide vegetation buffer) and construction-material demolition sites.

Morea Road (S.R. 1008): Morea Road is fronted by a gas station and hotel near its intersection with Route 54, as well as construction-material demolition sites and a cemetery.

West Hancock Street: West Hancock Street is located within Saint Clair Borough and is fronted by retail uses, residential uses, a church, and a school. A number of these structures are located within 50 feet of the West Hancock edge-of-pavement and are located more than two (2) miles from the proposed site entrance.

## Intersection Turning Radii

Based upon field observations, all intersection turning radii appear to be adequate at each of the intersections along the approach routes. No trucks were observed to encroach on opposing travel lanes or curb radii.

## Horizontal Alignment

There are no locations along the approach routes where horizontal alignment or lane widths will limit the accessibility to the proposed site. There is no evidence of shoulder or opposing lane encroachment along the approach routes. It should be noted that TPD observed speed advisory signs along Burma Road due to the horizontal alignment.

## Roadside Clear Zone

Burma Road maintains approximately four to six-foot wide shoulders throughout the approach routes and contains guiderail along most horizontal curves. There are no locations where conditions would result in roadside obstructions.

## Grades

There are no locations where long steep grades, hazardous grade speed limits, truck pull-off areas, or truck escape ramps exist along the approach routes that would cause undue vehicle delay. Burma Road contains some segments of roadway with an approximate grade of 4% (+4% northbound). Many of these segments along the length of grades contain a passing zone. Therefore, due to the existence of appropriate passing zones, the vertical alignment of the approach routes is such that no undue safety concerns were found for vehicles accessing the proposed site.

## Underclearance

Approach Route 1 contains an underpass along Burma Road due to the I-81 crossing. This underpass is signed as 14 feet, 0 inches. Therefore, the approach routes contain adequate underclearance for all anticipated vehicles traveling to and from the proposed site.

## Additional Roadway Characteristics

It should be noted that no residences exist along Burma Road in the vicinity of the site that would require a bus stop. Other observed additional roadway characteristics, including curvature, grades, lane widths, clear zones, underclearance, sight distance, or lane lengths, have been determined to be such that no undue safety concerns will exist for vehicles accessing the proposed site.

## Environmental Impacts

It is TPD's opinion that based upon the amount of vehicles and vehicle-types anticipated to be generated by the proposed site, and based upon field inspection, there are no land uses such as parks, playgrounds, recreation areas, forests, picnic areas, natural landmarks, wild areas, wetlands, public water supplies, historic sites, or other areas that will experience adverse environmental impacts from a transportation perspective.

## 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 2020 to July 2021 obtained from the PennDOT Bureau of Planning and Research (BPR). The PennDOT BPR suggests using a background growth trend factor of 0.31% per year in Schuylkill County for rural non-interstate roadways. As such, the background growth factor was applied annually to yield overall growth percentages of 3.14% (0.31% per year, compounded over 10 years) for the 2030 design year.

### 2030 Base (No-Build) Conditions volume Development

The additional traffic volumes due to background growth were added to the existing traffic data to produce 2030 base (no-build) condition traffic volumes. Base condition volumes for the weekday A.M. and weekday P.M. peak hours are illustrated in **Figures 7-8** for the 2030 design year conditions.

## SITE ACCESS

Access to the site is provided by one full-access driveway on Burma Road, located approximately 2.2 miles east of the intersection of West Hancock Street and Second Street. It should be noted that this driveway has been designed to accommodate WB-62 vehicles which will access the site via Approach Route 1. No changes are anticipated due to the increase in tonnage.

## Sight Distance Analysis

A sight distance analysis was prepared for the proposed site driveway. In general, recommended safe sight distances depend upon the posted speed limit and roadway grades. The existing sight distances at the proposed driveways were measured in accordance with PennDOT Publication 282 Highway Occupancy Permit Guidelines and compared to PennDOT’s desirable sight distance standard, which is identified in 67 PA Code Chapter 441.8(h), “Access to and Occupancy of Highways by Driveways and Local Roads.” In addition, measured sight distances at the proposed driveways were compared to PennDOT’s safe stopping sight distance standard, which is calculated by the following equation:

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

SSSD = safe stopping sight distance (acceptable sight distance)

V = Vehicle Speed

T = Perception Reaction Time of Driver (2.5 seconds)

f = Coefficient of Friction for Wet Pavements

g = Percent of Roadway Grade Divided by 100

**Table 2** shows the measured, desirable, acceptable (SSSD), and required sight distances at the site driveway on Burma Road for vehicles entering and exiting the site.

TABLE 2  
SIGHT DISTANCE ANALYSIS  
SITE DRIVEWAY TO BURMA RD

	Direction	Speed	Grade <sup>1</sup>	Sight Distances (feet)			
				TRUCK DES	CAR DES	SSSD	EXIST
Exiting Movements	To the left	45 mph	-1%	1225	635	390	620'
	To the right	45 mph	+1%	1225	570	376	750'
Entering Left Turns	Approaching same direction	45 mph	+1%	690	445	376	760'
	Approaching opposite direction	45 mph	-1%	690	445	390	715'

DES = PennDOT Desirable Sight Distance

SSSD = PennDOT Acceptable Sight Distance

EXIST = Existing (measured) Sight Distance

<sup>1</sup> = Roadway Grade Approaching Driveway

As shown in **Table 2**, all existing sight distances at the proposed driveway location will exceed PennDOT’s acceptable sight distance requirements, and in most cases will exceed PennDOT’s desirable sight distance requirements, with the removal of existing vegetation on the northern side of Burma Road, along the site frontage.

## TRIP GENERATION

TPD determined trip generation for the proposed Blythe Recycling and Demolition Site expansion based upon information obtained from the client. The following activities anticipated to be performed at the proposed expansion, and the associated truck traffic, are shown in **Table 3**.

**TABLE 3**  
**TRIP GENERATION CALCULATIONS**  
**PROPOSED LANDFILL EXPANSION**

Site Characteristics	Existing	Proposed	Percent Increase
Maximum Capacity	1,500 tons	3,000 tons	100%
Average Capacity	1237.26 tons	3,000 tons <sup>1</sup>	142%
Truck Volume <sup>2</sup>	~13 A.M. Peak Hour trucks ~2.5 P.M. Peak Hour trucks	18 New A.M. Peak Hour trucks 3.5 New P.M. Peak Hour trucks	142%

<sup>1</sup> = Conservative estimate of average capacity. Proposed average capacity will likely be lower than maximum capacity.

<sup>2</sup> = Existing truck trips are calculated by a 19 day existing average provided by the BRADS landfill site.

As shown in **Table 3**, the average capacity is projected to increase by 142 percent. Therefore, the existing truck average volumes are anticipated to grow by 142 percent.

**Table 4** indicates the anticipated 142 percent growth of weekday A.M and weekday P.M peak hour trip generation of the proposed landfill expansion.

**TABLE 4**  
**TRIP GENERATION SUMMARY**

Time Period	Scenario	Entering			Exiting			Combined		
		Cars	Trucks	Total	Cars	Trucks	Total	Cars	Trucks	Total
AM Peak	Existing Conditions	2	8	10	1	22	23	3	30	33
	New Trips	1	10	11	1	26	27	2	36	38
	<b>Projected Conditions</b>	<b>3</b>	<b>18</b>	<b>21</b>	<b>2</b>	<b>48</b>	<b>50</b>	<b>5</b>	<b>66</b>	<b>71</b>
PM Peak	Existing Conditions	2	0	2	10	0	10	12	0	12
	New Trips	1	1	2	1	6	7	2	7	9
	<b>Projected Conditions</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>11</b>	<b>6</b>	<b>17</b>	<b>14</b>	<b>7</b>	<b>21</b>

Based on the trip generation summary in **Table 4**, the proposed landfill expansion will generate 38 new trips during the weekday A.M. peak hour and 9 new trips during the weekday P.M. peak hour. Trip generation supporting documentation is included in **Appendix C**.

## 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, the site access driveway location, and types of vehicles accessing the site. The trip distribution percentages for new trips are shown in **Table 5** below.

**TABLE 5  
TRIP DISTRIBUTION PERCENTAGES – New Trips**

Direction - To/From	Assignment (To/From)	Distribution Percentage	
		Car	Truck
North	via Northbound I-81	4%	50%
	via Route 61	45%	0%
South	via Southbound I-81	4%	50%
	via Route 61	45%	0%

The trip distributions for the proposed development during the weekday A.M. and P.M peak hours are shown in **Figures 8-9**.

## PROJECTED (BUILD) CONDITION TRAFFIC VOLUMES

The site-generated trips for the proposed development were added to the 2030 base (no-build) condition traffic volumes to develop 2030 projected (build) condition traffic volumes.

Projected condition traffic volumes for the design year of 2030 for the weekday A.M. and P.M. peak hours are shown in **Figures 10-11**. Traffic volume development worksheets are contained in **Appendix D**.

## DRIVEWAY CLASSIFICATION

Driveways intersecting state roads are classified in the Pennsylvania Code, Title 67, Chapter 441. Low volume driveways are used by 25 to 750 vehicles per day. A medium volume driveway is used by 750 to 1500 vehicles per day. High volume driveways are used by more than 1500 vehicles per day. Based on the anticipated site trip generation and the assignment of site traffic, the classifications of the site driveway is listed in **Table 6**.

**TABLE 6  
DRIVEWAY CLASSIFICATIONS**

State Road	Driveway	Weekday Trips	Weekday Vehicles	Driveway Type
Burma Road (S.R. 1006)	Full Access Driveway	Existing: 290	Existing: 145	Low volume
		Proposed: 414	Proposed: 207	Low Volume

*Note: A "trip" equals an entering or an exiting vehicle. Therefore, weekday vehicles = weekday trips/2.*

The site driveway is currently classified as a low volume driveway. Under proposed conditions, the driveway will remain classified as a low volume driveway.

## 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. Level of service (LOS) criteria is stated in terms of

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

**TABLE 7**  
**LEVEL OF SERVICE CRITERIA**  
**UNSIGNALIZED AND SIGNALIZED INTERSECTIONS <sup>1</sup>**

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

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

## CAPACITY ANALYSIS METHODOLOGY

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

The following conditions were analyzed, as applicable:

- » Existing conditions;
- » 2030 Base conditions (Build-out year without expansion);
- » 2030 Projected conditions (Build-out year with expansion).

It should be noted that based on methodologies contained in Chapter 10 of PennDOT's Publication 46, TPD adjusted the following HCM 6<sup>th</sup> Edition default values in the *Synchro 10* 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 2030 projected conditions. The capacity analysis worksheets are included in **Appendix E**. The PennDOT-approved signal plans are included in **Appendix F**.

PennDOT's Transportation Impact Study Guidelines outlined in Strike-Off Letter 470-09-4, dated February 12, 2009 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.
- » The capacity analyses included manually calculated critical headways and follow-up headways per the Highway Capacity Manual (HCM) 6<sup>th</sup> Edition Chapter 19, Two-Way Stop-Controlled Intersections. Critical and follow-up headway calculation worksheets are included in **Appendix G**.

## LEVELS OF SERVICE IN THE STUDY AREA

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

**TABLE 8  
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY**

Intersection	Movement	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
		Existing Condition	Design Year 2030		Existing Condition	Design Year 2030	
			Base	Projected		Base	Projected
S.R. 61 & Hancock Street	EB L/T/R	C	C	C	C	C	C
	WB L/T/R	C	C	C	C	C	C
	NB L	C	C	C	C	C	C
	NB T/R	B	B	B	B	B	B
	SB L/T	C	C	C	C	C	C
	SB R	B	B	B	B	B	B
	<b>ILOS</b>	<b>B (13.4)</b>	<b>B (13.6)</b>	<b>B (13.6)</b>	<b>B (17.6)</b>	<b>B (18.2)</b>	<b>B (18.3)</b>
2 <sup>nd</sup> Street & Hancock Street	EB L/T/R	B	B	B	C	C	C
	WB L/T/R	B	B	B	B	B	B
	NB L/T/R	A	A	A	A	A	A
	SB L/T/R	A	A	A	A	A	A
	<b>ILOS</b>	<b>B (13.4)</b>	<b>B (13.6)</b>	<b>B (13.6)</b>	<b>B (14.4)</b>	<b>B (14.5)</b>	<b>B (14.6)</b>
Burma Road & Site Driveway	EB L/T	A	A	A	A	A	A
	WB T/R	A	A	A	A	A	A
	SB L	B	B	B	A	A	A
	<b>ILOS</b>	<b>A (1.7)</b>	<b>A (1.7)</b>	<b>A (2.9)</b>	<b>A (0.4)</b>	<b>A (0.4)</b>	<b>A (0.7)</b>
Burma Road & Morea Road	EB T/R	A	A	A	A	A	A
	WB L/T	A	A	A	A	A	A
	NB L	B	B	B	B	B	B
	<b>ILOS</b>	<b>A (4.0)</b>	<b>A (4.0)</b>	<b>A (4.6)</b>	<b>A (4.2)</b>	<b>A (4.2)</b>	<b>A (4.4)</b>
I-81 SB on/off ramps & Morea Road	EB T/R	A	A	A	A	A	A
	WB L/T	A	A	A	A	A	A
	NB L	A	A	B	A	A	A
	<b>ILOS</b>	<b>A (3.1)</b>	<b>A (3.2)</b>	<b>A (3.1)</b>	<b>A (1.3)</b>	<b>A (2.4)</b>	<b>A (2.4)</b>
I-81 SB on/off ramps & S.R. 0054/Morea Road	EB L/T	B	B	B	B	B	B
	EB R	A	A	A	A	A	A
	WB L/T	A	A	A	A	A	A
	WB R	A	A	A	A	A	A
	NB L/T	A	A	A	A	A	A
	NB R	A	A	A	A	A	A
	SB R	A	A	A	A	A	A
	<b>ILOS</b>	<b>A (3.1)</b>	<b>A (3.1)</b>	<b>A (3.2)</b>	<b>A (3.0)</b>	<b>A (3.0)</b>	<b>A (3.0)</b>
I-81 NB on/off ramps & S.R. 0054	EB L/T	A	A	A	A	A	A
	EB R	A	A	A	A	A	A
	WB L	A	A	A	A	A	A
	NB L/T	A	A	A	A	A	A
	NB R	A	A	A	A	A	A
	SB R	A	A	A	A	A	A
	<b>ILOS</b>	<b>A (0.0)</b>	<b>A (0.0)</b>	<b>A (0.0)</b>	<b>A (0.0)</b>	<b>A (0.0)</b>	<b>A (0.0)</b>

Base = No-Build scenario / Projected = Build scenario

ILOS = Overall Intersection Level of Service;

Unsignalized ILOS calculated in accordance with Figure 5 of Policies and Procedures for Transportation Impact Studies.

As shown in **Table 8**, under 2030 projected conditions the study area intersections will operate at an acceptable **overall intersection level of service (ILOS) B or better, similar to 2030 base conditions**, during the weekday A.M. and P.M. peak hours.

All approaches and turning movements at the site driveway intersections will operate at **LOS B or better** under 2030 projected conditions during the weekday A.M. and P.M. peak hours. All levels of service at the study area intersections 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 10* software. For this analysis, the 95<sup>th</sup> 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 95<sup>th</sup> percentile queue length will be exceeded during 2 of the 40 signal cycles that occur during the peak hour. The queue analysis results are summarized in **Table 9** for the analyzed peak hours.

**TABLE 9  
95TH PERCENTILE QUEUE ANALYSIS**

Intersection	Movement	Base 2030 Conditions			Projected 2030 Conditions		
		Existing Storage	A.M. Peak Hour	P.M. Peak Hour	Proposed Storage	A.M. Peak Hour	P.M. Peak Hour
S.R. 61 & Hancock Street	EB L/T/R	--	73	125	--	73	125
	WB L/T/R	--	73	85	--	73	85
	NB L	190'	8	40	190'	8	40
	NB T/R	--	65	228	--	65	228
	SB L	190'	40	85	190'	40	85
	SB T/R	--	95	115	--	95	115
2 <sup>nd</sup> Street & Hancock Street	EB L/T/R	--	98	170	--	100	170
	WB L/T/R	--	78	50	--	78	50
	NB L/T/R	--	60	78	--	60	78
	SB L/T/R	--	10	8	--	10	8
Burma Road & Site Driveway	EB L/T	--	0	0	--	0	0
	WB T	--	0	0	--	0	0
	WB R	300'	0	0	300'	0	0
	SB L/R	--	3	0	--	8	3
Burma Road & Morea Road	EB T/R	--	0	0	--	0	0
	WB L/T	--	5	5	--	5	5
	NB L/R	--	10	15	--	13	15
I-81 SB on/off ramps & Morea Road	EB T/R	--	0	0	--	0	0
	WB L/T	--	3	3	--	3	3
	NB L/R	--	8	5	--	10	5
I-81 SB on/off ramps & S.R. 0054/Morea Road	EB L	--	0	5	--	0	5
	EB R	300'	0	0	300'	0	0
	WB R	--	3	5	--	3	5
	NB L	110'	10	5	110'	10	5
	NB T	--	0	0	--	0	0
	NB R	--	0	0	--	0	0
	SB T/R	--	0	0	--	0	0
I-81 NB on/off ramps & S.R. 0054	EB T	--	0	0	--	0	0
	EB R	--	0	0	--	0	0
	WB L	90'	0	0	90'	0	0
	WB T	--	0	0	--	0	0
	NB R	--	0	0	--	0	0
	SB R	--	0	0	--	0	0

Base = No-Build scenario / Projected = Build scenario

As shown in **Table 9**, all of the projected condition queues are comparable to the base (no-build) conditions.

Queue analysis worksheets are included with the capacity analysis worksheets provided in **Appendix E**.

## AUXILIARY TURN LANE ANALYSIS

TPD evaluated auxiliary turn lane warrants at the site access intersections. The warrant analysis methodology contained within Chapter 11 of PennDOT's *Publication 46*, Section 11.17 and Strike-Off Letter 470-08-07 was utilized for this evaluation.

### Findings

**Table 10** summarizes the results of the auxiliary turn lane analysis at the site access intersections.

TABLE 10  
AUXILIARY TURN LANE ANALYSIS SUMMARY

Intersection	Auxiliary Lane	Warrant Satisfied?		Required Lane Length	Existing Lane Length	Projected Lane Length
		AM	PM			
Burma Road & Site Driveway	EB Left-Turn Lane	No	No	--	--	--
	WB Right-Turn Lane	No	No	--	300'	300'

Based on the criteria outlined above, under 2030 projected conditions at Burma Road & Site Driveway intersection, left-turn lane warrants are not satisfied for movements into the site.

Based on the criteria outlined above, under 2030 projected conditions at the Burma Road & Site Driveway intersection, right-turn lane warrants are not satisfied for movements into the site. A 300-foot westbound right-turn lane is provided into the site and will remain under future conditions.

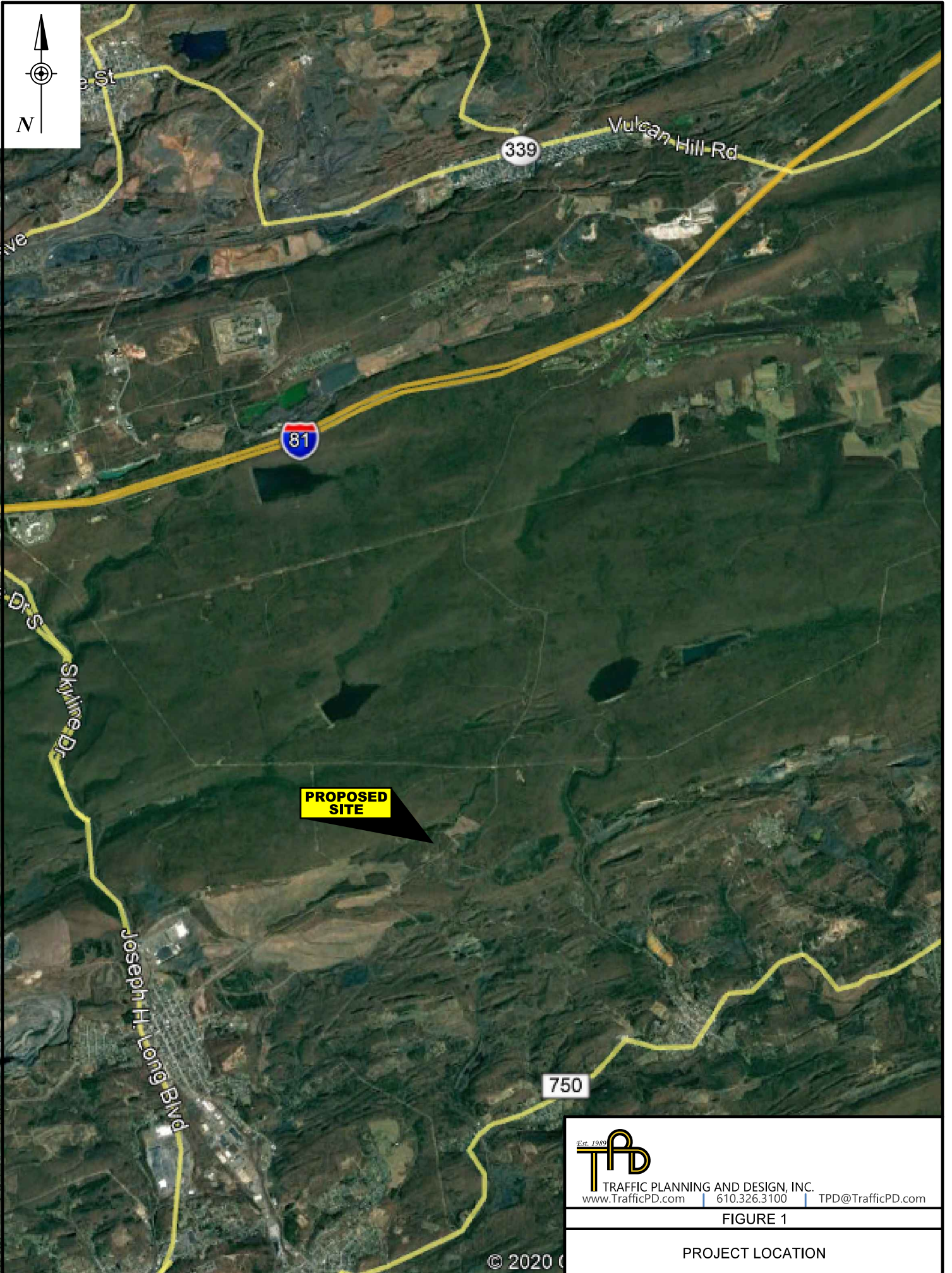
Auxiliary turn lane warrant analysis worksheets are contained in **Appendix H**.

## CONCLUSIONS

Based on the results of the Transportation Impact Assessment (TIA) for the proposed landfill expansion, TPD offers the following conclusions:

- » The existing Blythe Recycling and Demolition Site (BRADS) facility located on the northern side of Burma Road (S.R. 1006), approximately 2.2 miles east of the West Hancock Street and Second Street intersection.
- » BRADS is proposing to increase the maximum tonnage from 1,500 tons per day (tpd) to 3,000 tons per day (tpd).
- » Access to the site is served by one (1) full-access roadway to Burma Road. All truck traffic will continue to enter via I-81.
- » The measured sight distance at the site driveways exceed PennDOT's acceptable sight distance requirements.
- » With the increase in tonnage, the landfill will generate approximately 36 new truck trips and 2 new car trips during the weekday A.M. peak hour and 7 new truck trips and 2 new car trips during the weekday P.M. peak hour. Note that the additional car trips are conservative as no additional employee traffic is anticipated due to the increase in tonnage.

- » Under 2030 projected conditions with the expansion of the landfill, the study area intersections will operate at the same overall intersection level of service (ILOS) as under 2030 base conditions, during the weekday A.M. and P.M. peak hours. Furthermore, all overall intersection delays fall within PennDOT's allowable 10-second variance between base (no-build) and projected (build) condition scenarios.
- » Overall intersection level of service (ILOS) at the site driveway intersections will operate at LOS A under 2030 Projected Conditions. Turning movements at site driveway intersections will operate at LOS B or better. The study area site driveways will operate at the same overall intersection level of service (ILOS) as under 2030 base conditions, during the weekday A.M. and P.M. peak hours.
- » Under 2030 projected conditions, the right and left turn lane warrants are not satisfied to any of the proposed driveways. A 300-foot westbound right-turn lane is provided into the site and will remain under future conditions.



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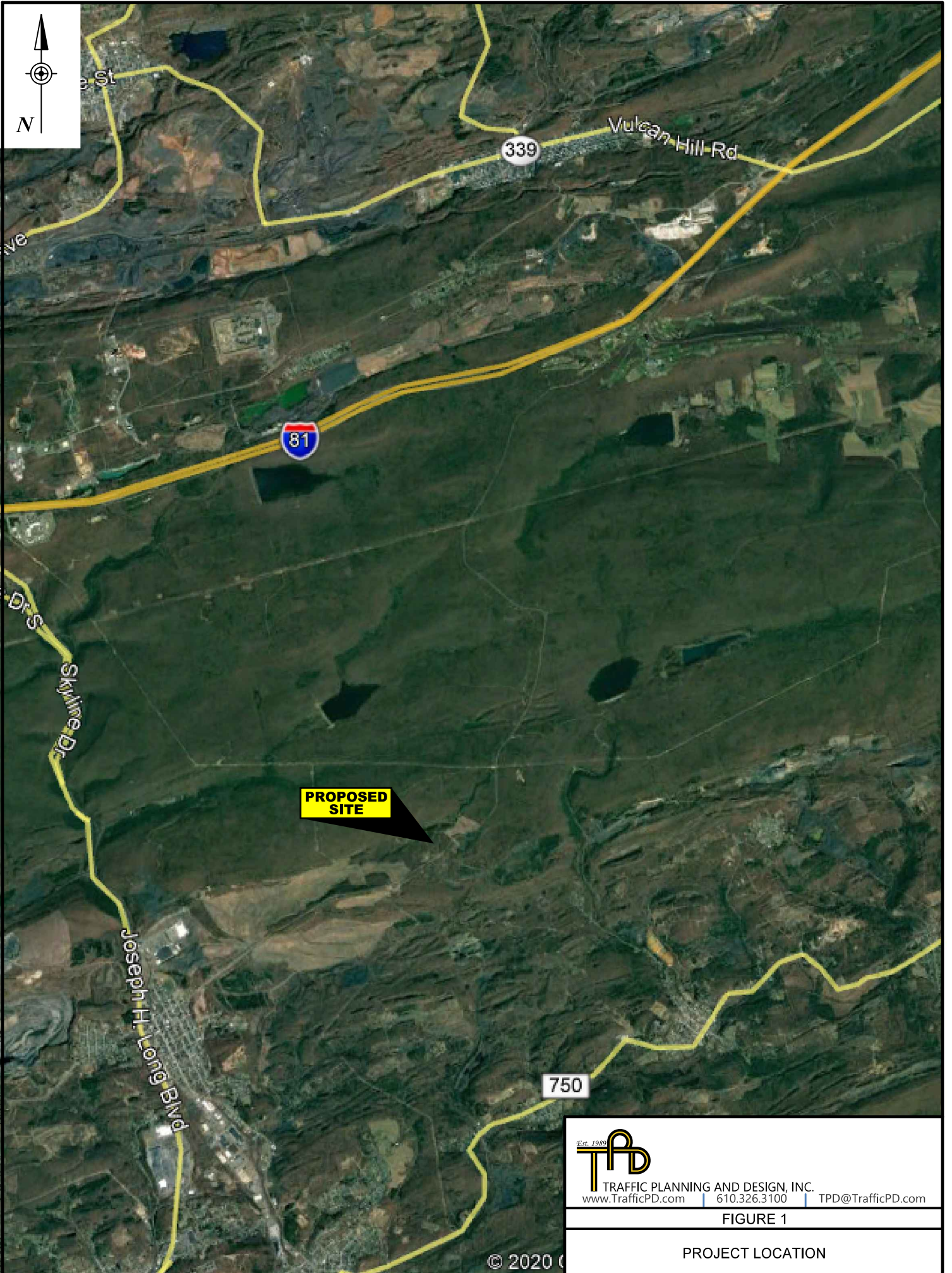


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FIGURE 1

PROJECT LOCATION

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 7/20/2020 3:05:46 PM Tisha Hor

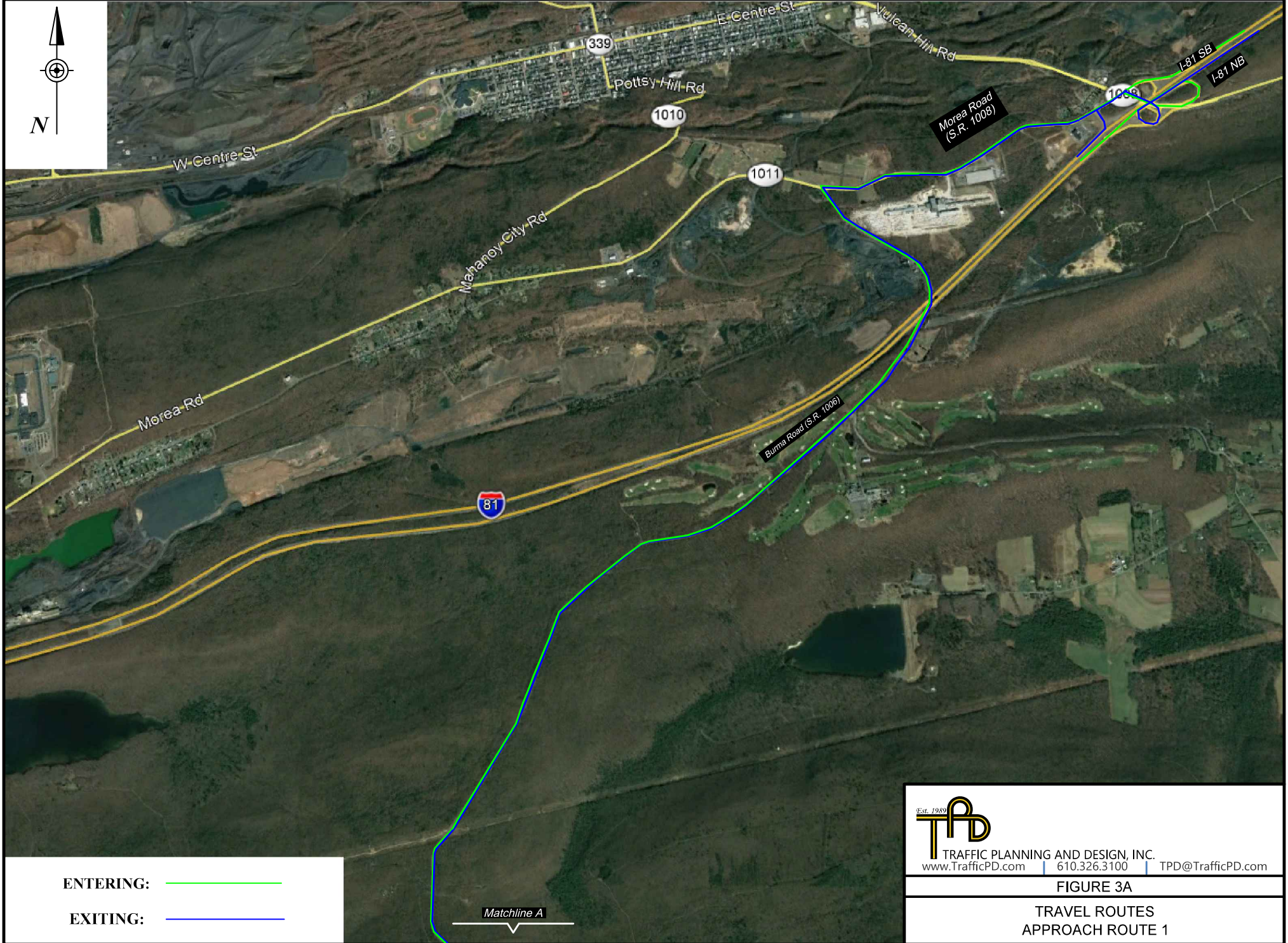


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FIGURE 1

PROJECT LOCATION

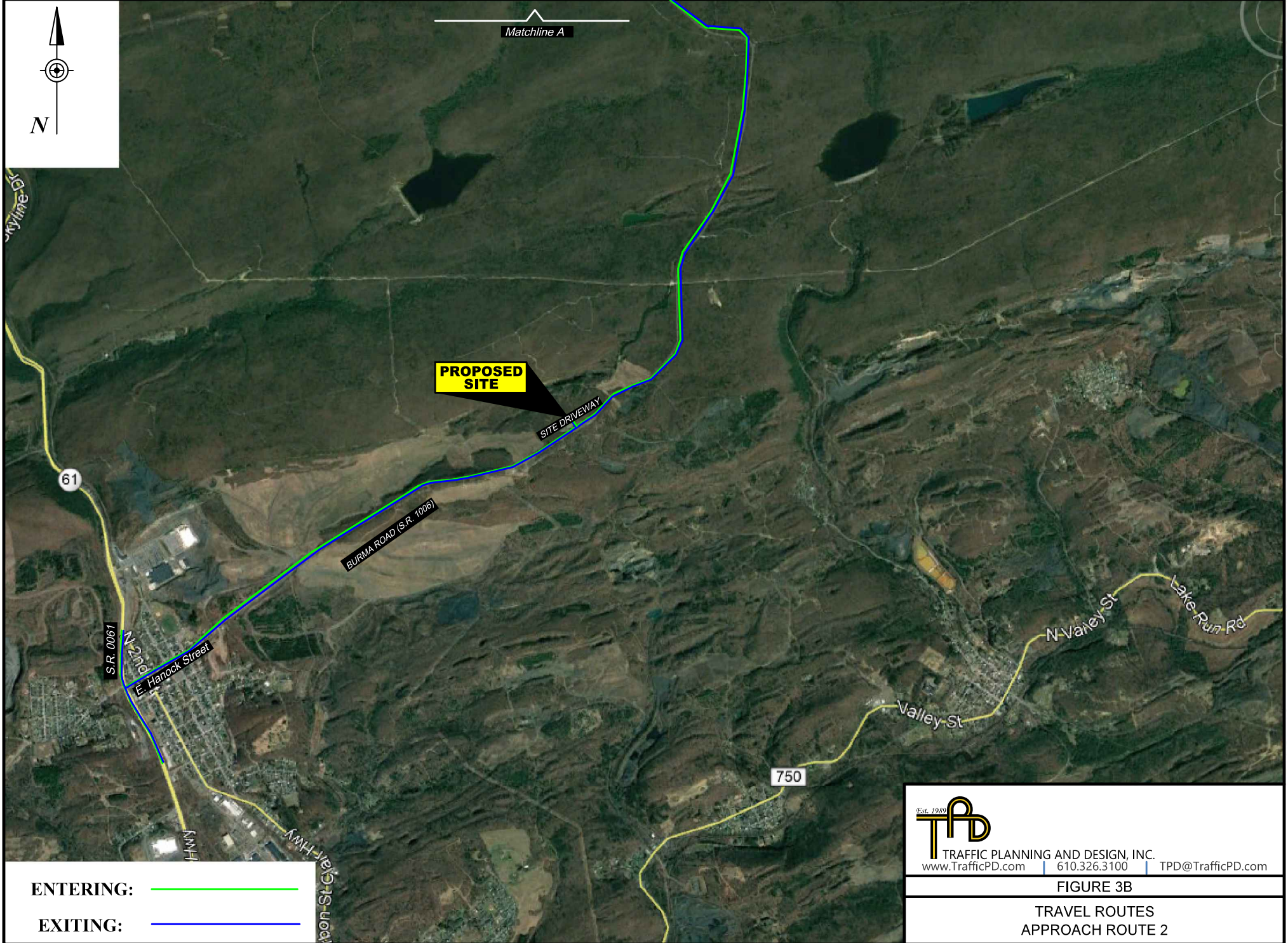
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**FIGURE 3A**

**TRAVEL ROUTES  
APPROACH ROUTE 1**



**PROPOSED SITE**

SITE DRIVEWAY

BURMA ROAD (S.R. 1006)

Hancock Street

Valley St

N-Valley St

Lake Run Rd

61

750

ENTERING: 

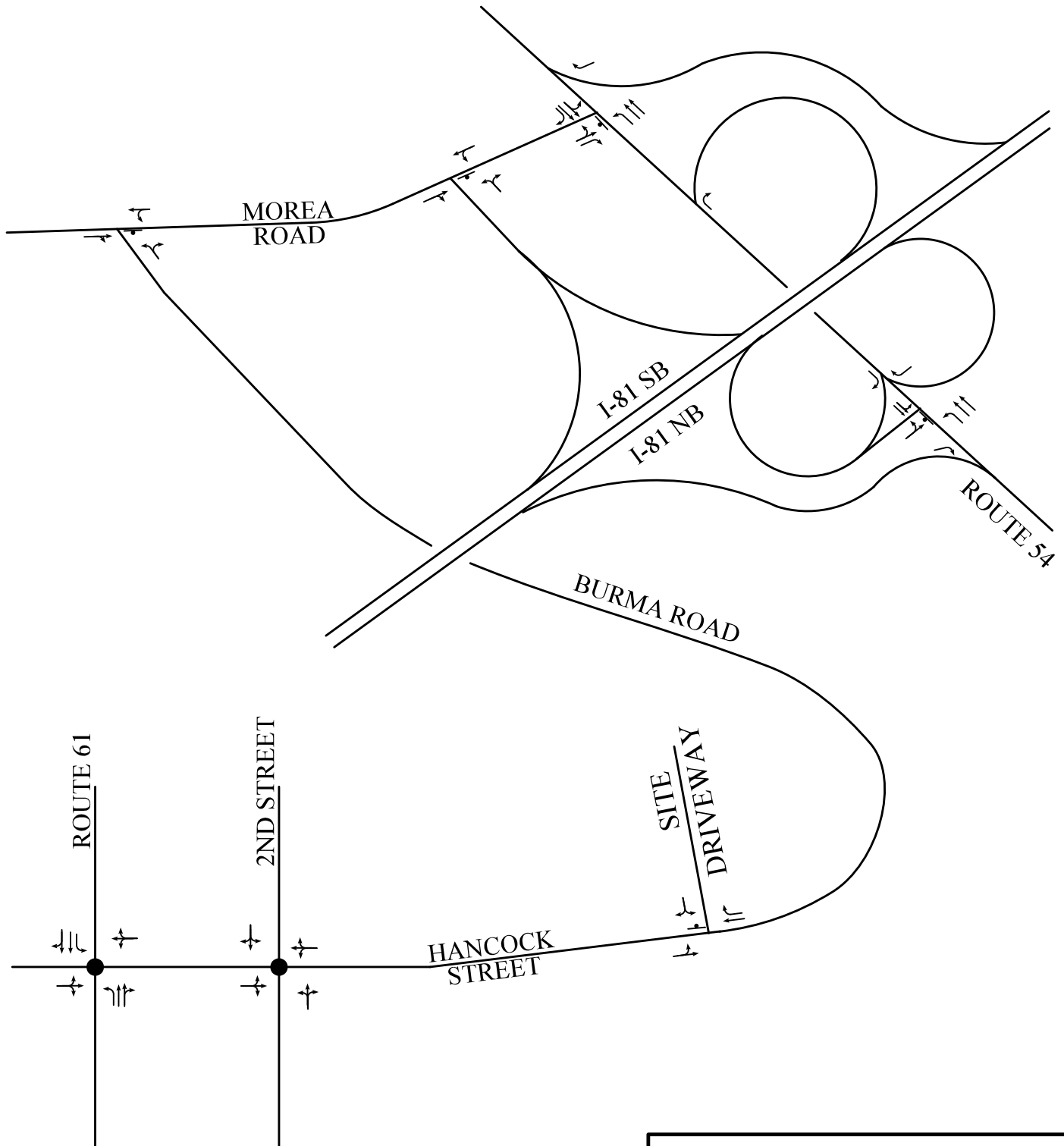
EXITING: 



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FIGURE 3B

TRAVEL ROUTES  
APPROACH ROUTE 2



SAINT CLAIR  
BOROUGH

**KEY:**

- +— STOP CONTROLLED
- SIGNALIZED INTERSECTION

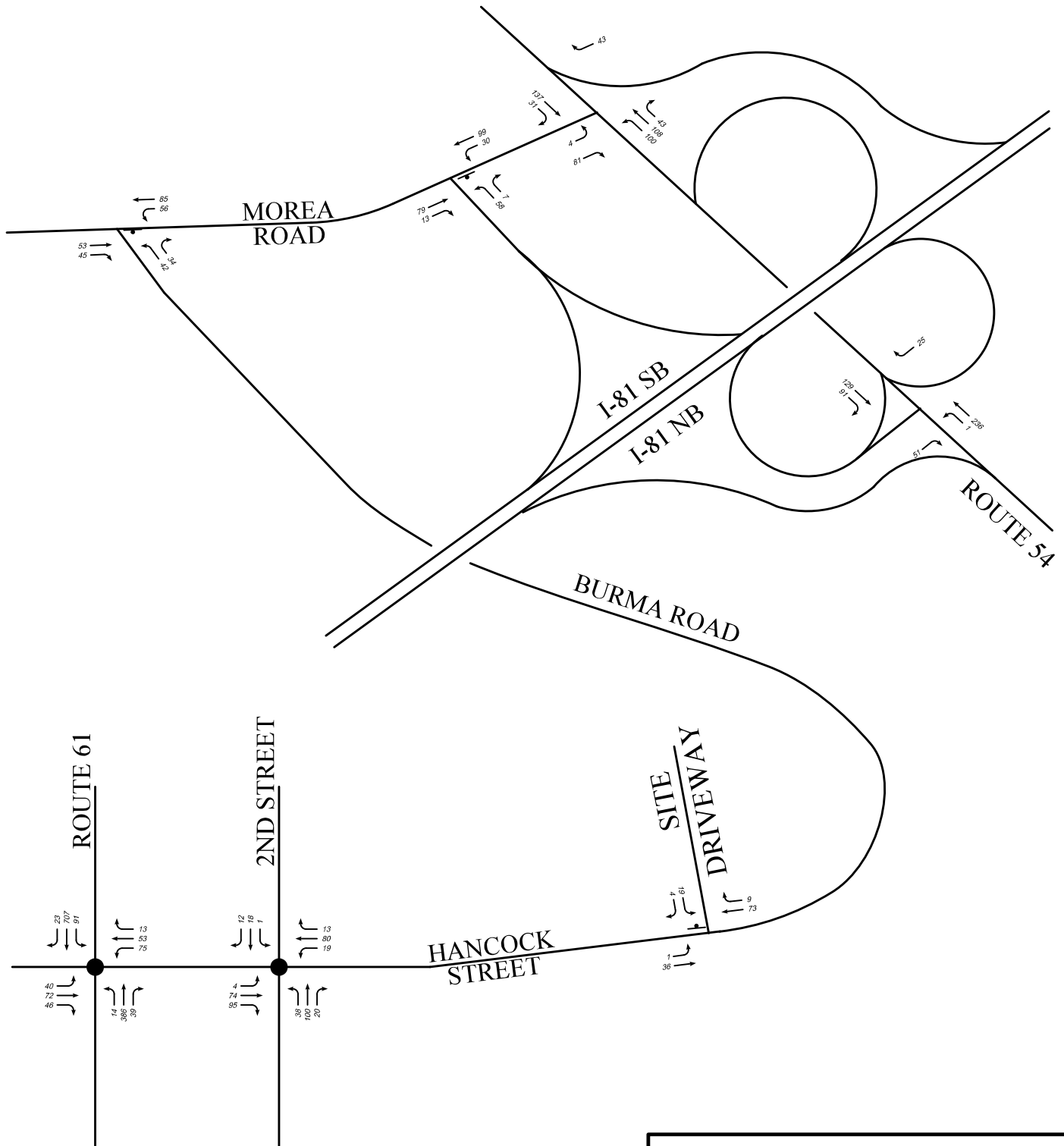
**SCHEMATIC DRAWING: NOT TO SCALE**



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**FIGURE 4**

**EXISTING LANE CONFIGURATION**



SAINT CLAIR  
BOROUGH

**KEY:**

- +— STOP CONTROLLED
- SIGNALIZED INTERSECTION

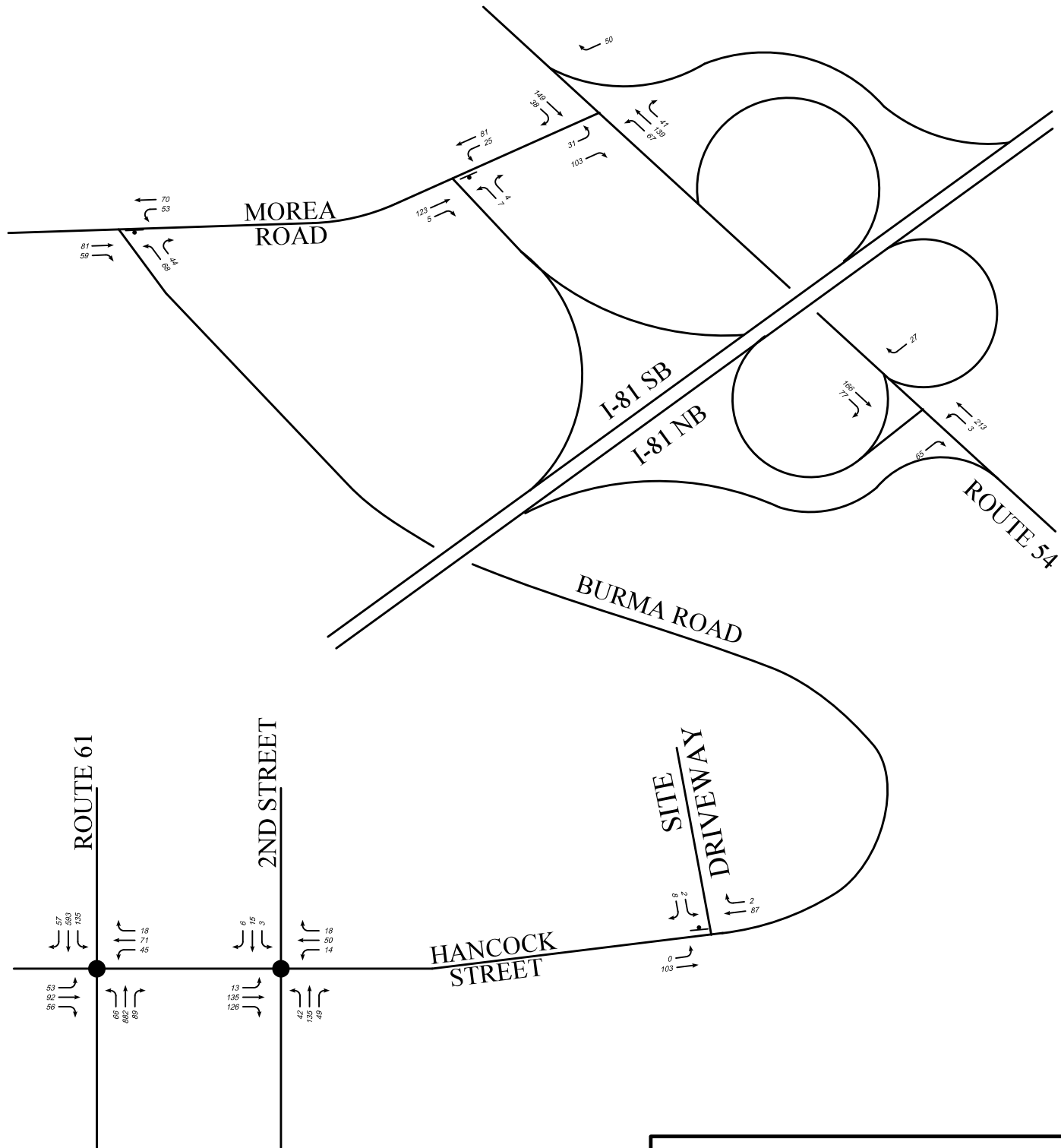
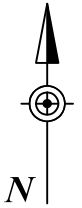
**SCHEMATIC DRAWING: NOT TO SCALE**



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**FIGURE 5**

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



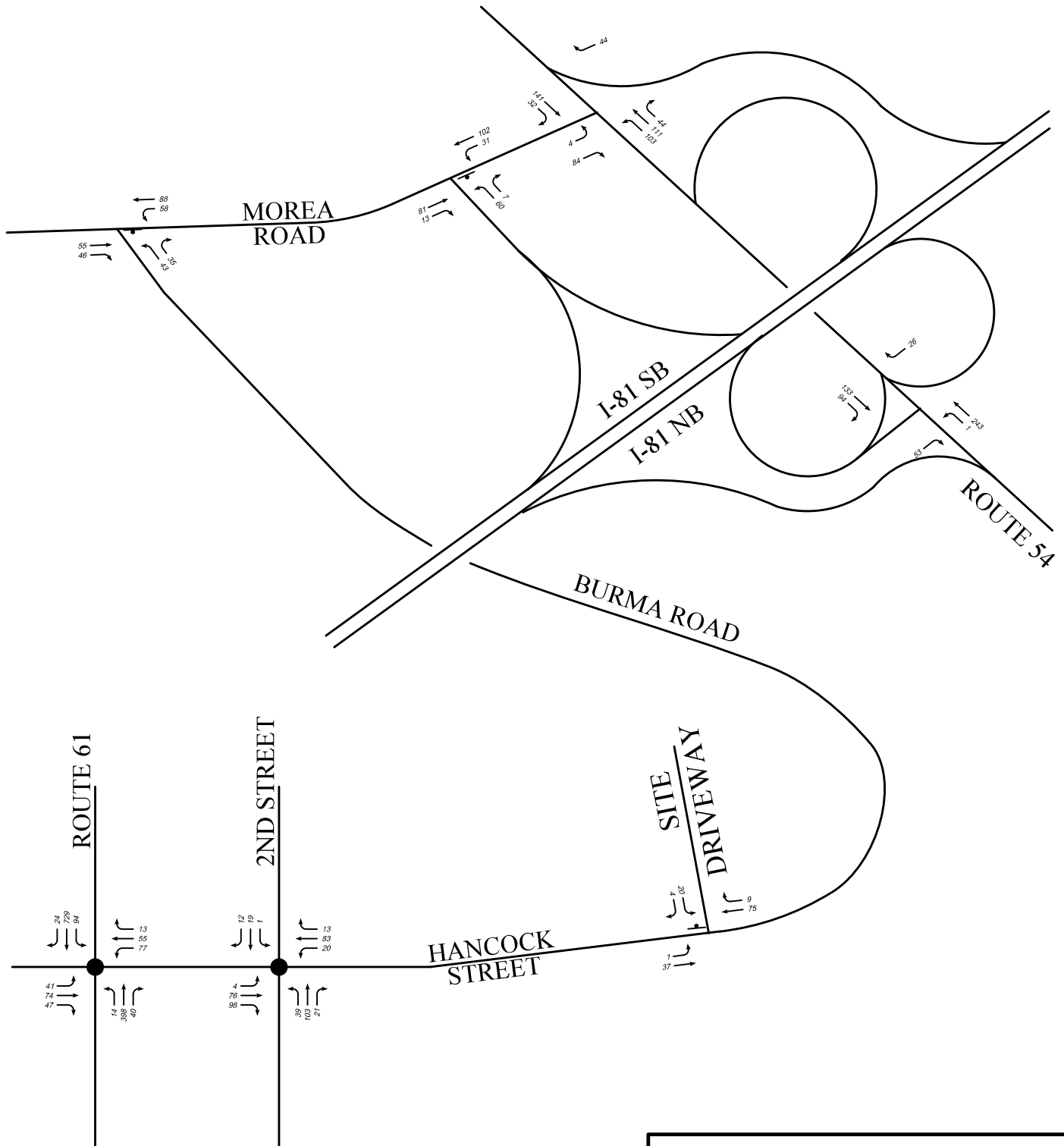
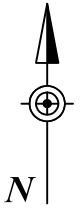
SAINT CLAIR  
BOROUGH

**KEY:**  
 + STOP CONTROLLED  
 ● SIGNALIZED INTERSECTION  
 SCHEMATIC DRAWING: NOT TO SCALE

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**FIGURE 6**  
 EXISTING CONDITIONS  
 P.M. PEAK HOUR  
 TRAFFIC VOLUMES

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SAINT CLAIR  
BOROUGH

**KEY:**

- +— STOP CONTROLLED
- SIGNALIZED INTERSECTION

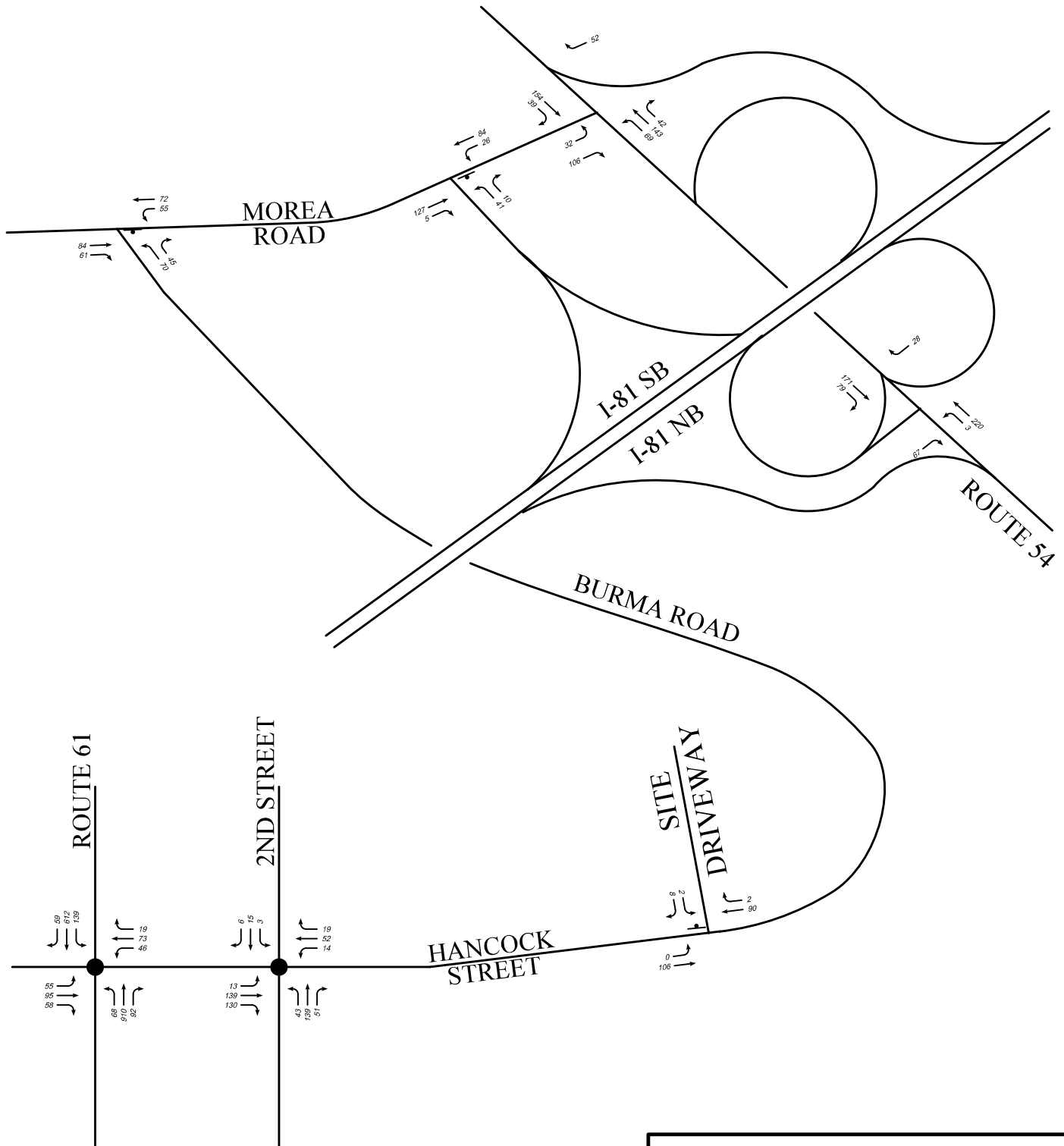
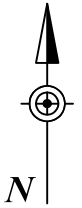
**SCHEMATIC DRAWING: NOT TO SCALE**

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**FIGURE 7**

2030 BASE CONDITIONS  
 A.M. PEAK HOUR  
 TRAFFIC VOLUMES

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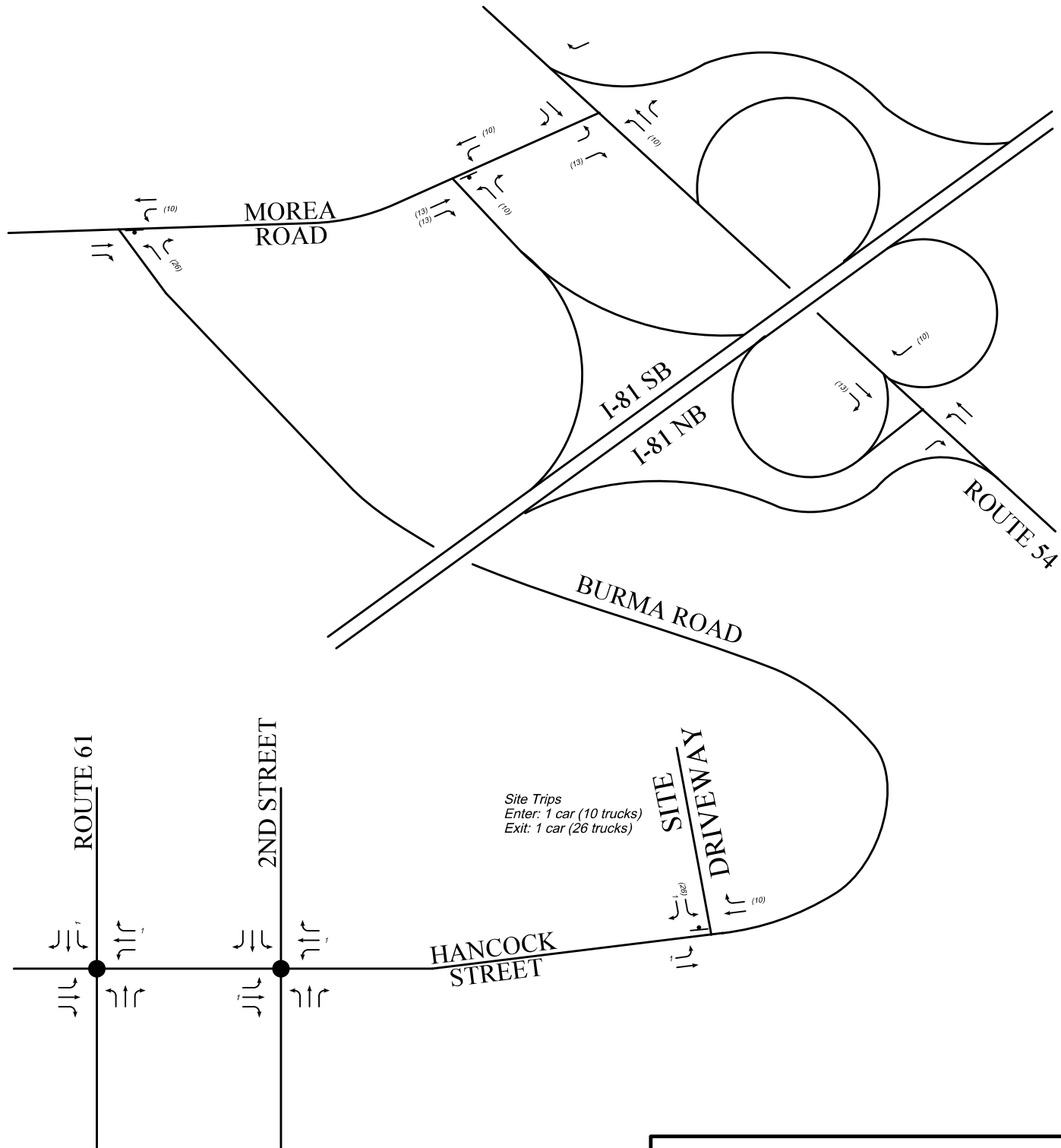
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 + STOP CONTROLLED  
 ● SIGNALIZED INTERSECTION  
 SCHEMATIC DRAWING: NOT TO SCALE



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FIGURE 8

2030 BASE CONDITIONS  
 P.M. PEAK HOUR  
 TRAFFIC VOLUMES



Site Trips  
 Enter: 1 car (10 trucks)  
 Exit: 1 car (26 trucks)

SAINT CLAIR  
 BOROUGH

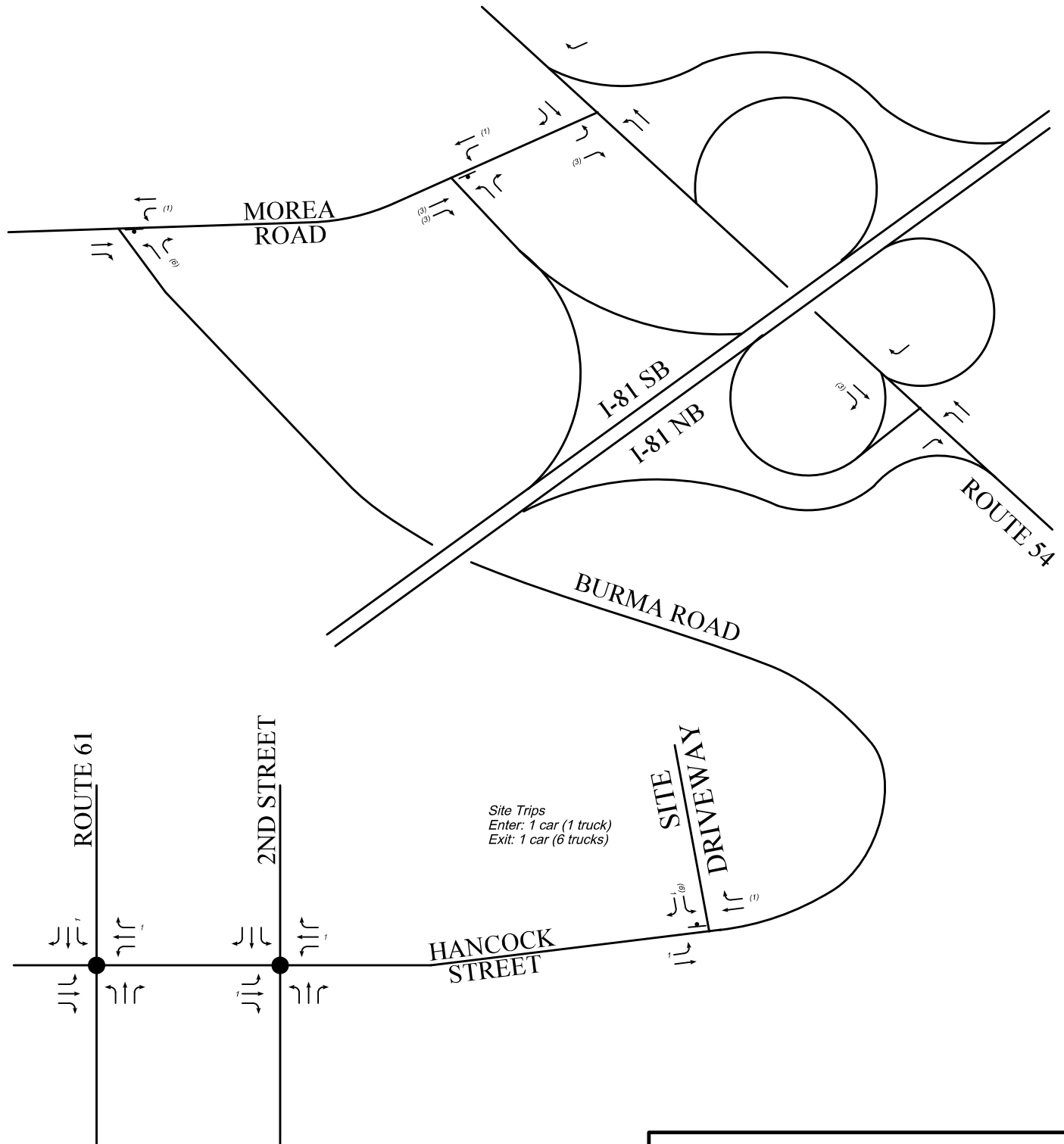
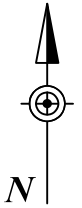
**KEY:**  
 + STOP CONTROLLED  
 ● SIGNALIZED INTERSECTION  
 SCHEMATIC DRAWING: NOT TO SCALE



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FIGURE 9

NEW SITE TRIPS  
 A.M. PEAK HOUR  
 CAR (TRUCK) TRAFFIC VOLUMES



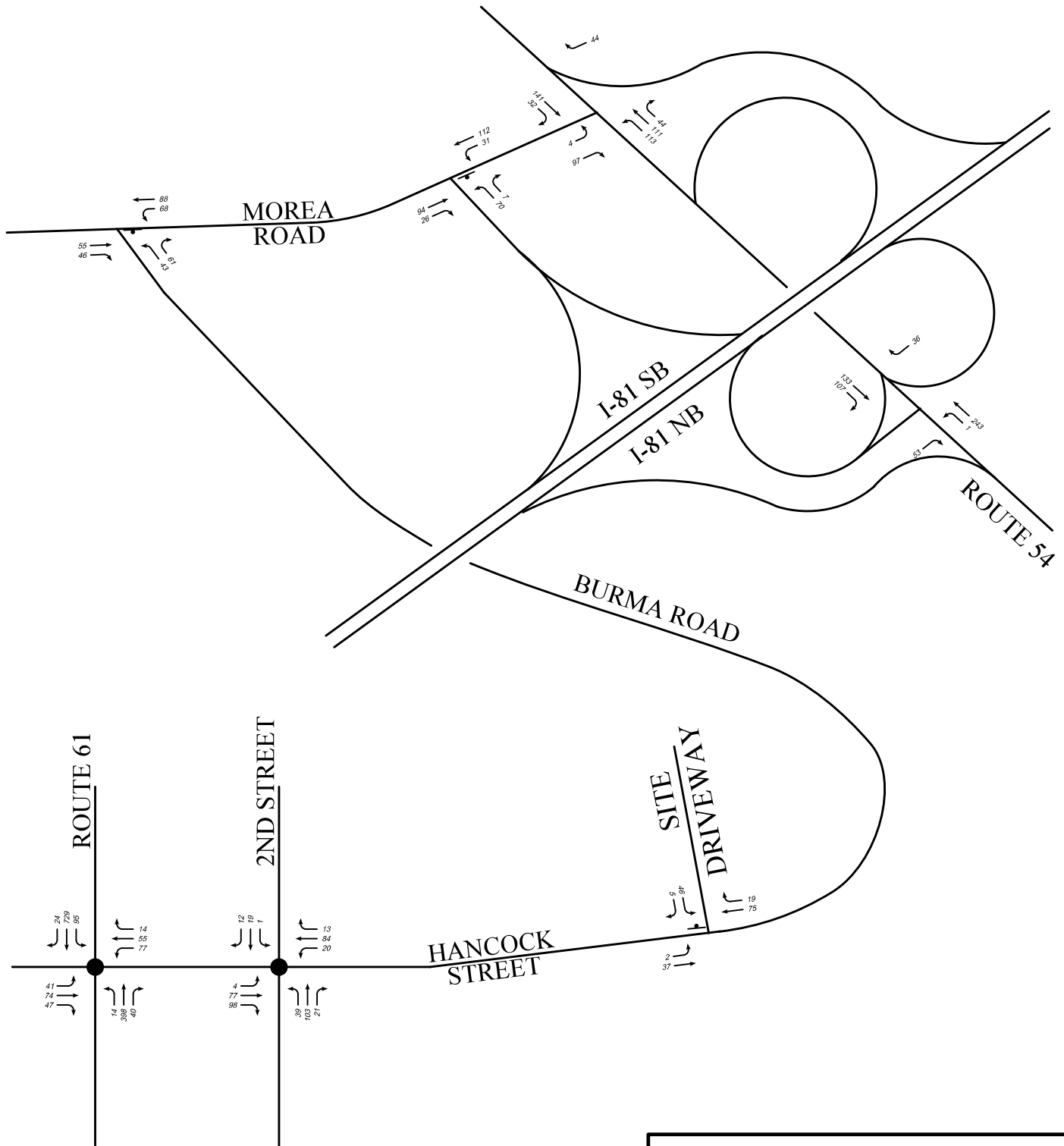
Site Trips  
 Enter: 1 car (1 truck)  
 Exit: 1 car (6 trucks)

**KEY:**  
 + STOP CONTROLLED  
 ● SIGNALIZED INTERSECTION  
 SCHEMATIC DRAWING: NOT TO SCALE

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**FIGURE 10**  
 NEW SITE TRIPS  
 P.M. PEAK HOUR  
 CAR (TRUCK) TRAFFIC VOLUMES

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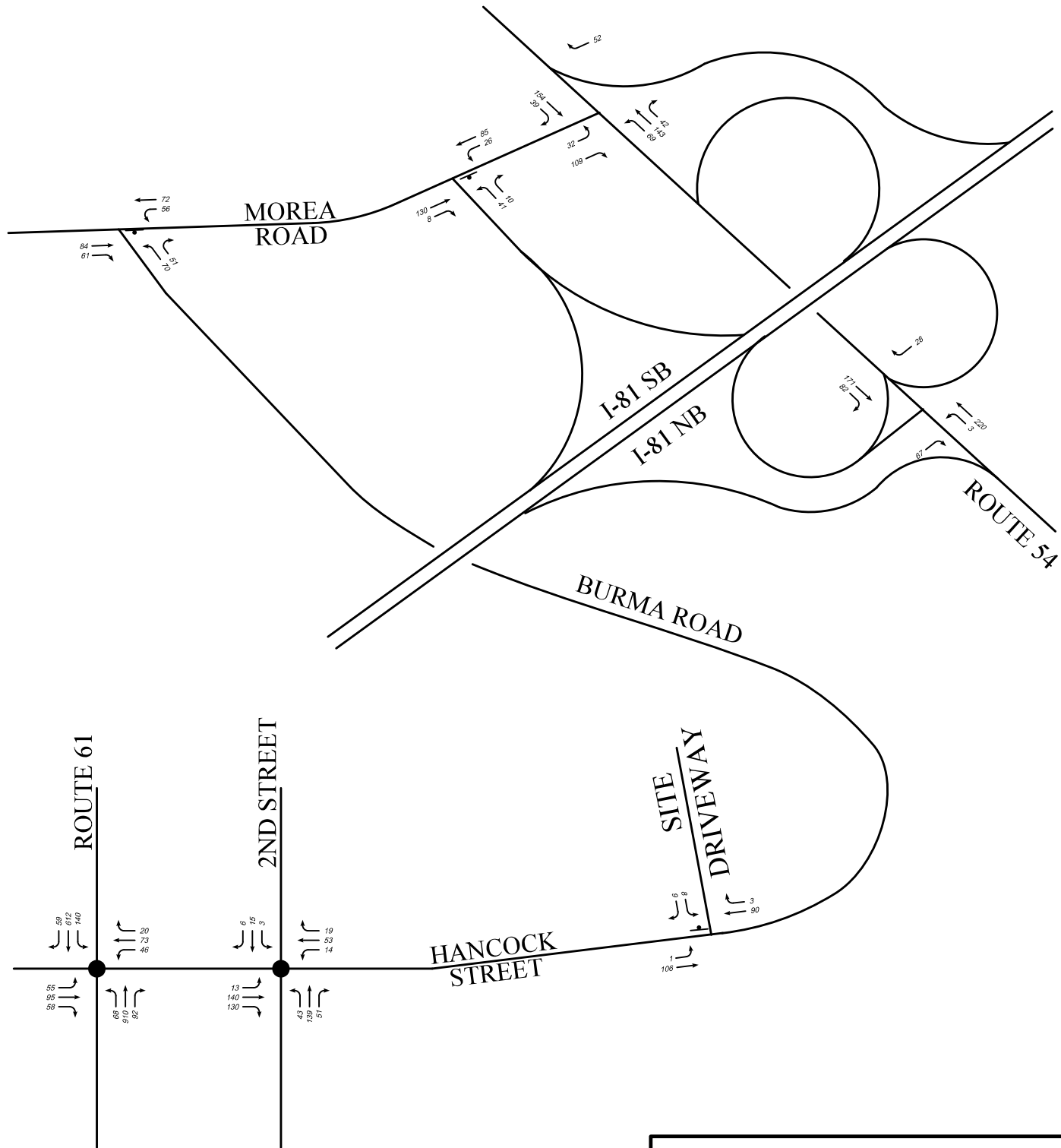
SAINT CLAIR  
BOROUGH

**KEY:**  
 + STOP CONTROLLED  
 ● SIGNALIZED INTERSECTION  
 SCHEMATIC DRAWING: NOT TO SCALE

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**FIGURE 11**  
 2030 PROJECTED CONDITIONS  
 A.M. PEAK HOUR  
 TRAFFIC VOLUMES

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SAINT CLAIR  
BOROUGH

**KEY:**  
 + STOP CONTROLLED  
 ● SIGNALIZED INTERSECTION  
 SCHEMATIC DRAWING: NOT TO SCALE



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FIGURE 12

2030 PROJECTED CONDITIONS  
 P.M. PEAK HOUR  
 TRAFFIC VOLUMES

***APPENDIX A:***  
***Study Area Photographs***



**Direction / Road:** NB Route 54 (Vulcan Hill Rd)  
**Approach / Departure:** Approach  
**Distance:** 50 feet



**Direction / Road:** NB Route 54 (Vulcan Hill Rd)  
**Approach / Departure:** Approach  
**Distance:** 200 feet



**Direction / Road:** SB Route 54 (Vulcan Hill Rd)  
**Approach / Departure:** Approach  
**Distance:** 50 feet



**Direction / Road:** SB Route 54 (Vulcan Hill Rd)  
**Approach / Departure:** Approach  
**Distance:** 200 feet



**Direction / Road:** EB I-81 NB on/off-ramps  
**Approach / Departure:** Approach  
**Distance:** 50 feet



**Direction / Road:** EB I-81 NB on/off-ramps  
**Approach / Departure:** Approach  
**Distance:** 200 feet



**Direction / Road:** NB Route 54 (Vulcan Hill Rd)  
**Approach / Departure:** Approach  
**Distance:** 50 feet



**Direction / Road:** NB Route 54 (Vulcan Hill Rd)  
**Approach / Departure:** Approach  
**Distance:** 200 feet



**Direction / Road:** SB Route 54 (Vulcan Hill Rd)  
**Approach / Departure:** Approach  
**Distance:** 50 feet



**Direction / Road:** SB Route 54 (Vulcan Hill Rd)  
**Approach / Departure:** Approach  
**Distance:** 200 feet



**Direction / Road:** EB I-81 SB on/off-ramps  
**Approach / Departure:** Approach  
**Distance:** 50 feet



**Direction / Road:** EB I-81 SB on/off-ramps  
**Approach / Departure:** Approach  
**Distance:** 200 feet



**Direction / Road:** WB I-81 SB on/off-ramps  
**Approach / Departure:** Approach  
**Distance:** 50 feet



**Direction / Road:** WB I-81 SB on/off-ramps  
**Approach / Departure:** Approach  
**Distance:** 200 feet



**Direction / Road:** NB I-81 SB on/off-ramps  
**Approach / Departure:** Approach  
**Distance:** 50 feet



**Direction / Road:** NB I-81 SB on/off-ramps  
**Approach / Departure:** Approach  
**Distance:** 200 feet



**Direction / Road:** EB Morea Road  
**Approach / Departure:** Approach  
**Distance:** 50 feet



**Direction / Road:** EB Morea Road  
**Approach / Departure:** Approach  
**Distance:** 200 feet



**Direction / Road:** WB Morea Road  
**Approach / Departure:** Approach  
**Distance:** 50 feet



**Direction / Road:** WB Morea Road  
**Approach / Departure:** Approach  
**Distance:** 200 feet



**Direction / Road:** NB Burma Road  
**Approach / Departure:** Approach  
**Distance:** 50 feet

---



**Direction / Road:** NB Burma Road  
**Approach / Departure:** Approach  
**Distance:** 200 feet

---



**Direction / Road:** EB Morea Road  
**Approach / Departure:** Approach  
**Distance:** 50 feet

---



**Direction / Road:** EB Morea Road  
**Approach / Departure:** Approach  
**Distance:** 200 feet

---



**Direction / Road:** WB Morea Road  
**Approach / Departure:** Approach  
**Distance:** 50 feet

---



**Direction / Road:** WB Morea Road  
**Approach / Departure:** Approach  
**Distance:** 200 feet

---

---



**Direction / Road:** NB S.R. 61  
**Approach / Departure:** Approach  
**Distance:** 50 feet

---

---



**Direction / Road:** NB S.R. 61  
**Approach / Departure:** Approach  
**Distance:** 200 feet

---

---



**Direction / Road:** SB S.R. 61  
**Approach / Departure:** Approach  
**Distance:** 50 feet

---



**Direction / Road:** SB S.R. 61  
**Approach / Departure:** Approach  
**Distance:** 200 feet

---



**Direction / Road:** EB Hancock Street  
**Approach / Departure:** Approach  
**Distance:** 50 feet

---



**Direction / Road:** EB Hancock Street  
**Approach / Departure:** Approach  
**Distance:** 200 feet

---



**Direction / Road:** WB Hancock Street  
**Approach / Departure:** Approach  
**Distance:** 50 feet

---



**Direction / Road:** WB Hancock Street  
**Approach / Departure:** Approach  
**Distance:** 200 feet

---



**Direction / Road:** NB 2nd Street  
**Approach / Departure:** Approach  
**Distance:** 50 feet

---



**Direction / Road:** NB 2nd Street  
**Approach / Departure:** Approach  
**Distance:** 200 feet

---



**Direction / Road:** SB 2nd Street  
**Approach / Departure:** Approach  
**Distance:** 50 feet

---



**Direction / Road:** SB 2nd Street  
**Approach / Departure:** Approach  
**Distance:** 200 feet

---



**Direction / Road:** EB Hancock Street  
**Approach / Departure:** Approach  
**Distance:** 50 feet

---



**Direction / Road:** EB Hancock Street  
**Approach / Departure:** Approach  
**Distance:** 200 feet

---



**Direction / Road:** WB Hancock Street  
**Approach / Departure:** Approach  
**Distance:** 50 feet



**Direction / Road:** WB Hancock Street  
**Approach / Departure:** Approach  
**Distance:** 200 feet



**Direction / Road:** SB Site Driveway  
**Approach / Departure:** Approach  
**Distance:** 50 feet

---

---

---



**Direction / Road:** SB Site Driveway  
**Approach / Departure:** Approach  
**Distance:** 200 feet

---

---

---



**Direction / Road:** EB Burma Road  
**Approach / Departure:** Approach  
**Distance:** 50 feet

---



**Direction / Road:** EB Burma Road  
**Approach / Departure:** Approach  
**Distance:** 200 feet

---



**Direction / Road:** WB Burma Road  
**Approach / Departure:** Approach  
**Distance:** 50 feet

---



**Direction / Road:** WB Burma Road  
**Approach / Departure:** Approach  
**Distance:** 200 feet

---

---



**Direction / Road:** Site Driveway – Looking Out  
**Approach / Departure:** \_\_\_\_\_  
**Distance:** \_\_\_\_\_



**Direction / Road:** Site Driveway – Looking In  
**Approach / Departure:** \_\_\_\_\_  
**Distance:** \_\_\_\_\_

---

---



**Direction / Road:** Site Driveway – Looking Right  
**Approach / Departure:** \_\_\_\_\_  
**Distance:** \_\_\_\_\_



**Direction / Road:** Site Driveway – Looking Left  
**Approach / Departure:** \_\_\_\_\_  
**Distance:** \_\_\_\_\_

**APPENDIX B:**  
*Manual Traffic and ATR Count Printouts*



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

Count Name: Site Driveway &  
 Burma Road  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 1

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

### Turning Movement Data

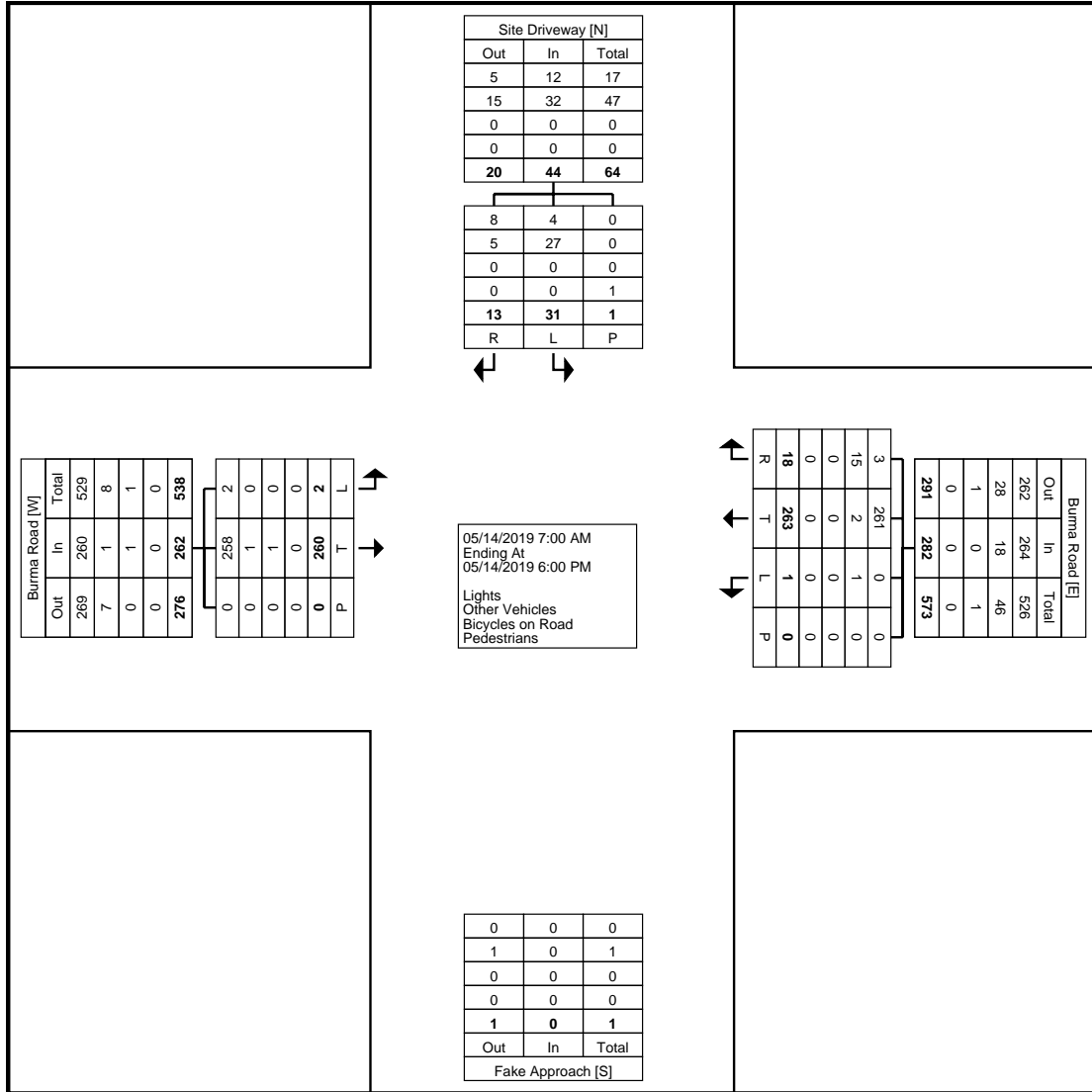
Start Time	Burma Road Eastbound				Burma Road Westbound					Site Driveway Southbound				Int. Total
	Left	Thru	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	
7:00 AM	0	7	0	7	0	7	6	0	13	1	0	1	1	21
7:15 AM	1	12	0	13	1	20	2	0	23	3	2	0	5	41
7:30 AM	0	11	0	11	0	21	2	0	23	6	0	0	6	40
7:45 AM	0	4	0	4	0	15	3	0	18	0	1	0	1	23
Hourly Total	1	34	0	35	1	63	13	0	77	10	3	1	13	125
8:00 AM	0	9	0	9	0	17	1	0	18	10	1	0	11	38
8:15 AM	0	11	0	11	0	21	0	0	21	8	1	0	9	41
8:30 AM	0	6	0	6	0	15	0	0	15	1	0	0	1	22
8:45 AM	0	8	0	8	0	14	2	0	16	0	0	0	0	24
Hourly Total	0	34	0	34	0	67	3	0	70	19	2	0	21	125
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	14	0	14	0	27	2	0	29	2	8	0	10	53
4:15 PM	0	29	0	29	0	19	0	0	19	0	0	0	0	48
4:30 PM	0	33	0	33	0	22	0	0	22	0	0	0	0	55
4:45 PM	0	27	0	27	0	19	0	0	19	0	0	0	0	46
Hourly Total	0	103	0	103	0	87	2	0	89	2	8	0	10	202
5:00 PM	0	32	0	32	0	11	0	0	11	0	0	0	0	43
5:15 PM	1	24	0	25	0	8	0	0	8	0	0	0	0	33
5:30 PM	0	21	0	21	0	15	0	0	15	0	0	0	0	36
5:45 PM	0	12	0	12	0	12	0	0	12	0	0	0	0	24
Hourly Total	1	89	0	90	0	46	0	0	46	0	0	0	0	136
Grand Total	2	260	0	262	1	263	18	0	282	31	13	1	44	588
Approach %	0.8	99.2	-	-	0.4	93.3	6.4	-	-	70.5	29.5	-	-	-
Total %	0.3	44.2	-	44.6	0.2	44.7	3.1	-	48.0	5.3	2.2	-	7.5	-
Lights	2	258	-	260	0	261	3	-	264	4	8	-	12	536
% Lights	100.0	99.2	-	99.2	0.0	99.2	16.7	-	93.6	12.9	61.5	-	27.3	91.2
Other Vehicles	0	1	-	1	1	2	15	-	18	27	5	-	32	51
% Other Vehicles	0.0	0.4	-	0.4	100.0	0.8	83.3	-	6.4	87.1	38.5	-	72.7	8.7
Bicycles on Road	0	1	-	1	0	0	0	-	0	0	0	-	0	1
% Bicycles on Road	0.0	0.4	-	0.4	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.2
Pedestrians	-	-	0	-	-	-	-	0	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



Traffic Planning and Design, Inc  
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 610.326.3100 jhudak@trafficpd.com

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

Count Name: Site Driveway &  
 Burma Road  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 2



Turning Movement Data Plot

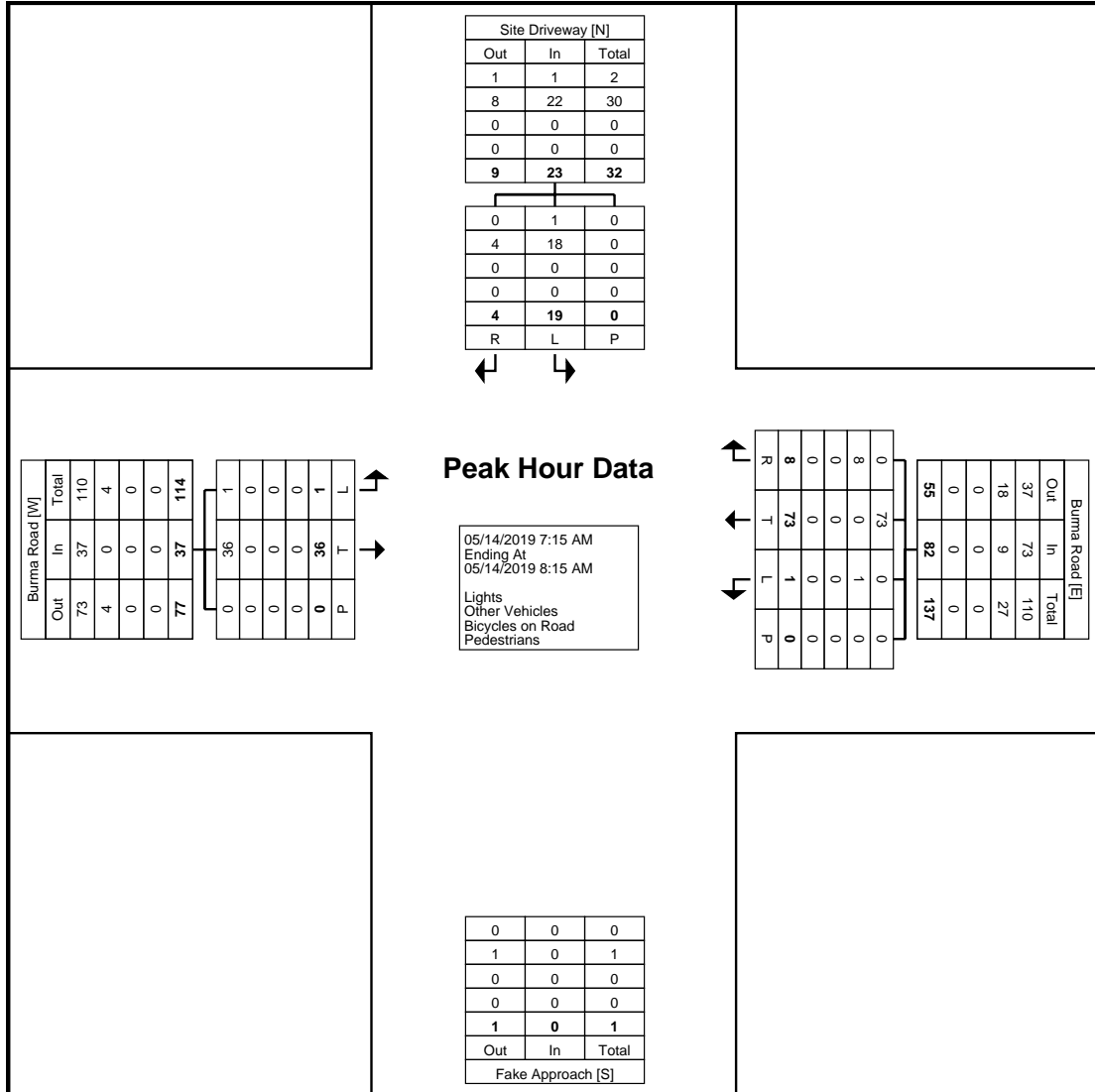




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 610.326.3100 jhudak@trafficpd.com

Count Name: Site Driveway &  
 Burma Road  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 4

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



Turning Movement Peak Hour Data Plot (7:15 AM)







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610.326.3100 [jhudak@trafficpd.com](mailto:jhudak@trafficpd.com)

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

Count Name: Site Driveway &  
Burma Road  
Site Code:  
Start Date: 05/14/2019  
Page No: 7



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 610.326.3100 jhudak@trafficpd.com

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

Count Name: 2nd Street &  
 Hancock Street  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 1

### Turning Movement Data

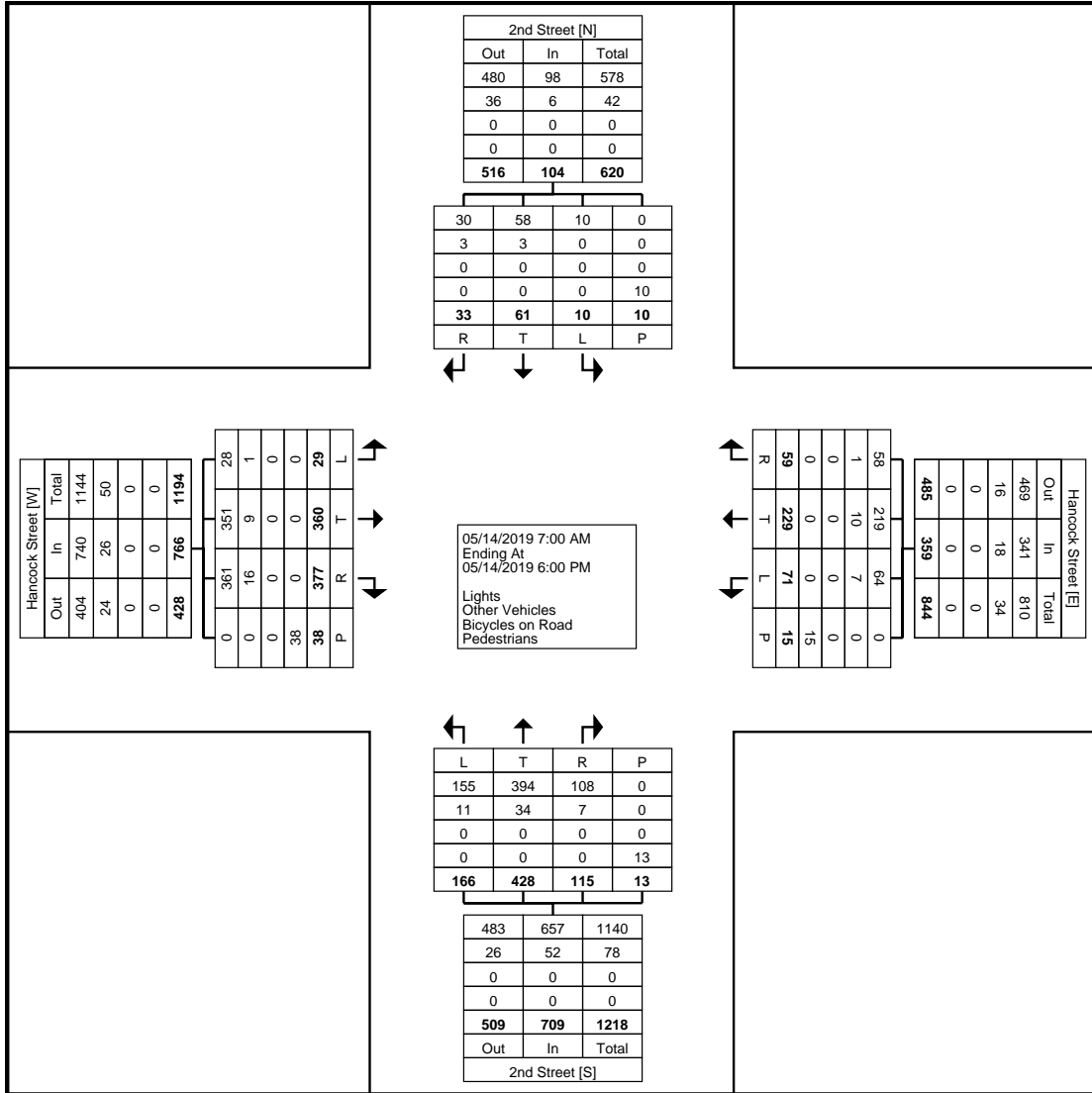
Start Time	Hancock Street Eastbound						Hancock Street Westbound						2nd Street Northbound						2nd Street Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
7:00 AM	0	11	7	8	3	26	2	13	1	0	0	16	8	16	3	0	0	27	0	2	0	0	0	2	71
7:15 AM	1	13	8	6	1	28	5	12	4	0	0	21	5	16	5	1	0	27	0	0	0	2	0	2	78
7:30 AM	2	16	15	9	0	42	2	18	0	2	0	22	8	23	6	0	0	37	0	6	5	1	0	12	113
7:45 AM	0	10	15	8	2	33	6	20	4	0	0	30	9	23	4	0	0	36	0	3	2	1	1	6	105
Hourly Total	3	50	45	31	6	129	15	63	9	2	0	89	30	78	18	1	0	127	0	11	7	4	1	22	367
8:00 AM	1	29	13	6	4	49	5	10	4	0	1	19	7	27	3	0	2	37	0	4	1	0	0	5	110
8:15 AM	1	19	15	14	0	49	6	32	3	0	2	41	14	27	5	2	0	48	1	5	1	1	1	8	146
8:30 AM	1	8	12	10	2	31	9	12	2	1	0	24	13	30	5	0	0	48	0	6	1	1	0	8	111
8:45 AM	1	12	9	6	1	28	6	15	3	0	3	24	4	25	7	0	0	36	0	2	1	0	1	3	91
Hourly Total	4	68	49	36	7	157	26	69	12	1	6	108	38	109	20	2	2	169	1	17	4	2	2	24	458
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	2	36	20	9	2	67	7	18	4	0	0	29	16	20	8	0	0	44	1	5	0	1	1	7	147
4:15 PM	1	31	27	8	4	67	4	18	5	0	2	27	11	27	11	5	1	54	0	5	0	1	0	6	154
4:30 PM	5	28	23	8	6	64	2	12	3	0	2	17	11	40	11	0	0	62	0	1	3	0	1	4	147
4:45 PM	3	29	26	8	5	66	2	8	4	0	1	14	9	28	10	0	5	47	0	6	0	1	1	7	134
Hourly Total	11	124	96	33	17	264	15	56	16	0	5	87	47	115	40	5	6	207	1	17	3	3	3	24	582
5:00 PM	4	47	16	10	2	77	6	12	6	0	0	24	11	40	11	1	0	63	3	3	1	0	2	7	171
5:15 PM	4	24	15	12	5	55	1	11	1	0	2	13	14	38	5	2	2	59	1	4	3	0	0	8	135
5:30 PM	2	25	7	8	1	42	6	7	4	0	0	17	18	23	5	1	3	47	1	6	3	0	2	10	116
5:45 PM	1	22	16	3	0	42	2	11	7	1	2	21	8	25	4	0	0	37	3	3	3	0	0	9	109
Hourly Total	11	118	54	33	8	216	15	41	18	1	4	75	51	126	25	4	5	206	8	16	10	0	4	34	531
Grand Total	29	360	244	133	38	766	71	229	55	4	15	359	166	428	103	12	13	709	10	61	24	9	10	104	1938
Approach %	3.8	47.0	31.9	17.4	-	-	19.8	63.8	15.3	1.1	-	-	23.4	60.4	14.5	1.7	-	-	9.6	58.7	23.1	8.7	-	-	-
Total %	1.5	18.6	12.6	6.9	-	39.5	3.7	11.8	2.8	0.2	-	18.5	8.6	22.1	5.3	0.6	-	36.6	0.5	3.1	1.2	0.5	-	5.4	-
Lights	28	351	232	129	-	740	64	219	54	4	-	341	155	394	97	11	-	657	10	58	22	8	-	98	1836
% Lights	96.6	97.5	95.1	97.0	-	96.6	90.1	95.6	98.2	100.0	-	95.0	93.4	92.1	94.2	91.7	-	92.7	100.0	95.1	91.7	88.9	-	94.2	94.7
Other Vehicles	1	9	12	4	-	26	7	10	1	0	-	18	11	34	6	1	-	52	0	3	2	1	-	6	102
% Other Vehicles	3.4	2.5	4.9	3.0	-	3.4	9.9	4.4	1.8	0.0	-	5.0	6.6	7.9	5.8	8.3	-	7.3	0.0	4.9	8.3	11.1	-	5.8	5.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	38	-	-	-	-	-	15	-	-	-	-	-	13	-	-	-	-	-	10	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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

Count Name: 2nd Street &  
 Hancock Street  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 2



Turning Movement Data Plot



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Count Name: 2nd Street &  
 Hancock Street  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 3

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

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

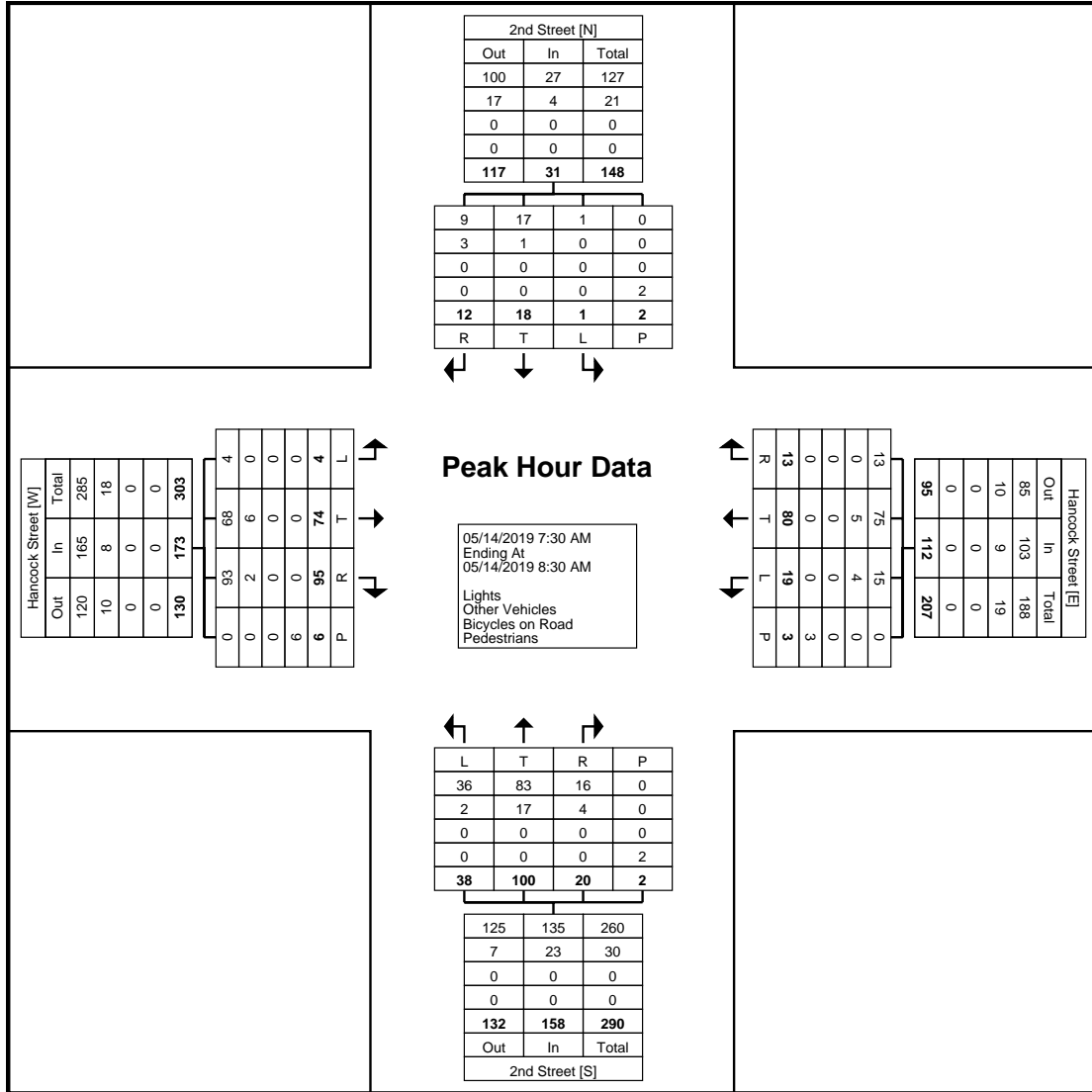
Start Time	Hancock Street Eastbound						Hancock Street Westbound						2nd Street Northbound						2nd Street Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
7:30 AM	2	16	15	9	0	42	2	18	0	2	0	22	8	23	6	0	0	37	0	6	5	1	0	12	113
7:45 AM	0	10	15	8	2	33	6	20	4	0	0	30	9	23	4	0	0	36	0	3	2	1	1	6	105
8:00 AM	1	29	13	6	4	49	5	10	4	0	1	19	7	27	3	0	2	37	0	4	1	0	0	5	110
8:15 AM	1	19	15	14	0	49	6	32	3	0	2	41	14	27	5	2	0	48	1	5	1	1	1	8	146
<b>Total</b>	<b>4</b>	<b>74</b>	<b>58</b>	<b>37</b>	<b>6</b>	<b>173</b>	<b>19</b>	<b>80</b>	<b>11</b>	<b>2</b>	<b>3</b>	<b>112</b>	<b>38</b>	<b>100</b>	<b>18</b>	<b>2</b>	<b>2</b>	<b>158</b>	<b>1</b>	<b>18</b>	<b>9</b>	<b>3</b>	<b>2</b>	<b>31</b>	<b>474</b>
Approach %	2.3	42.8	33.5	21.4	-	-	17.0	71.4	9.8	1.8	-	-	24.1	63.3	11.4	1.3	-	-	3.2	58.1	29.0	9.7	-	-	-
Total %	0.8	15.6	12.2	7.8	-	36.5	4.0	16.9	2.3	0.4	-	23.6	8.0	21.1	3.8	0.4	-	33.3	0.2	3.8	1.9	0.6	-	6.5	-
PHF	0.500	0.638	0.967	0.661	-	0.883	0.792	0.625	0.688	0.250	-	0.683	0.679	0.926	0.750	0.250	-	0.823	0.250	0.750	0.450	0.750	-	0.646	0.812
Lights	4	68	56	37	-	165	15	75	11	2	-	103	36	83	15	1	-	135	1	17	7	2	-	27	430
% Lights	100.0	91.9	96.6	100.0	-	95.4	78.9	93.8	100.0	100.0	-	92.0	94.7	83.0	83.3	50.0	-	85.4	100.0	94.4	77.8	66.7	-	87.1	90.7
Other Vehicles	0	6	2	0	-	8	4	5	0	0	-	9	2	17	3	1	-	23	0	1	2	1	-	4	44
% Other Vehicles	0.0	8.1	3.4	0.0	-	4.6	21.1	6.3	0.0	0.0	-	8.0	5.3	17.0	16.7	50.0	-	14.6	0.0	5.6	22.2	33.3	-	12.9	9.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	6	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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

Count Name: 2nd Street &  
 Hancock Street  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 4



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



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 Pottstown, Pennsylvania, United States 19464  
 610.326.3100 jhudak@trafficpd.com

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

Count Name: 2nd Street &  
 Hancock Street  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 5

### Turning Movement Peak Hour Data (4:15 PM)

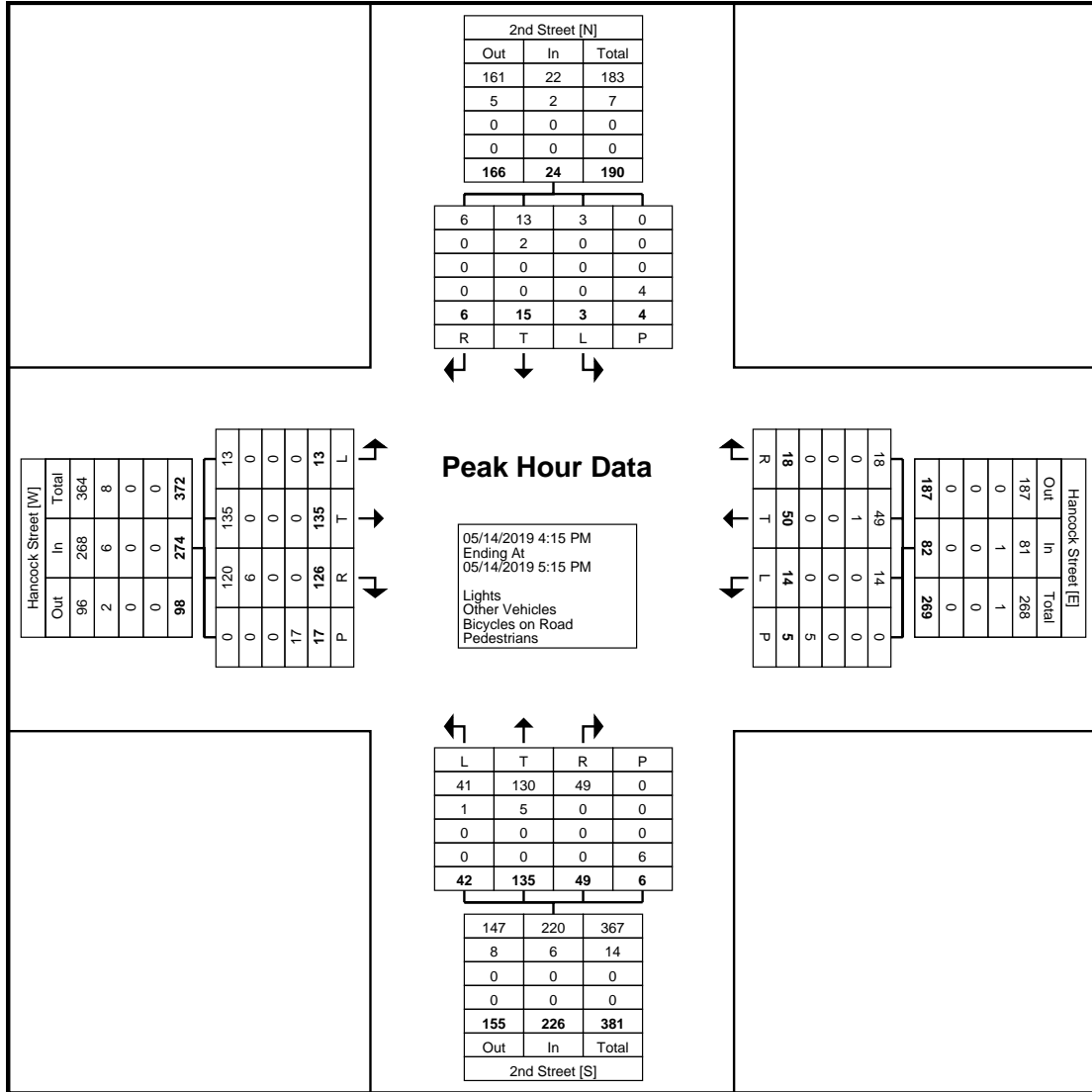
Start Time	Hancock Street Eastbound						Hancock Street Westbound						2nd Street Northbound						2nd Street Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
4:15 PM	1	31	27	8	4	67	4	18	5	0	2	27	11	27	11	5	1	54	0	5	0	1	0	6	154
4:30 PM	5	28	23	8	6	64	2	12	3	0	2	17	11	40	11	0	0	62	0	1	3	0	1	4	147
4:45 PM	3	29	26	8	5	66	2	8	4	0	1	14	9	28	10	0	5	47	0	6	0	1	1	7	134
5:00 PM	4	47	16	10	2	77	6	12	6	0	0	24	11	40	11	1	0	63	3	3	1	0	2	7	171
<b>Total</b>	<b>13</b>	<b>135</b>	<b>92</b>	<b>34</b>	<b>17</b>	<b>274</b>	<b>14</b>	<b>50</b>	<b>18</b>	<b>0</b>	<b>5</b>	<b>82</b>	<b>42</b>	<b>135</b>	<b>43</b>	<b>6</b>	<b>6</b>	<b>226</b>	<b>3</b>	<b>15</b>	<b>4</b>	<b>2</b>	<b>4</b>	<b>24</b>	<b>606</b>
Approach %	4.7	49.3	33.6	12.4	-	-	17.1	61.0	22.0	0.0	-	-	18.6	59.7	19.0	2.7	-	-	12.5	62.5	16.7	8.3	-	-	-
Total %	2.1	22.3	15.2	5.6	-	45.2	2.3	8.3	3.0	0.0	-	13.5	6.9	22.3	7.1	1.0	-	37.3	0.5	2.5	0.7	0.3	-	4.0	-
PHF	0.650	0.718	0.852	0.850	-	0.890	0.583	0.694	0.750	0.000	-	0.759	0.955	0.844	0.977	0.300	-	0.897	0.250	0.625	0.333	0.500	-	0.857	0.886
Lights	13	135	86	34	-	268	14	49	18	0	-	81	41	130	43	6	-	220	3	13	4	2	-	22	591
% Lights	100.0	100.0	93.5	100.0	-	97.8	100.0	98.0	100.0	-	-	98.8	97.6	96.3	100.0	100.0	-	97.3	100.0	86.7	100.0	100.0	-	91.7	97.5
Other Vehicles	0	0	6	0	-	6	0	1	0	0	-	1	1	5	0	0	-	6	0	2	0	0	-	2	15
% Other Vehicles	0.0	0.0	6.5	0.0	-	2.2	0.0	2.0	0.0	-	-	1.2	2.4	3.7	0.0	0.0	-	2.7	0.0	13.3	0.0	0.0	-	8.3	2.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	17	-	-	-	-	-	5	-	-	-	-	-	6	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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

Count Name: 2nd Street &  
 Hancock Street  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 6



Turning Movement Peak Hour Data Plot (4:15 PM)



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

Count Name: 2nd Street &  
Hancock Street  
Site Code:  
Start Date: 05/14/2019  
Page No: 7



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 610.326.3100 jhudak@trafficpd.com

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

Count Name: S.R. 61 &  
 Hancock Street  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 1

### Turning Movement Data

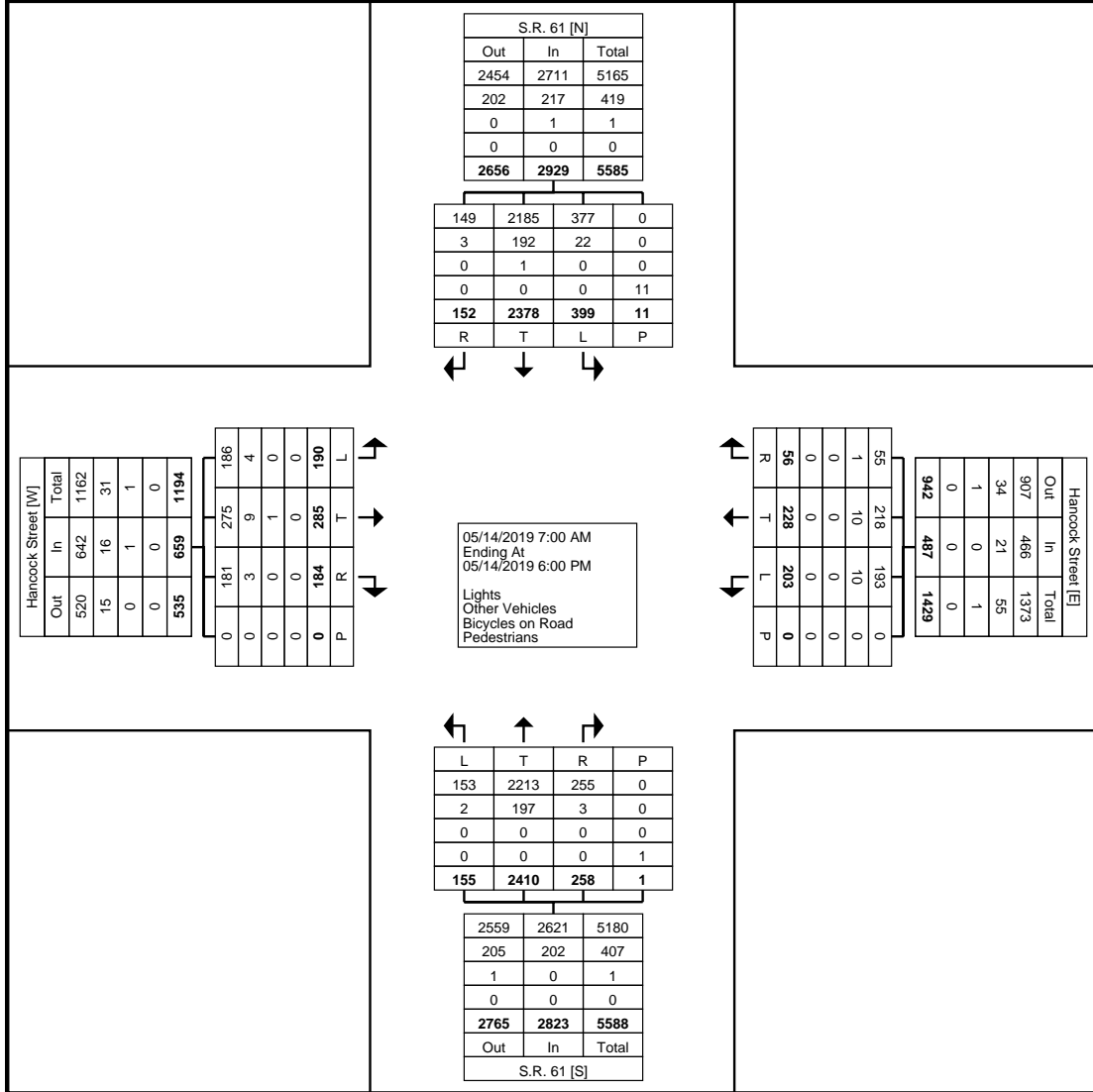
Start Time	Hancock Street Eastbound						Hancock Street Westbound						S.R. 61 Northbound						S.R. 61 Southbound						Int. Total	
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total		
7:00 AM	11	11	1	4	0	27	14	12	0	0	0	26	5	91	10	0	1	106	10	91	3	0	0	104	263	
7:15 AM	12	14	4	6	0	36	12	9	3	0	0	24	2	99	6	2	0	109	20	118	6	0	0	144	313	
7:30 AM	10	17	8	3	0	38	19	12	4	0	0	35	9	110	8	4	0	131	21	166	7	2	1	196	400	
7:45 AM	8	17	5	5	0	35	18	17	3	0	0	38	2	98	4	0	0	104	21	206	1	0	1	228	405	
Hourly Total	41	59	18	18	0	136	63	50	10	0	0	123	18	398	28	6	1	450	72	581	17	2	2	672	1381	
8:00 AM	12	16	13	2	0	43	12	9	1	0	0	22	1	91	12	1	0	105	29	160	5	1	1	195	365	
8:15 AM	10	22	6	4	0	42	26	15	5	0	0	46	2	87	10	0	0	99	20	175	7	0	0	202	389	
8:30 AM	14	14	2	3	0	33	16	14	3	0	0	33	6	100	9	1	0	116	17	163	5	0	0	185	367	
8:45 AM	10	11	9	0	0	30	10	6	7	0	0	23	8	98	8	2	0	116	18	157	10	0	0	185	354	
Hourly Total	46	63	30	9	0	148	64	44	16	0	0	124	17	376	39	4	0	436	84	655	27	1	1	767	1475	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	17	24	5	3	0	49	14	21	5	0	0	40	13	219	20	2	0	254	35	174	9	0	1	218	561	
4:15 PM	10	29	14	5	0	58	11	22	4	0	0	37	16	209	22	4	0	251	27	153	14	0	2	194	540	
4:30 PM	19	21	15	0	0	55	11	17	5	0	0	33	20	222	14	4	0	260	40	134	17	2	0	193	541	
4:45 PM	7	18	9	5	0	39	9	11	4	0	0	24	17	232	20	3	0	272	33	132	12	3	0	180	515	
Hourly Total	53	92	43	13	0	201	45	71	18	0	0	134	66	882	76	13	0	1037	135	593	52	5	3	785	2157	
5:00 PM	11	29	11	3	0	54	5	15	3	0	0	23	16	215	27	5	0	263	39	147	15	0	2	201	541	
5:15 PM	13	19	10	6	0	48	9	19	2	0	0	30	16	192	24	0	0	232	29	141	9	0	3	179	489	
5:30 PM	13	9	8	6	0	36	8	18	5	0	0	31	12	185	15	1	0	213	20	145	10	1	0	176	456	
5:45 PM	13	14	4	5	0	36	9	11	2	0	0	22	10	162	19	1	0	192	20	116	13	0	0	149	399	
Hourly Total	50	71	33	20	0	174	31	63	12	0	0	106	54	754	85	7	0	900	108	549	47	1	5	705	1885	
Grand Total	190	285	124	60	0	659	203	228	56	0	0	487	155	2410	228	30	1	2823	399	2378	143	9	11	2929	6898	
Approach %	28.8	43.2	18.8	9.1	-	-	41.7	46.8	11.5	0.0	-	-	5.5	85.4	8.1	1.1	-	-	13.6	81.2	4.9	0.3	-	-	-	
Total %	2.8	4.1	1.8	0.9	-	9.6	2.9	3.3	0.8	0.0	-	7.1	2.2	34.9	3.3	0.4	-	40.9	5.8	34.5	2.1	0.1	-	42.5	-	
Lights	186	275	123	58	-	642	193	218	55	0	-	466	153	2213	225	30	-	2621	377	2185	141	8	-	2711	6440	
% Lights	97.9	96.5	99.2	96.7	-	97.4	95.1	95.6	98.2	-	-	95.7	98.7	91.8	98.7	100.0	-	92.8	94.5	91.9	98.6	88.9	-	92.6	93.4	
Other Vehicles	4	9	1	2	-	16	10	10	1	0	-	21	2	197	3	0	-	202	22	192	2	1	-	217	456	
% Other Vehicles	2.1	3.2	0.8	3.3	-	2.4	4.9	4.4	1.8	-	-	4.3	1.3	8.2	1.3	0.0	-	7.2	5.5	8.1	1.4	11.1	-	7.4	6.6	
Bicycles on Road	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	2	
% Bicycles on Road	0.0	0.4	0.0	0.0	-	0.2	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	11	-	-	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	



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

Count Name: S.R. 61 &  
 Hancock Street  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 2



Turning Movement Data Plot



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Count Name: S.R. 61 &  
 Hancock Street  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 3

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

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

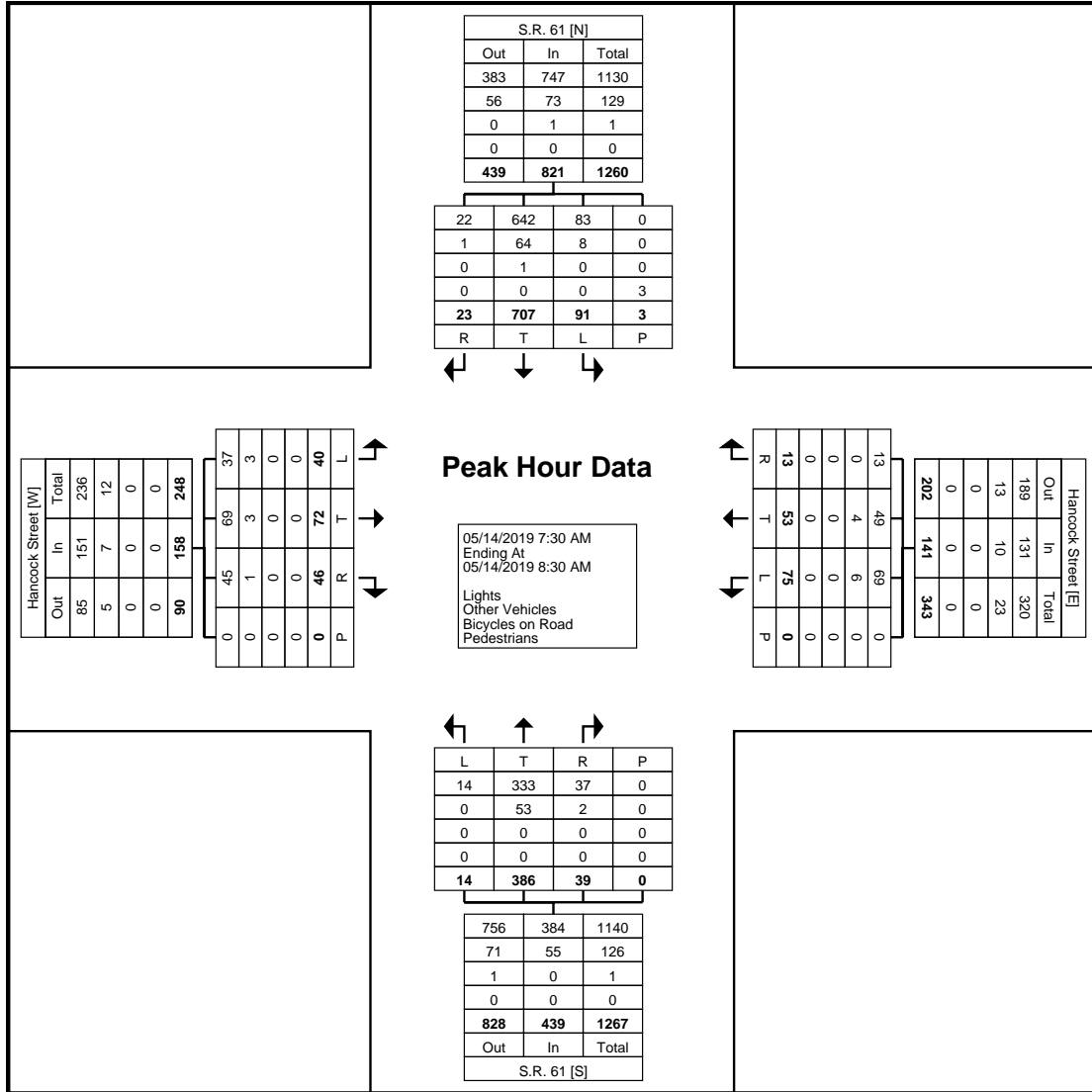
Start Time	Hancock Street Eastbound						Hancock Street Westbound						S.R. 61 Northbound						S.R. 61 Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
7:30 AM	10	17	8	3	0	38	19	12	4	0	0	35	9	110	8	4	0	131	21	166	7	2	1	196	400
7:45 AM	8	17	5	5	0	35	18	17	3	0	0	38	2	98	4	0	0	104	21	206	1	0	1	228	405
8:00 AM	12	16	13	2	0	43	12	9	1	0	0	22	1	91	12	1	0	105	29	160	5	1	1	195	365
8:15 AM	10	22	6	4	0	42	26	15	5	0	0	46	2	87	10	0	0	99	20	175	7	0	0	202	389
<b>Total</b>	<b>40</b>	<b>72</b>	<b>32</b>	<b>14</b>	<b>0</b>	<b>158</b>	<b>75</b>	<b>53</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>141</b>	<b>14</b>	<b>386</b>	<b>34</b>	<b>5</b>	<b>0</b>	<b>439</b>	<b>91</b>	<b>707</b>	<b>20</b>	<b>3</b>	<b>3</b>	<b>821</b>	<b>1559</b>
Approach %	25.3	45.6	20.3	8.9	-	-	53.2	37.6	9.2	0.0	-	-	3.2	87.9	7.7	1.1	-	-	11.1	86.1	2.4	0.4	-	-	-
Total %	2.6	4.6	2.1	0.9	-	10.1	4.8	3.4	0.8	0.0	-	9.0	0.9	24.8	2.2	0.3	-	28.2	5.8	45.3	1.3	0.2	-	52.7	-
PHF	0.833	0.818	0.615	0.700	-	0.919	0.721	0.779	0.650	0.000	-	0.766	0.389	0.877	0.708	0.313	-	0.838	0.784	0.858	0.714	0.375	-	0.900	0.962
Lights	37	69	31	14	-	151	69	49	13	0	-	131	14	333	32	5	-	384	83	642	20	2	-	747	1413
% Lights	92.5	95.8	96.9	100.0	-	95.6	92.0	92.5	100.0	-	-	92.9	100.0	86.3	94.1	100.0	-	87.5	91.2	90.8	100.0	66.7	-	91.0	90.6
Other Vehicles	3	3	1	0	-	7	6	4	0	0	-	10	0	53	2	0	-	55	8	64	0	1	-	73	145
% Other Vehicles	7.5	4.2	3.1	0.0	-	4.4	8.0	7.5	0.0	-	-	7.1	0.0	13.7	5.9	0.0	-	12.5	8.8	9.1	0.0	33.3	-	8.9	9.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	1
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.1	0.0	0.0	-	0.1	0.1
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



Traffic Planning and Design, Inc  
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Counted By: Mio:  
 Set Up By: JH:  
 Weather: Clear:

Count Name: S.R. 61 &  
 Hancock Street  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 4



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



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Count Name: S.R. 61 &  
 Hancock Street  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 5

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

### Turning Movement Peak Hour Data (4:00 PM)

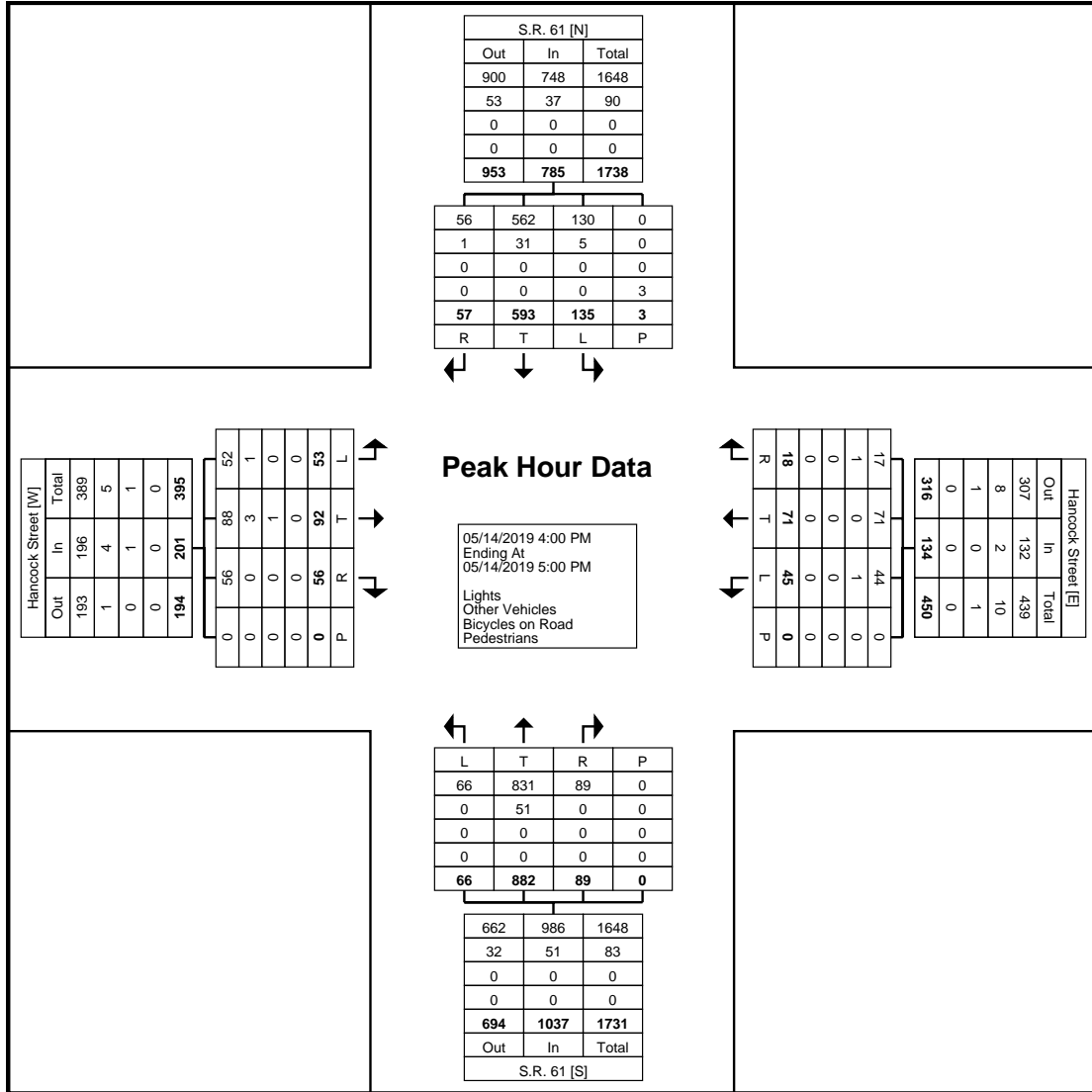
Start Time	Hancock Street Eastbound						Hancock Street Westbound						S.R. 61 Northbound						S.R. 61 Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
4:00 PM	17	24	5	3	0	49	14	21	5	0	0	40	13	219	20	2	0	254	35	174	9	0	1	218	561
4:15 PM	10	29	14	5	0	58	11	22	4	0	0	37	16	209	22	4	0	251	27	153	14	0	2	194	540
4:30 PM	19	21	15	0	0	55	11	17	5	0	0	33	20	222	14	4	0	260	40	134	17	2	0	193	541
4:45 PM	7	18	9	5	0	39	9	11	4	0	0	24	17	232	20	3	0	272	33	132	12	3	0	180	515
<b>Total</b>	<b>53</b>	<b>92</b>	<b>43</b>	<b>13</b>	<b>0</b>	<b>201</b>	<b>45</b>	<b>71</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>134</b>	<b>66</b>	<b>882</b>	<b>76</b>	<b>13</b>	<b>0</b>	<b>1037</b>	<b>135</b>	<b>593</b>	<b>52</b>	<b>5</b>	<b>3</b>	<b>785</b>	<b>2157</b>
Approach %	26.4	45.8	21.4	6.5	-	-	33.6	53.0	13.4	0.0	-	-	6.4	85.1	7.3	1.3	-	-	17.2	75.5	6.6	0.6	-	-	-
Total %	2.5	4.3	2.0	0.6	-	9.3	2.1	3.3	0.8	0.0	-	6.2	3.1	40.9	3.5	0.6	-	48.1	6.3	27.5	2.4	0.2	-	36.4	-
PHF	0.697	0.793	0.717	0.650	-	0.866	0.804	0.807	0.900	0.000	-	0.838	0.825	0.950	0.864	0.813	-	0.953	0.844	0.852	0.765	0.417	-	0.900	0.961
Lights	52	88	43	13	-	196	44	71	17	0	-	132	66	831	76	13	-	986	130	562	51	5	-	748	2062
% Lights	98.1	95.7	100.0	100.0	-	97.5	97.8	100.0	94.4	-	-	98.5	100.0	94.2	100.0	100.0	-	95.1	96.3	94.8	98.1	100.0	-	95.3	95.6
Other Vehicles	1	3	0	0	-	4	1	0	1	0	-	2	0	51	0	0	-	51	5	31	1	0	-	37	94
% Other Vehicles	1.9	3.3	0.0	0.0	-	2.0	2.2	0.0	5.6	-	-	1.5	0.0	5.8	0.0	0.0	-	4.9	3.7	5.2	1.9	0.0	-	4.7	4.4
Bicycles on Road	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	0.0	1.1	0.0	0.0	-	0.5	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



Traffic Planning and Design, Inc  
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Counted By: Mio:  
 Set Up By: JH:  
 Weather: Clear:

Count Name: S.R. 61 &  
 Hancock Street  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 6



Turning Movement Peak Hour Data Plot (4:00 PM)



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610.326.3100 [jhudak@trafficpd.com](mailto:jhudak@trafficpd.com)

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

Count Name: S.R. 61 &  
Hancock Street  
Site Code:  
Start Date: 05/14/2019  
Page No: 7

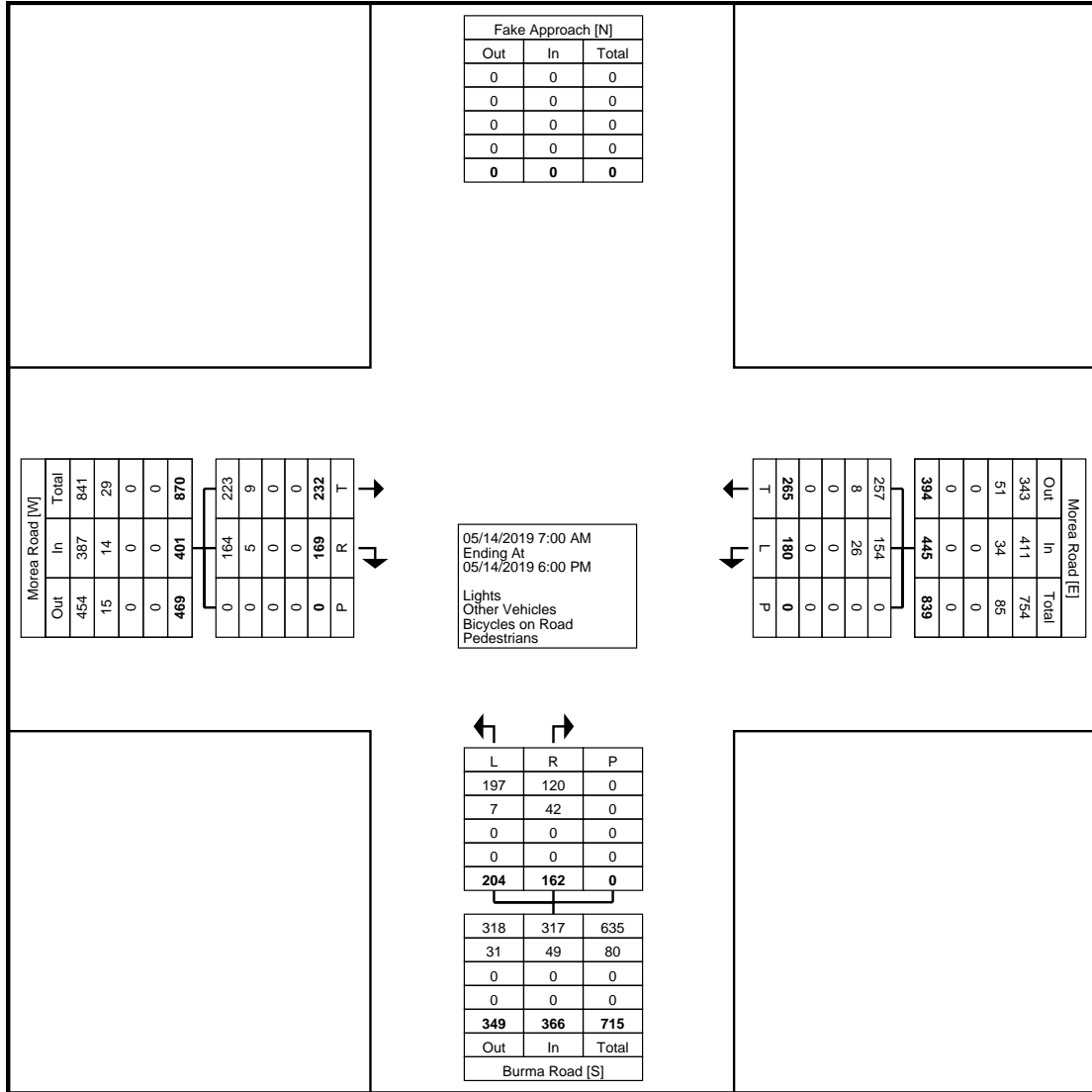




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Counted By: Mio:  
 Set Up By: JH:  
 Weather: Clear:

Count Name: Burma Road &  
 Morea Road  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 2



Turning Movement Data Plot

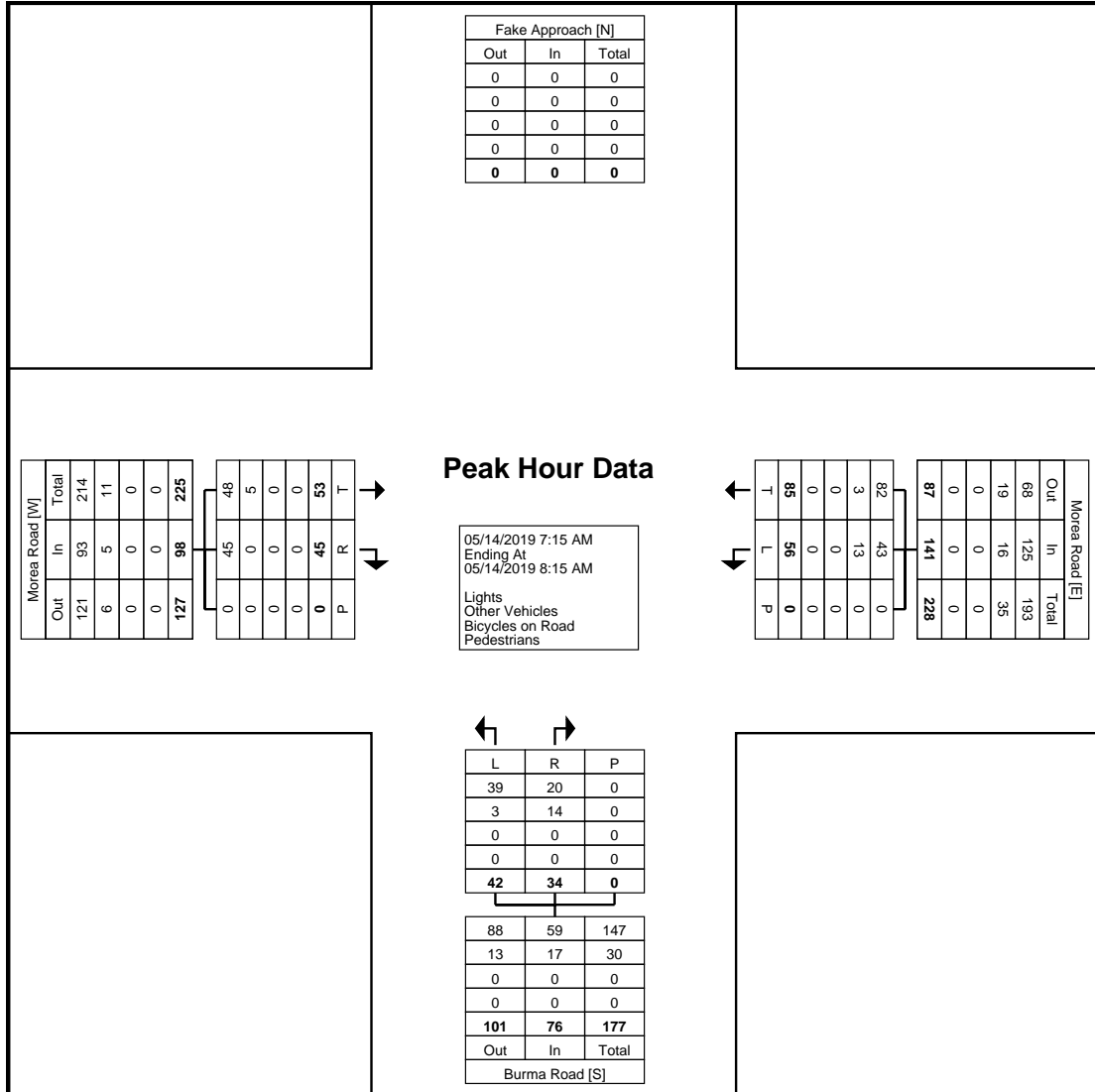




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Counted By: Mio:  
 Set Up By: JH:  
 Weather: Clear:

Count Name: Burma Road &  
 Morea Road  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 4



Turning Movement Peak Hour Data Plot (7:15 AM)

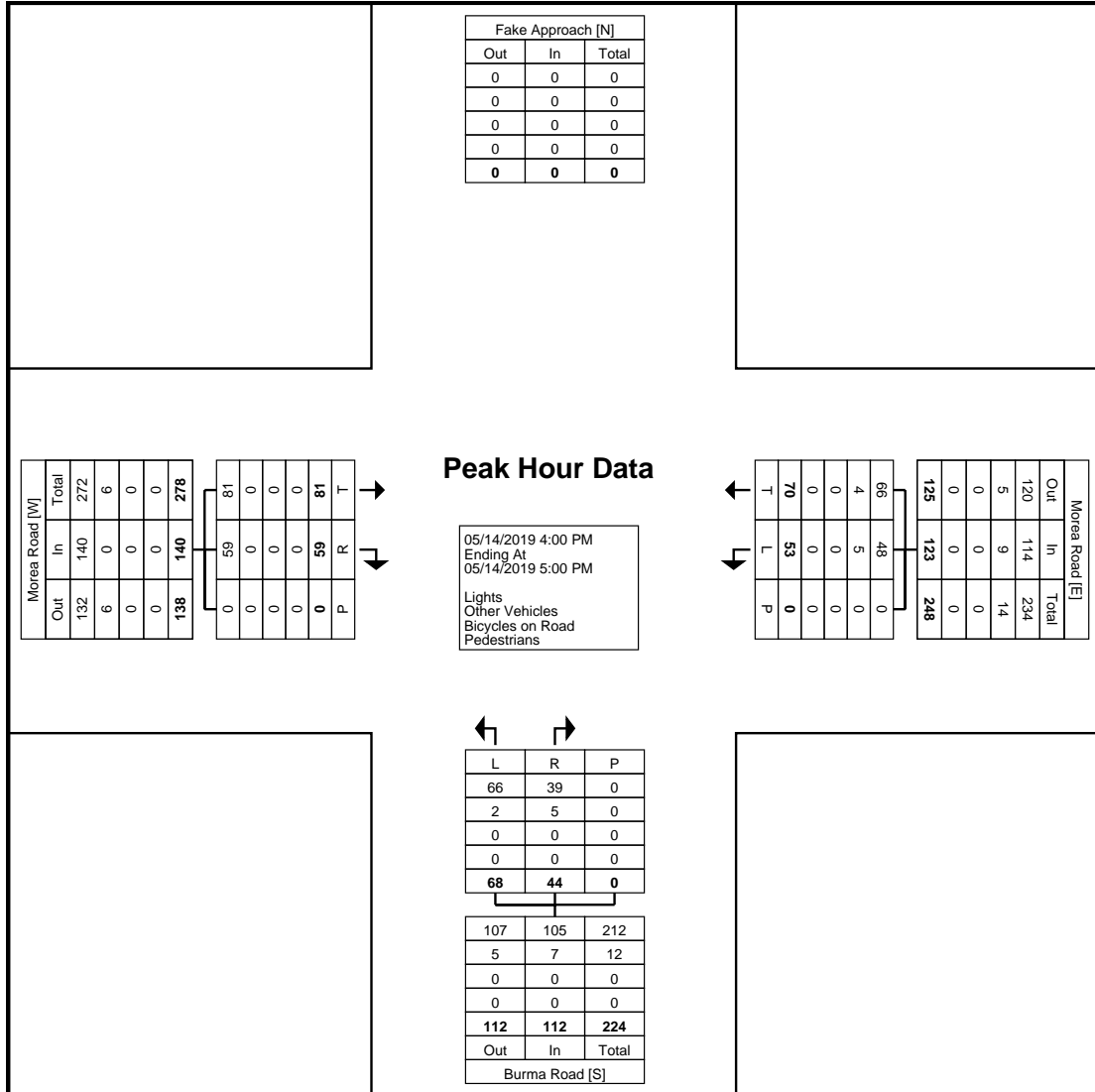




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Count Name: Burma Road &  
 Morea Road  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 6

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



Turning Movement Peak Hour Data Plot (4:00 PM)



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

Count Name: Burma Road &  
Morea Road  
Site Code:  
Start Date: 05/14/2019  
Page No: 7



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Count Name: ATR 1  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 1

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

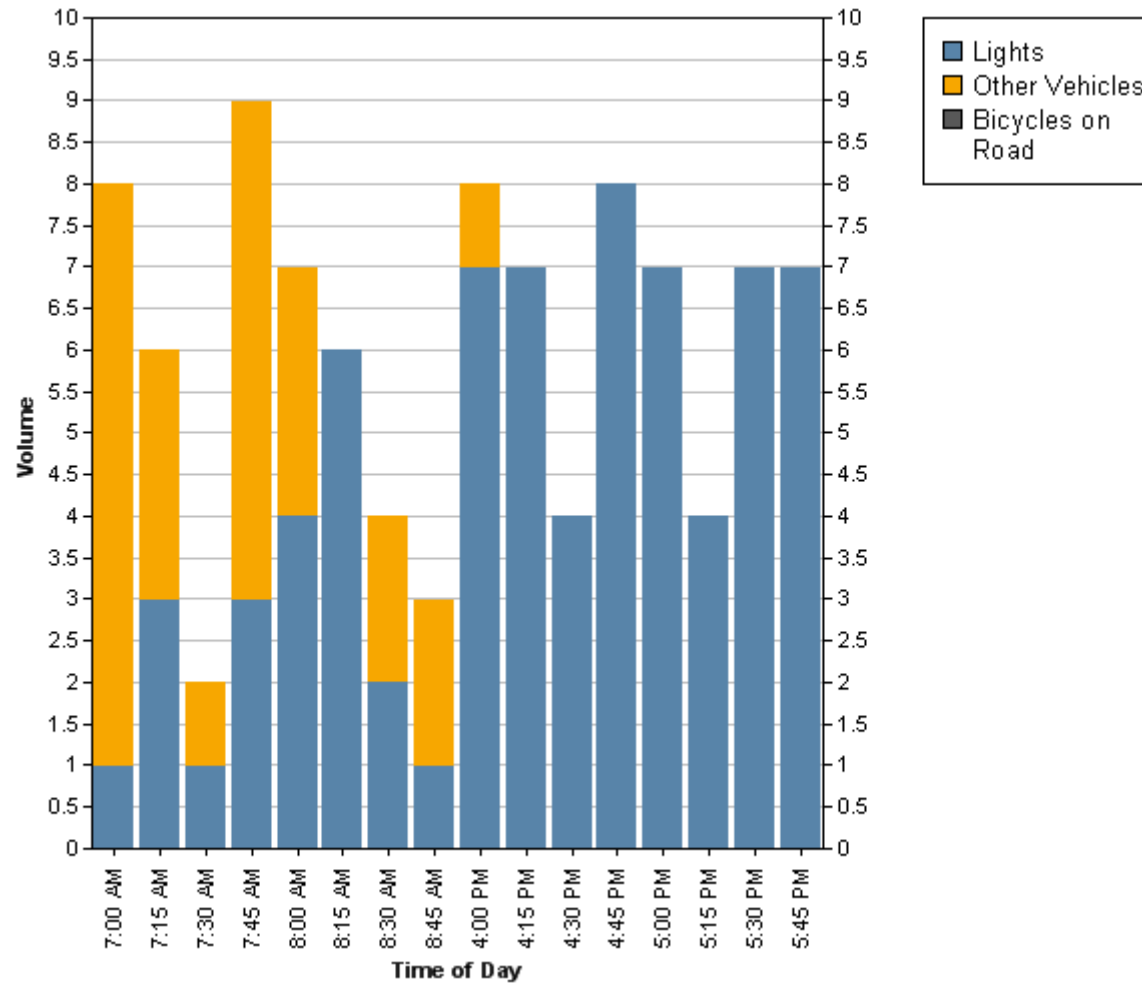
**Direction (Northbound)**

Start Time	Lights	Other Vehicles	Bicycles on Road	Total
7:00 AM	1	7	0	8
7:15 AM	3	3	0	6
7:30 AM	1	1	0	2
7:45 AM	3	6	0	9
8:00 AM	4	3	0	7
8:15 AM	6	0	0	6
8:30 AM	2	2	0	4
8:45 AM	1	2	0	3
4:00 PM	7	1	0	8
4:15 PM	7	0	0	7
4:30 PM	4	0	0	4
4:45 PM	8	0	0	8
5:00 PM	7	0	0	7
5:15 PM	4	0	0	4
5:30 PM	7	0	0	7
5:45 PM	7	0	0	7
<b>Total</b>	<b>72</b>	<b>25</b>	<b>0</b>	<b>97</b>
<b>Total %</b>	<b>74.2</b>	<b>25.8</b>	<b>0.0</b>	<b>100.0</b>
<b>AM Times</b>	<b>7:45 AM</b>	<b>7:00 AM</b>	<b>7:00 AM</b>	<b>7:45 AM</b>
<b>AM Peaks</b>	<b>15</b>	<b>17</b>	<b>0</b>	<b>26</b>
<b>PM Times</b>	<b>4:00 PM</b>	<b>4:00 PM</b>	<b>4:00 PM</b>	<b>4:00 PM</b>
<b>PM Peaks</b>	<b>26</b>	<b>1</b>	<b>0</b>	<b>27</b>

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

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Count Name: ATR 1  
Site Code:  
Start Date: 05/14/2019  
Page No: 3

**Study Name Route 54 (Vulcan Hill Rd) & I-81 NB on/off-ramps**

**Start Date 05/14/2019**

**Start Time 7:00 AM**

**Site Code**

**Project FKV.00001**

**Counted By: Mio**

**Set Up By: JH**

**Weather:Clear**

**Type Road  
Classification Lights**

ATR No.,	Route 54		I-81				
	Eastbound		Westbound		Northbound	Southbound	
	Through	Right	Left	Through	Right	Right	
	3				2	6	1
7:00 AM	23	14	1	49	6	6	1
7:15 AM	20	16	0	61	11	11	3
7:30 AM	31	28	0	53	13	13	1
7:45 AM	36	23	0	56	15	15	3
8:00 AM	29	12	0	35	9	9	4
8:15 AM	19	20	0	44	7	7	6
8:30 AM	34	19	0	28	5	5	2
8:45 AM	25	13	0	26	6	6	1
4:00 PM	51	29	0	41	12	12	7
4:15 PM	32	19	0	44	17	17	7
4:30 PM	42	18	3	50	15	15	4
4:45 PM	36	14	0	63	18	18	8
5:00 PM	45	20	0	46	12	12	7
5:15 PM	33	12	0	50	19	19	4
5:30 PM	30	8	1	54	12	12	7
5:45 PM	31	16	1	33	6	6	7

**Study Name Route 54 (Vulcan Hill Rd) & I-81 NB on/off-ramps**

**Start Date 05/14/2019**

**Start Time 7:00 AM**

**Site Code**

**Project FKV.00001**

**Counted By: Mio**

**Set Up By: JH**

**Weather:Clear**

**Type Road**

**Classification Other Vehicles**

ATR No.,	Route 54		I-81				
	Eastbound		Westbound		Northbound	Southbound	
	Through	Right	Left	Through	Right	Right	
	3				2	6	1
7:00 AM	3	1	0	3	1	1	7
7:15 AM	7	2	0	2	4	3	3
7:30 AM	4	1	0	8	1	1	1
7:45 AM	5	4	0	4	0	6	6
8:00 AM	0	5	0	3	4	3	3
8:15 AM	6	3	0	4	1	0	0
8:30 AM	2	7	0	4	2	2	2
8:45 AM	1	6	0	1	1	2	2
4:00 PM	1	2	0	5	1	1	1
4:15 PM	2	2	0	4	0	0	0
4:30 PM	1	3	0	4	1	0	0
4:45 PM	1	0	0	2	1	0	0
5:00 PM	0	1	0	1	0	0	0
5:15 PM	0	0	0	0	0	0	0
5:30 PM	0	0	1	1	2	0	0
5:45 PM	0	0	0	1	1	0	0

**Study Name Route 54 (Vulcan Hill Rd) & I-81 NB on/off-ramps**

**Start Date 05/14/2019**

**Start Time 7:00 AM**

**Site Code**

**Project FKV.00001**

**Counted By: Mio**

**Set Up By: JH**

**Weather:Clear**

**Type Road**

**Classification Bicycles on Road**

ATR No.,	Route 54		I-81				
	Eastbound	Westbound	Northbound	Southbound			
	Through	Right	R + WB L	Left	Through	Right	Right
7:00 AM							
7:15 AM							
7:30 AM							
7:45 AM							
8:00 AM							
8:15 AM							
8:30 AM							
8:45 AM							
4:00 PM							
4:15 PM							
4:30 PM							
4:45 PM							
5:00 PM							
5:15 PM							
5:30 PM							
5:45 PM							

**Study Name Route 54 (Vulcan Hill Rd) & I-81 SB on/off-ramps - Morea Road**

**Start Date 05/14/2019**

**Start Time 7:00 AM**

**Site Code**

**Project FKV.00001**

**Counted By: Mio**

**Set Up By: JH**

**Weather:Clear**

**Type Crosswalk**

**Classification Pedestrians**

Start Time	Morea Road Eastbound			I-81 SB on/off-ramps Westbound			Route 54 (Vulcan Hill Rd) Northbound			Route 54 (Vulcan Hill Rd) Southbound		
	Peds CW	Peds CCW	Peds Combin	Peds CW	Peds CCW	Peds Combin	Peds CW	Peds CCW	Peds Combin	Peds CW	Peds CCW	Peds Combin
7:00 AM	0	0		0	0		0	0		0	0	
7:15 AM	0	0		0	0		0	0		0	0	
7:30 AM	0	0		0	0		0	0		0	0	
7:45 AM	0	0		0	0		0	0		0	0	
8:00 AM	0	0		0	0		0	0		0	0	
8:15 AM	0	0		0	0		0	0		0	0	
8:30 AM	0	0		0	0		0	0		0	0	
8:45 AM	0	0		0	0		0	0		0	0	
4:00 PM	0	0		0	0		0	0		0	0	
4:15 PM	0	0		0	0		0	0		0	0	
4:30 PM	0	0		0	0		0	0		0	0	
4:45 PM	0	0		0	0		0	0		0	0	
5:00 PM	0	0		0	0		0	0		0	0	
5:15 PM	0	0		0	0		0	0		0	0	
5:30 PM	0	0		0	0		0	0		0	0	
5:45 PM	0	0		0	0		0	0		0	0	

**Study Name Route 54 (Vulcan Hill Rd) & I-81 NB on/off-ramps**

**Start Date 05/14/2019**

**Start Time 7:00 AM**

**Site Code**

**Project FKV.00001**

**Counted By: Mio**

**Set Up By: JH**

**Weather:Clear**

**Type Road  
Classification Totals**

ATR No.,	Route 54		I-81			
	Eastbound		Westbound		Northbound	Southbound
	Through	Right	Left	Through	Right	Right
7:00 AM	26	18	1	52	7	8
7:15 AM	27	29	0	63	15	6
7:30 AM	35	27	0	61	14	2
7:45 AM	41	17	0	60	15	9
8:00 AM	29	23	0	38	13	7
8:15 AM	25	26	0	48	8	6
8:30 AM	36	19	0	32	7	4
8:45 AM	26	31	0	27	7	3
4:00 PM	52	21	0	46	13	8
4:15 PM	34	21	0	48	17	7
4:30 PM	43	14	3	54	16	4
4:45 PM	37	21	0	65	19	8
5:00 PM	45	12	0	47	12	7
5:15 PM	33	8	0	50	19	4
5:30 PM	30	16	2	55	14	7
5:45 PM	31	0	1	34	7	7

**Study Name Route 54 (Vulcan Hill Rd) & I-81 SB on/off-ramps - Morea Road**

**Start Date 05/14/2019**

**Start Time 7:00 AM**

**Site Code**

**Project FKV.00001**

**Counted By: Mio**

**Set Up By: JH**

**Weather:Clear**

**Type Road**

**Classification Lights**

Start Time	Morea Road Eastbound			I-81 SB on/off-ramps Westbound			Route 54 (Vulcan Hill Rd) Northbound			Route 54 (Vulcan Hill Rd) Southbound			
	Hard Left	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:00 AM		0	0	16	0	0	10	13	23	8	0	21	6
7:15 AM		2	0	12	0	0	4	21	33	10	0	31	8
7:30 AM		2	0	20	0	0	12	24	17	10	0	33	12
7:45 AM		0	0	20	0	0	13	21	29	10	0	40	4
8:00 AM		3	0	12	0	0	11	15	16	6	0	27	4
8:15 AM		5	0	17	0	0	7	11	29	9	0	24	6
8:30 AM		2	0	16	0	0	8	12	10	5	0	35	8
8:45 AM		0	0	11	0	0	1	9	15	4	0	28	8
4:00 PM		7	0	35	0	0	9	15	23	10	0	44	11
4:15 PM		11	0	19	0	0	19	11	36	7	0	29	7
4:30 PM		5	0	24	0	0	9	15	27	11	0	41	15
4:45 PM		8	0	18	0	0	12	22	48	8	0	31	4
5:00 PM		4	0	30	0	0	22	13	19	12	0	30	9
5:15 PM		7	0	20	0	0	19	14	30	8	0	29	10
5:30 PM		7	0	16	0	0	18	14	32	11	0	20	12
5:45 PM		9	0	23	0	0	12	11	25	3	0	27	6

**Study Name Route 54 (Vulcan Hill Rd) & I-81 SB on/off-ramps - Morea Road**

**Start Date 05/14/2019**

**Start Time 7:00 AM**

**Site Code**

**Project FKV.00001**

**Counted By: Mio**

**Set Up By: JH**

**Weather:Clear**

**Type Road**

**Classification Other Vehicles**

Start Time	Morea Road Eastbound			I-81 SB on/off-ramps Westbound			Route 54 (Vulcan Hill Rd) Northbound			Route 54 (Vulcan Hill Rd) Southbound			
	Hard Left	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:00 AM		0	0	1	0	0	0	7	0	1	0	2	0
7:15 AM		0	0	1	0	0	0	4	1	1	0	8	0
7:30 AM		0	0	5	0	0	1	3	3	3	0	2	1
7:45 AM		0	0	6	0	0	3	7	2	0	0	0	0
8:00 AM		0	0	4	0	0	2	1	5	0	0	0	1
8:15 AM		0	0	8	0	0	1	0	1	3	0	3	0
8:30 AM		0	0	6	0	0	0	3	1	2	0	3	1
8:45 AM		0	0	2	0	0	0	3	2	0	0	2	1
4:00 PM		0	0	2	0	0	0	2	2	2	0	1	0
4:15 PM		0	0	3	0	0	1	0	1	2	0	1	0
4:30 PM		0	0	2	0	0	0	1	1	1	0	1	1
4:45 PM		0	0	0	0	0	0	1	1	0	0	1	0
5:00 PM		0	0	0	0	0	0	0	0	1	0	2	1
5:15 PM		0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM		0	0	1	0	0	0	0	0	0	0	1	0
5:45 PM		0	0	0	0	0	0	0	1	0	0	0	0



**Study Name Route 54 (Vulcan Hill Rd) & I-81 SB on/off-ramps - Morea Road**

**Start Date 05/14/2019**

**Start Time 7:00 AM**

**Site Code**

**Project FKV.00001**

**Counted By: Mio**

**Set Up By: JH**

**Weather:Clear**

**Type Crosswalk**

**Classification Pedestrians**

Start Time	Morea Road Eastbound			I-81 SB on/off-ramps Westbound			Route 54 (Vulcan Hill Rd) Northbound			Route 54 (Vulcan Hill Rd) Southbound		
	Peds CW	Peds CCW	Peds Combin	Peds CW	Peds CCW	Peds Combin	Peds CW	Peds CCW	Peds Combin	Peds CW	Peds CCW	Peds Combin
7:00 AM	0	0		0	0		0	0		0	0	
7:15 AM	0	0		0	0		0	0		0	0	
7:30 AM	0	0		0	0		0	0		0	0	
7:45 AM	0	0		0	0		0	0		0	0	
8:00 AM	0	0		0	0		0	0		0	0	
8:15 AM	0	0		0	0		0	0		0	0	
8:30 AM	0	0		0	0		0	0		0	0	
8:45 AM	0	0		0	0		0	0		0	0	
4:00 PM	0	0		0	0		0	0		0	0	
4:15 PM	0	0		0	0		0	0		0	0	
4:30 PM	0	0		0	0		0	0		0	0	
4:45 PM	0	0		0	0		0	0		0	0	
5:00 PM	0	0		0	0		0	0		0	0	
5:15 PM	0	0		0	0		0	0		0	0	
5:30 PM	0	0		0	0		0	0		0	0	
5:45 PM	0	0		0	0		0	0		0	0	

**Study Name Route 54 (Vulcan Hill Rd) & I-81 SB on/off-ramps - Morea Road**

**Start Date 05/14/2019**

**Start Time 7:00 AM**

**Site Code**

**Project FKV.00001**

**Counted By: Mio**

**Set Up By: JH**

**Weather:Clear**

**Type Road**

**Classification Totals**

Start Time	Morea Road Eastbound			I-81 SB on/off-ramps Westbound			Route 54 (Vulcan Hill Rd) Northbound			Route 54 (Vulcan Hill Rd) Southbound			
	Hard Left	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:00 AM		0	0	17	0	0	10	20	23	9	0	23	6
7:15 AM		2	0	13	0	0	4	25	34	11	0	39	8
7:30 AM		2	0	25	0	0	13	27	20	13	0	35	13
7:45 AM		0	0	26	0	0	16	28	31	10	0	40	4
8:00 AM		3	0	16	0	0	13	16	21	6	0	27	5
8:15 AM		5	0	25	0	0	8	11	30	12	0	27	6
8:30 AM		2	0	22	0	0	8	15	11	7	0	38	9
8:45 AM		0	0	13	0	0	1	12	17	4	0	30	9
4:00 PM		7	0	37	0	0	9	17	25	12	0	45	11
4:15 PM		11	0	22	0	0	20	11	37	9	0	30	7
4:30 PM		5	0	26	0	0	9	16	28	12	0	42	16
4:45 PM		8	0	18	0	0	12	23	49	8	0	32	4
5:00 PM		4	0	30	0	0	22	13	19	13	0	32	10
5:15 PM		7	0	20	0	0	19	14	30	8	0	29	10
5:30 PM		7	0	17	0	0	18	14	32	11	0	21	12
5:45 PM		9	0	23	0	0	12	11	26	3	0	27	6



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

Count Name: ATR 5  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 1

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

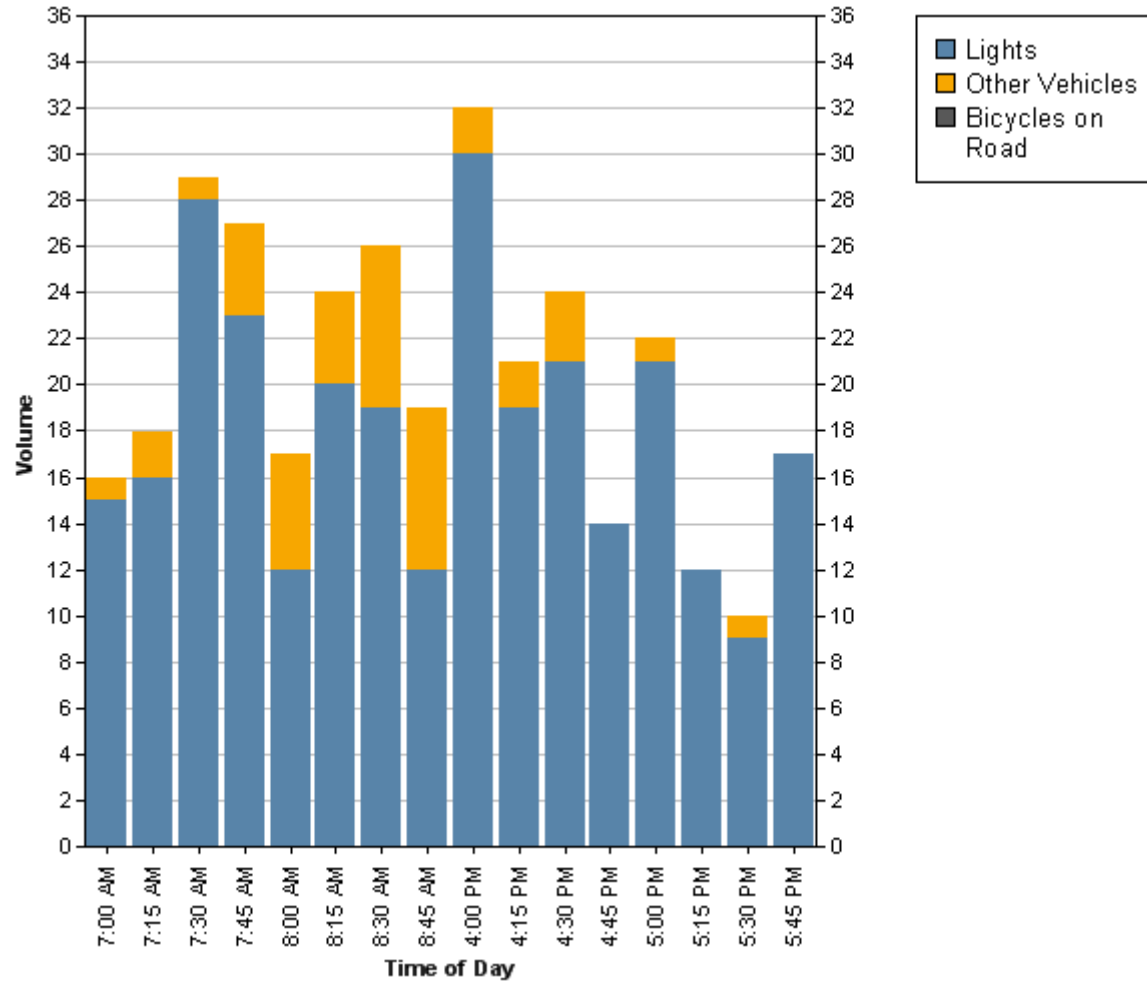
**Direction (Westbound)**

Start Time	Lights	Other Vehicles	Bicycles on Road	Total
7:00 AM	15	1	0	16
7:15 AM	16	2	0	18
7:30 AM	28	1	0	29
7:45 AM	23	4	0	27
8:00 AM	12	5	0	17
8:15 AM	20	4	0	24
8:30 AM	19	7	0	26
8:45 AM	12	7	0	19
4:00 PM	30	2	0	32
4:15 PM	19	2	0	21
4:30 PM	21	3	0	24
4:45 PM	14	0	0	14
5:00 PM	21	1	0	22
5:15 PM	12	0	0	12
5:30 PM	9	1	0	10
5:45 PM	17	0	0	17
<b>Total</b>	<b>288</b>	<b>40</b>	<b>0</b>	<b>328</b>
<b>Total %</b>	<b>87.8</b>	<b>12.2</b>	<b>0.0</b>	<b>100.0</b>
<b>AM Times</b>	<b>7:30 AM</b>	<b>8:00 AM</b>	<b>7:00 AM</b>	<b>7:30 AM</b>
<b>AM Peaks</b>	<b>83</b>	<b>23</b>	<b>0</b>	<b>97</b>
<b>PM Times</b>	<b>4:00 PM</b>	<b>4:00 PM</b>	<b>4:00 PM</b>	<b>4:00 PM</b>
<b>PM Peaks</b>	<b>84</b>	<b>7</b>	<b>0</b>	<b>91</b>

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

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Count Name: ATR 5  
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Page No: 2



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

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Count Name: ATR 5  
Site Code:  
Start Date: 05/14/2019  
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Count Name: ATR 4  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 1

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

**Direction (Westbound)**

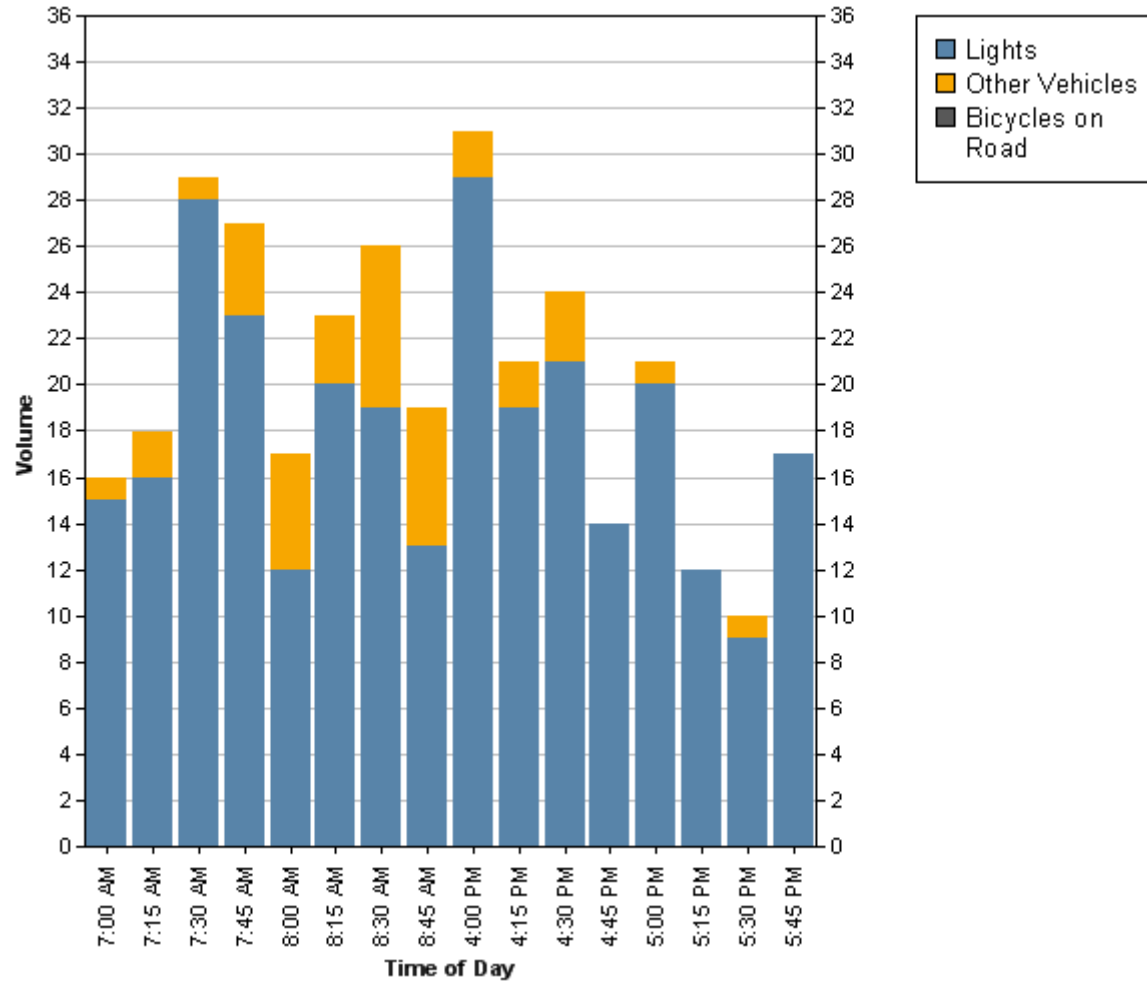
Start Time	Lights	Other Vehicles	Bicycles on Road	Total
7:00 AM	15	1	0	16
7:15 AM	16	2	0	18
7:30 AM	28	1	0	29
7:45 AM	23	4	0	27
8:00 AM	12	5	0	17
8:15 AM	20	3	0	23
8:30 AM	19	7	0	26
8:45 AM	13	6	0	19
4:00 PM	29	2	0	31
4:15 PM	19	2	0	21
4:30 PM	21	3	0	24
4:45 PM	14	0	0	14
5:00 PM	20	1	0	21
5:15 PM	12	0	0	12
5:30 PM	9	1	0	10
5:45 PM	17	0	0	17
<b>Total</b>	<b>287</b>	<b>38</b>	<b>0</b>	<b>325</b>
<b>Total %</b>	<b>88.3</b>	<b>11.7</b>	<b>0.0</b>	<b>100.0</b>
<b>AM Times</b>	<b>7:30 AM</b>	<b>8:00 AM</b>	<b>7:00 AM</b>	<b>7:30 AM</b>
<b>AM Peaks</b>	<b>83</b>	<b>21</b>	<b>0</b>	<b>96</b>
<b>PM Times</b>	<b>4:00 PM</b>	<b>4:00 PM</b>	<b>4:00 PM</b>	<b>4:00 PM</b>
<b>PM Peaks</b>	<b>83</b>	<b>7</b>	<b>0</b>	<b>90</b>



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Counted By: Mio:  
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Count Name: ATR 4  
Site Code:  
Start Date: 05/14/2019  
Page No: 2



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

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Count Name: ATR 4  
Site Code:  
Start Date: 05/14/2019  
Page No: 3



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Count Name: ATR 2  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 1

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

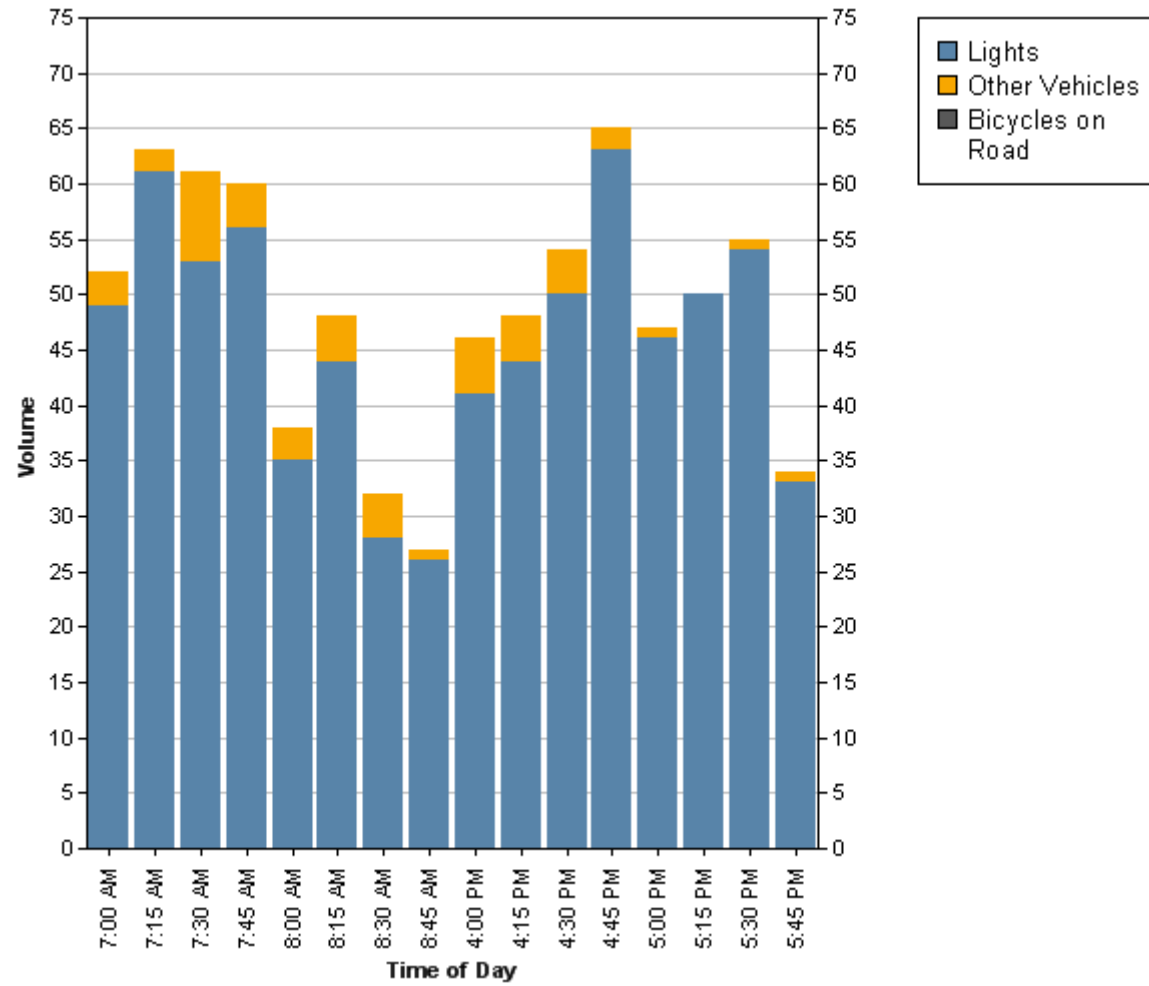
**Direction (Northbound)**

Start Time	Lights	Other Vehicles	Bicycles on Road	Total
7:00 AM	49	3	0	52
7:15 AM	61	2	0	63
7:30 AM	53	8	0	61
7:45 AM	56	4	0	60
8:00 AM	35	3	0	38
8:15 AM	44	4	0	48
8:30 AM	28	4	0	32
8:45 AM	26	1	0	27
4:00 PM	41	5	0	46
4:15 PM	44	4	0	48
4:30 PM	50	4	0	54
4:45 PM	63	2	0	65
5:00 PM	46	1	0	47
5:15 PM	50	0	0	50
5:30 PM	54	1	0	55
5:45 PM	33	1	0	34
Total	733	47	0	780
Total %	94.0	6.0	0.0	100.0
AM Times	7:00 AM	7:30 AM	7:00 AM	7:00 AM
AM Peaks	219	19	0	236
PM Times	4:45 PM	4:00 PM	4:00 PM	4:45 PM
PM Peaks	213	15	0	217

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

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Count Name: ATR 2  
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Start Date: 05/14/2019  
Page No: 2



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

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Count Name: ATR 2  
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Count Name: ATR 3  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 1

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

**Direction (Southbound)**

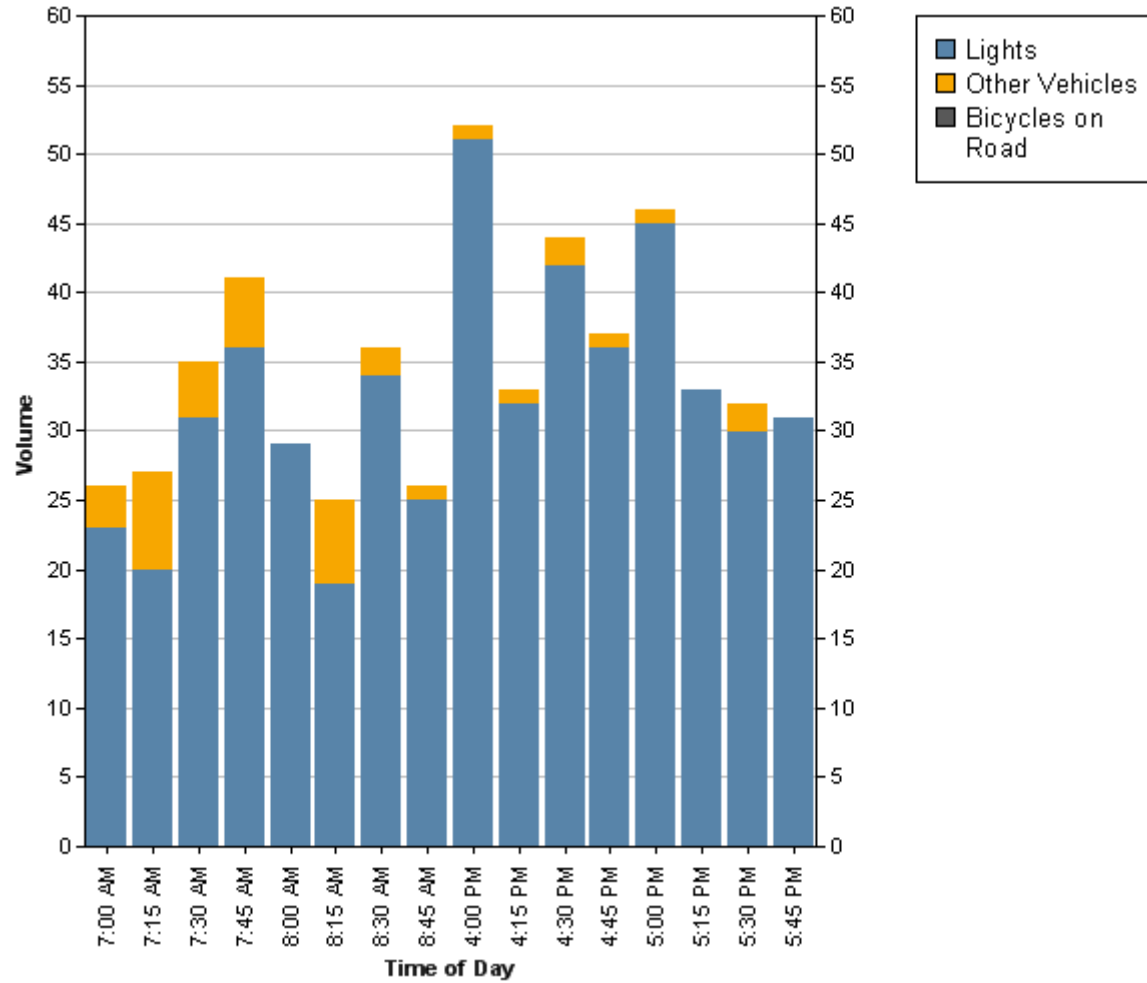
Start Time	Lights	Other Vehicles	Bicycles on Road	Total
7:00 AM	23	3	0	26
7:15 AM	20	7	0	27
7:30 AM	31	4	0	35
7:45 AM	36	5	0	41
8:00 AM	29	0	0	29
8:15 AM	19	6	0	25
8:30 AM	34	2	0	36
8:45 AM	25	1	0	26
4:00 PM	51	1	0	52
4:15 PM	32	1	0	33
4:30 PM	42	2	0	44
4:45 PM	36	1	0	37
5:00 PM	45	1	0	46
5:15 PM	33	0	0	33
5:30 PM	30	2	0	32
5:45 PM	31	0	0	31
<b>Total</b>	<b>517</b>	<b>36</b>	<b>0</b>	<b>553</b>
<b>Total %</b>	<b>93.5</b>	<b>6.5</b>	<b>0.0</b>	<b>100.0</b>
<b>AM Times</b>	<b>7:45 AM</b>	<b>7:00 AM</b>	<b>7:00 AM</b>	<b>7:15 AM</b>
<b>AM Peaks</b>	<b>118</b>	<b>19</b>	<b>0</b>	<b>132</b>
<b>PM Times</b>	<b>4:00 PM</b>	<b>4:00 PM</b>	<b>4:00 PM</b>	<b>4:00 PM</b>
<b>PM Peaks</b>	<b>161</b>	<b>5</b>	<b>0</b>	<b>166</b>



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

Count Name: ATR 3  
Site Code:  
Start Date: 05/14/2019  
Page No: 2





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 610.326.3100 jhudak@trafficpd.com

Count Name: I-81 SB on/off-ramps & Morea Road  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 1

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

### Turning Movement Data

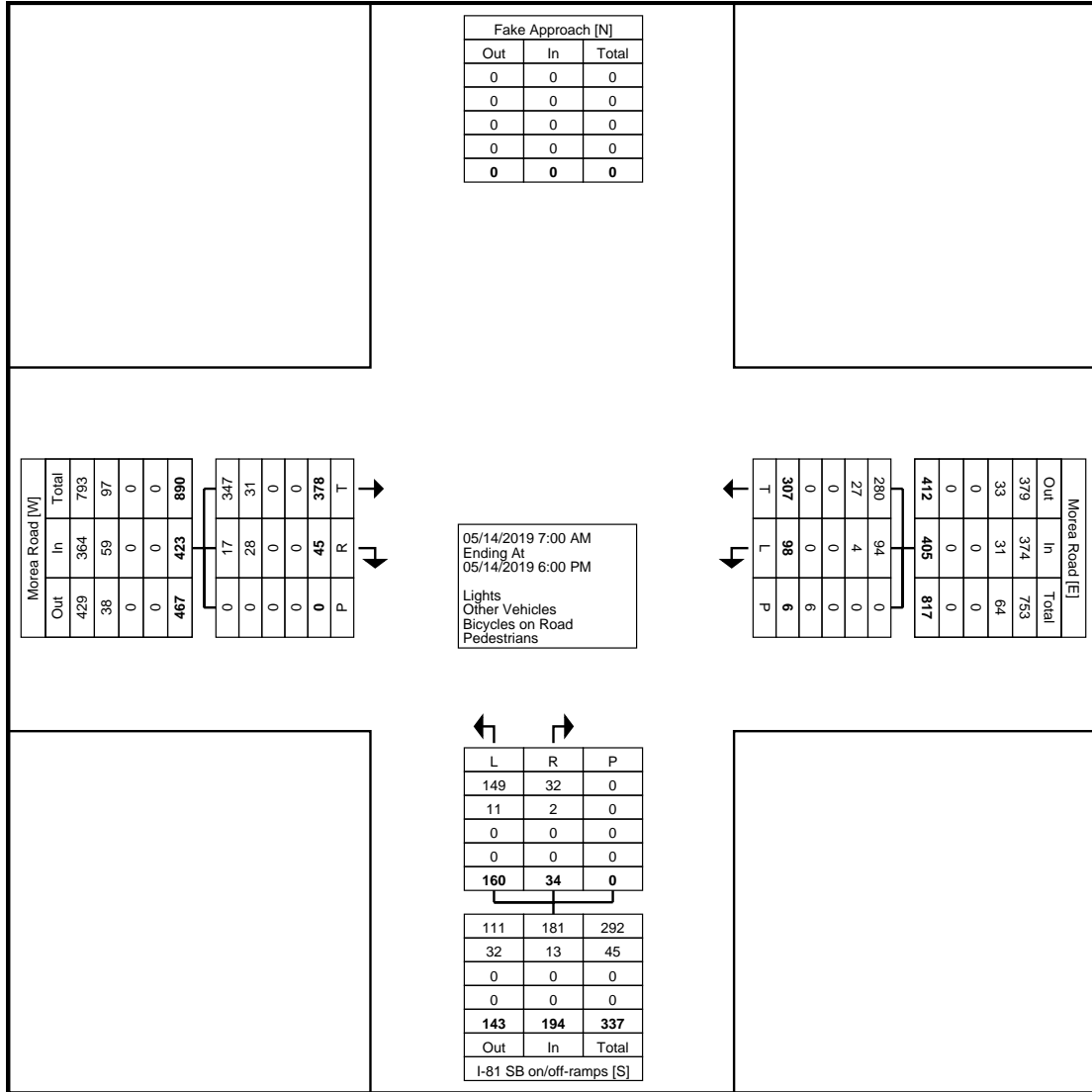
Start Time	Morea Road Eastbound				Morea Road Westbound				I-81 SB on/off-ramps Northbound				Int. Total
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	
7:00 AM	12	2	0	14	6	21	0	27	13	0	0	13	54
7:15 AM	17	2	0	19	10	23	0	33	19	2	0	21	73
7:30 AM	24	4	0	28	7	28	0	35	15	2	0	17	80
7:45 AM	26	5	0	31	7	27	1	34	11	3	0	14	79
Hourly Total	79	13	0	92	30	99	1	129	58	7	0	65	286
8:00 AM	14	5	0	19	5	13	2	18	10	2	0	12	49
8:15 AM	22	6	0	28	6	13	1	19	6	3	0	9	56
8:30 AM	20	9	0	29	4	16	2	20	7	4	0	11	60
8:45 AM	16	5	0	21	9	15	0	24	8	0	0	8	53
Hourly Total	72	25	0	97	24	57	5	81	31	9	0	40	218
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	42	2	0	44	5	19	0	24	7	4	0	11	79
4:15 PM	26	3	0	29	6	16	0	22	11	1	0	12	63
4:30 PM	28	0	0	28	4	20	0	24	13	1	0	14	66
4:45 PM	27	0	0	27	10	26	0	36	9	4	0	13	76
Hourly Total	123	5	0	128	25	81	0	106	40	10	0	50	284
5:00 PM	29	0	0	29	5	20	0	25	15	5	0	20	74
5:15 PM	29	1	0	30	7	19	0	26	3	0	0	3	59
5:30 PM	17	1	0	18	6	15	0	21	4	2	0	6	45
5:45 PM	29	0	0	29	1	16	0	17	9	1	0	10	56
Hourly Total	104	2	0	106	19	70	0	89	31	8	0	39	234
Grand Total	378	45	0	423	98	307	6	405	160	34	0	194	1022
Approach %	89.4	10.6	-	-	24.2	75.8	-	-	82.5	17.5	-	-	-
Total %	37.0	4.4	-	41.4	9.6	30.0	-	39.6	15.7	3.3	-	19.0	-
Lights	347	17	-	364	94	280	-	374	149	32	-	181	919
% Lights	91.8	37.8	-	86.1	95.9	91.2	-	92.3	93.1	94.1	-	93.3	89.9
Other Vehicles	31	28	-	59	4	27	-	31	11	2	-	13	103
% Other Vehicles	8.2	62.2	-	13.9	4.1	8.8	-	7.7	6.9	5.9	-	6.7	10.1
Bicycles on Road	0	0	-	0	0	0	-	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	0	-	-	-	6	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	100.0	-	-	-	-	-	-



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

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

Count Name: I-81 SB on/off-ramps & Morea Road  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 2



Turning Movement Data Plot



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

Count Name: I-81 SB on/off-ramps & Morea Road  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 3

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

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

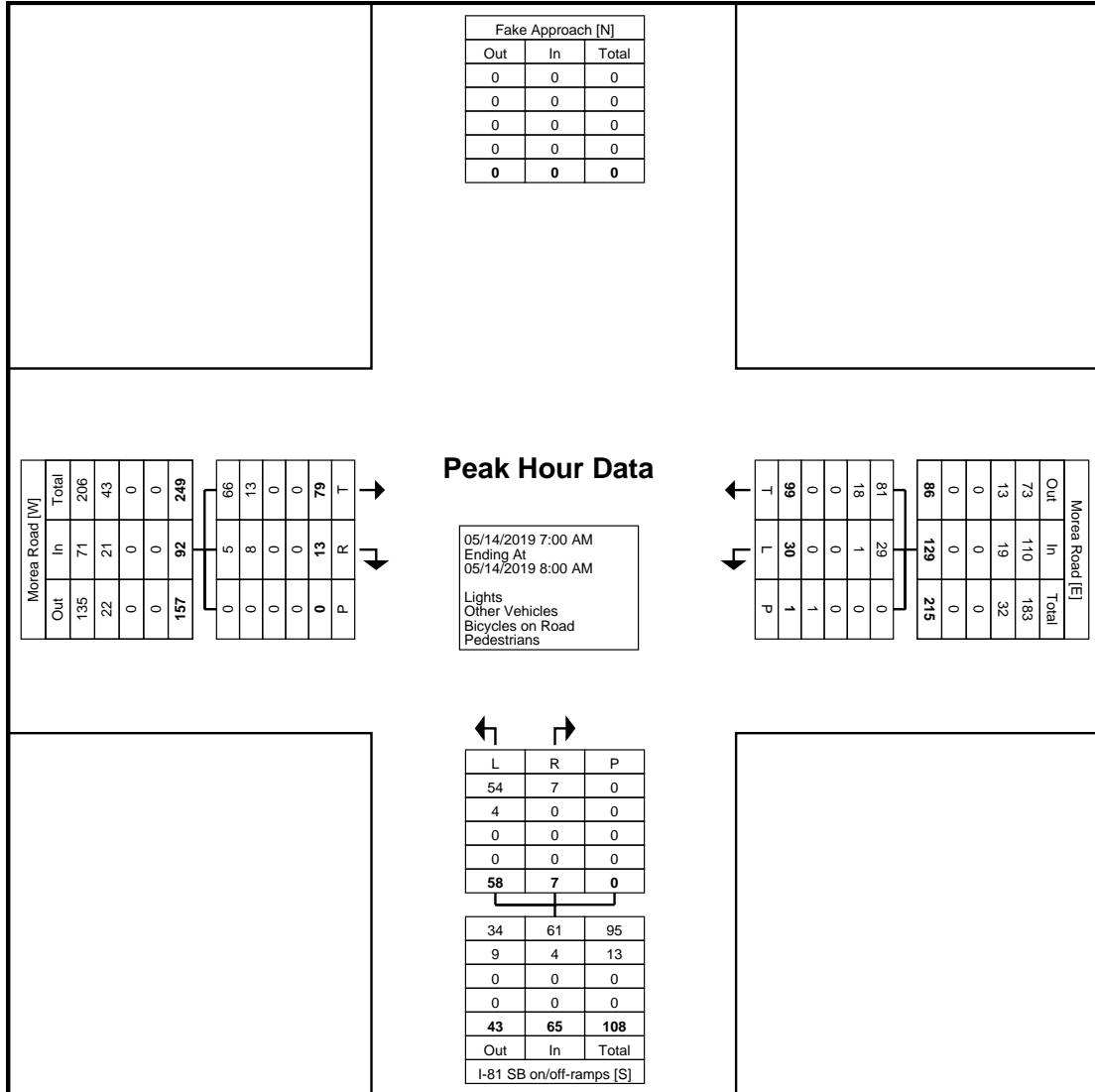
Start Time	Morea Road Eastbound				Morea Road Westbound				I-81 SB on/off-ramps Northbound				Int. Total
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	
7:00 AM	12	2	0	14	6	21	0	27	13	0	0	13	54
7:15 AM	17	2	0	19	10	23	0	33	19	2	0	21	73
7:30 AM	24	4	0	28	7	28	0	35	15	2	0	17	80
7:45 AM	26	5	0	31	7	27	1	34	11	3	0	14	79
Total	79	13	0	92	30	99	1	129	58	7	0	65	286
Approach %	85.9	14.1	-	-	23.3	76.7	-	-	89.2	10.8	-	-	-
Total %	27.6	4.5	-	32.2	10.5	34.6	-	45.1	20.3	2.4	-	22.7	-
PHF	0.760	0.650	-	0.742	0.750	0.884	-	0.921	0.763	0.583	-	0.774	0.894
Lights	66	5	-	71	29	81	-	110	54	7	-	61	242
% Lights	83.5	38.5	-	77.2	96.7	81.8	-	85.3	93.1	100.0	-	93.8	84.6
Other Vehicles	13	8	-	21	1	18	-	19	4	0	-	4	44
% Other Vehicles	16.5	61.5	-	22.8	3.3	18.2	-	14.7	6.9	0.0	-	6.2	15.4
Bicycles on Road	0	0	-	0	0	0	-	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	0	-	-	-	1	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	100.0	-	-	-	-	-	-



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 Suite 650  
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Counted By: Mio:  
 Set Up By: JH:  
 Weather: Clear:

Count Name: I-81 SB on/off-ramps & Morea Road  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 4



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





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Count Name: ATR 6  
 Site Code:  
 Start Date: 05/14/2019  
 Page No: 1

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

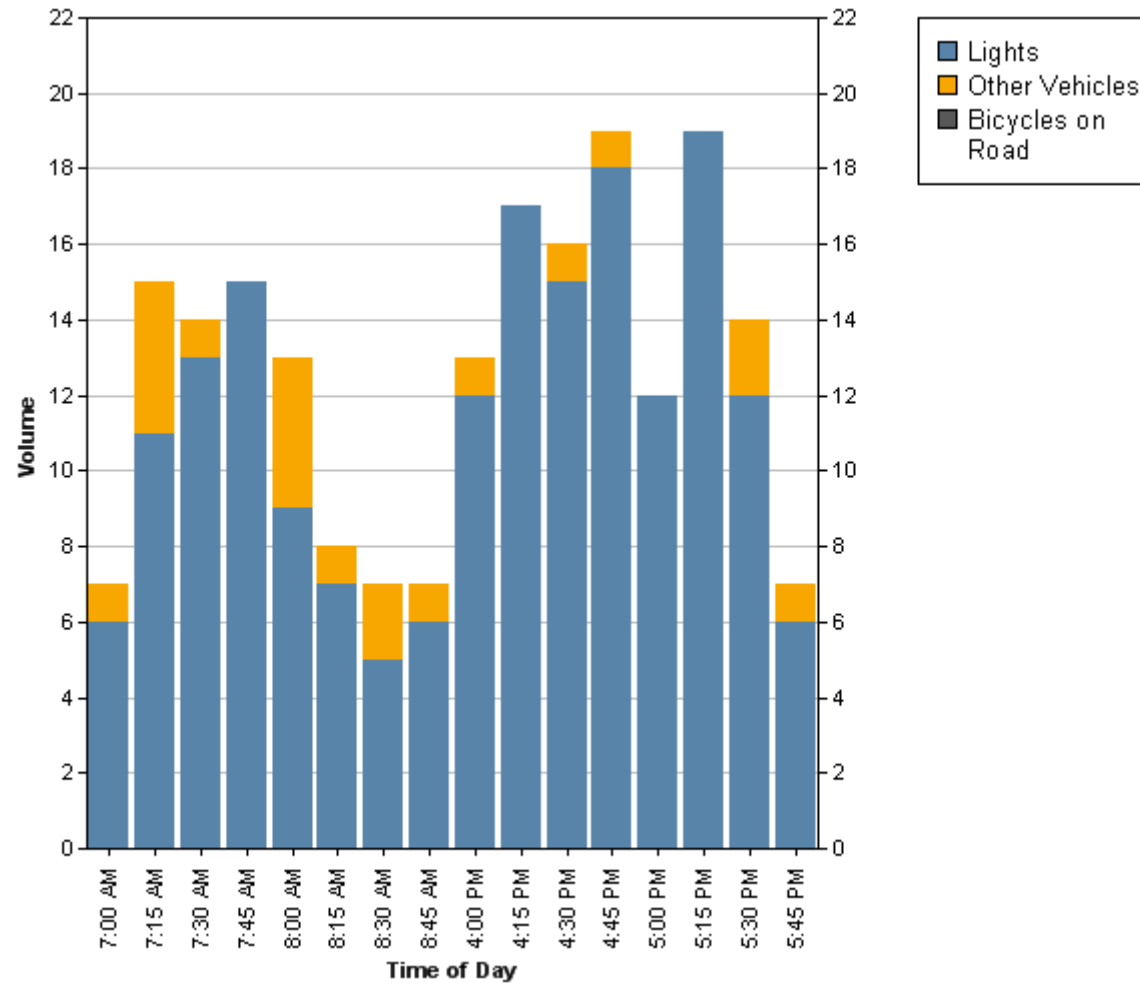
**Direction (Eastbound)**

Start Time	Lights	Other Vehicles	Bicycles on Road	Total
7:00 AM	6	1	0	7
7:15 AM	11	4	0	15
7:30 AM	13	1	0	14
7:45 AM	15	0	0	15
8:00 AM	9	4	0	13
8:15 AM	7	1	0	8
8:30 AM	5	2	0	7
8:45 AM	6	1	0	7
4:00 PM	12	1	0	13
4:15 PM	17	0	0	17
4:30 PM	15	1	0	16
4:45 PM	18	1	0	19
5:00 PM	12	0	0	12
5:15 PM	19	0	0	19
5:30 PM	12	2	0	14
5:45 PM	6	1	0	7
<b>Total</b>	<b>183</b>	<b>20</b>	<b>0</b>	<b>203</b>
<b>Total %</b>	<b>90.1</b>	<b>9.9</b>	<b>0.0</b>	<b>100.0</b>
<b>AM Times</b>	<b>7:15 AM</b>	<b>7:15 AM</b>	<b>7:00 AM</b>	<b>7:15 AM</b>
<b>AM Peaks</b>	<b>48</b>	<b>9</b>	<b>0</b>	<b>57</b>
<b>PM Times</b>	<b>4:30 PM</b>	<b>4:00 PM</b>	<b>4:00 PM</b>	<b>4:30 PM</b>
<b>PM Peaks</b>	<b>64</b>	<b>3</b>	<b>0</b>	<b>66</b>

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

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Count Name: ATR 6  
Site Code:  
Start Date: 05/14/2019  
Page No: 2



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

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Count Name: ATR 6  
Site Code:  
Start Date: 05/14/2019  
Page No: 3

**APPENDIX C:**  
***Trip Generation Documentation***

Trip Generation Calculations

Existing Conditions										
Time Period		Entering			Exiting			Combined		
		Cars	Trucks	Total	Cars	Trucks	Total	Cars	Trucks	Total
AM Peak	7:15 AM	2	8	10	1	22	23	3	30	33
PM Peak	4:00 PM	2	0	2	10	0	10	12	0	12

New Trips										
Time Period		Entering			Exiting			Combined		
		Cars	Trucks	Total	Cars	Trucks	Total	Cars	Trucks	Total
AM Peak	7:15 AM	1	10	11	1	26	27	2	36	38
PM Peak	4:00 PM	1	1	2	1	6	7	2	7	9

Projected Conditions										
Time Period		Entering			Exiting			Combined		
		Cars	Trucks	Total	Cars	Trucks	Total	Cars	Trucks	Total
AM Peak	7:15 AM	3	18	21	2	48	50	5	66	71
PM Peak	4:00 PM	3	1	4	11	6	17	14	7	21

Existing Conditions  
19 days

Time Period	Total Trucks/Hr	Average Trucks/Hr	Variation factor
7:00 AM	131	6.89	10.1%
8:00 AM	243	12.79	18.7%
9:00 AM	196	10.32	15.1%
10:00 AM	133	7.00	10.2%
11:00 AM	99	5.21	7.6%
12:00 PM	105	5.53	8.1%
1:00 PM	103	5.42	7.9%
2:00 PM	115	6.05	8.8%
3:00 PM	129	6.79	9.9%
4:00 PM	48	2.53	3.7%

Proposed Conditions (3000 tons/day)

Truck Trips	New Trucks
9.82	20
18.22	36
14.70	29
9.97	20
7.42	15
7.88	16
7.72	15
8.62	17
9.67	19
3.60	7

54.22

10.60

Total Trucks: 1302 68.53  
 Total Material (Tons): 23506.62  
 Tons/Truck: 18.05  
 Avg Tons/Day: 1237.257

Prop Increase: 3000  
 Growth: 142%

**Blythe Township Landfill**  
**Trucks Per Hour Report**

Transactions from 06/01/2020 through 06/22/2020

ser ID: LLOGAN

Site ID: All

Inbound and Outbound Tickets  
Third Party and Intercompany Customers  
Recycle and Disposal Material

---

Hour	Total Trucks Per Hour	Average Trucks Per Hour
07:00 - 08:00	131.00	6.89
08:00 - 09:00	243.00	12.79
09:00 - 10:00	196.00	10.32
10:00 - 11:00	133.00	7.00
11:00 - 12:00	99.00	5.21
12:00 - 13:00	105.00	5.53
13:00 - 14:00	103.00	5.42
14:00 - 15:00	115.00	6.05
15:00 - 16:00	129.00	6.79
16:00 - 17:00	48.00	2.53
<b><u>Report Grand Totals</u></b>	<b><u>1,302.00</u></b>	

*1,302 tickets and 1,302 transactions***End of Report**

**Material Report**

Material: All

Transactions from 06/01/2020 through 06/22/2020

User ID: LLOGAN

Site ID: All

Inbound and Outbound Tickets

Third Party and Intercompany Customers

Recycle and Disposal Material

Material Summary

	Bill Units	Cubic Yards	Tons	Est Tons
<b>C&amp;D - C&amp;D</b>	23,196.38 TN	0.00	23,196.38	0.00
<i>1,256 tickets and 1,256 transactions</i>				
<b>FINES - Fines</b>	266.13 TN	0.00	266.13	0.00
<i>13 tickets and 13 transactions</i>				
<b>GRPUBIC - GATE RATE - GENERAL PUBLIC</b>	44.11 TN	0.00	44.11	0.00
<i>33 tickets and 33 transactions</i>				
<b>TIP - TIPPER FEE</b>	81.00 EA	0.00	0.00	0.00
<i>81 tickets and 81 transactions</i>				
<b><u>Report Grand Totals</u></b>		<u>0.00</u>	<u>23,506.62</u>	<u>0.00</u>

*1,302 tickets and 1,383 transactions***End of Report**

***APPENDIX D:***  
***Traffic Volume Development Worksheets***

TPD# FKV.00001  
8/6/2020  
Traffic Volumes Worksheet

Intersection:

**SR 61 & Hancock Street**

Synchro Node:

1 Adjacent intersections: West 2 East 0 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	
Existing Counts	40	72	46	75	53	13	14	386	39	91	707	23	1559
Balancing													0
Existing Volumes (Balanced)	40	72	46	75	53	13	14	386	39	91	707	23	1559
Base growth (0.31% compounded for 10 yrs)	1	2	1	2	2	0	0	12	1	3	22	1	47
2030 Base Volumes	41	74	47	77	55	13	14	398	40	94	729	24	1606

Landfill	
ENTER =	EXIT =
Car	Truck
1	10
1	26

Landfill Car Trips						1							1		
Landfill Truck Trips															
Total SITE Trip Distribution						1							1		
2030 Projected Volumes	41	74	47	77	55	14	14	398	40	95	729	24	1606		

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
Existing Counts	53	92	56	45	71	18	66	882	89	135	593	57	2157
Balancing													0
Existing Volumes (Balanced)	53	92	56	45	71	18	66	882	89	135	593	57	2157
Base growth (0.31% compounded for 10 yrs)	2	3	2	1	2	1	2	28	3	4	19	2	69
2030 Base Volumes	55	95	58	46	73	19	68	910	92	139	612	59	2226

Landfill	
ENTER =	EXIT =
Car	Truck
1	1
1	6

Landfill Car Trips						1							1		
Landfill Truck Trips															
Total SITE Trip Distribution						1							1		
2030 Projected Volumes	55	95	58	46	73	20	68	910	92	140	612	59	2226		

TPD# FKV.00001  
 8/6/2020  
 Traffic Volumes Worksheet

Intersection:

**Hancock Street & 2nd Street**

Synchro Node:

**2** Adjacent intersections: West **2** East **0** 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	
Existing Counts	4	74	95	19	80	13	38	100	20	1	18	12	474
Balancing													0
Existing Volumes (Balanced)	4	74	95	19	80	13	38	100	20	1	18	12	474
Base growth (0.31% compounded for 10 yrs)	0	2	3	1	3	0	1	3	1	0	1	0	15
<b>2030 Base Volumes</b>	<b>4</b>	<b>76</b>	<b>98</b>	<b>20</b>	<b>83</b>	<b>13</b>	<b>39</b>	<b>103</b>	<b>21</b>	<b>1</b>	<b>19</b>	<b>12</b>	<b>489</b>

**Landfill**

	Car	Truck
ENTER =	1	10
EXIT =	1	26

Landfill Car Trips		1			1								
Landfill Truck Trips													
<b>Total SITE Trip Distribution</b>		1			1								

<b>2030 Projected Volumes</b>	<b>4</b>	<b>77</b>	<b>98</b>	<b>20</b>	<b>84</b>	<b>13</b>	<b>39</b>	<b>103</b>	<b>21</b>	<b>1</b>	<b>19</b>	<b>12</b>	<b>489</b>
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Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
Existing Counts	13	135	126	14	50	18	42	135	49	3	15	6	606
Balancing													0
Existing Volumes (Balanced)	13	135	126	14	50	18	42	135	49	3	15	6	606
Base growth (0.31% compounded for 10 yrs)	0	4	4	0	2	1	1	4	2	0	0	0	18
<b>2030 Base Volumes</b>	<b>13</b>	<b>139</b>	<b>130</b>	<b>14</b>	<b>52</b>	<b>19</b>	<b>43</b>	<b>139</b>	<b>51</b>	<b>3</b>	<b>15</b>	<b>6</b>	<b>624</b>

**Landfill**

	Car	Truck
ENTER =	1	1
EXIT =	1	6

Landfill Car Trips		1			1								
Landfill Truck Trips													
<b>Total SITE Trip Distribution</b>		1			1								

<b>2030 Projected Volumes</b>	<b>13</b>	<b>140</b>	<b>130</b>	<b>14</b>	<b>53</b>	<b>19</b>	<b>43</b>	<b>139</b>	<b>51</b>	<b>3</b>	<b>15</b>	<b>6</b>	<b>624</b>
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TPD# FKV.00001  
8/6/2020  
Traffic Volumes Worksheet

Intersection:

**Burma Road & Site Driveway**

Synchro Node:

**3** Adjacent intersections: West **2** East **0** 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	
Existing Counts	1	36	0	1	73	8	0	0	0	19	0	4	142
Balancing				-1		1							0
Existing Volumes (Balanced)	1	36	0	0	73	9	0	0	0	19	0	4	142
Base growth (0.31% compounded for 10 yrs)	0	1	0	0	2	0	0	0	0	1	0	0	4
<b>2030 Base Volumes</b>	<b>1</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>75</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>4</b>	<b>146</b>

Landfill

	Car	Truck
ENTER =	1	10
EXIT =	1	26

Landfill Car Trips	1											1	
Landfill Truck Trips						10				26			
<b>Total SITE Trip Distribution</b>	<b>1</b>					<b>10</b>				<b>26</b>		<b>1</b>	
<b>2030 Projected Volumes</b>	<b>2</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>75</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>46</b>	<b>0</b>	<b>5</b>	<b>146</b>

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
Existing Counts	0	103	0	0	87	2	0	0	0	2	0	8	202
Balancing													0
Existing Volumes (Balanced)	0	103	0	0	87	2	0	0	0	2	0	8	202
Base growth (0.31% compounded for 10 yrs)	0	3	0	0	3	0	0	0	0	0	0	0	6
<b>2030 Base Volumes</b>	<b>0</b>	<b>106</b>	<b>0</b>	<b>0</b>	<b>90</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>8</b>	<b>208</b>

Landfill

	Car	Truck
ENTER =	1	1
EXIT =	1	6

Landfill Car Trips	1											1	
Landfill Truck Trips						1				6			
<b>Total SITE Trip Distribution</b>	<b>1</b>					<b>1</b>				<b>6</b>		<b>1</b>	
<b>2030 Projected Volumes</b>	<b>1</b>	<b>106</b>	<b>0</b>	<b>0</b>	<b>90</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>9</b>	<b>208</b>

TPD# FKV.00001  
 8/6/2020  
 Traffic Volumes Worksheet

Intersection:

<b>Morea Road &amp; Burma Road</b>												
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Synchro Node:

<b>4</b>	Adjacent intersections:	West	<b>2</b>	East	<b>0</b>	North	<b>0</b>	South	<b>5</b>
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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	
<b>Existing Counts</b>	0	53	45	56	85	0	42	0	34	0	0	0	<b>315</b>
Balancing													0
<b>Existing Volumes (Balanced)</b>	<b>0</b>	<b>53</b>	<b>45</b>	<b>56</b>	<b>85</b>	<b>0</b>	<b>42</b>	<b>0</b>	<b>34</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>315</b>
Base growth (0.31% compounded for 10 yrs)	0	2	1	2	3	0	1	0	1	0	0	0	10
<b>2030 Base Volumes</b>	<b>0</b>	<b>55</b>	<b>46</b>	<b>58</b>	<b>88</b>	<b>0</b>	<b>43</b>	<b>0</b>	<b>35</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>325</b>

	<b>Landfill</b>	
	<b>Car</b>	<b>Truck</b>
ENTER =	1	10
EXIT =	1	26

Landfill Car Trips													
Landfill Truck Trips				10						26			
<b>Total SITE Trip Distribution</b>				<b>10</b>						<b>26</b>			

<b>2030 Projected Volumes</b>	<b>0</b>	<b>55</b>	<b>46</b>	<b>68</b>	<b>88</b>	<b>0</b>	<b>43</b>	<b>0</b>	<b>61</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>325</b>
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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	
<b>Existing Counts</b>	0	81	59	53	70	0	68	0	44	0	0	0	<b>375</b>
Balancing													0
<b>Existing Volumes (Balanced)</b>	<b>0</b>	<b>81</b>	<b>59</b>	<b>53</b>	<b>70</b>	<b>0</b>	<b>68</b>	<b>0</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>375</b>
Base growth (0.31% compounded for 10 yrs)	0	3	2	2	2	0	2	0	1	0	0	0	12
<b>2030 Base Volumes</b>	<b>0</b>	<b>84</b>	<b>61</b>	<b>55</b>	<b>72</b>	<b>0</b>	<b>70</b>	<b>0</b>	<b>45</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>387</b>

	<b>Landfill</b>	
	<b>Car</b>	<b>Truck</b>
ENTER =	1	1
EXIT =	1	6

Landfill Car Trips													
Landfill Truck Trips				1						6			
<b>Total SITE Trip Distribution</b>				<b>1</b>						<b>6</b>			

<b>2030 Projected Volumes</b>	<b>0</b>	<b>84</b>	<b>61</b>	<b>56</b>	<b>72</b>	<b>0</b>	<b>70</b>	<b>0</b>	<b>51</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>387</b>
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TPD# FKV.00001  
 8/6/2020  
 Traffic Volumes Worksheet

Intersection:

<b>Morea Road &amp; I-81 SB on/off ramps</b>												
<b>5</b>	Adjacent intersections:	West	2	East	0	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	
Existing Counts	0	79	13	30	99	0	58	0	7	0	0	0	286
Balancing													0
Existing Volumes (Balanced)	0	79	13	30	99	0	58	0	7	0	0	0	286
Base growth (0.31% compounded for 10 yrs)	0	2	0	1	3	0	2	0	0	0	0	0	8
<b>2030 Base Volumes</b>	<b>0</b>	<b>81</b>	<b>13</b>	<b>31</b>	<b>102</b>	<b>0</b>	<b>60</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>294</b>

Landfill		
	Car	Truck
ENTER =	1	10
EXIT =	1	26

Landfill Car Trips													
Landfill Truck Trips		13	13		10		10						
<b>Total SITE Trip Distribution</b>		<b>13</b>	<b>13</b>		<b>10</b>		<b>10</b>						
<b>2030 Projected Volumes</b>	<b>0</b>	<b>94</b>	<b>26</b>	<b>31</b>	<b>112</b>	<b>0</b>	<b>70</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>294</b>

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
Existing Counts	0	123	5	25	81	0	40	0	10	0	0	0	284
Balancing													0
Existing Volumes (Balanced)	0	123	5	25	81	0	40	0	10	0	0	0	284
Base growth (0.31% compounded for 10 yrs)	0	4	0	1	3	0	1	0	0	0	0	0	9
<b>2030 Base Volumes</b>	<b>0</b>	<b>127</b>	<b>5</b>	<b>26</b>	<b>84</b>	<b>0</b>	<b>41</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>293</b>

Landfill		
	Car	Truck
ENTER =	1	1
EXIT =	1	6

Landfill Car Trips													
Landfill Truck Trips		3	3		1								
<b>Total SITE Trip Distribution</b>		<b>3</b>	<b>3</b>		<b>1</b>								
<b>2030 Projected Volumes</b>	<b>0</b>	<b>130</b>	<b>8</b>	<b>26</b>	<b>85</b>	<b>0</b>	<b>41</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>293</b>

TPD# FKV.00001  
 8/6/2020  
 Traffic Volumes Worksheet

Intersection:

**Morea Road/I-81 Ramps & Route 54**

Synchro Node:

**6** Adjacent intersections: West **2** East **0** 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	
Existing Counts	4	0	81	0	0	43	100	108	43	0	137	31	547
Balancing													0
Existing Volumes (Balanced)	4	0	81	0	0	43	100	108	43	0	137	31	547
Base growth (0.31% compounded for 10 yrs)	0	0	3	0	0	1	3	3	1	0	4	1	16
<b>2030 Base Volumes</b>	<b>4</b>	<b>0</b>	<b>84</b>	<b>0</b>	<b>0</b>	<b>44</b>	<b>103</b>	<b>111</b>	<b>44</b>	<b>0</b>	<b>141</b>	<b>32</b>	<b>563</b>

Landfill

	Car	Truck
ENTER =	1	10
EXIT =	1	26

Landfill Car Trips													
Landfill Truck Trips			13				10						
<b>Total SITE Trip Distribution</b>			<b>13</b>				<b>10</b>						
<b>2030 Projected Volumes</b>	<b>4</b>	<b>0</b>	<b>97</b>	<b>0</b>	<b>0</b>	<b>44</b>	<b>113</b>	<b>111</b>	<b>44</b>	<b>0</b>	<b>141</b>	<b>32</b>	<b>563</b>

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
Existing Counts	31	0	103	0	0	50	67	139	41	0	149	38	618
Balancing													0
Existing Volumes (Balanced)	31	0	103	0	0	50	67	139	41	0	149	38	618
Base growth (0.31% compounded for 10 yrs)	1	0	3	0	0	2	2	4	1	0	5	1	19
<b>2030 Base Volumes</b>	<b>32</b>	<b>0</b>	<b>106</b>	<b>0</b>	<b>0</b>	<b>52</b>	<b>69</b>	<b>143</b>	<b>42</b>	<b>0</b>	<b>154</b>	<b>39</b>	<b>637</b>

Landfill

	Car	Truck
ENTER =	1	1
EXIT =	1	6

Landfill Car Trips													
Landfill Truck Trips			3										
<b>Total SITE Trip Distribution</b>			<b>3</b>										
<b>2030 Projected Volumes</b>	<b>32</b>	<b>0</b>	<b>109</b>	<b>0</b>	<b>0</b>	<b>52</b>	<b>69</b>	<b>143</b>	<b>42</b>	<b>0</b>	<b>154</b>	<b>39</b>	<b>637</b>

TPD# FKV.00001  
 8/6/2020  
 Traffic Volumes Worksheet

Intersection:

<b>Route 54 &amp; I-81 NB Ramps</b>												
7	Adjacent intersections:	West	2	East	0	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	
Existing Counts	0	129	91	1	236	0	0	0	51	0	0	25	533
Balancing													0
Existing Volumes (Balanced)	0	129	91	1	236	0	0	0	51	0	0	25	533
Base growth (0.31% compounded for 10 yrs)	0	4	3	0	7	0	0	0	2	0	0	1	17
2030 Base Volumes	0	133	94	1	243	0	0	0	53	0	0	26	550

Landfill		
	Car	Truck
ENTER =	1	10
EXIT =	1	26

Landfill Car Trips													
Landfill Truck Trips			13									10	
Total SITE Trip Distribution			13									10	

2030 Projected Volumes	0	133	107	1	243	0	0	0	53	0	0	36	550
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Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
Existing Counts	0	166	77	3	213	0	0	0	65	0	0	27	551
Balancing													0
Existing Volumes (Balanced)	0	166	77	3	213	0	0	0	65	0	0	27	551
Base growth (0.31% compounded for 10 yrs)	0	5	2	0	7	0	0	0	2	0	0	1	17
2030 Base Volumes	0	171	79	3	220	0	0	0	67	0	0	28	568

Landfill		
	Car	Truck
ENTER =	1	1
EXIT =	1	6

Landfill Car Trips													
Landfill Truck Trips			3										
Total SITE Trip Distribution			3										

2030 Projected Volumes	0	171	82	3	220	0	0	0	67	0	0	28	568
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***APPENDIX E:***  
***Capacity Analysis Worksheets***

## ***Existing Conditions***

1: Route 61 & Hancock Street  
Existing Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	72	46	75	53	13	14	386	39	91	707	23
Future Volume (vph)	40	72	46	75	53	13	14	386	39	91	707	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	16	16	16	12	12	12	12	12	12
Grade (%)		-3%			4%			1%			-3%	
Storage Length (ft)	0		0	0		0	190		0	190		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		413			614			553			554	
Travel Time (s)		11.3			16.7			8.4			8.4	
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 (%)	8%	4%	1%	8%	8%	0%	0%	14%	1%	9%	9%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		7.0	15.0		7.0	15.0	
Minimum Split (s)	12.0	12.0		12.0	12.0		13.0	23.0		13.0	23.0	
Total Split (s)	27.0	27.0		27.0	27.0		17.0	36.0		17.0	36.0	
Total Split (%)	33.8%	33.8%		33.8%	33.8%		21.3%	45.0%		21.3%	45.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	5.5		3.5	5.5	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-1.0			-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		6.0			6.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other

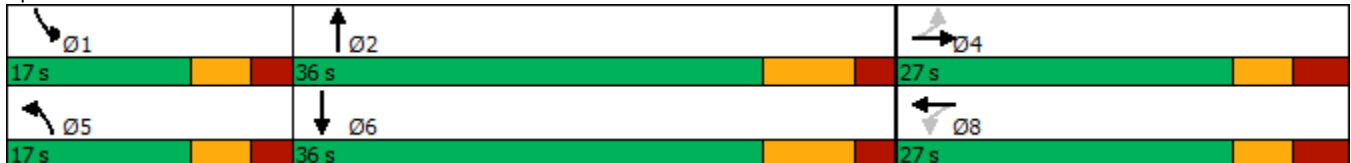
Cycle Length: 80

Actuated Cycle Length: 55.2

Natural Cycle: 55

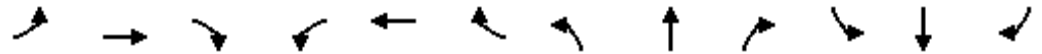
Control Type: Semi Act-Uncoord

Splits and Phases: 1: Route 61 & Hancock Street



1: Route 61 & Hancock Street  
Existing Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (veh/h)	40	72	46	75	53	13	14	386	39	91	707	23
Future Volume (veh/h)	40	72	46	75	53	13	14	386	39	91	707	23
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	1855	1855	1855	1662	1662	1662	1794	1598	1598	1784	1784	1784
Adj Flow Rate, veh/h	42	75	33	78	55	14	15	402	36	95	736	21
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, %	4	4	4	8	8	8	0	14	14	9	9	9
Cap, veh/h	155	143	56	225	91	21	82	965	86	217	1420	41
Arrive On Green	0.12	0.14	0.12	0.12	0.14	0.12	0.05	0.34	0.32	0.13	0.42	0.40
Sat Flow, veh/h	388	984	387	738	630	144	1709	2819	251	1699	3365	96
Grp Volume(v), veh/h	150	0	0	147	0	0	15	216	222	95	371	386
Grp Sat Flow(s),veh/h/ln	1759	0	0	1512	0	0	1709	1518	1553	1699	1695	1767
Q Serve(g_s), s	0.0	0.0	0.0	0.5	0.0	0.0	0.4	5.1	5.2	2.4	7.6	7.6
Cycle Q Clear(g_c), s	3.7	0.0	0.0	4.2	0.0	0.0	0.4	5.1	5.2	2.4	7.6	7.6
Prop In Lane	0.28		0.22	0.53		0.10	1.00		0.16	1.00		0.05
Lane Grp Cap(c), veh/h	316	0	0	305	0	0	82	520	532	217	715	746
V/C Ratio(X)	0.47	0.00	0.00	0.48	0.00	0.00	0.18	0.41	0.42	0.44	0.52	0.52
Avail Cap(c_a), veh/h	806	0	0	707	0	0	439	942	963	436	1052	1096
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	0.0	19.1	0.0	0.0	21.4	11.8	11.9	18.8	10.0	10.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	1.7	0.0	0.0	1.1	0.5	0.5	1.4	0.2	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	2.8	0.0	0.0	2.8	0.0	0.0	0.3	2.4	2.5	1.6	3.4	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	0.0	20.8	0.0	0.0	22.4	12.3	12.4	20.2	10.2	10.2
LnGrp LOS	C	A	A	C	A	A	C	B	B	C	B	B
Approach Vol, veh/h		150			147			453			852	
Approach Delay, s/veh		20.5			20.8			12.7			11.3	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	23.0		12.8	7.2	26.7		12.8				
Change Period (Y+Rc), s	6.0	8.0		7.0	6.0	8.0		7.0				
Max Green Setting (Gmax), s	11.0	28.0		20.0	11.0	28.0		20.0				
Max Q Clear Time (g_c+I1), s	4.9	7.6		5.7	2.9	10.1		6.2				
Green Ext Time (p_c), s	0.1	1.4		0.6	0.0	0.4		0.6				

Intersection Summary

HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

2: 2nd street & Hancock Street  
Existing Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	4	74	95	19	80	13	38	100	20	1	18	12
Future Volume (vph)	4	74	95	19	80	13	38	100	20	1	18	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	11	11	14	14	14	14	14	14
Grade (%)		1%			0%			1%			-2%	
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		614			797			525			483	
Travel Time (s)		16.7			21.7			10.2			9.4	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	8%	2%	21%	6%	0%	5%	17%	20%	0%	6%	25%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		3.0			3.0			3.0			3.0	

Lead/Lag  
Lead-Lag Optimize?

Intersection Summary

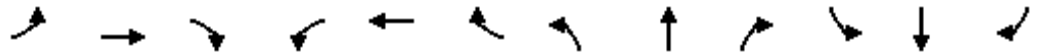
Area Type: Other  
 Cycle Length: 70  
 Actuated Cycle Length: 70  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 40  
 Control Type: Pretimed

Splits and Phases: 2: 2nd street & Hancock Street



2: 2nd street & Hancock Street  
Existing Conditions

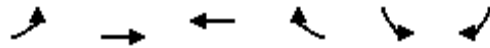
FKV.00001  
Timing Plan: A.M. Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	4	74	95	19	80	13	38	100	20	1	18	12
Future Volume (veh/h)	4	74	95	19	80	13	38	100	20	1	18	12
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	1682	1682	1682	1716	1716	1716	1618	1618	1618	1861	1861	1861
Adj Flow Rate, veh/h	5	91	71	23	99	14	47	123	23	1	22	11
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	8	8	8	6	6	6	17	17	17	6	6	6
Cap, veh/h	57	303	227	117	435	56	236	572	101	60	670	324
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	12	883	662	166	1268	165	300	1002	176	13	1172	567
Grp Volume(v), veh/h	167	0	0	136	0	0	193	0	0	34	0	0
Grp Sat Flow(s),veh/h/ln	1557	0	0	1598	0	0	1478	0	0	1752	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.5	0.0	0.0	4.0	0.0	0.0	4.2	0.0	0.0	0.6	0.0	0.0
Prop In Lane	0.03		0.43	0.17		0.10	0.24		0.12	0.03		0.32
Lane Grp Cap(c), veh/h	587	0	0	608	0	0	909	0	0	1054	0	0
V/C Ratio(X)	0.28	0.00	0.00	0.22	0.00	0.00	0.21	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	587	0	0	608	0	0	909	0	0	1054	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.9	0.0	0.0	16.4	0.0	0.0	7.3	0.0	0.0	6.6	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.9	0.0	0.0	0.5	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.8	0.0	0.0	2.9	0.0	0.0	2.3	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	0.0	0.0	17.3	0.0	0.0	7.9	0.0	0.0	6.6	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		167			136			193				34
Approach Delay, s/veh		18.1			17.3			7.9				6.6
Approach LOS		B			B			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.0		27.0		43.0		27.0				
Change Period (Y+Rc), s		3.0		3.0		3.0		3.0				
Max Green Setting (Gmax), s		40.0		24.0		40.0		24.0				
Max Q Clear Time (g_c+I1), s		6.2		7.5		2.6		6.0				
Green Ext Time (p_c), s		1.1		0.8		0.1		0.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				13.4								
HCM 6th LOS				B								

3: Burma Road & Site Driveway  
Existing Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↗	↘	
Traffic Volume (vph)	1	36	73	9	19	4
Future Volume (vph)	1	36	73	9	19	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)		0%	0%		3%	
Storage Length (ft)	0			300	0	0
Storage Lanes	0			1	1	0
Taper Length (ft)	25				25	
Link Speed (mph)		45	45		25	
Link Distance (ft)		591	423		281	
Travel Time (s)		9.0	6.4		7.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	100%	100%	95%	100%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized

3: Burma Road & Site Driveway  
Existing Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	1	36	73	9	19	4
Future Vol, veh/h	1	36	73	9	19	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	300	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	3	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	100	100	95	100
Mvmt Flow	1	41	84	10	22	5

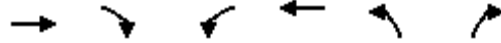
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	94	0	-	0	127 84
Stage 1	-	-	-	-	84 -
Stage 2	-	-	-	-	43 -
Critical Hdwy	4.3	-	-	-	8 7.5
Critical Hdwy Stg 1	-	-	-	-	6.95 -
Critical Hdwy Stg 2	-	-	-	-	6.95 -
Follow-up Hdwy	3	-	-	-	3.9 4
Pot Cap-1 Maneuver	1115	-	-	-	745 791
Stage 1	-	-	-	-	821 -
Stage 2	-	-	-	-	869 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1115	-	-	-	744 791
Mov Cap-2 Maneuver	-	-	-	-	744 -
Stage 1	-	-	-	-	820 -
Stage 2	-	-	-	-	869 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1115	-	-	-	752
HCM Lane V/C Ratio	0.001	-	-	-	0.035
HCM Control Delay (s)	8.2	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

4: Burma Road & Morea Road  
Existing Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	53	45	56	85	42	34
Future Volume (vph)	53	45	56	85	42	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Grade (%)	2%			-2%	-3%	
Link Speed (mph)	45			45	45	
Link Distance (ft)	759			885	961	
Travel Time (s)	11.5			13.4	14.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	9%	0%	23%	4%	7%	41%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

4: Burma Road & Morea Road  
Existing Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour

Intersection						
Int Delay, s/veh	4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	53	45	56	85	42	34
Future Vol, veh/h	53	45	56	85	42	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-2	-3	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	9	0	23	4	7	41
Mvmt Flow	61	52	64	98	48	39

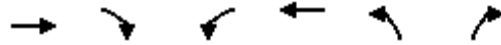
Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	113	0	313
Stage 1	-	-	-	-	87
Stage 2	-	-	-	-	226
Critical Hdwy	-	-	4.33	-	5.87
Critical Hdwy Stg 1	-	-	-	-	4.87
Critical Hdwy Stg 2	-	-	-	-	4.87
Follow-up Hdwy	-	-	3.2	-	3.1
Pot Cap-1 Maneuver	-	-	1032	-	795
Stage 1	-	-	-	-	1072
Stage 2	-	-	-	-	941
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1032	-	743
Mov Cap-2 Maneuver	-	-	-	-	743
Stage 1	-	-	-	-	1072
Stage 2	-	-	-	-	879

Approach	EB	WB	NB
HCM Control Delay, s	0	3.5	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	813	-	-	1032	-
HCM Lane V/C Ratio	0.107	-	-	0.062	-
HCM Control Delay (s)	10	-	-	8.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.2	-

5: I-81 SB & Morea Road  
Existing Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	79	13	30	99	58	7
Future Volume (vph)	79	13	30	99	58	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	9	9	9	12	12
Grade (%)	-1%			1%	-3%	
Link Speed (mph)	45			45	25	
Link Distance (ft)	453			522	399	
Travel Time (s)	6.9			7.9	10.9	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	16%	62%	3%	18%	7%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

5: I-81 SB & Morea Road  
Existing Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour

Intersection

Int Delay, s/veh 3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	79	13	30	99	58	7
Future Vol, veh/h	79	13	30	99	58	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-3	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	16	62	3	18	7	0
Mvmt Flow	89	15	34	111	65	8





















Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	104	0	276 97
Stage 1	-	-	-	-	97 -
Stage 2	-	-	-	-	179 -
Critical Hdwy	-	-	4.4	-	5.87 5.9
Critical Hdwy Stg 1	-	-	-	-	4.87 -
Critical Hdwy Stg 2	-	-	-	-	4.87 -
Follow-up Hdwy	-	-	3	-	3.1 3.1
Pot Cap-1 Maneuver	-	-	1103	-	832 1033
Stage 1	-	-	-	-	1062 -
Stage 2	-	-	-	-	984 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1103	-	805 1033
Mov Cap-2 Maneuver	-	-	-	-	805 -
Stage 1	-	-	-	-	1062 -
Stage 2	-	-	-	-	952 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	825	-	-	1103	-
HCM Lane V/C Ratio	0.089	-	-	0.031	-
HCM Control Delay (s)	9.8	-	-	8.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

6: Route 54 & Morea Road/I-81  
Existing Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	81	0	0	43	100	108	43	0	137	31
Future Volume (vph)	4	0	81	0	0	43	100	108	43	0	137	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	13	13	13	10	14	10	12	12	10
Grade (%)		1%			2%			-1%			1%	
Storage Length (ft)	0		300	0		0	110		0	0		0
Storage Lanes	1		1	0		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		45			25			55				55
Link Distance (ft)		522			511			904				1161
Travel Time (s)		7.9			13.9			11.2				14.4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	22%	6%	11%	0%	9%	2%	0%	0%	6%	0%	0%	14%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free				Free

Intersection Summary

Area Type: Other  
Control Type: Unsignalized

6: Route 54 & Morea Road/I-81  
Existing Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙		↗			↗	↙	↕	↗		↕	↙
Traffic Vol, veh/h	4	0	81	0	0	43	100	108	43	0	137	31
Future Vol, veh/h	4	0	81	0	0	43	100	108	43	0	137	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	None	-	-	Free	-	-	Yield
Storage Length	0	-	300	-	-	0	110	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	2	-	-	-1	-	-	1	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	22	6	11	0	9	2	0	0	6	0	0	14
Mvmt Flow	4	0	91	0	0	48	112	121	48	0	154	35













Major/Minor	Minor2	Minor1			Major1		Major2				
Conflicting Flow All	457	-	-	-	61	154	0	-	-	-	0
Stage 1	172	-	-	-	-	-	-	-	-	-	-
Stage 2	285	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	-	-	-	6.4	4.3	-	-	-	-	-
Critical Hdwy Stg 1	7.14	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.14	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.2	-	-	-	3.2	3	-	-	-	-	-
Pot Cap-1 Maneuver	528	0	0	0	0	1037	1064	-	0	0	-
Stage 1	863	0	0	0	0	-	-	-	0	0	-
Stage 2	724	0	0	0	0	-	-	-	0	0	-
Platoon blocked, %								-			-
Mov Cap-1 Maneuver	463	-	-	-	-	1037	1064	-	-	-	-
Mov Cap-2 Maneuver	463	-	-	-	-	-	-	-	-	-	-
Stage 1	772	-	-	-	-	-	-	-	-	-	-
Stage 2	618	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	8.6	4.2	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	1064	-	463	-	1037	-	-
HCM Lane V/C Ratio	0.106	-	0.01	-	0.047	-	-
HCM Control Delay (s)	8.8	-	12.9	0	8.6	-	-
HCM Lane LOS	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.4	-	0	-	0.1	-	-

7: I-81 & Route 54  
Existing Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑				↗			↗
Traffic Volume (vph)	0	129	91	1	236	0	0	0	51	0	0	25
Future Volume (vph)	0	129	91	1	236	0	0	0	51	0	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	16	13	10	10	12	12	16	12	12	14
Grade (%)		-1%			2%			2%			0%	
Storage Length (ft)	0		0	90		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		904			1213			651			686	
Travel Time (s)		11.2			15.0			14.8			15.6	
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 (%)	0%	15%	10%	0%	7%	0%	0%	12%	0%	0%	0%	64%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Free			Free	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized



1: Route 61 & Hancock Street  
Existing Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	92	56	45	71	18	66	882	89	135	593	57
Future Volume (vph)	53	92	56	45	71	18	66	882	89	135	593	57
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	16	16	16	12	12	12	12	12	12
Grade (%)		-3%			4%			1%			-3%	
Storage Length (ft)	0		0	0		0	190		0	190		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		413			614			553			554	
Travel Time (s)		11.3			16.7			8.4			8.4	
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 (%)	2%	3%	0%	2%	0%	6%	0%	6%	0%	4%	5%	2%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		7.0	15.0		7.0	15.0	
Minimum Split (s)	12.0	12.0		12.0	12.0		13.0	23.0		13.0	23.0	
Total Split (s)	26.0	26.0		26.0	26.0		22.0	42.0		22.0	42.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%		24.4%	46.7%		24.4%	46.7%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	5.5		3.5	5.5	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-1.0			-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		6.0			6.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other

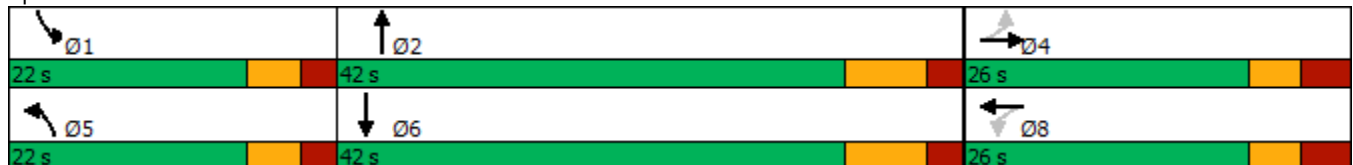
Cycle Length: 90

Actuated Cycle Length: 77.6

Natural Cycle: 60

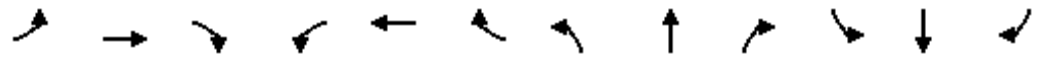
Control Type: Semi Act-Uncoord

Splits and Phases: 1: Route 61 & Hancock Street



1: Route 61 & Hancock Street  
Existing Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	53	92	56	45	71	18	66	882	89	135	593	57
Future Volume (veh/h)	53	92	56	45	71	18	66	882	89	135	593	57
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	1869	1869	1869	1779	1779	1779	1794	1710	1710	1855	1841	1841
Adj Flow Rate, veh/h	55	96	44	47	74	19	69	919	79	141	618	54
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, %	3	3	3	0	0	0	0	6	6	4	5	5
Cap, veh/h	143	157	64	153	170	37	170	1180	101	227	1362	119
Arrive On Green	0.15	0.16	0.15	0.15	0.16	0.15	0.10	0.39	0.37	0.13	0.42	0.40
Sat Flow, veh/h	374	954	387	414	1028	226	1709	3028	260	1767	3254	284
Grp Volume(v), veh/h	195	0	0	140	0	0	69	493	505	141	332	340
Grp Sat Flow(s),veh/h/ln	1716	0	0	1668	0	0	1709	1625	1663	1767	1749	1790
Q Serve(g_s), s	1.8	0.0	0.0	0.0	0.0	0.0	2.1	15.1	15.1	4.3	7.7	7.8
Cycle Q Clear(g_c), s	6.0	0.0	0.0	4.2	0.0	0.0	2.1	15.1	15.1	4.3	7.7	7.8
Prop In Lane	0.28		0.23	0.34		0.14	1.00		0.16	1.00		0.16
Lane Grp Cap(c), veh/h	334	0	0	330	0	0	170	633	648	227	732	749
V/C Ratio(X)	0.58	0.00	0.00	0.42	0.00	0.00	0.41	0.78	0.78	0.62	0.45	0.45
Avail Cap(c_a), veh/h	635	0	0	611	0	0	512	1002	1026	529	1079	1104
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	0.0	0.0	21.8	0.0	0.0	24.0	15.2	15.3	23.4	11.8	11.9
Incr Delay (d2), s/veh	2.3	0.0	0.0	1.2	0.0	0.0	1.6	2.1	2.1	2.8	0.2	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	4.7	0.0	0.0	3.2	0.0	0.0	1.5	8.2	8.4	3.1	4.2	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	0.0	0.0	23.0	0.0	0.0	25.5	17.3	17.3	26.2	12.0	12.1
LnGrp LOS	C	A	A	C	A	A	C	B	B	C	B	B
Approach Vol, veh/h		195			140			1067			813	
Approach Delay, s/veh		24.8			23.0			17.8			14.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.3	29.1		15.4	10.6	30.7		15.4				
Change Period (Y+Rc), s	6.0	8.0		7.0	6.0	8.0		7.0				
Max Green Setting (Gmax), s	16.0	34.0		19.0	16.0	34.0		19.0				
Max Q Clear Time (g_c+I1), s	6.8	17.6		8.0	4.6	10.2		6.2				
Green Ext Time (p_c), s	0.3	3.5		0.7	0.1	0.4		0.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				17.6								
HCM 6th LOS				B								

2: 2nd street & Hancock Street  
Existing Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	13	135	126	14	50	18	42	135	49	3	15	6
Future Volume (vph)	13	135	126	14	50	18	42	135	49	3	15	6
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	11	11	14	14	14	14	14	14
Grade (%)		1%			0%			1%			-2%	
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		614			797			525			483	
Travel Time (s)		16.7			21.7			10.2			9.4	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	5%	0%	2%	0%	2%	4%	0%	0%	13%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		3.0			3.0			3.0			3.0	

Lead/Lag Optimize?

Intersection Summary

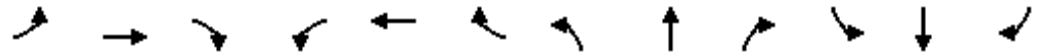
Area Type: Other  
 Cycle Length: 70  
 Actuated Cycle Length: 70  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 40  
 Control Type: Pretimed

Splits and Phases: 2: 2nd street & Hancock Street



2: 2nd street & Hancock Street  
Existing Conditions

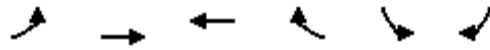
FKV.00001  
Timing Plan: P.M. Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	13	135	126	14	50	18	42	135	49	3	15	6
Future Volume (veh/h)	13	135	126	14	50	18	42	135	49	3	15	6
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	1794	1794	1794	1772	1772	1772	1808	1808	1808	1757	1757	1757
Adj Flow Rate, veh/h	15	152	104	16	56	20	47	152	48	3	17	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	2	2	2	4	4	4	13	13	13
Cap, veh/h	67	339	219	119	370	119	202	625	185	130	671	186
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	37	988	639	172	1078	347	247	1094	323	126	1174	325
Grp Volume(v), veh/h	271	0	0	92	0	0	247	0	0	25	0	0
Grp Sat Flow(s),veh/h/ln	1664	0	0	1598	0	0	1664	0	0	1625	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.9	0.0	0.0	2.6	0.0	0.0	4.9	0.0	0.0	0.4	0.0	0.0
Prop In Lane	0.06		0.38	0.17		0.22	0.19		0.19	0.12		0.20
Lane Grp Cap(c), veh/h	625	0	0	608	0	0	1012	0	0	986	0	0
V/C Ratio(X)	0.43	0.00	0.00	0.15	0.00	0.00	0.24	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	625	0	0	608	0	0	1012	0	0	986	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	0.0	0.0	16.0	0.0	0.0	7.5	0.0	0.0	6.5	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.0	0.5	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.6	0.0	0.0	1.9	0.0	0.0	3.0	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	0.0	16.5	0.0	0.0	8.1	0.0	0.0	6.6	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		271			92			247				25
Approach Delay, s/veh		20.2			16.5			8.1				6.6
Approach LOS		C			B			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.0		27.0		43.0		27.0				
Change Period (Y+Rc), s		3.0		3.0		3.0		3.0				
Max Green Setting (Gmax), s		40.0		24.0		40.0		24.0				
Max Q Clear Time (g_c+I1), s		6.9		10.9		2.4		4.6				
Green Ext Time (p_c), s		1.5		1.4		0.1		0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				14.4								
HCM 6th LOS				B								

3: Burma Road & Site Driveway  
Existing Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Volume (vph)	0	103	87	2	2	8
Future Volume (vph)	0	103	87	2	2	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)		0%	0%		3%	
Storage Length (ft)	0			300	0	0
Storage Lanes	0			1	1	0
Taper Length (ft)	25				25	
Link Speed (mph)		45	45		25	
Link Distance (ft)		591	423		281	
Travel Time (s)		9.0	6.4		7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized

3: Burma Road & Site Driveway  
Existing Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	0	103	87	2	2	8
Future Vol, veh/h	0	103	87	2	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	300	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	3	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	0	112	95	2	2	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	97	0	-	0	207 95
Stage 1	-	-	-	-	95 -
Stage 2	-	-	-	-	112 -
Critical Hdwy	4.3	-	-	-	7 6.5
Critical Hdwy Stg 1	-	-	-	-	6 -
Critical Hdwy Stg 2	-	-	-	-	6 -
Follow-up Hdwy	3	-	-	-	3 3.1
Pot Cap-1 Maneuver	1112	-	-	-	874 1019
Stage 1	-	-	-	-	1065 -
Stage 2	-	-	-	-	1043 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1112	-	-	-	874 1019
Mov Cap-2 Maneuver	-	-	-	-	874 -
Stage 1	-	-	-	-	1065 -
Stage 2	-	-	-	-	1043 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1112	-	-	-	986
HCM Lane V/C Ratio	-	-	-	-	0.011
HCM Control Delay (s)	0	-	-	-	8.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

4: Burma Road & Morea Road  
Existing Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	81	59	53	70	68	44
Future Volume (vph)	81	59	53	70	68	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Grade (%)	2%			-2%	-3%	
Link Speed (mph)	45			45	45	
Link Distance (ft)	759			885	961	
Travel Time (s)	11.5			13.4	14.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	9%	6%	3%	11%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

4: Burma Road & Morea Road  
Existing Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

Intersection						
Int Delay, s/veh	4.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	81	59	53	70	68	44
Future Vol, veh/h	81	59	53	70	68	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-2	-3	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	9	6	3	11
Mvmt Flow	92	67	60	80	77	50

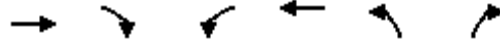
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	159	0	326	126
Stage 1	-	-	-	-	126	-
Stage 2	-	-	-	-	200	-
Critical Hdwy	-	-	4.1	-	5.83	6.01
Critical Hdwy Stg 1	-	-	-	-	4.83	-
Critical Hdwy Stg 2	-	-	-	-	4.83	-
Follow-up Hdwy	-	-	3	-	3	3.1
Pot Cap-1 Maneuver	-	-	1069	-	808	993
Stage 1	-	-	-	-	1067	-
Stage 2	-	-	-	-	996	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1069	-	760	993
Mov Cap-2 Maneuver	-	-	-	-	760	-
Stage 1	-	-	-	-	1067	-
Stage 2	-	-	-	-	937	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	837	-	-	1069	-
HCM Lane V/C Ratio	0.152	-	-	0.056	-
HCM Control Delay (s)	10.1	-	-	8.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

5: I-81 SB & Morea Road  
Existing Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	123	5	25	81	7	4
Future Volume (vph)	123	5	25	81	7	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	9	9	9	12	12
Grade (%)	-1%			1%	-3%	
Link Speed (mph)	45			45	25	
Link Distance (ft)	453			522	399	
Travel Time (s)	6.9			7.9	10.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	20%	0%	5%	5%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

5: I-81 SB & Morea Road  
Existing Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	123	5	25	81	7	4
Future Vol, veh/h	123	5	25	81	7	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-3	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	20	0	5	5	0
Mvmt Flow	137	6	28	90	8	4























Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	143	0	286
Stage 1	-	-	-	-	140
Stage 2	-	-	-	-	146
Critical Hdwy	-	-	4.1	-	5.85
Critical Hdwy Stg 1	-	-	-	-	4.85
Critical Hdwy Stg 2	-	-	-	-	4.85
Follow-up Hdwy	-	-	3	-	3
Pot Cap-1 Maneuver	-	-	1082	-	847
Stage 1	-	-	-	-	1053
Stage 2	-	-	-	-	1047
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1082	-	824
Mov Cap-2 Maneuver	-	-	-	-	824
Stage 1	-	-	-	-	1053
Stage 2	-	-	-	-	1019

Approach	EB	WB	NB
HCM Control Delay, s	0	2	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	873	-	-	1082	-
HCM Lane V/C Ratio	0.014	-	-	0.026	-
HCM Control Delay (s)	9.2	-	-	8.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	-

6: Route 54 & Morea Road/I-81  
Existing Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	31	0	103	0	0	50	67	139	41	0	149	38
Future Volume (vph)	31	0	103	0	0	50	67	139	41	0	149	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	13	13	13	10	14	10	12	12	10
Grade (%)		1%			2%			-1%				1%
Storage Length (ft)	0		300	0		0	110		0	0		0
Storage Lanes	1		1	0		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		45			25			55				55
Link Distance (ft)		522			511			904				1161
Travel Time (s)		7.9			13.9			11.2				14.4
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 (%)	22%	6%	11%	0%	9%	2%	0%	0%	6%	0%	0%	14%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free				Free

Intersection Summary

Area Type: Other  
Control Type: Unsignalized

6: Route 54 & Morea Road/I-81  
Existing Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗			↖	↖	↕	↖		↕	↗
Traffic Vol, veh/h	31	0	103	0	0	50	67	139	41	0	149	38
Future Vol, veh/h	31	0	103	0	0	50	67	139	41	0	149	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	None	-	-	Free	-	-	Yield
Storage Length	0	-	300	-	-	0	110	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	2	-	-	-1	-	-	1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	22	6	11	0	9	2	0	0	6	0	0	14
Mvmt Flow	34	0	114	0	0	56	74	154	46	0	166	42













Major/Minor	Minor2	Minor1				Major1		Major2				
Conflicting Flow All	412	-	-	-	-	77	166	0	-	-	-	0
Stage 1	187	-	-	-	-	-	-	-	-	-	-	-
Stage 2	225	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	-	-	-	-	6.4	4.3	-	-	-	-	-
Critical Hdwy Stg 1	7.14	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.14	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.2	-	-	-	-	3.2	3	-	-	-	-	-
Pot Cap-1 Maneuver	569	0	0	0	0	1015	1054	-	0	0	-	-
Stage 1	843	0	0	0	0	-	-	-	0	0	-	-
Stage 2	794	0	0	0	0	-	-	-	0	0	-	-
Platoon blocked, %								-			-	
Mov Cap-1 Maneuver	509	-	-	-	-	1015	1054	-	-	-	-	-
Mov Cap-2 Maneuver	509	-	-	-	-	-	-	-	-	-	-	-
Stage 1	784	-	-	-	-	-	-	-	-	-	-	-
Stage 2	698	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	8.8	2.8	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	1054	-	509	-	1015	-	-
HCM Lane V/C Ratio	0.071	-	0.068	-	0.055	-	-
HCM Control Delay (s)	8.7	-	12.6	0	8.8	-	-
HCM Lane LOS	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.2	-	0.2	-	-

7: I-81 & Route 54  
Existing Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑				↗			↗
Traffic Volume (vph)	0	166	77	3	213	0	0	0	65	0	0	27
Future Volume (vph)	0	166	77	3	213	0	0	0	65	0	0	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	16	13	10	10	12	12	16	12	12	14
Grade (%)		-1%			2%			2%			0%	
Storage Length (ft)	0		0	90		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		904			1213			651			686	
Travel Time (s)		11.2			15.0			14.8			15.6	
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%	15%	10%	0%	7%	0%	0%	12%	0%	0%	0%	64%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Free			Free	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized



## ***2030 Base Conditions***

1: Route 61 & Hancock Street  
Base 2030 Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	74	47	77	55	13	14	398	40	94	729	24
Future Volume (vph)	41	74	47	77	55	13	14	398	40	94	729	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	16	16	16	12	12	12	12	12	12
Grade (%)		-3%			4%			1%			-3%	
Storage Length (ft)	0		0	0		0	190		0	190		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		413			614			553			554	
Travel Time (s)		11.3			16.7			8.4			8.4	
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 (%)	8%	4%	1%	8%	8%	0%	0%	14%	1%	9%	9%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		7.0	15.0		7.0	15.0	
Minimum Split (s)	12.0	12.0		12.0	12.0		13.0	23.0		13.0	23.0	
Total Split (s)	27.0	27.0		27.0	27.0		17.0	36.0		17.0	36.0	
Total Split (%)	33.8%	33.8%		33.8%	33.8%		21.3%	45.0%		21.3%	45.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	5.5		3.5	5.5	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-1.0			-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		6.0			6.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

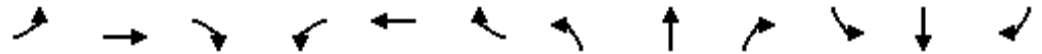
Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 55.5  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord

Splits and Phases: 1: Route 61 & Hancock Street



1: Route 61 & Hancock Street  
Base 2030 Conditions

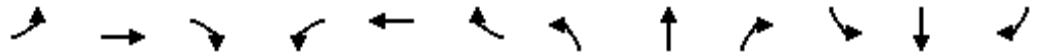
FKV.00001  
Timing Plan: A.M. Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↔		↗	↕↔	
Traffic Volume (veh/h)	41	74	47	77	55	13	14	398	40	94	729	24
Future Volume (veh/h)	41	74	47	77	55	13	14	398	40	94	729	24
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	1855	1855	1855	1662	1662	1662	1794	1598	1598	1784	1784	1784
Adj Flow Rate, veh/h	43	77	34	80	57	14	15	415	37	98	759	22
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, %	4	4	4	8	8	8	0	14	14	9	9	9
Cap, veh/h	155	146	58	226	95	21	82	960	85	219	1417	41
Arrive On Green	0.13	0.15	0.13	0.13	0.15	0.13	0.05	0.34	0.32	0.13	0.42	0.40
Sat Flow, veh/h	384	986	388	733	638	140	1709	2820	250	1699	3363	97
Grp Volume(v), veh/h	154	0	0	151	0	0	15	223	229	98	382	399
Grp Sat Flow(s),veh/h/ln	1758	0	0	1511	0	0	1709	1518	1553	1699	1695	1766
Q Serve(g_s), s	0.0	0.0	0.0	0.5	0.0	0.0	0.4	5.3	5.4	2.5	7.9	7.9
Cycle Q Clear(g_c), s	3.8	0.0	0.0	4.3	0.0	0.0	0.4	5.3	5.4	2.5	7.9	7.9
Prop In Lane	0.28		0.22	0.53		0.09	1.00		0.16	1.00		0.06
Lane Grp Cap(c), veh/h	321	0	0	309	0	0	82	517	528	219	714	744
V/C Ratio(X)	0.48	0.00	0.00	0.49	0.00	0.00	0.18	0.43	0.43	0.45	0.54	0.54
Avail Cap(c_a), veh/h	801	0	0	703	0	0	436	936	958	434	1045	1089
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	0.0	19.1	0.0	0.0	21.5	12.0	12.1	18.9	10.2	10.2
Incr Delay (d2), s/veh	1.6	0.0	0.0	1.7	0.0	0.0	1.1	0.6	0.6	1.4	0.2	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	2.9	0.0	0.0	2.9	0.0	0.0	0.3	2.5	2.6	1.6	3.6	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	0.0	20.8	0.0	0.0	22.6	12.6	12.6	20.4	10.4	10.4
LnGrp LOS	C	A	A	C	A	A	C	B	B	C	B	B
Approach Vol, veh/h		154			151			467			879	
Approach Delay, s/veh		20.5			20.8			12.9			11.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	23.0		13.0	7.2	26.8		13.0				
Change Period (Y+Rc), s	6.0	8.0		7.0	6.0	8.0		7.0				
Max Green Setting (Gmax), s	11.0	28.0		20.0	11.0	28.0		20.0				
Max Q Clear Time (g_c+I1), s	5.0	7.8		5.8	2.9	10.4		6.3				
Green Ext Time (p_c), s	0.1	1.5		0.6	0.0	0.4		0.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				13.6								
HCM 6th LOS				B								

2: 2nd street & Hancock Street  
Base 2030 Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	4	76	98	20	83	13	39	103	21	1	19	12
Future Volume (vph)	4	76	98	20	83	13	39	103	21	1	19	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	11	11	14	14	14	14	14	14
Grade (%)		1%			0%			1%			-2%	
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		614			797			525			483	
Travel Time (s)		16.7			21.7			10.2			9.4	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	8%	2%	21%	6%	0%	5%	17%	20%	0%	6%	25%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		3.0			3.0			3.0			3.0	

Lead/Lag

Lead-Lag Optimize?

Intersection Summary

Area Type: Other

Cycle Length: 70

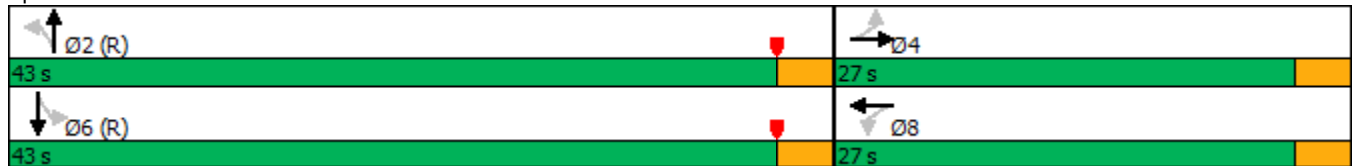
Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 40

Control Type: Pretimed

Splits and Phases: 2: 2nd street & Hancock Street



2: 2nd street & Hancock Street  
Base 2030 Conditions

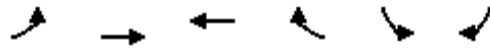
FKV.00001  
Timing Plan: A.M. Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	4	76	98	20	83	13	39	103	21	1	19	12
Future Volume (veh/h)	4	76	98	20	83	13	39	103	21	1	19	12
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	1682	1682	1682	1716	1716	1716	1618	1618	1618	1861	1861	1861
Adj Flow Rate, veh/h	5	94	75	25	102	14	48	127	24	1	23	11
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	8	8	8	6	6	6	17	17	17	6	6	6
Cap, veh/h	57	300	230	121	431	54	233	573	102	60	681	315
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	12	874	671	178	1256	158	297	1004	178	13	1191	552
Grp Volume(v), veh/h	174	0	0	141	0	0	199	0	0	35	0	0
Grp Sat Flow(s),veh/h/ln	1556	0	0	1592	0	0	1479	0	0	1755	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.8	0.0	0.0	4.2	0.0	0.0	4.3	0.0	0.0	0.6	0.0	0.0
Prop In Lane	0.03		0.43	0.18		0.10	0.24		0.12	0.03		0.31
Lane Grp Cap(c), veh/h	586	0	0	606	0	0	909	0	0	1056	0	0
V/C Ratio(X)	0.30	0.00	0.00	0.23	0.00	0.00	0.22	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	586	0	0	606	0	0	909	0	0	1056	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.0	0.0	0.0	16.5	0.0	0.0	7.4	0.0	0.0	6.6	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.9	0.0	0.0	0.6	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	0.0	0.0	3.1	0.0	0.0	2.4	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	0.0	0.0	17.4	0.0	0.0	7.9	0.0	0.0	6.6	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		174			141			199				35
Approach Delay, s/veh		18.3			17.4			7.9				6.6
Approach LOS		B			B			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.0		27.0		43.0		27.0				
Change Period (Y+Rc), s		3.0		3.0		3.0		3.0				
Max Green Setting (Gmax), s		40.0		24.0		40.0		24.0				
Max Q Clear Time (g_c+I1), s		6.3		7.8		2.6		6.2				
Green Ext Time (p_c), s		1.2		0.9		0.1		0.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				13.6								
HCM 6th LOS				B								

3: Burma Road & Site Driveway  
Base 2030 Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Volume (vph)	1	37	75	9	20	4
Future Volume (vph)	1	37	75	9	20	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)		0%	0%		3%	
Storage Length (ft)	0			300	0	0
Storage Lanes	0			1	1	0
Taper Length (ft)	25				25	
Link Speed (mph)		45	45		25	
Link Distance (ft)		591	423		281	
Travel Time (s)		9.0	6.4		7.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	100%	100%	95%	100%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized

3: Burma Road & Site Driveway  
Base 2030 Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	1	37	75	9	20	4
Future Vol, veh/h	1	37	75	9	20	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	300	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	3	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	100	100	95	100
Mvmt Flow	1	43	86	10	23	5

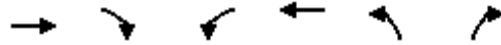
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	96	0	-	0	131 86
Stage 1	-	-	-	-	86 -
Stage 2	-	-	-	-	45 -
Critical Hdwy	4.3	-	-	-	8 7.5
Critical Hdwy Stg 1	-	-	-	-	6.95 -
Critical Hdwy Stg 2	-	-	-	-	6.95 -
Follow-up Hdwy	3	-	-	-	3.9 4
Pot Cap-1 Maneuver	1113	-	-	-	740 789
Stage 1	-	-	-	-	819 -
Stage 2	-	-	-	-	867 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1113	-	-	-	739 789
Mov Cap-2 Maneuver	-	-	-	-	739 -
Stage 1	-	-	-	-	818 -
Stage 2	-	-	-	-	867 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1113	-	-	-	747
HCM Lane V/C Ratio	0.001	-	-	-	0.037
HCM Control Delay (s)	8.2	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

4: Burma Road & Morea Road  
Base 2030 Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	55	46	58	88	43	35
Future Volume (vph)	55	46	58	88	43	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Grade (%)	2%			-2%	-3%	
Link Speed (mph)	45			45	45	
Link Distance (ft)	759			885	961	
Travel Time (s)	11.5			13.4	14.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	9%	0%	23%	4%	7%	41%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

4: Burma Road & Morea Road  
Base 2030 Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour

Intersection						
Int Delay, s/veh	4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	55	46	58	88	43	35
Future Vol, veh/h	55	46	58	88	43	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-2	-3	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	9	0	23	4	7	41
Mvmt Flow	63	53	67	101	49	40

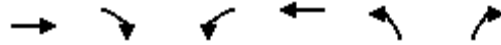
Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	116	0	325 90
Stage 1	-	-	-	-	90 -
Stage 2	-	-	-	-	235 -
Critical Hdwy	-	-	4.33	-	5.87 6.31
Critical Hdwy Stg 1	-	-	-	-	4.87 -
Critical Hdwy Stg 2	-	-	-	-	4.87 -
Follow-up Hdwy	-	-	3.2	-	3.1 3.5
Pot Cap-1 Maneuver	-	-	1030	-	784 917
Stage 1	-	-	-	-	1069 -
Stage 2	-	-	-	-	933 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1030	-	730 917
Mov Cap-2 Maneuver	-	-	-	-	730 -
Stage 1	-	-	-	-	1069 -
Stage 2	-	-	-	-	869 -

Approach	EB	WB	NB
HCM Control Delay, s	0	3.5	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	804	-	-	1030	-
HCM Lane V/C Ratio	0.112	-	-	0.065	-
HCM Control Delay (s)	10	-	-	8.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.2	-

5: I-81 SB & Morea Road  
Base 2030 Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	81	13	31	102	60	7
Future Volume (vph)	81	13	31	102	60	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	9	9	9	12	12
Grade (%)	-1%			1%	-3%	
Link Speed (mph)	45			45	25	
Link Distance (ft)	453			522	399	
Travel Time (s)	6.9			7.9	10.9	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	16%	62%	3%	18%	7%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	81	13	31	102	60	7
Future Vol, veh/h	81	13	31	102	60	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-3	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	16	62	3	18	7	0
Mvmt Flow	91	15	35	115	67	8






















Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	106	0	284 99
Stage 1	-	-	-	-	99 -
Stage 2	-	-	-	-	185 -
Critical Hdwy	-	-	4.4	-	5.87 5.9
Critical Hdwy Stg 1	-	-	-	-	4.87 -
Critical Hdwy Stg 2	-	-	-	-	4.87 -
Follow-up Hdwy	-	-	3	-	3.1 3.1
Pot Cap-1 Maneuver	-	-	1101	-	824 1030
Stage 1	-	-	-	-	1060 -
Stage 2	-	-	-	-	978 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1101	-	796 1030
Mov Cap-2 Maneuver	-	-	-	-	796 -
Stage 1	-	-	-	-	1060 -
Stage 2	-	-	-	-	945 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	815	-	-	1101	-
HCM Lane V/C Ratio	0.092	-	-	0.032	-
HCM Control Delay (s)	9.9	-	-	8.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

6: Route 54 & Morea Road/I-81  
Base 2030 Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	4	0	84	0	0	44	103	111	44	0	141	32
Future Volume (vph)	4	0	84	0	0	44	103	111	44	0	141	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	13	13	13	10	14	10	12	12	10
Grade (%)		1%			2%			-1%			1%	
Storage Length (ft)	0		300	0		0	110		0	0		0
Storage Lanes	1		1	0		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		45			25			55				55
Link Distance (ft)		522			511			904				1161
Travel Time (s)		7.9			13.9			11.2				14.4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	22%	6%	11%	0%	9%	2%	0%	0%	6%	0%	0%	14%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙		↗			↗	↙	↕	↗		↕	↗
Traffic Vol, veh/h	4	0	84	0	0	44	103	111	44	0	141	32
Future Vol, veh/h	4	0	84	0	0	44	103	111	44	0	141	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	None	-	-	Free	-	-	Yield
Storage Length	0	-	300	-	-	0	110	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	2	-	-	-1	-	-	1	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	22	6	11	0	9	2	0	0	6	0	0	14
Mvmt Flow	4	0	94	0	0	49	116	125	49	0	158	36













Major/Minor	Minor2	Minor1			Major1		Major2				
Conflicting Flow All	471	-	-	-	63	158	0	-	-	-	0
Stage 1	176	-	-	-	-	-	-	-	-	-	-
Stage 2	295	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	-	-	-	6.4	4.3	-	-	-	-	-
Critical Hdwy Stg 1	7.14	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.14	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.2	-	-	-	3.2	3	-	-	-	-	-
Pot Cap-1 Maneuver	516	0	0	0	0	1034	1060	-	0	0	-
Stage 1	857	0	0	0	0	-	-	-	0	0	-
Stage 2	712	0	0	0	0	-	-	-	0	0	-
Platoon blocked, %								-			-
Mov Cap-1 Maneuver	450	-	-	-	-	1034	1060	-	-	-	-
Mov Cap-2 Maneuver	450	-	-	-	-	-	-	-	-	-	-
Stage 1	764	-	-	-	-	-	-	-	-	-	-
Stage 2	604	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.1	8.7	4.2	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	1060	-	450	-	1034	-	-
HCM Lane V/C Ratio	0.109	-	0.01	-	0.048	-	-
HCM Control Delay (s)	8.8	-	13.1	0	8.7	-	-
HCM Lane LOS	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.4	-	0	-	0.1	-	-

7: I-81 & Route 54  
Base 2030 Conditions

FKV.00001  
Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑				↗			↗
Traffic Volume (vph)	0	133	94	1	243	0	0	0	53	0	0	26
Future Volume (vph)	0	133	94	1	243	0	0	0	53	0	0	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	16	13	10	10	12	12	16	12	12	14
Grade (%)		-1%			2%			2%			0%	
Storage Length (ft)	0		0	90		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		904			1213			651			686	
Travel Time (s)		11.2			15.0			14.8			15.6	
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 (%)	0%	15%	10%	0%	7%	0%	0%	12%	0%	0%	0%	64%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Free			Free	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized



1: Route 61 & Hancock Street  
Base 2030 Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	95	58	46	73	19	68	910	92	139	612	59
Future Volume (vph)	55	95	58	46	73	19	68	910	92	139	612	59
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	16	16	16	12	12	12	12	12	12
Grade (%)		-3%			4%			1%			-3%	
Storage Length (ft)	0		0	0		0	190		0	190		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		413			614			553			554	
Travel Time (s)		11.3			16.7			8.4			8.4	
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 (%)	2%	3%	0%	2%	0%	6%	0%	6%	0%	4%	5%	2%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		7.0	15.0		7.0	15.0	
Minimum Split (s)	12.0	12.0		12.0	12.0		13.0	23.0		13.0	23.0	
Total Split (s)	26.0	26.0		26.0	26.0		22.0	42.0		22.0	42.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%		24.4%	46.7%		24.4%	46.7%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	5.5		3.5	5.5	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-1.0			-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		6.0			6.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary



















Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 78.9  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord

Splits and Phases: 1: Route 61 & Hancock Street



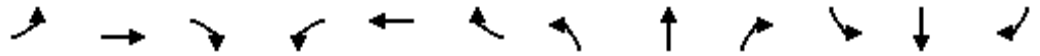
1: Route 61 & Hancock Street  
Base 2030 Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	95	58	46	73	19	68	910	92	139	612	59
Future Volume (veh/h)	55	95	58	46	73	19	68	910	92	139	612	59
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	1869	1869	1869	1779	1779	1779	1794	1710	1710	1855	1841	1841
Adj Flow Rate, veh/h	57	99	46	48	76	20	71	948	82	145	638	56
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, %	3	3	3	0	0	0	0	6	6	4	5	5
Cap, veh/h	142	160	66	150	171	39	169	1198	104	230	1389	122
Arrive On Green	0.15	0.17	0.15	0.15	0.17	0.15	0.10	0.40	0.38	0.13	0.43	0.41
Sat Flow, veh/h	376	950	391	404	1018	229	1709	3026	262	1767	3253	285
Grp Volume(v), veh/h	202	0	0	144	0	0	71	509	521	145	343	351
Grp Sat Flow(s),veh/h/ln	1716	0	0	1652	0	0	1709	1625	1663	1767	1749	1789
Q Serve(g_s), s	1.9	0.0	0.0	0.0	0.0	0.0	2.3	16.2	16.2	4.6	8.2	8.3
Cycle Q Clear(g_c), s	6.5	0.0	0.0	4.5	0.0	0.0	2.3	16.2	16.2	4.6	8.2	8.3
Prop In Lane	0.28		0.23	0.33		0.14	1.00		0.16	1.00		0.16
Lane Grp Cap(c), veh/h	338	0	0	331	0	0	169	643	658	230	747	764
V/C Ratio(X)	0.60	0.00	0.00	0.43	0.00	0.00	0.42	0.79	0.79	0.63	0.46	0.46
Avail Cap(c_a), veh/h	614	0	0	588	0	0	494	967	990	511	1041	1065
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	0.0	0.0	22.4	0.0	0.0	24.9	15.6	15.7	24.2	12.0	12.1
Incr Delay (d2), s/veh	2.4	0.0	0.0	1.3	0.0	0.0	1.7	2.7	2.6	2.9	0.2	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	5.0	0.0	0.0	3.4	0.0	0.0	1.6	8.9	9.1	3.4	4.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	0.0	0.0	23.7	0.0	0.0	26.6	18.3	18.3	27.1	12.2	12.2
LnGrp LOS	C	A	A	C	A	A	C	B	B	C	B	B
Approach Vol, veh/h		202			144			1101			839	
Approach Delay, s/veh		25.6			23.7			18.8			14.8	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.6	30.3		15.9	10.8	32.1		15.9				
Change Period (Y+Rc), s	6.0	8.0		7.0	6.0	8.0		7.0				
Max Green Setting (Gmax), s	16.0	34.0		19.0	16.0	34.0		19.0				
Max Q Clear Time (g_c+I1), s	7.1	18.7		8.5	4.8	10.7		6.5				
Green Ext Time (p_c), s	0.3	3.6		0.8	0.1	0.4		0.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				18.2								
HCM 6th LOS				B								

2: 2nd street & Hancock Street  
Base 2030 Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	13	139	130	14	52	19	43	139	51	3	15	6
Future Volume (vph)	13	139	130	14	52	19	43	139	51	3	15	6
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	11	11	14	14	14	14	14	14
Grade (%)		1%			0%			1%			-2%	
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		614			797			525			483	
Travel Time (s)		16.7			21.7			10.2			9.4	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	5%	0%	2%	0%	2%	4%	0%	0%	13%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		3.0			3.0			3.0			3.0	

Lead/Lag

Lead-Lag Optimize?

Intersection Summary

Area Type: Other

Cycle Length: 70

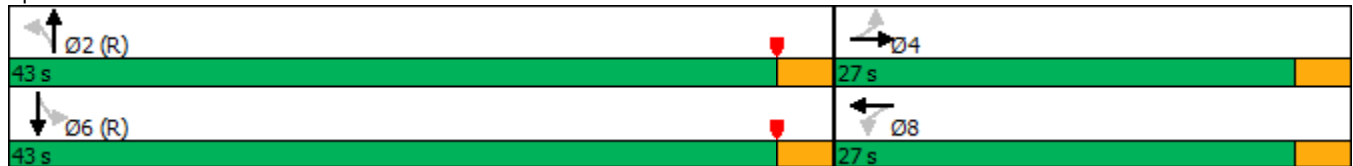
Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 40

Control Type: Pretimed

Splits and Phases: 2: 2nd street & Hancock Street



2: 2nd street & Hancock Street  
Base 2030 Conditions

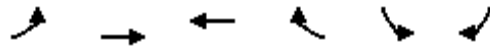
FKV.00001  
Timing Plan: P.M. Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	13	139	130	14	52	19	43	139	51	3	15	6
Future Volume (veh/h)	13	139	130	14	52	19	43	139	51	3	15	6
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	1794	1794	1794	1772	1772	1772	1808	1808	1808	1757	1757	1757
Adj Flow Rate, veh/h	15	156	108	16	58	21	48	156	50	3	17	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	2	2	2	4	4	4	13	13	13
Cap, veh/h	67	337	221	116	371	121	201	624	187	130	671	186
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	36	983	644	164	1083	354	245	1092	328	126	1173	325
Grp Volume(v), veh/h	279	0	0	95	0	0	254	0	0	25	0	0
Grp Sat Flow(s),veh/h/ln	1663	0	0	1601	0	0	1664	0	0	1624	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.2	0.0	0.0	2.7	0.0	0.0	5.1	0.0	0.0	0.4	0.0	0.0
Prop In Lane	0.05		0.39	0.17		0.22	0.19		0.20	0.12		0.20
Lane Grp Cap(c), veh/h	624	0	0	609	0	0	1012	0	0	986	0	0
V/C Ratio(X)	0.45	0.00	0.00	0.16	0.00	0.00	0.25	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	624	0	0	609	0	0	1012	0	0	986	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.1	0.0	0.0	16.0	0.0	0.0	7.5	0.0	0.0	6.5	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.0	0.5	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.8	0.0	0.0	2.0	0.0	0.0	3.1	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	0.0	0.0	16.6	0.0	0.0	8.1	0.0	0.0	6.6	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		279			95			254				25
Approach Delay, s/veh		20.4			16.6			8.1				6.6
Approach LOS		C			B			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.0		27.0		43.0		27.0				
Change Period (Y+Rc), s		3.0		3.0		3.0		3.0				
Max Green Setting (Gmax), s		40.0		24.0		40.0		24.0				
Max Q Clear Time (g_c+I1), s		7.1		11.2		2.4		4.7				
Green Ext Time (p_c), s		1.5		1.4		0.1		0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				14.5								
HCM 6th LOS				B								

3: Burma Road & Site Driveway  
Base 2030 Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Volume (vph)	0	106	90	2	2	8
Future Volume (vph)	0	106	90	2	2	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)		0%	0%		3%	
Storage Length (ft)	0			300	0	0
Storage Lanes	0			1	1	0
Taper Length (ft)	25				25	
Link Speed (mph)		45	45		25	
Link Distance (ft)		591	423		281	
Travel Time (s)		9.0	6.4		7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized

3: Burma Road & Site Driveway  
Base 2030 Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↑	↗	↘	
Traffic Vol, veh/h	0	106	90	2	2	8
Future Vol, veh/h	0	106	90	2	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	300	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	3	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	0	115	98	2	2	9

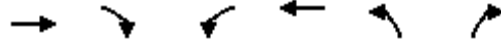
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	100	0	-	0	213 98
Stage 1	-	-	-	-	98 -
Stage 2	-	-	-	-	115 -
Critical Hdwy	4.3	-	-	-	7 6.5
Critical Hdwy Stg 1	-	-	-	-	6 -
Critical Hdwy Stg 2	-	-	-	-	6 -
Follow-up Hdwy	3	-	-	-	3 3.1
Pot Cap-1 Maneuver	1110	-	-	-	866 1015
Stage 1	-	-	-	-	1061 -
Stage 2	-	-	-	-	1039 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1110	-	-	-	866 1015
Mov Cap-2 Maneuver	-	-	-	-	866 -
Stage 1	-	-	-	-	1061 -
Stage 2	-	-	-	-	1039 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1110	-	-	-	981
HCM Lane V/C Ratio	-	-	-	-	0.011
HCM Control Delay (s)	0	-	-	-	8.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

4: Burma Road & Morea Road  
Base 2030 Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	84	61	55	72	70	45
Future Volume (vph)	84	61	55	72	70	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Grade (%)	2%		-2%		-3%	
Link Speed (mph)	45		45		45	
Link Distance (ft)	759		885		961	
Travel Time (s)	11.5		13.4		14.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	9%	6%	3%	11%
Shared Lane Traffic (%)						
Sign Control	Free		Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

4: Burma Road & Morea Road  
Base 2030 Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

Intersection						
Int Delay, s/veh	4.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	84	61	55	72	70	45
Future Vol, veh/h	84	61	55	72	70	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-2	-3	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	9	6	3	11
Mvmt Flow	95	69	63	82	80	51

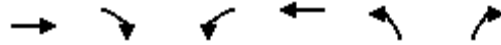
Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	164	0	338
Stage 1	-	-	-	-	130
Stage 2	-	-	-	-	208
Critical Hdwy	-	-	4.1	-	5.83
Critical Hdwy Stg 1	-	-	-	-	4.83
Critical Hdwy Stg 2	-	-	-	-	4.83
Follow-up Hdwy	-	-	3	-	3
Pot Cap-1 Maneuver	-	-	1065	-	797
Stage 1	-	-	-	-	1064
Stage 2	-	-	-	-	989
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1065	-	748
Mov Cap-2 Maneuver	-	-	-	-	748
Stage 1	-	-	-	-	1064
Stage 2	-	-	-	-	928

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	827	-	-	1065	-
HCM Lane V/C Ratio	0.158	-	-	0.059	-
HCM Control Delay (s)	10.2	-	-	8.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.2	-

5: I-81 SB & Morea Road  
 Base 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	127	5	26	84	41	10
Future Volume (vph)	127	5	26	84	41	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	9	9	9	12	12
Grade (%)	-1%			1%	-3%	
Link Speed (mph)	45			45	25	
Link Distance (ft)	453			522	399	
Travel Time (s)	6.9			7.9	10.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	20%	0%	5%	5%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other  
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	2.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	127	5	26	84	41	10
Future Vol, veh/h	127	5	26	84	41	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-3	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	20	0	5	5	0
Mvmt Flow	141	6	29	93	46	11






















Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	147	0	295
Stage 1	-	-	-	-	144
Stage 2	-	-	-	-	151
Critical Hdwy	-	-	4.1	-	5.85
Critical Hdwy Stg 1	-	-	-	-	4.85
Critical Hdwy Stg 2	-	-	-	-	4.85
Follow-up Hdwy	-	-	3	-	3
Pot Cap-1 Maneuver	-	-	1078	-	838
Stage 1	-	-	-	-	1049
Stage 2	-	-	-	-	1042
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1078	-	815
Mov Cap-2 Maneuver	-	-	-	-	815
Stage 1	-	-	-	-	1049
Stage 2	-	-	-	-	1013

Approach	EB	WB	NB
HCM Control Delay, s	0	2	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	842	-	-	1078	-
HCM Lane V/C Ratio	0.067	-	-	0.027	-
HCM Control Delay (s)	9.6	-	-	8.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

6: Route 54 & Morea Road/I-81  
Base 2030 Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	32	0	106	0	0	52	69	143	42	0	154	39
Future Volume (vph)	32	0	106	0	0	52	69	143	42	0	154	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	13	13	13	10	14	10	12	12	10
Grade (%)		1%			2%			-1%			1%	
Storage Length (ft)	0		300	0		0	110		0	0		0
Storage Lanes	1		1	0		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		45			25			55				55
Link Distance (ft)		522			511			904				1161
Travel Time (s)		7.9			13.9			11.2				14.4
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 (%)	22%	6%	11%	0%	9%	2%	0%	0%	6%	0%	0%	14%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free				Free

Intersection Summary

Area Type: Other  
Control Type: Unsignalized

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙		↗			↗	↙	↕	↗		↕	↙
Traffic Vol, veh/h	32	0	106	0	0	52	69	143	42	0	154	39
Future Vol, veh/h	32	0	106	0	0	52	69	143	42	0	154	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	None	-	-	Free	-	-	Yield
Storage Length	0	-	300	-	-	0	110	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	2	-	-	-1	-	-	1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	22	6	11	0	9	2	0	0	6	0	0	14
Mvmt Flow	36	0	118	0	0	58	77	159	47	0	171	43













Major/Minor	Minor2	Minor1			Major1		Major2			
Conflicting Flow All	427	-	-	-	80	171	0	-	-	0
Stage 1	193	-	-	-	-	-	-	-	-	-
Stage 2	234	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	-	-	-	6.4	4.3	-	-	-	-
Critical Hdwy Stg 1	7.14	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.14	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.2	-	-	-	3.2	3	-	-	-	-
Pot Cap-1 Maneuver	555	0	0	0	1011	1050	-	0	0	-
Stage 1	835	0	0	0	-	-	-	0	0	-
Stage 2	783	0	0	0	-	-	-	0	0	-
Platoon blocked, %							-			-
Mov Cap-1 Maneuver	494	-	-	-	1011	1050	-	-	-	-
Mov Cap-2 Maneuver	494	-	-	-	-	-	-	-	-	-
Stage 1	774	-	-	-	-	-	-	-	-	-
Stage 2	684	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	8.8	2.8	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	1050	-	494	-	1011	-	-
HCM Lane V/C Ratio	0.073	-	0.072	-	0.057	-	-
HCM Control Delay (s)	8.7	-	12.9	0	8.8	-	-
HCM Lane LOS	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.2	-	0.2	-	-

7: I-81 & Route 54  
Base 2030 Conditions

FKV.00001  
Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑				↗			↗
Traffic Volume (vph)	0	171	79	3	220	0	0	0	67	0	0	28
Future Volume (vph)	0	171	79	3	220	0	0	0	67	0	0	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	16	13	10	10	12	12	16	12	12	14
Grade (%)		-1%			2%			2%			0%	
Storage Length (ft)	0		0	90		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		904			1213			651			686	
Travel Time (s)		11.2			15.0			14.8			15.6	
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%	15%	10%	0%	7%	0%	0%	12%	0%	0%	0%	64%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Free			Free	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized



## ***2030 Projected Conditions***

1: Route 61 & Hancock Street  
 Projected 2030 Conditions

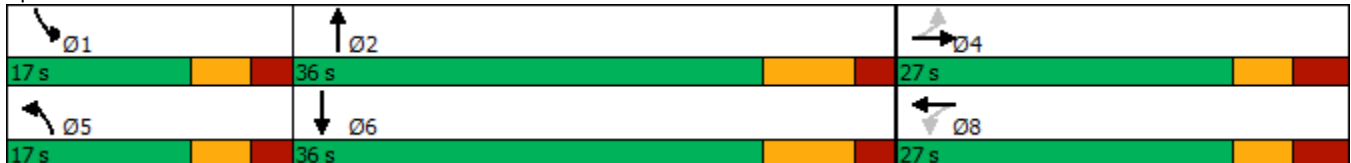
FKV.00001  
 Timing Plan: A.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	74	47	77	55	14	14	398	40	95	729	24
Future Volume (vph)	41	74	47	77	55	14	14	398	40	95	729	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	16	16	16	12	12	12	12	12	12
Grade (%)		-3%			4%			1%			-3%	
Storage Length (ft)	0		0	0		0	190		0	190		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		413			614			553			554	
Travel Time (s)		11.3			16.7			8.4			8.4	
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 (%)	8%	4%	1%	8%	8%	0%	0%	14%	1%	9%	9%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		7.0	15.0		7.0	15.0	
Minimum Split (s)	12.0	12.0		12.0	12.0		13.0	23.0		13.0	23.0	
Total Split (s)	27.0	27.0		27.0	27.0		17.0	36.0		17.0	36.0	
Total Split (%)	33.8%	33.8%		33.8%	33.8%		21.3%	45.0%		21.3%	45.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	5.5		3.5	5.5	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-1.0			-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		6.0			6.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary



















Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 55.5  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord

Splits and Phases: 1: Route 61 & Hancock Street



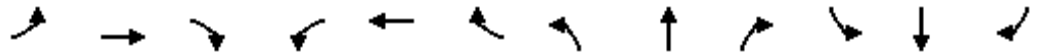
1: Route 61 & Hancock Street  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	74	47	77	55	14	14	398	40	95	729	24
Future Volume (veh/h)	41	74	47	77	55	14	14	398	40	95	729	24
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	1855	1855	1855	1662	1662	1662	1794	1598	1598	1784	1784	1784
Adj Flow Rate, veh/h	43	77	34	80	57	15	15	415	37	99	759	22
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, %	4	4	4	8	8	8	0	14	14	9	9	9
Cap, veh/h	155	147	58	225	95	22	82	958	85	219	1416	41
Arrive On Green	0.13	0.15	0.13	0.13	0.15	0.13	0.05	0.34	0.32	0.13	0.42	0.40
Sat Flow, veh/h	383	987	388	725	636	149	1709	2820	250	1699	3363	97
Grp Volume(v), veh/h	154	0	0	152	0	0	15	223	229	99	382	399
Grp Sat Flow(s),veh/h/ln	1758	0	0	1510	0	0	1709	1518	1553	1699	1695	1766
Q Serve(g_s), s	0.0	0.0	0.0	0.6	0.0	0.0	0.4	5.3	5.4	2.5	7.9	8.0
Cycle Q Clear(g_c), s	3.8	0.0	0.0	4.4	0.0	0.0	0.4	5.3	5.4	2.5	7.9	8.0
Prop In Lane	0.28		0.22	0.53		0.10	1.00		0.16	1.00		0.06
Lane Grp Cap(c), veh/h	323	0	0	310	0	0	82	516	527	219	714	744
V/C Ratio(X)	0.48	0.00	0.00	0.49	0.00	0.00	0.18	0.43	0.44	0.45	0.54	0.54
Avail Cap(c_a), veh/h	800	0	0	701	0	0	435	935	956	433	1043	1087
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	0.0	19.2	0.0	0.0	21.5	12.0	12.1	19.0	10.2	10.2
Incr Delay (d2), s/veh	1.6	0.0	0.0	1.7	0.0	0.0	1.1	0.6	0.6	1.4	0.2	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	2.9	0.0	0.0	2.9	0.0	0.0	0.3	2.5	2.6	1.6	3.6	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	0.0	20.9	0.0	0.0	22.6	12.6	12.7	20.4	10.4	10.4
LnGrp LOS	C	A	A	C	A	A	C	B	B	C	B	B
Approach Vol, veh/h		154			152			467			880	
Approach Delay, s/veh		20.5			20.9			13.0			11.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	23.0		13.0	7.2	26.8		13.0				
Change Period (Y+Rc), s	6.0	8.0		7.0	6.0	8.0		7.0				
Max Green Setting (Gmax), s	11.0	28.0		20.0	11.0	28.0		20.0				
Max Q Clear Time (g_c+I1), s	5.0	7.8		5.8	2.9	10.4		6.4				
Green Ext Time (p_c), s	0.1	1.5		0.6	0.0	0.4		0.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				13.6								
HCM 6th LOS				B								

2: 2nd street & Hancock Street  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: A.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	4	77	98	20	84	13	39	103	21	1	19	12
Future Volume (vph)	4	77	98	20	84	13	39	103	21	1	19	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	11	11	14	14	14	14	14	14
Grade (%)		1%			0%			1%			-2%	
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		614			797			525			483	
Travel Time (s)		16.7			21.7			10.2			9.4	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	8%	2%	21%	6%	0%	5%	17%	20%	0%	6%	25%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		3.0			3.0			3.0			3.0	

Lead/Lag

Lead-Lag Optimize?

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 40

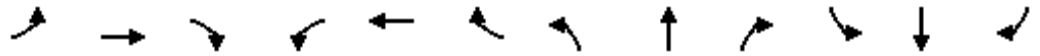
Control Type: Pretimed

Splits and Phases: 2: 2nd street & Hancock Street



2: 2nd street & Hancock Street  
 Projected 2030 Conditions

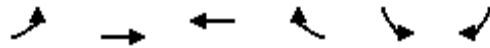
FKV.00001  
 Timing Plan: A.M. Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	4	77	98	20	84	13	39	103	21	1	19	12
Future Volume (veh/h)	4	77	98	20	84	13	39	103	21	1	19	12
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	1682	1682	1682	1716	1716	1716	1618	1618	1618	1861	1861	1861
Adj Flow Rate, veh/h	5	95	75	25	104	14	48	127	24	1	23	11
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	8	8	8	6	6	6	17	17	17	6	6	6
Cap, veh/h	57	301	229	120	433	53	233	573	102	60	681	315
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	12	878	667	174	1263	156	297	1004	178	13	1191	552
Grp Volume(v), veh/h	175	0	0	143	0	0	199	0	0	35	0	0
Grp Sat Flow(s),veh/h/ln	1557	0	0	1594	0	0	1479	0	0	1755	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.8	0.0	0.0	4.3	0.0	0.0	4.3	0.0	0.0	0.6	0.0	0.0
Prop In Lane	0.03		0.43	0.17		0.10	0.24		0.12	0.03		0.31
Lane Grp Cap(c), veh/h	587	0	0	607	0	0	909	0	0	1056	0	0
V/C Ratio(X)	0.30	0.00	0.00	0.24	0.00	0.00	0.22	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	587	0	0	607	0	0	909	0	0	1056	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.0	0.0	0.0	16.5	0.0	0.0	7.4	0.0	0.0	6.6	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.9	0.0	0.0	0.6	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.0	0.0	0.0	3.1	0.0	0.0	2.4	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	0.0	0.0	17.4	0.0	0.0	7.9	0.0	0.0	6.6	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		175			143			199				35
Approach Delay, s/veh		18.3			17.4			7.9				6.6
Approach LOS		B			B			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.0		27.0		43.0		27.0				
Change Period (Y+Rc), s		3.0		3.0		3.0		3.0				
Max Green Setting (Gmax), s		40.0		24.0		40.0		24.0				
Max Q Clear Time (g_c+I1), s		6.3		7.8		2.6		6.3				
Green Ext Time (p_c), s		1.2		0.9		0.1		0.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				13.6								
HCM 6th LOS				B								

3: Burma Road & Site Driveway  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: A.M. Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	↘
Traffic Volume (vph)	2	37	75	19	46	5
Future Volume (vph)	2	37	75	19	46	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)		0%	0%		3%	
Storage Length (ft)	0			300	0	0
Storage Lanes	0			1	1	0
Taper Length (ft)	25				25	
Link Speed (mph)		45	45		25	
Link Distance (ft)		591	423		281	
Travel Time (s)		9.0	6.4		7.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	100%	100%	95%	100%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
 Control Type: Unsignalized

3: Burma Road & Site Driveway  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: A.M. Peak Hour

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	2	37	75	19	46	5
Future Vol, veh/h	2	37	75	19	46	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	300	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	3	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	100	100	95	100
Mvmt Flow	2	43	86	22	53	6

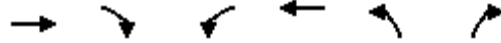
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	108	0	-	0	133 86
Stage 1	-	-	-	-	86 -
Stage 2	-	-	-	-	47 -
Critical Hdwy	4.3	-	-	-	8 7.5
Critical Hdwy Stg 1	-	-	-	-	6.95 -
Critical Hdwy Stg 2	-	-	-	-	6.95 -
Follow-up Hdwy	3	-	-	-	3.9 4
Pot Cap-1 Maneuver	1103	-	-	-	738 789
Stage 1	-	-	-	-	819 -
Stage 2	-	-	-	-	865 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1103	-	-	-	737 789
Mov Cap-2 Maneuver	-	-	-	-	737 -
Stage 1	-	-	-	-	817 -
Stage 2	-	-	-	-	865 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1103	-	-	-	742
HCM Lane V/C Ratio	0.002	-	-	-	0.079
HCM Control Delay (s)	8.3	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

4: Burma Road & Morea Road  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: A.M. Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	55	46	68	88	43	61
Future Volume (vph)	55	46	68	88	43	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Grade (%)	2%			-2%	-3%	
Link Speed (mph)	45			45	45	
Link Distance (ft)	759			885	961	
Travel Time (s)	11.5			13.4	14.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	9%	0%	23%	4%	7%	41%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

4: Burma Road & Morea Road  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: A.M. Peak Hour

Intersection						
Int Delay, s/veh	4.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	55	46	68	88	43	61
Future Vol, veh/h	55	46	68	88	43	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-2	-3	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	9	0	23	4	7	41
Mvmt Flow	63	53	78	101	49	70

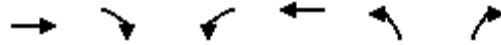
Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	116	0	347 90
Stage 1	-	-	-	-	90 -
Stage 2	-	-	-	-	257 -
Critical Hdwy	-	-	4.33	-	5.87 6.31
Critical Hdwy Stg 1	-	-	-	-	4.87 -
Critical Hdwy Stg 2	-	-	-	-	4.87 -
Follow-up Hdwy	-	-	3.2	-	3.1 3.5
Pot Cap-1 Maneuver	-	-	1030	-	763 917
Stage 1	-	-	-	-	1069 -
Stage 2	-	-	-	-	914 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1030	-	702 917
Mov Cap-2 Maneuver	-	-	-	-	702 -
Stage 1	-	-	-	-	1069 -
Stage 2	-	-	-	-	841 -

Approach	EB	WB	NB
HCM Control Delay, s	0	3.8	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	814	-	-	1030	-
HCM Lane V/C Ratio	0.147	-	-	0.076	-
HCM Control Delay (s)	10.2	-	-	8.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

5: I-81 SB & Morea Road  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: A.M. Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	94	26	31	112	70	7
Future Volume (vph)	94	26	31	112	70	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	9	9	9	12	12
Grade (%)	-1%			1%	-3%	
Link Speed (mph)	45			45	25	
Link Distance (ft)	453			522	399	
Travel Time (s)	6.9			7.9	10.9	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	16%	62%	3%	18%	7%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	3.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	94	26	31	112	70	7
Future Vol, veh/h	94	26	31	112	70	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-3	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	16	62	3	18	7	0
Mvmt Flow	106	29	35	126	79	8






















Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	135	0	317
Stage 1	-	-	-	-	121
Stage 2	-	-	-	-	196
Critical Hdwy	-	-	4.4	-	5.87
Critical Hdwy Stg 1	-	-	-	-	4.87
Critical Hdwy Stg 2	-	-	-	-	4.87
Follow-up Hdwy	-	-	3	-	3.1
Pot Cap-1 Maneuver	-	-	1076	-	791
Stage 1	-	-	-	-	1038
Stage 2	-	-	-	-	968
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1076	-	763
Mov Cap-2 Maneuver	-	-	-	-	763
Stage 1	-	-	-	-	1038
Stage 2	-	-	-	-	934

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	780	-	-	1076	-
HCM Lane V/C Ratio	0.111	-	-	0.032	-
HCM Control Delay (s)	10.2	-	-	8.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

6: Route 54 & Morea Road/I-81  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	4	0	97	0	0	44	113	111	44	0	141	32
Future Volume (vph)	4	0	97	0	0	44	113	111	44	0	141	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	13	13	13	10	14	10	12	12	10
Grade (%)		1%			2%			-1%			1%	
Storage Length (ft)	0		300	0		0	110		0	0		0
Storage Lanes	1		1	0		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		45			25			55			55	
Link Distance (ft)		522			511			904			1161	
Travel Time (s)		7.9			13.9			11.2			14.4	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	22%	6%	11%	0%	9%	2%	0%	0%	6%	0%	0%	14%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other  
 Control Type: Unsignalized

6: Route 54 & Morea Road/I-81  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: A.M. Peak Hour

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙		↗			↗	↙	↕	↗		↕	↙
Traffic Vol, veh/h	4	0	97	0	0	44	113	111	44	0	141	32
Future Vol, veh/h	4	0	97	0	0	44	113	111	44	0	141	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	None	-	-	Free	-	-	Yield
Storage Length	0	-	300	-	-	0	110	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	2	-	-	-1	-	-	1	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	22	6	11	0	9	2	0	0	6	0	0	14
Mvmt Flow	4	0	109	0	0	49	127	125	49	0	158	36

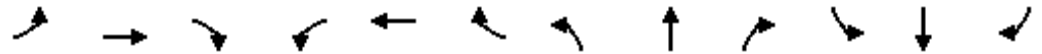
Major/Minor	Minor2	Minor1			Major1		Major2			
Conflicting Flow All	493	-	-	-	63	158	0	-	-	0
Stage 1	176	-	-	-	-	-	-	-	-	-
Stage 2	317	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	-	-	-	6.4	4.3	-	-	-	-
Critical Hdwy Stg 1	7.14	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.14	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.2	-	-	-	3.2	3	-	-	-	-
Pot Cap-1 Maneuver	497	0	0	0	0	1034	1060	-	0	0
Stage 1	857	0	0	0	0	-	-	-	0	0
Stage 2	688	0	0	0	0	-	-	-	0	0
Platoon blocked, %								-		-
Mov Cap-1 Maneuver	430	-	-	-	-	1034	1060	-	-	-
Mov Cap-2 Maneuver	430	-	-	-	-	-	-	-	-	-
Stage 1	754	-	-	-	-	-	-	-	-	-
Stage 2	577	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.5	8.7	4.5	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	1060	-	430	-	1034	-	-
HCM Lane V/C Ratio	0.12	-	0.01	-	0.048	-	-
HCM Control Delay (s)	8.9	-	13.5	0	8.7	-	-
HCM Lane LOS	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.4	-	0	-	0.1	-	-

7: I-81 & Route 54  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: A.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑				↗			↗
Traffic Volume (vph)	0	133	107	1	243	0	0	0	53	0	0	36
Future Volume (vph)	0	133	107	1	243	0	0	0	53	0	0	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	16	13	10	10	12	12	16	12	12	14
Grade (%)		-1%			2%			2%			0%	
Storage Length (ft)	0		0	90		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		904			1213			651			686	
Travel Time (s)		11.2			15.0			14.8			15.6	
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 (%)	0%	15%	10%	0%	7%	0%	0%	12%	0%	0%	0%	64%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Free			Free	

Intersection Summary

Area Type: Other  
 Control Type: Unsignalized



1: Route 61 & Hancock Street  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	95	58	46	73	20	68	910	92	140	612	59
Future Volume (vph)	55	95	58	46	73	20	68	910	92	140	612	59
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	16	16	16	12	12	12	12	12	12
Grade (%)		-3%			4%			1%			-3%	
Storage Length (ft)	0		0	0		0	190		0	190		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		413			614			553			554	
Travel Time (s)		11.3			16.7			8.4			8.4	
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 (%)	2%	3%	0%	2%	0%	6%	0%	6%	0%	4%	5%	2%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		7.0	15.0		7.0	15.0	
Minimum Split (s)	12.0	12.0		12.0	12.0		13.0	23.0		13.0	23.0	
Total Split (s)	26.0	26.0		26.0	26.0		22.0	42.0		22.0	42.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%		24.4%	46.7%		24.4%	46.7%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	5.5		3.5	5.5	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-1.0			-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		6.0			6.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

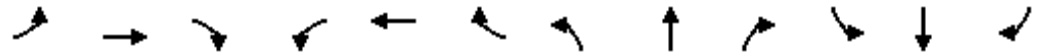
Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 79  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord

Splits and Phases: 1: Route 61 & Hancock Street



1: Route 61 & Hancock Street  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	↗
Traffic Volume (veh/h)	55	95	58	46	73	20	68	910	92	140	612	59
Future Volume (veh/h)	55	95	58	46	73	20	68	910	92	140	612	59
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	1869	1869	1869	1779	1779	1779	1794	1710	1710	1855	1841	1841
Adj Flow Rate, veh/h	57	99	46	48	76	21	71	948	82	146	638	56
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, %	3	3	3	0	0	0	0	6	6	4	5	5
Cap, veh/h	142	160	66	149	170	40	169	1197	104	231	1391	122
Arrive On Green	0.15	0.17	0.15	0.15	0.17	0.15	0.10	0.40	0.38	0.13	0.43	0.41
Sat Flow, veh/h	376	950	391	402	1011	239	1709	3026	262	1767	3253	285
Grp Volume(v), veh/h	202	0	0	145	0	0	71	509	521	146	343	351
Grp Sat Flow(s),veh/h/ln	1717	0	0	1652	0	0	1709	1625	1663	1767	1749	1789
Q Serve(g_s), s	1.9	0.0	0.0	0.0	0.0	0.0	2.3	16.2	16.3	4.6	8.2	8.3
Cycle Q Clear(g_c), s	6.5	0.0	0.0	4.6	0.0	0.0	2.3	16.2	16.3	4.6	8.2	8.3
Prop In Lane	0.28		0.23	0.33		0.14	1.00		0.16	1.00		0.16
Lane Grp Cap(c), veh/h	338	0	0	331	0	0	169	643	658	231	748	765
V/C Ratio(X)	0.60	0.00	0.00	0.44	0.00	0.00	0.42	0.79	0.79	0.63	0.46	0.46
Avail Cap(c_a), veh/h	613	0	0	587	0	0	493	966	989	510	1039	1064
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	0.0	0.0	22.5	0.0	0.0	25.0	15.7	15.7	24.3	12.0	12.1
Incr Delay (d2), s/veh	2.4	0.0	0.0	1.3	0.0	0.0	1.7	2.7	2.6	2.9	0.2	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	5.0	0.0	0.0	3.4	0.0	0.0	1.6	8.9	9.1	3.4	4.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	0.0	0.0	23.8	0.0	0.0	26.6	18.3	18.3	27.1	12.2	12.2
LnGrp LOS	C	A	A	C	A	A	C	B	B	C	B	B
Approach Vol, veh/h		202			145			1101				840
Approach Delay, s/veh		25.7			23.8			18.9				14.8
Approach LOS		C			C			B				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.7	30.3		15.9	10.8	32.2		15.9				
Change Period (Y+Rc), s	6.0	8.0		7.0	6.0	8.0		7.0				
Max Green Setting (Gmax), s	16.0	34.0		19.0	16.0	34.0		19.0				
Max Q Clear Time (g_c+I1), s	7.1	18.7		8.5	4.8	10.7		6.6				
Green Ext Time (p_c), s	0.3	3.6		0.8	0.1	0.4		0.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				18.3								
HCM 6th LOS				B								

2: 2nd street & Hancock Street  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	13	140	130	14	53	19	43	139	51	3	15	6
Future Volume (vph)	13	140	130	14	53	19	43	139	51	3	15	6
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	11	11	14	14	14	14	14	14
Grade (%)		1%			0%			1%			-2%	
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		614			797			525			483	
Travel Time (s)		16.7			21.7			10.2			9.4	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	5%	0%	2%	0%	2%	4%	0%	0%	13%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		3.0			3.0			3.0			3.0	

Lead/Lag

Lead-Lag Optimize?

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 40

Control Type: Pretimed

Splits and Phases: 2: 2nd street & Hancock Street



2: 2nd street & Hancock Street  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour



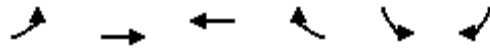
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	13	140	130	14	53	19	43	139	51	3	15	6
Future Volume (veh/h)	13	140	130	14	53	19	43	139	51	3	15	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	1794	1794	1794	1772	1772	1772	1808	1808	1808	1757	1757	1757
Adj Flow Rate, veh/h	15	157	108	16	60	21	48	156	50	3	17	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	2	2	2	4	4	4	13	13	13
Cap, veh/h	67	338	220	115	376	119	201	624	187	130	671	186
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	36	986	642	160	1097	347	245	1092	328	126	1173	325
Grp Volume(v), veh/h	280	0	0	97	0	0	254	0	0	25	0	0
Grp Sat Flow(s),veh/h/ln	1664	0	0	1604	0	0	1664	0	0	1624	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.2	0.0	0.0	2.8	0.0	0.0	5.1	0.0	0.0	0.4	0.0	0.0
Prop In Lane	0.05		0.39	0.16		0.22	0.19		0.20	0.12		0.20
Lane Grp Cap(c), veh/h	625	0	0	610	0	0	1012	0	0	986	0	0
V/C Ratio(X)	0.45	0.00	0.00	0.16	0.00	0.00	0.25	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	625	0	0	610	0	0	1012	0	0	986	0	0
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(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.1	0.0	0.0	16.0	0.0	0.0	7.5	0.0	0.0	6.5	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.8	0.0	0.0	2.0	0.0	0.0	3.1	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	0.0	16.6	0.0	0.0	8.1	0.0	0.0	6.6	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		280			97			254				25
Approach Delay, s/veh		20.5			16.6			8.1				6.6
Approach LOS		C			B			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.0		27.0		43.0		27.0				
Change Period (Y+Rc), s		3.0		3.0		3.0		3.0				
Max Green Setting (Gmax), s		40.0		24.0		40.0		24.0				
Max Q Clear Time (g_c+I1), s		7.1		11.2		2.4		4.8				
Green Ext Time (p_c), s		1.5		1.4		0.1		0.4				

Intersection Summary

HCM 6th Ctrl Delay	14.6
HCM 6th LOS	B

3: Burma Road & Site Driveway  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Volume (vph)	1	106	90	3	8	9
Future Volume (vph)	1	106	90	3	8	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)		0%	0%		3%	
Storage Length (ft)	0			300	0	0
Storage Lanes	0			1	1	0
Taper Length (ft)	25				25	
Link Speed (mph)		45	45		25	
Link Distance (ft)		591	423		281	
Travel Time (s)		9.0	6.4		7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
 Control Type: Unsignalized

3: Burma Road & Site Driveway  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	1	106	90	3	8	9
Future Vol, veh/h	1	106	90	3	8	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	300	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	3	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	1	115	98	3	9	10

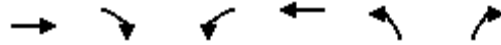
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	101	0	-	0	215 98
Stage 1	-	-	-	-	98 -
Stage 2	-	-	-	-	117 -
Critical Hdwy	4.3	-	-	-	7 6.5
Critical Hdwy Stg 1	-	-	-	-	6 -
Critical Hdwy Stg 2	-	-	-	-	6 -
Follow-up Hdwy	3	-	-	-	3 3.1
Pot Cap-1 Maneuver	1109	-	-	-	863 1015
Stage 1	-	-	-	-	1061 -
Stage 2	-	-	-	-	1036 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1109	-	-	-	862 1015
Mov Cap-2 Maneuver	-	-	-	-	862 -
Stage 1	-	-	-	-	1060 -
Stage 2	-	-	-	-	1036 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1109	-	-	-	937
HCM Lane V/C Ratio	0.001	-	-	-	0.02
HCM Control Delay (s)	8.2	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

4: Burma Road & Morea Road  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	84	61	56	72	70	51
Future Volume (vph)	84	61	56	72	70	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Grade (%)	2%			-2%	-3%	
Link Speed (mph)	45			45	45	
Link Distance (ft)	759			885	961	
Travel Time (s)	11.5			13.4	14.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	9%	6%	3%	11%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

4: Burma Road & Morea Road  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour

Intersection						
Int Delay, s/veh	4.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	84	61	56	72	70	51
Future Vol, veh/h	84	61	56	72	70	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-2	-3	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	9	6	3	11
Mvmt Flow	95	69	64	82	80	58

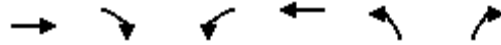
Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	164	0	340
Stage 1	-	-	-	-	130
Stage 2	-	-	-	-	210
Critical Hdwy	-	-	4.1	-	5.83
Critical Hdwy Stg 1	-	-	-	-	4.83
Critical Hdwy Stg 2	-	-	-	-	4.83
Follow-up Hdwy	-	-	3	-	3
Pot Cap-1 Maneuver	-	-	1065	-	795
Stage 1	-	-	-	-	1064
Stage 2	-	-	-	-	987
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1065	-	745
Mov Cap-2 Maneuver	-	-	-	-	745
Stage 1	-	-	-	-	1064
Stage 2	-	-	-	-	925

Approach	EB	WB	NB
HCM Control Delay, s	0	3.8	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	831	-	-	1065	-
HCM Lane V/C Ratio	0.165	-	-	0.06	-
HCM Control Delay (s)	10.2	-	-	8.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.2	-

5: I-81 SB & Morea Road  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	
Traffic Volume (vph)	130	8	26	85	41	10
Future Volume (vph)	130	8	26	85	41	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	9	9	9	12	12
Grade (%)	-1%			1%	-3%	
Link Speed (mph)	45			45	25	
Link Distance (ft)	453			522	399	
Travel Time (s)	6.9			7.9	10.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	20%	0%	5%	5%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

5: I-81 SB & Morea Road  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour

Intersection						
Int Delay, s/veh	2.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	130	8	26	85	41	10
Future Vol, veh/h	130	8	26	85	41	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-3	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	20	0	5	5	0
Mvmt Flow	144	9	29	94	46	11























Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	153	0	301
Stage 1	-	-	-	-	149
Stage 2	-	-	-	-	152
Critical Hdwy	-	-	4.1	-	5.85
Critical Hdwy Stg 1	-	-	-	-	4.85
Critical Hdwy Stg 2	-	-	-	-	4.85
Follow-up Hdwy	-	-	3	-	3
Pot Cap-1 Maneuver	-	-	1074	-	832
Stage 1	-	-	-	-	1044
Stage 2	-	-	-	-	1041
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1074	-	809
Mov Cap-2 Maneuver	-	-	-	-	809
Stage 1	-	-	-	-	1044
Stage 2	-	-	-	-	1012

Approach	EB	WB	NB
HCM Control Delay, s	0	2	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	835	-	-	1074	-
HCM Lane V/C Ratio	0.068	-	-	0.027	-
HCM Control Delay (s)	9.6	-	-	8.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

6: Route 54 & Morea Road/I-81  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	32	0	109	0	0	52	69	143	42	0	154	39
Future Volume (vph)	32	0	109	0	0	52	69	143	42	0	154	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	13	13	13	10	14	10	12	12	10
Grade (%)		1%			2%			-1%			1%	
Storage Length (ft)	0		300	0		0	110		0	0		0
Storage Lanes	1		1	0		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		45			25			55				55
Link Distance (ft)		522			511			904				1161
Travel Time (s)		7.9			13.9			11.2				14.4
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 (%)	22%	6%	11%	0%	9%	2%	0%	0%	6%	0%	0%	14%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free				Free

Intersection Summary

Area Type: Other  
 Control Type: Unsignalized

6: Route 54 & Morea Road/I-81  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙		↗			↗	↙	↕	↗		↕	↙
Traffic Vol, veh/h	32	0	109	0	0	52	69	143	42	0	154	39
Future Vol, veh/h	32	0	109	0	0	52	69	143	42	0	154	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	None	-	-	Free	-	-	Yield
Storage Length	0	-	300	-	-	0	110	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	2	-	-	-1	-	-	1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	22	6	11	0	9	2	0	0	6	0	0	14
Mvmt Flow	36	0	121	0	0	58	77	159	47	0	171	43













Major/Minor	Minor2	Minor1			Major1		Major2				
Conflicting Flow All	427	-	-	-	80	171	0	-	-	-	0
Stage 1	193	-	-	-	-	-	-	-	-	-	-
Stage 2	234	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	-	-	-	6.4	4.3	-	-	-	-	-
Critical Hdwy Stg 1	7.14	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.14	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.2	-	-	-	3.2	3	-	-	-	-	-
Pot Cap-1 Maneuver	555	0	0	0	0	1011	1050	-	0	0	-
Stage 1	835	0	0	0	0	-	-	-	0	0	-
Stage 2	783	0	0	0	0	-	-	-	0	0	-
Platoon blocked, %											
Mov Cap-1 Maneuver	494	-	-	-	-	1011	1050	-	-	-	-
Mov Cap-2 Maneuver	494	-	-	-	-	-	-	-	-	-	-
Stage 1	774	-	-	-	-	-	-	-	-	-	-
Stage 2	684	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	8.8	2.8	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	1050	-	494	-	1011	-	-
HCM Lane V/C Ratio	0.073	-	0.072	-	0.057	-	-
HCM Control Delay (s)	8.7	-	12.9	0	8.8	-	-
HCM Lane LOS	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.2	-	0.2	-	-

7: I-81 & Route 54  
 Projected 2030 Conditions

FKV.00001  
 Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑				↗			↖
Traffic Volume (vph)	0	171	82	3	220	0	0	0	67	0	0	28
Future Volume (vph)	0	171	82	3	220	0	0	0	67	0	0	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	16	13	10	10	12	12	16	12	12	14
Grade (%)		-1%			2%			2%			0%	
Storage Length (ft)	0		0	90		0	0		0	0		0
Storage Lanes	0		1	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		904			1213			651			686	
Travel Time (s)		11.2			15.0			14.8			15.6	
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%	15%	10%	0%	7%	0%	0%	12%	0%	0%	0%	64%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Free			Free	

Intersection Summary

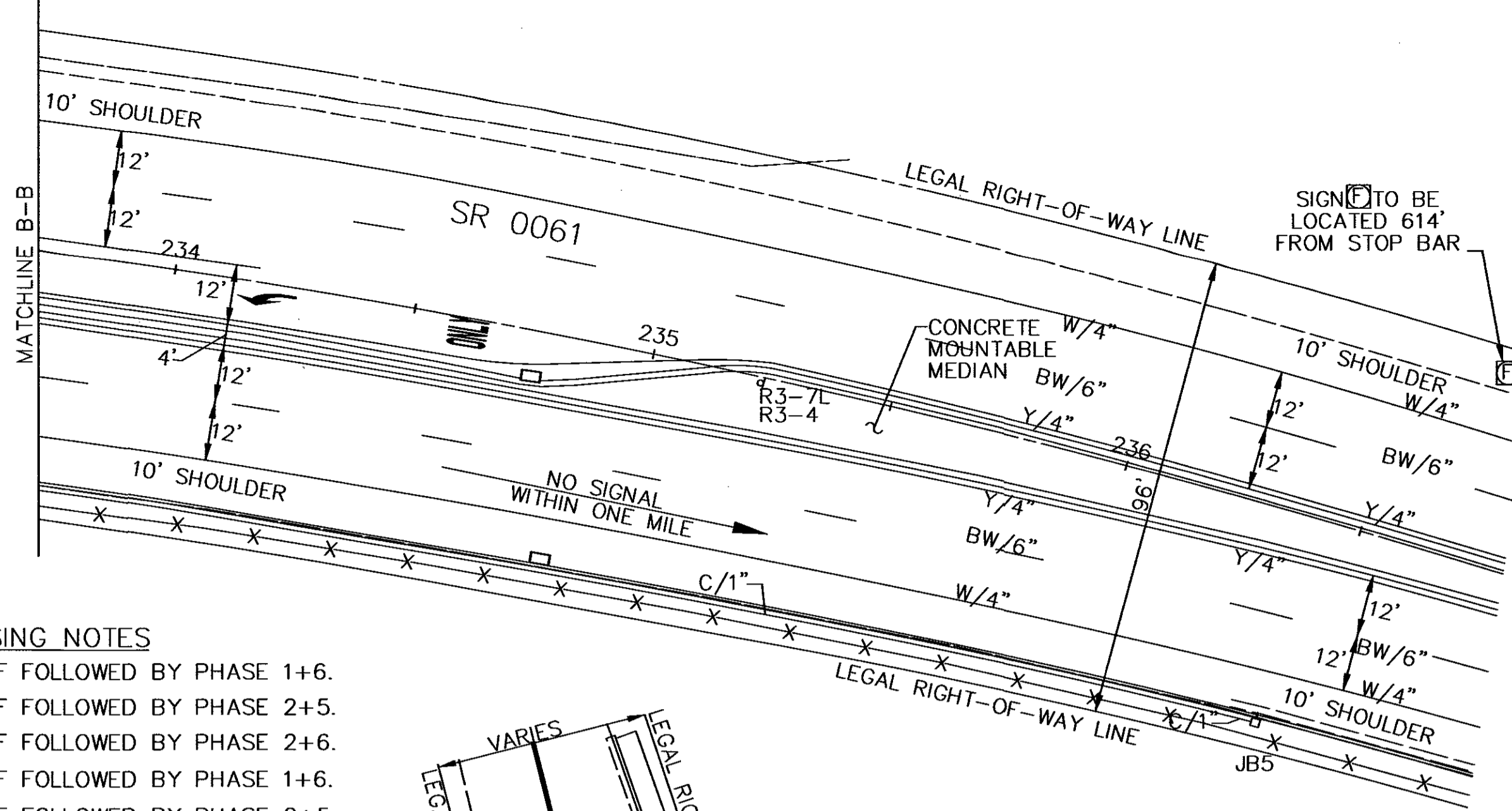
Area Type: Other  
 Control Type: Unsignalized



**APPENDIX F:**  
***PennDOT Traffic Signal Plans***

PHASING, TIMING AND SEQUENCE CHART

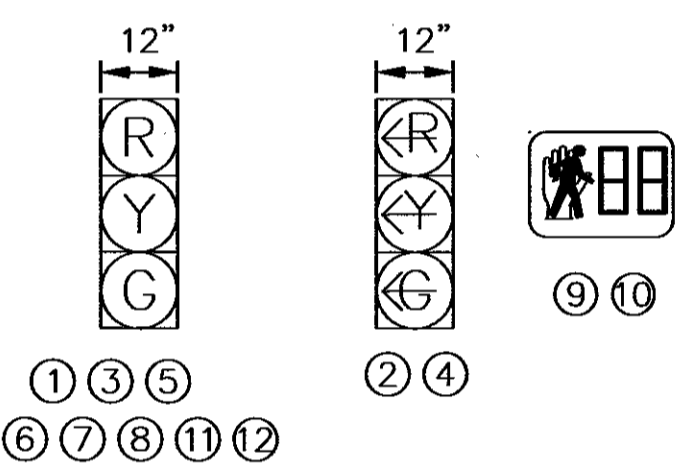
PHASE	1+5					1+6			2+5			2+6			4+8		EMERGENCY FLASHING OPERATION
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1,11	R	R	R	G	Y(3)	R(3)	R	R	R	G	Y(4)	R(4)	R	R	R	R	Y
2	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
4	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
3,12	R	R	R	R	R	R	G	Y(3)	R(3)	G	Y(5)	R(5)	R	R	R	R	Y
5,6,7,8	R	R	R	R	R	R	R	R	R	R	R	R	G	G	Y	R	R
9,10	H	H	H	H	H	H	H	H	H	H	H	H	M	FH	H	H	OFF
FIXED		3.5	2.5		3.5	2.5		3.5	2.5		5.5	2.5			3.5	3.5	
MINIMUM	7			7			7			15			5				
ADDED INITIAL																	
MAX INITIAL																	
PASSAGE	3			3			3			1**			4				
BEFORE REDUCE																	
TO REDUCE																	
MIN GAP																	
MAX 1	11			11			11			28			20				
MAX 2	16			16			16			34			19				
PEDESTRIAN(6)													7	32			
MEMORY		NON-LOCKING		NON-LOCKING			NON-LOCKING			MIN RECALL			NON-LOCKING				



PHASING NOTES

- ① ⊕ IF FOLLOWED BY PHASE 1+6.
- ② ⊕ IF FOLLOWED BY PHASE 2+5.
- ③ G IF FOLLOWED BY PHASE 2+6.
- ④ G IF FOLLOWED BY PHASE 1+6.
- ⑤ G IF FOLLOWED BY PHASE 2+5.
- ⑥ UPON PEDESTRIAN ACTUATION ONLY OTHERWISE H AT ALL TIMES.

SIGNAL INDICATIONS



NOTES:

- 1. ALL SIGNALS EQUIPPED WITH LEDS
- 2. SIGNALS 1-8, 11 AND 12 EQUIPPED WITH BACKPLATES WITH RETROREFLECTIVE BORDERS

SR 0061 (ROUTE 61 BY-PASS)  
SEG 0423, OFF 0000  
STATION 232+27

WEEKLY PROGRAM CHART

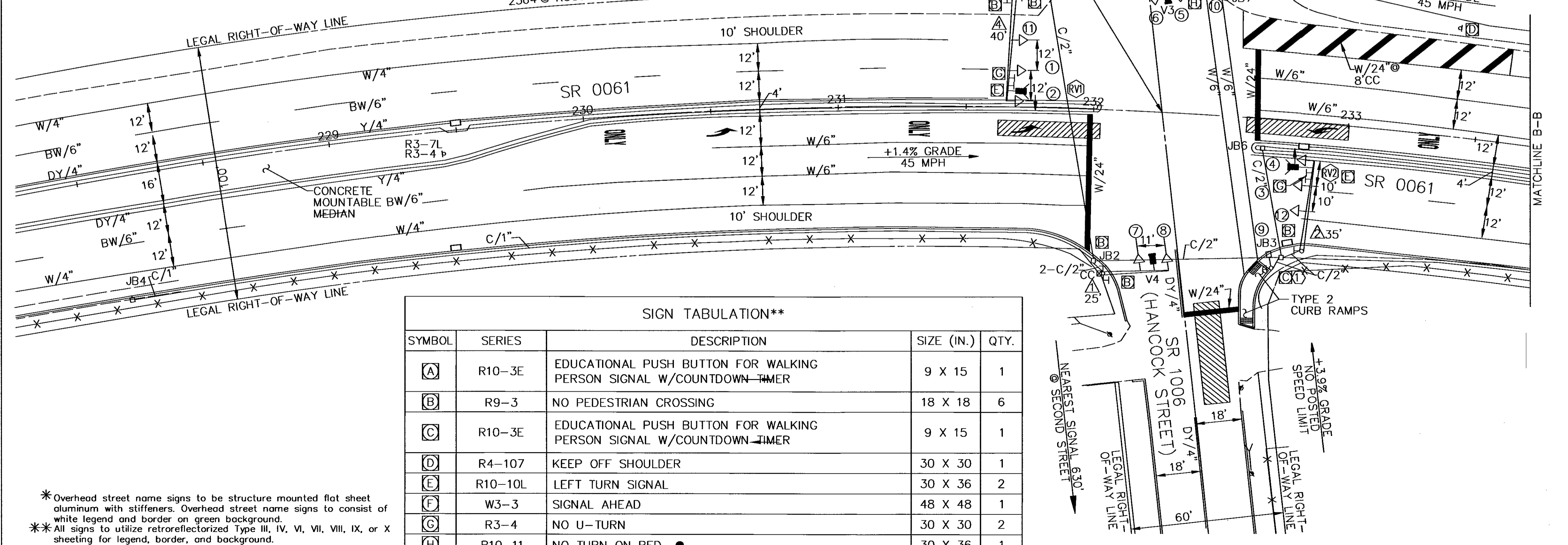
EVENT	DAY OF WEEK							TIME	CYCLE (SEC)	OFFSET (SEC)	COMMENTS
	M	T	W	T	F	S	S				
1	X	X	X	X	X	X	X	06 00 00			MAX 1, FREE
2	X	X	X	X	X	X	X	14 00 00			MAX 2, FREE

\*\* DENSITY ZONE NOTES

-RANGE OF DETECTION: 0-100 FEET FROM STOP BAR  
-MINIMUM SPEED BOUNDARY: 1-35 MPH

\*\*ADVANCE DILEMMA ZONE NOTES

-ESTIMATED TIME OF ARRIVAL: MIN. 2.5-MAX 5.5 SEC  
-RANGE OF DETECTION: MIN 50-MAX 450 FT.  
-MINIMUM SPEED BOUNDARY: 30-100 MPH



SIGN TABULATION\*\*

SYMBOL	SERIES	DESCRIPTION	SIZE (IN.)	QTY.
(A)	R10-3E	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON SIGNAL W/COUNTDOWN-TIMER	9 X 15	1
(B)	R9-3	NO PEDESTRIAN CROSSING	18 X 18	6
(C)	R10-3E	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON SIGNAL W/COUNTDOWN-TIMER	9 X 15	1
(D)	R4-107	KEEP OFF SHOULDER	30 X 30	1
(E)	R10-10L	LEFT TURN SIGNAL	30 X 36	2
(F)	W3-3	SIGNAL AHEAD	48 X 48	1
(G)	R3-4	NO U-TURN	30 X 30	2
(H)	R10-11	NO TURN ON RED ●	30 X 36	1

\*Overhead street name signs to be structure mounted flat sheet aluminum with stiffeners. Overhead street name signs to consist of white legend and border on green background.  
\*\*All signs to utilize retroreflectorized Type III, IV, VI, VII, VIII, IX, or X sheeting for legend, border, and background.

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
5-0	SCHUYLKILL			
SAINT CLAIR BOROUGH				
PERMIT NO.: 53-425-006	SHEET 2 OF 2			
DATE ISSUED: 12-7-87	DATE REVISED: 2-20-20			

GENERAL NOTES

Installation, operation and maintenance of this traffic signal to be in accordance with Pennsylvania Department of Transportation Regulations on Official Traffic Control Devices.  
No modifications to this installation are permitted unless prior approval is granted, in writing, by the department.  
All maintenance necessary for proper visibility of the signals, including trimming trees, is the responsibility of the Permittee.  
All signs and pavement markings indicated on this drawing are considered part of the permit and are to be installed and maintained by the Permittee, unless otherwise indicated, except the longitudinal pavement markings on State highways which will be maintained by the department.  
Install Traffic Signal Supports in accordance with Publication 149, Chapter 5.  
The bottom of signal heads and signs erected over the roadway are not to be less than 15 feet nor more than 19 feet above the roadway. The bottom of post mounted signal heads are to be not less than 8 feet nor more than 15 feet above the sidewalk or pavement grade.  
The minimum horizontal distance between signal heads measured at right angles to the approach is to be 8 feet.  
In addition to this signal permit, the Permittee will obtain a Highway Occupancy Permit prior to any openings being made in or under any portion of a State Highway, if applicable.  
This drawing cannot be used as a construction drawing unless the Permittee complies with the provisions of Act 287-1974 as amended, Prevention of Damage to Underground Utilities. Prior to construction consult with utility companies to resolve any problems which may be created due to the location of utilities.  
Place pavement markings in accordance with the Department of Transportation Pavement Marking TC-8600 Series Standards.  
Maintenance and protection of traffic for the installation and maintenance of this traffic signal to be in accordance with Publication 213, Work Zone Traffic Control.

LEGEND

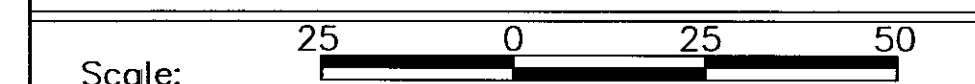
- △ 25' MA MAST ARM/IDENTIFYING LENGTH
- ▷ (4) SIGNAL HEAD
- ◻ (4) PEDESTRIAN SIGNAL HEAD
- ⊕ (4) PEDESTRIAN PUSH BUTTON
- ⊕ (A) SIGN/IDENTIFYING LETTER
- ⊕ (RV) RADAR/VIDEO DETECTOR
- ⊕ (V4) VIDEO DETECTION CAMERA
- ⊕ (DZ) VIDEO DETECTION ZONE
- ⊕ (CC) DETECTABLE WARNING SURFACE
- ⊕ (CC) CONTROLLER CABINET
- ⊕ (JB4) JUNCTION BOX
- ⊕ (C/1") CONDUIT
- ⊕ (DY/4") DOUBLE YELLOW LINE / 4" WIDTH
- ⊕ (Y/4") SOLID YELLOW LINE / 4" WIDTH
- ⊕ (W/4") SOLID WHITE LINE / 4" WIDTH
- ⊕ (BW/6") BROKEN WHITE LINE / 6" WIDTH
- ⊕ (W/6") SOLID WHITE LINE / 6" WIDTH
- ⊕ (W/24") SOLID WHITE LINE / 24" WIDTH

County: SCHUYLKILL  
Municipality: SAINT CLAIR BOROUGH  
Intersection: SR 0061 AND SR 1006 (HANCOCK ST./WAIDE RD.)

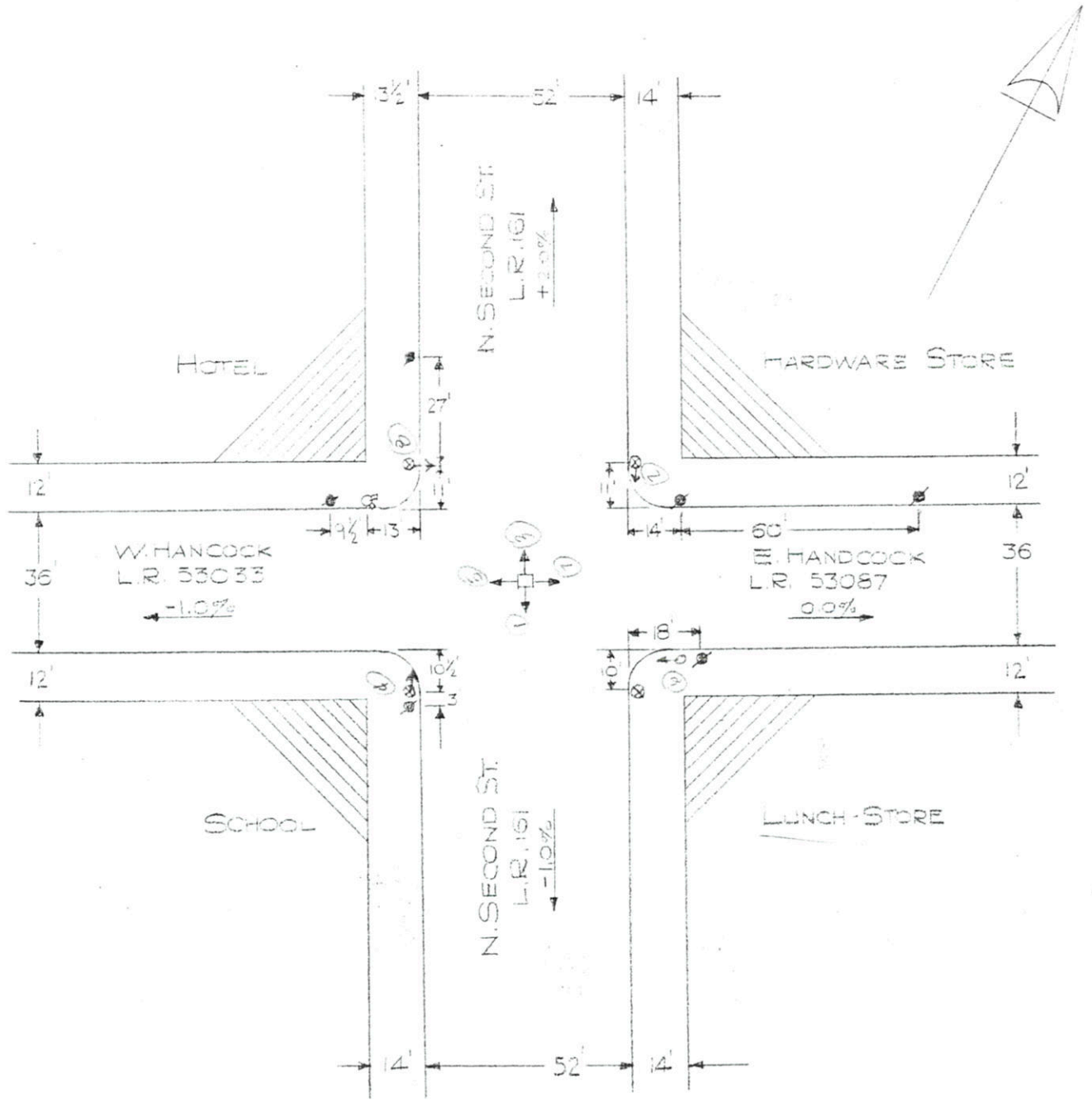
Reviewed: *Wm M. Reys* 2/14/20  
Municipal Official Date

Reviewed: *Chad...* 2/16/20  
District Traffic Signals Div. Date

Recommended: *Steve...* 2/19/20  
District Traffic Engineer Date



CONDITION DIAGRAM (FORM 821)



INDICATE ALL PAVEMENT MARKINGS, GRADES, SIGHT DISTANCES AND DISTANCES NOT SCALED.

LEGEND

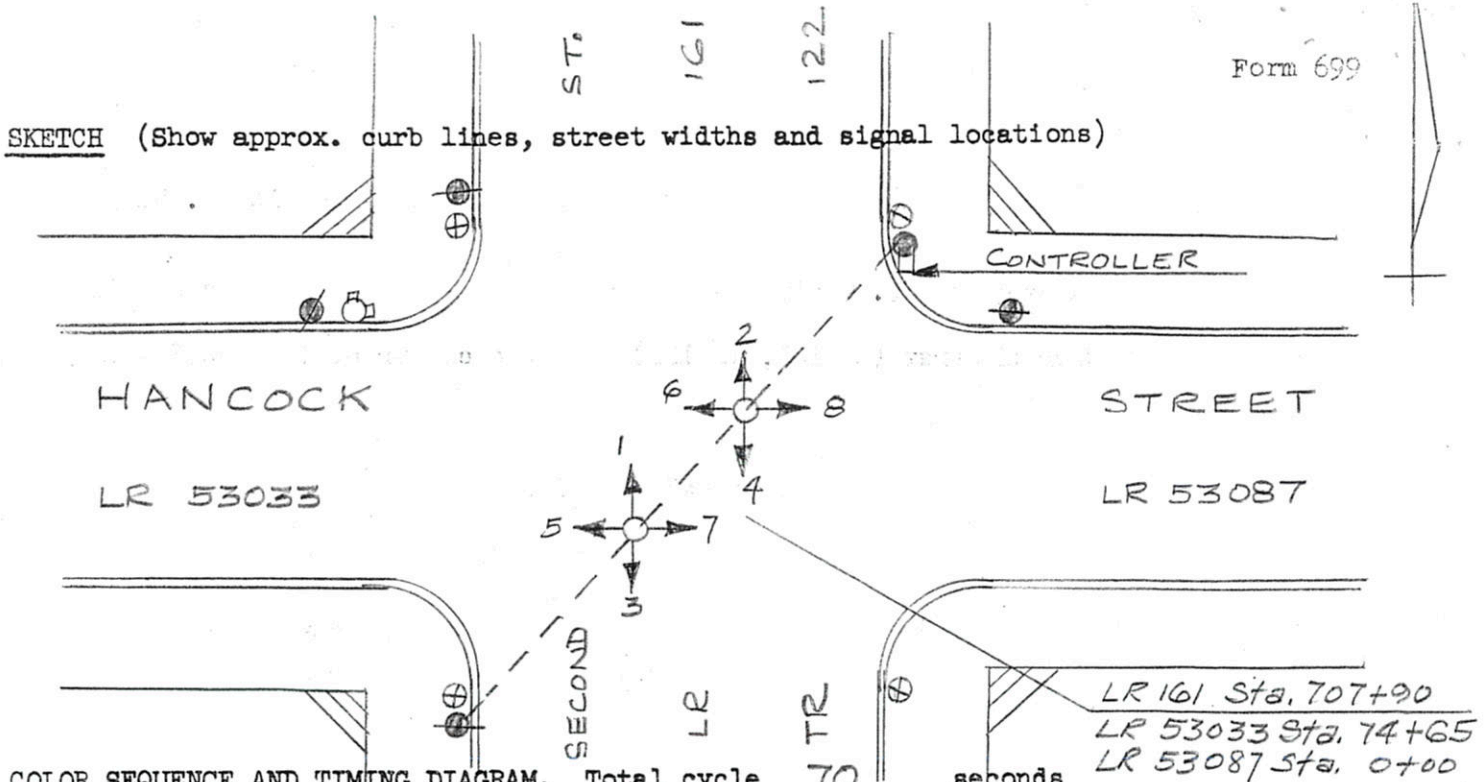
	BUILDING (RESIDENCE)		GUARD FENCE
	BUILDING (BUSINESS)		GUARD POST
	TREE		WOOD POLE
	PROPERTY LINE		TUBULAR STEEL POLE
	FENCE		SIGNAL POST
	BRIDGE OR OVERPASS		FIRE PLUG
	UNDERPASS		LIGHT STANDARD
	CULVERT		TRAFFIC SIGN
	SIGNAL CABLE		TRAFFIC SIGNAL

COMMONWEALTH OF PENNA.  
DEPARTMENT OF HIGHWAYS  
TRAFFIC DIVISION

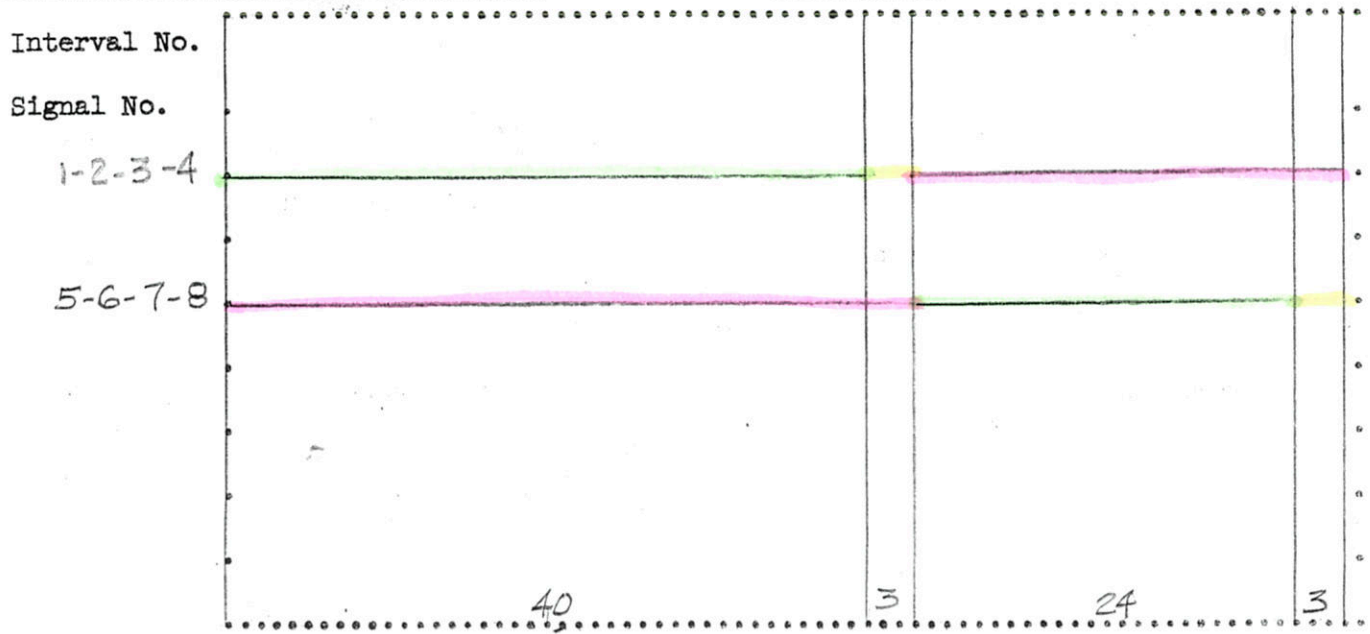
COUNTY SCHUYLKILL  
CITY, BORO OR TOWNSHIP ST. CLAIR  
LEG. RT. 53087-53033 HANCOCK-L.R. 161 SECOND ST.  
TITLE SIGNALS

DRAWN BY AM SCALE 1" = 40' DATE 4-18-47

SKETCH (Show approx. curb lines, street widths and signal locations)



COLOR SEQUENCE AND TIMING DIAGRAM. Total cycle 70 seconds



Time in sec.  
for each  
interval

Use dots as guide in drawing diagram.

Signed S. J. Burn  
Date 5-13-60

COMMONWEALTH OF PENNSYLVANIA  
Department of Highways  
TRAFFIC DIVISION

TRAFFIC SIGNAL DESCRIPTION

Permit No. 5169

Municipality Borough of St. Clair County Schuylkill

Intersection Second Street (LR 161, TR 122) and Hancock Street (LR 53033 & LR 53087)

Type (O.H. - Pedestal - etc.) Overhead (2 units)

No. of faces 8 . Is each lens independently illuminated? Yes

Are all lenses 8" dia.? Yes . Is position of lenses correct? Yes

Is controller located at this intersection? Yes If not, give its location \_\_\_\_\_

Type of controller (Fixed time, manual, ped. act., etc.) Fixed-time

How many signals are operated from same controller? One List these at bottom of sheet. Is system alternate or simultaneous? Simultaneous

Is color sequence correct? Yes

Is controller equipped with flashers? Yes If so, how does it flash? Red on Hancock Street yellow on Second Street

Is installation standard in ALL respects? Yes

Is installation completely satisfactory in your opinion? Yes

REMARKS AND RECOMMENDATIONS (Include any additional facts necessary for full description. Use additional page if necessary.)

Stop signs have been removed previously.

Traffic signal installation synchronized with signals at Second and Carroll Streets so as to provide for a simultaneous system along Second Street.

Eagle Signal Controller  
EA 71B124A

**APPENDIX G:**  
*Critical and Follow-up Headways*

FKV.00001  
 Site Driveway

Int. 3

Critical Headway

			tc base	tc hv	phv	t cg	G	t 3lt	Base Crit
major left	AM	EBL	4.3	1	0%	0.1	0	0	<b>4.3</b>
	PM	EBL	4.3	1	0%	0.1	0	0	<b>4.3</b>
minor right	AM	SBR	6.2	1	100%	0.1	3	0	<b>7.5</b>
	PM	SBR	6.2	1	0%	0.1	3	0	<b>6.5</b>
minor left	AM	SBL	7.1	1	95%	0.2	3	0.7	<b>8.0</b>
	PM	SBL	7.1	1	0%	0.2	3	0.7	<b>7.0</b>

Follow-up headway

			t fbase	t fhv	phv	Follow-up
major left	AM	EBL	3	0.9	0%	<b>3.0</b>
	PM	EBL	3	0.9	0%	<b>3.0</b>
minor right	AM	SBR	3.1	0.9	100%	<b>4.0</b>
	PM	SBR	3.1	0.9	0%	<b>3.1</b>
minor left	AM	SBL	3	0.9	95%	<b>3.9</b>
	PM	SBL	3	0.9	0%	<b>3.0</b>

FKV.00001  
 Morea Rd & Burma Rd

Int. 4

Critical Headway

			tc base	tc hv	phv	t cg	G	t 3lt	Base Crit
major left	AM	WBL	4.3	1	23%	0.1	-2	0	<b>4.3</b>
	PM	WBL	4.3	1	0%	0.1	-2	0	<b>4.1</b>
minor right	AM	NBR	6.2	1	41%	0.1	-3	0	<b>6.3</b>
	PM	NBR	6.2	1	5%	0.1	-3	0	<b>6.0</b>
minor left	AM	NBL	7.1	1	7%	0.2	-3	0.7	<b>5.9</b>
	PM	NBL	7.1	1	2%	0.2	-3	0.7	<b>5.8</b>

Follow-up headway

			t fbase	t fhv	phv	Follow-up
major left	AM	WBL	3	0.9	23%	<b>3.2</b>
	PM	WBL	3	0.9	0%	<b>3.0</b>
minor right	AM	NBR	3.1	0.9	41%	<b>3.5</b>
	PM	NBR	3.1	0.9	5%	<b>3.1</b>
minor left	AM	NBL	3	0.9	7%	<b>3.1</b>
	PM	NBL	3	0.9	2%	<b>3.0</b>

FKV.00001  
 Morea Rd & I-81 SB

Int. 5

Critical Headway

			tc base	tc hv	phv	t cg	G	t 3lt	Base Crit
major left	AM	WB L	4.3	1	3%	0.1	1	0	<b>4.4</b>
	PM	WB L	4.3	1	5%	0.1	1	0	<b>4.5</b>
minor right	AM	NB R	6.2	1	0%	0.1	-3	0	<b>5.9</b>
	PM	NB R	6.2	1	20%	0.1	-3	0	<b>6.1</b>
minor left	AM	NB L	7.1	1	7%	0.2	-3	0.7	<b>5.9</b>
	PM	NB L	7.1	1	2%	0.2	-3	0.7	<b>5.8</b>

Follow-up headway

			t fbase	t fhv	phv	Follow-up
major left	AM	WB L	3	0.9	3%	<b>3.0</b>
	PM	WB L	3	0.9	5%	<b>3.0</b>
minor right	AM	NB R	3.1	0.9	0%	<b>3.1</b>
	PM	NB R	3.1	0.9	20%	<b>3.3</b>
minor left	AM	NB L	3	0.9	7%	<b>3.1</b>
	PM	NB L	3	0.9	2%	<b>3.0</b>

Critical Headway

			tc base	tc hv	phv	t cg	G	t 3lt	Base Crit
Major left	AM	EBL	4.3	1	0%	0	1	0	<b>4.3</b>
	PM	EBL	4.3	1	0%	0	1	0	<b>4.3</b>
Major left	AM	WBL	4.3	1	0%	0	-1	0	<b>4.3</b>
	PM	WBL	4.3	1	0%	0	-1	0	<b>4.3</b>
Minor right	AM	NBR	6.2	1	11%	0.1	1	0	<b>6.4</b>
	PM	NBR	6.2	1	12%	0.1	1	0	<b>6.4</b>
Minor right	AM	SBR	6.2	1	2%	0.1	2	0	<b>6.4</b>
	PM	SBR	6.2	1	2%	0.1	2	0	<b>6.4</b>
Minor through	AM	NBT	6.5	1	6%	0.2	1	0	<b>6.8</b>
	PM	NBT	6.5	1	3%	0.2	1	0	<b>6.7</b>
Minor Through	AM	SBT	6.5	1	9%	0.2	2	0	<b>7.0</b>
	PM	SBT	6.5	1	3%	0.2	2	0	<b>6.9</b>
Minor left	AM	NBL	7.1	1	22%	0.2	1	0	<b>7.5</b>
	PM	NBL	7.1	1	6%	0.2	1	0	<b>7.4</b>
Minor left	AM	SBL	7.1	1	0%	0.2	2	0	<b>7.5</b>
	PM	SBL	7.1	1	0%	0.2	2	0	<b>7.5</b>

Follow-up headway

			t fbase	t fhv	phv	Follow-up
Major left	AM	EBL	3	0.9	0%	<b>3.0</b>
	PM	EBL	3	0.9	0%	<b>3.0</b>
Major left	AM	WBL	3	0.9	0%	<b>3.0</b>
	PM	WBL	3	0.9	0%	<b>3.0</b>
Minor right	AM	NBR	3.1	0.9	11%	<b>3.2</b>
	PM	NBR	3.1	0.9	12%	<b>3.2</b>
Minor right	AM	SBR	3.1	0.9	2%	<b>3.1</b>
	PM	SBR	3.1	0.9	2%	<b>3.1</b>
Minor through	AM	NBT	4	0.9	6%	<b>4.1</b>
	PM	NBT	4	0.9	3%	<b>4.0</b>
Minor Through	AM	SBT	4	0.9	9%	<b>4.1</b>
	PM	SBT	4	0.9	3%	<b>4.0</b>
Minor left	AM	NBL	3	0.9	22%	<b>3.2</b>
	PM	NBL	3	0.9	6%	<b>3.1</b>
Minor left	AM	SBL	3	0.9	0%	<b>3.0</b>
	PM	SBL	3	0.9	0%	<b>3.0</b>

**APPENDIX H:**  
***Auxiliary Turn Lane Warrant Analysis***

## Turn Lane Warrant and Length Analysis Workbook

### STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: <input type="text" value="Blythe Township"/> County: <input type="text" value="Schuylkill County"/> PennDOT Engineering District: <input type="text" value="5"/>	Analysis Date: <input type="text" value="7/30/2020"/> Conducted By: <input type="text" value="JJS"/> Checked By: <input type="text" value="PHS"/> Agency/Company Name: <input type="text" value="Traffic Planning and Design, Inc."/>
Intersection & Approach Description: <input style="width: 100%;" type="text" value="Burma Road (S.R. 1006) &amp; Site Driveway"/>	
Analysis Period: <input type="text" value="2030 Projected (Build)"/> Design Hour: <input type="text" value="AM Peak Hour"/> Intersection Control: <input type="text" value="Unsignalized"/> Posted Speed Limit (MPH): <input type="text" value="45"/> Type of Terrain: <input type="text" value="Level"/>	Number of Approach Lanes: <input type="text" value="1"/> Undivided or Divided Highway: <input type="text" value="Undivided"/> <div style="border: 1px solid red; padding: 2px; display: inline-block; color: red; font-weight: bold;">Type of Analysis</div> Left or Right-Turn Lane Analysis?: <input type="text" value="Left Turn Lane"/>

### VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left	Yes	2	0.0%	2
	Through	-	37	0.0%	37
	Right	Yes	0	0.0%	0
Opposing	Left	Yes	0	0.0%	0
	Through	-	75	100.0%	113
	Right	Yes	19	100.0%	29
					Advancing Volume: <input type="text" value="39"/> Opposing Volume: <input type="text" value="142"/> Left Turn Volume: <input type="text" value="2"/>
					% Left Turns in Advancing Volume: <input type="text" value="5.13%"/>
Right Turn Lane Volume Calculations					
Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left	Yes	0	0.0%	N/A
	Through	-	75	100.0%	N/A
	Right	-	19	100.0%	N/A
					Advancing Volume: <input type="text" value="N/A"/> Right Turn Volume: <input type="text" value="N/A"/>

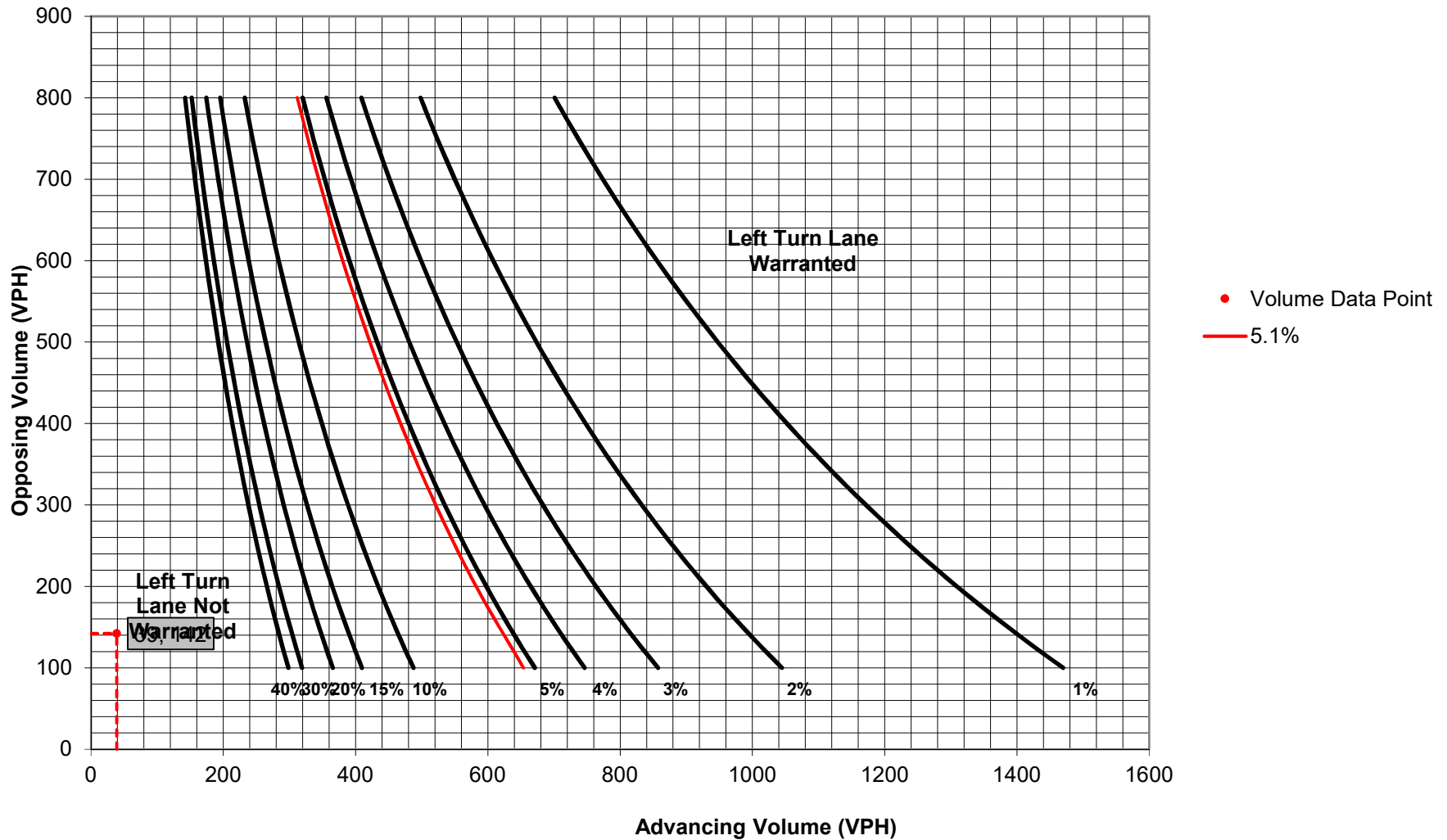
### TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: <input style="width: 100px;" type="text" value="Figure 3"/> Warrant Met?: <input style="width: 100px;" type="text" value="No"/>	Applicable Warrant Figure: <input style="width: 100px;" type="text" value="N/A"/> Warrant Met?: <input style="width: 100px;" type="text" value="N/A"/>

### TURN LANE LENGTH CALCULATIONS

Intersection Control: <input type="text" value="Unsignalized"/> Design Hour Volume of Turning Lane: <input type="text" value="2"/> Cycles Per Hour (Assumed): <input type="text" value="60"/> Cycles Per Hour (If Known): <input type="text"/>	Average # of Vehicles/Cycle: <input style="width: 100px;" type="text" value="N/A"/>																																								
PennDOT Publication 46, Exhibit 11-6																																									
<table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <thead> <tr> <th rowspan="3" style="width: 20%;">Type of Traffic Control</th> <th colspan="6" style="background-color: #FFDAB9;">Speed (MPH)</th> </tr> <tr> <th colspan="2" style="background-color: #FFDAB9;">25-35</th> <th colspan="2" style="background-color: #FFDAB9;">40-45</th> <th colspan="2" style="background-color: #FFDAB9;">50-60</th> </tr> <tr> <th colspan="6" style="background-color: #FFDAB9;">Turn Demand Volume</th> </tr> <tr> <th></th> <th style="background-color: #FFDAB9;">High</th> <th style="background-color: #FFDAB9;">Low</th> <th style="background-color: #FFDAB9;">High</th> <th style="background-color: #FFDAB9;">Low</th> <th style="background-color: #FFDAB9;">High</th> <th style="background-color: #FFDAB9;">Low</th> </tr> </thead> <tbody> <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> </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
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: <input style="width: 100px;" type="text" value="N/A"/> Feet Condition B: <input style="width: 100px;" type="text" value="N/A"/> Feet Condition C: <input style="width: 100px;" type="text" value="N/A"/> Feet Required Left Turn Lane Storage Length: <input style="width: 100px;" type="text" value="N/A"/> Feet																																									
Additional Findings: <input style="width: 100px;" type="text" value="N/A"/>																																									
Additional Comments / Justifications: <input style="width: 100%; height: 40px;" type="text"/>																																									

**Figure 3. Warrant for left turn lanes on two-lane highways  
(45 mph speed, unsignalized and signalized intersections)**  
(L = % Left Turns in Advancing Volume)



## Turn Lane Warrant and Length Analysis Workbook

### STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: Blythe Township	Analysis Date: 7/30/2020
County: Schuylkill County	Conducted By: JJS
PennDOT Engineering District: 5	Checked By: PHS
	Agency/Company Name: Traffic Planning and Design, Inc.
Intersection & Approach Description: Burma Road (S.R. 1006) & Site Driveway	
Analysis Period: 2030 Projected (Build)	Number of Approach Lanes: 1
Design Hour: AM Peak Hour	Undivided or Divided Highway: Undivided
Intersection Control: Unsignalized	
Posted Speed Limit (MPH): 45	Type of Analysis
Type of Terrain: Level	Left or Right-Turn Lane Analysis?: Right Turn Lane

### VOLUME CALCULATIONS

#### Left Turn Lane Volume Calculations

Movement	Include?	Volume	% Trucks	PCEV			
Advancing	Left	Yes	2	0.0%	N/A	Advancing Volume: N/A	
	Through	-	37	0.0%	N/A		Opposing Volume: N/A
	Right	Yes	0	0.0%	N/A		Left Turn Volume: N/A
Opposing	Left	Yes	0	0.0%	N/A	% Left Turns in Advancing Volume: N/A	
	Through	-	75	100.0%	N/A		
	Right	Yes	19	100.0%	N/A		

#### Right Turn Lane Volume Calculations

Movement	Include?	Volume	% Trucks	PCEV			
Advancing	Left	Yes	0	0.0%	0	Advancing Volume: 142	
	Through	-	75	100.0%	113		Right Turn Volume: 29
	Right	-	19	100.0%	29		

### TURN LANE WARRANT FINDINGS

#### Left Turn Lane Warrant Findings

Applicable Warrant Figure: **N/A**

Warrant Met?: **N/A**

#### Right Turn Lane Warrant Findings

Applicable Warrant Figure: **Figure 10**

Warrant Met?: **No**

### TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	29
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

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

Condition B: **N/A** Feet

Condition C: **N/A** Feet

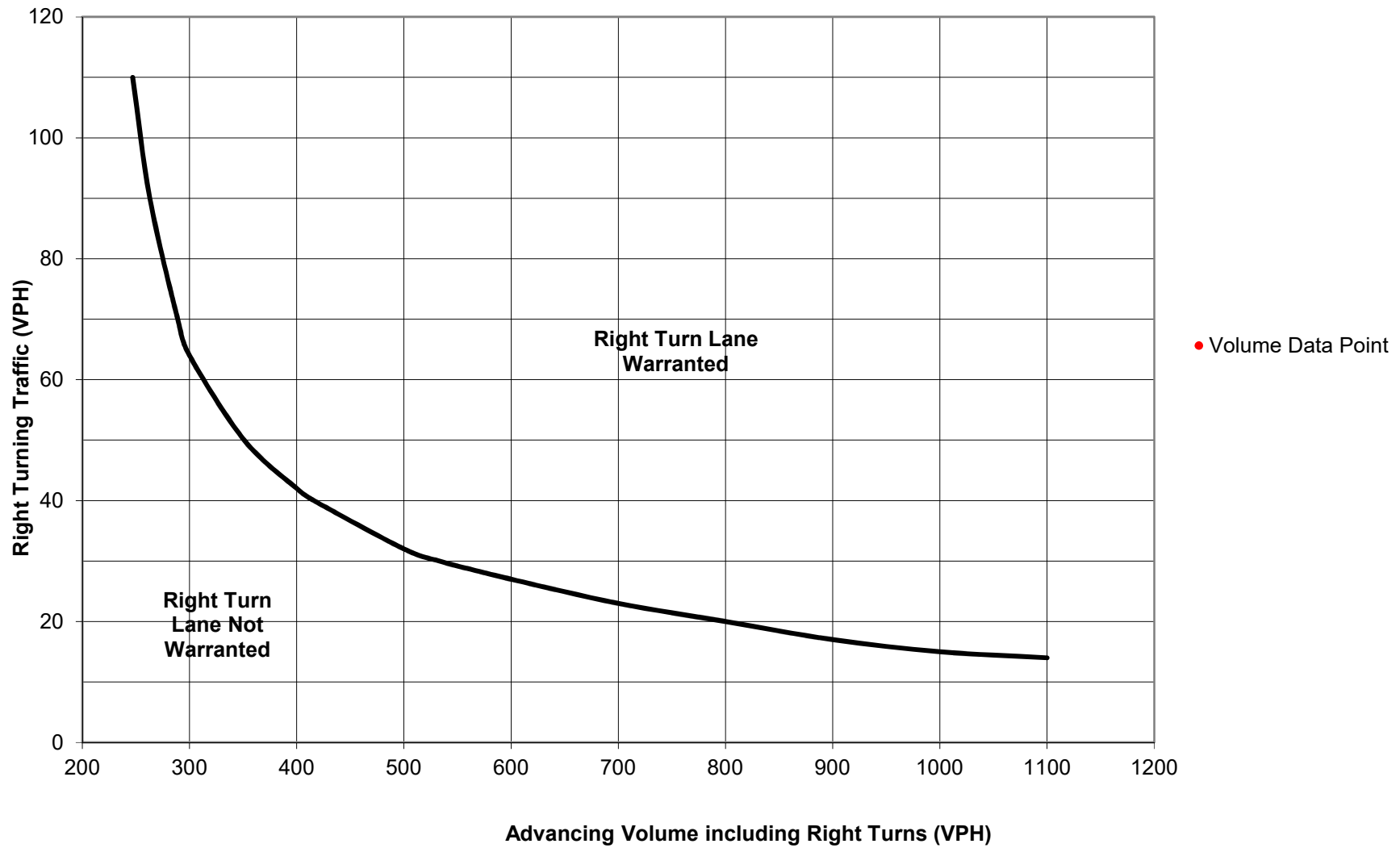
Required Right Turn Lane Storage Length: **N/A** Feet

#### Additional Findings:

N/A

#### Additional Comments / Justifications:

**Figure 10. Warrant for right turn lanes on two-lane roadways  
(45 mph or greater speeds, unsignalized and signalized intersections)**



# Turn Lane Warrant and Length Analysis Workbook

## STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: <input type="text" value="Blythe Township"/>	Analysis Date: <input type="text" value="7/30/2020"/>
County: <input type="text" value="Schuylkill County"/>	Conducted By: <input type="text" value="JJS"/>
PennDOT Engineering District: <input type="text" value="5"/>	Checked By: <input type="text" value="PHS"/>
	Agency/Company Name: <input type="text" value="Traffic Planning and Design, Inc."/>
Intersection & Approach Description: <input type="text" value="Burma Road (S.R. 1006) &amp; Site Driveway"/>	
Analysis Period: <input type="text" value="2030 Projected (Build)"/>	Number of Approach Lanes: <input type="text" value="1"/>
Design Hour: <input type="text" value="PM Peak Hour"/>	Undivided or Divided Highway: <input type="text" value="Undivided"/>
Intersection Control: <input type="text" value="Unsignalized"/>	
Posted Speed Limit (MPH): <input type="text" value="45"/>	Type of Analysis: <input type="text" value="Left Turn Lane"/>
Type of Terrain: <input type="text" value="Level"/>	Left or Right-Turn Lane Analysis?: <input type="text" value="Left Turn Lane"/>

## VOLUME CALCULATIONS

Left Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left	Yes	1	0.0%	1	Advancing Volume: <input type="text" value="107"/> Opposing Volume: <input type="text" value="94"/> Left Turn Volume: <input type="text" value="1"/>
	Through	-	106	0.0%	106	
	Right	Yes	0	0.0%	0	
Opposing	Left	Yes	0	0.0%	0	% Left Turns in Advancing Volume: <input type="text" value="0.93%"/>
	Through	-	90	1.0%	91	
	Right	Yes	3	0.0%	3	
Right Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left	Yes	0	0.0%	N/A	Advancing Volume: <input type="text" value="N/A"/> Right Turn Volume: <input type="text" value="N/A"/>
	Through	-	90	1.0%	N/A	
	Right	-	3	0.0%	N/A	

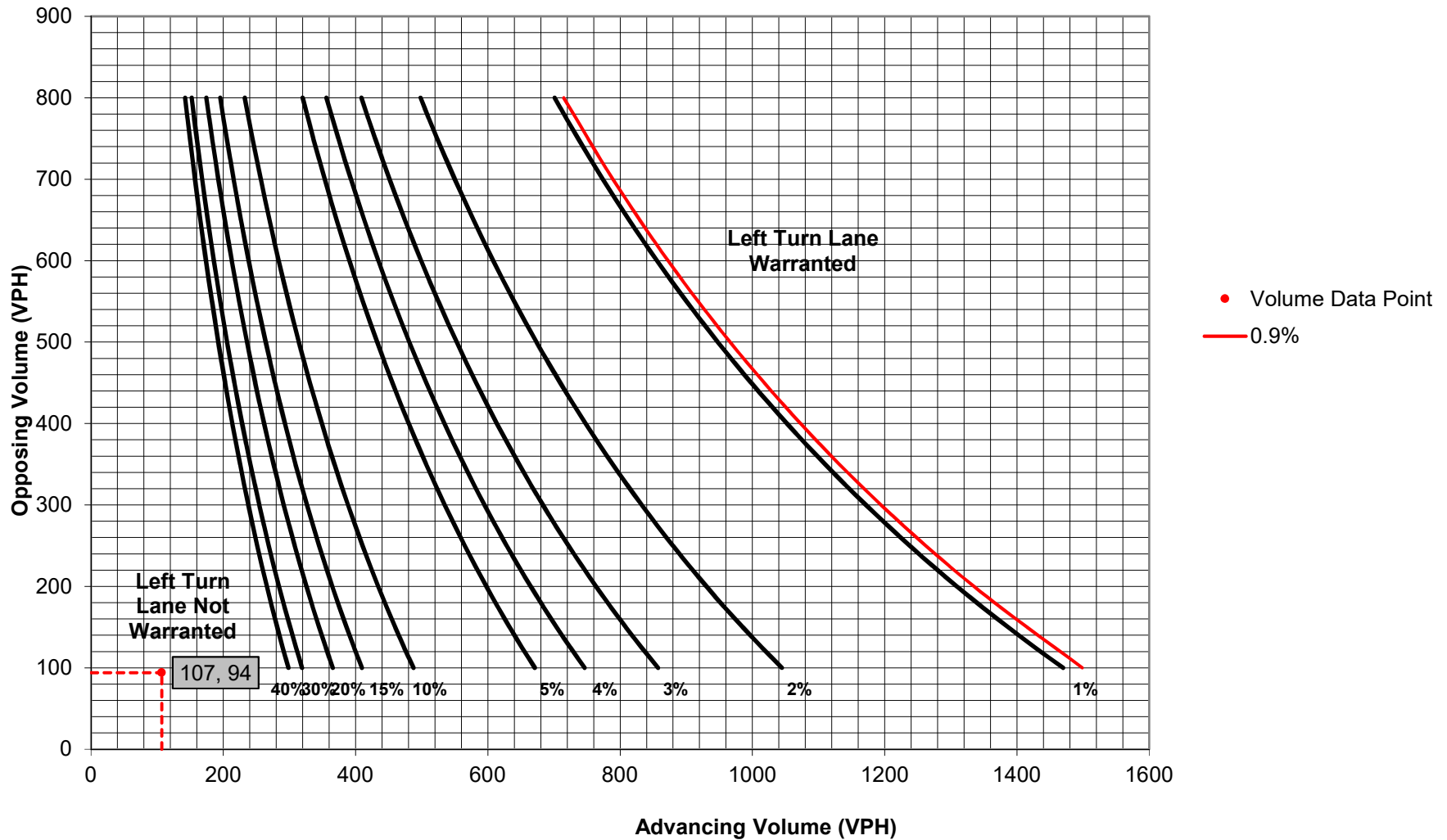
## TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: <input type="text" value="Figure 3"/>	Applicable Warrant Figure: <input type="text" value="N/A"/>
Warrant Met?: <input type="text" value="No"/>	Warrant Met?: <input type="text" value="N/A"/>

## TURN LANE LENGTH CALCULATIONS

Intersection Control: <input type="text" value="Unsignalized"/>	Average # of Vehicles/Cycle: <input type="text" value="N/A"/>					
Design Hour Volume of Turning Lane: <input type="text" value="1"/>						
Cycles Per Hour (Assumed): <input type="text" value="60"/>						
Cycles Per Hour (If Known): <input type="text" value=""/>						
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:		<input type="text" value="N/A"/>				Feet
Condition B:		<input type="text" value="N/A"/>				Feet
Condition C:		<input type="text" value="N/A"/>				Feet
Required Left Turn Lane Storage Length:		<input type="text" value="N/A"/>				Feet
Additional Findings:						<input type="text" value="N/A"/>
Additional Comments / Justifications:						

**Figure 3. Warrant for left turn lanes on two-lane highways  
(45 mph speed, unsignalized and signalized intersections)**  
(L = % Left Turns in Advancing Volume)



## Turn Lane Warrant and Length Analysis Workbook

### STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: Blythe Township	Analysis Date: 7/30/2020
County: Schuylkill County	Conducted By: JJS
PennDOT Engineering District: 5	Checked By: PHS
	Agency/Company Name: Traffic Planning and Design, Inc.
Intersection & Approach Description: Burma Road (S.R. 1006) & Site Driveway	
Analysis Period: 2030 Projected (Build)	Number of Approach Lanes: 1
Design Hour: PM Peak Hour	Undivided or Divided Highway: Undivided
Intersection Control: Unsignalized	
Posted Speed Limit (MPH): 45	Type of Analysis
Type of Terrain: Level	Left or Right-Turn Lane Analysis?: Right Turn Lane

### VOLUME CALCULATIONS

Left Turn Lane Volume Calculations							
Movement	Include?	Volume	% Trucks	PCEV			
Advancing	Left	Yes	1	0.0%	N/A	Advancing Volume: N/A	
	Through	-	106	0.0%	N/A		Opposing Volume: N/A
	Right	Yes	0	0.0%	N/A		Left Turn Volume: N/A
Opposing	Left	Yes	0	0.0%	N/A	% Left Turns in Advancing Volume: N/A	
	Through	-	90	1.0%	N/A		
	Right	Yes	3	0.0%	N/A		
Right Turn Lane Volume Calculations							
Movement	Include?	Volume	% Trucks	PCEV			
Advancing	Left	Yes	0	0.0%	0	Advancing Volume: 94	
	Through	-	90	1.0%	91		Right Turn Volume: 3
	Right	-	3	0.0%	3		

### TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: N/A	Applicable Warrant Figure: Figure 10
Warrant Met?: N/A	Warrant Met?: No

### TURN LANE LENGTH CALCULATIONS

Intersection Control: Unsignalized						
Design Hour Volume of Turning Lane: 3						
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
		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 10. Warrant for right turn lanes on two-lane roadways  
(45 mph or greater speeds, unsignalized and signalized intersections)**

