UPPER UWCHLAN TOWNSHIP
PLANNING COMMISSION
AGENDA

April 11, 2024
6:00 p.m. Workshop, 7:00 p.m. Meeting

LOCATION: Upper Uwchlan Township Building, 140 Pottstown Pike, Chester Springs PA 19425

Packet Page #

I. 6:00 Workshop ~ Review Draft — 2
C1, C3, LI Zoning District Uses Ordinance Amendments

II. 7:00 PM Meeting Call To Order

III. Eagle Animal Hospital – Preliminary Land Development Plan — 13
Review consultants' and Historical Commission's comments.
Recommend approval to the Board of Supervisors.

IV. Rockhill Real Estate Enterprises – 500 Pottstown Pike – Conditional Use Application — 36
Application presentation, review consultants' and Historical Commission's comments. Recommend conditional use approval to the Board of Supervisors.

V. Meeting Updates ~ Reports
A. Environmental Advisory Council (EAC)
B. Historical Commission (HC)
C. Village Concept Plan / Village Design Guidelines (VCP / VDG)
D. Comprehensive Plan Update (CompPlan)

VI. Approval of Minutes: March 14, 2024 Meeting — 246

VII. C1, C3, LI Zoning District Uses Ordinance Amendments
Recommend adoption to the Board of Supervisors

VIII. Next Meeting Date: May 9, 2024 7:00 p.m.

IX. Open Session

X. Adjournment

UPPER UWCHLAN TOWNSHIP

CHESTER COUNTY, PENNSYLVANIA

ORDINANCE Draft 2-9-2024 _____ - _____

AN ORDINANCE OF THE TOWNSHIP OF UPPER UWCHLAN, CHESTER COUNTY, PENNSYLVANIA, AMENDING CHAPTER 200 OF THE UPPER UWCHLAN TOWNSHIP CODE TITLED "ZONING" TO ADD DEFINITIONS OF ATHLETIC CLUB, AUTOMOBILE SERVICE ESTABLISHMENT, CONTRACTOR'S ESTABLISHMENT, EDUCATIONAL USE, HOOKAH BAR/LOUNGE, MICROBREWERY, MINI WAREHOUSE/SELF STORAGE, MUNICIPAL USE, OFFICE BUILDING, PERSONAL SERVICE ESTABLISHMENT, PUBLIC PLACE OF AMUSEMENT OR RECREATION AND RECREATIONAL USES IN SECTION 200-7; TO AMEND THE DEFINITION OF RETAIL TRADE TO BE RETAIL STORE IN SECTION 200-7; TO DELETE THE DEFINITIONS OF RECREATION, ACTIVE AND RECREATION, PASSIVE IN SECTION 200-7; TO AMEND THE USE REGULATIONS FOR THE C-1 VILLAGE DISTRICT IN SECTION 200-33; TO AMEND THE USE REGULATIONS FOR THE C-3 HIGHWAY COMMERCIAL DISTRICT IN SECTION 200-39; AND TO AMEND THE USE REGULATIONS FOR THE LI-LIMITED INDUSTRIAL DISTRICT IN SECTION 200-44.

NOW THEREFORE, BE IT ENACTED AND ORDAINED by the Board of Supervisors of Upper Uwchlan Township that Chapter 200 of the Upper Uwchlan Township Code, titled "Zoning", shall be amended as follows:

SECTION 1. The following definitions shall be added to Section 200-7, titled, "Definitions and word usage":

ATHLETIC CLUB- An enterprise operating as a business or club which charges an admission, entry or membership fee or combination thereof, whether owned by a public or private entity, which is open to the public and provides various athletic or health facilities for its members, including but not limited to the following: gymnasium, swimming pool, nautilus, weights and similar conditioning equipment, tennis, handball, racquetball and similar ball courts and similar athletic facilities which are used to promote fitness and good health.

AUTOMOBILE SERVICE ESTABLISHMENT- A facility for the repair, reconditioning and lubrication of motor vehicles and the replacement or installation of motor vehicle parts and accessories when conducted in a repair shop offering a full range of services including body and fender repair, collision repair service and spray painting.

CONTRACTOR'S ESTABLISHMENT- A commercial use which involves offices and/or the storage of supplies, equipment, machinery and materials for contractors and tradesmen

such as builders, masons, carpenters and landscapers. Such use does not include retail sales of products or materials.

EDUCATIONAL USE- Land or buildings used for the establishment and maintenance of a public or private secondary or elementary school or other educational institution which is used for the primary purpose of instruction and learning. The term shall exclude driver training schools, heavy equipment training, riding schools and day-care centers.

HOOKAH BAR/LOUNGE- Any establishment that is dedicated, in whole or in part, to the smoking of a water pipe with a smoke chamber, a bowl, a pipe and a hose, commonly referred to as a "hookah."

MICROBREWERY-A facility where more than 250 barrels and less than 15,000 barrels of malt or brewed beverages are produced on-premises on an annual basis and then sold or distributed for off-premises consumption, which is not a restaurant use. A microbrewery must be licensed by the Pennsylvania Liquor Control Board or any successor agency of the commonwealth.

MINI WAREHOUSE-SELF STORAGE- A building or group of buildings that are divided into individual units, each of which unit is available for rent or lease to the public for the self-storage of tangible personal property. Outdoor storage is only permitted in designated locations on the property if approved in the land development plan for such use.

MUNICIPAL USE- Any use conducted by Upper Uwchlan Township, an agency of Upper Uwchlan Township or any authority created by Upper Uwchlan Township for administrative buildings, equipment or material storage, public park or recreational areas, public sewage treatment and/or water supply collection, treatment, storage and/or distribution facilities, stormwater management facilities, public parking garages and lots, public libraries or any similar use owned and operated by Upper Uwchlan Township, an agency of the Township or any authority created by the Upper Township. The definition of "municipal use" expressly excludes any use by any governmental agency or authority other than those of Upper Uwchlan Township.

OFFICE BUILDING- A building used primarily for business services, medical services, professional and personal services, financial services, government functions or for administrative, managerial or clerical functions.

PERSONAL SERVICE ESTABLISHMENT-An establishment that offers a type of service oriented to personal needs of members of the general public, but not one involving either a professional service or the retail or wholesale sales of products. Personal services include but are not limited to a barber, hairdresser, beautician, photographer, tailor, cleaning and pressing establishment, laundromat, shoe repair, household appliance repair, locksmith, massage therapy, pet groomer and similar services.

PUBLIC PLACE OF AMUSEMENT OR RECREATION-Any facility providing recreation and/or amusement to the general public and which may or may not charge an admission or use fee. A public place of amusement or recreation includes, but is not limited to, movie theaters, live theaters, dinner theaters, concert halls, arcades, bowling alleys, amusement

parks, fairgrounds, hockey rinks, roller- or ice-skating rinks, moonbounce facilities, batting cages, public golf courses, driving ranges, miniature golf courses, chip-and-putt golf courses, tennis courts, paddle tennis courts, squash courts, handball courts, facilities providing table games, such as billiards, pool and table tennis or any facility of the same general character.

RECREATIONAL USES- An active or passive recreational use designed to accommodate physical, leisure, sporting or relaxation activities on land or water. Recreational uses may include, basketball, baseball, football, bicycling, walking, jogging, running, golfing, fishing, boating, hunting, hockey, skating, skateboarding, soccer, swimming, tennis, volleyball, racquetball, exercise/fitness, bowling, billiards, bird watching, picnicking or any other similar recreational uses, as determined by the Zoning Officer.

SECTION 2. The definition of "Retail Trade" in Section 200-7 titled, "Definitions and word usage", shall be revised to be "Retail Store."

SECTION 3. The following definitions in Section 200-7 titled, "Definitions and word usage", shall be deleted:

RECREATION, ACTIVE-Those recreational pursuits which require physical alteration to the area in which they are performed. Such areas are intensively used and include, but are not limited to, playgrounds, ball courts, and swimming pools.

RECREATION, PASSIVE-Recreational pursuits which can be carried out with little alteration or disruption to the area in which they are performed. Such uses include, but are not limited to, hiking, biking and picnicking.

SECTION 4. Section 200-33, titled "Use Regulations" for the C-1 Village District shall be amended as follows:

"§ 200-33. Use regulations.

A. Uses by right. In the C-1 Village District, a building may be erected, altered or used, and a lot may be used or occupied by right, for the following principal purposes, and no other:

(1) Office building.

(2) Bank or other financial institution.

(3) Retail store, provided that no adult-oriented use and no dispensing of gasoline shall be permitted.

(4) Personal service establishment

(5) Medical marijuana dispensary.

(6) Restaurant, drive-through restaurant, but excluding hookah bar/lounge.

(7) Bed and breakfast inn.

(8) Cultural studio.

(9) Municipal uses.

(10) Public place of amusement or recreation and athletic club in a building or buildings with 10,000 square feet or less.

B. Conditional uses. In the C-1 Village District, a building may be erected, altered or used, and a lot may be used or occupied, for any of the following principal purposes when authorized as a conditional use by the Board of Supervisors, subject to § 200-116 of this chapter. Conditional use approval in the C-1 Village District shall require full compliance with all applicable design standards set forth in § 200-36, except where as a specific condition of approval, the Board provides for modification to such standards upon satisfactory demonstration by the applicant that full compliance is not practicable, based upon a preponderance of evidence.

(1) Educational or religious use.

(2) Cultural facility.

(3) Day-care center.

(4) Mixed-use dwelling.

(5) Adaptive reuse for historic preservation where permitted as a use subject to approval by the Board of Supervisors as a conditional use in accordance with § 200-72.1.

C. Special exceptions. In the C-1 Village District, a building may be erected, altered or used, and a lot may be used or occupied for any of the following principal uses when authorized as a special exception by the Zoning Hearing Board, subject to Article XX of this chapter.

(1) Governmental or public utility building or uses.

D. Accessory uses. In the C-1 Village District, a building may be erected, altered or used, and a lot may be used or occupied for any customary commercial accessory use, subject to all applicable provisions of § 200-62.

SECTION 5. Section 200-39, titled, "Use regulations" for the C-3 Highway Commercial District shall be amended as follows:

"**§ 200-39. Use regulations.**

On any lot or tract in the C-3 Highway Commercial District with direct frontage on Route 100 (Pottstown Pike) and located north of Ticonderoga Boulevard and south of Byers Road, the use regulations set forth in § 200-33 for the C-1 Village District shall apply. On all other lots or tracts in the C-3 Highway Commercial District, the following regulations shall apply:

A. Uses by right. In the C-3 Highway Commercial District, a building may be erected, altered or used, and a lot may be used or occupied by right, for any one, but only one, of the following principal purposes, and no other:

(1) Office building.

(2) Bank or other financial institution.

(3) Passenger station for public transportation.

(4) Retail store, provided that no sale or dispensing of gasoline or other fuels and no adult-oriented use shall be permitted.

(5) Restaurant, drive-through restaurant.

(6) Personal service establishment.

(7) Educational or religious use.

(8) Cultural studio or cultural facility.

(9) Medical marijuana dispensary.

(10) Passenger station for public transportation.

B. Conditional uses. In the C-3 Highway Commercial District, a building may be erected, altered or used, and a lot may be used or occupied, for any one of the following principal purposes when authorized as a conditional use by the Board of Supervisors, subject to § 200-116 of this chapter. At the reasonable discretion of the Board of Supervisors, conditional uses in the C-3 Highway Commercial District may be approved subject to compliance with any applicable design standard(s) set forth in § 200-36.

(1) Any two or more principal uses otherwise permitted by right, conditional use, or special exception as provided herein. As a condition of conditional use approval, the Board of Supervisors may require that any application for a combination of

two or more principal uses comply with the provisions of § 200-70 of this chapter, as deemed applicable by the Board.

(2) Day-care center.

(3) Hotel or motel.

(4) Bed-and-breakfast inn.

(5) Public place of amusement or recreation provided such use is exclusively indoors.

(6) Sale or dispensing of gasoline as a principal or accessory use.

(7) Vehicular sales establishment and sale of farming equipment.

(8) Automobile service establishment.

(9) Car wash.

(10) Adaptive reuse for historic preservation where permitted as a use subject to approval by the Board of Supervisors as a conditional use in accordance with Section 200-72.1.

(11) Laboratory for scientific research and development.

C. Special exceptions. In the C-3 Highway Commercial District, a building may be erected, altered or used, and a lot may be used or occupied for any one of the following principal uses when authorized as a special exception by the Zoning Hearing Board, subject to Article XX of this chapter:

(1) Municipal or public uses; governmental or public utility building or uses.

D. Accessory uses. In the C-3 Highway Commercial District, a building may be erected, altered or used, and a lot may be used or occupied for any customary commercial accessory use(s) provided that they are incidental to any permitted principal use.

SECTION 6. Section 200-44, titled, "Use regulations" for the LI-Limited Industrial District shall be amended as follows:

§ 200-44. Use regulations.

A. Uses by right.

(1) Assembly and manufacture of light industrial products.

(2) Medical marijuana grower/processor.

(3) Research, engineering, or testing laboratories.

(4) Public utility operating facilities.

(5) Printing or publishing establishment.

(6) Office building.

(7) Wholesale sales, storage and distribution in a building or buildings of 20,000 square feet or less.

(8) Religious uses.

(9) Public place of amusement or recreation and athletic club in a building of 10,000 square feet or less.

(10) Mini-warehouse/self storage facility.

(11) Contractor's establishment.

B. Conditional uses. Any one of the following uses when authorized as a conditional use by the Board of Supervisors, subject to § 200-116 of this chapter:

(1) Surface mining operations.

(2) Sanitary landfills.

(3) Junkyard.

(4) Recycling collection center, excluding processing or transfer station.

(5) Automobile service establishment.

(6) Public place of amusement or recreation and athletic club in a building or buildings larger than 10,000 square feet.

(7) Tower-based wireless communication facilities.

(8) Adult-oriented use, where located not less than 500 feet from any similar use and from any residence, church, or public or private school or day-care facility.

(9) Municipal or public uses; governmental or public utility building or uses.

(10) Wholesale sales, storage and distribution in a building or buildings larger than 20,000 square feet or less.

(11) Microbrewery.

(12) The following additional uses shall be permitted when established on a property designated by the Township as a Historic Resource on the Historic Resource Inventory, where historical building(s) shall be adaptively re-used:

(a) Restaurants.

(b) Retail sales.

C. Special exception. Any one of the following uses when authorized as a special exception by the Zoning Hearing Board, subject to Article XX of this chapter:

(1) Any use similar to the above permitted uses not specifically provided for herein, provided that the use meets the performance requirements of § 200-82 of this chapter.

D. Accessory uses. The following accessory uses shall be permitted provided that they are incidental to any of the foregoing permitted uses:

(1) Customary industrial accessory uses.

(2) A helicopter landing pad as an accessory use to any of the uses permitted by right, by conditional use or by special exception, when such accessory use is authorized by conditional use procedure and providing that any such accessory use shall comply with the following:

(a) No helicopter shall take off or land over areas zoned other than Limited Industrial.

(b) No helicopter landing pad shall be located within 1,000 feet of any area zoned other than Limited Industrial.

(c) There shall be a minimum front yard setback of 300 feet for any helicopter landing pad.

(d) There shall be a minimum side and rear yard setback of 200 feet for any helicopter landing pad.

(e) The owner and operator of the facility shall enter into an agreement with the Township with respect to the following: fixing the flight for helicopter taking off and/or landing patterns.

(f) All helicopter flights shall comply with FAR 91.119, pertaining to minimum safe altitude.

E. When authorized as a conditional use by the Board of Supervisors, subject to § 200-116 of this chapter, a building may exceed 35 feet by conditional use approval; however, no building or structure may exceed 45 feet.

SECTION 7. Severability. If any sentence, clause, section, or part of this Ordinance 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 hereof. It is hereby declared as the intent of the Board of Supervisors that

sections, or parts hereof. It is hereby declared as the intent of the Board of Supervisors that this Ordinance would have been adopted had such unconstitutional, illegal, or invalid sentence, clause, section, or part thereof not been included herein.

SECTION 8. **Repealer**. All ordinances or parts of ordinances conflicting with any provision of this Ordinance are hereby repealed insofar as the same affects this Ordinance.

SECTION 9. **Effective Date**. This Ordinance shall become effective five (5) days following the enactment as by law provided.

ENACTED AND ORDAINED this ____ day of _____, 2024.

ATTEST:

_____
Gwen A. Jonik, Secretary

UPPER UWCHLAN TOWNSHIP
BOARD OF SUPERVISORS

_____
Jennifer F. Baxter, Chair

_____
Andrew P. Durkin, Vice-Chair

_____
Sandra M. D'Amico, Member

THE COUNTY OF CHESTER

COMMISSIONERS
Josh Maxwell
Marian D. Moskowitz
Eric M. Roe

Brian N. O'Leary, AICP
Executive Director

PLANNING COMMISSION
Government Services Center, Suite 270
601 Westtown Road
P. O. Box 2747
West Chester, PA 19380-0990
(610) 344-6285 Fax (610) 344-6515

March 12, 2024

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

Re: Zoning Ordinance Amendment - Definitions, use regulations in C-1, C-3, LI Districts
Upper Uwchlan Township - ZA-02-24-18007

Dear Mr. Scheivert:

The Chester County Planning Commission has reviewed the proposed Upper Uwchlan Township Zoning Ordinance amendment as submitted pursuant to the provisions of the Pennsylvania Municipalities Planning Code, Section 609(e). The referral for review was received by this office on February 27, 2024. We offer the following comments to assist in your review of the proposed Zoning Ordinance amendment.

DESCRIPTION:

1. Upper Uwchlan Township proposes the following amendments to its Zoning Ordinance:

   A. The following definitions are to be added: "athletic club", "automobile service establishment", "contractor's establishment", "educational use", "hookah bar/lounge", "mini warehouse-self storage", "municipal use", "office building", "personal service establishment", "public place of amusement or recreation", "recreational uses";
   B. The definition of dwelling unit is to be revised;
   C. Use regulations in the C-1 Village District, the C-3 Highway Commercial District, the LI Limited Industrial District are to be amended, and
   D. Swimming pool regulations are to be amended (a requirement that a fence must be white or earth tone in color is to be deleted).

COMMENTS:

2. The definitions are adequately descriptive. However, the Ordinance currently contains a definition of "educational use"; the amendment should specify that this term is to be replaced. The Ordinance also currently contains definitions for "recreation, active" and "recreation, passive"; the Township should verify that the proposed definition of "recreational uses" is compatible with the existing related definitions.

3. The amendment defines hookah lounge and specifically excludes it as a by-right use in the C-1 District, but our review of the Township Zoning Ordinance did not identify any other area where this use is otherwise permitted or regulated. Rather than not permitting the use, the Township may wish to designate an appropriate district in which to allow it and include specific regulations. We recommend input from the solicitor regarding whether the use can or should be excluded from the Township.

4. The Township could consider regulating hookah lounges, cigar lounges, vape shops and similar activities within the same set of regulations (such as by special exception), and should require applicants to possess any required tobacco license. The effects of tobacco smoke on adjacent properties should also be considered.

5. The revisions to the use regulations in the C-1 Village District, the C-3 Highway Commercial District, the LI Limited Industrial District appear to be consistent with the general organization of land uses in these Districts. The revisions also improve clarity and organization.

RECOMMENDATION: Upper Uwchlan Township should consider the comments in this letter before acting on the proposed zoning ordinance amendment.

We request an official copy of the decision made by the Upper Uwchlan Township Supervisors, as required by Section 609(g) of the Pennsylvania Municipalities Planning Code. This will allow us to maintain a current file copy of your ordinance.

Sincerely,

Wes Bruckno

Wes Bruckno, AICP
Senior Review Planner

SUBDIVISION / LAND DEVELOPMENT APPLICATION

☒ Preliminary Submittal ☐ Final Submittal

The undersigned hereby applies for review of the Plan submitted herewith and described below:

1. Name of Subdivision / Development: Eagle Animal Hospital
2. Plan Dated: 03/19/2024 County Deed Book/Page No. 7355/455
3. Name of property owner(s): 9 Coffman Associates, LP

   Address: 211 Byers Road, Chester Springs

   State/Zip: PA 19425 Phone No.: 610-485-8789

   Email: jgmatunis@comcast.net
4. Name of Applicant (If other than owner):

   Same as owner

   Address:

   State/Zip: Phone No.:

   Email:
5. Applicant's interest (If other than owner): Owner
6. Engineer, Architect, Surveyor, or Landscape Architect responsible for Plan.

   Linn Architects c/o Jeffrey Gentile, PE

   Address: 1140 N. Providence Road, Media

   State/Zip: PA, 19063 Phone No.: 610-566-7044

   Email: jgentile@rlinn.com
7. Total acreage: 1.40 Number of Lots: 1.0
8. Acreage of adjoining land in same ownership: (If any)
9. Describe Type of Development Planned: New Building to replace existing facility which was lot due to fire in November 2023

10. This Application shall be accompanied by: the Application Fee as listed below, an aerial image of the property, and the quantity of plans/supporting information as detailed in the Township Code §162-8.B.(1)(b) and/or §162-8.C.(1)(d).
[One-half of the required plan submissions may be of a reduced size, i.e. 11 x 17]

11. List all subdivision and zoning standards or requirements which have not been met and for which a waiver or change is requested.

N/A

12. The Applicant or his/her agent shall enter into a Subdivision / Land Development Review Escrow Agreement (attached) and place into escrow with the Township at the time of application an amount estimated by the Township to cover all costs of engineering and professional planning reviews (not including County application fee), legal services and other professional services used by the Township in connection with the application.

Signature of Property Owner or Applicant:

By: _____

Date: 3/19/2024

*Development subject to ACT 209 Impact Fee.

*Park & Recreation Fee per residence is levied. Contact Township Offices to determine amount.

SUBDIVISION / LAND DEVELOPMENT APPLICATION FEE

1-2 Lots $250

3-5 Lots $500
Plus $25 for each Lot over 3

Over 5 Lots $1000
Plus $50 for each Lot over 5

Form revised January 2015

3-14-2024

#22090

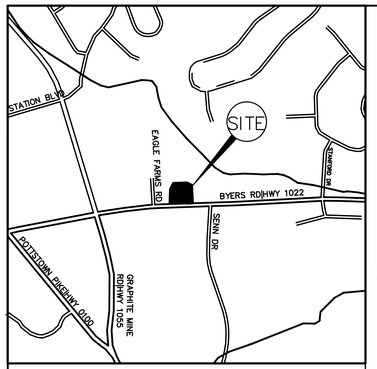
CONCEPT IMAGE
EAGLE VETERINARY HOSPITAL
CHESTER SPRINGS, PENNSYLVANIA 19425

FEBRUARY 2024

LINN MEDIA ARCHITECTS PENNSYLVANIA

EAGLE
ANIMAL
HOSPITAL

3-14-24



LOCATION MAP
1" = 1,000'

ZONING DATA			
C-1 VILLAGE ZONING DISTRICT			
REQUIREMENT – SINGLE		EXISTING	PROPOSED
LOT AREA (GROSS)		61,201 S.F.	61,201 S.F.
LOT AREA (NET)	10,000 S.F.	58,423 S.F.	58,423 S.F.
MAX. BLDG. HEIGHT	35 FT.	2 STORIES, <35 FT.	2 STORIES, <35 FT.
LOT WIDTH	100 FT.	271.7 FT.	271.7 FT.
BUILDING SETBACKS			
FRONT YARD:	20 FT. MIN	15.8 FT.*	107.5 FT.
SIDE YARD:	10 FT. MIN	18.5 FT.	71.7 FT.
REAR YARD	40 FT. MIN	142.1 FT.	58.5 FT.
IMPERVIOUS COVERAGE	60%	12,037 S.F. (20.6%)	19,687± S.F. (33.7%)
BUILDING COVERAGE	30%	4,366 S.F. (7.5%)	5,582 S.F. (9.6%)
ACCESSORY STRUCTURE SETBACKS			
FRONT YARD:	20 FT. MIN	82.6 FT.	82.6± FT.
SIDE YARD:	10 FT. MIN	0 FT.*	0 FT.**
REAR YARD	10 FT. MIN	42.5 FT.	79.0± FT.

*EXISTING LEGAL NON-CONFORMITY
**CONTINUATION OF EXISTING LEGAL NON-CONFORMITY

BUILDING COVERAGE TABLE	
EXISTING BURNED OFFICE	3,263 S.F.
EXISTING SHED TO REMAIN	211 S.F.
EXISTING SHED TO BE REMOVED	120 S.F.
EXISTING GREENHOUSE TO BE REMOVED	735 S.F.
EXISTING OUTHOUSE TO REMAIN	37 S.F.
EXISTING BUILDING COVERAGE:	4,366 S.F.
NEW BUILDING	5,334 S.F.
REMAINING OUTHOUSE AND SHED	248 S.F.
PROPOSED BUILDING COVERAGE:	5,582 S.F.

PA ONE CALL INFORMATION

COMPANY: AQUA PENNSYLVANIA INC
ADDRESS: 762 W LANCASTER AVE
BRYN MAWR, PA 19010
CONTACT: THOMAS WADDY
EMAIL: TBWADDY@AQUAAMERICA.COM

COMPANY: COMCAST
ADDRESS: 1004 CORNERSTONE BLVD
DOWNINGTON, PA. 19335
CONTACT: TOM RUSSO
EMAIL: tom_russo@cable.comcast.com

COMPANY: PECO AN EXELON COMPANY C/O USIC
ADDRESS: 450 S HENDERSON ROAD SUITE B
KING OF PRUSSIA, PA. 19406
CONTACT: NIKKIA SIMPKINS
EMAIL: NIKKIASIMPKINS@USICLLC.COM

COMPANY: UPPER UWCHLAN TOWNSHIP UPPER UWCHLAN MUNICIPAL AUTHORITY
ADDRESS: 140 POTTSTOWN PIKE
CHESTER SPRINGS, PA. 19425
CONTACT: MICHAEL HECKMAN
EMAIL: MHECKMAN@UPPERUWCHLAN-PA.GOV

COMPANY: VERIZON BUSINESS FORMERLY MCI
ADDRESS: 7000 WESTON PKWY
CARY, NC. 27513
CONTACT: VICTOR WOOD
EMAIL: victor.s.wood@verizon.com

OWNER

9 COFFMAN ASSOCIATES, LP
211 BYERS RD
CHESTER SPRINGS, PA 19425

SITE INFORMATION

211 BYERS RD
TAX MAP: 32-4K-4
DB/PG: 7355/455

EXISTING TO PROPOSED PARKING

THE EXISTING FACILITY IS SUPPORTED BY 13 UNSTRIPED PARKING SPACES. THE PROPOSED SITE WILL CONTAIN 36 PARKING SPACES FOR AN INCREASE OF 23 SPACES.

PARKING ANALYSIS

A) EXISTING FACILITY

TOTAL = 13 SPACES PROVIDED

B) PROPOSED USES
USE AND ASSOCIATE PARKING REQUIREMENTS

1) OFFICE USE
5 SPACE PER 1,000 S.F. GROSS FLOOR AREA OF ADDITION
7,237 S.F. GROSS FLOOR AREA IN ADDITION = 36 SPACES

TOTAL = 36 SPACES REQUIRED

TOTAL PARKING PROVIDED = 36 SPACES

CONCLUSION

36 PARKING SPACES HAVE BEEN PROVIDED WHICH SATISFIES THE POST-DEVELOPMENT PARKING REQUIREMENT OF 36 SPACES.

PUBLIC SEWER SERVICE NOTE

APPLICANT IS PROPOSING TO CONNECT TO PUBLIC SEWER LOCATED IN BYERS ROAD AS A PART OF THIS PROJECT.

DEMOLITION NOTE

BUILDINGS, PAVEMENT, CURBING, TREES, LIGHTS, TRANSFORMERS, POLES, CONCRETE PADS, DRAINAGE PIPING AND OTHER OBJECTS INTERFERING WITH THE SITE IMPROVEMENTS SHALL BE REMOVED AND DISPOSED OF PROPERLY. ALSO ALL UTILITIES SERVICES TO AND ON THE SITE SHALL BE PERMANENTLY TERMINATED OR TEMPORARILY SHUT OFF IN ACCORDANCE WITH UTILITY COMPANY OR AUTHORITY REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR ANY AND ALL DEMOLITION. INCLUDING HAZARDOUS MATERIAL IN ACCORDANCE WITH PADEP REQUIREMENTS. ALL MATERIALS AND WASTES SHALL BE DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET. SEQ. AND 287.1 ET. SEQ.

NOTES

1. THIS PLAN IS BASED ON A PLAN BY HOWELLKLINE SURVEYING, ENTITLED TOPOGRAPHIC AND PHYSICAL IMPROVEMENTS SURVEY, DATED MAY 19, 2022.
2. ELEVATIONS REFER TO CONTOURS FROM FIELD SURVEY BASED ON GPS SYSTEM. NORTH AMERICAN DATUM OF 1988.
3. BOUNDARY FROM A PLAN BY HOWELLKLINE SURVEYING LLC, ENTITLED TOPOGRAPHIC AND PHYSICAL IMPROVEMENTS SURVEY, DATED MAY 19, 2022.
4. PROPERTY IS IDENTIFIED IN THE HISTORIC ORDINANCE AS HRP NO. 057, KEY NO. 065814, CLASS 1.
5. ADJOINER INFORMATION TAKEN FROM CURRENT TAX RECORDS.
6. UTILITY INFORMATION FROM OBSERVED SURFACE EVIDENCE. ALL UTILITY LOCATIONS AND DEPTHS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
7. BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE 'X' OF THE FLOOD INSURANCE RATE MAP, MAP No. 42029C0095G, COMMUNITY PANEL No. 95 OF 380, WHICH BEARS AN EFFECTIVE DATE OF SEPTEMBER 29, 2017.
8. SOIL DELINEATION LINES TAKEN FROM USDA NATIONAL COOPERATIVE SOIL SURVEY THROUGH THE NATURAL RESOURCES CONSERVATION SERVICE CUSTOM SOIL RESOURCE REPORT FOR THIS PROJECT DATED JANUARY 14TH, 2022.
9. SITE IS CURRENTLY SERVICED BY PRIVATE SEWER AND PUBLIC WATER.
10. ALL LANDSCAPING SHOWN ON THE PLANS SHALL BE MAINTAINED AND KEPT CLEAN OF ALL DEBRIS, RUBBISH, WEEDS, AND TALL GRASS.
11. A BLANKET EASEMENT IS GRANTED TO UPPER UWCHLAN TOWNSHIP TO ALLOW FOR THE INSPECTION OF THE STORMWATER FACILITY. IN THE EVENT THE HOMEOWNER/PROPERTY OWNER FAILS TO PROPERLY MAINTAIN THOSE FACILITIES, AFTER NOTICE TO THE OWNER OF ITS INTENT TO DO SO (WHICH NOTICE SHALL NOT BE REQUIRED IN ANY EMERGENCY), THE TOWNSHIP MAY (BUT IS NOT OBLIGATED TO) ENTER ONTO THE PROPERTY TO INSPECT AND PERFORM ANY SUCH MAINTENANCE. IN SUCH EVENT, THE TOWNSHIP MAY CHARGE THE COSTS THEREOF, WHETHER DIRECT OR INDIRECT, INCLUDING LABOR, EQUIPMENT, MATERIALS, SUPPLIES AND ANY FEES, TO THE OWNER, AND MAY PLACE A LIEN ON THE PROPERTY TO RECOVER ANY CHARGED COSTS THAT REMAIN UNREIMBURSED AND ANY COSTS OF COLLECTION, FEE AND INTEREST.
12. THERE WAS NO OBSERVED EVIDENCE OF GAS SERVICE ON THE SURVEYED PREMISES.
13. ALL BUILDING MATERIALS AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ. AND 287.1 ET SEQ. NO BUILDING MATERIAL SHALL BE BURIED, DUMPED OR DISCHARGED FROM THE SITE.
14. AN AS-BUILT SURVEY OF ALL STORMWATER BMP'S AND AN EXPLANATION OF ANY DISCREPANCIES WITH THE OPERATION AND MAINTENANCE PLAN SHALL BE PROVIDED TO UPPER UWCHLAN TOWNSHIP.
15. ALL SANITARY SEWERS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE UPPER UWCHLAN TOWNSHIP MUNICIPAL AUTHORITY SPECIFICATIONS.
16. THE AUTHORITY ENGINEER MUST BE NOTIFIED 48 HOURS PRIOR TO THE BEGINNING OF SANITARY SEWER CONSTRUCTION.
17. A SEWER LATERAL AS-BUILT PLAN MUST BE SUBMITTED TO THE AUTHORITY ENGINEER.

SIGHT DISTANCE NOTE

ALL SIGHT DISTANCE OBSTRUCTIONS (INCLUDING BUT NOT LIMITED TO EMBANKMENTS AND VEGETATION) SHALL BE REMOVED BY THE PERMITTEE TO PROVIDE A MINIMUM OF 242 FT. SIGHT DISTANCE TO THE LEFT AND 236 FT. SIGHT DISTANCE TO THE RIGHT FOR A DRIVER EXITING THE PROPOSED DRIVEWAYS ONTO THE THROUGH HIGHWAY. THE DRIVER MUST BE CONSIDERED TO BE POSITIONED TEN FEET FROM THE NEAR EDGE OF THE CLOSEST HIGHWAY THROUGH TRAVEL LANE (FROM THE CURBLINE IF CURBING IS PRESENT) AT AN EYE HEIGHT OF THREE FEET SIX INCHES (3'6") ABOVE THE PAVEMENT SURFACE LOCATED IN THE CENTER OF THE CLOSEST HIGHWAY TRAVEL LANE DESIGNATED FOR USE BY APPROACHING TRAFFIC. THIS SIGHT DISTANCE SHALL BE MAINTAINED BY THE PERMITTEE.

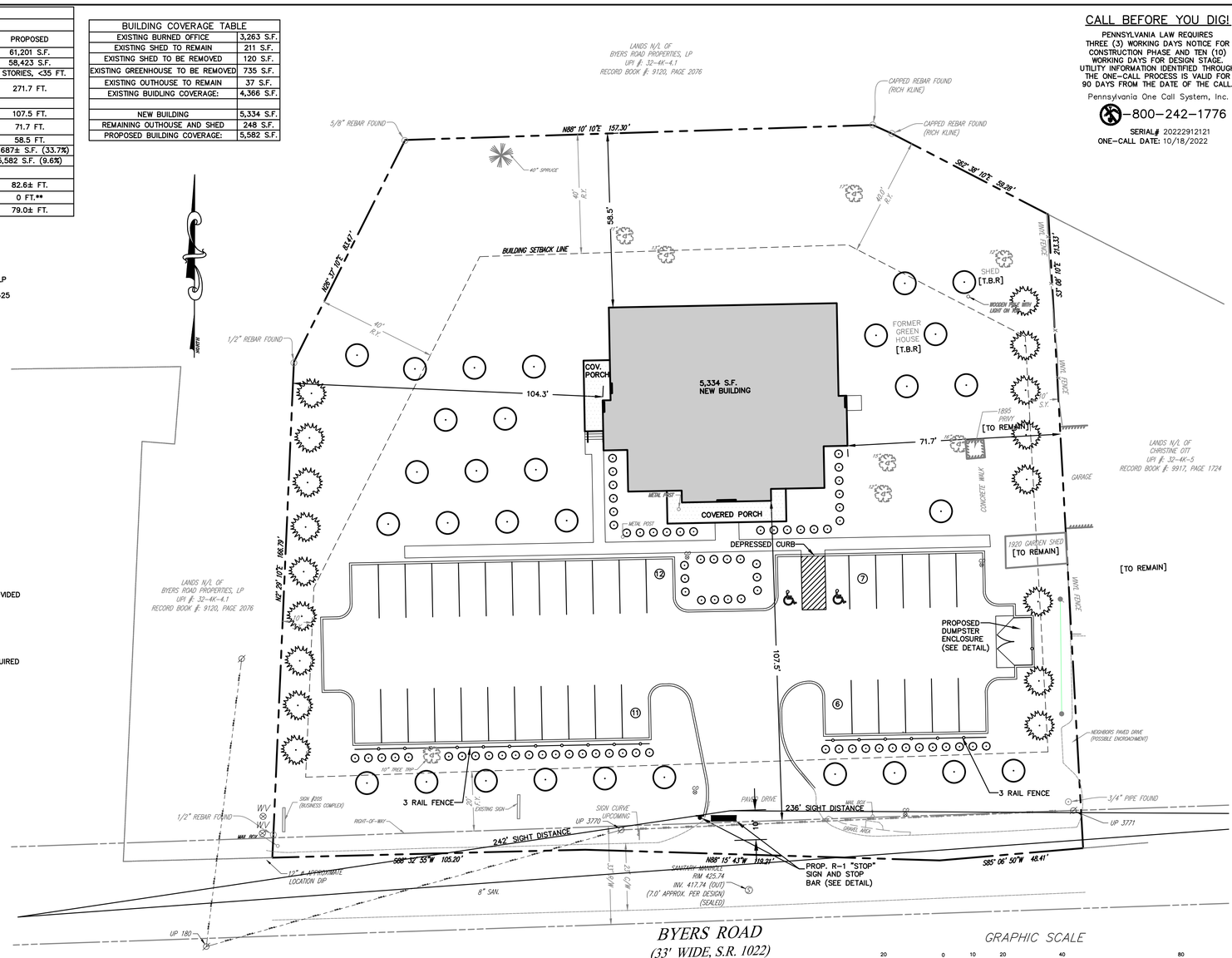
LEGEND

EXISTING		PROPOSED
	CONCRETE CURB	
	CONC. SIDEWALK	
	FENCELINE	
	RIGHT OF WAY	
	PROPERTY LINE	
○	IRON PIN	●
□	MONUMENT	■
	SIGN	
	TREE	
	EVERGREEN TREE	

PRELIMINARY LAND DEVELOPMENT PLAN EAGLE ANIMAL HOSPITAL

DRAWING INDEX

SHEET NO.	DESCRIPTION
C-1	SITE PLAN
C-2	EXISTING CONDITIONS AND DEMOLITION PLAN
C-3	GRADING AND UTILITY PLAN
C-4	LANDSCAPE PLAN
C-5	EROSION AND SEDIMENTATION CONTROL AND CONSERVATION PLAN
C-6	STORMWATER AND SEWER DETAILS
C-7	CONSTRUCTION DETAILS
C-8	EROSION AND SEDIMENTATION CONTROL DETAILS
C-9	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN



GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

POSTED SPEED LIMITS	
STREET	POSTED SPEED LIMIT
BYERS ROAD	35 MPH
SENN DRIVE	35 MPH

SKETCH PLAN STATEMENT OF INTENT

THE PURPOSE OF THIS PLAN IS TO SHOW THE REQUIREMENTS NECESSARY TO CONSTRUCT A NEW BUILDING FOR AN ANIMAL HOSPITAL WHOSE ORIGINAL BUILDING BURNED DOWN. THE PLAN INCLUDES THE IMPROVEMENTS ASSOCIATED WITH THE PROPOSED BUILDING SUCH AS GRADING, LANDSCAPING, AND STORMWATER MANAGEMENT FACILITIES.

TOTAL FLOOR AREA

BUILDING FOOTPRINT = 5,334 S.F.
TOTAL FLOOR AREA = 4,590 S.F.

CHAPTER 93 CLASSIFICATION:

THE SITE DRAINS TO UNNAMED TRIBUTARY PICKERING CREEK. CHAPTER 93 CLASSIFICATION IS HQ-TSF, MF.

WASTE DISCHARGE NOTE

THE PROPOSED ESTABLISHMENT IS REQUIRED TO COMPLY WITH THE REGULATIONS FOR THE DISCHARGE OF NON-RESIDENTIAL WASTE INTO THE UPPER UWCHLAN TOWNSHIP MUNICIPAL AUTHORITY'S SEWERAGE SYSTEM RESOLUTION #10-20-04-15, DATED OCTOBER 20, 2004.

STORMWATER MANAGEMENT AGREEMENT

I ACKNOWLEDGE THE STORMWATER MANAGEMENT SYSTEM TO BE A PERMANENT FIXTURE THAT CAN BE ALTERED OR REMOVED ONLY AFTER APPROVAL OF A REVISED PLAN BY THE TOWNSHIP.

SIGNATURE _____ DATE _____

ENGINEER'S CERTIFICATION

I, _____, ON THIS DATE _____, HEREBY CERTIFY THAT THE DRAINAGE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE UPPER UWCHLAN STORMWATER MANAGEMENT ORDINANCE.

SIGNATURE OF ENGINEER _____ DATE _____

CERTIFICATION OF OWNER AND ACKNOWLEDGEMENT OF LAND DEVELOPMENT PLANS

ON THIS, THE ___ DAY OF _____, 20___, BEFORE ME, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED _____ WHO BEING DULY SWORN ACCORDING TO THE LAW, DEPOSES AND SAYS THAT HE/SHE IS THE OWNER OF THE PROPERTY SHOWN ON THIS PLAN, AND THAT HE/SHE ACKNOWLEDGES THE SAME TO BE HIS/HER ACT AND PLAN AND DESIRES THE SAME RECORDED AS SUCH ACCORDING TO LAW.

WITNESS MY HAND AND SEAL THE DAY AND DATE ABOVE WRITTEN.

MY COMMISSION EXPIRES: _____

SIGNATURE OF OWNER _____ NOTARY PUBLIC OR OTHER OFFICER

SIGNATURE OF OWNER

REVIEWED BY THE PLANNING COMMISSION OF UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA THIS ____ DAY OF _____, 20___

CHAIRPERSON _____

MEMBER _____

MEMBER _____

APPROVED BY THE TOWNSHIP SUPERVISORS OF UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA THIS ____ DAY OF _____, 20___

CHAIRPERSON _____

MEMBER _____

MEMBER _____

REVIEWED BY THE CHESTER COUNTY PLANNING COMMISSION THIS ____ DAY OF _____, 20___

SECRETARY _____

REVIEWED BY THE UPPER UWCHLAN TOWNSHIP ENGINEER THIS ____ DAY OF _____, 20___

TOWNSHIP ENGINEER _____

CHESTER COUNTY PLANNING COMMISSION

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS ARE IN CONFORMANCE WITH ENGINEERING, ZONING, BUILDING, SANITATION, AND OTHER APPLICABLE ORDINANCES OF THIS TOWNSHIP, AND HAVE BEEN PREPARED IN ACCORDANCE WITH ACT 367 OF THE COMMONWEALTH OF PENNSYLVANIA, KNOWN AS THE "ENGINEER, LAND SURVEYOR, AND GEOLOGIST REGISTRATION LAW" (P.L. 913, No. 367), AS AMENDED.

SIGNATURE OF ENGINEER _____ DATE _____

P.E. LICENSE NUMBER _____

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES THREE (3) WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND TEN (10) WORKING DAYS FOR DESIGN STAGE. UTILITY INFORMATION IDENTIFIED THROUGH THE ONE-CALL PROCESS IS VALID FOR 90 DAYS FROM THE DATE OF THE CALL.

Pennsylvania One Call System, Inc.
1-800-242-1776
SERIAL#: 20222912121
ONE-CALL DATE: 10/18/2022

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JEFFREY N. GENTILE
ENGINEER
No. PE052379E

LINN ARCHITECTS
ARCHITECTURE
ENGINEERING
SITE PLANNING
INTERIOR DESIGN
1140 N. PROVIDENCE ROAD
MEDIA, PENNSYLVANIA 19063
TEL: 610-566-7044
FAX: 610-566-3258

SITE PLAN
FOR
EAGLE ANIMAL HOSPITAL
211 BYERS ROAD
UPPER UWCHLAN TOWNSHIP CHESTER COUNTY, PA

REVISIONS		
NO.	DESCRIPTION	DATE
1		
2		
3		
4		

DATE: 03.04.24
SCALE: 1"=20'
DRAWN BY: SPP
CHECKED BY: -
PROJ. NO.: 22222

SHEET NO. C-1
SHEET 1 OF 9

Plotted: 3-19-24 @11:51am By: slinn
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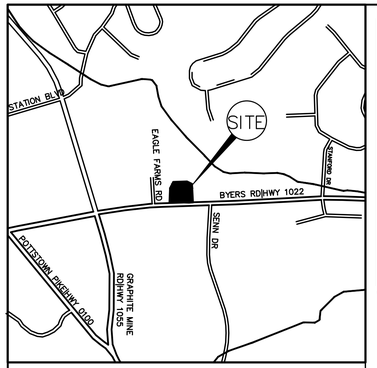

LOCATION MAP
1" = 1,000'

EXISTING ZONING DATA		
C-1 VILLAGE ZONING DISTRICT		
REQUIREMENT – SINGLE		EXISTING
LOT AREA (GROSS)		61,201 S.F.
LOT AREA (NET)	10,000 S.F.	58,423 S.F.
MAX. BLDG. HEIGHT	35 FT.	2 STORIES, <35 FT.
LOT WIDTH	100 FT.	271.7 FT.
BUILDING SETBACKS		
FRONT YARD:	20 FT. MIN	15.8 FT.*
SIDE YARD:	10 FT. MIN	18.5 FT. MIN
REAR YARD	40 FT. MIN	142.1 FT.
IMPERVIOUS COVERAGE	60%	12,037 S.F. (20.6%)
BUILDING COVERAGE	30%	4,366 S.F. (7.5%)
BUILDING COVERAGE (<1½ STORIES)	15%	1,103 S.F. (1.9%)
ACCESSORY STRUCTURE SETBACKS		
FRONT YARD:	20 FT. MIN	82.6 FT.
SIDE YARD:	10 FT. MIN	0 FT.*
REAR YARD	10 FT. MIN	42.5 FT.

*EXISTING LEGAL NON-CONFORMITY

NOTES

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CHAPTER 93 CLASSIFICATION:

THE SITE DRAINS TO UNNAMED TRIBUTARY PICKERING CREEK. CHAPTER 93 CLASSIFICATION IS HQ-TSF, MF.

SOILS TABLE

(FROM UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE)

SOIL TYPE: CaB–Califon loam
DRAINAGE CLASS: Moderately Well Drained
SLOPE RANGE: 3–8
HYDROLOGIC GROUP: D
FRAGIPAN DEPTH: 20–30 inches
BEDROCK DEPTH: 72–99 inches
SEASONAL WATER TABLE:6–36 inches
FLOODING POTENTIAL: None
PROFILE PERMEABILITY: Moderately low to moderately high

SOIL TYPE: Ha–Hatboro silt loam
DRAINAGE CLASS: Poorly Drained
SLOPE RANGE: 0–3
HYDROLOGIC GROUP: B/D
BEDROCK DEPTH: 60–99 inches
SEASONAL WATER TABLE:0–6 inches
FLOODING POTENTIAL: Non–Frequent
PROFILE PERMEABILITY: Moderately high to high

SOIL TYPE: UugB–Urban land–Udorthents, schist and gneiss complex
DRAINAGE CLASS: Moderately low to moderately high
SLOPE RANGE: 0–8
HYDROLOGIC GROUP: C
BEDROCK DEPTH: 20–70 inches
SEASONAL WATER TABLE:60 inches
FLOODING POTENTIAL: None
PROFILE PERMEABILITY: Moderately low to moderately high

DEMOLITION NOTE

BUILDINGS, PAVEMENT, CURBING, TREES, LIGHTS, TRANSFORMERS, POLES, CONCRETE PADS, DRAINAGE PIPING AND OTHER OBJECTS INTERFERING WITH THE SITE IMPROVEMENTS SHALL BE REMOVED AND DISPOSED OF PROPERLY. ALSO ALL UTILITIES SERVICES TO AND ON THE SITE SHALL BE PERMANENTLY TERMINATED OR TEMPORARILY SHUT OFF IN ACCORDANCE WITH UTILITY COMPANY OR AUTHORITY REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR ANY AND ALL DEMOLITION. INCLUDING HAZARDOUS MATERIAL IN ACCORDANCE WITH PADEP REQUIREMENTS. ALL MATERIALS AND WASTES SHALL BE DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET. SEQ. AND 287.1 ET. SEQ.

PA ONE CALL INFORMATION

COMPANY: AQUA PENNSYLVANIA INC
ADDRESS: 762 W LANCASTER AVE
BRYN MAWR, PA 19010
CONTACT: THOMAS WADDY
EMAIL: TBWADDY@AQUAAMERICA.COM

COMPANY: COMCAST
ADDRESS: 1004 CORNERSTONE BLVD
DOWNINGTON, PA. 19335
CONTACT: TOM RUSSO
EMAIL: tom_russo@cable.comcast.com

COMPANY: PECO AN EXELON COMPANY C/O
ADDRESS: 450 S HENDERSON ROAD SUITE B
KING OF PRUSSIA, PA. 19406
CONTACT: NIKKIA SIMPKINS
EMAIL: NIKKIASIMPKINS@USICLLC.COM

COMPANY: UPPER UWCHLAN TOWNSHIP UPPEI
UWCHLAN MUNICIPAL AUTHORITY
ADDRESS: 140 POTTSTOWN PIKE
CHESTER SPRINGS, PA. 19425
CONTACT: MICHAEL HECKMAN
EMAIL: MHECKMAN@UPPERUWCHLAN-PA.GOV

COMPANY: VERIZON BUSINESS FORMERLY MCI
ADDRESS: 7000 WESTON PKWY
CARY, NC. 27513
CONTACT: VICTOR WOOD
EMAIL: victor.s.wood@verizon.com

LEGEND

CONCRETE CURB
CONC. SIDEWALK
FENCELINE
CONTOURS
RIGHT OF WAY
PROPERTY LINE
SIGN
IRON PIN
MONUMENT
SANITARY SEWER W/ M.H.
WATER LINE
GAS LINE
GAS VALVE
WATER VALVE
CLEAN-OUT
FIRE HYDRANT
OHW-E OVERHEAD WIRE
UTILITY POLE
AREA OF DEMOLITION
[TBR] ITEM TO BE REMOVED
TREE
REMOVE FOR DEVELOPMENT

OWNER
9 COFFMAN ASSOCIATES, LP
211 BYERS RD
CHESTER SPRINGS, PA 19425

SITE INFORMATION
211 BYERS RD
TAX MAP: 32-4K-4
DB/PG: 7355/455

SKETCH PLAN STATEMENT OF INTENT

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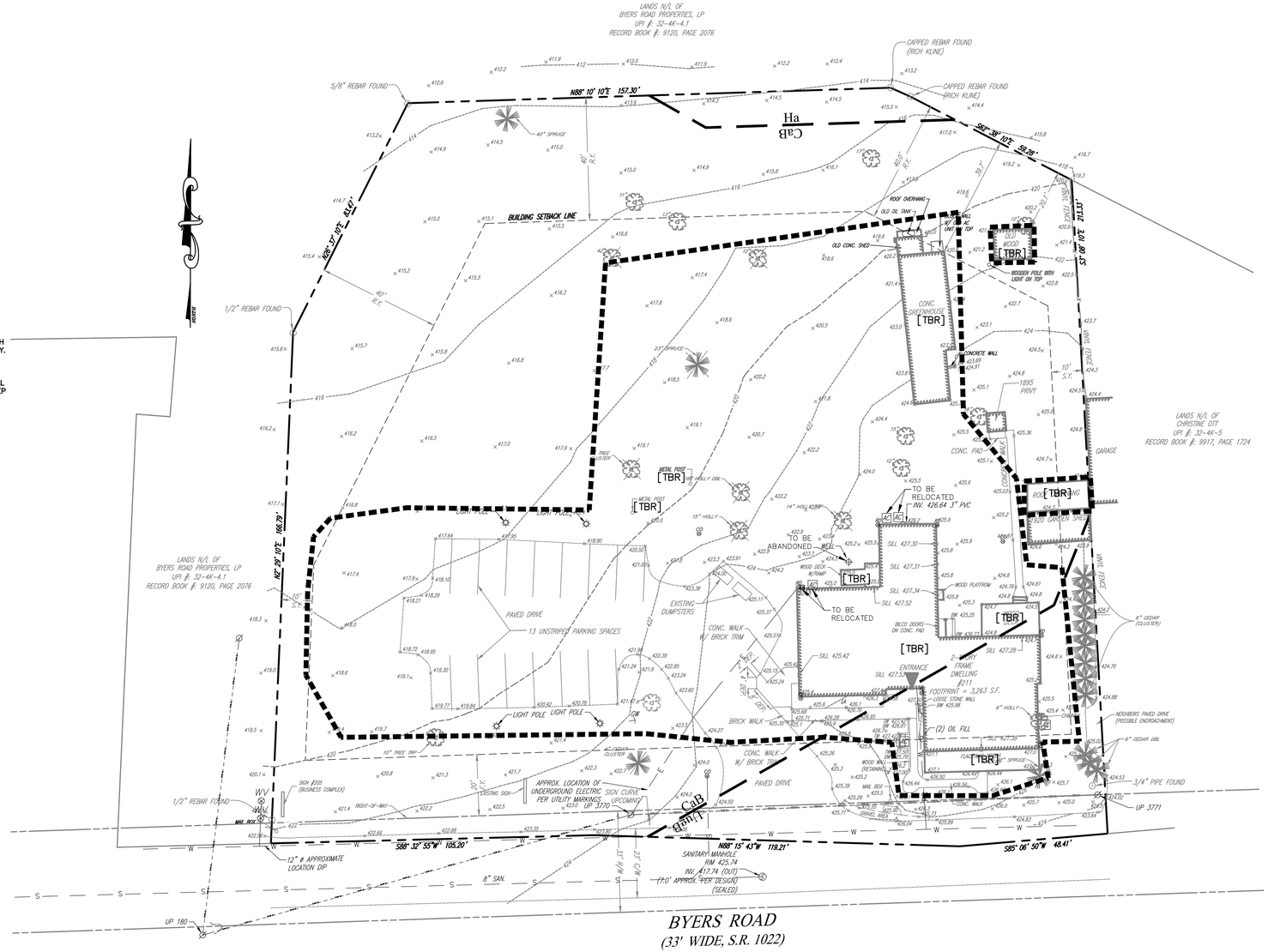

EXISTING CONDITIONS NOTE

THE EXISTING CONDITIONS OF THIS PLAN REPRESENTS THE SITE AS OF OCTOBER 2023 PRIOR TO A FIRE WHICH DESTORYED THE EXISTING ANIMAL HOSPITAL BUILDING AND WAS SUBSEQUENTLY DEMOLISHED. STORMWATER CALCULATIONS, EXISTING CONDITIONS, AND LANDSCAPING REQUIRMENTS ARE BASED ON THESE IMPERVIOUS SURFACES.

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

CALL BEFORE YOU DIG!

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JEFFREY N. GENTILE
ENGINEER
No. PE052379E

LINN ARCHITECTS
ARCHITECTURE
ENGINEERING
SITE PLANNING
INTERIOR DESIGN
1140 N. PROVIDENCE ROAD
MEDIA, PENNSYLVANIA 19063
TEL: 610-566-7044
FAX: 610-566-3258

EXISTING CONDITIONS AND DEMOLITION PLAN

FOR

EAGLE ANIMAL HOSPITAL

211 BYERS ROAD

UPPER UWCHLAN TOWNSHIP CHESTER COUNTY, PA

REVISIONS		
NO.	DESCRIPTION	DATE
1		
2		
3		
4		

DATE: 03.04.24
SCALE: 1"=20'
DRAWN BY: SFP
CHECKED BY: .
PROJ. NO.: 22222

SHEET NO. C-2
SHEET 2 OF 9

Plotted: 3-19-24 @11:59am By: slinn
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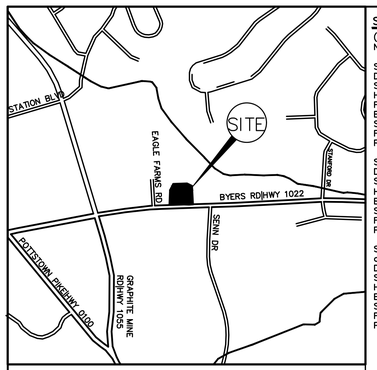

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LEGEND

EXISTING		PROPOSED
	CONCRETE CURB	
	CONC. SIDEWALK	
	CONC. CROSSWALK	
-W-W-W-	FENCELINE	
	RIGHT OF WAY	
	PROPERTY LINE	
○	IRON PIN	
⊡	MONUMENT	
X	SPOT GRADES	100.00 x
97	CONTOURS	97
	SIGN	
-S-Ⓢ-S-	SANITARY SEWER W/ M.H.	Ⓢ
	SANITARY SEWER STRUCTURE NO.	101
RD	ROOFDRAIN PIPE	RD
E	ELECTRIC LINE	E
W	WATER LINE	W
G	GAS LINE	G
	UTILITY POLE	
	FIRE HYDRANT	
GV	GAS VALVE	GV
WV	WATER VALVE	WV
CO	CLEAN-OUT	CO
WM	WATER METER	WM
GM	GAS METER	GM
EM	ELECTRIC METER	EM
OHW-E	OVERHEAD WIRE	
	TREE	
	EVERGREEN TREE	

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FRAGIPAN DEPTH: 20—30 inches
BEDROCK DEPTH: 72—99 inches
SEASONAL WATER TABLE:6—36 inches
FLOODING POTENTIAL: None
PROFILE PERMEABILITY: Moderately low to moderately high

SOIL TYPE: Ha—Hatboro silt loam
DRAINAGE CLASS: Poorly Drained
SLOPE RANGE: 0—3
HYDROLOGIC GROUP: B/D
BEDROCK DEPTH: 60—99 inches
SEASONAL WATER TABLE:0—6 inches
FLOODING POTENTIAL: Non—Frequent
PROFILE PERMEABILITY: Moderately high to high

SOIL TYPE: UugB—Urban land—Udorthents, schist and gneiss complex
DRAINAGE CLASS: Moderately low to moderately high
SLOPE RANGE: 0—8
HYDROLOGIC GROUP: C
BEDROCK DEPTH: 20—70 inches
SEASONAL WATER TABLE:60 inches
FLOODING POTENTIAL: None
PROFILE PERMEABILITY: Moderately low to moderately high

PA ONE CALL INFORMATION

COMPANY: AQUA PENNSYLVANIA INC
ADDRESS: 762 W LANCASTER AVE
BRYN MAWR, PA 19010
CONTACT: THOMAS WADDY
EMAIL: TBWADDY@AQUAAMERICA.COM

COMPANY: COMCAST
ADDRESS: 1004 CORNERSTONE BLVD
DOWNINGTON, PA. 19335
CONTACT: TOM RUSSO
EMAIL: tom_russo@cable.comcast.com

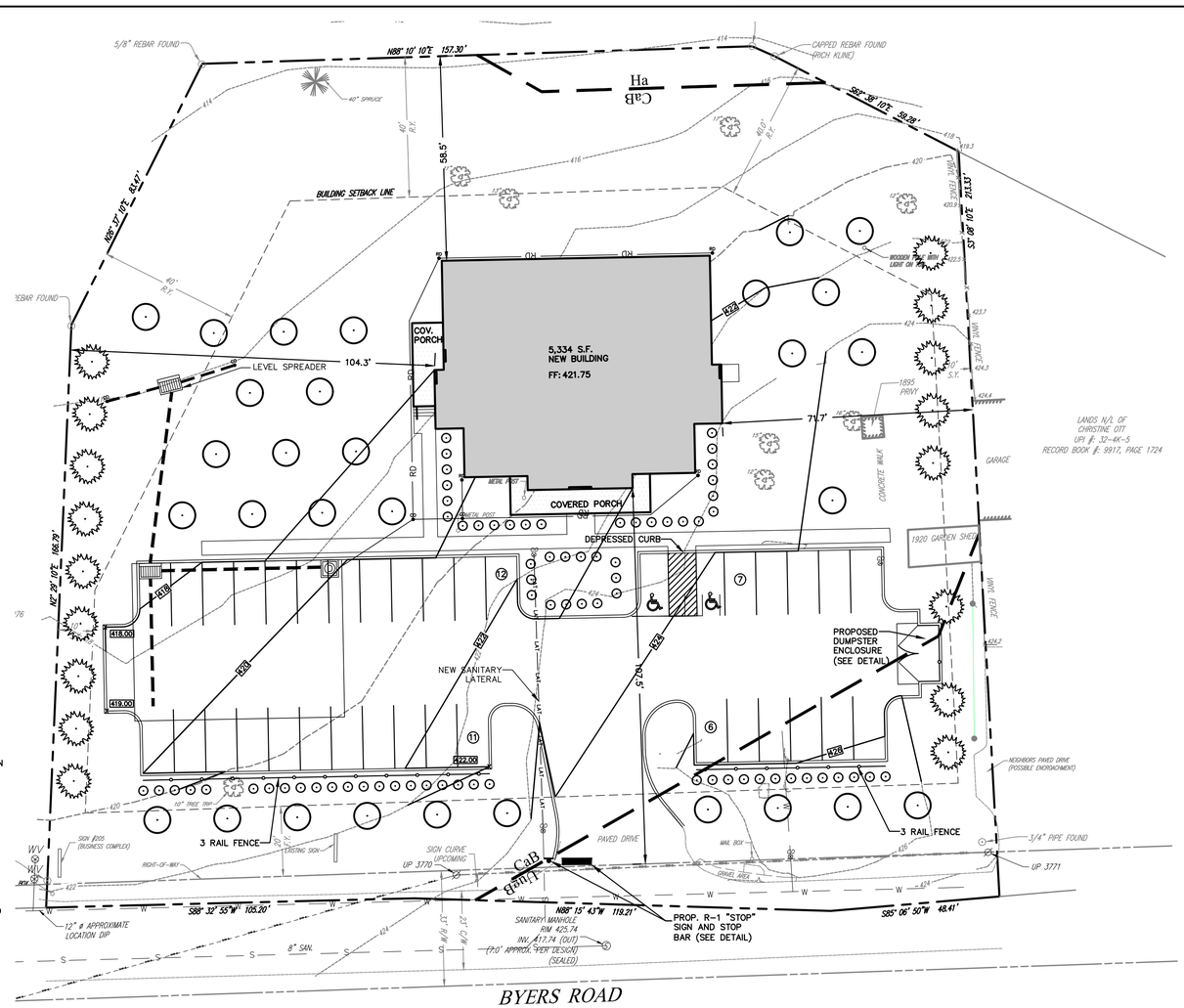
COMPANY: PECO AN EXELON COMPANY C/O USIC
ADDRESS: 450 S HENDERSON ROAD SUITE B
KING OF PRUSSIA, PA. 19406
CONTACT: NIKKIA SIMPKINS
EMAIL: NIKKIASIMPKINS@USICLLC.COM

COMPANY: UPPER UWCHLAN TOWNSHIP UPPER UWCHLAN MUNICIPAL AUTHORITY
ADDRESS: 140 POTTSTOWN PIKE
CHESTER SPRINGS, PA. 19425
CONTACT: MICHAEL HECKMAN
EMAIL: MHECKMAN@UPPERUWCHLAN-PA.GOV

COMPANY: VERIZON BUSINESS FORMERLY MCI
ADDRESS: 7000 WESTON PKWY
CARY, NC. 27513
CONTACT: VICTOR WOOD
EMAIL: victor.s.wood@verizon.com

GRADING & UTILITY GENERAL NOTES:

1. PRIOR TO STARTING CONSTRUCTION, ALL UTILITY SERVICES IN THE AREA SHALL BE LOCATED AND MEASURES TAKEN TO PROTECT THE EXISTING FACILITIES. ANY DAMAGE TO THE EXISTING FACILITIES SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITIES ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER AND SEWER DEPARTMENTS TO MARK OUT THEIR UTILITIES IF NECESSARY.
3. LOCATIONS OF EXISTING UTILITIES SHOWN HERON HAVE BEEN DEVELOPED FROM FIELD SURVEY AND EXISTING RECORDS. COMPLETENESS AND ACCURACY OF EXISTING UTILITY INFORMATION IS NOT GUARANTEED. PRIOR TO THE START OF ANY CONSTRUCTION, THE CONTRACTOR SHALL ACCURATELY FIELD MEASURE LOCATION AND ELEVATION OF EXISTING UTILITIES AT POINTS OF CONNECTION AND POTENTIAL CONFLICT.
4. CONSTRUCTION SHALL BE LOCATED, AND MEASURES TAKEN TO PROTECT THE EXISTING FACILITIES IN ACCORDANCE WITH PENNSYLVANIA ACT 187. ANY DAMAGE TO EXISTING FACILITIES RESULTING FROM THE NEGLIGENCE OF THE CONTRACTOR SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT THE CONTRACTOR'S EXPENSE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL PERSONS, VEHICLES AND BUILDINGS WITHIN THE CONSTRUCTION AREAS FROM INJURY AND DAMAGE DURING THE COURSE OF WORK.
6. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS.
7. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 1.0% MIN. SLOPE ON ASPHALT AND 2.0% MIN. ON GRASS, TO PREVENT PONDING. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST, MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK
8. ALL SITE IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE LOCAL, COUNTY, STATE AND FEDERAL STATUTES AND REGULATIONS.
9. ALL TRENCHING, SHORING AND EXCAVATION OPERATIONS SHALL BE PERFORMED IN COMPLIANCE WITH THE REQUIREMENTS OF THE U.S. DEPARTMENT OF LABOR, OCCUPATION, SAFETY AND HEALTH ADMINISTRATION (OSHA).
10. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE LOCAL AUTHORITY OR GOVERNING AGENCY OF THE BEGINNING DATE OF CONSTRUCTION AND TO ENSURE THAT NO WORK IS PERFORMED WITHOUT THE REQUIRED PERMITS AND INSPECTIONS BY THE LOCAL AUTHORITY OR GOVERNING AGENCY.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED TRAFFIC CONTROL, SHEETING, SHORING AND BARRICADING OF OPEN EXCAVATIONS.
12. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, SAFETY PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK AND FOR COORDINATION OF ALL PORTIONS OF THE WORK UNDER CONTRACT.
13. IN ANY AREA SUBJECT TO VEHICULAR ACTIVITY DURING CONSTRUCTION, A MINIMUM OF 18 INCHES OF COVER SHALL BE MAINTAINED FOR ALL UNDERGROUND UTILITIES (STORMWATER, SANITARY SEWER, WATER, ELECTRIC, GAS, ETC.)
14. ALL FILL SHALL BE COMPACTED TO PROVIDE STABILITY OF MATERIAL AND TO PREVENT UNDESIRABLE SETTLEMENTS. THE FILL SHALL BE SPREAD IN A SERIES OF LAYERS, NOT EXCEEDING EIGHT INCHES IN THICKNESS, AND BE COMPACTED BY A SHEEPSFOOT ROLLER OR OTHER APPROVED METHOD AFTER EACH LAYER IS SPREAD. THE TOWNSHIP ENGINEER MAY REQUIRE COMPACTION TESTS AND REPORTS.
15. ALL STORM SEWER SHALL BE INSTALLED IN ACCORDANCE WITH UPPER UWCHLAN TOWNSHIP STANDARDS AND PENNDOT PUBLICATION 408 SPECIFICATIONS.
16. ALL OTHER UTILITY LINES, INCLUDING, BUT NOT LIMITED TO, ELECTRIC, GAS, STREETLIGHT SUPPLY, CABLE TELEVISION, AND TELEPHONE, SHALL BE PLACED UNDERGROUND. INSTALLATION OF UTILITIES SHALL BE IN STRICT ACCORDANCE WITH THE ENGINEERING STANDARDS AND SPECIFICATIONS OF THE TOWNSHIP OR PUBLIC UTILITY CONCERNED. UNDERGROUND UTILITIES SHALL BE PUT IN PLACE, CONNECTED, AND APPROVED BEFORE THE STREETS ARE CONSTRUCTED WHERE SUCH UTILITIES LIE UNDER THE PROPOSED CARTWAY AND BEFORE ANY PERSON IS PERMITTED TO OCCUPY ANY BUILDING SERVED BY SUCH FACILITIES.
17. THE STORMWATER MANAGEMENT SYSTEMS HAVE BEEN DESIGNED ASSUMING THE IMPERVIOUS COVER DEPICTED ON THIS PLAN. IF FUTURE IMPERVIOUS IS ADDED, SEPARATE STORMWATER MANAGEMENT MUST BE DESIGNED AT THAT TIME, AS REQUIRED BY THE TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.
18. CLEANOUTS SHALL BE PLACED AT ALL GRADE CHANGES OR CHANGES IN ALIGNMENT OF THE RAIN WATER CONDUCTORS AND SANITARY SEWER LATERALS.
19. ALL LATERALS SHALL BE INSTALLED WITH A MINIMUM OF 1/4-INCH PER FOOT SLOPE.
20. 9 COFFMAN ASSOCIATES, LP SHALL COMPLY WITH THE REGULATIONS FOR THE DISCHARGE OF NON-RESIDENTIAL WASTE INTO THE UPPER UWCHLAN TOWNSHIP MUNICIPAL AUTHORITY'S SEWERAGE SYSTEM, RESOLUTION #10-20-04-15, DATED OCTOBER 20, 2004.
21. IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE PLAN WILL SUPERCEDE IN ALL CASES. NOTIFY ENGINEER OF ANY CONFLICT.
22. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OR CONSTRUCTION.
23. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME. SERVICE SIZES TO BE DETERMINED BY ARCHITECT.
24. ALL EXISTING CAPS, LIDS, RIMS, ETC. TO REMAIN SHALL BE RESET FLUSH WITH PROPOSED GRADE.
25. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE LOCAL GOVERNING AUTHORITY.
26. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN CHANGES.
27. SOLID WASTE TO BE DISPOSED OF BY CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

DEMOLITION NOTE

BUILDINGS, PAVEMENT, CURBING, TREES, LIGHTS, TRANSFORMERS, POLES, CONCRETE PADS, DRAINAGE PIPING AND OTHER OBJECTS INTERFERING WITH THE SITE IMPROVEMENTS SHALL BE REMOVED AND DISPOSED OF PROPERLY. ALSO ALL UTILITIES SERVICES TO AND ON THE SITE SHALL BE PERMANENTLY TERMINATED OR TEMPORARILY SHUT OFF IN ACCORDANCE WITH UTILITY COMPANY OR AUTHORITY REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR ANY AND ALL DEMOLITION, INCLUDING HAZARDOUS MATERIAL IN ACCORDANCE WITH PADEP REQUIREMENTS. ALL MATERIALS AND WASTES SHALL BE DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET. SEQ. AND 287.1 ET. SEQ.

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES THREE (3) WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND TEN (10) WORKING DAYS FOR DESIGN STAGE. UTILITY INFORMATION IDENTIFIED THROUGH THE ONE-CALL PROCESS IS VALID FOR 90 DAYS FROM THE DATE OF THE CALL.

Pennsylvania One Call System, Inc.
811-800-242-1776
SERIAL# 20222912121
ONE-CALL DATE: 10/18/2022

OWNER
9 COFFMAN ASSOCIATES, LP
211 BYERS RD
CHESTER SPRINGS, PA 19425

CHAPTER 93 CLASSIFICATION:
THE SITE DRAINS TO UNNAMED TRIBUTARY PICKERING CREEK. CHAPTER 93 CLASSIFICATION IS HQ-TSF, MF.

SITE INFORMATION
211 BYERS RD
TAX MAP: 32-4K-4
DB/PG: 7355/455

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JEFFREY N. GENTILE
ENGINEER
No. PE052379E

LINN ARCHITECTS
ARCHITECTURE
ENGINEERING
SITE PLANNING
INTERIOR DESIGN
1140 N. PROVIDENCE ROAD
MEDIA, PENNSYLVANIA 19063
TEL: 610-566-7044
FAX: 610-566-3258

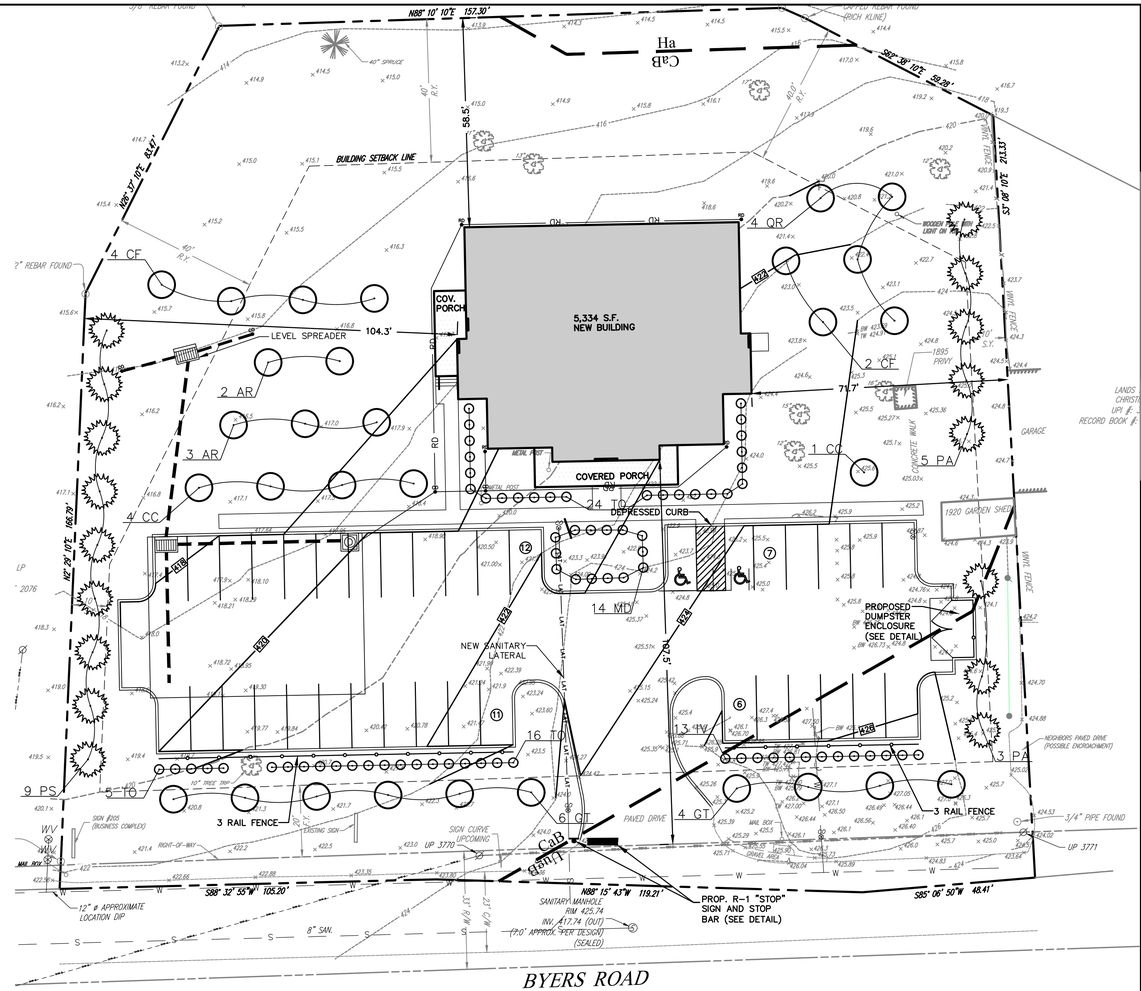
GRADING AND UTILITY PLAN
FOR
EAGLE ANIMAL HOSPITAL
211 BYERS ROAD
UPPER UWCHLAN TOWNSHIP CHESTER COUNTY, PA

REVISIONS NO.	DESCRIPTION	DATE
1		
2		
3		
4		

DATE: 03.04.24
SCALE: 1"=20'
DRAWN BY: SPP
CHECKED BY: .
PROJ. NO.: 22222

SHEET NO. C-3
SHEET 3 OF 9

Plotted: 3-19-24 @11:59am By: slinn
F:\Projects\Storage\Project Docs\22222\Civil\dwg\Redesign\C-3 Grade.dwg[Layout1]



Plotted: 3-19-24 @12:00pm By: slinn

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LANDSCAPE NOTES

1. ALL PLANT MATERIAL AND INSTALLATION OF PLANT MATERIAL SHALL BE IN STRICT CONFORMANCE WITH USDA STANDARDS FOR NURSERY STOCK AND THE "AMERICAN NURSERY AND LANDSCAPE ASSOCIATION." LATEST EDITION.
2. CONTRACTOR SHALL VERIFY ALL UTILITIES WITHIN WORK AREA AND SHALL BE RESPONSIBLE FOR THEIR PROTECTION.
3. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS SHOWN ON THE DRAWINGS, AS SPECIFIED, AND IN QUANTITIES INDICATED ON THE PLANT LIST.
4. ALL PLANTS SHALL BE NURSERY GROWN.
5. ALL PLANTS SHALL BE HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT.
6. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OR GROWTH. THEY SHALL BE SOUND, HEALTHY AND VIGOROUS WELL BRANCHED AND DENSELY FOLIATED WHEN IN LEAF THEY SHALL BE FREE OF DISEASE AND INSECT PESTS, EGGS OR LARVAE. THEY SHALL HAVE HEALTHY WELL-DEVELOPED ROOT SYSTEMS.
7. SUBSTITUTIONS: WHEN PLANTS OF A SPECIFIED KIND OR SIZE ARE NOT AVAILABLE WITH A REASONABLE DISTANCE, SUBSTITUTIONS MAY BE MADE UPON REQUEST BY THE CONTRACTOR IF APPROVED BY THE LANDSCAPE ARCHITECT AND UPPER UWCHLAN TOWNSHIP.
8. ALL AREAS TO BE SHOWN AS LAWN SHALL BE GRASSED, AS SPECIFIED, AND WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
9. TREE LOCATIONS MAY NEED TO BE ADJUSTED BASED ON LOCATIONS OF PROPOSED UTILITIES.
10. ALL PLANTING BEDS TO RECEIVE 3" SHREDDED HARDWOOD MULCH AS SHOWN ON DETAILS.
11. ROOT BALLS OF ALL PLANTS SHALL BE ADEQUATELY PROTECTED AT ALL TIMES FROM SUN AND DRYING WINDS OR FROST.
12. PLANTS WITH BROKEN ROOT BALLS OR EXCESSIVE DAMAGE TO THE CROWN SHALL BE REPLACED PRIOR TO PLANTING.
13. ROPES AT TOP OF BALL SHALL BE CUT. REMOVE TOP 1/3 OF BURLAP. NON- BIODEGRADABLE MATERIAL SHALL BE TOTALLY REMOVED.
14. PREPARATION OF PLANTING: CLEAN TOPSOIL OF ROOTS, PLANTS, STONES, CLAY LUMPS, AND OTHER EXTRANEOUS MATERIALS HARMFUL OR TOXIC TO PLANT GROWTH.
15. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING.
16. NO PLANT SHALL BE PLACED IN THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT OR HIS/HER EQUAL.
17. ALL PLANTS SHALL HAVE THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE BEFORE DIGGING.
18. ALL EXISTING TREES THAT ARE TO BE SAVED AS DETERMINED BY LANDSCAPE ARCHITECT SHALL BE PROTECTED UNTIL CONSTRUCTION HAS BEEN COMPLETED. AREA WITHIN DRIPLINE SHALL NOT BE TRAVELLED ACROSS BY CONSTRUCTION TRAFFIC.
19. TREES PLANTED ALONG STREETS SHALL HAVE A SINGLE STRAIGHT TRUNK THAT DOES NOT FORK BELOW 6'.
20. ALL PLANTS SHALL BE BALLED AND WRAPPED OR CONTAINER GROWN AS SPECIFIED. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL ROOT WRAPPING MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED AT TIME OF PLANTING.
21. WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE CONTAINER BALL CUT THROUGH THE SURFACE IN TWO VERTICAL LOCATIONS.
22. THE CONTRACTOR SHALL LAYOUT WITH IDENTIFIABLE STAKES INDIVIDUAL TREE AND SHRUB LOCATIONS AND AREAS FOR MULTIPLE PLANTING ALONG WITH THE ARRANGEMENTS AND OUTLINE OF PLANTING BEDS AS INDICATED ON DRAWING. THE LAYOUT OF PLANTING WILL THEN BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO ANY EXCAVATION OF PLANT PITS OR PLANT BEDS.
23. AT PLANTING TIME, ALL PLANT MATERIAL SHALL BE THINNED BY REMOVING BROKEN AND/OR DEAD VEGETATIVE MATERIAL.
24. ALL PLANTS SHALL BE INSTALLED AS PER DETAIL AND THE CONTRACT SPECIFICATIONS.
25. ALL PLANTS SHALL BE STAKED AND PLUMB UNLESS OTHERWISE SPECIFIED.
26. ALL PLANTS SHALL BE THOROUGHLY WATERED TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL THEN BE WATERED WEEKLY OR MORE OFTEN, IF NECESSARY, DURING THE FIRST GROWING SEASON. WATERING FO THE PLANTS IS THE CONTRACTORS RESPONSIBILITY UNTIL THE PROPERTY IS TURNED OVER AND WATERING THE LANDSCAPING IS THE OWNERS RESPONSIBILITY.
27. WARRANT TREES AND SHRUBS FOR A PERIOD OF ONE YEAR AFTER WRITTEN DATE OF ACCEPTANCE BY THE LANDSCAPE ARCHITECT AND/OR CONSTRUCTION MANAGER AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MONITOR THE PROJECT DURING THE ONE YEAR WARRANTY PERIOD AND NOTIFY THE OWNER IF PROBLEMS DEVELOP. PLANTS THAT DIE DURING THE WARRANTY PERIOD SHALL BE REMOVED IMMEDIATELY. REPLACEMENTS SHALL BE PLACED UNDER WARRANTY FOR AN ADDITIONAL 12 MONTHS PERIOD.
28. CONDITIONS DETRIMENTAL TO PLANTS: THE CONTRACTOR SHALL NOTIFY THE PROJECT REPRESENTATIVE IN WRITING OF ALL SOIL OR DRAINAGE CONDITIONS WHICH THE CONTRACTOR CONSIDERS DETRIMENTAL TO THE GROWTH OF PLANTS. HE SHALL STATE THE CONDITIONS AND SUBMIT A PROPOSAL FOR CORRECTING THE CONDITIONS INCLUDING ANY CHANGE IN COST FOR REVIEW AND ACCEPTANCE BY THE PROJECT REPRESENTATIVE.
29. MINOR ADJUSTMENTS TO TREE LOCATION MAY BE NECESSARY DUE TO FIELD CONDITIONS AND FINAL GRADING. THE CONTRACTOR SHALL NOTIFY THE OWNER IF MAJOR ADJUSTMENTS ARE REQUIRED.

PLANTING NOTES

1. ALL LANDSCAPING AS SHOWN ON THE APPROVED PLAN IS THE RESPONSIBILITY OF THE PROPERTY OWNER AND SHALL BE PERPETUALLY MAINTAINED AND REPLACED AS NECESSARY.
2. ALL PLANT LOCATIONS SHALL BE STAKED IN THE FIELD AND LOCATIONS APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.
3. TOPSOIL WITH A QUALITY ORGANIC SOIL AMENDMENT SHALL BE USED FOR ALL PLANTING AND SEEDING OPERATIONS.
4. NOTIFY ALL UTILITY COMPANIES AND LOCATE ALL UTILITIES PRIOR TO EXCAVATING PLANT PITS. PLANT LOCATIONS MAY BE ADJUSTED IN THE FIELD TO AVOID INTERFERENCE WITH UNDERGROUND UTILITIES.
5. SHOULD ANY DISCREPANCY ARISE BETWEEN THE PLANTING PLAN AND THE PLANTING SCHEDULE, THE PLAN SHALL GOVERN AS TO THE QUANTITY OF PLANT MATERIAL.
6. ALL PLANT MATERIAL SHALL BE OF NURSERY STOCK QUALITY AS DEFINED BY THE AMERICAN STANDARDS FOR NURSERY STOCK AS PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION. ALL PLANT MATERIAL SHALL BE GUARANTEED TO LIVE AT LEAST 12 MONTHS FOLLOWING INSTALLATION. REPLACEMENTS SHALL BE PLACED UNDER WARRANTY FOR AN ADDITIONAL 12 MONTHS PERIOD.
7. ALL NON-BIODEGRADABLE ROOT WRAPPING TO BE REMOVED COMPLETELY BEFORE PLANTING.
8. ALL SHADE TREES TO BE PRUNED OF SIDE BRANCHES TO A HEIGHT OF 6' ABOVE GRADE EXCEPT WHERE NOTED IN PLANT SCHEDULE.
9. ALL PLANT MATERIAL SHALL BE APPROVED UPON ARRIVAL TO THE SITE, UNLESS OTHERWISE NOTIFIED.
10. PROPOSED PLANT MATERIAL MAY BE SUBSTITUTED BY SIMILAR PLANTS PRIOR TO INSTALLATION, SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT AND UPPER UWCHLAN TOWNSHIP.
11. DISTURBANCE OF EXISTING VEGETATION SHALL BE LIMITED TO WORK AREA. CONTRACTOR IS RESPONSIBLE FOR FINE GRADING AND SEEDING OF ALL DISTURBED AREAS.
12. ALL PLANTS SPACED 6' O.C. OR CLOSER SHALL BE IN CONTINUOUS MULCHED BEDS.
13. SEED ALL DISTURBED AREAS WITH REQUIRED SEED MIX (SEE PLAN & SEEDING NOTES).

SEEDING NOTES

1. SEED ALL AREAS DISTURBED BY CONSTRUCTION NOT OTHERWISE CONTAINING PLANTING BEDS, SIDEWALKS, BUILDINGS, ETC.
2. BEFORE SEEDING, CONTRACTOR SHALL PROVIDE SOIL TESTS, AND APPLICATIONS OF FERTILIZER AND/OR GROUND LIMESTONE SHALL BE MADE PER SOIL TEST RECOMMENDATIONS. INCORPORATE FERTILIZER OR LIMESTONE INTO TOPSOIL TO A 2" DEPTH.
3. MULCH SEEDED AREAS WITH CLEAN STRAW. WATER AND MAINTAIN ALL LAWN AREAS.
4. SEED MIXES SHALL INSTALLED WITH HYDROSEEDER OR SLIT SEEDER PER MANUFACTURER RECOMMENDATION. MAINTAIN ALL SEED AREAS PER SEED MANUFACTURER'S RECOMMENDATION.

ERNST CONSERVATION SEEDS
9006 MERCER PIKE, MEADVILLE, PA 16335
(800) 873-3321 FAX (814) 336-5191 WWW.ERNSTSEED.COM

SEED MIX:

CONSERVATION MIX (ERNMX-114) OR APPROVED EQUAL
50% KENTUCKY BLUEGRASS
30% CREEPING RED FESCUE
10% PERENNIAL RYEGRASS
10% ANNUAL RYEGRASS

APPLIED 100-200 LB PER ACRE, OR 3-5 LB PER 1000 SF

MAINTENANCE REQUIREMENTS:

ALL LANDSCAPED PLANTING AREAS SHALL BE MAINTAINED AND KEPT FREE OF ALL DEBRIS, RUBBISH, WEEDS, AND TALL GRASS; PROVIDED, HOWEVER, THAT IF SUCH AREA IS PART OF A NATURALLY WOODED AREA ON THE PROPERTY THAT WILL REMAIN AT LEAST 20 FEET WIDE AFTER THE PROPOSED LAND DEVELOPMENT IS COMPLETED, IT MAY CONTINUE IN ITS NATURAL STATE.

UTILITY NOTES

1. THE CONTRACTOR MUST CALL CONTACT ALL UTILITY PROVIDERS AND LOCATE UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.
2. THE CONTRACTOR MUST VERIFY LOCATION, SIZE, DEPTH AND MATERIAL OF ALL UNDERGROUND STRUCTURES WITHIN THE LIMIT OF DISTURBANCE PRIOR TO BEGINNING WORK. NOTIFY PROJECT ENGINEER OF ANY POTENTIAL CONFLICTS OR DISCREPANCIES PRIOR TO BEGINNING WORK.
3. THIS PLAN INDICATES IDENTIFIED UTILITIES AND UTILITY COMPANY STRUCTURES BASED ON VISUAL SURVEY AND EXISTING UTILITY COMPANY PLANS. CONTRACTOR IS CAUTIONED THAT OTHER UTILITIES NOT SHOWN MAY EXIST WITHIN THE PROJECT LIMITS. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL EXISTING UTILITIES.

SOILS TABLE

(FROM UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE)

SOIL TYPE: CaB-Califon loam
DRAINAGE CLASS: Moderately Well Drained
SLOPE RANGE: 3-8
HYDROLOGIC GROUP: D
FRAGIPAN DEPTH: 20-30 inches
BEDROCK DEPTH: 72-99 inches
SEASONAL WATER TABLE: 6-36 inches
FLOODING POTENTIAL: None
PROFILE PERMEABILITY: Moderately low to moderately high

SOIL TYPE: Ha-Hatboro silt loam
DRAINAGE CLASS: Poorly Drained
SLOPE RANGE: 0-3
HYDROLOGIC GROUP: B/D
BEDROCK DEPTH: 60-99 inches
SEASONAL WATER TABLE: 0-6 inches
FLOODING POTENTIAL: Non-Frequent
PROFILE PERMEABILITY: Moderately high to high

SOIL TYPE: UugB-Urban land-Udorthents, schist and gneiss complex
DRAINAGE CLASS: Moderately low to moderately high
SLOPE RANGE: 0-8
HYDROLOGIC GROUP: C
BEDROCK DEPTH: 20-70 inches
SEASONAL WATER TABLE: 60 inches
FLOODING POTENTIAL: None
PROFILE PERMEABILITY: Moderately low to moderately high

PA ONE CALL INFORMATION

COMPANY: AQUA PENNSYLVANIA INC
ADDRESS: 762 W LANCASTER AVE
BRYN MAWR, PA 19010
CONTACT: THOMAS WADDY
EMAIL: TBWADDY@AQUAAMERICA.COM

COMPANY: COMCAST
ADDRESS: 1004 CORNERSTONE BLVD
DOWNINGTON, PA. 19335
CONTACT: TOM RUSSO
EMAIL: tom_russo@cable.comcast.com

COMPANY: PECO AN EXELON COMPANY C/O USIC
ADDRESS: 450 S HENDERSON ROAD SUITE B
KING OF PRUSSIA, PA. 19406
CONTACT: NIKKIA SIMPKINS
EMAIL: NIKKIASIMPKINS@USICLLC.COM

COMPANY: UPPER UWCHLAN TOWNSHIP UPPER UWCHLAN MUNICIPAL AUTHORITY
ADDRESS: 140 POTTSTOWN PIKE
CHESTER SPRINGS, PA. 19425
CONTACT: MICHAEL HECKMAN
EMAIL: MHECKMAN@UPPERUWCHLAN-PA.GOV

COMPANY: VERIZON BUSINESS FORMERLY MCI
ADDRESS: 7000 WESTON PKWY
CARY, NC. 27513
CONTACT: VICTOR WOOD
EMAIL: victor.s.wood@verizon.com

OWNER

9 COFFMAN ASSOCIATES, LP
211 BYERS RD
CHESTER SPRINGS, PA 19425

SITE INFORMATION

211 BYERS RD
TAX MAP: 32-4K-4
DB/PG: 7355/455

REQUIRED STREET TREE CALCULATION:

PER UPPER UWCHLAN TOWNSHIP SALDO SECTION 162.57-C(6) ONE STREET TREE SHALL BE PROVIDED FOR EVERY 50 FEET OF FRONTAGE OR A FRACTION THEREOF.

STREET	FRONTAGE	TREES REQUIRED	TREES PROVIDED
BYERS RD	272.82'	6 TREES	6 TREES
TOTAL	272.82'	6 TREES	6 TREES
			0 EXISTING 6 PROPOSED

REQUIRED TREE REPLACEMENT CALCULATION:

PER UPPER UWCHLAN TOWNSHIP SALDO SECTION 162.55-B(7) REPLACEMENT TREES ARE REQUIRED BASED ON SPECIFIC TREE REMOVAL. THE CALCULATION REQUIRES A DESIGNATED NUMBER OF NEW TREES TO BE PLANTED OF A SPECIFIC CALIPER SIZE BASED ON THE DIAMETER OF THE EXISTING TREE TO BE REMOVED.

TREES REMOVED	DIAMETER	REQUIREMENT	REPLACEMENT TREES
0	6" TO 8"	1 FOR 1	0 - 3.5" TREES
1	8" TO 12"	2 FOR 1	2 - 3.5" TREES
4	12" TO 18"	3 FOR 1	12 - 3.5" TREES
1	18" TO 24"	4 FOR 1	4 - 3.5" TREES
1	24" OR GREATER	5 FOR 1	5 - 3.5" TREES
		TOTAL REPLACEMENT REQUIRED:	23 - 3.5" TREES
		TOTAL REPLACEMENT PROVIDED:	23 - 3.5" TREES

LEGEND

EXISTING		PROPOSED
═	CONCRETE CURB	
═	CONC. SIDEWALK	▨
	CONC. CROSSWALK	
—×—×—×—×—	FENCELINE	
——— — — ———	RIGHT OF WAY	
——— — — ———	PROPERTY LINE	
○	IRON PIN	
⊡	MONUMENT	
X	SPOT GRADES	100.00 x
-----97-----	CONTOURS	——97——
	SIGN	
—S—Ⓢ—S—	SANITARY SEWER W/ M.H.	Ⓢ
	SANITARY SEWER STRUCTURE NO.	30
— —RD— —	ROOFDRAIN PIPE	—— RD ——
— — —E—	ELECTRIC LINE	—— E ——
— —W— —	WATER LINE	—— W ——
— —G— —	GAS LINE	—— G ——
	UTILITY POLE	
	FIRE HYDRANT	
GV ⊗	GAS VALVE	GV ●
WV ⊗	WATER VALVE	WV ●
CO ⊗	CLEAN-OUT	CO ●
WM ⊠	WATER METER	WM ■
GM ⊠	GAS METER	GM ■
em ⊗	ELECTRIC METER	EM ●
— —OHW-E— —	OVERHEAD WIRE	
	TREE	⊙
	EVERGREEN TREE	

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES THREE (3) WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND TEN (10) WORKING DAYS FOR DESIGN STAGE. UTILITY INFORMATION IDENTIFIED THROUGH THE ONE-CALL PROCESS IS VALID FOR 90 DAYS FROM THE DATE OF THE CALL.

Pennsylvania One Call System, Inc.

1-800-242-1776

SERIAL# 20222912121
ONE-CALL DATE: 10/18/2022

TREE PROTECTION NOTES

1. HEAVY EQUIPMENT OPERATORS ARE TO MINIMIZE DAMAGE TO EXISTING TREE TRUNKS AND ROOT SYSTEMS.
2. TREE TRUNKS AND EXPOSED TREE ROOTS THAT HAVE BEEN DAMAGED DURING CONSTRUCTION SHALL BE TREATED, CUT AND REMOVE DAMAGED BARK BACK TO A POINT WHERE BARK IS INTACT AND TIGHT TO TREE, CLEAN UP AND COVER EXPOSED ROOTS. TREES WITH DAMAGED ROOT SYSTEMS SHOULD BE TRIMMED AND THINNED TO BALANCE ROOT DAMAGE.
3. TREES WHICH ARE TO REMAIN SHALL NOT BE USED FOR ROPING, CABLES, SIGNS OR FENCING.
4. STORAGE OF EQUIPMENT, MATERIALS, DEBRIS, OR FILL SHALL NOT BE WITHIN THE DRIPLINE OF EXISTING TREES TO REMAIN.
5. WHEN DIGGING TRENCHES FOR UTILITY LINES OR SIMILAR USES, DISTURBANCE TO THE ROOT ZONES OF WOODY VEGETATION SHALL BE MINIMIZED.
6. IF TRENCHES MUST BE EXCAVATED IN THE ROOT ZONE, ALL DISTURBED ROOTS SHALL BE CUT AS CLEANLY AS POSSIBLE. THE TRENCH SHALL BE BACKFILLED AS QUICKLY AS POSSIBLE, AVOIDING SOIL COMPACTION IF POSSIBLE. TREES WITH DAMAGED ROOT SYSTEMS SHOULD BE TRIMMED AND THINNED OUT TO BALANCE ROOT DAMAGE.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

SHRUB PLANTING DETAIL

N.T.S. (SHRUB-1)

NOTE:
CONIFER TO HAVE SHREDDED HARDWOOD MULCH UNLESS NOTED OTHERWISE. NO MULCH TO BE IN CONTACT WITH TRUNK.

SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING.

NOTE:
TWO ALTERNATE METHODS OF TREE STAKING ARE ILLUSTRATED IT IS THE CONTRACTOR'S OPTION TO STAKE TREES: HOWEVER, THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TREES IN A PLUMB POSITION THROUGHOUT THE GUARANTEE PERIOD

EVERGREEN TREE DETAIL

N.T.S. (CONIFDET)

NOTES:
THE CONTRACTOR IS RESPONSIBLE FOR FOR MAINTAINING TREES IN A PLUMB POSITION THROUGHOUT THE GUARANTEE PERIOD

REMOVE ALL TREE GUYING MATERIAL ONE YEAR AFTER PLANTING

SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING

DECIDUOUS TREE DETAIL

N.T.S. (TREEDET)

REQUIRED PARKING TREE CALCULATION:

PER UPPER UWCHLAN TOWNSHIP SALDO SECTION 162.57-C(7) ONE SHADE TREE SHALL BE PROVIDED FOR EVERY 5 PARKING SPACES OR A FRACTION THEREOF.

PARKING SPACES	TREES REQUIRED	TREES PROVIDED
36 SPACES	8 TREES	8 TREES
TOTAL	8 TREES	8 TREES
		2 EXISTING 6 PROPOSED

REQUIRED BUILDING/IMPERVIOUS TREE CALCULATION:

PER UPPER UWCHLAN TOWNSHIP SALDO SECTION 162.57-D(1) 2 DECIDUOUS TREES, 1 EVERGREEN TREE, AND 8 SHRUBS SHALL BE PROVIDED FOR EVERY 1,000 S.F. OF PROPOSED BUILDING AREA OR A FRACTION THEREOF. 1 DECIDUOUS TREE, 1 EVERGREEN TREE, AND 4 SHRUBS WILL BE PROVIDED FOR EVERY 2,000 S.F. OF OFF-STREET PARKING AREA OR A FRACTION THEREOF.

6,704 S.F. NEW PARKING AREA	= 3 DECIDUOUS, 3 EVERGREEN, 12 SHRUBS
2,071 S.F. NEW BUILDING AREA	= 4 DECIDUOUS, 2 EVERGREEN, 16 SHRUBS
TOTAL TREES REQUIRED	= 7 DECIDUOUS, 5 EVERGREEN, 28 SHRUBS
TOTAL TREES PROVIDED	= 7 DECIDUOUS, 5 EVERGREEN, 72 SHRUBS

TREE COUNT			
	EXISTING	PROPOSED	TOTAL
STREET TREES	0	6	6
REPLACEMENT TREES	–	23	23
PARKING TREES	2	6	8
BUILDING/IMPERVIOUS TREES	–	12	12
BUILDING/IMPERVIOUS SHRUBS	–	72	72

PLANT SCHEDULE:

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
EVERGREEN						
9	PS	PINUS STROBUS	EASTERN WHITE PINE	3" - 3 1/2" CAL.	B&B	
8	PA	PICEA ABIES	NORWAY SPRUCE	3" - 3 1/2" CAL.	B&B	
DECIDUOUS						
5	CC	CERCIS CANADENSIS	REDBUD	3" - 3 1/2" CAL.	B&B	
6	CF	CORNUS FLORIDA	FLOWERING DOGWOOD	3" - 3 1/2" CAL.	B&B	
10	GT	GLEDITSIA TRIACANTHOS	THORNLESS HONEYLOCUST	3" - 3 1/2" CAL.	B&B	
5	AR	ACER RUBRUM	RED MAPLE	3" - 3 1/2" CAL.	B&B	
4	QR	QUERCUS RUBRA	NORTHERN RED OAK	3" - 3 1/2" CAL.	B&B	
SHRUBS						
12	IV	ILEX VERTICILLATA	WINTERBERRY	24" - 30" TALL	B&B	
45	TO	THUJA ORIENTALIS	DWARF GOLDEN ARBORVITAE	24" - 30" TALL	B&B	
14	MD	X MEDIA DENSIFORMIS	DENSIFORMIS YEW	24" - 30" TALL	B&B	

JEFFREY N. GENTILE
ENGINEER
No. PE052379E

LINN ARCHITECTS
1140 N. PROVIDENCE ROAD
MEDIA, PENNSYLVANIA 19063
TEL: 610-566-7044
FAX: 610-566-3258

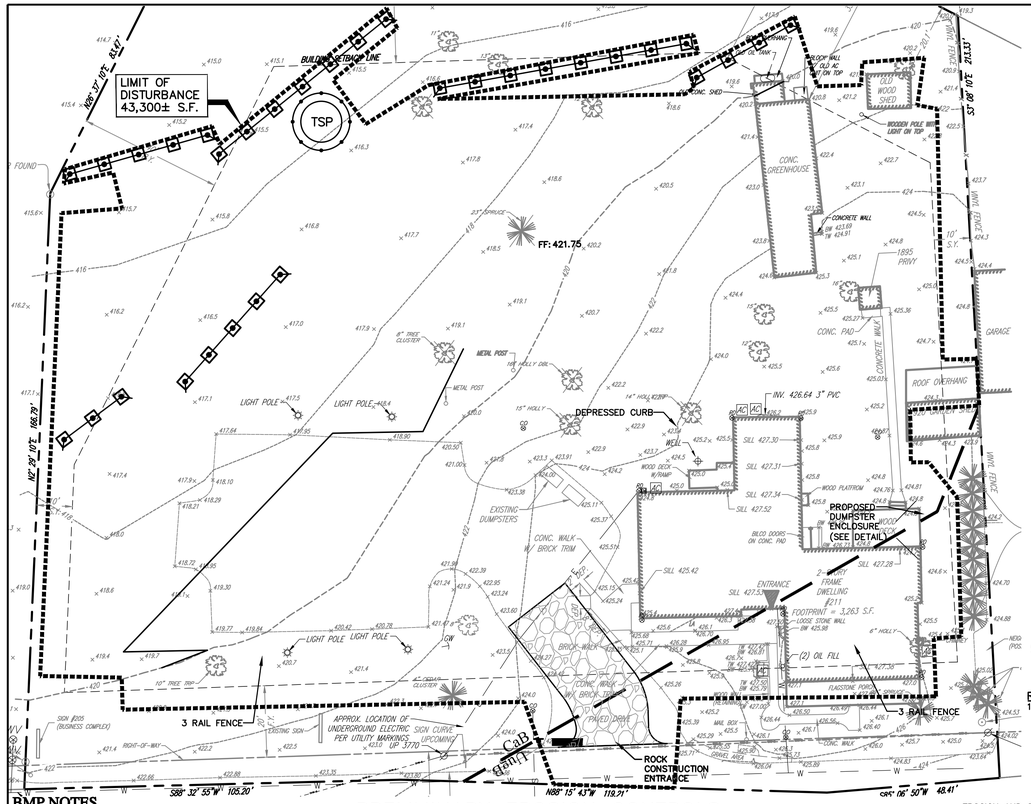
ARCHITECTURE
ENGINEERING
SITE PLANNING
INTERIOR DESIGN

LANDSCAPE PLAN
FOR
EAGLE ANIMAL HOSPITAL
211 BYERS ROAD
UPPER UWCHLAN TOWNSHIP CHESTER COUNTY, PA

REVISIONS		
NO.	DESCRIPTION	DATE
1		
2		
3		
4		

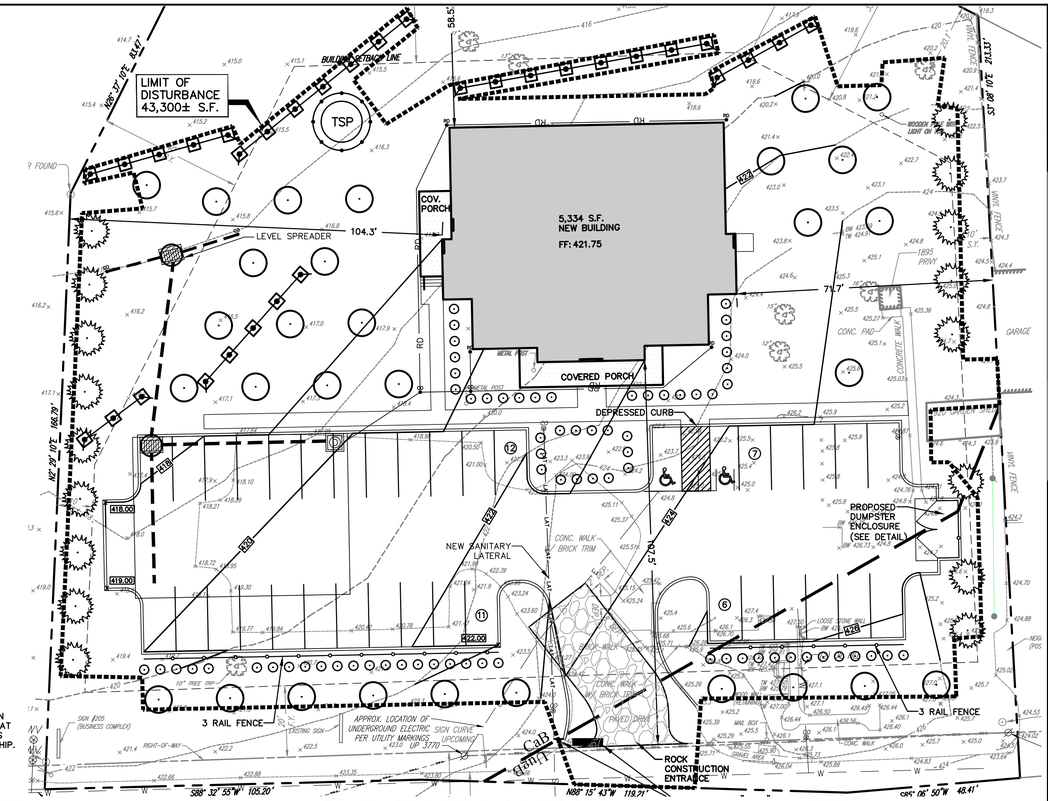
DATE: 03.04.24
SCALE: 1"=20'
DRAWN BY: SFP
CHECKED BY: .
PROJ. NO.: 22222

SHEET NO.
C-4
SHEET 4 OF 9



PRELIMINARY EROSION CONTROLS

SCALE: 1" = 20'



FINAL EROSION CONTROLS

SCALE: 1" = 20'

SITE INFORMATION

211 BYERS RD
TAX MAP: 32-4K-4
DB/PG: 7355/455

OWNER

9 COFFMAN ASSOCIATES, LP
211 BYERS RD
CHESTER SPRINGS, PA 19425

ROCK CONSTRUCTION NOTE:

1. CURRENT DRIVEWAY ENTRANCE WILL REMAIN PAVED. ROCK CONSTRUCTION ENTRANCE WILL NOT BE INSTALLED AT THE TIME OF CONSTRUCTION UNLESS DEEMED NECESSARY BY THE TOWNSHIP.

BMP NOTES

AS-BUILT PLAN:
AS-BUILT PLANS AND ALL EXPLANATION OF ANY DISCREPANCIES WITH THE CONSTRUCTIONS PLANS SHALL BE SUBMITTED TO THE MUNICIPALITY WITHIN THREE MONTHS OF THE COMPLETION OF CONSTRUCTION OF THE SWM BMP'S.

UTILITIES NOTES

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN AND PROTECT ALL EXISTING UTILITIES (SANITARY, WATER, TELECOMMUNICATIONS, AND ELECTRIC, ETC) WITHIN THE WORK ZONE DURING CONSTRUCTION.
2. CONTRACTOR RESPONSIBLE TO MODIFY EXISTING RIM/GRATE/COVERS/ETC. ELEVATIONS AS REQUIRED TO MEET PROVIDED FIELD CONDITIONS.

LEGEND

EXISTING		PROPOSED
	CONCRETE CURB	
	CONC. SIDEWALK	
-X-X-X-	FENCELINE	
	RIGHT OF WAY	
	PROPERTY LINE	
○	IRON PIN	●
□	MONUMENT	■
	SIGN	100.00
	SPOT GRADES	x
97	CONTOURS	97
S S	SANITARY SEWER W/ M.H.	S
	STORM SEWER STRUCTURE NO.	12
RD	ROOFDRAIN PIPE	RD
	SEWER LATERAL	LAT LAT
E	ELECTRIC LINE	E
W	WATER LINE	W
G	GAS LINE	G
	UTILITY POLE	
	FIRE HYDRANT	
GV	GAS VALVE	GV
WV	WATER VALVE	WV
CO	CLEAN-OUT	CO
WM	WATER METER	WM
GM	GAS METER	GM
ES	ELECTRIC METER	ES
OHW-E	OVERHEAD WIRE	
SW-#A	PERCOLATION TEST LOCATION	
TH1	UTILITY TEST LOCATION	
	12" SILT SOCK	
	18" SILT SOCK	
	LIMIT OF DISTURBANCE	
	PROJECT AREA	
TP	TREE PROTECTION FENCING	TP
CF	CONSTRUCTION FENCING	CF
	INLET PROTECTION	
	TREE	
	EVERGREEN TREE	

NOTES FOR SEEPAGE BED CONSTRUCTION:

1. EXCAVATION SHALL BE PERFORMED WITH EQUIPMENT THAT WILL NOT COMPACT THE BOTTOM OF THE BED. EQUIPMENT SHALL NOT BE ALLOWED ON EXCAVATED AREAS OF THE SEEPAGE BEDS AT ANY TIME DURING CONSTRUCTION.
2. THE BOTTOM OF THE BED SHALL BE SCARIFIED IMMEDIATELY PRIOR TO THE PLACEMENT OF THE GEOTEXTILE FABRIC ON THE BOTTOM OF THE BED.
3. THE BED SHALL BE PROTECTED DURING CONSTRUCTION. SEDIMENT SHALL NOT BE ALLOWED TO BE WASHED BACK INTO THE BED BOTH DURING THE TIME WHEN THE BOTTOM OF THE BED IS OPEN AND ONCE THE STONE IS IN PLACE.
4. ONLY UNIFORMLY GRADED, CLEAN AGGREGATE, FREE OF FINES, SLATE, SHALE, CLAY, SILT, AND VEGETATIVE MATERIAL, WITH A WASH LOSS OF NO MORE THAN 0.5% AND MEETING SPECIFICATIONS FOR AASHTO NO. 3 STONE SHALL BE USED. THE POROSITY OF THE STONE MUST MEET THAT WHICH IS SPECIFIED ON THE PLAN. THE SUPPLIER OF THE STONE SHALL PROVIDE CERTIFICATION OF THE POROSITY OF THE STONE DELIVERED TO THE SITE. THE DESIGN ENGINEER SHALL VERIFY THAT THE POROSITY MEETS OR EXCEEDS THE REQUIREMENTS OF THE DESIGN AND SUBMIT SUCH VERIFICATION TO THE TOWNSHIP.
5. COMPACTION OF THE INFILTRATION BED SHALL NOT BE PERMITTED. EQUIPMENT AND TRAFFIC SHALL BE PROHIBITED FROM TRAVELING OVER THE PROPOSED LOCATION OF THE INFILTRATION TRENCH. TO AVOID COMPACTION OF THE SOIL, EXCAVATION OF THE BED SHALL BE COMPLETED FROM OUTSIDE THE BED TO AVOID COMPACTION OF THE BED FLOOR. NO ACCESSORY STRUCTURE SHALL BE PERMITTED OVER THE INFILTRATION BED.
6. LIGHT-TRACKED CONSTRUCTION EQUIPMENT SHALL ONLY BE ALLOWED ON THE TOP OF THE STONE AFTER IT HAS BEEN PLACED TO ITS FULL DEPTH AND TO ALLOW COMPLETION OF THE PLACEMENT OF THE STONE AND BACKFILL.
7. DRAINAGE FILTER FABRIC SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS, INCLUDING PIPE PENETRATIONS, AND SHALL OVERLAP A MINIMUM OF EIGHTEEN (18) INCHES.
8. IF SEDIMENT DOES ENTER INTO THE SYSTEM, THE CONTRACTOR WILL NEED TO CLEAN OUT THE SEDIMENT TO THE TOWNSHIP'S SATISFACTION, WHICH MAY REQUIRE THE RECONSTRUCTION OF PORTIONS OF OR THE ENTIRE INFILTRATION BED.

RECEIVING SURFACE WATERS

***THE PENNSYLVANIA TITLE 25, CHAPTER 93 CLASSIFICATION FOR THE RECEIVING WATERS OF THE COMMONWEALTH**

UNNAMED TRIBUTARY (UNT) TO PICKERING CREEK IN THE PICKERING CREEK WATERSHED: A HIGH QUALITY-TROUT STOCKING FISHERY (HQ-TSF, MF) WATER COURSE

SEQUENCE OF CONSTRUCTION

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED BY THE DESIGN ENGINEER. UNLESS SPECIFICALLY INDICATED OTHERWISE, EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.

AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES (INCLUDING CLEARING AND GRUBBING), THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LAND OWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER TO AN ONSITE PRE-CONSTRUCTION MEETING.

AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.

ALL EXCESS MATERIALS AND WASTE GENERATED DURING THE CLEARING AND GRUBBING OF THIS SITE SHALL BE REMOVED FROM THIS SITE AND RECYCLED OR PROPERLY DISPOSED. WASTE CANNOT BE BURIED ON SITE. EROSION CONTROL FACILITIES (SILT FENCE, STONE BERM, ETC.) SHOULD BE REMOVED AND REUSED, IF AND WHEN POSSIBLE, OR REMOVED FOR OFFSITE DISPOSAL.

THE PROJECT SITE IS 1.40 ACRES (**61,201 SF**). THE AREA OF DISTURBANCE IS 0.99 ACRES (**43,300 SF**), AND THE PROJECT IS TO BE CONSTRUCTED IN ONE PHASE. THE CONTRACTOR IS ADVISED TO BECOME FAMILIAR WITH ALL EROSION CONTROL MEANS AND METHODS OUTLINED IN THE "EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL" PUBLISHED BY THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (PADEP), MARCH 2000 EDITION. COPIES OF THESE PLANS MUST BE AVAILABLE ON SITE THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL BE AWARE THAT NO SEDIMENT-LADEN RUNOFF SHALL BE ALLOWED TO FLOW TO THE PROPOSED UNDERGROUND INFILTRATION SYSTEM. ALL FLOW INTO THE INFILTRATION SYSTEM SHALL BE BLOCKED UNTIL ALL SITE AREAS ARE STABILIZED.

EROSION AND SEDIMENT CONTROL FACILITIES ARE TO CHECKED AND PROPERLY MAINTAINED WEEKLY AND AFTER EACH STORM EVENT. SUFFICIENT QUANTITIES OF SILT FENCING, CRUSHED STONE, STRAW BALES, SEEDING AND MULCHING SHOULD BE READILY AVAILABLE FOR REMEDIAL WORK IF REQUIRED.

IT IS REQUIRED THAT THE DESIGN PROFESSIONAL BE PRESENT DURING THE INSTALLATION OF ALL **CRITICAL STAGES** OF CONSTRUCTION.

EROSION AND SEDIMENT CONTROL NARRATIVE – 102.4(b)(4)
THE PURPOSE OF THIS NARRATIVE AND THE EROSION CONTROL ASPECTS OF THE PLANS ARE TO PREVENT THE ACCELERATED EROSION OF EXPOSED SITE SOILS DURING CONSTRUCTION AND TO RETAIN ON SITE ALL SEDIMENT PRODUCED BY CONSTRUCTION ACTIVITIES. THIS WILL BE ACCOMPLISHED BY STRICT ADHERENCE TO THE FOLLOWING NOTES, SEQUENCE OF CONSTRUCTION, AND EROSION AND SEDIMENT CONTROL DETAILS SHOWN ON THE PLAN. THIS PLAN WILL FURTHER ACT TO PROVIDE THE FOLLOWING:

- MINIMIZE EXTENT AND DURATION OF EARTH DISTURBANCE
- MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION
- MINIMIZE SOIL COMPACTION
- UTILIZE OTHER MEASURES OR CONTROLS THAT PREVENT OR MINIMIZE GENERATION OF INCREASED STORMWATER RUNOFF

THERMAL IMPACTS NOTE – 102.4(b)(5)(xii)
THERMAL IMPACTS ARE BEING MITIGATED DURING CONSTRUCTION PHASE BY ROUTING CONSTRUCTION RUNOFF THROUGH PERIMETER EROSION CONTROL MEASURES, IE. COMPOST FILTER SOCKS WHICH ALLOWS FURTHER COOLING BEFORE ENTERING SURFACE WATERS.

RECYCLING OR DISPOSAL OF MATERIALS – 102.4(b)(5)(xi)
ANY OFF-SITE WASTE AND BORROW AREA MUST HAVE AN E&S PLAN REVIEWED AND APPROVED BY THE CCCD PRIOR TO BEING ACTIVATED.

NOTES FOR TREE CONSERVATION PRACTICES:

1. ALL TREES TO BE PRESERVED SHALL BE PROTECTED FROM DAMAGE BY SNOW FENCING OR OTHER EFFECTIVE BARRIERS PLACED OUTSIDE THE CRITICAL ROOT ZONE, UNLESS APPROVED BY THE TOWNSHIP TO BE APPROPRIATE IN ANOTHER LOCATION. TREE PROTECTION FENCING MUST BE INSTALLED AND APPROVED BY THE TOWNSHIP'S DESIGNATED LANDSCAPE PROFESSIONAL PRIOR TO THE START OF ANY CLEARING, GRADING, OR OTHER EARTH DISTURBANCE AND MONITORED PERIODICALLY. THE APPLICANT SHALL MAINTAIN THE TREE PROTECTION FENCING, AND IT SHALL BE REMOVED ONLY AFTER ALL EARTH MOVING AND CONSTRUCTION ACTIVITIES THAT MAY IMPACT TREE ROOTS ARE COMPLETED.
2. WHEN DISTURBANCE WITHIN THE CRITICAL ROOT ZONE IS UNAVOIDABLE, APPLICANT SHALL MINIMIZE ENCROACHMENT AND USE THE BEST AVAILABLE METHODS AS APPROVED BY THE TOWNSHIP'S DESIGNATED LANDSCAPE PROFESSIONAL TO MINIMIZE DAMAGE AND PRESERVE TREES.
3. SHOULD ANY MATURE TREES ON THE SITE BE IRREPARABLY DAMAGED DURING SITE PREPARATION ACTIVITIES AND, AS A CONSEQUENCE THEREOF, DIE OR DECLINE AS DETERMINED BY THE TOWNSHIP'S DESIGNATED LANDSCAPE PROFESSIONAL, WITHIN 18 MONTHS OF THE CONCLUSION OF CONSTRUCTION ACTIVITIES, SUCH TREES SHALL BE REPLACED WITH NURSERY GROWN MATERIAL, IN ACCORDANCE WITH THE COMPENSATORY PLANTING REQUIREMENTS.

ALL DISTURBED AREAS THAT CANNOT BE STABILIZED PER THE TEMPORARY STABILIZATION SPECIFICATIONS DUE TO ONGOING EARTHMOVING AND OTHER TRAFFIC SHALL RECEIVE AN APPLICATION OF WOOD CHIP MULCH (4 TO 6 TONS PER ACRE) OR A HAY OR STRAW MULCH (3 TONS PER ACRE). ALL OTHER DISTURBED AREAS REMAINING OPEN SHALL BE TEMPORARILY SEEDED AND MULCHED.

EROSION CONTROL

1. STAKE OUT LIMIT OF DISTURBANCE AS INDICATED ON PLANS.
2. INSTALL PRELIMINARY ROCK CONSTRUCTION ENTRANCES AND SILT FENCE AS INDICATED ON THE PLANS.
3. PROCEED WITH REMOVAL OF EXISTING TRRES//VEGITATION TO BE REMOVED (IF NOT COMPLETED PRIOR TO START OF CONSTRUCTION), CUTTING TREES DOWN TO STUMP AT GROUND LEVEL.
4. CLEAR AND GRUB SITE. STRIP TOPSOIL AND STOCKPILE WHERE INDICATED ON THE PLAN. IMMEDIATELY STABILIZE STOCKPILE AND PLACE SILT FENCE PER THE PLANS AND SPECIFICATIONS AND BEGIN ROUGH GRADING
5. **CRITICAL STAGE** INSTALL STORMWATER MANAGEMENT BEDS ON LOTS OPENED FOR CONSTRUCTION AND IMMEDIALTY SEAL UNTIL SITE HAS BEEN STABALIZED UPGRADIENT FROM INLETS.
6. INSTALL UNDERGROUND UTILITY SERVICE LINES, INCLUDING ELECTRIC, COMMUNICATIONS (PHONE/FIBER), GAS, WATER, AND SANITARY LATERAL TO BUILDING ENVELOPES ON LOTS OPENED FOR CONSTRUCTION.
7. INSTALL ASPHALT BASE COURSE AS SOON AS POSSIBLE, WHICH MAY BE CONCURRENT WITH BUILDING CONSTRUCTION.
8. INSTALL BUILDING FOUNDATION, AND CONNECT UNDERGROUND UTILITY SERVICE LINES TO BUILDING. BACKFILL AGAINST BUILDING FOUNDATION AND PROCEED WITH BUILDING CONSTRUCTION. ROOF DRAINAGE FROM BUILDING TO THE ROOF DRAINS.
9. INSTALL SIDEWALK AS INDICATED ON THE PLANS. INSTALL WEARING COURSE ON PAVEMENT AREAS. FINISH GRADE ALL DISTURBED AREAS. SPREAD TOPSOIL ON THOSE AREAS THAT ARE TO BE LANDSCAPED AS THEY REACH FINAL GRADE AND STABILIZE IMMEDIATELY ACCORDING TO THE PERMANENT STABILIZATION SPECIFICATION AND INSTALL LANDSCAPING

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES THREE (3) WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND TEN (10) WORKING DAYS FOR DESIGN STAGE. UTILITY INFORMATION IDENTIFIED THROUGH THE ONE-CALL PROCESS IS VALID FOR 90 DAYS FROM THE DATE OF THE CALL.

Pennsylvania One Call System, Inc.
1-800-242-1776
SERIAL# 20222912121
ONE-CALL DATE: 10/18/2022

CHAPTER 93 CLASSIFICATION:

THE SITE DRAINS TO UNNAMED TRIBUTARY PICKERING CREEK. CHAPTER 93 CLASSIFICATION IS HQ-TSF, MF.

HIGH QUALITY-TROUT STOCKING WATERSHED NOTES:

- THE PROJECT IS LOCATED IN A HIGH QUALITY-TROUT STOCKING WATERSHED. THE SPECIAL PROTECTION WATERS IMPLEMENTATION HANDBOOK BEST MANAGEMENT PRACTICES APPLY TO ALL NEW NON-AGRICULTURAL ACTIVITIES/PROJECTS RESULTING IN AN EARTH DISTURBANCE ON HIGH QUALITY OR EXCEPTIONAL VALUE WATERSHEDS. IMPLEMENTATION OF THESE PRACTICES AND THE ADDITIONAL REQUIREMENTS FOR SPECIFIC ACTIVITIES LISTED IN THE HANDBOOK PLUS SELECTED STORMWATER MANAGEMENT PRACTICES DESCRIBED IN SECTION TWO OF THE HANDBOOK CONSTITUTE APPROPRIATE, REASONABLE AND COST EFFECTIVE BEST MANAGEMENT PRACTICES FOR NON-POINT SOURCE CONTROL. PERSONS ENGAGED IN THESE LAND DISTURBANCE ACTIVITIES ARE EXPECTED TO COMPLY WITH BOTH THE GENERAL AND PROGRAM SPECIFIC REQUIREMENTS LISTED IN THIS APPENDIX.
- THE PROJECT IS IN HIGH QUALITY-TROUT STOCKING STREAM DESIGNATION. EXTREME CARE SHOULD BE EXERCISED IN ALL DISTURBANCE ACTIVITIES TO PREVENT DEGRADATION TO THE WATERS OF THE COMMONWEALTH.
- BECAUSE THIS PROJECT IS IN A SPECIFICALLY PROTECTED HIGH QUALITY OR EXCEPTIONAL VALUE WATERSHED, UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES, THE PROJECT SITE MUST BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

GENERAL NOTES

1. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
2. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
3. UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE OPERATOR SHALL ASSURE THAT THE BEST MANAGEMENT PRACTICES ARE IMPLEMENTED, OPERATED, AND MAINTAINED PROPERLY AND COMPLETELY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BEST MANAGEMENT PRACTICE FACILITIES. THE OPERATOR SHALL MAINTAIN AND MAKE WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, REGRADING, AND RESTABILIZATION SHALL BE PERFORMED IMMEDIATELY.
4. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
5. BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL FROM THE DESIGN ENGINEER.
6. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
7. THE OPERATOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
8. EROSION AND SEDIMENT BMP'S MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMP'S.
9. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.
10. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
11. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
12. SEDIMENT MUST BE REMOVED FROM INLET WATER QUALITY INSERTS AFTER EACH RUNOFF EVENT.
13. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGARDING, RESEEDING, REMULCHING, AND RENETTING, MUST BE PERFORMED IMMEDIATELY, IF EROSION AND SEDIMENT CONTROL BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
14. SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
15. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTE IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET DEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.
16. NO TOPSOIL SHALL BE DISPOSED OF, BY SALE OR OTHERWISE, OFF THE SITE OF THE CONSTRUCTION.

GRAPHIC SCALE

20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

PA ONE CALL INFORMATION

COMPANY: AQUA PENNSYLVANIA INC
ADDRESS: 762 W LANCASTER AVE
BRYN MAWR, PA 19010
CONTACT: THOMAS WADDY
EMAIL: TBWADDY@AQUAAMERICA.COM

COMPANY: COMCAST
ADDRESS: 1004 CORNERSTONE BLVD
DOWNINGTON, PA. 19335
CONTACT: TOM RUSSO
EMAIL: tom_russo@cable.comcast.com

COMPANY: PECO AN EXELON COMPANY C/O USIC
ADDRESS: 450 S HENDERSON ROAD SUITE B
KING OF PRUSSIA, PA. 19406
CONTACT: NIKKIA SIMPKINS
EMAIL: NIKKIASIMPKINS@USICLLC.COM

COMPANY: UPPER UWCHLAN TOWNSHIP UPPER UWCHLAN MUNICIPAL AUTHORITY
ADDRESS: 140 POTTSTOWN PIKE
CHESTER SPRINGS, PA. 19425
CONTACT: MICHAEL HECKMAN
EMAIL: MHECKMAN@UPPERUWCHLAN-PA.GOV

COMPANY: VERIZON BUSINESS FORMERLY MCI
ADDRESS: 7000 WESTON PKWY
CARY, NC. 27513
CONTACT: VICTOR WOOD
EMAIL: victor.s.wood@verizon.com

PROJECT WASTE NOTE – 102.4(b)(5)(xi)
THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIAL AND WASTED IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

SEEDING SPECIFICATIONS

TEMPORARY MEASURES:
PREPARATIONS – APPLY 1 TON PER ACRE OF AGRICULTURAL GRADE LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDES) TO ESTABLISH A PH OF 6.5 TO 6.8

*SPECIES: Annual Rye (50%); Winter Rye (50%)
% PURE LIVE SEED: 81 / 83 %
APPLICATION RATE: 35 LB./ACRE
FERTILIZER TYPE: 10-10-10 (X-X-X)
FERTILIZER APPL. RATE: 500LB./ACRE
LIMING RATE: 1.0 T./ACRE
MULCH TYPE: Straw
MULCHING RATE: 3.0 T./ACRE

PERMANENT MEASURES:
PREPARATIONS – APPLY 4 TONS PER ACRE OF AGRICULTURAL GRADE LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDES) TO ESTABLISH A PH OF 6.5 TO 6.8

TOPSOIL PLACEMENT DEPTH: 6IN.
*SPECIES: Perennial Rye (10%); Kentucky 31 Tall Fescuse (60%); Redtop (30%)
% PURE LIVE SEED: 81 / 76 / 74%
APPLICATION RATE 40 LB./ACRE
FERTILIZER TYPE: 10-20-20(X-X-X)
FERTILIZER APPL. RATE: 1000 LB./ACRE
LIMING RATE: 6.0 T./ACRE
MULCH TYPE: Straw
MULCHING RATE: 3.0 T./ACRE
ANCHOR MATERIAL: Jute Netting
ANCHORING METHOD: Pegs 4ft on center per manufacturer
SEEDING DATE RANGE: March 15th-May 15th during germination periods, as weather permits

SOILS TABLE

(FROM UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE)

SOIL TYPE: CaB–Califon loam
DRAINAGE CLASS: Moderately Well Drained
SLOPE RANGE: 3–8
HYDROLOGIC GROUP: D
FRAGIPAN DEPTH: 20–30 Inches
BEDROCK DEPTH: 72–99 Inches
SEASONAL WATER TABLE:6–36 Inches
FLOODING POTENTIAL: None
PROFILE PERMEABILITY: Moderately low to moderately high

SOIL TYPE: Ha–Hatboro silt loam
DRAINAGE CLASS: Poorly Drained
SLOPE RANGE: 0–3
HYDROLOGIC GROUP: B/D
BEDROCK DEPTH: 60–99 Inches
SEASONAL WATER TABLE:0–6 Inches
FLOODING POTENTIAL: Non–Frequent
PROFILE PERMEABILITY: Moderately high to high

SOIL TYPE: UugB–Urban land–Udorthents, schist and gneiss complex
DRAINAGE CLASS: Moderately low to moderately high
SLOPE RANGE: 0–8
HYDROLOGIC GROUP: C
BEDROCK DEPTH: 20–70 Inches
SEASONAL WATER TABLE:60 Inches
FLOODING POTENTIAL: None
PROFILE PERMEABILITY: Moderately low to moderately high

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JEFFREY N. GENTILE
ENGINEER
No. PE052379E

LINN ARCHITECTS
ARCHITECTURE
ENGINEERING
SITE PLANNING
INTERIOR DESIGN
1140 N. PROVIDENCE ROAD
MEDIA, PENNSYLVANIA 19063
TEL: 610-566-7044
FAX: 610-566-3258

REVISIONS

NO.	DESCRIPTION	DATE
1		
2		
3		
4		

DATE: 03.04.24
SCALE: 1"=20'
DRAWN BY: SPP
CHECKED BY: -
PROJ. NO.: 22222

SHEET NO.
C-5
SHEET 5 OF 9

EROSION AND SEDIMENTATION CONTROL PLAN FOR EAGLE ANIMAL HOSPITAL

211 BYERS ROAD
UPPER UWCHLAN TOWNSHIP CHESTER COUNTY, PA

STORMWATER SEQUENCE OF CONSTRUCTION

1. STAKE OUT FOOTPRINT OF THE SEEPAGE BED. ENSURE THAT AREA DOWNGRADIENT OF SEEPAGE BED CONSTRUCTION IS PROTECTED BY EROSION CONTROL MEASURE (SILT FENCE) AS INDICATED ON APPROVED EROSION CONTROL PLAN. ALL TRIBUTARY INLETS, YARD DRAINS, ETC. CONNECTED TO SEEPAGE BED TO BE SEALED WATERTIGHT TO PREVENT INTRUSION OF SEDIMENT-LADEN RUNOFF INTO BED.
2. EXCAVATE AREA FOR SEEPAGE BED. NOTIFY MUNICIPAL/DESIGN ENGINEER IN ADVANCE TO ALLOW ENGINEER TO INSPECT THE PLACEMENT OF FABRIC AND STONE. INSTALLATION OF FABRIC AND STONE SHALL BE APPROVED BY THE MUNICIPAL ENGINEER SITE INSPECTOR. ALL SEDIMENT SHALL BE REMOVED AND OR FABRIC AND STONE REPLACED IF SEDIMENT ENTERS THE SEEPAGE BED.
3. INSTALL GEOTEXTILE FABRIC (CONFORMING TO SPECIFICATIONS ON DESIGN DETAILS) ON BOTTOM AND SIDES OF EXCAVATION AND PLACE INITIAL LAYER OF STONE ON BOTTOM OF BED.
4. INSTALL PERFORATED PIPE AND OTHER SEEPAGE BED ELEMENTS AND BACKFILL WITH STONE AS INDICATED ON DESIGN DETAILS. ONCE STONE REACHES TOP ELEVATION, WRAP GEOTEXTILE FABRIC
5. PLACE BACKFILL ON TOP OF WRAPPED BED TO ACHIEVE FINAL GRADE OR PAVEMENT SUBGRADE.
6. ORANGE CONSTRUCTION FENCE AND EROSION CONTROL MEASURES SHALL BE REMOVED ONCE TRIBUTARY AREAS ARE STABILIZED. IMMEDIATELY STABILIZE ALL AREAS DISTURBED BY THIS OPERATION.
7. ONCE ALL TRIBUTARY AREAS ARE FULLY STABILIZED, REMOVE WATERTIGHT SEALS FROM ALL INLETS AND YARD DRAINS TRIBUTARY TO SEEPAGE BED. INSPECT THESE STRUCTURES AND IMMEDIATELY REMOVE ANY SEDIMENT AND/OR DEBRIS THAT MAY HAVE COLLECTED IN BOTTOM OF SUCH STRUCTURES, TO PREVENT MIGRATION OF SEDIMENT AND/OR DEBRIS INTO SEEPAGE BED PIPING.

NON-WOVEN GEOTEXTILE
GEOTEXILE FABRIC TO LINE BOTTOM, SIDES, AND TOP OF INFILTRATION BED SHALL CONSIST OF NEEDLED NON-WOVEN POLYPROPYLENE FIBERS AND MEET THE FOLLOWING PROPERTIES:

a. GRAB TENSILE STRENGTH (ASTM-D4632) 120 LBS
b. MULLEN BURST STRENGTH (ASTM-D3786) 225 PSI
c. FLOW RATE (ASTM-D4491) 95 GAL/MIN/FT²
d. UV RESISTANCE AFTER 500 HOURS (ASTM-D4355): 70%
e. HEAT-SET OR HEAT-CALENDARED FABRICS ARE NOT PERMITTED

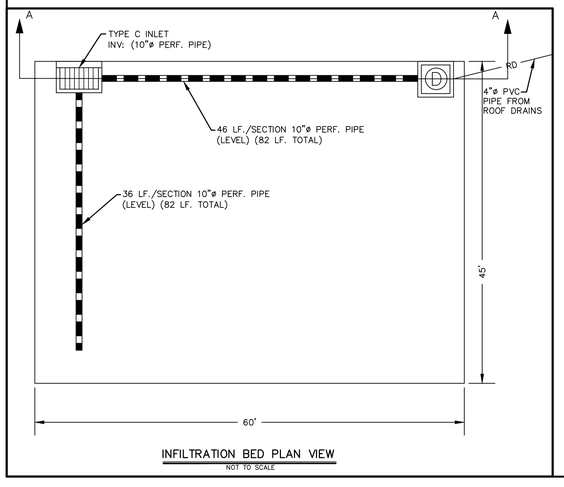
ACCEPTABLE TYPES INCLUDE: MIRAFI 140N, AMOCO 4547, GEOTEX 451

MAINTENANCE NOTES:

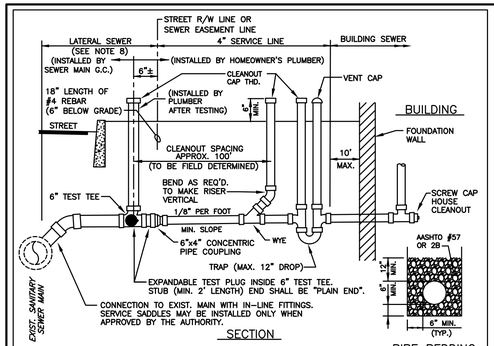
1. THE OWNER AND/OR OPERATOR OF THE PROPERTY IS RESPONSIBLE FOR THE MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM.
2. STORMWATER FACILITIES SHALL BE INSPECTED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA ON BEHALF OF THE APPLICANT OR RESPONSIBLE ENTITY (INCLUDING THE TOWNSHIP ENGINEER FOR DEDICATED FACILITIES) ON THE FOLLOWING BASIS:
   (1) ANNUALLY FOR THE FIRST FIVE YEARS.
   (2) ONCE EVERY THREE YEARS THEREAFTER.
   (3) DURING OR IMMEDIATELY AFTER THE CESSATION OF A ONE-HUNDRED-YEAR OR GREATER STORM EVENT.
3. THE PROFESSIONAL ENGINEER CONDUCTING THE INSPECTION SHALL BE REQUIRED TO SUBMIT A WRITTEN REPORT TO THE TOWNSHIP WITHIN ONE MONTH FOLLOWING COMPLETION OF THE INSPECTION. THE REPORT WILL PRESENT DOCUMENTATION AND INCLUDE PICTURES REGARDING THE CONDITION OF THE FACILITY AND RECOMMEND NECESSARY REPAIRS, IF NEEDED. ANY NEEDED REPAIRS SHALL BE IMPLEMENTED BY THE OWNER WITHIN ONE MONTH OF THE REPORT ISSUANCE DATE.

BMP NOTES

AS-BUILT PLAN:
AS-BUILT PLANS AND ALL EXPLANATION OF ANY DISCREPANCIES WITH THE CONSTRUCTIONS PLANS SHALL BE SUBMITTED TO THE MUNICIPALITY WITHIN THREE MONTHS OF THE COMPLETION OF CONSTRUCTION OF THE SWM BMP'S.



INFILTRATION BED PLAN VIEW
NOT TO SCALE

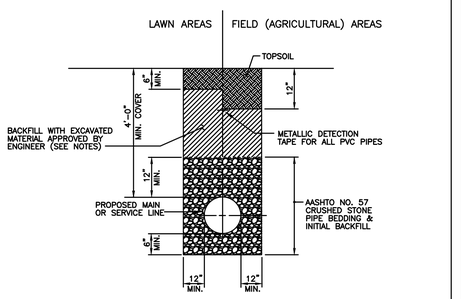


SECTION

PIPE BEDDING

NOTES:
1. PROVIDE 6" OF AASHTO NO. 57 STONE BELOW PIPE AND 12" ABOVE PIPE (TYPICAL ENTIRE LENGTH OF LATERAL AND SERVICE LINE)
2. MINIMUM SLOPE = 1/8" PER FT.
3. MINIMUM DEPTH OF COVER = 4 FT
4. PIPE MATERIALS: LATERAL SEWER - PVC SDR 35 OR DIP CLASS 52 WHEN INSTALLED IN FILL MATERIAL SERVICE LINE - PVC SDR 35 OR SCH. 40
5. TO CONDUCT AIR TESTING OF SERVICE LINE, INSTALL EXPANDABLE PLUGS AT LOCATIONS SHOWN.
6. NO SEWER SERVICE LINE VENT CAPS SHALL BE INSTALLED WITHIN A 100-YR FLOOD PLAIN OR WITHIN FLOOD PRONE AREAS.
7. NO VENT CAPS OR CLEANOUTS SHALL BE INSTALLED IN DRIVEWAYS OR OTHER PAVED AREAS, UNLESS SPECIFICALLY APPROVED BY UUTMA. VENTS AND CLEANOUTS LOCATED IN PAVED AREAS MUST BE PROVIDED WITH A FRAME AND COVER IN ACCORDANCE WITH VENT & CLEANOUTS IN PAVED AREAS DETAIL.
8. THE LATERAL SEWER SHALL BE INSTALLED TO THE EDGE OF THE SEWER EASEMENT FOR SEWERS LOCATED IN AN EASEMENT OR TO THE STREET RIGHT-OF-WAY AS A MINIMUM, OR TO SUCH POINT, AS REQUIRED, TO CLEAR STREET SIDEWALKS AND UNDERGROUND UTILITIES.
9. CLEANOUTS AND VENTS IN LAWN AREAS MUST BE 6" MINIMUM ABOVE GRADE.

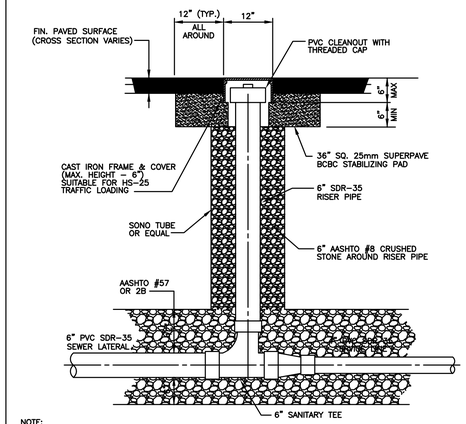
6	4/21	Upper Uwchlan Township Municipal Authority STANDARD DETAIL - SEWER SYSTEM	ARRO Suite 200, 321 N. Furnace St. Birdsboro, PA 19508 Tel 610.374.5285 Fax 610.374.5287
5	9/15		
4	10/14		
3	1/13		
2	6/05		DATE: APRIL 2021
1	11/04	LATERAL & SERVICE LINE	DETAIL: 7000SD17
REVISION	DATE		



SECTION

NOTES:
1. BACKFILL TRENCHES WITH EXCAVATED MATERIAL CONTAINING NO STONES LARGER THAN FOUR (4) INCHES IN ANY DIMENSION.
2. A MAXIMUM OF 20% OF BACKFILL CAN CONSIST OF STONES (NOTED ABOVE) IF EVENLY DISTRIBUTED THROUGHOUT BACKFILL.
3. BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, REFUSE, AND FROZEN MATERIAL SUBJECT TO LIMITATIONS SPECIFIED.
4. BACKFILL SHALL BE PLACED IN 4" LOOSE LIFTS WITH THE USE OF A MECHANICAL TAMPER AND 8" LOOSE LIFTS WITH THE USE OF A VIBRATORY TAMPER.

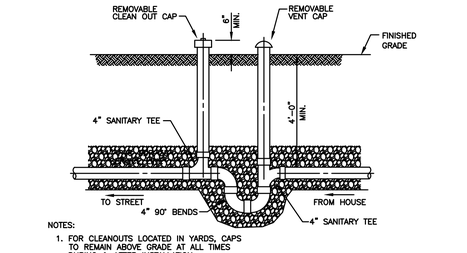
4	4/21	Upper Uwchlan Township Municipal Authority STANDARD DETAIL - SEWER SYSTEM	ARRO Suite 200, 321 N. Furnace St. Birdsboro, PA 19508 Tel 610.374.5285 Fax 610.374.5287
3	1/13		
2	6/05		DATE: APRIL 2021
1	11/04	TRENCH RESTORATION LAWN/FIELD AREAS	DETAIL: 7000SD29
REVISION	DATE		



NOTE:
1. FOR SEWER LATERALS INSTALLED IN FILL MATERIAL, USE CLASS 52 DUCTILE IRON PIPE.

SECTION

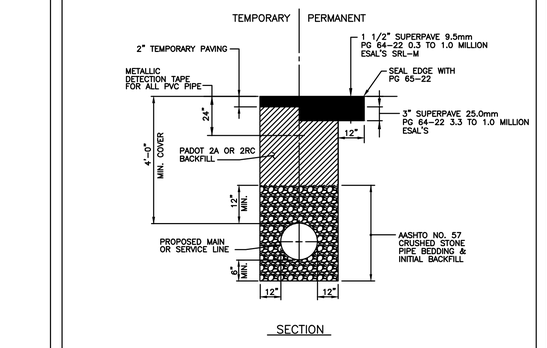
3	4/21	Upper Uwchlan Township Municipal Authority STANDARD DETAIL - SEWER SYSTEM	ARRO Suite 200, 321 N. Furnace St. Birdsboro, PA 19508 Tel 610.374.5285 Fax 610.374.5287
2	1/13		
1	6/05		DATE: APRIL 2021
REVISION	DATE	CLEANOUT/TEE IN PAVED AREAS	DETAIL: 7000SD20



NOTES:
1. FOR CLEANOUTS LOCATED IN YARDS, CAPS TO REMAIN ABOVE GRADE AT ALL TIMES DURING & AFTER INSTALLATION.
2. CLEANOUTS LOCATED IN PAVED AREAS MUST BE PROVIDED WITH FRAME AND COVER SIMILAR TO CAPS SHOWN ON DETAIL 7000SD19.

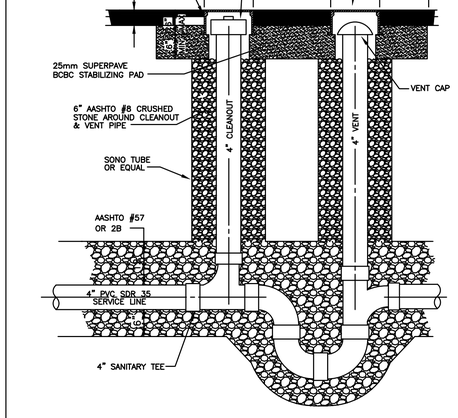
SECTION

4	4/21	Upper Uwchlan Township Municipal Authority STANDARD DETAIL - SEWER SYSTEM	ARRO Suite 200, 321 N. Furnace St. Birdsboro, PA 19508 Tel 610.374.5285 Fax 610.374.5287
3	1/13		
2	6/05		DATE: APRIL 2021
1	11/04	SERVICE LINE CLEANOUT & VENT	DETAIL: 7000SD18
REVISION	DATE		

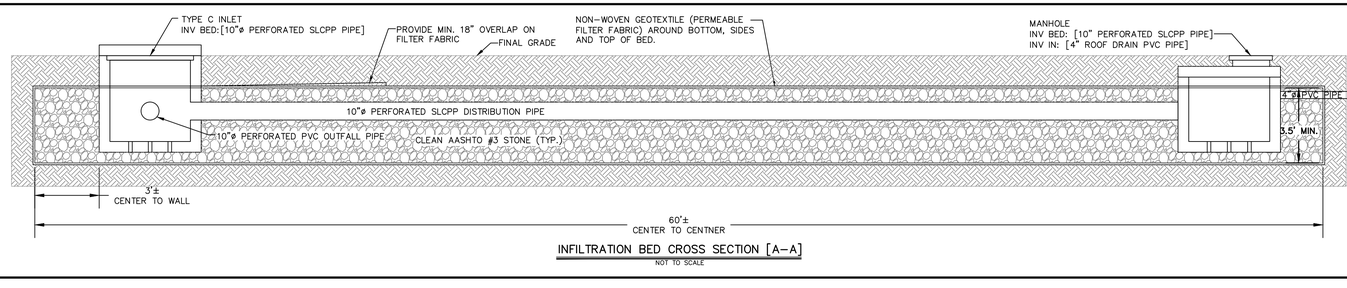


SECTION

4	4/21	Upper Uwchlan Township Municipal Authority STANDARD DETAIL - SEWER SYSTEM	ARRO Suite 200, 321 N. Furnace St. Birdsboro, PA 19508 Tel 610.374.5285 Fax 610.374.5287
3	1/13		
2	6/05		DATE: APRIL 2021
1	11/04	TRENCH RESTORATION PARKING AREAS & DRIVEWAYS	DETAIL: 7000SD28
REVISION	DATE		



3	4/21	Upper Uwchlan Township Municipal Authority STANDARD DETAIL - SEWER SYSTEM	ARRO Suite 200, 321 N. Furnace St. Birdsboro, PA 19508 Tel 610.374.5285 Fax 610.374.5287
2	1/13		
1	6/05		DATE: APRIL 2021
REVISION	DATE	SERVICE LINE CLEANOUT & VENT IN PAVED AREAS	DETAIL: 7000SD19



INFILTRATION BED CROSS SECTION [A-A]
NOT TO SCALE

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JEFFREY N. GENTILE
ENGINEER
No. PE052379E

LINN ARCHITECTS
ARCHITECTURE
ENGINEERING
SITE PLANNING
INTERIOR DESIGN
1140 N. PROVIDENCE ROAD
MEDIA, PENNSYLVANIA 19063
TEL: 610-566-7044
FAX: 610-566-3258

STORMWATER AND SEWER DETAILS

FOR

EAGLE ANIMAL HOSPITAL

211 BYERS ROAD

UPPER UWCHLAN TOWNSHIP CHESTER COUNTY, PA

NO.	DESCRIPTION	DATE
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REVISIONS

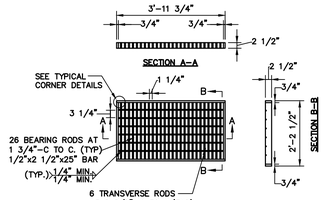
DATE: 03.04.24
SCALE: AS NOTED
DRAWN BY: SFP
CHECKED BY: -
PROJ. NO.: 22222

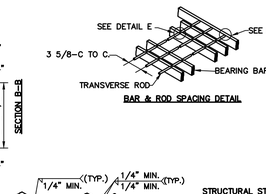
SHEET NO. C-6

SHEET 6 OF 9

Plotted: 3-19-24 @12:01pm By: slinn

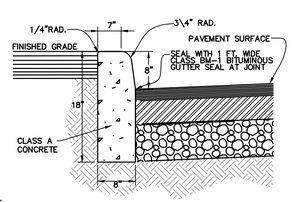
F:\Projects\Storage\Project Docs\22222\Civil\dwg\Redesign\C-6 Stormwater Details.dwg[Layout]





BICYCLE SAFE GRATE DETAIL

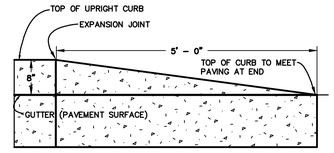
NOT TO SCALE (BYCGRT)



NOTE:
CONSTRUCT CURBING IN TEN-FOOT LENGTHS WITH A 1/4" PRE-MOLDED BITUMINOUS IMPREGNATED EXPANSION JOINTS BETWEEN SECTIONS OF CURVED CURB AND AT A MAXIMUM SPACING OF 50 FEET. INTERMEDIATE JOINTS BETWEEN TEN-FOOT SECTIONS TO BE SAW CUT. HOWEVER, WHEREVER A DRIVEWAY ENTERS A STREET, THAT AREA OF DRIVEWAY SHALL NOT HAVE A CURB JOINT AND CAN BE CONSTRUCTED IN LENGTHS NOT LONGER THAN 20 FEET.

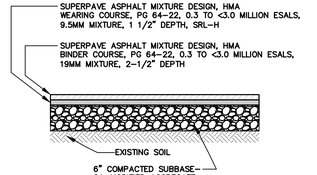
CONCRETE CURB DETAIL

NOT TO SCALE (SITECURB)



CURB TAPER DETAIL

NOT TO SCALE (CRB-TPR)



NOTE
THE STONE SUBBASE COURSE SHALL CONSIST OF STONE AND SCREENINGS APPLICATION MEETING WITH THE REQUIREMENTS OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION 408, AS AMENDED. EVERY ATTEMPT SHALL BE MADE TO COMPLETELY FILL VOIDS WITH FINES. NO LARGE AREAS OF SOLID SCREENINGS OF LOSE STONE AREAS SHALL BE PERMITTED.

DRIVEWAY PAVING SECTION DETAIL

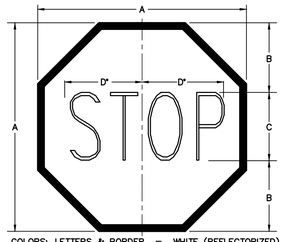
NOT TO SCALE (SITE-PAV)

R1-1
STOP SIGN

(A) JUSTIFICATION. THE STOP SIGN (R1-1) IS AUTHORIZED FOR USE ON THOSE STREETS OR HIGHWAYS WHICH INTERSECT WITH A THROUGH HIGHWAY OR A STOP INTERSECTION SO DESIGNATED BY THE DEPARTMENT WITH REFERENCE TO STATE-DESIGNATED HIGHWAYS OR LOCAL AUTHORITIES WITH REFERENCE TO HIGHWAYS UNDER THEIR JURISDICTION. THE R1-1 SIGN IS ALSO AUTHORIZED FOR USE ON WORK ZONES INVOLVING ONE-LANE, TWO-WAY ROADWAYS, AT INTERSECTIONS WHERE ALL APPROACHES ARE CONTROLLED BY AN R1-1 SIGN, A SUPPLEMENTAL ALL-WAY PLAQUE (R1-3P) SHALL BE MOUNTED BELOW EACH R1-1 SIGN.

(B) AUTHORIZATION. BEFORE LOCAL AUTHORITIES DESIGNATE ANY HIGHWAY AS A THROUGH HIGHWAY OR STOP INTERSECTION WHICH WILL INTERSECT OR AFFECT A STATE-DESIGNATED HIGHWAY, APPROVAL OF SUCH DESIGNATION SHALL FIRST BE OBTAINED FROM THE DEPARTMENT. APPROVAL TO INSTALL R1-1 SIGNS IN WORK AREAS SHALL NOT REQUIRE THE APPROVAL OF THE DEPARTMENT OR LOCAL AUTHORITIES WHEN THE CONDITIONS STIPULATED IN THE DEPARTMENT'S TEMPORARY TRAFFIC CONTROL GUIDELINES ARE SATISFIED.

(C) SIZE. THE STANDARD SIZE R1-1 SIGN SHALL BE 30" X 30" FOR SINGLE LANE CONVENTIONAL HIGHWAYS AND 36" X 36" FOR MULTI-LANE CONVENTIONAL HIGHWAYS. THE 24" X 24" SIZE SHALL ONLY BE USED FOR ALLEYS WITH RESTRICTIVE PHYSICAL CONDITIONS AND VEHICLE USAGE THAT PROHIBITS THE INSTALLATION OF THE STANDARD SIZE R1-1. A SIGN THAT IS MOUNTED BACK-TO-BACK WITH A R1-1 SIGN SHOULD STAY WITHIN THE EDGE OF THE R1-1 SIGN. IF NECESSARY, THE SIZE OF THE R1-1 SIGN SHOULD BE INCREASED SO THAN ANY OTHER SIGN INSTALLED BACK-TO-BACK WITH IT REMAINS WITHIN THE EDGES OF THE R1-1 SIGN.



COLORS: LETTERS & BORDER = WHITE (REFLECTORIZED)
BACKGROUND = RED (REFLECTORIZED)

DIMENSIONS – IN					
SIGN SIZE A X A	B	C	D	BORDER	BLANK STD.
18" X 18"	6	6C	8	0.4	---
24" X 24"	8	8C	10	0.6	B1-24
30" X 30"	10	10C	12.6	0.8	B1-30
36" X 36"	12	12C	15	0.8	B1-36
18" X 18"	16	16C	20	1.2	---

* REDUCE SPACING 40%

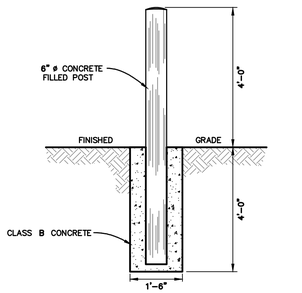
COLOR:

LEGEND AND BORDER:
WHITE (REFLECTORIZED)

BACKGROUND:
RED (REFLECTORIZED)

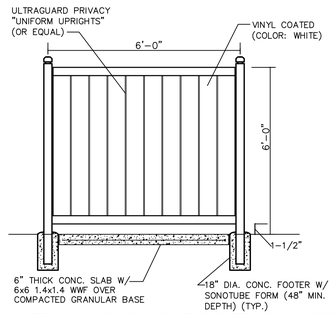
R1-1 SIGN DETAIL

NOT TO SCALE (R1-1)



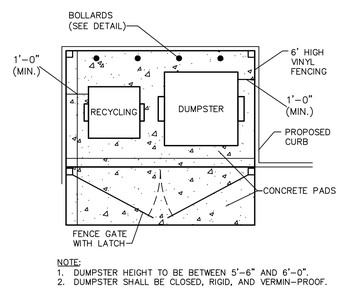
TYPICAL BOLLARD DETAIL

N.T.S. (BOLLARD1)

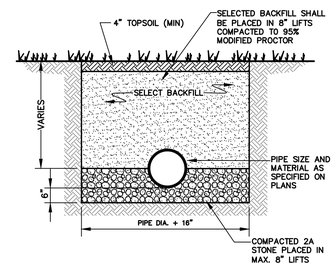


TRASH ENCLOSURE DETAIL – FENCE AND CONCRETE PAD DETAIL

NOT TO SCALE (TRSHENC3)

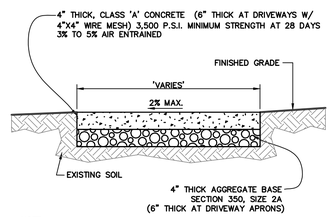


NOTE:
1. DUMPSTER HEIGHT TO BE BETWEEN 5'-6" AND 6'-0".
2. DUMPSTER SHALL BE CLOSED, RIGID, AND VERMIN-PROOF.



UTILITY TRENCH RESTORATION

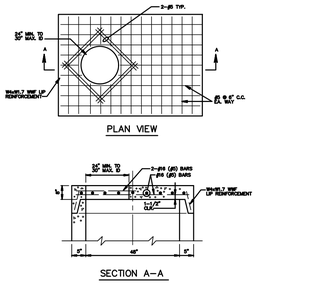
NOT TO SCALE BH-RES-STRM-08



NOTE:
WHERE SIDEWALKS ABUT THE CURB, BUILDING, WALL, OR OTHER PERMANENT STRUCTURE, A PREMOLDED EXPANSION JOINT 1/4 INCH IN THICKNESS SHALL BE PLACED BETWEEN THE CURB AND THE STRUCTURE FOR THE FULL LENGTH OF SUCH STRUCTURE. SIDEWALKS SHALL BE CONSTRUCTED IN SEPARATE SLABS 30 FEET IN LENGTH EXCEPT FOR CLOSURES. THE SLABS BETWEEN EXPANSION JOINTS SHALL BE DIVIDED INTO BLOCKS FIVE FEET IN LENGTH BY SCORING TRANSVERSELY.

CONCRETE SIDEWALK SECTION

NOT TO SCALE (SW-SECT)



NOTES:
CLEANOUTS TO BE PROVIDED AND BROUGHT TO GRADE AT BEGINNING OF LINE AND ALL 90° BENDS

ROOF DRAIN TO BE CONNECTED TO BED ONLY AFTER GRADING OF LOT IS COMPLETE.

LEAF GRATES TO BE PLACED OVER ALL ROOF DRAIN SPOUTS TO KEEP THEM CLEAN OF DEBRIS.

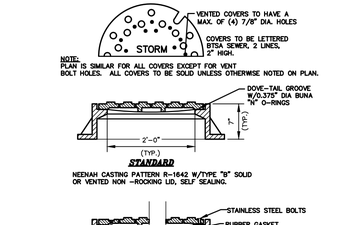
PLACE PVC. LENGTH AS REQUIRED.

DOWNSPOUT CONNECTION DETAIL

NOT TO SCALE (DSCONECT)

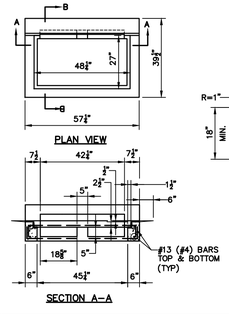
RECTANG. COVER SLAB DETAIL

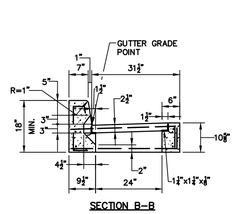
NOT TO SCALE

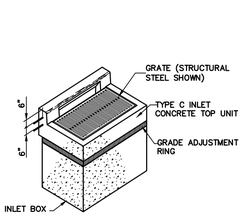


CASTIRON MANHOLE FRAMES & COVERS

NOT TO SCALE (IRONFRAM)



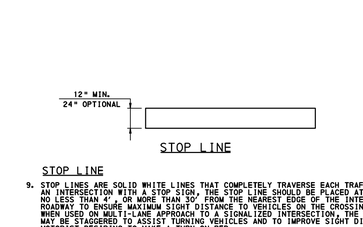




NOTE:
INLET TOP TO CONTAIN A CASTING PLATE WITH THE PHRASES "DUMP NO WASTE" AND "DRAINS TO WATERWAYS". ALTERNATELY THE INLET TOP CAN BE CONSTRUCTED ENTIRELY OF CAST-IRON WITH THE REQUIRED PHRASES CAST INTO THE TOP.

TYPE 'C' INLET TOP

NOT TO SCALE (CINLTTOP)

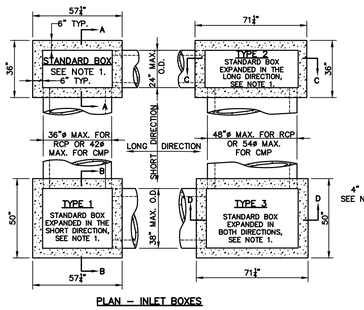


STOP LINE

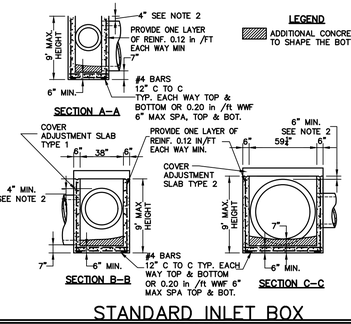
9. STOP LINES ARE SOLID WHITE LINES THAT COMPLETELY TRAVERSE EACH TRAFFIC LANE. AT AN INTERSECTION WITH A STOP SIGN, THE STOP LINE SHOULD BE PLACED AT A LOCATION NO LESS THAN 4', OR MORE THAN 30' FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY TO ENSURE MAXIMUM SIGHT DISTANCE TO VEHICLES ON THE CROSSING ROUTE. WHEN USED ON MULTI-LANE APPROACH TO A SIGNALIZED INTERSECTION, THE STOP LINE MAY BE STAGGERED TO ASSIST TURNING VEHICLES AND TO IMPROVE SIGHT DISTANCE FOR MOTORIST DESIRING TO MAKE A TURN ON RED.
0. LOCATE STOP LINES AT A MINIMUM OF 4' IN ADVANCE OF AND PARALLEL TO THE CROSSWALK LINES UNLESS OTHERWISE NOTED.

STOP BAR DETAIL

NOT TO SCALE

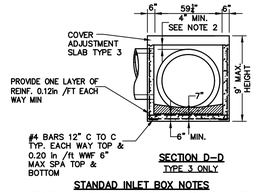


PLAN – INLET BOXES



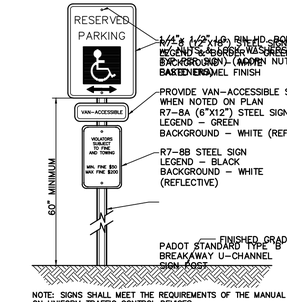
STANDARD INLET BOX

NOT TO SCALE (INLETBOX)



STANDAD INLET BOX NOTES

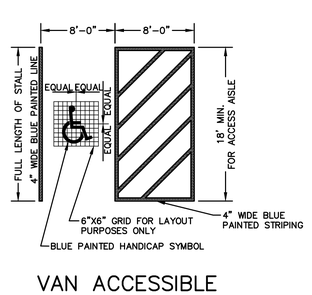
1. PROVIDE STANDARD INLET BOXES AND COVER ADJUSTMENT SLABS WITH A 24"x 46" OPENING TO ACCOMMODATE STANDARD TOP COMPONENTS.
2. LOCATE PIPE OR PIPES, AS INDICATED, WITH THE INLET BOTTOM SHAPED TO CHANNEL THE FLOW TOWARD THE OUTLET PIPE. WHEN PROJECT CONDITIONS REQUIRE PIPE BLOCKOUTS TO BE FORMED WITHIN 4" FROM THE TOP OF THE INLET BOX, PROVIDE AN ADDITIONAL#3 REINFOREMENT BAR LOCATED 1¾" FROM THE TOP OF THE INLET BASE, FULL WIDTH ALONG THE INLET FACE. REMOVE ANY VISIBLE PORTION OF THE BAR, IF REQUIRED DURING INSTALLATION AND PRIOR TO JOINING THE PIPE TO THE INLET. IF REINFORCED CONCRETE PIPE IS USED, THE PIPE BLOCKOUT MAY BE FORMED "FLUSH" WITH THE INLET BASE.



NOTE: SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

HANDICAPPED PARKING SIGN

NOT TO SCALE (HANDISGN)



VAN ACCESSIBLE HANDICAPPED PAINTED MARKING

NOT TO SCALE

LINN ARCHITECTS
ARCHITECTURE
ENGINEERING
SITE PLANNING
INTERIOR DESIGN
1140 N. PROVIDENCE ROAD
MEDIA, PENNSYLVANIA 19063
TEL: 610-566-7044
FAX: 610-566-3258

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JEFFREY N. GENTILE
ENGINEER
No. PE052379E

CONSTRUCTION DETAILS

FOR

EAGLE ANIMAL HOSPITAL
211 BYERS ROAD
UPPER UWCHLAN TOWNSHIP CHESTER COUNTY, PA

REVISIONS		
NO.	DESCRIPTION	DATE
1		
2		
3		
4		

DATE: 03.04.24
SCALE: 1"=20'
DRAWN BY: SPP
CHECKED BY:
PROJ. NO.: 22222

SHEET NO. C-7
SHEET 7 OF 9

EROSION CONTROL AND MAINTENANCE NOTES

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.

2. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, TO AN ON-SITE PRECONSTRUCTION MEETING.

3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.

4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE DESIGN ENGINEER.

5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.

6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.

7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.

8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAPS(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.

9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE DESIGN ENGINEER.

10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.

11. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.

12. THE DEFINITIONS FOR THE FOLLOWING TERMS ARE LISTED AND ARE TAKEN FROM THE DEPARTMENT OF ENVIRONMENTAL PROTECTION PERMIT SUMMARY SHEET ON PAGE 6.

    CLEAN FILL: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT THAT HAS BEEN PROCEEDED FOR RE-USE.)

    ENVIRONMENTAL DUE DILIGENCE: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS.

13. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.

14. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.

15. A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.

16. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.

17. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.

18. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES — 6 TO INCHES ON COMPACTED SOILS — PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.

19. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

20. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.

21. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.

22. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.

23. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.

24. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.

25. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.

26. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.

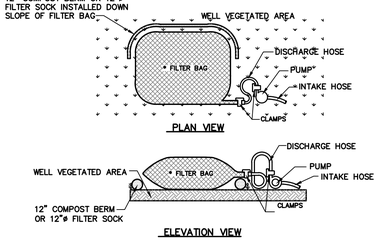
27. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.

28. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP.

29. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.

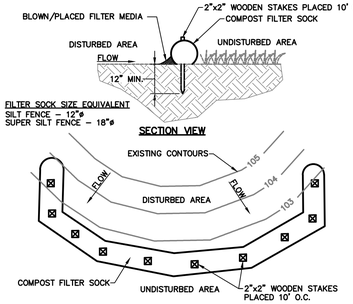
30. FAILURE TO CORRECTLY INSTALL E&S BMPS, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPS MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO $10,000 PER DAY IN CIVIL PENALTIES, UP TO $10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO $25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.

31. THE PROJECT'S RECEIVING WATERCOURSE PICKERING CREEK AND THE CHAPTER 93 CLASSIFICATION IS HQ-TSF, MF.



1. FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
2. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
3. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
6. MINIMUM 12" COMPOST BERM OR 12"ø COMPOST FILTER SOCK SHALL BE INSTALLED DOWNSLOPE OF FILTER BAGS.
7. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
8. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHOULD BE FLOATING AND SCREENED.
9. FILTER BAGS SHALL BE INSPECTED DAILY, IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

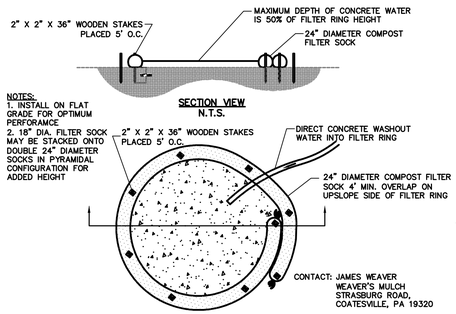
SEDIMENT FILTER BAG FOR PUMPED WATER DETAIL
NOT TO SCALE (SEDBAG)



NOTES:
PER PA DEP EROSION AND SEDIMENT CONTROL PROGRAM MANUAL TECH. GUIDANCE No. 363-2134-008

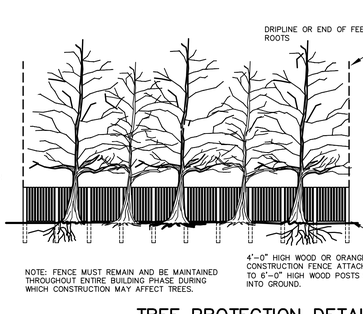
- SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT (FIGURE 4.1). MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN ON FIGURE 4.2. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.
- TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
- SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
- BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR.
- POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

COMPOST FILTER SOCK DETAIL
NOT TO SCALE

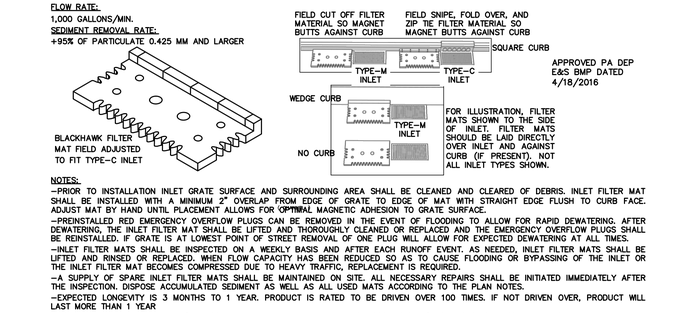


NOTES:
1. WASHOUT FACILITIES SHOULD NOT BE PLACED WITHIN 50 FEET OF STORM DRAINS, OPEN DITCHES, OR SURFACE WATERS.
2. WASHOUT FACILITIES SHOULD BE IN A CONVENIENT LOCATION FOR THE TRUCKS, PREFERABLY NEAR THE PLACE WHERE THE CONCRETE IS BEING POURED, BUT FAR ENOUGH FROM OTHER VEHICULAR TRAFFIC TO MINIMIZE THE POTENTIAL FOR ACCIDENTAL DAMAGE OR SPILLS, WHEREVER POSSIBLE, THEY SHOULD BE LOCATED ON SLOPES NOT EXCEEDING A 2% GRADE.
3. COMPOST SOCKS SHOULD BE STAKED IN THE MANNER RECOMMENDED BY THE MANUFACTURER AROUND PERIMETER OF THE GEOMEMBRANE SO AS TO FORM A RING WITH THE ENDS OF THE SOCK LOCATED AT THE UPSLOPE CORNER. CARE MUST BE TAKEN TO ENSURE CONTINUOUS CONTACT OF THE SOCK WITH THE GEOMEMBRANE AT ALL LOCATIONS. WHERE NECESSARY, SOCKS MAY BE STACKED SO AS TO FORM A TRIANGULAR CROSS-SECTION.
4. PROPER SIGNAGE SHOULD BE PROVIDED TO DRIVERS SO THAT THEY ARE AWARE OF THE PRESENCE OF WASHOUT FACILITIES.

COMPOST SOCK WASHOUT DETAIL
NOT TO SCALE



TREE PROTECTION DETAIL (TREE GROUP)
NOT TO SCALE (TREEPROT)

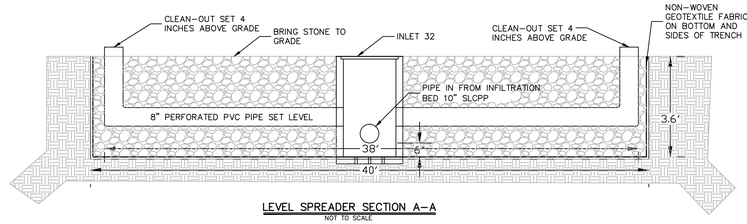


NOTES:
- PRIOR TO INSTALLATION INLET GRATE SURFACE AND SURROUNDING AREA SHALL BE CLEANED AND CLEARED OF DEBRIS. INLET FILTER MAT SHALL BE INSTALLED WITH A MINIMUM 2" OVERLAP FROM EDGE OF GRATE TO EDGE OF MAT WITH STRAIGHT EDGE FLUSH TO CURB FACE. ADJUST MAT BY HAND UNTIL PLACEMENT ALLOWS FOR OPTIMAL MAGNETIC ADHESION TO GRATE SURFACE.
- PREINSTALLED RED EMERGENCY OVERFLOW PLUGS CAN BE REMOVED IN THE EVENT OF FLOODING TO ALLOW FOR RAPID DEWATERING. AFTER DEWATERING, THE INLET FILTER MAT SHALL BE LIFTED AND THOROUGHLY CLEANED OR REPLACED AND THE EMERGENCY OVERFLOW PLUGS SHALL BE REINSTALLED. IF GRATE IS AT LOWEST POINT OF STREET REMOVAL OF ONE PLUG WILL ALLOW FOR EXPECTED DEWATERING AT ALL TIMES.
- INLET FILTER MATS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. AS NEEDED, INLET FILTER MATS SHALL BE LIFTED AND RINSED OR REPLACED. WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET OR THE INLET FILTER MAT BECOMES COMPRESSED DUE TO HEAVY TRAFFIC, REPLACEMENT IS REQUIRED.
- A SUPPLY OF SPARE INLET FILTER MATS SHALL BE MAINTAINED ON SITE. ALL NECESSARY REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED MATS ACCORDING TO THE PLAN NOTES.
- EXPECTED LONGEVITY IS 3 MONTHS TO 1 YEAR. PRODUCT IS RATED TO BE DRIVEN OVER 100 TIMES. IF NOT DRIVEN OVER, PRODUCT WILL LAST MORE THAN 1 YEAR
- CONTACT THE MANUFACTURER (MKB COMPANY, LLC WWW.MKBCOMPANY.COM 888.578.0777) TO FIND DISTRIBUTOR NEAR YOU.

FILTER INLET PROTECTION DETAIL - BLACKHAWK INLET FILTER
(FILTER MAT)

LEVEL SPREADER SEQUENCE OF CONSTRUCTION

1. LEVEL SPREADERS ARE CONSIDERED A PERMANENT PART OF A SITE'S STORMWATER MANAGEMENT SYSTEM. THEREFORE, THE UPHILL DEVELOPMENT SHOULD BE STABILIZED BEFORE DIVERTING RUNOFF TO ANY DISPERSING FLOW TECHNIQUES. IF THE LEVEL SPREADER IS USED AS AN EROSION AND SEDIMENTATION CONTROL MEASURE, IT MUST BE RECONFIGURED (FLUSH PERFORATED PIPE, CLEAN OUT ALL SEDIMENT), TO ITS ORIGINAL STATE BEFORE USE AS A PERMANENT STORMWATER FEATURE.
2. ALL CONTRIBUTING STORMWATER ELEMENTS (INFILTRATION BEDS, INLETS, OUTLET CONTROL STRUCTURES, PIPES, ETC) SHOULD BE INSTALLED.
3. PERFORATED PIPE SHOULD BE INSTALLED ALONG A CONTOUR, WITH CARE TAKEN TO CONSTRUCT A LEVEL BOTTOM. THE PIPE CAN BE UNDERGROUND IN A SHALLOW INFILTRATION TRENCH (SEE INFILTRATION TRENCH FOR DESIGN GUIDANCE), OR CLOSER TO THE SURFACE AND COVERED WITH A 12-INCH THICK LAYER OF AASHTO #57 STONE. IF THE PERFORATED PIPE IS IN A TRENCH, EXCAVATE TO THE DESIGN DIMENSIONS. IF THE PIPE IS TO BE AT OR NEAR THE SURFACE, SOME MINOR EXCAVATION OR FILLING MAY BE NECESSARY TO MAINTAIN A LEVEL BOTTOM.
4. IF NECESSARY, INSTALL EROSION CONTROL MATTING ALONG THE LENGTH OF THE LEVEL SPREADER AND TO A DISTANCE DOWNHILL AS SPECIFIED BY THE MANUFACTURER/SUPPLIER. COVER THE PIPE WITH AASHTO #57 STONE.



BMP 6.8.1 LEVEL SPREADER LENGTH-THE LENGTH OF LEVEL SPREADERS IS PRIMARY A FUNCTION OF THE CALCULATED INFLUENT FLOW RATE. THE LEVEL SPREADER SHOULD BE LONG ENOUGH TO FREELY DISCHARGE THE CALCULATED PEAK FLOW RATE. AT A MINIMUM, THE PEAK FLOW RATE SHALLBE THAT RESULTING FROM A 10-YEAR 24 HOUR DESIGN STORM. FOR GRASS OR THICK GROUND COVER VEGETATION: 13 LINEAR FEET OF LEVEL SPREADER FOR EVERY 1 CFS.

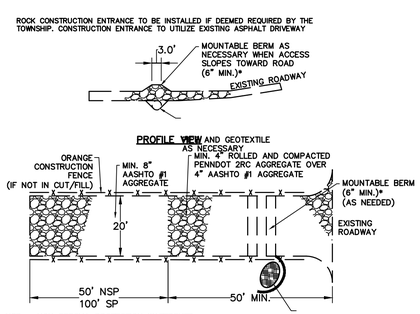
10 YEAR DESIGN STORM YIELDS 1.44 CFS PEAK FLOW RATE REQUIRING A 19 FOOT LONG LEVEL SPREADER.

DESIGNED LEVEL SPREADER LENGTH EXCEEDS DEP REQUIREMENT OF SAFELY DISCHARGING THE 10 YEAR STORM.

LEVEL SPREADER OPERATION AND MAINTENANCE

- INSPECTION - THE AREA BELOW A LEVEL SPREADER SHOULD BE INSPECTED FOR CLOGGING, DENSITY OF VEGETATION, DAMAGE BY FOOT OR VEHICULAR TRAFFIC, EXCESSIVE ACCUMULATIONS, AND CHANNELIZATION. INSPECTIONS SHOULD BE MADE ON A QUARTERLY BASIS FOR THE FIRST TWO YEARS FOLLOWING INSTALLATION, AND THEN ON A SEMIANNUAL BASIS THEREAFTER. INSPECTIONS SHOULD ALSO BE MADE AFTER EVERY STORM EVENT GREATER THAN 1-INCH.
- REMOVAL - SEDIMENT AND DEBRIS SHOULD BE ROUTINELY REMOVED (BUT NEVER LESS THAN SEMIANNUALLY), OR UPON OBSERVATION, WHEN BUILDUP OCCURS IN THE CLEAN OUTS. REGRADING AND RESEEDING MAY BE NECESSARY IN THE AREAS BELOW THE LEVEL SPREADER. REGRADING MAY ALSO BE REQUIRED WHEN POOLS OF STANDING WATER ARE OBSERVED ALONG THE SLOPE. (IN NO CASE SHOULD STANDING WATER BE ALLOWED FOR LONGER THAN 72 HOURS.)
- VEGETATION - MAINTAINING A VIGOROUS VEGETATIVE COVER ON THE AREAS BELOW A LEVEL SPREADER IS CRITICAL FOR MAXIMIZING POLLUTANT REMOVAL EFFICIENCY AND EROSION PREVENTION. IF VEGETATIVE COVER IS NOT FULLY ESTABLISHED WITHIN THE DESIGNATED TIME, IT MAY NEED TO BE REPLACED WITH AN ALTERNATIVE SPECIES. (IT IS STANDARD PRACTICE TO CONTRACTUALLY REQUIRE THE CONTRACTOR TO REPLACE DEAD VEGETATION.) UNWANTED OR INVASIVE GROWTH SHOULD BE REMOVED ON AN ANNUAL BASIS. BIWEEKLY INSPECTIONS ARE RECOMMENDED FOR AT LEAST THE FIRST GROWING SEASON, OR UNTIL THE VEGETATION IS PERMANENTLY ESTABLISHED. ONCE THE VEGETATION IS ESTABLISHED, INSPECTIONS OF HEALTH, DIVERSITY, AND DENSITY SHOULD BE PERFORMED AT LEAST TWICE PER YEAR, DURING BOTH THE GROWING AND NON-GROWING SEASON. VEGETATIVE COVER SHOULD BE SUSTAINED AT 85% AND REPLACED IF DAMAGE GREATER THAN 50% IS OBSERVED.

ROCK CONSTRUCTION ENTRANCE TO BE INSTALLED IF DEEMED REQUIRED BY THE TOWNSHIP. CONSTRUCTION ENTRANCE TO UTILIZE EXISTING ASPHALT DRIVEWAY



MAINTENANCE:
- WASH RACK SHALL BE 20 FEET WIDE OR TOTAL WIDTH OF ACCESS AND 6 FEET LONG
- A WATER SUPPLY SHALL BE MADE AVAILABLE TO WASH THE WHEELS OF ALL VEHICLES EXISTING THE SITE
- WASH RACK SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ANTICIPATED CONSTRUCTION TRAFFIC
- ROCK CONSTRUCTION ENTRANCE THICKNESS WILL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL WILL BE MAINTAINED ON THE SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PUBLIC ROADWAYS WILL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE.

ROCK CONSTRUCTION ENTRANCE (IF REQUIRED)
NOT TO SCALE (PACONENT)

LINN ARCHITECTS
ARCHITECTURE
ENGINEERING
SITE PLANNING
INTERIOR DESIGN
1140 N. PROVIDENCE ROAD
MEDIA, PENNSYLVANIA 19063
TEL: 610-566-7044
FAX: 610-566-3258

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JEFFREY N. GENTILE
ENGINEER
No. PE052079E

EROSION AND SEDIMENTATION CONTROL DETAILS

FOR

EAGLE ANIMAL HOSPITAL

211 BYERS ROAD

UPPER UWCHLAN TOWNSHIP CHESTER COUNTY, PA

NO.	REVISIONS DESCRIPTION	DATE
1		
2		
3		
4		

DATE: 03.04.24
SCALE: 1"=20'
DRAWN BY: SPP
CHECKED BY: -
PROJ. NO.: 22222

SHEET NO. C-8

SHEET 8 OF 9

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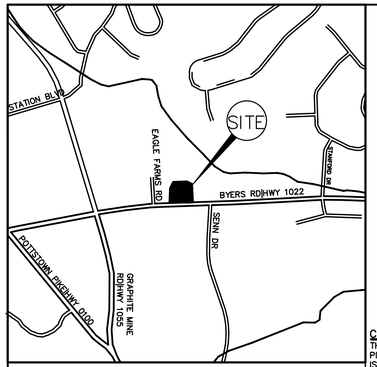
Plotted: 3-19-24 @12:02pm By: slinn



LOCATION MAP
1" = 1,000'

NOTES

1. THIS PLAN IS BASED ON A PLAN BY HOWELLKLINE SURVEYING, ENTITLED TOPOGRAPHIC AND PHYSICAL IMPROVEMENTS SURVEY, DATED MAY 19, 2022.
2. ELEVATIONS REFER TO CONTOURS FROM FIELD SURVEY BASED ON GPS SYSTEM. NORTH AMERICAN DATUM OF 1988.
3. BOUNDARY FROM A PLAN BY HOWELLKLINE SURVEYING LLC, ENTITLED TOPOGRAPHIC AND PHYSICAL IMPROVEMENTS SURVEY, DATED MAY 19, 2022.
4. PROPERTY IS IDENTIFIED IN THE HISTORIC ORDINANCE AS HRP NO. 057, KEY NO. 065814, CLASS 1.
5. ADJOINER INFORMATION TAKEN FROM CURRENT TAX RECORDS.
6. UTILITY INFORMATION FROM OBSERVED SURFACE EVIDENCE. ALL UTILITY LOCATIONS AND DEPTHS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
7. BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE 'X' OF THE FLOOD INSURANCE RATE MAP, MAP No. 42029C0095G, COMMUNITY PANEL No. 95 OF 380, WHICH BEARS AN EFFECTIVE DATE OF SEPTEMBER 29, 2017.
8. SOIL DELINEATION LINES TAKEN FROM USDA NATIONAL COOPERATIVE SOIL SURVEY THROUGH THE NATURAL RESOURCES CONSERVATION SERVICE CUSTOM SOIL RESOURCE REPORT FOR THIS PROJECT DATED JANUARY 14TH, 2022.
9. SITE IS CURRENTLY SERVICED BY PRIVATE SEWER AND PUBLIC WATER.
10. ALL LANDSCAPING SHOWN ON THE PLANS SHALL BE MAINTAINED AND KEPT CLEAN OF ALL DEBRIS, RUBBISH, WEEDS, AND TALL GRASS.
11. A BLANKET EASEMENT IS GRANTED TO UPPER UWCHLAN TOWNSHIP TO ALLOW FOR THE INSPECTION OF THE STORMWATER FACILITY. IN THE EVENT THE HOMEOWNER/PROPERTY OWNER FAILS TO PROPERLY MAINTAIN THOSE FACILITIES, AFTER NOTICE TO THE OWNER OF ITS INTENT TO DO SO (WHICH NOTICE SHALL NOT BE REQUIRED IN ANY EMERGENCY), THE TOWNSHIP MAY (BUT IS NOT OBLIGATED TO) ENTER ONTO THE PROPERTY TO INSPECT AND PERFORM ANY SUCH MAINTENANCE. IN SUCH EVENT, THE TOWNSHIP MAY CHARGE THE COSTS THEREOF, WHETHER DIRECT OR INDIRECT, INCLUDING LABOR, EQUIPMENT, MATERIALS, SUPPLIES AND ANY FEES, TO THE OWNER, AND MAY PLACE A LIEN ON THE PROPERTY TO RECOVER ANY CHARGED COSTS THAT REMAIN UNREIMBURSED AND ANY COSTS OF COLLECTION, FEE AND INTEREST.
12. THERE WAS NO OBSERVED EVIDENCE OF GAS SERVICE ON THE SURVEYED PREMISES.
13. ALL BUILDING MATERIALS AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ. AND 287.1 ET SEQ. NO BUILDING MATERIAL SHALL BE BURIED, DUMPED OR DISCHARGED FROM THE SITE.
14. AN AS-BUILT SURVEY OF ALL STORMWATER BMP'S AND AN EXPLANATION OF ANY DISCREPANCIES WITH THE OPERATION AND MAINTENANCE PLAN SHALL BE PROVIDED TO UPPER UWCHLAN TOWNSHIP.
15. ALL SANITARY SEWERS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE UPPER UWCHLAN TOWNSHIP MUNICIPAL AUTHORITY SPECIFICATIONS.
16. THE AUTHORITY ENGINEER MUST BE NOTIFIED 48 HOURS PRIOR TO THE BEGINNING OF SANITARY SEWER CONSTRUCTION.
17. A SEWER LATERAL AS-BUILT PLAN MUST BE SUBMITTED TO THE AUTHORITY ENGINEER.

POST-CONSTRUCTION RESPONSIBILITIES:

1. THE LANDOWNER ACKNOWLEDGES THAT, PER THE PROVISIONS OF THE MUNICIPALITY'S STORMWATER MANAGEMENT ORDINANCE, IT IS UNLAWFUL TO MODIFY, REMOVE, FILL, LANDSCAPE, ALTER OR IMPAIR THE EFFECTIVENESS OF, OR PLACE ANY STRUCTURE, OTHER VEGETATION, YARD WASTE, BRUSH CUTTINGS, OR OTHER WASTE OR DEBRIS INTO ANY PERMANENT STORMWATER MANAGEMENT BMP OR CONVEYANCE DESCRIBED IN THIS O&M PLAN OR TO ALLOW THE BMP OR CONVEYANCE TO EXIST IN A CONDITION WHICH DOES NOT CONFORM TO THIS O&M PLAN, WITHOUT WRITTEN APPROVAL FROM THE MUNICIPALITY
2. NO BMP OR MAN-MADE CONVEYANCE MAY BE USED BY THE OWNER OR OTHERS FOR ANY PURPOSE OTHER THAN ITS INTENDED STORMWATER CONTROL FUNCTION, OR, IF APPROVED BY THE MUNICIPALITY, A STATEMENT OF SPECIFIC ALLOWABLE USES OF THE BMP.
3. THE LANDOWNER SHALL REMEDY DEFICIENCIES FOUND DURING THEIR INSPECTIONS WITHIN 6 MONTHS. SOME DEFICIENCIES MAY HAVE A SHORTER TIME FRAME.
4. THE PERSON RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF A BMP OR CONVEYANCE SHALL MAKE RECORDS OF THE INSTALLATION AND OF ALL MAINTENANCE AND REPAIRS, AND SHALL RETAIN THE RECORDS FOR AT LEAST 10 YEARS. THESE RECORDS SHALL BE SUBMITTED TO THE MUNICIPALITY, IF REQUESTED.
5. UPON FINAL INSPECTION, THE MUNICIPALITY SHALL INFORM THE PERSON RESPONSIBLE FOR THE OPERATION AND MAINTENANCE WHETHER THE SUBMISSION OF PERIODIC (ANNUAL OR OTHER FREQUENCY) INSPECTION AND MAINTENANCE REPORTS WILL BE REQUIRED.
6. THE OWNER OF EACH BMP AND CONVEYANCE SHALL KEEP ON FILE WITH THE MUNICIPALITY THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE PERSON RESPONSIBLE FOR MAINTENANCE ACTIVITIES AND IMPLEMENTATION OF THE O&M PLAN. IN THE EVENT OF A CHANGE, NEW INFORMATION SHALL BE SUBMITTED BY THE BMP OR CONVEYANCE OWNER TO THE MUNICIPALITY WITHIN 30 DAYS OF THE CHANGE.

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES
THREE (3) WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND TEN (10) WORKING DAYS FOR DESIGN STAGE.
UTILITY INFORMATION IDENTIFIED THROUGH THE ONE-CALL PROCESS IS VALID FOR 90 DAYS FROM THE DATE OF THE CALL.

Pennsylvania One Call System, Inc.
1-800-242-1776
SERIAL# 20222912121
ONE-CALL DATE: 10/18/2022

PA ONE CALL INFORMATION

COMPANY: AQUA PENNSYLVANIA INC
ADDRESS: 762 W LANCASTER AVE
BRYN MAWR, PA 19010
CONTACT: THOMAS WADDY
EMAIL: TBWADDY@AQUAAMERICA.COM

COMPANY: COMCAST
ADDRESS: 1004 CORNERSTONE BLVD
DOWNINGTON, PA. 19335
CONTACT: TOM RUSSO
EMAIL: tom_russo@cable.comcast.com

COMPANY: PECO AN EXELON COMPANY C/O USIC
ADDRESS: 450 S HENDERSON ROAD SUITE B
KING OF PRUSSIA, PA. 19406
CONTACT: NIKKIA SIMPKINS
EMAIL: NIKKIASIMPKINS@USICLLC.COM

COMPANY: UPPER UWCHLAN TOWNSHIP UPPER UWCHLAN MUNICIPAL AUTHORITY
ADDRESS: 140 POTTSTOWN PIKE
CHESTER SPRINGS, PA. 19425
CONTACT: MICHAEL HECKMAN
EMAIL: MHECKMAN@UPPERUWCHLAN-PA.GOV

COMPANY: VERIZON BUSINESS FORMERLY MCI
ADDRESS: 7000 WESTON PKWY
CARY, NC. 27513
CONTACT: VICTOR WOOD
EMAIL: victor.s.wood@verizon.com

CHAPTER 93 CLASSIFICATION:

THE SITE DRAINS TO UNNAMED TRIBUTARY PICKERING CREEK. CHAPTER 93 CLASSIFICATION IS HQ-TSF, MF.

SOILS TABLE

(FROM UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE)

SOIL TYPE: CaB—Califon loam
DRAINAGE CLASS: Moderately Well Drained
SLOPE RANGE: 3—8
HYDROLOGIC GROUP: D
FRAGIPAN DEPTH: 20—30 inches
BEDROCK DEPTH: 72—99 inches
SEASONAL WATER TABLE: 6—36 inches
FLOODING POTENTIAL: None
PROFILE PERMEABILITY: Moderately low to moderately high

SOIL TYPE: Ha—Hatboro silt loam
DRAINAGE CLASS: Poorly Drained
SLOPE RANGE: 0—3
HYDROLOGIC GROUP: B/D
BEDROCK DEPTH: 60—99 inches
SEASONAL WATER TABLE: 0—6 inches
FLOODING POTENTIAL: Non—Frequent
PROFILE PERMEABILITY: Moderately high to high

SOIL TYPE: UugB—Urban land—Udorthents, schist and gneiss complex
DRAINAGE CLASS: Moderately low to moderately high
SLOPE RANGE: 0—8
HYDROLOGIC GROUP: C
BEDROCK DEPTH: 20—70 inches
SEASONAL WATER TABLE: 60 inches
FLOODING POTENTIAL: None
PROFILE PERMEABILITY: Moderately low to moderately high

RECEIVING SURFACE WATERS

***THE PENNSYLVANIA TITLE 25, CHAPTER 93 CLASSIFICATION FOR THE RECEIVING WATERS OF THE COMMONWEALTH**

UNNAMED TRIBUTARY (UNT) TO PICKERING CREEK IN THE PICKERING CREEK WATERSHED: A HIGH QUALITY-TROUT STOCKING FISHERY (HQ-STF) WATER COURSE

LONG-TERM OPERATION AND MAINTENANCE:

THE PCSM PLAN, INSPECTION REPORTS, AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE DEPARTMENT OR CONSERVATION DISTRICT.

ALTERATION OF BMPS:

NO PERSON SHALL MODIFY, REMOVE, FILL, LANDSCAPE, ALTER, OR IMPAIR THE EFFECTIVENESS OF ANY STORMWATER BMPS, CONVEYANCES, FACILITIES, AREAS OR STRUCTURES UNLESS THE ACTIVITY IS PART OF AN APPROVED MAINTENANCE PROGRAM, WITHOUT THE WRITTEN APPROVAL OF THE MUNICIPALITY.

NO PARSON SHALL PLACE ANY STRUCTURE, FILL, LANDSCAPING, ADDITIONAL VEGETATION, YARD WASTE, BRUSH CUTTINGS, OR OTHER WASTE OR DEBRIS INTO A BMP OR CONVEYANCE, OR WITHIN A STORMWATER EASEMENT, THAT WOULD LIMIT OR ALTER THE FUNCTIONING OF THE STORMWATER BMP OR CONVEYANCE, WITHOUT THE WRITTEN APPROVAL OF THE MUNICIPALITY.

BMP PROTECTION NOTE: - 102.8(f)(7)

SITE CONTRACTOR SHALL PROVIDE PROTECTION FOR INFILTRATION BMPS UNTIL DRAINAGE AREA IS COMPLETELY STABILIZED.

DRAINAGE AREAS IN BMPS MUST BE 70% STABILIZED BEFORE RUNOFF CAN ENTER THE BMP.

MAINTENANCE NOTES STORMWATER MANAGEMENT:

1. THE OWNER AND/OR OPERATOR OF THE PROPERTY IS RESPONSIBLE FOR THE MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM.
2. STORMWATER FACILITIES SHALL BE INSPECTED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA ON BEHALF OF THE APPLICANT OR RESPONSIBLE ENTITY (INCLUDING THE TOWNSHIP ENGINEER FOR DEDICATED FACILITIES) ON THE FOLLOWING BASIS:
   (1) ANNUALLY FOR THE FIRST FIVE YEARS.
   (2) ONCE EVERY THREE YEARS THEREAFTER.
   (3) DURING OR IMMEDIATELY AFTER THE CESSATION OF A ONE-HUNDRED-YEAR OR GREATER STORM EVENT.
3. THE PROFESSIONAL ENGINEER CONDUCTING THE INSPECTION SHALL BE REQUIRED TO SUBMIT A WRITTEN REPORT TO THE TOWNSHIP WITHIN ONE MONTH FOLLOWING COMPLETION OF THE INSPECTION. THE REPORT WILL PRESENT DOCUMENTATION AND INCLUDE PICTURES REGARDING THE CONDITION OF THE FACILITY AND RECOMMEND NECESSARY REPAIRS, IF NEEDED. ANY NEEDED REPAIRS SHALL BE IMPLEMENTED BY THE OWNER WITHIN ONE MONTH OF THE REPORT ISSUANCE DATE.

ALTERATION OF BMP'S:

1. NO PERSON SHALL MODIFY, REMOVE, FILL, LANDSCAPE, ALTER, OR IMPAIR THE EFFECTIVENESS OF ANY STORMWATER BMP'S, CONVEYANCES, FACILITIES, AREAS OR STRUCTURES UNLESS THE ACTIVITY IS PART OF AN APPROVED MAINTENANCE PROGRAM, WITHOUT THE WRITTEN APPROVAL OF THE MUNICIPALITY.
2. NO PERSON SHALL PLACE ANY STRUCTURE, FILL, LANDSCAPING, ADDITIONAL VEGETATION, YARD WASTE, BRUSH CUTTINGS, OR OTHER WASTE OR DEBRIS INTO A BMP OR CONVEYANCE, OR WITHIN A STORMWATER EASEMENT, THAT WOULD LIMIT OR ALTER THE FUNCTIONING OF THE STORMWATER BMP OR CONVEYANCE, WITHOUT THE WRITTEN APPROVAL OF THE MUNICIPALITY.

ACKNOWLEDGEMENT OF RESPONSIBILITY

ON THIS, THE ___ DAY OF _____, 20___, BEFORE ME, THE SUBSCRIBER, PERSONALLY APPEARED _____

_____, KNOWN TO ME OR SATISFACTORILY PROVEN TO BE THE PERSON(S) OR ORGANIZATION WHO, DULY SWORN ACCORDING TO LAW, DEPOSE AND SAY THAT THEY ARE THE OWNERS OF THE PROPERTY SHOWN ON THIS PLAN, AND THAT THEY ACKNOWLEDGE THAT STORMWATER BMP'S ARE PERMANENT FEATURES THAT CAN BE ALTERED AND REMOVED ONLY AFTER APPROVAL BY THE DEP, THE CHESTER COUNTY CONSERVATION DISTRICT AND THE TOWNSHIP

WITNESS MY HAND AND SEAL THE DAY AND DATE ABOVE WRITTEN.

_____
PRINT

_____
SIGNATURE OF OWNER

_____
NOTARY PUBLIC

COUNTY: _____

MY COMMISSION EXPIRES:

_____

PROJECT WASTE NOTE - 102.4(b)(5)(xi)

THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIAL AND WASTED IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ. AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

HIGH QUALITY-TROUT STOCKING WATERSHED NOTES:

- THE PROJECT IS LOCATED IN A HIGH QUALITY-TROUT STOCKING WATERSHED. THE SPECIAL PROTECTION WATERS IMPLEMENTATION HANDBOOK BEST MANAGEMENT PRACTICES APPLY TO ALL NEW NON-AGRICULTURAL ACTIVITIES/PROJECTS RESULTING IN AN EARTH DISTURBANCE ON HIGH QUALITY OR EXCEPTIONAL VALUE WATERSHEDS. IMPLEMENTATION OF THESE PRACTICES AND THE ADDITIONAL REQUIREMENTS FOR SPECIFIC ACTIVITIES LISTED IN THE HANDBOOK PLUS SELECTED STORMWATER MANAGEMENT PRACTICES DESCRIBED IN SECTION TWO OF THE HANDBOOK CONSTITUTE APPROPRIATE, REASONABLE AND COST EFFECTIVE BEST MANAGEMENT PRACTICES FOR NON-POINT SOURCE CONTROL. PERSONS ENGAGED IN THESE LAND DISTURBANCE ACTIVITIES ARE EXPECTED TO COMPLY WITH BOTH THE GENERAL AND PROGRAM SPECIFIC REQUIREMENTS LISTED IN THIS APPENDIX.
- THE PROJECT IS IN HIGH QUALITY-TROUT STOCKING STREAM DESIGNATION. EXTREME CARE SHOULD BE EXERCISED IN ALL DISTURBANCE ACTIVITIES TO PREVENT DEGRADATION TO THE WATERS OF THE COMMONWEALTH.
- BECAUSE THIS PROJECT IS IN A SPECIFICALLY PROTECTED HIGH QUALITY OR EXCEPTIONAL VALUE WATERSHED, UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES, THE PROJECT SITE MUST BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

THERMAL IMPACTS NOTE - 102.4(b)(5)(xii)

THERMAL IMPACTS ARE BEING MITIGATED DURING CONSTRUCTION PHASE BY ROUTING CONSTRUCTION RUNOFF THROUGH PERIMETER EROSION CONTROL MEASURES, IE. COMPOST FILTER SOCKS WHICH ALLOWS FURTHER COOLING BEFORE ENTERING SURFACE WATERS.

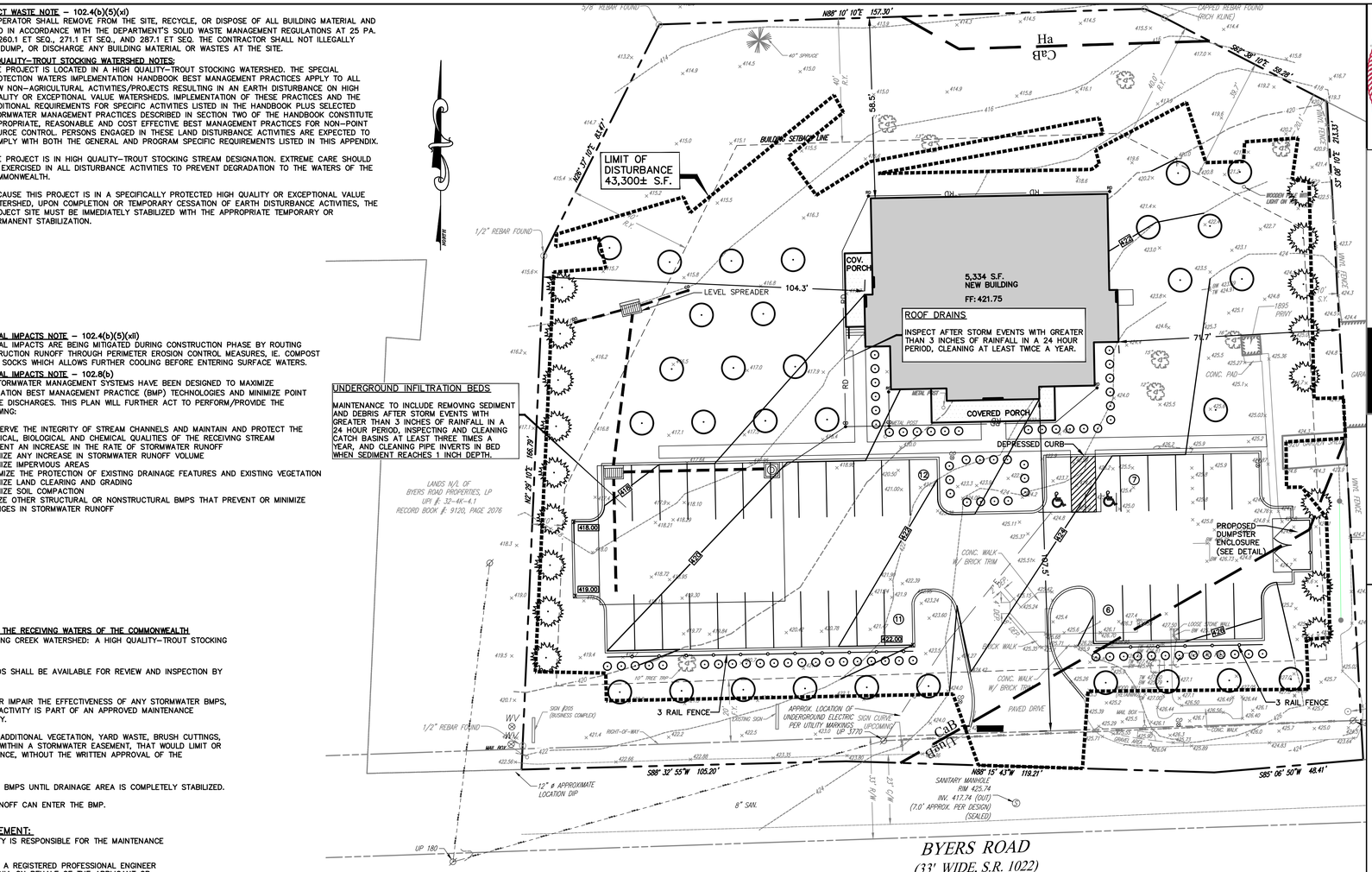
THERMAL IMPACTS NOTE - 102.8(b)

THE STORMWATER MANAGEMENT SYSTEMS HAVE BEEN DESIGNED TO MAXIMIZE INFILTRATION BEST MANAGEMENT PRACTICE (BMP) TECHNOLOGIES AND MINIMIZE POINT SOURCE DISCHARGES. THIS PLAN WILL FURTHER ACT TO PERFORM/PROVIDE THE FOLLOWING:

- PRESERVE THE INTEGRITY OF STREAM CHANNELS AND MAINTAIN AND PROTECT THE PHYSICAL, BIOLOGICAL AND CHEMICAL QUALITIES OF THE RECEIVING STREAM
- PREVENT AN INCREASE IN THE RATE OF STORMWATER RUNOFF
- MINIMIZE ANY INCREASE IN STORMWATER RUNOFF VOLUME
- MINIMIZE IMPERVIOUS AREAS
- MAXIMIZE THE PROTECTION OF EXISTING DRAINAGE FEATURES AND EXISTING VEGETATION
- MINIMIZE LAND CLEARING AND GRADING
- MINIMIZE SOIL COMPACTION
- UTILIZE OTHER STRUCTURAL OR NONSTRUCTURAL BMPS THAT PREVENT OR MINIMIZE CHANGES IN STORMWATER RUNOFF

UNDERGROUND INFILTRATION BEDS

MAINTENANCE TO INCLUDE REMOVING SEDIMENT AND DEBRIS AFTER STORM EVENTS WITH GREATER THAN 3 INCHES OF RAINFALL IN A 24 HOUR PERIOD, INSPECTING AND CLEANING CATCH BASINS AT LEAST THREE TIMES A YEAR, AND CLEANING PIPE INVERTS IN BED WHEN SEDIMENT REACHES 1 INCH DEPTH.



CATCH BASIN INSERT MAINTENANCE NOTES:

RECOMMENDED FREQUENCY OF SERVICE:

DRAINAGE PROTECTION SYSTEMS (DPS) RECOMMENDS THAT INSTALLED CATCH BASIN INSERT FILTERS BE SERVICED ON A RECURRING BASIS. ULTIMATELY, THE FREQUENCY DEPENDS ON THE AMOUNT OF RUNOFF, POLLUTANT LOADING AND INTERFERENCE FROM DEBRIS (LEAVES, VEGETATION, CANS, PAPER, ETC.); HOWEVER, IT IS RECOMMENDED THAT EACH INSTALLATION BE SERVICED A MINIMUM OF THREE TIMES PER YEAR, WITH A CHANGE OF FILTER MEDIUM ONCE PER YEAR. DPS TECHNICIANS ARE AVAILABLE TO DO AN ON-SITE EVALUATION, UPON REQUEST.

RECOMMENDED TIMING OF SERVICE:

DPS GUIDELINES FOR THE TIMING OF SERVICE ARE AS FOLLOWS:

1. FOR AREAS WITH WINTER SNOW AND SUMMER RAIN: PRIOR TO AND JUST AFTER THE SNOW SEASON AND DURING THE SUMMER RAIN SEASON.

SERVICE PROCEDURES:

1. THE CATCH BASIN GRATE SHALL BE REMOVED AND SET TO ONE SIDE. THE CATCH BASIN SHALL BE VISUALLY INSPECTED FOR DEFECTS AND POSSIBLE ILLEGAL DUMPING. IF ILLEGAL DUMPING HAS OCCURRED, THE PROPER AUTHORITIES AND PROPERTY OWNER REPRESENTATIVE SHALL BE NOTIFIED AS SOON AS PRACTICABLE.
2. USING AN INDUSTRIAL VACUUM, THE COLLECTED MATERIALS SHALL BE REMOVED FROM THE LINER. (NOTE: DPS USES A TRUCK-MOUNTED VACUUM FOR SERVICING CATCH BASIN INSERTS.)
3. WHEN ALL OF THE COLLECTED MATERIALS HAVE BEEN REMOVED, THE FILTER MEDIUM POUCHES SHALL BE REMOVED BY UNSNAPPING THE TETHER FROM THE D-RING AND SET TO ONE SIDE. THE FILTER LINER, GASKETS, STAINLESS STEEL FRAME AND MOUNTING BRACKETS, ETC. SHALL BE INSPECTED FOR CONTINUED SERVICEABILITY. MINOR DAMAGE OR DEFECTS FOUND SHALL BE CORRECTED ON-THE-SPOT AND A NOTATION MADE ON THE MAINTENANCE RECORD. MORE EXTENSIVE DEFICIENCIES THAT AFFECT THE EFFICIENCY OF THE FILTER (TORN LINER, ETC.), IF APPROVED BY THE CUSTOMER REPRESENTATIVE, WILL BE CORRECTED AND AN INVOICE SUBMITTED TO THE REPRESENTATIVE ALONG WITH THE MAINTENANCE RECORD.
4. THE FILTER MEDIUM POUCHES SHALL BE INSPECTED FOR DEFECTS AND CONTINUED SERVICEABILITY AND REPLACED AS NECESSARY AND THE POUCH TETHERS RE-ATTACHED TO THE LINER'S D-RING. SEE BELOW.
5. THE GRATE SHALL BE REPLACED.

REPLACEMENT AND DISPOSAL OF EXPOSED FILTER MEDIUM AND COLLECTED DEBRIS

THE FREQUENCY OF FILTER MEDIUM POUCH EXCHANGE WILL BE IN ACCORDANCE WITH THE EXISTING DPS-CUSTOMER MAINTENANCE CONTRACT. DPS RECOMMENDS THAT THE MEDIUM BE CHANGED AT LEAST ONCE PER YEAR. DURING THE APPROPRIATE SERVICE, OR IF SO DETERMINED BY THE SERVICE TECHNICIAN DURING A NON-SCHEDULED SERVICE, THE FILTER MEDIUM POUCHES WILL BE REPLACED WITH NEW POUCHES. ONCE THE EXPOSED POUCHES AND DEBRIS HAVE BEEN REMOVED, DPS HAS POSSESSION AND MUST DISPOSE OF IT IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL AGENCY REQUIREMENTS.

DPS ALSO HAS THE CAPABILITY OF SERVICING ALL MANNER OF CATCH BASIN INSERTS AND CATCH BASINS WITHOUT INSERTS, UNDERGROUND OIL/WATER SEPARATORS, STORMWATER INTERCEPTORS AND OTHER SUCH DEVICES. ALL DPS PERSONNEL ARE HIGHLY QUALIFIED TECHNICIANS AND ARE CONFINED SPACE TRAINED AND CERTIFIED. CALL US AT (888) 950-8826 FOR FURTHER INFORMATION AND ASSISTANCE.

PCSM REPORTING AND RECORDKEEPING

THE PCSM PLAN, INSPECTION REPORTS AND MONITORING SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE MUNICIPALITY.

CONSTRUCTION OVERSIGHT REQUIREMENTS

THE PERMITTEE SHALL PROVIDE PROFESSIONAL ENGINEERING OVERSIGHT FOR ANY CONSTRUCTION SEQUENCE DESIGNATED AS A CRITICAL PHASE" IN ORDER TO ENSURE PROPER INSTALLATION. A LICENSED PROFESSIONAL ENGINEER KNOWLEDGEABLE IN THE DESIGN & CONSTRUCTION OF STORMWATER BMPS, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.

OWNER	SITE INFORMATION
9 COFFMAN ASSOCIATES, LP	211 BYERS RD
211 BYERS RD	TAX MAP: 32-4K-4
CHESTER SPRINGS, PA 19425	DB/PG: 7355/455

STORMWATER MANAGEMENT OPERATION & MAINTENANCE STATEMENT

UNDER AND SUBJECT, NEVERTHELESS, TO THE FOLLOWING CONDITIONS AND RESTRICTIONS: PRIOR TO THE CONSTRUCTION OF A DWELLING OR ANY OTHER EARTHMOVING ACTIVITIES, THE PROPERTY OWNER SHALL CONSTRUCT THE PERMANENT STORMWATER MANAGEMENT FACILITIES AS SHOWN ON THE STORMWATER MANAGEMENT PLAN PREPARED BY LINN ARCHITECTS DATED DECEMBER 9, 2022 AND APPROVED BY UPPER UWCHLAN TOWNSHIP; THEREAFTER, THE PROPERTY OWNER, HIS HEIRS, EXECUTORS, ADMINISTRATORS, SUCCESSORS, AND ASSIGNS ("OWNER"), AT HIS OR HER SOLE COST OF EXPENSE, SHALL OPERATE, MAINTAIN AND REPAIR SAID STORMWATER MANAGEMENT FACILITIES ON THE LOT IN ACCORDANCE WITH SAID PLAN, SO THAT THE FACILITIES SHALL AT ALL TIMES CONTINUE TO OPERATE AND FUNCTION IN THE SAME MANNER AND CAPACITY AS THEY WERE DESIGNED. IN THE EVENT OF THE FAILURE OF THE OWNER TO COMPLY WITH THESE CONDITIONS AND RESTRICTIONS, UPPER UWCHLAN TOWNSHIP SHALL HAVE SAID STORMWATER MANAGEMENT FACILITIES REPAIRED OR RESTORED AS REQUIRED, AND THE COST THEREOF SHALL BE ASSESSED TO THE OWNER; SAID ASSESSMENT SHALL BE A CHARGE AND A CONTINUING LIEN UPON THE PROPERTY HEREIN. THE TOWNSHIP BEFORE IT MAY EXERCISE THIS RIGHT, SHALL NOTIFY THE OWNER BY CERTIFIED MAIL OF ITS INTENTION TO TAKE THE AFOREMENTIONED ACTION. THE NOTICE SHALL SET FORTH IN WHAT MANNER THE OWNER HAS NEGLECTED THE OPERATION AND MAINTENANCE OF OR REPAIR TO THE STORMWATER MANAGEMENT FACILITIES, AND IF THE OWNER FAILS TO CORRECT OR REPAIR THE ITEMS LISTED IN THE NOTICE FROM THE TOWNSHIP PRIOR TO THE IDENTIFIED DEADLINE, THEN AND ONLY THEN MAY THE TOWNSHIP EXERCISE THIS RIGHT.

_____
(SIGN) PROPERTY OWNER (PRINT) (DATE)

ENGINEER'S CERTIFICATION

I, _____, ON THIS DATE _____, HEREBY CERTIFY THAT THE DRAINAGE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE UPPER UWCHLAN STORMWATER MANAGEMENT ORDINANCE.

_____
SIGNATURE OF ENGINEER DATE

STORMWATER MANAGEMENT AGREEMENT

I ACKNOWLEDGE THE STORMWATER MANAGEMENT SYSTEM TO BE A PERMANENT FIXTURE THAT CAN BE ALTERED OR REMOVED ONLY AFTER APPROVAL OF A REVISED PLAN BY THE TOWNSHIP.

_____
SIGNATURE DATE

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

LEGEND

EXISTING		PROPOSED
	CONCRETE CURB	
	CONC. SIDEWALK	
	CONC. CROSSWALK	
x x x x	FENCELINE	
	RIGHT OF WAY	
	PROPERTY LINE	
o	IRON PIN	
□	MONUMENT	
x	SPOT GRADES	100.00 x
97	CONTOURS	97
	SIGN	
S S	SANITARY SEWER W/ M.H.	S
	SANITARY SEWER STRUCTURE NO.	30
RD	ROOFDRAIN PIPE	RD
E	ELECTRIC LINE	E
W	WATER LINE	W
G	GAS LINE	G
	UTILITY POLE	
	FIRE HYDRANT	
GV	GAS VALVE	GV
WV	WATER VALVE	WV
CO	CLEAN-OUT	CO
WM	WATER METER	WM
GM	GAS METER	GM
EM	ELECTRIC METER	EM
OHW-E	OVERHEAD WIRE	
	LIMIT OF DISTURBANCE	
	PROJECT AREA	

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JEFFREY N. GENTILE
ENGINEER
No. PE052379E

LINN ARCHITECTS
ARCHITECTURE
ENGINEERING
SITE PLANNING
INTERIOR DESIGN
1140 N. PROVIDENCE ROAD
MEDIA, PENNSYLVANIA 19063
TEL: 610-566-7044
FAX: 610-566-3258

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

FOR

EAGLE ANIMAL HOSPITAL

211 BYERS ROAD

UPPER UWCHLAN TOWNSHIP CHESTER COUNTY, PA

NO.	REVISIONS DESCRIPTION	DATE
1		
2		
3		
4		

DATE: 03.04.24
SCALE: 1"=20'
DRAWN BY: SPP
CHECKED BY: -
PROJ. NO.: 22222

SHEET NO. C-9
SHEET 9 OF 9

Plotted: 3-19-24 @12:03pm By: slinn
F:\Projects\Storage\Project Docs\22222\Civil\dwg\Redesign\C-9 PCSM.dwg[Layout1]

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

April 5, 2024

File No. 23-01086 VIA E-MAIL ONLY

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

Reference: 211 Byers Road – Eagle Animal Hospital
Preliminary Land Development Plan Application Review
Upper Uwchlan Township, Chester County, PA

Dear Tony:

Gilmore & Associates, Inc. (G&A) is in receipt of the following documents:

- Plan set consisting of Nine (9) sheets titled "Eagle Animal Hospital 211 Byers Road," prepared by Linn Architects and dated March 4, 2024.
- Report titled "Preliminary Stormwater Management Report for Eagle Animal Hospital 211 Byers Road," prepared by Linn Architects and dated March 19, 2024.
- Color Renderings of proposed Building dated March 14, 2024.
- Preliminary Land Development Plan Application dated March 19, 2024.

G&A, along with the other Township Consultants, have completed our first review of the above referenced Preliminary land Development Plan Application for compliance with the applicable sections of the Township's Zoning, Subdivision and Land Development, and Stormwater Management Ordinance, and wish to submit the following comments for your consideration.

I. OVERVIEW

The site is approximately 1.40 acres in size and previously contained a two-story building, greenhouse which were lost to fire in the fall of 2023. The site has a paved access drive from Byers Road and is located within the C-1 Village Zoning District.

The Applicant is proposing to construct a new 5,334 SF building and 36 space parking facility to replace the elements which were lost to the fire. An underground stormwater management facility is proposed to manage post construction runoff.

II. TOWNSHIP ZONING OFFICER COMMENTS

No comments at this time.

III. ZONING ORDINANCE REVIEW

1. Sections 200-35.A. - The site is currently serviced by on-lot sewage disposal. The applicant proposes to connect the new building to public sewer.

2. Section 200-36.C(4) – This section states *"To the extent practicable, parking shall not be provided in the front yard."* The proposed plan shows all parking in the front yard. This should be discussed with the Planning Commission.

IV. SUBDIVISION & LAND DEVELOPMENT ORDINANCE REVIEW

1. Section 162-41.B. – The Applicant should discuss with the Planning Commission whether sidewalk should be provided along Byers Road.

2. Section 162-52 – Upon completion of construction, the entire amount of topsoil stripped shall be replaced on the site. No topsoil shall be disposed of, by sale or otherwise, off the site of the construction. Add a note stating same to the Record Plan and the Sequence of Construction.

3. Section 152-58 – A lighting plan should be provided meeting the requirements of this section.

4. 162-57.D.(1). – The "Required Building / Impervious Tree Calculation" table on sheet 4 should be updated to reflect the proposed building size of 5,334 SF.

V. STORMWATER MANAGEMENT ORDINANCE REVIEW

1. Stormwater management is proposed to be handled by a 45'x60' infiltration bed located underneath the proposed parking lot.

2. Please show the "Uncontrolled Area" on the "Proposed Drainage Area Map".

3. Section 152-306.I. – Infiltration testing must be conducted. The applicants engineer indicated this will be completed as part of the final plan submission which is acceptable.

4. We recommend at least a 15" diameter pipe utilized to distribute the runoff through the bed rather than the proposed 10" pipe.

5. Additional information should be provided on the proposed storm piping network. For instance, length, slope, and size of pipes as well as inverts and top of grates for inlets.

6. As stated above, additional information is needed on the proposed system. However, it appears the basin will not be able to drain as the level spreader will be set at an elevation close to the top of the basin. Therefore, in the event there is no infiltration, the basin will remain full of water. This is of particular concern as there are structures immediately downstream which could be adversely affected if the system does not perform as designed. This should be further reviewed following the completion of infiltration testing.

VI. GENERAL COMMENTS

1. The proposed finished floor of the building is indicated to be 421.25', This should be confirmed as that would set the building lower than the grades around it.

2. The grading of the parking area in the area of the ADA parking spaces should be reviewed to ensure runoff will be directed to the infiltration bed rather than towards the building.

VII. TOWNSHIP TRAFFIC CONSULTANT COMMENTS BOWMAN

1. SALDO Section 162-28.A – Based on the plans, Byers Road (S.R. 1022) currently provides a 33-foot (16.5-foot half-width) right-of-way. Since Byers Road is classified as a major collector road, the half-width right-of-way along the site frontage should be 30 feet, and the plans should be revised to show a 30-foot half-width right-of-way along the site frontage. This additional right-of-way should be labeled "Required Right-of-Way (To Be Deeded To Upper Uwchlan Township)".

2. SALDO Section 162-28.A – Byers Road (S.R. 1022) currently provides an approximate 23-foot cartway width along the site frontage with no shoulder area, which does not meet the Township's requirements for a major collector road of 32 feet. However, since Byers Road is a state road, and since no new access or road improvements are proposed in connection with this development, it is our initial opinion that no roadway widening is necessary for this project.

3. SALDO Section 162-41 – As outlined in the Township's Comprehensive Plan, as well as the Township's Active Transportation Plan (ATP), we recommend a five-foot wide sidewalk with a grass buffer be provided along the Byers Road site frontage. In addition, ADA compliant curb ramps should be provided on either side of the site driveway. Detailed curb ramp designs for these curb ramps should be provided for review. The detailed designs should include separate grading details (including spot elevations at all proposed grade changes), and all dimensions for construction, including widths, lengths, and

all slopes. In addition, please label all proposed curb ramp types, and provide the appropriate PennDOT curb ramp details and notes on the detail sheets.

4. ZO Section 200-73.C(3) – The proposed parking aisle width should be increased from 24 feet to 25 feet to meet Township requirements for 90-degree parking spaces.

5. ZO 200-73.H – The Township's parking supply requirements do not specifically outline a parking requirement for veterinary services. However, the parking analysis on sheet 1 shows the parking supply requirements based on the Township's parking supply requirements for office space. We could support this approach, subject to review by the Planning Commission. Also, the parking supply tabulation should be revised to reflect the proposed 5,334 square-foot building, which would require 27 parking spaces. It is noted that 36 parking spaces are proposed.

6. The proposed site improvements are contained within the property and do not extend into the Byers Road right-of-way, and no access improvements are proposed, but rather it is proposed to use the existing site access. As such, the proposed redevelopment does not require a Highway Occupancy Permit from PennDOT. Since there is no change in use with the proposed redevelopment, the existing driveway is acceptable to serve the site, as there is adequate sight distance and we are not aware of any operational issues. However, for informational purposes, we are not aware whether there is an existing PennDOT permit for the current driveway, and if desired, this redevelopment would be an opportunity to improve the driveway to current standards and secure an approved PennDOT permit. Furthermore, a PennDOT permit may be needed for new sidewalk and ADA ramps if located in the right-of-way (comment 3).

7. Chapter 79-8.C – The proposed redevelopment is located in the Township's Act 209 Transportation Service Area, and as such, this development could be subject to the Township's Transportation Impact Fee of $2,334 per weekday afternoon peak hour trip if there is a net increase in the building area and if there is an expected increase in traffic. However, since there is no change in land use (veterinary hospital), it is not clear that a Transportation Impact Fee is applicable to this development. The applicant should review this further with the Township.

Upon resubmission, the applicant's engineer should compose a response letter that describes how each comment has been addressed and where any plan revisions are located. Additional comments may follow upon receipt of future submissions.

VIII. TOWNSHIP LAND PLANNER COMMENTS BRANDYWINE CONSERVANCY

1. The Conservancy acknowledges the unfortunate loss of the Eagle Animal Hospital from fire in November of 2023, an important community amenity and a historic resource (the A.M.F. Stiteler House) within the Byers Station Historic District.

2. The property is located within the nationally recognized Byers Station Historic District, the C-1 Village Zoning District of Upper Uwchlan Township, as well as the Village Planning Area as designated by the 2010 Village Concept Plan, which was later incorporated into the 2014 Upper Uwchlan Comprehensive Plan.

3. The C-1 Village district purpose is to preserve the historical development patterns of the villages of Eagle and Byers and establish standards for new development and coordinated street and landscape improvements and pedestrian amenities, so as to complement the village setting and provide for safe and convenient access; and provide for a variety of uses in a manner which facilities and promotes pedestrian travel within the village setting.

4. As currently proposed, the Brandywine Conservancy feels the design does not meet the purpose as described in the Township’s Zoning Ordinance. The following observations/suggestions are made to help better align the new building with the stated purposes of the Village Zoning District, as well as the aspirations contained within the adopted 2010/14 Village Concept Plan:

    a. As proposed, the building is set back significantly from Byers Road. Historically, and as seen within the Byers Station Historic District, structures were closer to the road.

b. While we recognize that prior to the loss of the building parking was at the front of the lot, the current plans expand that parking area, which increases the disconnect between the building and the street, which is not compatible with a Village setting. The Brandywine suggest seeking alternatives that would bring the building closer to the street (perhaps where it was located prior to its loss) and place additional parking at the rear of the lot. Relocating part, or all, of the parking area will also allow for the dumpster enclosure to be relocated to a less visible location.

5. The recently completed Upper Uwchlan Active Transportation Plan proposes an extension of the existing sidewalk network within Byers Village. The Brandywine Conservancy strongly encourages the owners to provide for the proposed sidewalk extension along Byers Road in front of the property. In addition, any internal sidewalks to the property should then connect to this new sidewalk to provide enhanced pedestrian connections to the animal hospital, to the rest of Byers Village, as well as the ever-increasing trail and sidewalk network within the Township.

6. The Brandywine Conservancy recognizes that the plans meet the plant material number requirements of the Township's Ordinance, however, the Conservancy wonders whether a more diverse and native-driven plant selection can be incorporated into the design. Of the 71 shrubs shown in the plant schedule (there are 13 Ilex shown on the plan, yet the table says 12), only three shrub types are included, with only one of those being native. In addition, besides the winter interest of the winterberry, none of the shrubs suggested provide much seasonal variety or interest.

7. The Brandywine Conservancy also suggests an alternative approach to tree layout for those trees away from property lines and along the street. Assuming a turf grass ground cover, as designed the tree locations could make for cumbersome maintenance during the grass growing season. We suggest seeking an alternative planting plan. One alternative would be to place complimentary trees in clusters within larger planted beds that could also include some of the shrubs proposed or provide more shrub variety on the property. This may also provide open areas on the property to implement Green Stormwater Infrastructure to enhance stormwater management beyond the grey infrastructure proposed.

8. Should a new sidewalk along Byers Road be incorporated into the plans, consideration should be given to the location of the street trees in relation to the sidewalk to provide maximum shade to pedestrians during the hottest part of the year.

IX. TOWNSHIP SEWER CONSULTANT COMMENTS ARRO CONSULTING, INC.

1. The site was previously an animal hospital. Plans proposed the demolition of the existing structures for the construction of the new building (5,334 square foot (SF)) and parking lot. 241 gallon per day (GPD) of capacity has already been purchased for the connection into the Byer Road Sanitary Sewer Main Extension. This capacity appears acceptable, but we recommend that the Township reserve the right to evaluate water usage after the building is opened and require the purchase of additional capacity, if warranted. The required sanitary sewer capacity will need to be clearly shown on Sheet 1 of the plan.

2. The following notes shall be on the plan:

   - The existing on-lot septic system shall be decommissioned in accordance with the Chester County Health Department requirements.

   - The Waste Discharge Note shall also include “The Township personnel and/or agents shall have access to site for implementation of this resolution.”

3. The existing sanitary sewer main within Byers Road should be shown on the plans, also the existing manhole should be identified on the plans as MH-2H.

4. An appropriately sized grease interceptor shall be provided for any proposed kitchen facilities.

5. The necessary financial security shall be posted with the Township, which shall be in a form and amount acceptable to the Township.

X. TOWNSHIP FIRE MARSHALL COMMENTS

1. Please provide the location of fire hydrants that will serve this property, and the distance from the proposed building to the fire hydrant(s).

2 The needed hydrant flow is 2,000 GPM @ 20 PSI residual pressure.

3. The Byers Road entrance and parking lot aisle appear to be adequate for fire truck accessibility.

XI. TOWNSHIP HISTORICAL COMMISSION COMMENTS

As to requirements under Section 200-36, the HC has the following recommendations:

- Although the proposed new building technically appears to comply with the roofline/facade requirements, to the extent practicable, scale back the building front and move that space to the rear of the building where it will not be visible from Byers Road to be more consistent with the size and scale of other historic buildings in Byers Station Historic District

- Use more realistic German siding replica (if available) and, to the extent practicable, duplicate quoins on building front as were on the house and still can be seen on the privy

- Limit the front pent roof to the core.

- To the extent practicable, locate parking in the rear or to the side of the property to preserve the historic feel and character of the area and to be consistent with Eagle and Historic District.

- If the Historical Narrative and Request is intended to be the required historic resources impact statement under Township Ordinance Section 162-9H(5), the Historical Commission requests that the property owner revise the Historical Narrative to comply with the ordinance requirements and resubmit it

to the Historical Commission by adding a timetable for the project (if known); description of the proposed building's impact on the Emeretta Green House and outbuildings (HR #56), the J.H.Todd House and outbuilding (HR #65) and the Woodland House (HR #64) as to architectural integrity, historic setting or landscape and future use; a general description of the effect of noise and traffic and any other impacts generated by the proposed change on each of the preceding historic resources; and recommendations for mitigating the project's impacts on the listed historic resources, including design alternatives, screening, landscaping and any other appropriate measures permitted under the Township's ordinances.

This concludes our review of the above referenced preliminary land development application. We would recommend the plans be revised to address the above referenced comments. If you have any questions, please do not hesitate to contact me.

Sincerely,

David N. Leh

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

cc: Upper Uwchlan Township Planning Commission Members
Upper Uwchlan Township Board of Supervisors
Gwen Jonik – Township Secretary
Rhys Lloyd – Director of Code Enforcement
Anthony Campbell – Zoning Officer
Richard Ruth – Township Fire Marshall
Kristin Camp, Esq. – Buckley, Brion, McGuire, & Morris LLP
Mila Carter, Brandywine Conservancy
Christopher J. Williams, P.E., McMahon Associates, Inc.
G. Mathew Brown, P.E., Upper Uwchlan Township Municipal Authority
David Schlott, P.E., ARRO Consulting, Inc.
9 Coffman Associates, Owners
Adam B. Powell, P.E., Linn Architects

ALYSON M. ZARRO
E-MAIL: alyson@rrhc.com
Ext. 202

RILEY RIPER HOLLIN & COLAGRECO
ATTORNEYS AT LAW

March 11, 2024

Via hand delivery and e-mail

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

Re: Rockhill Real Estate Enterprises XVII LP/500 Pottstown Pike
Conditional Use Application

Dear Tony:

This firm represents Rockhill Real Estate Enterprises XVII LP ("Applicant") in connection with its property located at 500 Pottstown Pike and identified as Chester County UPI No. 32-1-34.1C ("Property"). The Property is current vacant and is zoned C-3 Highway Commercial District. Applicant seeks to construct an approximately 36,380 square foot vehicular service establishment and parking. Applicant also intends to store vehicles on the Property as inventory for local dealerships.

Pursuant to Sections 200-39.B(7), and (9) of the Upper Uwchlan Township Zoning Ordinance ("Zoning Ordinance"), the Applicant must obtain conditional use approval to operate the proposed vehicular sales establishment and vehicular service establishment uses, respectively. Additionally, Section 200-39.B(1) of the Zoning Ordinance requires conditional use approval to operate any two or more principal uses permitted by right, conditional use, or special exception. Lastly, manmade precautionary steep slopes affect a portion of the proposed vehicle service center on the Property, which necessitates conditional use approval pursuant to Sections 200-107.D(3)(b)[1] and [4] of the Zoning Ordinance. Therefore, Applicant is hereby submitting its conditional use application ("Application") seeking approval for such uses.

Enclosed for filing in connection with the Application are the following materials:

1. One (1) copy of the Conditional Use Application form with the attached Addendum;
2. Four (4) copies of the Conditional Use Plan prepared by T&M Associates, dated February 16, 2023;

3. Three (3) copies of a Transportation Impact Assessment prepared by Traffic Planning and Design, Inc., dated March 4, 2024;
4. Three (3) copies of a TIS Scoping Review Response prepared by Traffic Planning & Design, Inc. dated March 4, 2024;
5. Three (3) copies of a Fiscal Impact Analysis prepared by EH Creative Services LLC dated March 4, 2024; and
6. A check in the amount of $1,000.00 made payable to Upper Uwchlan Township, the Conditional Use Application fee.

A link to download electronic copies of all materials submitted with this Application has been included with the email version of this letter.

Section 200-117.I of the Zoning Ordinance requires submission of certain impact statements in connection with Conditional Use Applications. Section 200-117.I incorporates Section 162-9.H of the Subdivision and Land Development Ordinance, which in Subsection (1)(c) allows the Board of Supervisors to waive the requirements of impact statements if they are determined not to be applicable. In this instance, the property identified as UPI No. 32-1-31 to the west of the Property is listed as a Class II Historic Resource on the Upper Uwchlan Township Historic Resources Inventory. The proposed development is not anticipated to have any impact on the historic resource, as the service facility will be located more than 200 feet from the historic structure and the properties are separated by Pottstown Pike, a major thoroughfare. To the extent that an historic resource impact study would be required, Applicant is seeking a waiver of this requirement.

Kindly forward the enclosed materials to the Township Consultants and Township Planning Commission for review.

As always, please feel free to contact us with any questions or if you need additional information. Thank you for your attention to this matter.

Very truly yours,

/s/ *Alyson M. Zarro*

ALYSON M. ZARRO

AMZ/cpw
Enclosures

cc: Kristin Camp, Esquire, Township Solicitor *(via email w/enclosures)*
Gwen Jonik, Township Secretary *(via email w/enclosures)*

Robert DiStanislao, RDS *(via email w/enclosures)*
Keith Lieberman, P.E., T&M Associates *(via email w/enclosures)*
Jacob Tackett, T&M Associates *(via email w/enclosures)*
Matt Hammond, P.E., TPD *(via email w/enclosures)*
Erik Hetzel, EH Creative *(via email w/enclosures)*
Cameron P. Wolfson, Esquire, *(via email w/enclosures)*

UPPER UWCHLAN TOWNSHIP
140 Pottstown Pike
Chester Springs, PA 19425
610-458-9400 Fax 610-458-0307

CONDITIONAL USE APPLICATION

Tax Parcel Number: 32-1-34.1C Date: March 11, 2024

Name of Applicant: Rockhill Real Estate Enterprises XVII LP

Address: 4005 West Chester Pike, Newtown Square, PA 19073

Telephone: _____ Email: rd@rdsautogroup.com

Owner of Parcel: Rockhill Real Estate Enterprises XVII LP

Address / Location of Parcel: 500 Pottstown Pike

Zoning District: C-3 Highway Commercial Existing Use: Vacant

Article / Section Authorizing Conditional Use: §§ 200-39.B(1), (7), and (9) and §§ 200-107.D(3)(b)[1] and [4]

Description of Proposed Conditional Use: See addendum.

This Application shall be accompanied by:

1. A fee of $500.00 for Non-Commercial or $1,000.00 for Commercial/Industrial;
2. Four (4) printed copies and an electronic copy of:
   - parcel plot plans (half of which can be of reduced size, i.e. 11 x 17)
3. Three (3) printed copies and an electronic copy of:
   - impact statements (if applicable pursuant to the Township's Zoning Ordinance §200-83),
   - and any other information pursuant to Zoning Ordinance §200-116, §200-117 (Conditional Uses, Conditional Use Standards).

- The Applicant will be responsible for reimbursing the Township for Consultants' Fees and Legal Fees, and if additional Hearings are necessary, a Fee will be charged for each Additional Hearing: Non-Commercial $250.00/Hearing; Commercial/Industrial $500.00/Hearing

I hereby depose and say that all of the above statements, and the statements contained in any papers submitted herewith, are true to the best of my knowledge and belief.

_____
Printed Name of Applicant

_____
Signature of Applicant
Alyson M. Zarro, Esq., Attorney/Authorized Agent for Applican

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF CHESTER
Sworn to and subscribed before me this
11th day of March, 2024.

_____
Notary Public

Commonwealth of Pennsylvania - Notary Seal
CARLA CAPONE - Notary Public
Chester County
My Commission Expires September 23, 2024
Commission Number 1022933

Form Revised August 2021

500 POTTSTOWN PIKE CONDITIONAL USE APPLICATION ADDENDUM

March 11, 2024

Rockhill Real Estate Enterprises XVII LP ("Applicant") is the owner of an approximately 13.79 acre property located at 500 Pottstown Pike and further identified as Chester County UPI No. 32-1-34.1C ("Property"). The Property is situated east of the intersection of Pottstown Pike (S.R. 0100) and Font Road and is zoned C-3 Highway Commercial District. The Property is a vacant lot, which was previously used as a tank farm, and is surrounded by existing commercial and industrial uses.

Applicant requests conditional use approval to operate vehicular sales and service uses on the Property, pursuant to Sections 200-39.B(7) and (9) of the Upper Uwchlan Township Zoning Ordinance ("Zoning Ordinance"). Specifically, Applicant plans to construct an approximately 36,380 square foot vehicle service center with associated parking and stormwater management facilities, as shown on the enclosed Conditional Use Plan prepared by T&M Associates, dated February 16, 2023, consisting of six (6) sheets ("Plan"). Additionally, Applicant proposes to install additional paved parking areas to store vehicles on the Property as inventory for off-site local dealerships owned by RDS Automotive Group. Therefore, 415 parking spaces are proposed for both uses. Access to the site is proposed through a single access driveway connecting to Pottstown Pike. This driveway is aligned with the existing intersection of Pottstown Pike and Font Road.

As noted above, vehicular sales and service establishments are permitted by conditional use in the C-3 District, in accordance with Sections 200-39.B(7) and (9). Additionally, Section 200-39.B(1) requires conditional use approval for any two or more principal uses otherwise permitted by right, conditional use, or special exception. Therefore, Applicant is requesting conditional use approval from Sections 200-39.B(1), (7), and (9) of the Zoning Ordinance to operate vehicular sales and service establishments on the Property.

The Property is also affected by manmade precautionary and prohibitive steep slopes, as shown on Sheet 3 of the Plan. A portion of the proposed service center and sanitary and storm sewers are located within the existing manmade precautionary slopes. Accordingly, Applicant is requesting conditional use approval from Sections 200-107.D(3)(b)[1] and [4] of the Zoning Ordinance to construct a portion vehicle service center and install sanitary and storm sewers in the manmade precautionary steep slopes. Sheet 3 of the Plan also identifies uses within manmade prohibitive steep slope areas. Applicant intends to seek variance relief from the appropriate sections of the Zoning Ordinance for disturbance of and uses in the manmade prohibitive steep slope areas.

GRAPHIC SCALE

200' 100' 0 100' 200'

(IN FEET)

1 inch = 200 ft.

NO.	DATE	REVISIONS	BY	CHKD

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL KEITH A. LIEBERMAN ENGINEER No. 056901

KEITH A. LIEBERMAN, P.E.
LICENSED PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. 056901-E

DATE

RDS AUTOMOTIVE GROUP

PORSCHE SERVICE: CHESTER SPRINGS
500 POTTSTOWN PIKE, CHESTER SPRINGS, PA. 19425|UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PA

CONDITIONAL USE PLANS:
GENERAL LOCATION PLAN

YOUR GOALS. OUR MISSION.

1700 MARKET STREET, SUITE 3110
PHILADELPHIA, PA 19103
TEL 215-282-7850
FAX 215-627-3459
www.tandmassociates.com

OFFICES LOCATED IN:
DELAWARE, INDIANA, KENTUCKY, MASSACHUSETTS, MICHIGAN, NEW JERSEY, OHIO AND PENNSYLVANIA

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DRAWN BY	SEE
DATE	02/16/2023
SCALE	AS SHOWN
PROJ. NO.	PORS00021
DRAWING	LOC
SHEET	1 OF 6

PROJECT INFORMATION:
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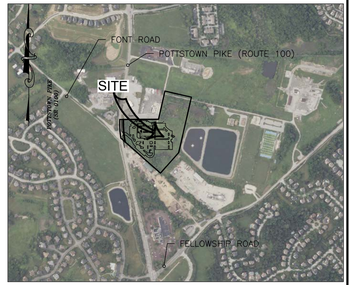

LOCATION MAP
SCALE: 1"=300'

GENERAL NOTES:

1. RECORD OWNER:
   ROCKHILL REAL ESTATE ENTERPRISES XVII LP
2. SOURCE OF TITLE: DEED BOOK 7070, PAGE 1552 & PLAN BOOK 16231, PAGE 1
3. TAX PARCEL (APN): 32-1-34.1C
4. LOT AREA: GROSS: 600,739 SF (13.79 AC)
   AREA WITHIN R/W: 7,768 SF (0.18 AC)
   NET: 592,971 SF (13.61 AC)
5. EXISTING FEATURES ARE SHOWN ON THE PLANS AND TAKEN FROM THE PLAN "ALTA/NSPS LAND TITLE SURVEY CHESTER SPRINGS VENTURES, LLC" BY ASH ASSOCIATES, INC. LAST REVISED 10/11/22.
6. VERTICAL DATUM IS NAVD 1988 AND ESTABLISHED BY GPS OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK. SITE BENCHMARK IS A METAL SPIKE SET AS SHOWN. SITE BENCHMARK ELEVATION=509.22'.
7. HORIZONTAL DATUM IS NAD 83, STATE PLANE COORDINATES OF PENNSYLVANIA AND ESTABLISHED GPS OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK. BOTH DEED BEARINGS AND NAD 83 PENNSYLVANIA STATE PLANE BEARINGS ARE SHOWN. PARENTHESIS ( ) INDICATES DEED BEARINGS.
8. THE SITE IS INTENDED TO BE SERVICED BY PUBLIC WATER AND SEWER

REFERENCE PLANS:

1. REFERENCE PLAN: LOT 3 ON "TITLE PLAN, FINAL MINOR SUBDIVISION PLAN FOR TOLL BROS., INC.", PREPARED BY COMMONWEALTH ENGINEERS, INC., DATED FEBRUARY 2, 2001, LAST REVISED MARCH 11, 2002 AND RECORDED IN THE CHESTER COUNTY RECORDER OF DEEDS AS PLAN BOOK 16231, PAGE 1 ON MAY 30, 2002.
2. "FINAL PLAN, TITLE PLAN, REIFSNEIDER TRANSPORTATION, INC.", PREPARED BY HARRY STRONG ENG. & LAND SURVEYING, DATED DECEMBER 3 1997, LAST REVISED JANUARY 27, 1998 AND RECORDED IN THE CHESTER COUNTY RECORDER OF DEEDS AS PLAN BOOK 14828, PAGE 1.
3. "SITE PLAN, FELLOWSHIP FIELDS", PREPARED BY TAYLOR WISEMAN & TAYLOR, AND RECORDED IN THE CHESTER COUNTY RECORDER OF DEEDS AS BOOK 9186, PAGE 876.
4. "PRELIMINARY/FINAL LAND DEVELOPMENT PLAN, LAND DEVELOPMENT PLAN OVERALL TRACT" PREPARED BY HARRIS COMMUNICATIONS DIVISION, AND RECORDED IN THE CHESTER COUNTY RECORDER OF DEEDS AS PLAN BOOK 19822, PAGE 1.
5. "PROPOSED WAREHOUSE BUILDING, PLAN OF PROPERTY FOR F. BRIAN FORCINE", PREPARED BY JMR ENGINEERING, LLC, DATED AUGUST 18, 2017, AND RECORDED IN THE CHESTER COUNTY RECORDER OF DEEDS AS PLAN BOOK 20216, PAGE 1.
6. "MINOR LAND DEVELOPMENT PLAN FOR DUKE ENERGY GAS TRANSMISSION, GENERAL SITE PLAN", PREPARE BY COMMONWEALTH ENGINEERS, INC., DATED SEPTEMBER 5, 2000, LAST REVISED MARCH 13, 2001, AND RECORDED IN THE CHESTER COUNTY RECORDER OF DEEDS AS PLAN BOOK 15752, PAGE 1.

LEGEND

- PROPERTY LINE
- ULTIMATE RIGHT OF WAY
- EXISTING TREELINE
- POTENTIAL WWETLAND AREA PENDING USACE REVIEW
- EPHEMERAL STORMWATER DITCH
- SOIL BOUNDARY
- SOIL TYPE
- PRECAUTIONARY SLOPES (15%-25%)
- PROHIBITIVE SLOPES (+25%)

GRAPHIC SCALE
60' 30' 0 60' 120'
(IN FEET)
1 inch = 60 ft.

NO.	DATE	REVISIONS	BY	CHKD

COMMONWEALTH OF PENNSYLVANIA
KEITH A. LIEBERMAN
REGISTERED PROFESSIONAL
ENGINEER
No. 056901-E

KEITH A. LIEBERMAN, P.E.
LICENSED PROFESSIONAL ENGINEER
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. 056901-E
DATE

RDS AUTOMOTIVE GROUP

PORSCHE SERVICE: CHESTER SPRINGS
500 POTTSTOWN PIKE CHESTER SPRINGS, PA 19425/UPPER UWCHLAN TOWNSHIP CHESTER COUNTY, PA

CONDITIONAL USE PLANS:
EXISTING CONDITIONS

YOUR GOALS. OUR MISSION.
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SHEET	2 OF 6

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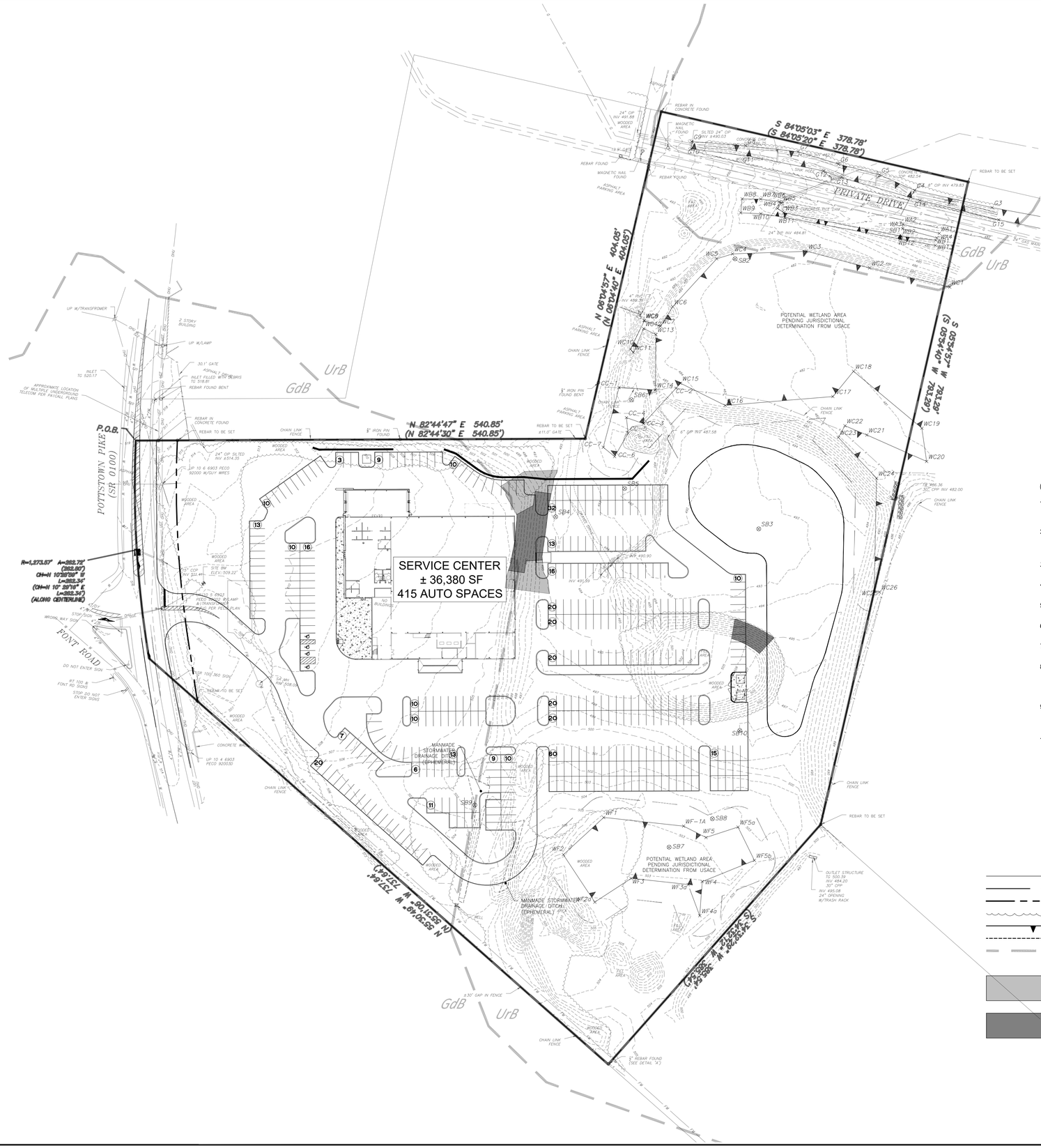

GENERAL NOTES:

1. EXISTING FEATURES ARE SHOWN ON THE PLANS AND TAKEN FROM THE PLAN "ALTA/NSPS LAND TITLE SURVEY CHESTER SPRINGS VENTURES, LLC" BY ASH ASSOCIATES, INC. LAST REVISED 10/11/22.
2. DUE TO THE PREVIOUS DEVELOPMENT, THERE ARE STEEP SLOPES ONSITE. PRECAUTIONARY AND PROHIBITIVE STEEP SLOPES ARE ENTIRELY MANDMADE AS A RESULT OF PREVIOUS CUTTING AND FILLING ACTIVITIVES. A VARIANCE WILL BE SOUGHT FOR DEVELOPMENT WITHIN PROHIBITIVE STEEP SLOPES.
3. THE SITE ULTIMATELY DRAINS TO PICKERING CREEK, WHICH IS A HIGH QUALITY WATERCOURSE.
4. NO AREAS ONSITE IDENTIFIED IN A FLOODPLAIN DISTRICT. ENTIRE SITE IS LOCATED IN FLOOD ZONE X PER MAP 42029C0090G, EFFECTIVE 9/29/2017.
5. ALLUVIAL SOILS ARE NOT ANTICIPATED ONSITE, SOILS ONSITE CONSIST OF URBAN LAND AND GLADSTONE GRAVELLY LOAM (3–8% SLOPES).
6. NO WATERBODIES OR WATERCOURSE ARE LOCATED ONSITE.EXISTING MANMADE DRAINAGE FEATURES ONSITE HAVE BEEN IDENTIFIED ON THE PLANS.
7. AREAS IDENTIFIED AS WETLANDS ONSITE, ARE PENDING A JURISDICTIONAL DETERMINATION BY THE USACE.
8. DEPTH TO GROUNDWATER FOR GLADSTONE GRAVELLY LOAM (3–8% SLOPES) IS TYPICALLY MORE THAN 6.5 FEET. DEPTH TO GROUNDWATER IN URBAN LAND IS DOES NOT HAVE A STANDARD TYPICAL DEPTH TO GROUNDWATER. HOWEVER, PRELIMINARY PERCOLATION TESTING YIELDED RESULTS OF HIGH GROUNDWATER. INFILTRATION TESTING HAS NOT BEEN COMPLETED TO DATE.
9. THE SITE IS IN A GRAPHITIC FELSIC GNEISS, AMPHIBOLITE FACIES ROCK FORMATION AND NOT LOCATED WITHIN A FAULT ZONE, PER THE GEOLOGIC FORMATIONS, CHESTER COUNTY PLANNING COMMISSION MAP SERIES, PREPARED BY THE CHESTER COUNTY PLANNING COMMISSION, 2001.
10. THERE ARE NO KNOWN HISTORIC RESOURCES, TRAILS, OR PATHS ON THE SITE

LEGEND

- PROPERTY LINE
- ULTIMATE RIGHT OF WAY
- EXISTING TREELINE
- POTENTIAL WWETLAND AREA PENDING USACE REVIEW
- EPHEMERAL STORMWATER DITCH
- SOIL BOUNDARY
- SOIL TYPE
- PRECAUTIONARY SLOPES (15%–25%)
- PROHIBITIVE SLOPES (+25%)

GRAPHIC SCALE

60' 30' 0 60' 120'

(IN FEET)

1 inch = 60 ft.

NO.	DATE	REVISIONS	BY	CHKD

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL KEITH A. LIEBERMAN ENGINEER No. 056901-E

KEITH A. LIEBERMAN, P.E.
LICENSED PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA DATE
LICENSE NO. 056901-E

RDS AUTOMOTIVE GROUP

PORSCHE SERVICE: CHESTER SPRINGS
500 POTTSTOWN PIKE, CHESTER SPRINGS, PA. 19425/UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PA

CONDITIONAL USE PLANS:
SITE ANALYSIS AND MPACT PLAN

YOUR GOALS. OUR MISSION.

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PHILADELPHIA, PA 19103
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FAX 215-627-3459
www.tandmassociates.com

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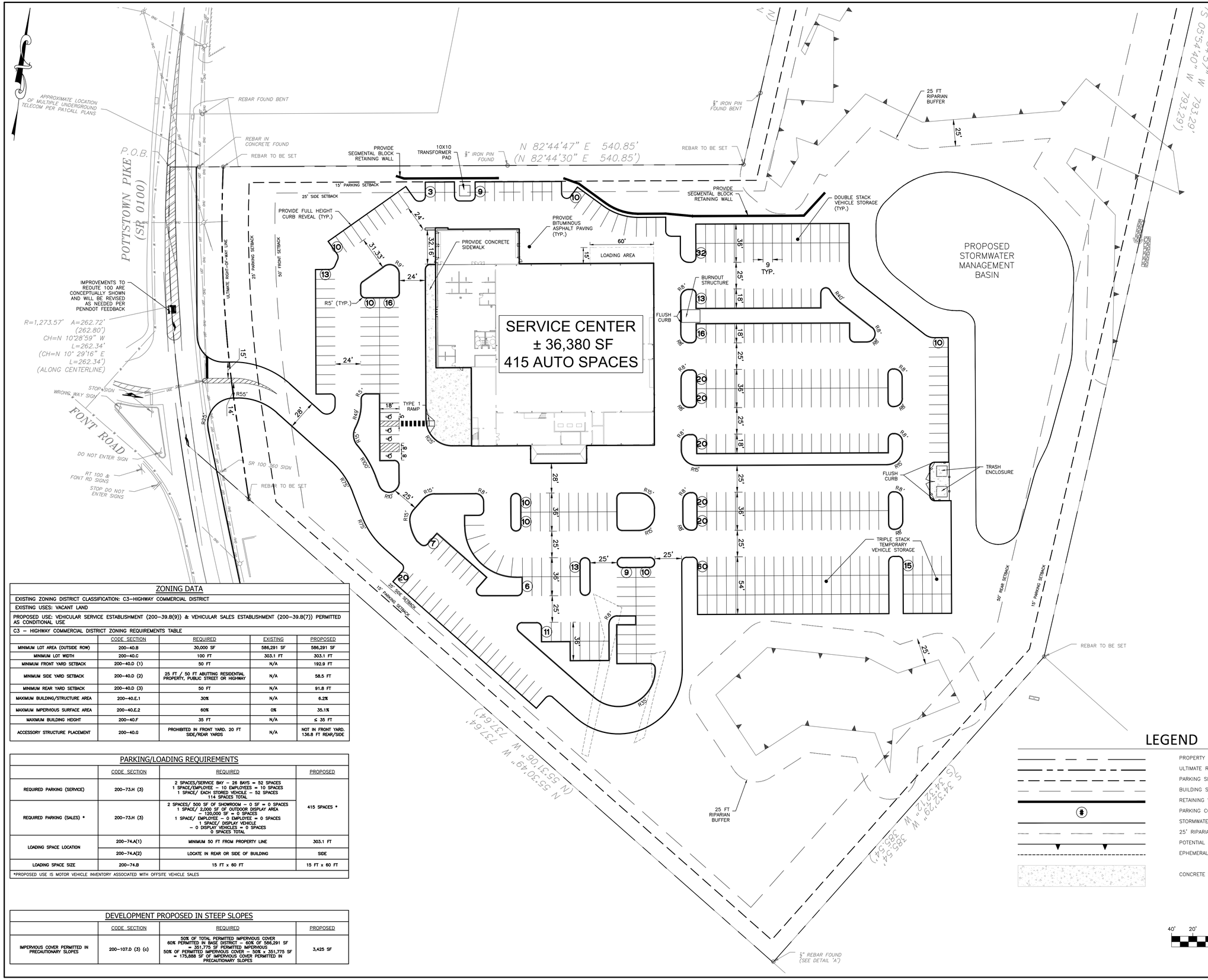

ZONING DATA

EXISTING ZONING DISTRICT CLASSIFICATION: C3–HIGHWAY COMMERCIAL DISTRICT

EXISTING USES: VACANT LAND

PROPOSED USE: VEHICULAR SERVICE ESTABLISHMENT (200–39.B(9)) & VEHICULAR SALES ESTABLISHMENT (200–39.B(7)) PERMITTED AS CONDITIONAL USE

C3 – HIGHWAY COMMERCIAL DISTRICT ZONING REQUIREMENTS TABLE

	CODE SECTION	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA (OUTSIDE ROW)	200–40.B	30,000 SF	586,291 SF	586,291 SF
MINIMUM LOT WIDTH	200–40.C	100 FT	303.1 FT	303.1 FT
MINIMUM FRONT YARD SETBACK	200–40.D (1)	50 FT	N/A	192.9 FT
MINIMUM SIDE YARD SETBACK	200–40.D (2)	25 FT / 50 FT ABUTTING RESIDENTIAL PROPERTY, PUBLIC STREET OR HIGHWAY	N/A	58.5 FT
MINIMUM REAR YARD SETBACK	200–40.D (3)	50 FT	N/A	91.8 FT
MAXIMUM BUILDING/STRUCTURE AREA	200–40.E.1	30%	N/A	6.2%
MAXIMUM IMPERVIOUS SURFACE AREA	200–40.E.2	60%	0%	35.1%
MAXIMUM BUILDING HEIGHT	200–40.F	35 FT	N/A	≤ 35 FT
ACCESSORY STRUCTURE PLACEMENT	200–40.G	PROHIBITED IN FRONT YARD. 20 FT SIDE/REAR YARDS	N/A	NOT IN FRONT YARD. 136.8 FT REAR/SIDE

PARKING/LOADING REQUIREMENTS

	CODE SECTION	REQUIRED	PROPOSED
REQUIRED PARKING (SERVICE)	200–73.H (3)	2 SPACES/SERVICE BAY – 26 BAYS = 52 SPACES 1 SPACE/EMPLOYEE – 10 EMPLOYEES = 10 SPACES 1 SPACE/ EACH STORED VEHICLE – 52 SPACES 114 SPACES TOTAL	415 SPACES *
REQUIRED PARKING (SALES) *	200–73.H (3)	2 SPACES/ 500 SF OF SHOWROOM – 0 SF = 0 SPACES 1 SPACE/ 2,000 SF OF OUTDOOR DISPLAY AREA – 120,000 SF = 0 SPACES 1 SPACE/ EMPLOYEE – 0 EMPLOYEE = 0 SPACES 1 SPACE/ DISPLAY VEHICLE – 0 DISPLAY VEHICLES = 0 SPACES 0 SPACES TOTAL	
LOADING SPACE LOCATION	200–74.A(1)	MINIMUM 50 FT FROM PROPERTY LINE	303.1 FT
	200–74.A(2)	LOCATE IN REAR OR SIDE OF BUILDING	SIDE
LOADING SPACE SIZE	200–74.B	15 FT x 60 FT	15 FT x 60 FT

*PROPOSED USE IS MOTOR VEHICLE INVENTORY ASSOCIATED WITH OFFSITE VEHICLE SALES

DEVELOPMENT PROPOSED IN STEEP SLOPES

	CODE SECTION	REQUIRED	PROPOSED
IMPERVIOUS COVER PERMITTED IN PRECAUTIONARY SLOPES	200–107.D (3) (c)	50% OF TOTAL PERMITTED IMPERVIOUS COVER 60% PERMITTED IN BASE DISTRICT – 60% OF 586,291 SF = 351,775 SF PERMITTED IMPERVIOUS 50% OF PERMITTED IMPERVIOUS COVER – 50% x 351,775 SF = 175,888 SF OF IMPERVIOUS COVER PERMITTED IN PRECAUTIONARY SLOPES	3,425 SF

LEGEND

PROPERTY LINE
ULTIMATE RIGHT OF WAY
PARKING SETBACK LINE
BUILDING SETBACK LINE
RETAINING WALL
PARKING COUNT
STORMWATER BASIN
25' RIPARIAN BUFFER
POTENTIAL WWETLAND AREA PENDING USACE REVIEW
EPHEMERAL STORMWATER DITCH
CONCRETE SIDEWALK/PAVING

GRAPHIC SCALE
40' 20' 0 40' 80'
(IN FEET)
1 inch = 40 ft.

NO.	DATE	REVISIONS	BY	CHKD

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
KEITH A. LIEBERMAN
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No. 056901

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COMMONWEALTH OF PENNSYLVANIA DATE

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PORSCHE SERVICE: CHESTER SPRINGS
500 POTTSTOWN PIKE, CHESTER SPRINGS, PA, 19425|UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PA

CONDITIONAL USE PLANS:
SITE PLAN

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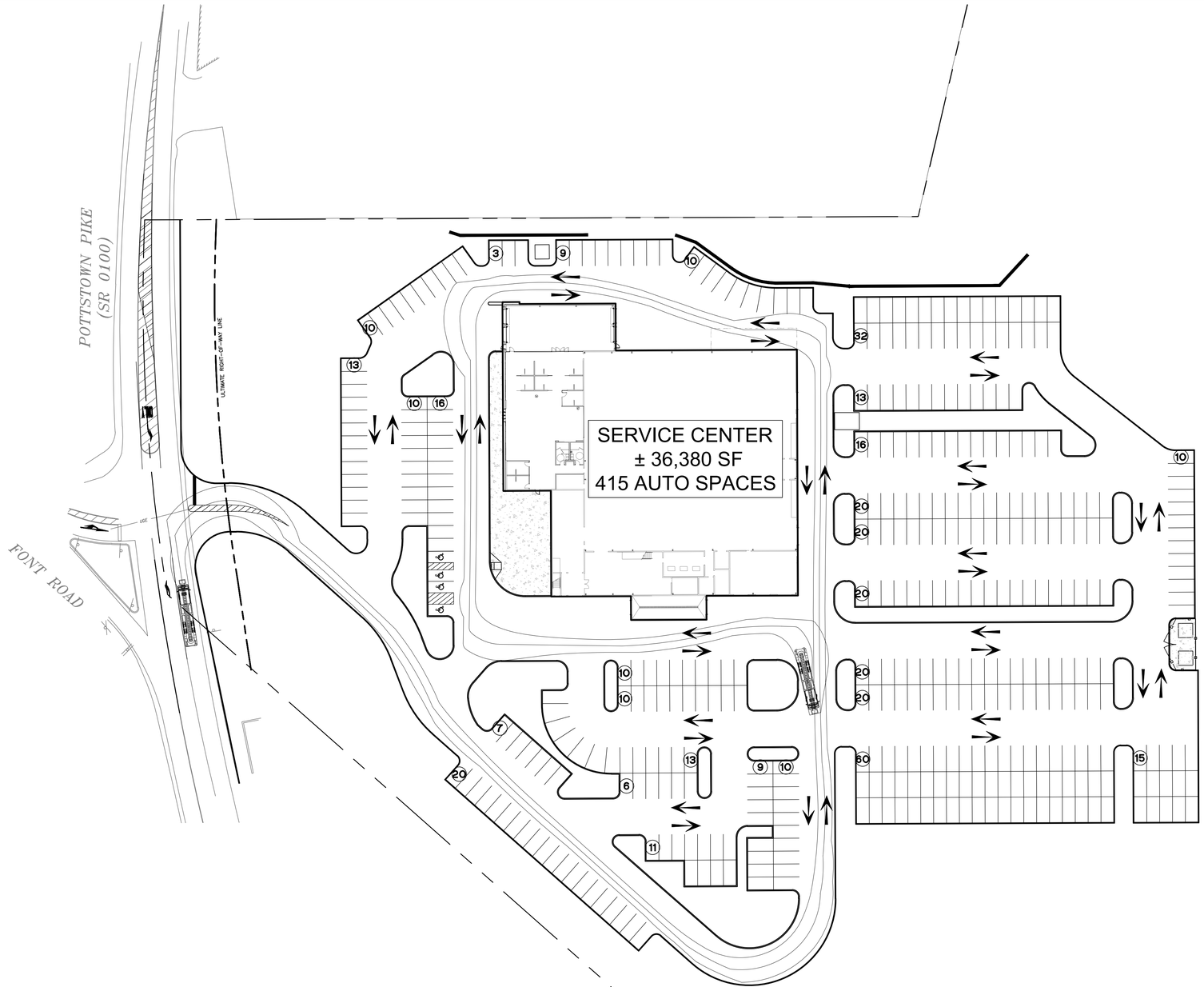

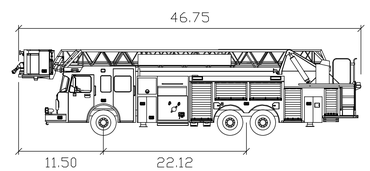

CFD 100' Aerial Platform Pierce Velocity

feet

Width	: 8.00
Track	: 8.00
Lock to Lock Time	6.0
Steering Angle	: 45.0

GRAPHIC SCALE

40' 20' 0 40' 80'

(IN FEET)

1 inch = 40 ft.

NO.	DATE	REVISIONS	BY	CHKD

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
KEITH A. LIEBERMAN
ENGINEER
No. 056901-E

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500 POTTSTOWN PIKE, CHESTER SPRINGS, PA, 19425/UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PA

CONDITIONAL USE PLANS
EMERGENCY VEHCILE TURNING PLAN

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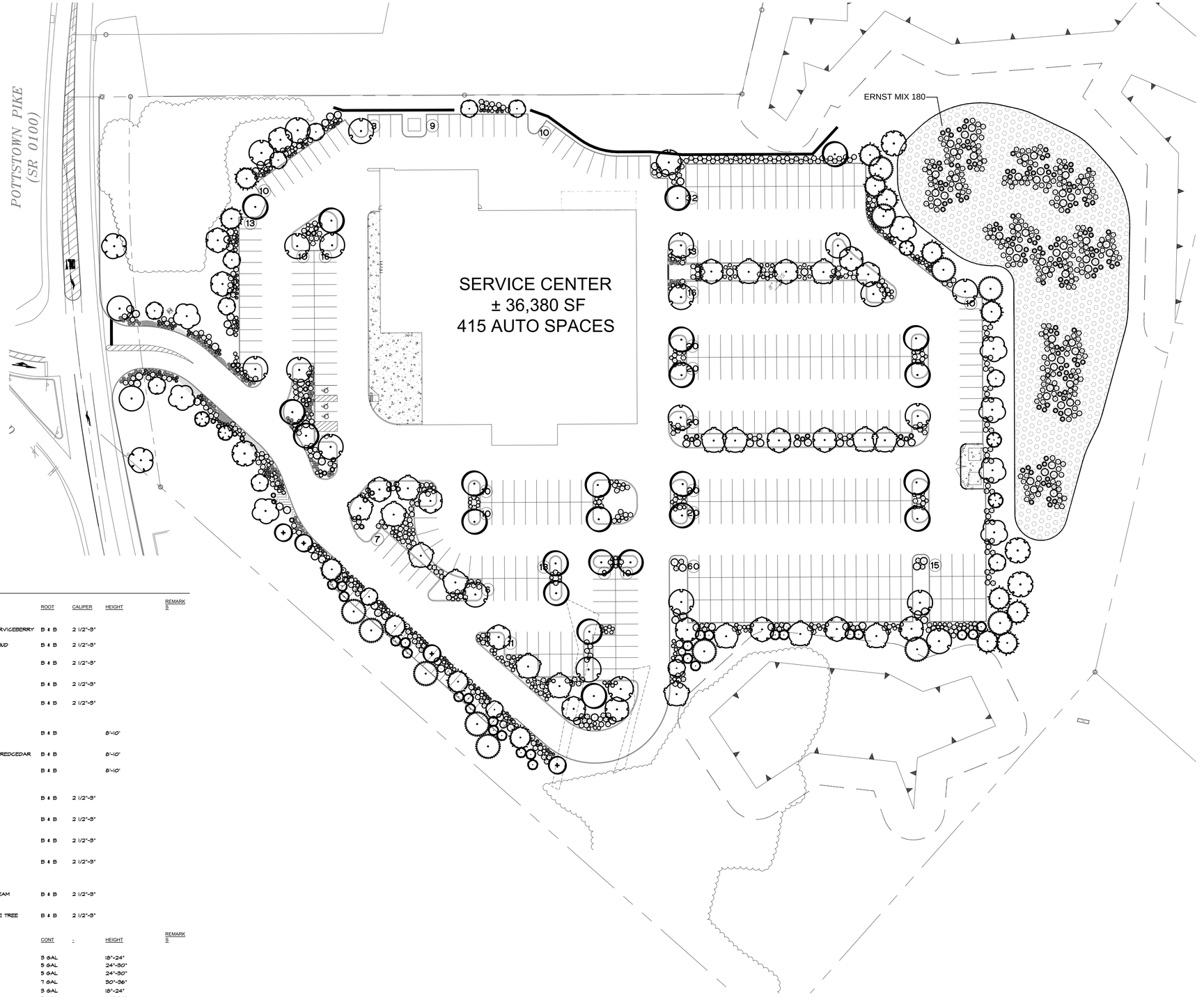

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	ROOT	CALIPER	HEIGHT	REMARKS
DECIDUOUS TREES								
	AS	14	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE APPLE SERVICEBERRY	B & B	2 1/2"-3"		
	CF	5	CERCIS CANADENSIS 'FOREST PANSY'	FOREST PANSY EASTERN REDBUD	B & B	2 1/2"-3"		
	QB	4	QUERCUS BICOLOR	SWAMP WHITE OAK	B & B	2 1/2"-3"		
	QC	8	QUERCUS COCCINEA	SCARLET OAK	B & B	2 1/2"-3"		
	SK	4	STEWARTIA KOREANA	KOREAN STEWARTIA	B & B	2 1/2"-3"		
EVERGREEN TREES								
	AC	12	ABIES CONCOLOR	WHITE FIR	B & B		8'-10'	
	JE	15	JUNIPERUS VIRGINIANA 'CORCORCOR'	EMERALD SENTINEL® EASTERN REDCEDAR	B & B		8'-10'	
	TT	27	THUJA OCCIDENTALIS 'TECHNY'	TECHNY ARBORVITAE	B & B		8'-10'	
PARKING AREA TREES								
	AA	24	ACER RUBRUM 'AUTUMN FLAME'	AUTUMN FLAME RED MAPLE	B & B	2 1/2"-3"		
	GI	17	GLEDITSIA TRIACANTHOS INERMIS	THORNLESS HONEY LOCUST	B & B	2 1/2"-3"		
	OV	18	OSTRYA VIRGINIANA	AMERICAN HOPHORNBEAM	B & B	2 1/2"-3"		
	TS	22	TILIA TOMENTOSA 'STERLING'	STERLING SILVER LINDEN	B & B	2 1/2"-3"		
STREET TREES								
	CP	2	CARPINUS CAROLINIANA 'CCSQU'	PALISADE® AMERICAN HORNBEAM	B & B	2 1/2"-3"		
	PM	2	PLATANUS X ACERIFOLIA 'MORTON CIRCLE'	EXCLAMATION!® LONDON PLANE TREE	B & B	2 1/2"-3"		

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	-	HEIGHT	REMARKS
SHRUBS								
	FG	145	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	3 GAL		18"-24"	
	IS	277	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	5 GAL		24"-30"	
	IV	166	ILEX VERTICILLATA	WINTERBERRY	5 GAL		24"-30"	
	MN	134	MORELLA PENSYLVANICA	NORTHERN BAYBERRY	7 GAL		30"-36"	
	PH	282	PANICUM VIRGATUM 'HEAVY METAL'	HEAVY METAL SWITCH GRASS	3 GAL		18"-24"	
	PH2	157	PENNISETUM ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	5 GAL		24"-36"	
	SS2	124	SPIRAEA JAPONICA 'ANTHONY WATERER'	ANTHONY WATERER JAPANESE SPIREA	3 GAL		18"-24"	
PERENNIALS								
	HO	95	HEMEROCALLIS X 'STELLA DE ORO'	STELLA DE ORO DAYLILY	1 GAL			
	HP	155	HOSTA X 'PATRIOT'	PATRIOT HOSTA	1 GAL			

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACING	REMARKS
GROUND COVERS								
	CM	263	COTONEASTER DAMMERI 'MOONCREEPER'	MOONCREEPER COTONEASTER	2" PLUG		12" o.c.	
	LB	241	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILYTURF	2" PLUG		12" o.c.	

GRAPHIC SCALE
40' 20' 0 40' 80'
(IN FEET)
1 inch = 40 ft.

NO.	DATE	REVISIONS	BY	CHKD

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
KEITH A. LIEBERMAN
ENGINEER
No. 056901-E

KEITH A. LIEBERMAN, P.E.
LICENSED PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA LICENSE NO. 056901-E DATE

RDS AUTOMOTIVE GROUP

PORSCHE SERVICE: CHESTER SPRINGS
500 POTTSTOWN PIKE, CHESTER SPRINGS, PA. 19425/UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PA

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DESIGNED BY	JDT
CHECKED BY	JDT/KAL
DRAWN BY	SEE
DATE	02/16/2023
SCALE	AS SHOWN
PROJ. NO.	PORS00021
DRAWING	LSP
SHEET	6 OF 6

PROJECT INFORMATION:
FILE PATH: G:\Projects\PORS\00021\Plans\
FILE NAME: PORS00021-LSP.dwg
LAST SAVED DATE AND TIME: 23 Feb 2024, 6:38PM
LAST SAVE BY: JJackett

EH CREATIVE SERVICES LLC
16 MANOR ROAD
PAOLI, PA 19301
610.322.7154
erik@erikhetzel.com

Memorandum

To: Jacob Tackett, Principal Staff Designer
T and M Associates

From: Erik Hetzel, AICP/PP, LEED AP

Date: March 4, 2024

Re: Fiscal Impact Analysis – Proposed Automotive Service Center, 500 Pottstown Pike, Upper Uwchlan Township

---

RDS Automotive Group is proposing to construct a 36,380-square-foot automotive service center on the property located at 500 Pottstown Pike in Upper Uwchlan Township, Chester County, Pennsylvania. Along with site improvements that will generate additional real estate tax revenue for the Township and School District, the applicant expects to create approximately 10 full-time equivalent jobs at the site. It is projected that the proposed development will result in beneficial, net-positive annual fiscal impacts to both Upper Uwchlan Township and the Downingtown Area School District, as described in Table 1.

Table 1
Summary of Annual Fiscal Impacts

	Tax Revenues	Expenditures	Net Fiscal Impact
Upper Uwchlan Township	$4,013	($1,091)	**$2,922**
Downingtown Area School District	$85,946	$0	**$85,946**
TOTAL	**$89,959**	**($1,091)**	**$88,869**

Fiscal impacts presented in this analysis were estimated using a methodology developed by the Rutgers University Center for Urban Policy Research, as originally

described in The New Practitioner's Guild to Fiscal Analysis[1] and further developed in a later publication by the same authors entitled Development Impact Assessment Handbook[2].

Revenue Impacts

Real Estate Property Tax - At project completion, the improvements are anticipated to have a total market value of approximately $8 million, which translates to an assessed value of approximately $2,877,698. This assessment calculation is based on the current (2023-2024) Chester County common-level ratio of 2.78, which estimates assessed value at approximately 35.97% of market value. The Township levies the real estate tax at the rate of 1.121 mills, which will generate approximately $3,226 annually to the Township. The School District millage rate is currently 29.558 mills, which applied the assessment describe above, will generate approximately $85,059 in real estate taxes to the School District annually.

Earned Income Tax (EIT) Revenues – Workers who reside in Upper Uwchlan Township pay the EIT at the rate of 1.0%, with 0.5% going to each the Township and School District. The EIT is also levied at the rate of 1.0% on non-residents who do not pay the EIT in their home jurisdictions with the full amount of the tax going only to the Township. The applicant estimates that the proposed use will create 10 full-time equivalent jobs at this location with an estimated mean annual wage of $52,480 per employee[3]. We cannot predict where these employees will reside, nor whether they will be paying the EIT to their home jurisdictions. Hence, we conservatively assume that 25% of the workers (or, 3 of the total 10 workers) will be eligible to pay the EIT as Township residents. Under the foregoing assumptions, the EIT will generate revenues totaling $787 to the Township and $787 to the School District.

Local Services Tax (LST) Revenues – The LST is paid only to the School District at the rate of $10 per employee. With an estimated 10 employees, the proposed development would generate approximately $100 annually in LST revenues to the School District.

---

[1] Burchell, Robert W., David Listokin, et al. *The New Practitioner's Guide to Fiscal Impact Analysis,* New Brunswick, NJ: Rutgers, The State University of New Jersey, 1985.

[2] Burchell, Robert W., David Listokin, et al. *Development Impact Assessment Handbook.* Washington, D.C.: ULI-the Urban Land Institute, 1994.

[3] Occupation title "Automotive Service Technicians and Mechanics" from U.S. Bureau of Labor Statistics, *Occupational Employment and Wage Statistics, May 2022 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, Philadelphia-Camden-Wilmington, PA-NJ-DE-MD* <https://www.bls.gov/oes/current/oes_37980.htm#49-0000>

Regional Economic Impacts

The proposed development will have a beneficial economic "ripple effect" in the local economy, as the new employees use goods and services in and around Upper Uwchlan Township. In addition, the development phase of the project will provide construction jobs and result in construction-related consumption expenditures in the local and regional economies. These impacts are not reflected in the summary table included in this memorandum but will provide economic benefits over and above the annual revenues described therein.

Cost Analysis

The cost analysis includes expenses from the Township budget for services most likely to be impacted by the proposed development. These expense items are described in Table 2.

Table 2
Upper Uwchlan Township Budget
General Fund Expenses

Expenditure Line Item	Budget Amount	Amount Used in Analysis	
Tax Collection	$11,000	100%	$11,000
Legal	$55,000	100%	$55,000
Police Expenses	$3,453,424	100%	$3,453,424
Fire & Ambulance	$507,870	100%	$507,870
Codes Administration	$425,501	10%	$42,550
Emergency Operations/Other	$60,548	100%	$60,548
Public Works	$1,285,281	100%	$1,285,281
TOTAL	**$5,798,624**		**$5,415,673**

Cost attributable to the proposed development were projected using the "Per Capita Multiplier" methodology from the Development Impact Assessment Handbook. That method differentiates how services are distributed among residential and nonresidential portions of Upper Uwchlan Township on the basis of a ratio of residential to nonresidential uses as described in County assessment data for the Township, using a blended average of total assessments and number of parcels for residential and nonresidential land use classifications. Assessment information for Upper Uwchlan Township was obtained from the Chester County Board of Assessment for this analysis. Details of the cost calculations are described in Table 3 on the next page.

Table 2
Per-Capita Cost Calculation Methodology

A	Number of residential parcels in Township	4,275
B	Number of nonresidential parcels in Township	245
C	TOTAL PARCELS (A + B)	4,520
D	Percentage of nonresidential parcels in Township (B / C)	5.42%
E	Total residential assessment in Township	$992,503,225
F	Total nonresidential assessment in Township	$172,997,590
G	TOTAL ASSESSMENT (E + F)	$1,165,500,815
H	Percentage of nonresidential assessment in Township (F / G)	14.84%
I	Blended average of parcels and assessment, Nonresidential percentage of Township ((D + H) / 2))	10.13%
J	Cost for services likely to impacted by new development	$5,415,673
K	Cost of Township services allocated to nonresidential uses (I x J)	$548,704
L	Total employment (number of employees working in Township)	5,031
M	Per capita cost per employee working in Township (K / L)	$109.06
N	Projected employees working at proposed development	10
O	**Township costs attributable to proposed development (M x N)**	**$1,090.65**

NOTES:

1. Parcel and assessment information obtained from Chester County Board of Assessment.

2. Township cost information from Upper Uwchlan Township Budget, 2024.

3. Township employment estimate from Delaware Valley Regional Planning Commission, Municipal and County-Level Population and Employment Forecasts, 2015-2050 (https://www.dvrpc.org/webmaps/popempforecasts/)

4. Projected number of new employees working at proposed automotive service facility estimated by applicant/operator.

The proposed development of this non-residential use will not generate any school-aged children and hence, will not result in additional costs for the School District.

Erik Hetzel (the author of this report) spoke with Township Manager Tony Scheivert on March 4, 2024 to discuss potential public service demands from the proposed development. Mr. Scheivert noted that, as with any new development there will likely be some additional need for public services; however, based on his understanding of the use and the cost analysis described herein, demand from the proposed development is not anticipated to exceed existing capacity for such Township functions as administration, public works, police, fire and emergency services, and parks and recreation. Mr. Scheivert mentioned that, if a traffic signal is required as part of access to the development, maintenance of that equipment could pose a potential future cost for the Township and might necessitate a shared maintenance arrangement between the applicant and the Township.

Published demand factors are available for Police, Fire and Emergency Medical Services (EMS) personnel, vehicles, and facilities. These factors and the resulting estimated demands for each service are presented in Table 4 on the next page. Planning standards for these calculations are from the Development Impact Assessment Handbook and the Pennsylvania Department of Health, Bureau of Emergency Medical Services[4] based on a non-residential use with a daytime population of approximately 10 employees. Personnel, vehicles, and facilities for Police and Fire are based on the noted planning standards per 1,000 population per year. EMS planning standards for personnel and vehicles are per 30,000 population per year, and the planning standard for EMS calls is per 1,000 population per year.

[4] *2021 EMS Data Report*, 2022
https://www.health.pa.gov/topics/Documents/EMS/2021%20EMS%20Data%20Report.pdf

Table 4
Public Safety Demand Factors and
Projected Demand from Proposed Development

	Planning Standard	Projected Demand
Police		
Personnel	0.50	0.005
Vehicles	0.15	0.002
Facilities (square feet)	50	0.500
Fire		
Personnel	0.41	0.004
Vehicles	0.05	0.001
Facilities (square feet)	62.5	0.625
EMS		
Personnel	1.03	0.0003
Vehicles	0.25	0.0001
Calls (per year)	31.13	0.31

Conclusions and Summary

In conclusion, the net positive fiscal impact in terms of projected revenues over costs for Upper Uwchlan Township is expected to be approximately $2,922 annually at project completion, essentially paying for itself in terms of Township services. The projected net positive fiscal impact on the Downingtown Area School District is projected to be more significant at nearly $86,000 per year. The combined net positive fiscal impact for both taxing authorities is estimated at over $88,000 annually. Table 5 on the next page summarizes the project details and fiscal impacts to the Township and School District.

Table 5
Summary of Project Details and Fiscal Impacts

Project Details - 500 Pottstown Pike Auto Svc. Facility	
Non-Residential Square Feet	36,380
Market Value of Proposed Development	$8,000,000
Assessed Value (approx. 35.97% of market value)	$2,877,698
New Residential Population	0
New School-Aged Children	0
New Full-Time Equivalent Employees	10
Annual Wages per Employee	$52,480
Upper Uwchlan Township Fiscal Impacts	
Real Estate Tax Revenue (1.121 mills)	$ 3,226
Earned Income Tax Revenue (0.5%)	$ 787
Total Township Revenues	$ 4,013
Total Township Expenditures	$ (1,091)
Net Township Fiscal Impact	**$ 2,922**
Downingtown Area School District Fiscal Impacts	
Real Estate Tax Revenue (29.558 mills)	$ 85,059
Earned Income Tax Revenue (0.5%)	$ 787
Local Services Tax ($10 per resident worker)	$ 100
Total School District Revenues	$ 85,946
Total School District Expenditures	$ -
Net School District Fiscal Impact	**$ 85,946**
Total Development-Generated Revenues (Township + School District)	**$ 89,959**
Total Development-Generated Expenditures (Township + School District)	**$ (1,091)**
Total Net Annual Fiscal Impact (Township + School District)	**$ 88,869**

TRAFFIC PLANNING AND DESIGN, INC.

WWW.TRAFFICPD.COM

March 4, 2024

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

RE: Upper Uwchlan Township – TIS Scoping Review
Automotive Service Center Development
Upper Uwchlan Township, Chester County, PA
TPD Job # TMAS.00013

Dear Mr. Scheivert:

This letter pertains to the Proposed Automotive Service Center Development located along Pottstown Pike (SR 0100), opposite Font Road in Upper Uwchlan Township, Chester County, Pennsylvania. Traffic Planning and Design, Inc. (TPD) has prepared this response letter to address the review comments from Bowman on behalf of the Township, dated February 5, 2024. (Attached for reference). For the discussion below, the review comments are shown in italic type, with the corresponding TPD response shown in bold type.

COMMENTS

1. *As part of the traffic study, with the addition of the access as a fourth leg of the Route 100/Font Road intersection, please evaluate the need for traffic control improvements. This intersection has been on the Township's watch list for traffic control/pedestrian improvements to occur when this site is developed.*

   Response: So noted. Per PennDOT Policies, an ICE Evaluation was conducted and included within the Traffic Study.

2. *Verify the availability of sight distance at the new access location, which may be limited due to the alignment of Route 100 to the north, as well as the presence of the building close to the edge of the road north of the proposed access.*

   Response: Will Comply. Sight Distance is evaluated in the Traffic Study

3. *The trip generation estimates for the site indicate the proposed 36,380 square-foot auto service center will generate approximately 69 weekday morning peak hour trips and approximately 75 weekday afternoon peak hour trips, based on the ITE publication Trip Generation, 11th Edition. We do not disagree with this calculation based on ITE; however, the plans show 412 parking spaces, which may indicate additional traffic activity will occur at this site beyond the ITE estimates for an*

auto service center. Please provide a detailed description of the operations of the proposed use of the site, including whether the site is proposed for off-site storage of vehicles.

Response: Based on TPD's current understanding of the proposed use, ITE Land Use #943 is the most appropriate land use for the main portion of the Proposed Site. The additional parking spaces shown on the Proposed Site, beyond those needed/required for the Automotive Service Center, are anticipated for new/used vehicle inventory storage associated with the Applicant's other auto dealerships. It is anticipated that these vehicle inventory storage spaces will be a passive use, with any associated trips occurring during off-peak time periods. However, this passive use has also been accounted for in the TIA.

4. *The planned and proposed developments that should be included in the background traffic growth projections for the study should include the following:*
    a. *McKee/Fetters – The full-build-out of this development includes 161 single family age-restricted homes and 259 age-restricted townhomes located along Milford Road between Little Conestoga Road and Font Road. However, this development is currently under construction and the applicant should contact the Township to determine the number and type of units that remain to be constructed.*
    b. *Byers Station Parcel 5C Lot 2B – A 10,500 square-foot (140-student) day care, a 1,820 square-foot fast food restaurant with drive-through, and 13,200 square feet of retail space located on the northeast corner of the Pottstown Pike/Park Road/Station Boulevard intersection.*
    c. *Byers Station Parcel 6C (Vantage Point) – A 106-unit assisted living facility located on the northeast corner of the Graphite Mine Road/Byers Road intersection.*
    d. *100 Greenridge Road Residential Development – A 64-unit single family home community located on the north side of Greenridge Road just west of Font Road.*

    Response: These developments have been included in the Traffic Study as background developments.

5. *The Township's Active Transportation Plan (ATP) envisions a shared use path on the east side of Route 100 in this area, which should be incorporated into the site plan, as well as a pedestrian crossing of Route 100 at the site access location, assuming intersection traffic control improvements. Also, an alternative option may be to locate the trail through the rear of the property, but this would require further coordination between the applicant, the Township and coordination with the adjacent property owners. Furthermore, the ATP envisions a "Yield Roadway" to the north, which could traverse through the northern edge of the property near the border with the Texas Eastern property. This should be discussed with the Township as the land development project moves forward.*

    Response: The Applicant will coordinate with the Township on the potential for pedestrian accommodations during the Conditional Use and Land Development processes.

We hope that these responses are helpful. If you require additional information, please feel free to contact us.

Sincerely,
TRAFFIC PLANNING AND DESIGN, INC.

Matthew I. Hammond, P.E.
Executive Vice President

mhammond@trafficpd.com

Attachment: 02/05/2024 Township (Bowman) Review

cc: Upper Uwchlan Township
Project Team (via Email)
TPD File

Hammond, Matt

From: Chris Williams <cwilliams@bowman.com>
Sent: Monday, February 5, 2024 4:11 PM
To: Bressler, Matt; Jacob Tackett; Hammond, Matt; Haesler, Brian
Cc: Tony Scheivert; Jeff Gehman; Natasha Manbeck; Drew E. Sirianni
Subject: RE: EPS Scoping Submission - 500 Pottstown Pike - Upper Uwchlan Township

Good afternoon

Below are our comments on behalf of the Township for the TIS scope review.

1. As part of the traffic study, with the addition of the access as a fourth leg of the Route 100/Font Road intersection, please evaluate the need for traffic control improvements. This intersection has been on the Township's watch list for traffic control/pedestrian improvements to occur when this site is developed.

2. Verify the availability of sight distance at the new access location, which may be limited due to the alignment of Route 100 to the north, as well as the presence of the building close to the edge of the road north of the proposed access.

3. The trip generation estimates for the site indicate the proposed 36,380 square-foot auto service center will generate approximately 69 weekday morning peak hour trips and approximately 75 weekday afternoon peak hour trips, based on the ITE publication *Trip Generation, 11th Edition*. We do not disagree with this calculation based on ITE; however, the plans show 412 parking spaces, which may indicate additional traffic activity will occur at this site beyond the ITE estimates for an auto service center. Please provide a detailed description of the operations of the proposed use of the site, including whether the site is proposed for off-site storage of vehicles.

4. The planned and proposed developments that should be included in the background traffic growth projections for the study should include the following:
    a. McKee/Fetters – The full-build-out of this development includes 161 single family age-restricted homes and 259 age-restricted townhomes located along Milford Road between Little Conestoga Road and Font Road. However, this development is currently under construction and the applicant should contact the Township to determine the number and type of units that remain to be constructed.
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    d. 100 Greenridge Road Residential Development – A 64-unit single family home community located on the north side of Greenridge Road just west of Font Road.

5. The Township's Active Transportation Plan (ATP) envisions a shared use path on the east side of Route 100 in this area, which should be incorporated into the site plan, as well as a pedestrian crossing of Route 100 at the site access location, assuming intersection traffic control improvements. Also, an alternative option may be to locate the trail through the rear of the property, but this would require further coordination between the applicant, the Township and coordination with the adjacent property owners. Furthermore, the ATP envisions a "Yield Roadway" to the north, which could traverse through the northern edge of the property near the border

with the Texas Eastern property. This should be discussed with the Township as the land development project moves forward.

Please contact our office if you have any questions.

Thanks,
Chris

CHRISTOPHER J. WILLIAMS, P.E.
Regional Manager - Mid-Atlantic | **BOWMAN**
O: (610) 594-9995 | D: (484) 872-2274 | M: (215) 680-0245
cwilliams@bowman.com | bowman.com

From: Bressler, Matt <mbressler@trafficpd.com>
Sent: Wednesday, January 17, 2024 11:56 AM
To: Chris Williams <cwilliams@bowman.com>
Cc: Jacob Tackett <JTackett@tandmassociates.com>; Hammond, Matt <mhammond@trafficpd.com>; Haesler, Brian <bhaesler@trafficpd.com>
Subject: [EXTERNAL] EPS Scoping Submission - 500 Pottstown Pike - Upper Uwchlan Township

Chris,

Attached is TPD's Scoping Application for 500 Pottstown Pike for your review.

Thanks in advance

Matthew Bressler, *Project Manager*

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March 4, 2024
TPD# TMAS.00013

Est. 1989

TRAFFIC PLANNING AND DESIGN, INC.

AUTOMOTIVE SERVICE CENTER DEVELOPMENT

Transportation Impact Assessment

Upper Uwchlan Township, Chester County

For Submission To:

PennDOT District 6-0 & Upper Uwchlan Township, Chester County

2500 East High Street, Suite 650, Pottstown, PA 19464 | 610.326.3100 | TPD@TrafficPD.com

AUTOMOTIVE SERVICE CENTER DEVELOPMENT
TRANSPORTATION IMPACT ASSESSMENT

FOR SUBMISSION TO:

Upper Uwchlan Township, Chester County, PA
& PennDOT 6-0

Prepared For:
T and M Associates
Mr. Jacob Tackett
1700 Market Street, Suite 3110
Philadelphia, PA 19103

March 4, 2024
TPD # TMAS.00013

Prepared By:
Traffic Planning and Design, Inc.
Sanatoga Commons
2500 East High Street, Suite 650
Pottstown, Pennsylvania 19464

Phone: (610) 326-3100
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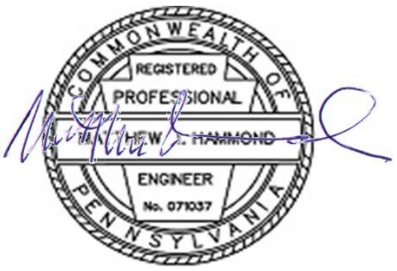
E-mail: TPD@TrafficPD.com
Web Site: www.trafficpd.com



Matthew I. Hammond, P.E.
Executive Vice President
Pennsylvania License Number 071037

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EXECUTIVE SUMMARY

The purpose of this Transportation Impact Assessment (TIA) is to examine the potential traffic impact associated with the Proposed Automotive Service Center Development on the roadway network in Upper Uwchlan Township, Chester County, PA. Based on this evaluation, the following conclusions were reached:

- The Project Site is located on the eastern side of Pottstown Pike (SR 0100), opposite Font Road. The Proposed Site will consist of a 36,380 s.f. Automotive Service Center. In addition, the Proposed Site will provide a parking area for Car Storage associated with the local dealerships under the RDS Automotive Group.
- The Proposed Site will be served by one (1) full-access driveway that will create the fourth leg of the intersection of Pottstown Pike (SR 0100) and Font Road.
- With the removal of on-site vegetation, the measured sight distances at the Proposed Site Driveway will exceed PennDOT Safe Stopping Sight Distances (SSSD) and in most cases will exceed the Desirable Sight Distance Standards.
- The Proposed Site will generate **71 new trips** during the weekday A.M. peak hour and **77 new trips** during the weekday P.M. peak hour.
- Under all projected (build) conditions with the development of the proposed site and with site-related recommendations outlined in **Table II**, all study area intersections will satisfy PennDOT ILOS Standards, except for the intersection of Pottstown Pike (SR 0100) and Font Road/Proposed Driveway during the weekday P.M. peak hour, which will go from ILOS A to ILOS D due to the addition of the 4th leg (driveway) of the intersection. In addition, the Proposed Driveway approach will operate deficiently (LOS F during the weekday A.M. and weekday P.M.).
- 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
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY

Intersection	Peak Hour	2024 Exist	2027			Satisfied ILOS Standards?
			Base	Proj.	Proj.[1]	
Pottstown Pike (SR 0100) & Font Road/Proposed Site Driveway	AM Peak	A (4.6)	A (6.0)	A (7.6)	A (7.6)	No
	PM Peak	A (3.7)	A (4.5)	D (28.8)	D (28.8)	
Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road	AM Peak	C (20.7)	C (23.9)	C (24.4)	--	Yes
	PM Peak	B (14.1)	B (14.9)	B (15.2)	--	
Pottstown Pike (SR 0100) & Milford Road/Garrison Drive	AM Peak	A (2.2)	A (2.4)	A (2.5)	--	Yes
	PM Peak	A (2.7)	A (3.0)	A (3.1)	--	

Exist. = Existing Condition, Base = No-Build scenario, Proj. = Build scenario

- Site-related recommendations are summarized in **Table II**:

TABLE II
RECOMMENDATIONS

Intersection	Recommendation
Pottstown Pike (SR 0100) & Font Road/Proposed Site Driveway	Provide adequate turning ingress/egress radii
	Provide a "STOP" sign on the WB approach
	Provide a 125' Southbound Left Turn Lane
	Provide a Northbound Right Deceleration Taper
	Removal and maintenance of on-site vegetation to maximize available sight distance

INTRODUCTION

Traffic Planning and Design, Inc. (TPD) has completed a Transportation Impact Assessment (TIA) for the proposed Automotive Service Center Development in Upper Uwchlan Township, Chester County, Pennsylvania. As shown in **Figure 1**, the Project Site is located on the eastern side of Pottstown Pike (SR 0100), opposite Font Road. As shown in **Figure 2**, the Proposed Site will consist of a 36,380 s.f. Automotive Service Center. In addition, the Proposed Site will provide a parking area for Car Storage associated with the local dealerships under the RDS Automotive Group. The Proposed Site will be served by one (1) full-access driveway that will create the fourth leg of the intersection of Pottstown Pike (SR 0100) and Font Road. TPD assumed an opening year of 2027.

This report has been prepared in accordance with PennDOT's *Policies and Procedures for Transportation Impact Studies*, found in PennDOT's Publication 282, Appendix A, dated July 2017. The scope of this TIA was based on the Scoping Application, submitted to Upper Uwchlan Township and PennDOT 6-0 on January 17, 2024 and the subsequent reviews. The project correspondence is included in **Appendix A**.

EXISTING ROADWAY NETWORK

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

TABLE 1

ROADWAY CHARACTERISTICS WITHIN STUDY AREA

Roadway	Route Ownership	Functional Classification/ Roadway Type	Predominant Directional Orientation	Average Daily Traffic[1]	Posted Speed Limit
Pottstown Pike	State (SR 0100)	Other Principal Arterial Highway	North-South	12,675	35/45 mph
Font Road	Township	Local Road	East-West	--	25 mph
Fellowship Road	Township	Local Road	East-West	--	35 mph
Reserve Drive	Township	Local Road	East-West	--	35 mph
Milford Road	Township	Local Road	East-West	--	25 mph
Garrison Drive	Township	Local Road	East-West	--	25 mph

1 = PennDOT TIRe website (January 2023)

Bicycle and Pedestrian Facilities

Based on observations during field visits, there are no specific bicycle facilities in the Study Area outside of paved shoulders. Pedestrian accommodations are detailed below:

- Pottstown Pike (SR 0100) and Font Road – The un-signalized intersection does not have any pedestrian accommodations besides paved shoulders.
- Pottstown Pike (SR 0100) and Reserve Drive/Fellowship Road – The signalized intersection has pedestrian curb ramps, pedestrian push buttons and crosswalks on all approach legs.
- Pottstown Pike (SR 0100) and Milford Road/Garrison Drive - The un-signalized intersection has a walking trail and crosswalk along the eastern side of Pottstown Pike (SR 0100). Pedestrians are prohibited from crossing Pottstown Pike (SR 0100) via signage.

Mass Transit Facilities

There is no bus service or train service within 2 miles of the Study Area.

Crash Data Investigation

Crash data were obtained from PennDOT for the study area intersections. PennDOT defines a reportable crash as follows, "A reportable (crash) is one in which an injury or fatality occurs or if at least one of the vehicles involved requires towing from the scene." Reportable crashes were tabulated for the five-year time period beginning 01/01/2018 and ending 12/31/2022. For a given intersection, PennDOT considers a crash occurrence of 5 reportable, correctable crashes over a continuous twelve-month period during the past five years to be a threshold value, above which the intersection design should be reviewed to examine if corrective measures can be taken to enhance safety. The number of reportable crashes at the study area intersections is shown in **Table 2**.

TABLE 2
PENNDOT TOTAL REPORTABLE CRASH DATA

Study Area Intersections	Total Number of Reportable Crashes				
	2018	2019	2020	2021	2022
Pottstown Pike (SR 0100) & Font Road	0	0	0	0	0
Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road	1	2	0	1	2
Pottstown Pike (SR 0100) & Milford Road/Garrison Drive	0	0	0	0	2

Based on a review of the crash data in **Table 2**, there were no twelve-month periods during the past five years at the Study Area intersections where 5 or more crashes occurred that were deemed correctable.

EXISTING TRAFFIC CONDITIONS

Manual Turning Movement Counts

Manual traffic counts were conducted on 15-minute intervals during the weekday morning (7:00 to 9:00 A.M.) and weekday 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 3**.

TABLE 3
MANUAL TRAFFIC COUNT INFORMATION

Intersection	Date of Traffic Counts	Time Period	Intersection Peak Hour[1]
Pottstown Pike (SR 0100) & Font Road	Thursday, June 8, 2023	Weekday A.M.	7:00 to 8:00 A.M.
		Weekday P.M.	4:45 to 5:45 P.M.
Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road		Weekday A.M.	7:45 to 8:45 A.M.
		Weekday P.M.	4:45 to 5:45 P.M.
Pottstown Pike (SR 0100) & Milford Road/Garrison Drive		Weekday A.M.	7:00 to 8:00 A.M.
		Weekday P.M.	4:15 to 5:15 P.M.

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

The existing counts performed in 2023 were increased using PennDOT BPR Growth to develop 2024 conditions. 2024 Existing Condition traffic volumes for the weekday A.M. and weekday P.M. peak hours are illustrated in **Figure 3**. The traffic count data sheets are provided in **Appendix C**.

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 September 2023 to July 2024 obtained from the PennDOT Bureau of Planning and Research (BPR). The PennDOT BPR suggests using a background growth trend factor of 0.48% per year in Chester County for urban non-interstate roadways. As such, the background growth factor was applied annually to yield an overall growth percentage of 1.45% (0.48% per year compounded over 3 years) for the 2027 Opening Year.

Nearby Planned Developments

Based on the Township Scoping Review, TPD included traffic associated with the following developments, which may be built and operational by the time the Proposed Site is completed in the future:

- McKee-Fetters Tract - The full-build-out of this development includes 161 single family age-restricted homes and 259 age-restricted townhomes located along Milford Road between Little Conestoga Road and Font Road. Based on TPD's knowledge, the site is approximately 40% built/occupied at the time the traffic counts were conducted.
- Byers Station Parcel 5C Lot 2B – A 10,500 square-foot (140-student) day care, a 1,820 square-foot fast food restaurant with drive-through, and 13,200 square feet of retail space located on the northeast corner of the Pottstown Pike/Park Road/Station Boulevard intersection.
- Byers Station Parcel 6C (Vantage Point) - A 106-unit assisted living facility located on the northeast corner of the Graphite Mine Road/Byers Road intersection.
- 100 Greenridge Road Residential Development - A 64-unit single family home community located on the north side of Greenridge Road just west of Font Road.

The additional traffic volumes due to background growth and nearby planned developments were added to the existing traffic data to produce the 2027 Base Conditions, as illustrated in **Figure 4.** Nearby Planned Development Trip Distribution is included in **Appendix D**.

SCHEDULED ROADWAY IMPROVEMENTS

Based on a review of the PennDOT 12-Year Plan and the DVRPC Transportation Improvement Program (TIP), there were no planned roadway improvements in the vicinity of the proposed site.

Furthermore, based on a review of the Upper Uwchlan Township ACT 209/CIP/RSA, no improvements are contemplated at the Intersection of Pottstown Pike (SR 0100) and Font Road. Also based on a review of the Upper Uwchlan Township ACT 209/CIP/RSA, roadway improvements are contemplated at the off-site intersection of Pottstown Pike (SR 0100) and Fellowship Road/Reserve Drive. These improvements include the addition of a NBR and a SBTR lane on Pottstown Pike (SR 0100). However, based on the results shown later in this TIA, the Proposed Site is anticipated to have negligible impact on this off-site intersection.

PROPOSED SITE ACCESS

The site will be served by one (1) driveway to Pottstown Pike (SR 0100), which form the fourth leg of the Pottstown Pike (SR 0100) and Font Road intersection.

Sight Distance Analysis

A sight distance analysis was prepared for the proposed site driveway location. 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 4 shows the measured, desirable, and acceptable (SSSD) sight distances at the site driveways for vehicles entering and exiting the site.

TABLE 4
SIGHT DISTANCE ANALYSIS

	Direction	Posted Speed (mph)	Sight Distances (feet)			
			Grade[1] (%)	DES[2]	SSSD[2]	EXIST[3]
Pottstown Pike (SR 0100) - Proposed Driveway						
Exiting Movements	*To the left*	45	0%	635′	383′	**1000′+**
	To the Right	45	-1%	570′	390′	**460′[4]**
Entering Left Turns	*Approaching same direction*	45	-1%	N/A	390′	**775′**
	Approaching opposite direction	45	0%	445′	383′	**1000′+**

DES = PennDOT Desirable Sight Distance
SSSD = PennDOT Acceptable Sight Distance
EXIST = Existing (measured) Sight Distance

1 = Roadway Grade Approaching Driveway
2 = Based on the posted speed
3 = With On-Site Vegetation Removal
4 = Limited by Horizontal Curvature and Building on Adjacent Property

As shown in **Table 4** above, with the removal of on-site vegetation, the measured sight distances at the Proposed Site Driveway will exceed PennDOT Safe Stopping Sight Distances (SSSD) and in most cases will exceed the Desirable Sight Distance Standards.

TRIP GENERATION

The trip generation rates for the Automotive Service Center portion of the Proposed Site were obtained from the manual Trip Generation, eleventh Edition, 2021, an Institute of Transportation Engineers (ITE) Informational Report. Land Use Code #943 (Automotive Service Center) was utilized for this portion of the Proposed Site for all time periods.

There is no specific ITE Land Use for a Proposed Car Storage Lot. Based on discussions with the Applicant, this lot will be used for storage of vehicle inventory for the local dealerships under the RDS Automotive Group. The Applicant anticipates that approximately 3-5 vehicles will be moved from the subject property, each day, to replenish inventory at the associated dealerships. It is also TPD's understanding the site will be visited by one (1) car carrier per week, however TPD took a conservative approach and assumed the site would be visited by one (1) car carrier per day. Therefore, TPD assumed approximately 10 trips per day (5 enter/5 exit), and 1-2 trips in each of the peak hours for the Proposed Car Storage portion of the subject property.

Table 5 shows the rates and directional percentages for the analyzed time periods.

TABLE 5
TRIP GENERATION DATA

Land Use (ITE #)	Time Period	Size (X)	Rate	Enter %
Automotive Service Center (ITE #943)	Average Weekday	36.38 ksf	T = 16.60*(X)	50%
	Weekday AM Peak Hour		T = 1.91*(X)	72%
	Weekday PM Peak Hour		T = 2.06*(X)	39%
New Car Storage Lot[1] (No ITE #)	Average Weekday	+/- 300 spaces	T = 10	50%
	Weekday AM Peak Hour		T = 2	
	Weekday PM Peak Hour			

T = Total Trips; X = Independent Variable (ksf = 1000 sf)
1 = No ITE Data. Based on Site-Specific Operations Outlined Above

Table 6 also shows the total trip generation of the Proposed Site.

TABLE 6
TRIP GENERATION – PROPOSED SITE

Land Use	Size (X)	New Trips		
		Total	Enter	Exit
Average Weekday				
Automotive Service Center	36.38 ksf	604	302	302
New Car Storage Lot	+/-300 Spaces	10	5	5
Total	--	**614**	**307**	**307**
Weekday AM				
Automotive Service Center	36.38 ksf	69	50	19
New Car Storage Lot	+/-300 Spaces	2	1	1
Total	--	**71**	**51**	**20**
Weekday PM				
Automotive Service Center	36.38 ksf	75	29	46
New Car Storage Lot	+/-300 Spaces	2	1	1
Total	--`	**77**	**30**	**47**

Based on the information contained in **Table 6**, the Proposed Site will generate **71 new trips** during the weekday A.M. peak hour and **77 new trips** during the weekday P.M. peak hour.

TRIP DISTRIBUTION

The distribution and assignment of new trips generated by the proposed development were based upon existing traffic patterns in the Study Area. Based on this evaluation, the new trips for the proposed development were distributed to the local roadway network based on the percentages shown in **Table 7.**

TABLE 7
TRIP DISTRIBUTION PERCENTAGES – NEW TRIPS

Direction - To/From	Assignment - To/From	Distribution Percentage
		AM/PM
South	via Pottstown Pike (SR 0100)	52%
North	via Pottstown Pike (SR 0100)	33%
West	via Font Road	10%
East	via Fellowship Road	5%

The distribution of site-generated trips for the proposed development during the weekday A.M. and weekday P.M. peak hours are shown in **Figure 5**. The trip assignment percentage information is included in **Appendix E**.

PROJECTED (BUILD) CONDITION TRAFFIC VOLUMES

The site-generated trips for the proposed development were added to the base (no-build) conditions to develop the 2027 projected (build) condition traffic volumes, as shown in **Figure 6**. Volume development spreadsheets are also contained in **Appendix E.**

LEVELS OF SERVICE FOR AN INTERSECTION

For analysis of intersections, level of service is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. LOS criteria is stated in terms of control delay per vehicle for a one-hour analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The criteria are shown in **Table 8**. Delay, as it relates to level of service, is a complex measure and is dependent upon a number of variables. For signalized intersections, these variables include the quality of vehicle progression, the cycle length, the green time ratio, and the volume/capacity ratio for the lane group in question. For unsignalized intersections, delay is related to the availability of gaps in the flow of traffic on the major street and the driver's discretion in selecting an appropriate gap for a particular movement from the minor street (straight across, left or right turn).

TABLE 8
LEVEL OF SERVICE CRITERIA
UNSIGNALIZED AND SIGNALIZED INTERSECTIONS [1]

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

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

CAPACITY ANALYSIS METHODOLOGY

Capacity analyses were conducted for the weekday A.M. and weekday P.M. peak hours at the study area intersections. These analyses were conducted according to the methodologies contained in the *Highway Capacity Manual* (HCM) 6th edition using *Synchro 12* software, a Trafficware product.

The following conditions were analyzed, as applicable:

- 2024 Existing conditions;
- 2027 Base conditions (Build-out year without development);
- 2027 Projected conditions (Build-out year with development).

It should be noted that based on methodologies contained in Chapter 10 of PennDOT's Publication 46, TPD adjusted the following 2010 HCM default values in the *Synchro 12* capacity analysis. These adjustments were made at the signalized intersections within the study area for all time periods based on the study area location being classified as Suburban:

- Base saturation flow rates for signalized intersections. The saturation flow rate was changed from the default value of 1900 to 1800 based on Exhibit 10-9.
- Start-up lost time and extension of effective green time for signalized intersections. The startup lost time was changed from the default value of 2.0 seconds to 2.5 seconds. Based on the total clearance time (yellow plus all-red time) being greater than 5 seconds, the extension of green time was changed from the default value of 2 seconds to 3.5 seconds. These adjusted values are based on Exhibit 10-10.
- Critical and Follow-Up Gap times were adjusted relative to the difference between default and PA Default values contained in Exhibits 10-11 and 10-12. As requested by PennDOT, worksheets/tables showing how these values were calculated are included in **Appendix F**.

In addition, capacity analyses were conducted at the proposed site driveway intersection under the projected conditions. The capacity analysis worksheets are included in **Appendix G**. The PennDOT traffic signal plans for existing conditions are included in **Appendix H**.

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.

LEVELS OF SERVICE IN THE STUDY AREA

Level of service (LOS) matrices for the study area intersections are shown in **Table 9**.

TABLE 9
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY

Intersection	Movement	Weekday AM				Weekday PM			
		2024 Exist.	2027			2024 Exist.	2027		
			Base	Proj.	Proj.[1]		Base	Proj.	Proj.[1]
Pottstown Pike (SR 0100) & Font Road/Proposed Site Driveway	EB LT	D	E (38.8)	F (54.2)	F (53.5)	F (107.9)	F (163.6)	F (387.5)	F (387.5)
	EB R	D	D	D	D	B	B	B	B
	WB LTR	--	--	F (116.3)	F (116.3)	--	--	F (954.4)	F (954.4)
	NB L	B	B	B	B	B	B	B	B
	SB L	--	--	A	A	--	--	B	B
	ILOS	**A (4.6)**	**A (6.0)**	**A (7.6)**	**A (7.6)**	**A (3.7)**	**A (4.5)**	**D (28.8)**	**D (28.8)**
Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road	EB L	A	C	C	--	C	C	C	--
	EB TR	C	C	C	--	C	C	C	--
	WB L	E	E	E	--	C	C	C	--
	WB TR	C	C	C	--	C	C	C	--
	NB L	B	B	B	--	A	A	B	--
	NB T	A	A	A	--	B	B	B	--
	NB TR	A	A	A	--	B	B	B	--
	SB L	A	A	A	--	A	A	B	--
	SB T	B	C	C	--	B	B	B	--
	SB R	A	A	A	--	A	A	A	--
	ILOS	**C (20.7)**	**C (23.9)**	**C (24.4)**	--	**B (14.1)**	**B (14.9)**	**B (15.2)**	--
Pottstown Pike (SR 0100) & Milford Road/Garrison Drive	EB LTR	C	D	D	--	D	D	D	--
	WB LTR	D	D	E	--	E (49.1)	F (57.0)	F (60.8)	--
	NB L	B	B	B	--	A	A	A	--
	SB L	A	A	A	--	B	B	B	--
	ILOS	**A (2.2)**	**A (2.4)**	**A (2.5)**	--	**A (2.7)**	**A (3.0)**	**A (3.1)**	--

Exist. = Existing Condition, Base = No-Build scenario, Proj. = Build scenario
1 = Projected with turn lane improvements

As shown in **Table 9**, under all projected (build) conditions with the development of the proposed site and with site-related recommendations outlined in **Table 13**, all study area intersections will satisfy PennDOT ILOS Standards, with the exception of the intersection of Pottstown Pike (SR 0100) and Font Road/Proposed Driveway during the weekday P.M. peak hour, which will go from ILOS A to ILOS D due to the addition of the 4th leg (driveway) of the intersection. In addition, the Proposed Driveway approach will operate deficiently (LOS F during the weekday A.M. and weekday P.M.).

ICE Evaluation

Since the Proposed Driveway is being added to an existing intersection, TPD completed the PennDOT ICE Form. As shown in the ICE evaluation, included in **Appendix I**, the best intersection control would be a traffic signal followed by a roundabout option.

The roundabout option was not further pursued as an improvement because the site has limited ROW and the roundabout layout would not be physically feasible.

Therefore, TPD conducted a traffic signal warrant evaluation (summarized later in this TIA) for the 2027 Projected Conditions. However, as shown later in this TIA, warrants are not satisfied.

SIGNAL WARRANT ANALYSIS

TPD performed a signal warrant analysis at the intersection of Pottstown Pike (SR 0100) and Font Road/Site Driveway. To evaluate the warrants, TPD developed 4 hours of count data at the intersection, using a K-Factor methodology. Based on TPD's experience, in situations with high right-turn volumes and the existence of a separate right-turn lane on the minor street, PennDOT requests these right-turn movements to be excluded from the warrant analysis. This is the case for the EBR Font Road movement. Therefore, TPD excluded the EBR volume from the analysis. Consistent with Sections 4C.1-10 of the 2009 MUTCD and Section 4.2 of PennDOT Publication 46, Traffic Engineering Manual, TPD evaluated the Four-Hour Vehicular Volume, Pedestrian Volume, and crash experience. Based on this evaluation, signal warrants will be not satisfied. Signal Warrant Analysis and Associated K-Factor Traffic Volume Development are included in **Appendix J.** As stated previously in this TIA, the Upper Uwchlan Township's ACT 209/CIP/RSA also identified signalization as the ideal improvement at the intersection. However, the Upper Uwchlan Township's ACT 209/CIP/RSA also concluded the signal warrants would not be satisfied.

GAP ANALYSIS

TPD performed gap analyses at the intersection of Pottstown Pike (SR 0100) and Font Road/Proposed Site Driveway. To evaluate the capacity of Pottstown Pike (SR 0100), TPD performed gap studies utilizing Miovision Video. The gap studies were completed during the peak hours of the intersection (7:00 – 8:00 A.M. and 4:45 – 5:45 P.M.) for two-way gaps on Pottstown Pike (SR 0100).

The number and duration of gaps available for the movements were documented. The duration of gaps in traffic directly relates to the capacity (number of vehicles) that can make the identified movements at the specific intersections. TPD determined the necessary Critical Gap and Follow-Up Gap needed for the evaluated movements based on values contained in Exhibit 10-11 and Exhibit 10-12 of PennDOT Pub 46, and PA Default Values and shown in **Appendix F**. The number and time duration of gaps counted during the peak hours were compared to the standards outlined above, to determine the total number of vehicles that can be served during the peak hours.

The results of the gap studies are summarized below in **Table 10.**

TABLE 10
GAP ANALYSIS – TWO-WAY GAPS

Intersection	Peak Hour	Existing Gap Capacity[1]	Projected WB Left Turn Movements	Remaining Capacity
Pottstown Pike (SR 0100) & Font Road/Site Driveway	A.M. Peak Hour	100	11	***+89***
	P.M. Peak Hour	48	27	***+21***

1 = Two-Way Gaps

As shown in **Table 10**, sufficient two-way gaps exist along Pottstown Pike (SR 0100) to serve the anticipated number of vehicles exiting the Proposed Site via a left-turn movement during the weekday AM and PM Peak Hours. The Gap study results are summarized in **Appendix K**.

95TH PERCENTILE QUEUE ANALYSIS

Queue analyses were conducted at the study area intersections using *Synchro 11* software. For this analysis, the 95th percentile queue is defined as the queue length that is exceeded in 5% of the signal cycles. As an example,

for a signal with a 90-second cycle, this means that the 95th percentile queue length will be exceeded during 2 of the 40 signal cycles that occur during the peak hour. The queue analysis results are summarized in **Table 11.**

TABLE 11
95TH PERCENTILE QUEUE (FEET) SUMMARY

Intersection	Movement	Available Storage	Weekday AM				Weekday PM			
			2024 Exist.	2027			2024 Exist.	2027		
				Base	Proj.	Proj.[1]		Base	Proj.	Proj.[1]
Pottstown Pike (SR 0100) & Font Road/Proposed Site Driveway	EB LT	940'[2]	5'	8'	15'	15'	25'	33'	58'	58'
	EB R	85'	83'	115'	115'	115'	30'	38'	38'	38'
	WB LTR	--	--	--	38'	38'	--	--	160'	160'
	NB L	300'	13'	15'	15'	15'	40'	50'	50'	50'
	SB L	1000'[2]+	--	--	3'	3'	--	--	3'	3'
Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road	EB L	125'	0'	3'	3'	--	3'	3'	3'	--
	EB TR	330'[2]	30'	38'	38'	--	23'	25'	25'	--
	WB L	195'	263'	278'	285'	--	83'	98'	100'	--
	WB TR	1000'[2]+	13'	15'	18'	--	10'	13'	13'	--
	NB L	90'	3'	5'	5'	--	10'	13'	13'	--
	NB T	530'[2]	70'	95'	103'	--	233'	265'	270'	--
	NB TR	530'[2]	70'	98'	105'	--	240'	275'	280'	--
	SB L	340'	5'	5'	5'	--	5'	5'	5'	--
	SB T	1000'[2]+	298'	448'	460'	--	228'	263'	280'	--
	SB R	190'	0'	0'	0'	--	0'	0'	0'	--
Pottstown Pike (SR 0100) & Milford Road/Garrison Drive	EB LTR	150'[2]	15'	20'	20'	--	13'	18'	18'	--
	WB LTR	600'[2]	28'	30'	33'	--	45'	53'	55'	--
	NB L	125'	0'	0'	0'	--	3'	3'	3'	--
	SB L	125'	0'	0'	0'	--	3'	3'	3'	--

Exist. = Existing Condition, Base = No-Build scenario, Proj. = Build scenario
1 = Projected with turn lane improvements
2 = Storage to next public intersection

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

AUXILIARY TURN LANE ANALYSIS

Methodology

TPD evaluated auxiliary turn lane warrants at the Proposed Driveway. 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 12 summarizes the results of the auxiliary turn lane analysis at the site access intersections.

TABLE 12
AUXILIARY TURN LANE ANALYSIS SUMMARY

Intersection	Auxiliary Lane	Warrant Satisfied?	Proposed Storage
Pottstown Pike (SR 0100) & Font Road/Proposed Site Driveway	SB Left-Turn Lane	125'	125'
	NB Right-Turn Lane	125'	Deceleration Taper

As shown in **Table 12**, warrants for a 125' SBL lane and a 125' NBR lane are satisfied at the Proposed Site Driveway. In regards to the warranted NBR and given the limited site frontage along Pottstown Pike (SR 0100), TPD recommends a deceleration taper in lieu of the NBR Lane. The calculations for the auxiliary turn lane warrants are included in **Appendix L**.

RECOMMENDATIONS

TPD has made the following recommendations in relation to the Proposed Automotive Service Center Development in Upper Uwchlan Township, Chester County, as outlined in **Table 13**.

TABLE 13
RECOMMENDATIONS

Intersection	Recommendation
Pottstown Pike (SR 0100) & Font Road/Proposed Site Driveway	Provide adequate turning ingress/egress radii
	Provide a "STOP" sign on the WB approach
	Provide a 125' Southbound Left Turn Lane
	Provide a Northbound Right Deceleration Taper
	Removal and maintenance of on-site vegetation to maximize available sight distance

CONCLUSIONS

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

- The Project Site is located on the eastern side of Pottstown Pike (SR 0100), opposite Font Road. The Proposed Site will consist of a 36,380 s.f. Automotive Service Center. In addition, the Proposed Site will provide a parking area for Car Storage associated with the local dealerships under the RDS Automotive Group.
- The Proposed Site will be served by one (1) full-access driveway that will create the fourth leg of the intersection of Pottstown Pike (SR 0100) and Font Road.
- With the removal of on-site vegetation, the measured sight distances at the Proposed Site Driveway will exceed PennDOT Safe Stopping Sight Distances (SSSD) and in most cases will exceed the Desirable Sight Distance Standards.
- The Proposed Site will generate **71 new trips** during the weekday A.M. peak hour and **77 new trips** during the weekday P.M. peak hour.
- Under all projected (build) conditions with the development of the proposed site and with site-related recommendations outlined in **Table 9**, all study area intersections will satisfy PennDOT ILOS Standards,

except for the intersection of Pottstown Pike (SR 0100) and Font Road/Proposed Driveway during the weekday P.M. peak hour, which will go from ILOS A to ILOS D due to the addition of the 4th leg (driveway) of the intersection. In addition, the Proposed Driveway approach will operate deficiently (LOS F during the weekday A.M. and weekday P.M.).

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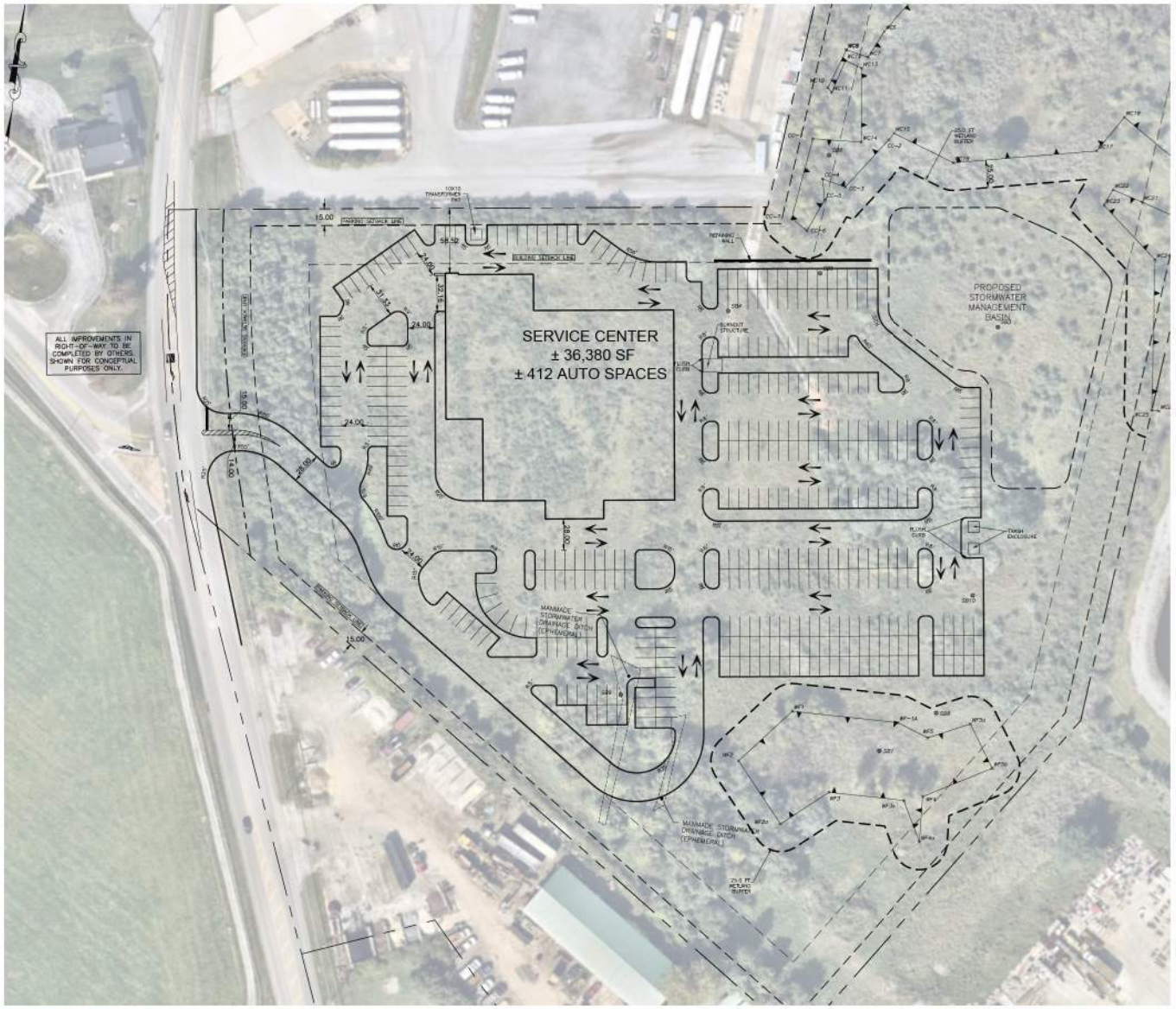
FIGURE 1

PROJECT LOCATION



THE PURPOSE OF THIS PLAN IS TO PRESENT PROPOSED SITE IMPROVEMENTS AT THE SUBJECT SITE FOR A SCOPING APPLICATION TO PADOT. THIS PLAN IS NOT RELEASED FOR LAND DEVELOPMENT PERMITTING OR CONSTRUCTION.

GRAPHIC SCALE

KEY:
SCHEMATIC DRAWING:NOT TO SCALE

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FIGURE 2

SITE PLAN

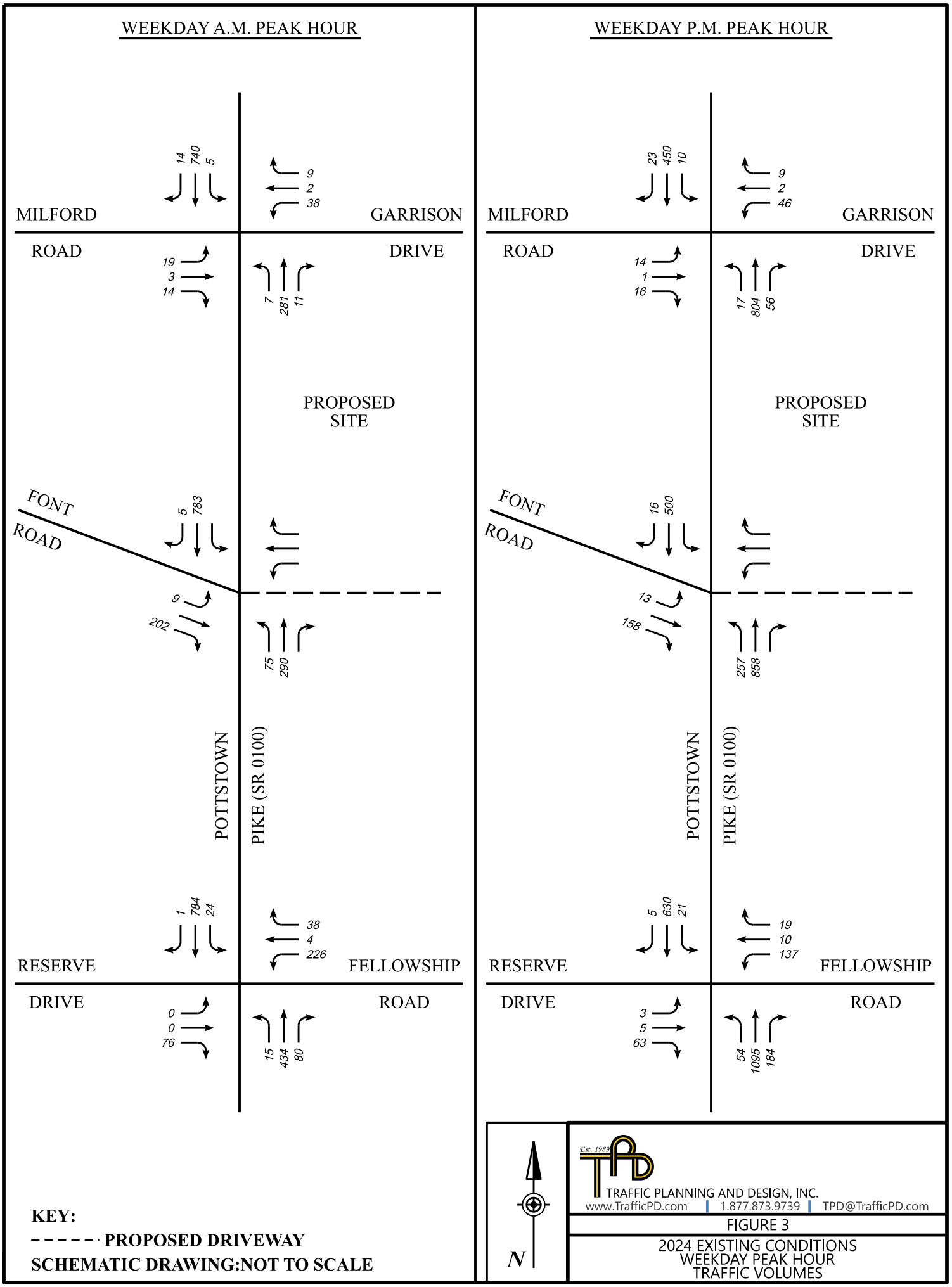
WEEKDAY A.M. PEAK HOUR
WEEKDAY P.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
PROPOSED SITE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
14 740 5
9 2 38
19 3 14
7 281 11
5 783
9 202
75 290
1 784 24
38 4 226
0 0 76
15 434 80
23 450 10
9 2 46
14 1 16
17 804 56
16 500
13 158
257 858
5 630 21
19 10 137
3 5 63
54 1095 184
KEY:
PROPOSED DRIVEWAY
SCHEMATIC DRAWING:NOT TO SCALE
N
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FIGURE 3
2024 EXISTING CONDITIONS
WEEKDAY PEAK HOUR
TRAFFIC VOLUMES

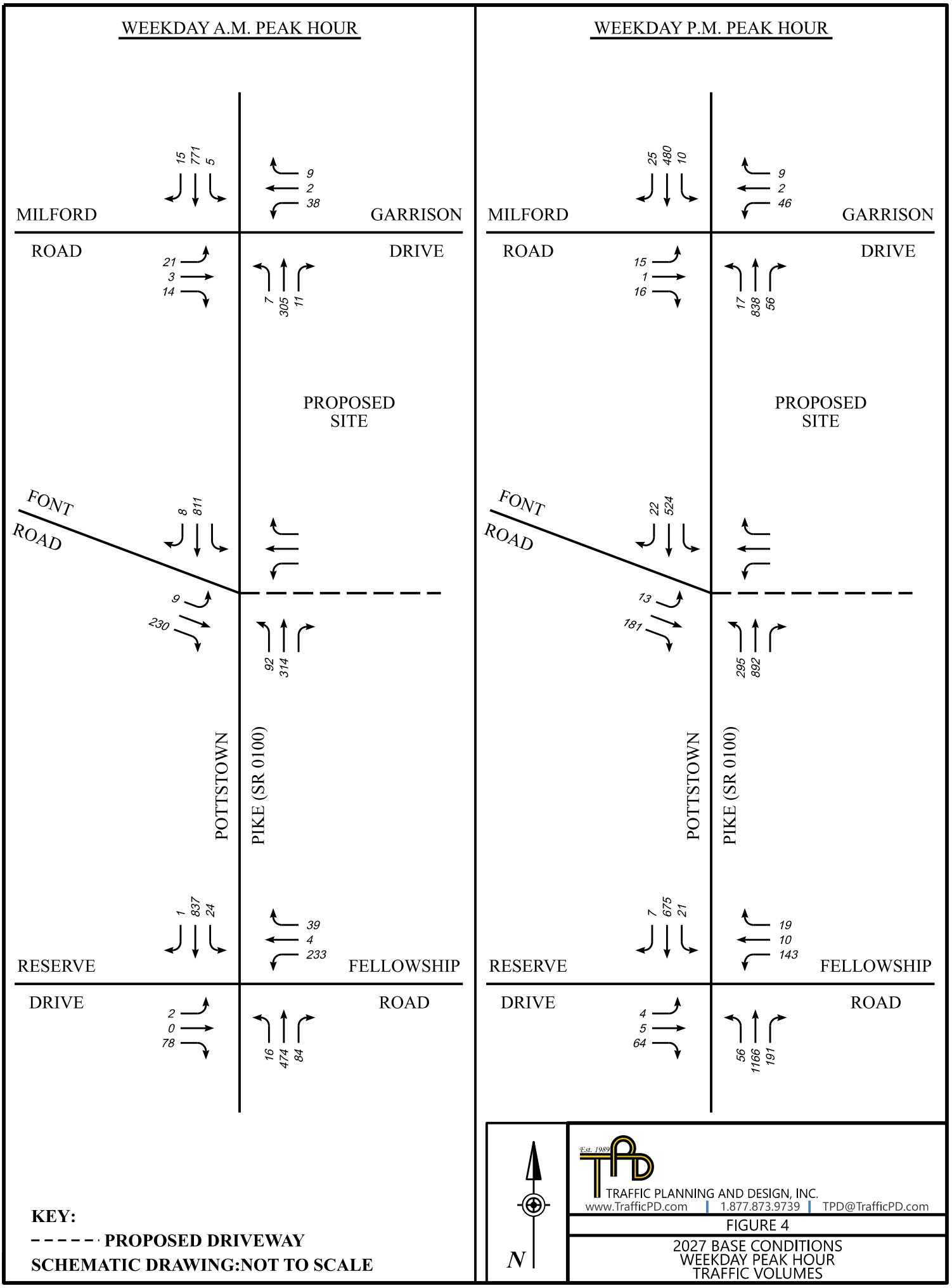
WEEKDAY A.M. PEAK HOUR
WEEKDAY P.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
PROPOSED SITE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
15 771 5
9 2 38
21 3 14
7 305 11
8 811
9 230
92 314
1 837 24
39 4 233
2 0 78
16 474 84
25 480 10
9 2 46
15 1 16
17 838 56
22 524
13 181
295 892
7 675 21
19 10 143
4 5 64
56 1166 191
KEY:
PROPOSED DRIVEWAY
SCHEMATIC DRAWING:NOT TO SCALE
N
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FIGURE 4
2027 BASE CONDITIONS
WEEKDAY PEAK HOUR
TRAFFIC VOLUMES

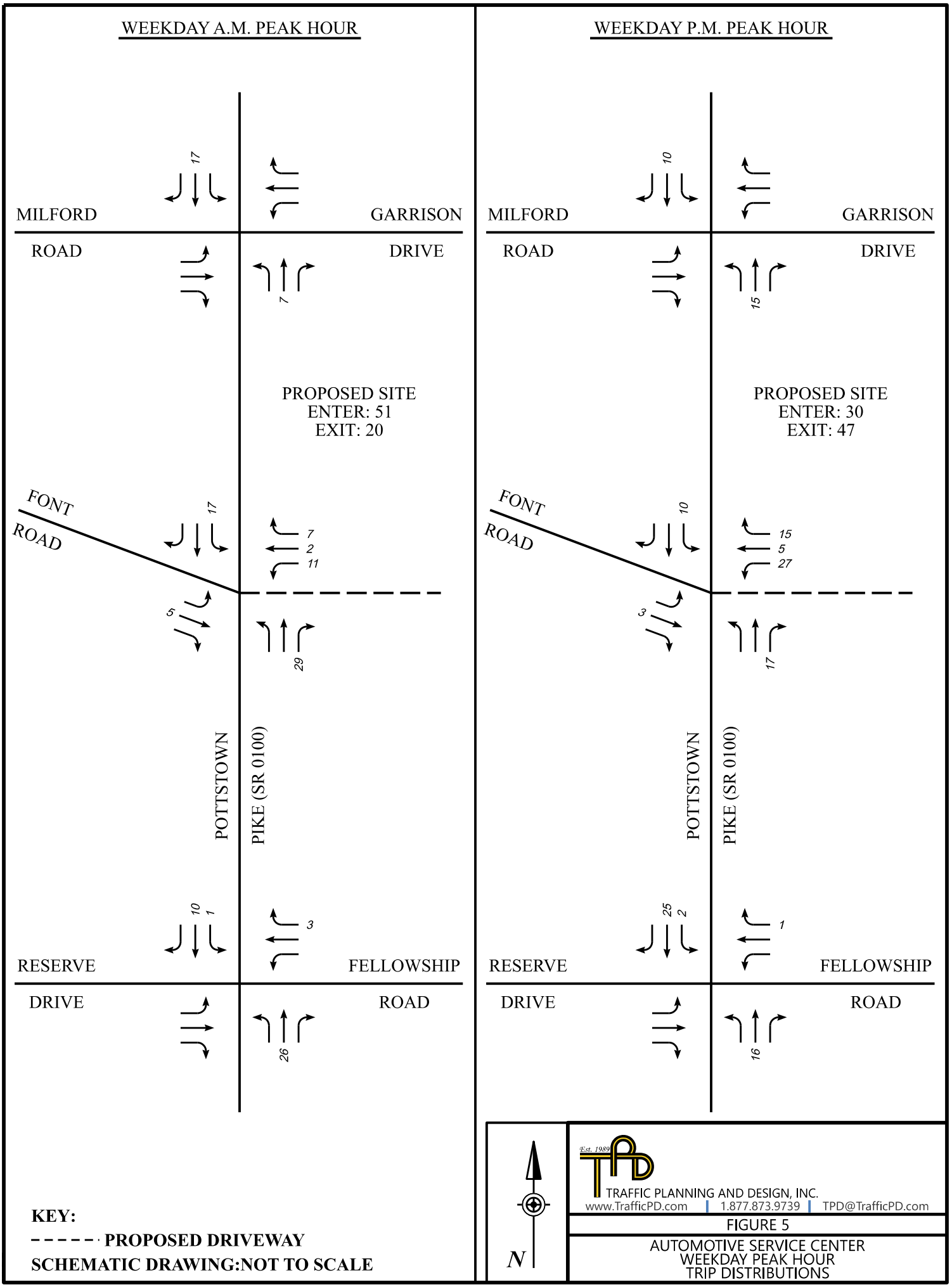
WEEKDAY A.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
17
7
17
7
2
11
5
29
10
1
3
26
PROPOSED SITE
ENTER: 51
EXIT: 20
WEEKDAY P.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
10
15
10
15
5
27
3
17
25
2
1
16
PROPOSED SITE
ENTER: 30
EXIT: 47
KEY:
PROPOSED DRIVEWAY
SCHEMATIC DRAWING:NOT TO SCALE
N
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FIGURE 5
AUTOMOTIVE SERVICE CENTER
WEEKDAY PEAK HOUR
TRIP DISTRIBUTIONS

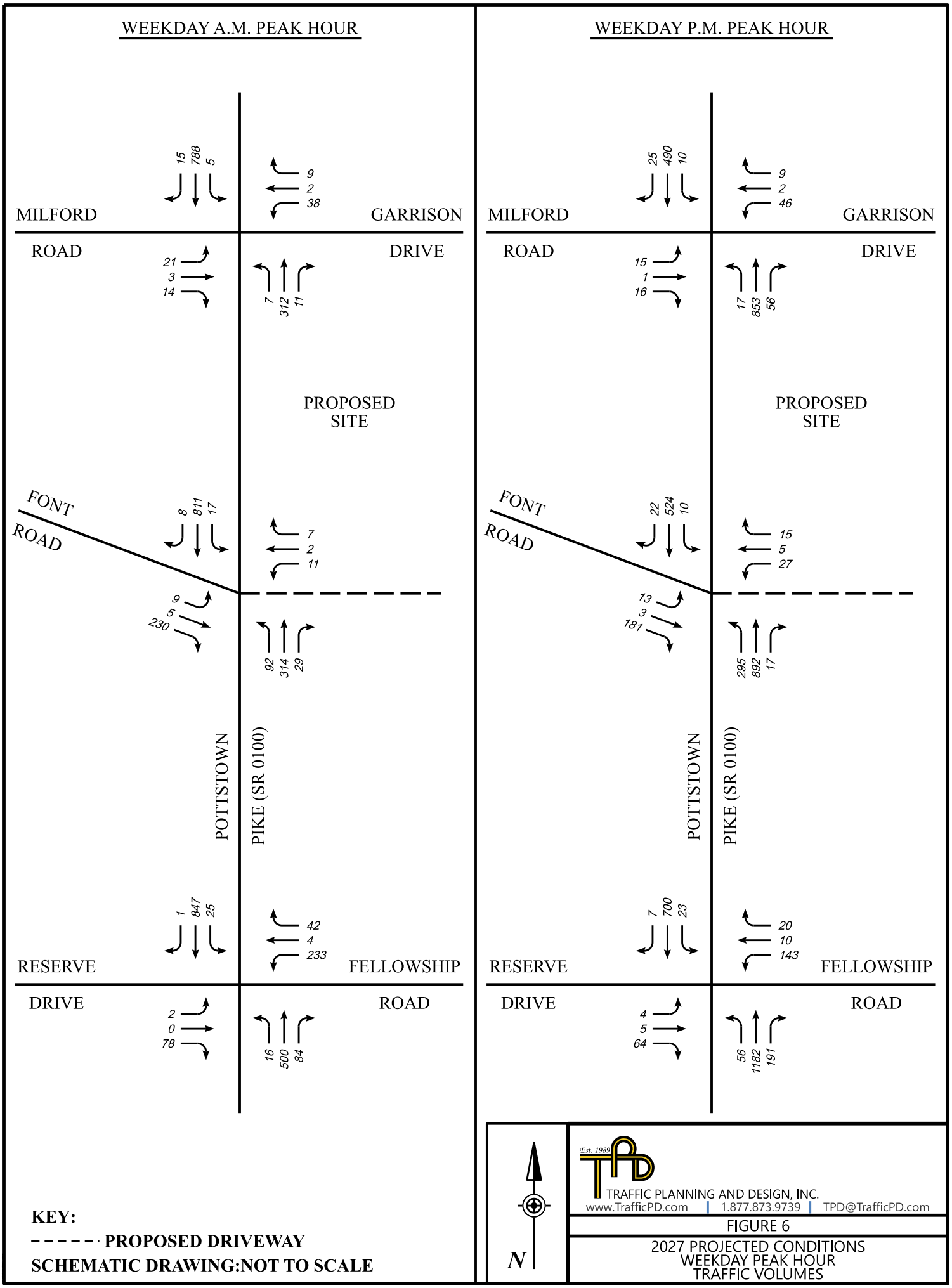
WEEKDAY A.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
PROPOSED SITE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
15 788 5
9 2 38
21 3 14
7 312 11
8 811 17
7 2 11
9 5 230
92 314 29
1 847 25
42 4 233
2 0 78
16 500 84
WEEKDAY P.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
PROPOSED SITE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
25 490 10
9 2 46
15 1 16
17 853 56
22 524 10
15 5 27
13 3 181
295 892 17
7 700 23
20 10 143
4 5 64
56 1182 191
KEY:
PROPOSED DRIVEWAY
SCHEMATIC DRAWING:NOT TO SCALE
N
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FIGURE 6
2027 PROJECTED CONDITIONS
WEEKDAY PEAK HOUR
TRAFFIC VOLUMES

APPENDIX A:

Project Correspondence

From: Chris Williams <cwilliams@bowman.com>
Sent: Monday, February 5, 2024 4:11 PM
To: Bressler, Matt; Jacob Tackett; Hammond, Matt; Haesler, Brian
Cc: Tony Scheivert; Jeff Gehman; Natasha Manbeck; Drew E. Sirianni
Subject: RE: EPS Scoping Submission - 500 Pottstown Pike - Upper Uwchlan Township [Filed 05 Feb 2024 16:12]

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Filed by Mail Manager

Good afternoon

Below are our comments on behalf of the Township for the TIS scope review.

1. As part of the traffic study, with the addition of the access as a fourth leg of the Route 100/Font Road intersection, please evaluate the need for traffic control improvements. This intersection has been on the Township's watch list for traffic control/pedestrian improvements to occur when this site is developed.

2. Verify the availability of sight distance at the new access location, which may be limited due to the alignment of Route 100 to the north, as well as the presence of the building close to the edge of the road north of the proposed access.

3. The trip generation estimates for the site indicate the proposed 36,380 square-foot auto service center will generate approximately 69 weekday morning peak hour trips and approximately 75 weekday afternoon peak hour trips, based on the ITE publication *Trip Generation, 11th Edition*. We do not disagree with this calculation based on ITE; however, the plans show 412 parking spaces, which may indicate additional traffic activity will occur at this site beyond the ITE estimates for an auto service center. Please provide a detailed description of the operations of the proposed use of the site, including whether the site is proposed for off-site storage of vehicles.

4. The planned and proposed developments that should be included in the background traffic growth projections for the study should include the following:
    a. McKee/Fetters – The full-build-out of this development includes 161 single family age-restricted homes and 259 age-restricted townhomes located along Milford Road between Little Conestoga Road and Font Road. However, this development is currently under construction and the applicant should contact the Township to determine the number and type of units that remain to be constructed.
    b. Byers Station Parcel 5C Lot 2B – A 10,500 square-foot (140-student) day care, a 1,820 square-foot fast food restaurant with drive-through, and 13,200 square feet of retail space located on the northeast corner of the Pottstown Pike/Park Road/Station Boulevard intersection.
    c. Byers Station Parcel 6C (Vantage Point) – A 106-unit assisted living facility located on the northeast corner of the Graphite Mine Road/Byers Road intersection.

d. 100 Greenridge Road Residential Development – A 64-unit single family home community located on the north side of Greenridge Road just west of Font Road.

5. The Township's Active Transportation Plan (ATP) envisions a shared use path on the east side of Route 100 in this area, which should be incorporated into the site plan, as well as a pedestrian crossing of Route 100 at the site access location, assuming intersection traffic control improvements. Also, an alternative option may be to locate the trail through the rear of the property, but this would require further coordination between the applicant, the Township and coordination with the adjacent property owners. Furthermore, the ATP envisions a "Yield Roadway" to the north, which could traverse through the northern edge of the property near the border with the Texas Eastern property. This should be discussed with the Township as the land development project moves forward.

Please contact our office if you have any questions.

Thanks,
Chris

CHRISTOPHER J. WILLIAMS, P.E.
Regional Manager - Mid-Atlantic | **BOWMAN**
O: (610) 594-9995 | D: (484) 872-2274 | M: (215) 680-0245
cwilliams@bowman.com | bowman.com

From: Bressler, Matt <mbressler@trafficpd.com>
Sent: Wednesday, January 17, 2024 11:56 AM
To: Chris Williams <cwilliams@bowman.com>
Cc: Jacob Tackett <JTackett@tandmassociates.com>; Hammond, Matt <mhammond@trafficpd.com>; Haesler, Brian <bhaesler@trafficpd.com>
Subject: [EXTERNAL] EPS Scoping Submission - 500 Pottstown Pike - Upper Uwchlan Township

Chris,

Attached is TPD's Scoping Application for 500 Pottstown Pike for your review.

Thanks in advance

Matthew Bressler, *Project Manager*

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pennsylvania
DEPARTMENT OF TRANSPORTATION

TRANSPORTATION IMPACT STUDY (TIS) DETERMINATION & SCOPING MEETING APPLICATION

Scoping Meeting Application: Submitted

Scoping Meeting Date: _____ Scoping Number: S0620230072

Tax Parcel Number: _____

Project/Development Name: 500 Pottstown Pike - Automotive Service Center

Applicant Information:

Business Partner ID: _____

Applicant Name: ROCKHILL REAL ESTATE ENTERPRISES XVII LP

Phone: 6108861000 Email 1: jhediger@porschemainline.com

Primary Contact: John Hediger Email 2: JTackett@tandmassociates.com

Additional Engineering Firm Information:

Business Partner ID: _____

Engineering Firm: _____

Phone: _____ Email 1: _____

Primary Contact: _____ Email 2: _____

Creator Information:

Business Partner ID: 000094 Firm Name: Traffic Planning and Design, Inc.

Phone: 610-326-3100 Email 1: ekramer@trafficpd.com

(1) LOCATION OF PROPOSED DEVELOPMENT:

PennDOT Engineering District: 06 Email: _____

County: Chester Email: _____

Municipality: UPPER UWCHLAN Email: cwilliams@bowman.com

NO.	SR	Segment	Offset	Average Daily Trips	Driveway Classification	Local Road
1	0100	0370	0370	604	Low Volume	No

Are there any vehicle weight or size restrictions along the SR in accordance with 75 PA C.S. ss 4902? : No

(2) DESCRIPTION OF PROPOSED DEVELOPMENT (Attach site plan if available):

Proposed site access:
Access to the proposed site will include one (1) proposed full-access driveway to Pottstown Pike (S.R. 0100), opposite Font Road.

Proposed land uses:
The proposed development will consist of a 36.38 ksf (approximate) Automotive Service Center.

Community linkages *(access to neighboring properties, cross easements, pedestrian and transit accommodations):*
Not applicable.

(3) DEVELOPMENT SCHEDULE AND STAGING:

Anticipated Opening Date: 06-01-2026
Full Buildout Date: 08-03-2026

Describe Proposed Development Schedule/Staging:
Full Build-out of site by 2027.

(4) TRIP GENERATION:

Land Use & Size	Land Use Code	Were ITE results used?	Daily Trips	AM Peak Hour		PM Peak Hour		Saturday Peak Hour	
				Enter	Exit	Enter	Exit	Enter	Exit
36.38 ksf Automotive Service Center	943	Yes	604	50	19	29	46		
		TOTAL:	604	50	19	29	46	0	0

(5) TRANSPORTATION IMPACT STUDY REQUIRED?

Transportation Impact Study Required? No

If Yes, based on:

Other considerations as described below:

(6) TRANSPORTATION IMPACT ASSESSMENT REQUIRED?

Transportation Impact Assessment Required? Yes

(7) STUDY AREA:

Roadway and Study Intersections:
1. Pottstown Pike (S.R. 0100) & Font Road 2. Pottstown Pike (S.R. 0100) & Fellowship Road/Reserve Drive 3. Pottstown Pike (S.R. 0100) & Milford Road/Garrison Drive

Land use context (Refer to PennDOT Design Manual, Part 1X, Appendix B):
Suburban Corridor

Known Congestion Areas:
To be determined during the TIA.

Known Safety Concerns:
To be determined during the TIA.

Known Environmental Constraints:
To be determined during the TIA.

Pedestrian/Bike Review (Community Centers, Parks, Schools, etc.):
Will be included in TIA.

Transit Review (Current routes/stops):
Will be included in TIA.

(8) STUDY AREA TYPE:

Study Area Type: Urban

(9) TIS ANALYSIS PERIODS AND TIMES:

Analysis period and times notes:
Existing conditions, Base (No-Build) condition opening year without development, and Projected (Build) opening year with development. Weekday A.M. and P.M. peak hour of adjacent street traffic

(10) TRAFFIC ADJUSTMENT FACTORS:

(a) Seasonal Adjustment (Identify counts requiring adjustment and methodology):
Not applicable.

(b) Annual Base Traffic Growth: 0.54 %/yr. **Source:** PennDOT Planning and Research (BPR) Data 2022-2023

(c) Pass-By Trips (Attach justification where required):

NO.	Land Use	%	Source

(d) Captured Trips for Multi-Use Sites:
Not applicable.

(e) Modal Split Reductions:
Not applicable.

(f) Other Reductions:
Not applicable.

(11) OTHER PROJECTS WITHIN STUDY AREA TO BE ADDED TO BASE TRAFFIC:

Notes:
Village at Byers Station (5C) – residential development consisting of 121 townhomes. The Frame Property - residential development consisting of 61 single-family homes (sfh). McKee-Fetters Tract - residential development consisting of 116 age-restricted sfh and 259 age-restricted townhomes. Byers Station - mixed-use development. Upper Uwchlan residential development - consisting of 55 sfh.

(12) TRIP DISTRIBUTION AND ASSIGNMENT:

Trip Distribution Notes:
To be based on existing traffic patterns from current traffic counts.

(13) APPROVAL OF DATA COLLECTION ELEMENTS AND METHODOLOGIES:

NO.	Location	Period	Type
1	Pottstown Pike (S.R. 0100) & Font Road	AM Peak Adj. and PM Peak Adj.	Turning Movement Counts
2	Pottstown Pike (S.R. 0100) & Fellowship Road	AM Peak Adj. and PM Peak Adj.	Turning Movement Counts

3	Pottstown Pike (S.R. 0100) & Milford Road	AM Peak Adj. and PM Peak Adj.	Turning Movement Counts

(14) CAPACITY/LOS ANALYSIS:

NO.	Location	Period	Type
1	Pottstown Pike (S.R. 0100) & Font Road/ Site Drive	AM Peak Adj. St and PM Peak Adj. St	HCM 6th Edition from Synchro 11
2	Pottstown Pike (S.R. 0100) & Fellowship Road	AM Peak Adj. St and PM Peak Adj. St	HCM 6th Edition from Synchro 11
3	Pottstown Pike (S.R. 0100) & Milford Drive	AM Peak Adj. St, PM Peak Adj. St, Sat. Midday	HCM 6th Edition from Synchro 11

(15) ROADWAY IMPROVEMENTS/MODIFICATIONS BY OTHERS TO BE INCLUDED:

Roadway Improvements:
Not applicable within the study area.

(16) OTHER NEEDED ANALYSES:

(a) Sight Distance Analysis:
To be performed during the TIA.

(b) Signal Warrant Analysis (Identify locations):
To be determined during the TIA.

(c) Required Signal Phasing/Timing Modifications (Determine for all signalized intersections; specify methodology):
As needed

(d) Traffic Signal Corridor/Network Analysis (Identify locations/methodology):
Not applicable.

(e) Analysis of the Need for Turning Lanes (Identify locations/methodology):
To be performed during the TIA.

(f) Turning Lane Lengths (Identify methodology to be used):
Pub 46

(g) Left Turn Signal Phasing Analysis (Identify locations/methodology):
As needed

(h) Queuing Analysis (Identify locations/methodology):
To be performed during the TIA.

(i) Gap Studies (Identify locations/methodology):
As needed

(j) Crash Analysis (Identify locations):
To be performed during the TIA.

(k) Weaving Analysis (Identify locations):
Not applicable.

(l) Other Required Studies (Specify locations/methodology):
ICE Evaluation will be performed for the intersection of Pottstown Pike (S.R. 0100) & Font Road/ Proposed Driveway

(17) ADDITIONAL COMMENTS OR RECOMMENDATIONS RELATIVE TO THE SCOPE OF THE TIS:

Additional Comments:
Not applicable.

PennDOT Review Comments: (Current Cycle Comments)

After review of the scoping meeting application, the Department will contact the applicant regarding the need for a scoping meeting prior to applying for a highway occupancy permit.

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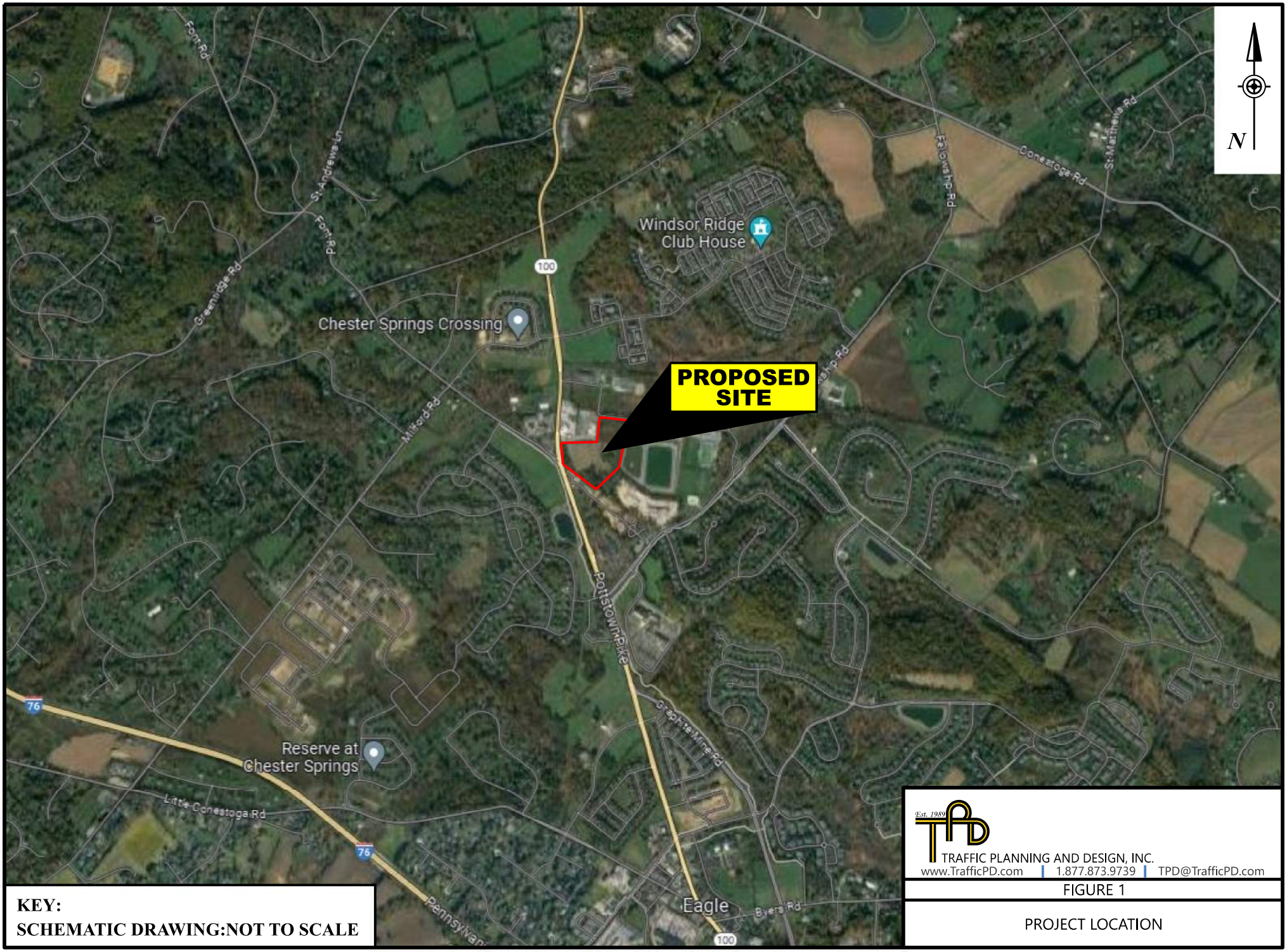

KEY:
SCHEMATIC DRAWING:NOT TO SCALE

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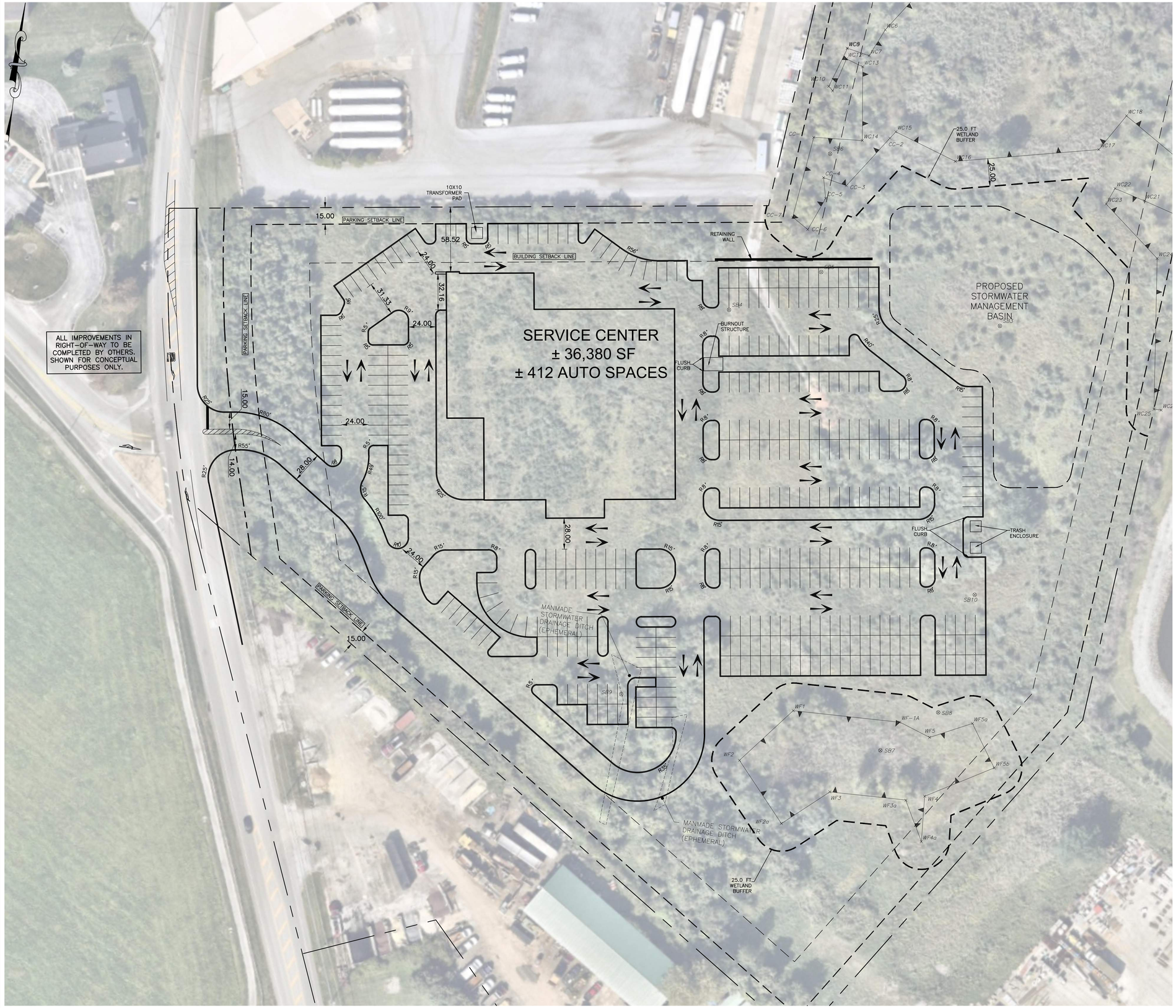
FIGURE 1

PROJECT LOCATION



THE PURPOSE OF THIS PLAN IS TO PRESENT PROPOSED SITE IMPROVEMENTS AT THE SUBJECT SITE FOR A SCOPING APPLICATION TO PADOT. THIS PLAN IS NOT RELEASED FOR LAND DEVELOPMENT PERMITTING OR CONSTRUCTION.

GRAPHIC SCALE

40' 20' 0 40' 80'

(IN FEET)

1 inch = 40 ft.

NO.	DATE	REVISIONS	BY	CHKD

RDS AUTOMOTIVE GROUP

500 POTTSTOWN PIKE, CHESTER SPRINGS, PA, 19425

UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PA

SITE PLAN

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DESIGNED BY	JDT
CHECKED BY	JDT/KAL
DRAWN BY	SEE
DATE	01/02/2024
SCALE	AS SHOWN
PROJ. NO.	PORS00021
DRAWING	STE
SHEET	1

PROJECT INFORMATION:
FILE PATH: G:\Projects\PORS\00021\Plans\
FILE NAME: PORS00021_SITE.dwg
LAST SAVED DATE AND TIME: 20 Dec 2023, 12:44PM
LAST SAVE BY: Scadman

TMS Site 24374: Traffic Monitoring Report

Location Description: Segment 0370/1400 between telephone poles

Details

Type of Count	MACHINE CLASS
Type of Site	Portable
Schedule	1 TIME/YR
Duration	24 HRS
Frequency Cycle	03
Cycle Year	02

Location

County	CHESTER (15)
Route	0100
Segment	0370
Offset	1400
Latitude	40.09864
Longitude	-75.69506

Map

Traffic Data

Date	Volume	Truck Volume	Truck %	Volume Graph
Aug 16, 2022	15,036	940	6.3	
Aug 20, 2019	15,296	1,891	12.4	
Sep 22, 2015	17,468			
Aug 29, 2012	16,629	1,313	7.9	
Oct 14, 2009	16,848	1,288	7.6	
Oct 24, 2006	16,019	1,389	8.7	
Sep 01, 2005	15,689	1,117	7.1	
Oct 30, 2003	16,833			
Sep 06, 2000	11,608			
Oct 21, 1997	12,357			
July 20, 1995	14,462			
Aug 11, 1994	14,010			
May 25, 1993	13,602			

TMS Site 24374: Traffic Monitoring Report

Location Description: Segment 0370/1400 between telephone poles

Details

Type of Count	MACHINE CLASS
Type of Site	Portable
Schedule	1 TIME/YR
Duration	24 HRS
Frequency Cycle	03
Cycle Year	02

Location

County	CHESTER (15)
Route	0100
Segment	0370
Offset	1400
Latitude	40.09864
Longitude	-75.69506

Map

Traffic Data

Hour	Volume	Trucks	Truck %	Volume Graph
12:00 AM	54	1	1.9	
01:00 AM	44	4	9.1	
02:00 AM	33	5	15.2	
03:00 AM	63	14	22.2	
04:00 AM	128	17	13.3	
05:00 AM	382	57	14.9	
06:00 AM	738	88	11.9	
07:00 AM	905	61	6.7	
08:00 AM	699	42	6	
09:00 AM	868	76	8.8	
10:00 AM	866	69	8	
11:00 AM	1,028	72	7	
12:00 PM	927	67	7.2	
01:00 PM	894	58	6.5	
02:00 PM	938	52	5.5	
03:00 PM	1,145	77	6.7	
04:00 PM	1,205	56	4.6	
05:00 PM	1,273	45	3.5	
06:00 PM	870	19	2.2	
07:00 PM	667	17	2.5	
08:00 PM	580	18	3.1	
09:00 PM	406	15	3.7	
10:00 PM	214	7	3.3	
11:00 PM	109	3	2.8	

APPENDIX B:

Study Area Photographs

Job #: TMAS.00013 Date Taken: 06-12-2023 Intersection Of: Route 100 & Font Road

Direction / Road: EB Font Road
Approach / Departure: Approach
Distance: 50 feet

Direction / Road: EB Font Road
Approach / Departure: Approach
Distance: 200 Feet

Job #: TMAS.00013 Date Taken: 06-12-2023 Intersection Of: Route 100 & Font Road

Direction / Road: NB Route 100
Approach / Departure: Approach
Distance: 50 feet

Direction / Road: NB Route 100
Approach / Departure: Approach
Distance: 200 Feet

Job #: TMAS.00013 Date Taken: 06-12-2023 Intersection Of: Route 100 & Font Road

Direction / Road: SB Route 100
Approach / Departure: Approach
Distance: 50 feet

Direction / Road: SB Route 100
Approach / Departure: Approach
Distance: 200 Feet

Job #: TMAS.00013 Date Taken: 06-12-2023 Intersection Of: Route 100 & Fellowship Road

Direction / Road: EB Fellowship Road
Approach / Departure: Approach
Distance: 50 feet

Direction / Road: EB Fellowship Road
Approach / Departure: Approach
Distance: 200 Feet

Job #: TMAS.00013 Date Taken: 06-12-2023 Intersection Of: Route 100 & Fellowship Road

Direction / Road: WB Reserve Drive
Approach / Departure: Approach
Distance: 50 feet

Direction / Road: WB Reserve Drive
Approach / Departure: Approach
Distance: 200 Feet

Job #: TMAS.00013 Date Taken: 06-12-2023 Intersection Of: Route 100 & Fellowship Road

Direction / Road: NB Route 100
Approach / Departure: Approach
Distance: 50 feet

Direction / Road: NB Route 100
Approach / Departure: Approach
Distance: 200 Feet

Job #: TMAS.00013 Date Taken: 06-12-2023 Intersection Of: Route 100 & Fellowship Road

Direction / Road: SB Route 100
Approach / Departure: Approach
Distance: 50 feet

Direction / Road: SB Route 100
Approach / Departure: Approach
Distance: 200 Feet

Job #: TMAS.00013 Date Taken: 06-12-2023 Intersection Of: Route 100 & Garrison Road/Milford Road

Direction / Road: EB Garrison Road
Approach / Departure: Approach
Distance: 50 feet

Direction / Road: EB Garrison Road
Approach / Departure: Approach
Distance: 200 Feet

Job #: TMAS.00013 Date Taken: 06-12-2023 Intersection Of: Route 100 & Garrison Road/Milford Road

Direction / Road: WB Milford Road
Approach / Departure: Approach
Distance: 50 feet

Direction / Road: WB Milford Road
Approach / Departure: Approach
Distance: 200 Feet

Job #: TMAS.00013 Date Taken: 06-12-2023 Intersection Of: Route 100 & Garrison Road/Milford Road

Direction / Road: NB Route 100
Approach / Departure: Approach
Distance: 50 feet

Direction / Road: NB Route 100
Approach / Departure: Approach
Distance: 200 Feet

Job #: TMAS.00013 Date Taken: 06-12-2023 Intersection Of: Route 100 & Garrison Road/Milford Road

Direction / Road: SB Route 100
Approach / Departure: Approach
Distance: 50 feet

Direction / Road: SB Route 100
Approach / Departure: Approach
Distance: 200 Feet

APPENDIX C:

Manual Traffic Count Data

Counter: MIO:
Set up By JB:

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

Count Name: 1 Route 100 & Font Road
Site Code:
Start Date: 06/08/2023

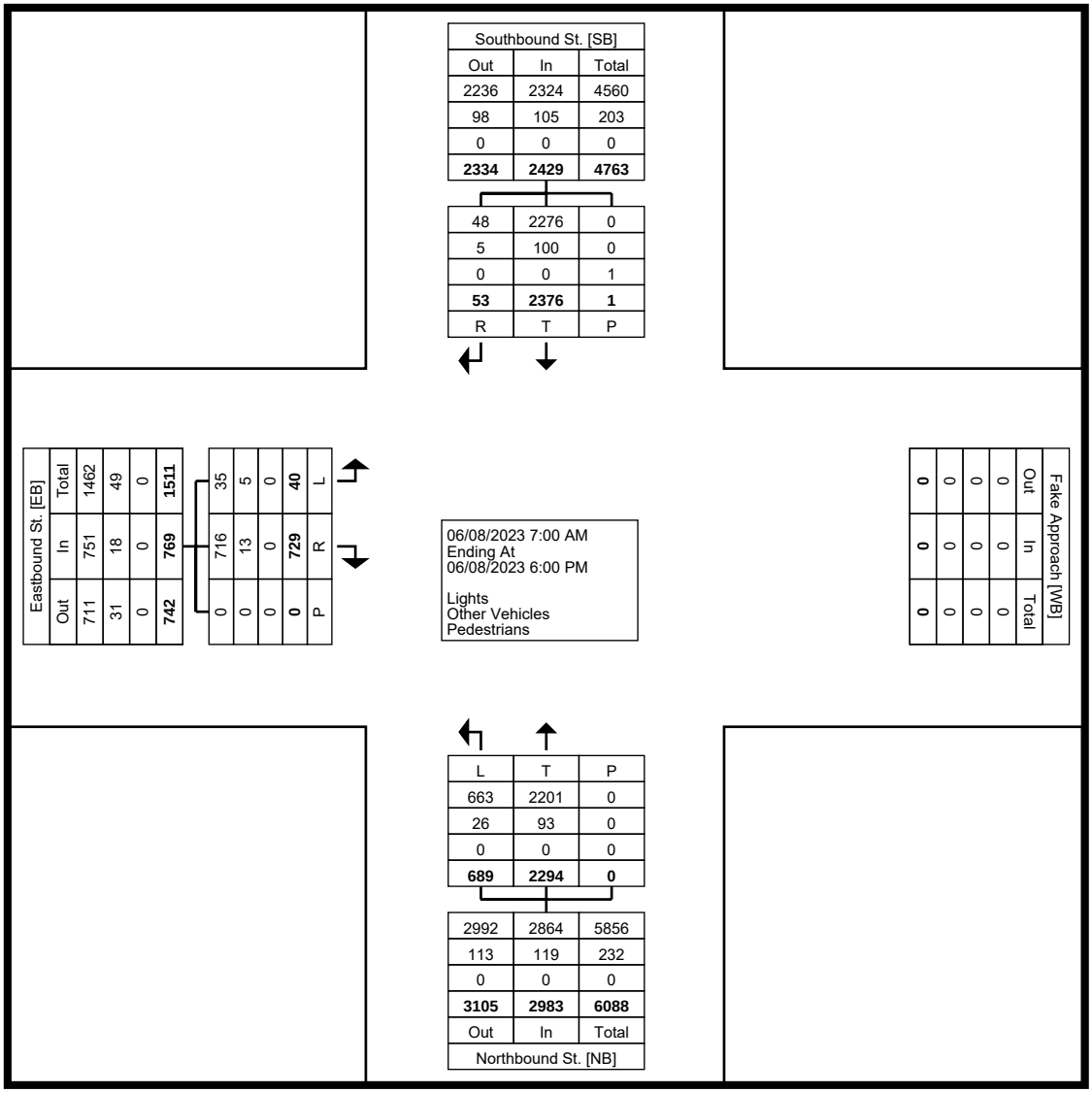
Turning Movement Data

Start Time	Eastbound St. Eastbound				Northbound St. Northbound				Southbound St. Southbound				
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	2	57	0	59	15	56	0	71	175	1	0	176	306
7:15 AM	2	53	0	55	13	56	0	69	208	3	0	211	335
7:30 AM	2	45	0	47	24	72	0	96	209	1	0	210	353
7:45 AM	3	46	0	49	23	105	0	128	187	0	0	187	364
Hourly Total	9	201	0	210	75	289	0	364	779	5	0	784	1358
8:00 AM	3	55	0	58	27	74	0	101	128	1	1	129	288
8:15 AM	0	59	0	59	32	75	0	107	162	0	0	162	328
8:30 AM	2	60	0	62	31	98	0	129	182	4	0	186	377
8:45 AM	4	39	0	43	29	100	0	129	127	7	0	134	306
Hourly Total	9	213	0	222	119	347	0	466	599	12	1	611	1299
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	4	47	0	51	61	210	0	271	117	6	0	123	445
4:15 PM	1	34	0	35	56	217	0	273	127	1	0	128	436
4:30 PM	3	30	0	33	63	216	0	279	138	3	0	141	453
4:45 PM	4	38	0	42	48	208	0	256	134	3	0	137	435
Hourly Total	12	149	0	161	228	851	0	1079	516	13	0	529	1769
5:00 PM	3	32	0	35	62	219	0	281	106	5	0	111	427
5:15 PM	3	45	0	48	85	213	0	298	128	4	0	132	478
5:30 PM	3	42	0	45	61	214	0	275	130	4	0	134	454
5:45 PM	1	47	0	48	59	161	0	220	118	10	0	128	396
Hourly Total	10	166	0	176	267	807	0	1074	482	23	0	505	1755
Grand Total	40	729	0	769	689	2294	0	2983	2376	53	1	2429	6181
Approach %	5.2	94.8	-	-	23.1	76.9	-	-	97.8	2.2	-	-	-
Total %	0.6	11.8	-	12.4	11.1	37.1	-	48.3	38.4	0.9	-	39.3	-
Lights	35	716	-	751	663	2201	-	2864	2276	48	-	2324	5939
% Lights	87.5	98.2	-	97.7	96.2	95.9	-	96.0	95.8	90.6	-	95.7	96.1
Other Vehicles	5	13	-	18	26	93	-	119	100	5	-	105	242
% Other Vehicles	12.5	1.8	-	2.3	3.8	4.1	-	4.0	4.2	9.4	-	4.3	3.9
Pedestrians	-	-	0	-	-	-	0	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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

Counter: MIO:
Set up By JB:

Count Name: 1 Route 100 & Font Road
Site Code:
Start Date: 06/08/2023



Turning Movement Data Plot

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

Counter: MIO:
Set up By JB:

Count Name: 1 Route 100 & Font Road
Site Code:
Start Date: 06/08/2023

Turning Movement Peak Hour Data (7:00 AM)

Start Time	Eastbound St. Eastbound				Northbound St. Northbound				Southbound St. Southbound				
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	2	57	0	59	15	56	0	71	175	1	0	176	306
7:15 AM	2	53	0	55	13	56	0	69	208	3	0	211	335
7:30 AM	2	45	0	47	24	72	0	96	209	1	0	210	353
7:45 AM	3	46	0	49	23	105	0	128	187	0	0	187	364
Total	9	201	0	210	75	289	0	364	779	5	0	784	1358
Approach %	4.3	95.7	-	-	20.6	79.4	-	-	99.4	0.6	-	-	-
Total %	0.7	14.8	-	15.5	5.5	21.3	-	26.8	57.4	0.4	-	57.7	-
PHF	0.750	0.882	-	0.890	0.781	0.688	-	0.711	0.932	0.417	-	0.929	0.933
Lights	5	197	-	202	64	264	-	328	735	4	-	739	1269
% Lights	55.6	98.0	-	96.2	85.3	91.3	-	90.1	94.4	80.0	-	94.3	93.4
Other Vehicles	4	4	-	8	11	25	-	36	44	1	-	45	89
% Other Vehicles	44.4	2.0	-	3.8	14.7	8.7	-	9.9	5.6	20.0	-	5.7	6.6
Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Counter: MIO:
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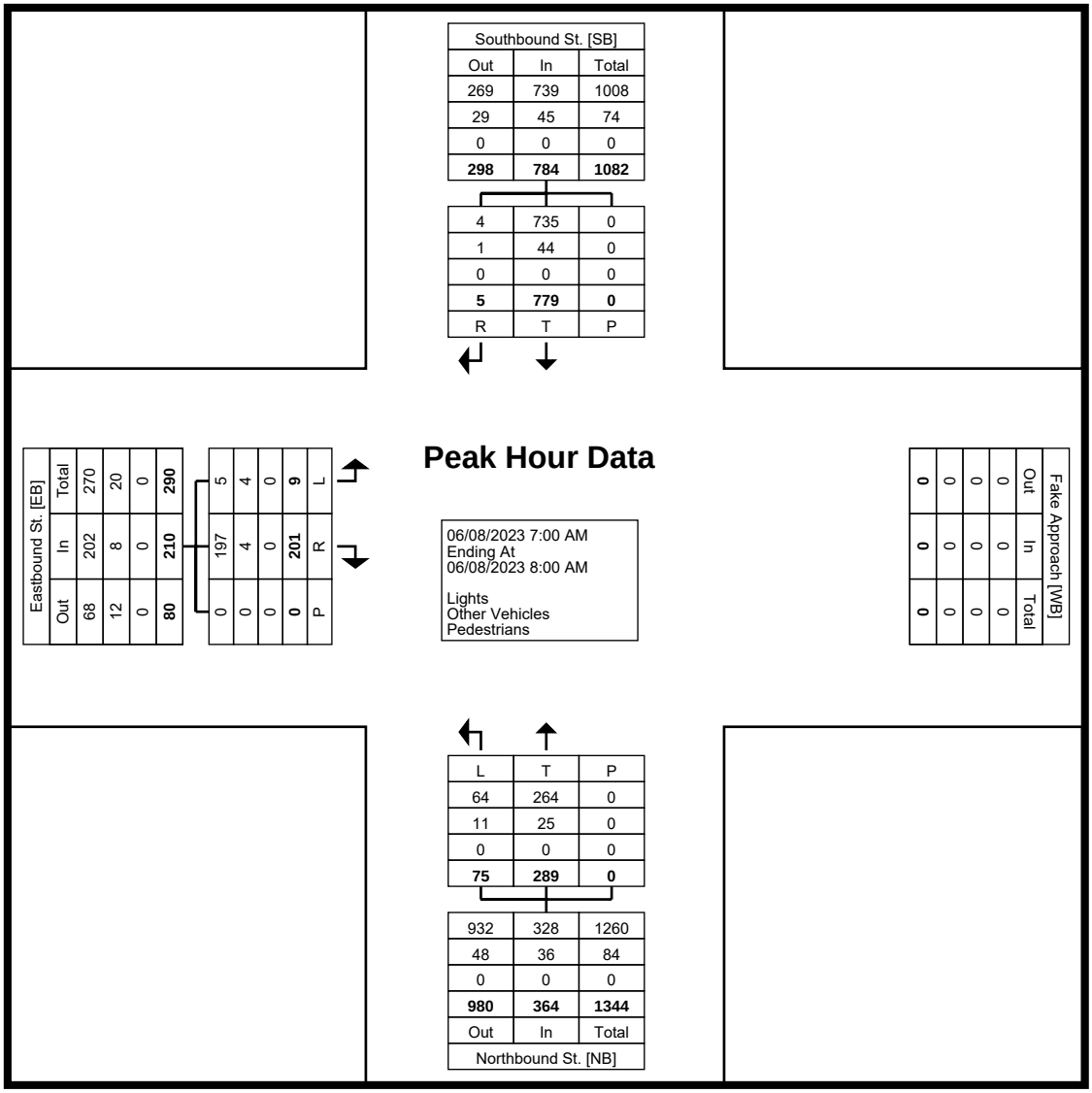
Site Code:
Start Date: 06/08/2023



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

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

Counter: MIO:
Set up By JB:

Count Name: 1 Route 100 & Font Road
Site Code:
Start Date: 06/08/2023

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Eastbound St. Eastbound				Northbound St. Northbound				Southbound St. Southbound				
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
4:45 PM	4	38	0	42	48	208	0	256	134	3	0	137	435
5:00 PM	3	32	0	35	62	219	0	281	106	5	0	111	427
5:15 PM	3	45	0	48	85	213	0	298	128	4	0	132	478
5:30 PM	3	42	0	45	61	214	0	275	130	4	0	134	454
Total	13	157	0	170	256	854	0	1110	498	16	0	514	1794
Approach %	7.6	92.4	-	-	23.1	76.9	-	-	96.9	3.1	-	-	-
Total %	0.7	8.8	-	9.5	14.3	47.6	-	61.9	27.8	0.9	-	28.7	-
PHF	0.813	0.872	-	0.885	0.753	0.975	-	0.931	0.929	0.800	-	0.938	0.938
Lights	12	157	-	169	253	839	-	1092	484	14	-	498	1759
% Lights	92.3	100.0	-	99.4	98.8	98.2	-	98.4	97.2	87.5	-	96.9	98.0
Other Vehicles	1	0	-	1	3	15	-	18	14	2	-	16	35
% Other Vehicles	7.7	0.0	-	0.6	1.2	1.8	-	1.6	2.8	12.5	-	3.1	2.0
Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-

Traffic Planning and Design, Inc
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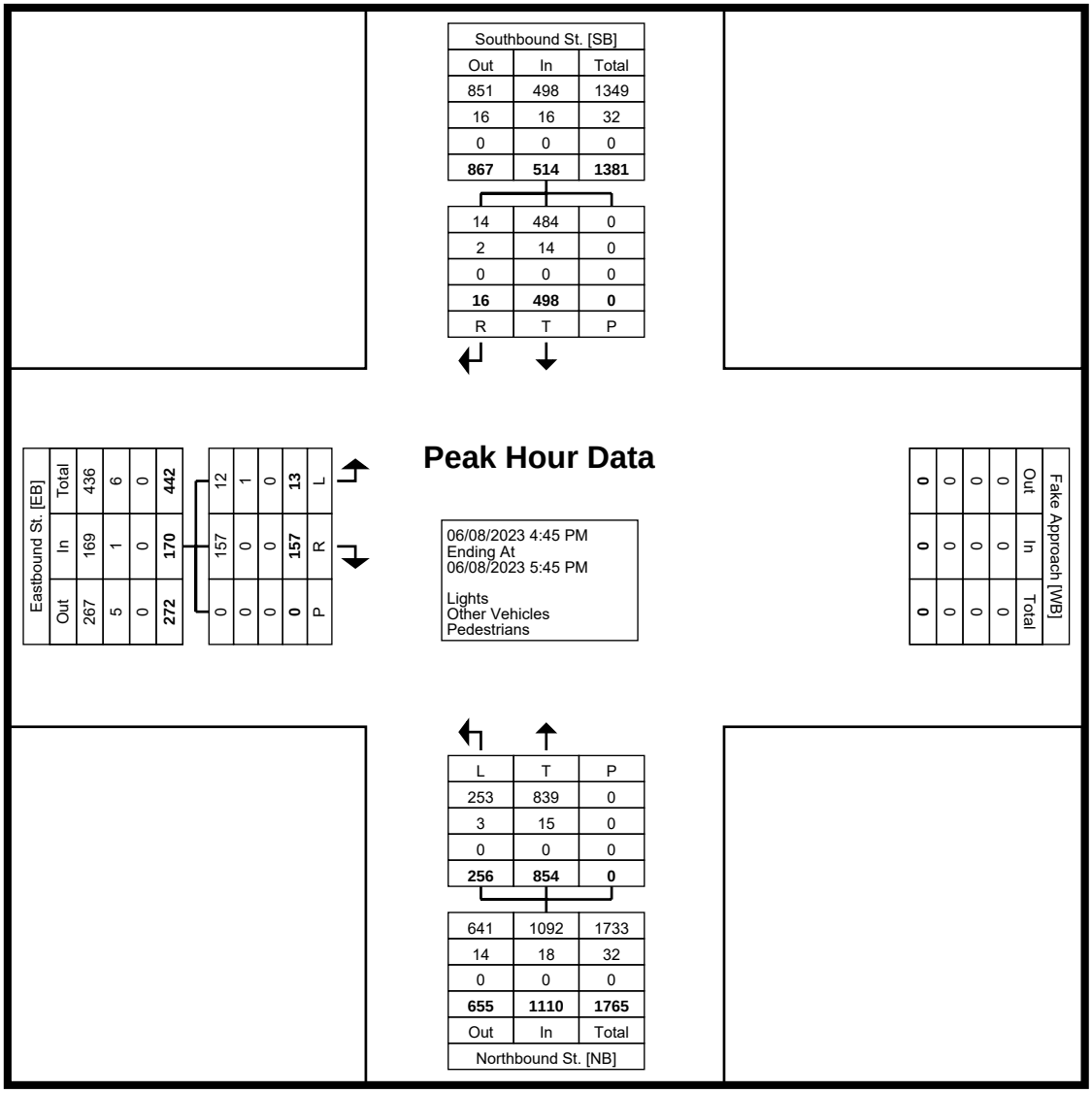
610.326.3100

Counter: MIO:
Set up By JB:

Count Name: 1 Route 100 & Font Road
Site Code:
Start Date: 06/08/2023



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

Counter: MIO:
Set up By JB:

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

Count Name: 2 Route 100 & Fellowship Road
Site Code:
Start Date: 06/08/2023

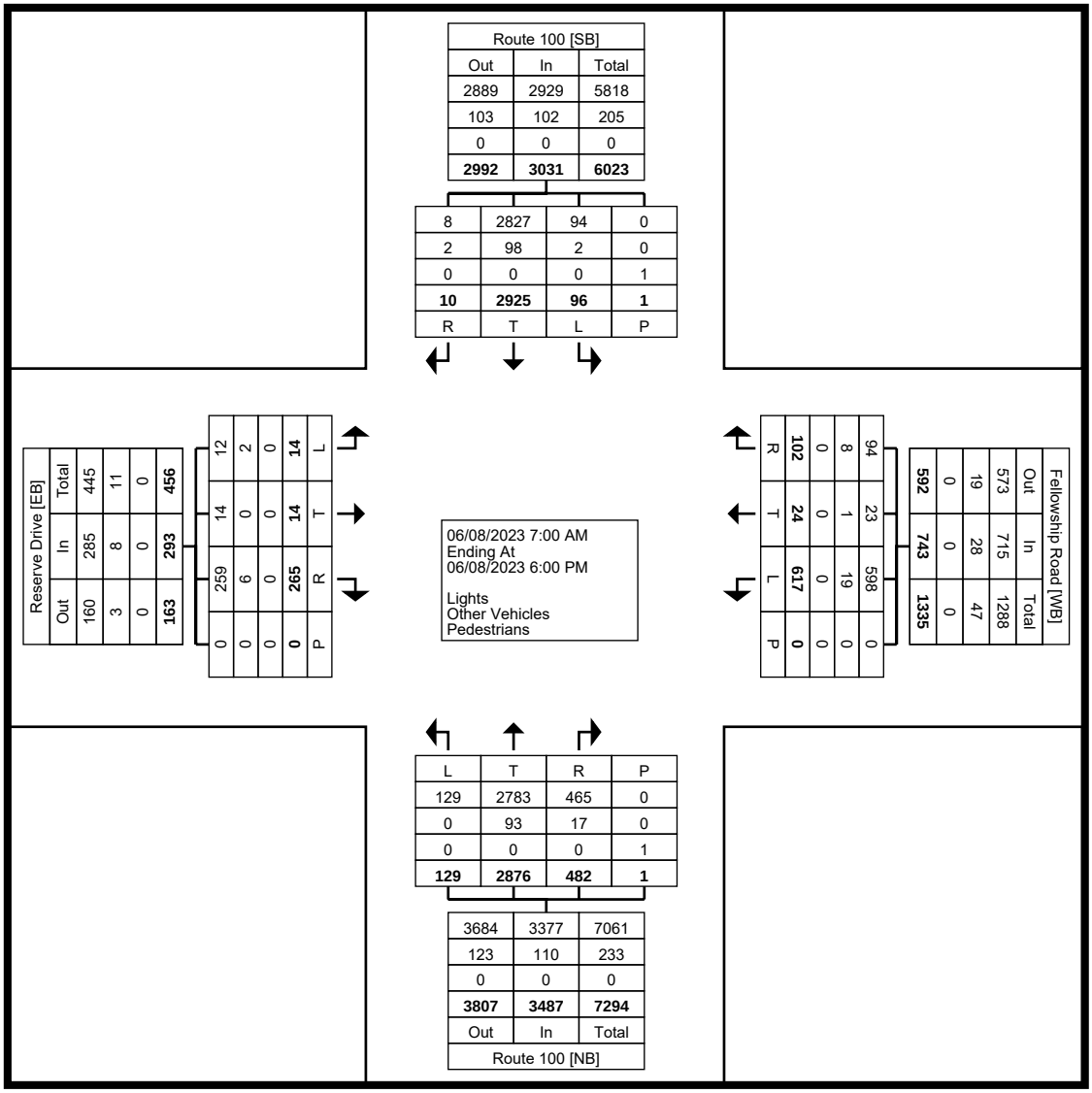
Turning Movement Data

Start Time	Reserve Drive Eastbound						Fellowship Road Westbound						Route 100 Northbound						Route 100 Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
7:00 AM	0	0	19	3	0	22	31	0	4	0	0	35	2	72	7	0	0	81	5	225	2	0	0	232	370
7:15 AM	0	0	15	1	0	16	34	0	4	0	0	38	3	66	13	5	1	87	10	233	1	0	0	244	385
7:30 AM	3	0	11	1	0	15	21	0	3	0	0	24	7	90	11	1	0	109	3	230	0	0	0	233	381
7:45 AM	0	0	19	0	0	19	60	2	8	1	0	71	7	120	16	4	0	147	5	211	0	0	0	216	453
Hourly Total	3	0	64	5	0	72	146	2	19	1	0	168	19	348	47	10	1	424	23	899	3	0	0	925	1589
8:00 AM	0	0	8	7	0	15	60	1	6	7	0	74	4	93	13	3	0	113	9	176	0	0	0	185	387
8:15 AM	0	0	10	15	0	25	55	1	1	8	0	65	3	97	8	6	0	114	4	191	0	0	0	195	399
8:30 AM	0	0	11	6	0	17	50	0	2	5	0	57	1	122	26	4	0	153	6	202	0	1	0	209	436
8:45 AM	2	0	9	7	0	18	43	1	3	2	0	49	8	123	18	9	0	158	13	179	0	0	0	192	417
Hourly Total	2	0	38	35	0	75	208	3	12	22	0	245	16	435	65	22	0	538	32	748	0	1	0	781	1639
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	3	10	1	0	14	24	3	9	2	0	38	7	257	36	9	0	309	4	155	0	0	0	159	520
4:15 PM	3	2	7	5	0	17	30	5	2	3	0	40	7	267	30	6	0	310	2	169	0	0	0	171	538
4:30 PM	2	2	22	2	0	28	30	0	4	5	0	39	17	263	27	1	0	308	3	165	0	0	0	168	543
4:45 PM	0	1	10	2	0	13	38	0	4	1	0	43	16	246	27	2	0	291	5	160	1	1	0	167	514
Hourly Total	5	8	49	10	0	72	122	8	19	11	0	160	47	1033	120	18	0	1218	14	649	1	1	0	665	2115
5:00 PM	1	1	8	11	0	21	40	4	2	1	0	47	13	278	37	4	0	332	5	129	0	1	1	135	535
5:15 PM	1	3	8	10	0	22	28	1	3	4	0	36	9	292	51	4	0	356	5	178	0	0	0	183	597
5:30 PM	1	0	8	6	0	15	30	5	2	2	0	39	16	274	44	14	0	348	6	160	1	1	0	168	570
5:45 PM	1	2	7	6	0	16	43	1	3	1	0	48	9	216	40	6	0	271	11	162	0	1	0	174	509
Hourly Total	4	6	31	33	0	74	141	11	10	8	0	170	47	1060	172	28	0	1307	27	629	1	3	1	660	2211
Grand Total	14	14	182	83	0	293	617	24	60	42	0	743	129	2876	404	78	1	3487	96	2925	5	5	1	3031	7554
Approach %	4.8	4.8	62.1	28.3	-	-	83.0	3.2	8.1	5.7	-	-	3.7	82.5	11.6	2.2	-	-	3.2	96.5	0.2	0.2	-	-	-
Total %	0.2	0.2	2.4	1.1	-	3.9	8.2	0.3	0.8	0.6	-	9.8	1.7	38.1	5.3	1.0	-	46.2	1.3	38.7	0.1	0.1	-	40.1	-
Lights	12	14	178	81	-	285	598	23	53	41	-	715	129	2783	390	75	-	3377	94	2827	3	5	-	2929	7306
% Lights	85.7	100.0	97.8	97.6	-	97.3	96.9	95.8	88.3	97.6	-	96.2	100.0	96.8	96.5	96.2	-	96.8	97.9	96.6	60.0	100.0	-	96.6	96.7
Other Vehicles	2	0	4	2	-	8	19	1	7	1	-	28	0	93	14	3	-	110	2	98	2	0	-	102	248
% Other Vehicles	14.3	0.0	2.2	2.4	-	2.7	3.1	4.2	11.7	2.4	-	3.8	0.0	3.2	3.5	3.8	-	3.2	2.1	3.4	40.0	0.0	-	3.4	3.3
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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

Counter: MIO:
Set up By JB:

Count Name: 2 Route 100 &
Fellowship Road
Site Code:
Start Date: 06/08/2023



Turning Movement Data Plot

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

Counter: MIO:
Set up By JB:

Count Name: 2 Route 100 & Fellowship Road
Site Code:
Start Date: 06/08/2023

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Reserve Drive Eastbound						Fellowship Road Westbound						Route 100 Northbound						Route 100 Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
7:45 AM	0	0	19	0	0	19	60	2	8	1	0	71	7	120	16	4	0	147	5	211	0	0	0	216	453
8:00 AM	0	0	8	7	0	15	60	1	6	7	0	74	4	93	13	3	0	113	9	176	0	0	0	185	387
8:15 AM	0	0	10	15	0	25	55	1	1	8	0	65	3	97	8	6	0	114	4	191	0	0	0	195	399
8:30 AM	0	0	11	6	0	17	50	0	2	5	0	57	1	122	26	4	0	153	6	202	0	1	0	209	436
Total	0	0	48	28	0	76	225	4	17	21	0	267	15	432	63	17	0	527	24	780	0	1	0	805	1675
Approach %	0.0	0.0	63.2	36.8	-	-	84.3	1.5	6.4	7.9	-	-	2.8	82.0	12.0	3.2	-	-	3.0	96.9	0.0	0.1	-	-	-
Total %	0.0	0.0	2.9	1.7	-	4.5	13.4	0.2	1.0	1.3	-	15.9	0.9	25.8	3.8	1.0	-	31.5	1.4	46.6	0.0	0.1	-	48.1	-
PHF	0.000	0.000	0.632	0.467	-	0.760	0.938	0.500	0.531	0.656	-	0.902	0.536	0.885	0.606	0.708	-	0.861	0.667	0.924	0.000	0.250	-	0.932	0.924
Lights	0	0	46	27	-	73	214	3	13	20	-	250	15	402	58	17	-	492	23	751	0	1	-	775	1590
% Lights	-	-	95.8	96.4	-	96.1	95.1	75.0	76.5	95.2	-	93.6	100.0	93.1	92.1	100.0	-	93.4	95.8	96.3	-	100.0	-	96.3	94.9
Other Vehicles	0	0	2	1	-	3	11	1	4	1	-	17	0	30	5	0	-	35	1	29	0	0	-	30	85
% Other Vehicles	-	-	4.2	3.6	-	3.9	4.9	25.0	23.5	4.8	-	6.4	0.0	6.9	7.9	0.0	-	6.6	4.2	3.7	-	0.0	-	3.7	5.1
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Traffic Planning and Design, Inc
2500 East High Street
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Counter: MIO:
Set up By JB:

Count Name: 2 Route 100 &
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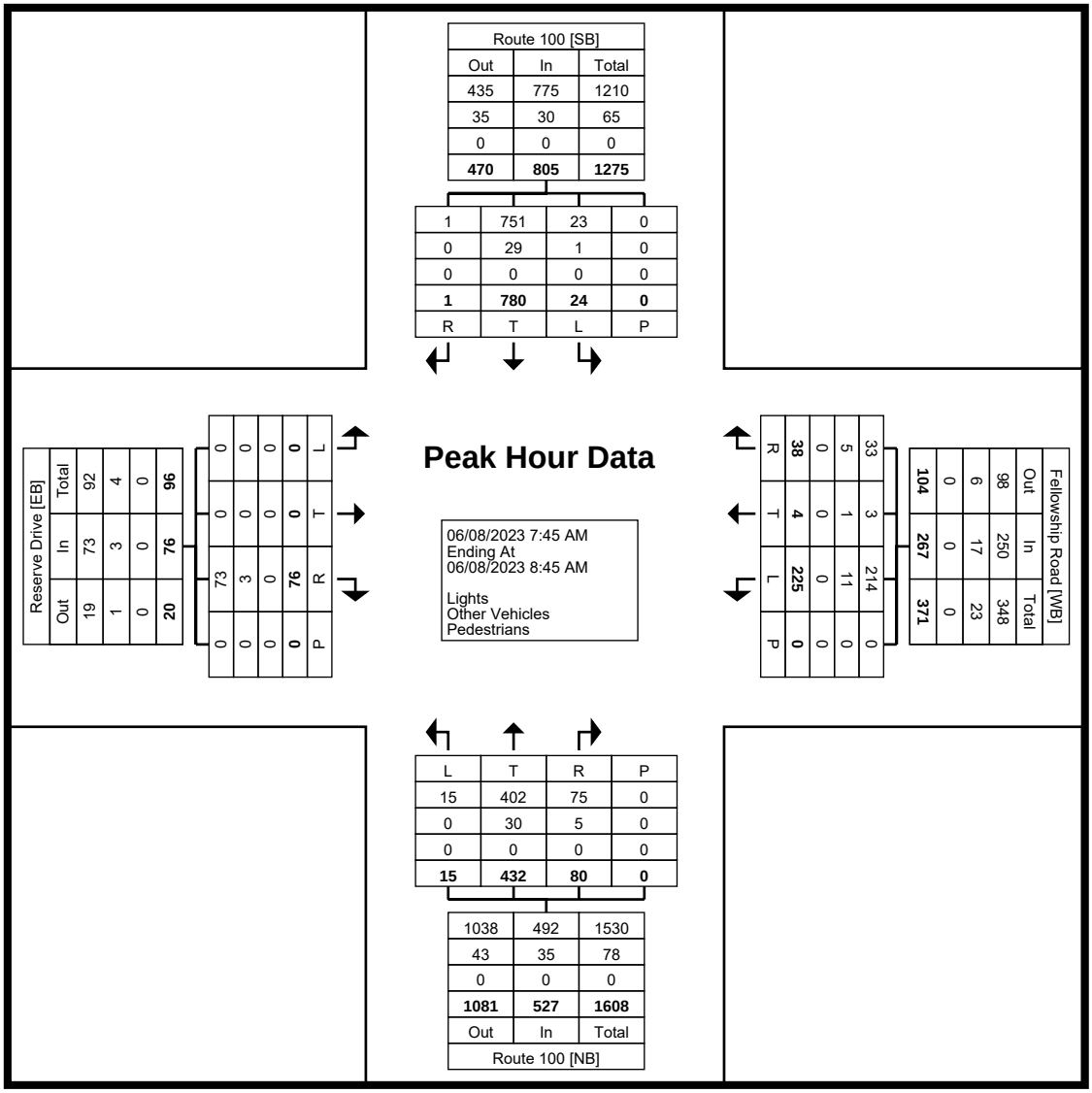
Start Date: 06/08/2023



Turning Movement Peak Hour Data Plot (7:45 AM)

Counter: MIO:
Set up By JB:

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

Count Name: 2 Route 100 & Fellowship Road
Site Code:
Start Date: 06/08/2023

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Reserve Drive Eastbound						Fellowship Road Westbound						Route 100 Northbound						Route 100 Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
4:45 PM	0	1	10	2	0	13	38	0	4	1	0	43	16	246	27	2	0	291	5	160	1	1	0	167	514
5:00 PM	1	1	8	11	0	21	40	4	2	1	0	47	13	278	37	4	0	332	5	129	0	1	1	135	535
5:15 PM	1	3	8	10	0	22	28	1	3	4	0	36	9	292	51	4	0	356	5	178	0	0	0	183	597
5:30 PM	1	0	8	6	0	15	30	5	2	2	0	39	16	274	44	14	0	348	6	160	1	1	0	168	570
Total	3	5	34	29	0	71	136	10	11	8	0	165	54	1090	159	24	0	1327	21	627	2	3	1	653	2216
Approach %	4.2	7.0	47.9	40.8	-	-	82.4	6.1	6.7	4.8	-	-	4.1	82.1	12.0	1.8	-	-	3.2	96.0	0.3	0.5	-	-	-
Total %	0.1	0.2	1.5	1.3	-	3.2	6.1	0.5	0.5	0.4	-	7.4	2.4	49.2	7.2	1.1	-	59.9	0.9	28.3	0.1	0.1	-	29.5	-
PHF	0.750	0.417	0.850	0.659	-	0.807	0.850	0.500	0.688	0.500	-	0.878	0.844	0.933	0.779	0.429	-	0.932	0.875	0.881	0.500	0.750	-	0.892	0.928
Lights	3	5	34	28	-	70	135	10	11	8	-	164	54	1074	156	23	-	1307	21	615	2	3	-	641	2182
% Lights	100.0	100.0	100.0	96.6	-	98.6	99.3	100.0	100.0	100.0	-	99.4	100.0	98.5	98.1	95.8	-	98.5	100.0	98.1	100.0	100.0	-	98.2	98.5
Other Vehicles	0	0	0	1	-	1	1	0	0	0	-	1	0	16	3	1	-	20	0	12	0	0	-	12	34
% Other Vehicles	0.0	0.0	0.0	3.4	-	1.4	0.7	0.0	0.0	0.0	-	0.6	0.0	1.5	1.9	4.2	-	1.5	0.0	1.9	0.0	0.0	-	1.8	1.5
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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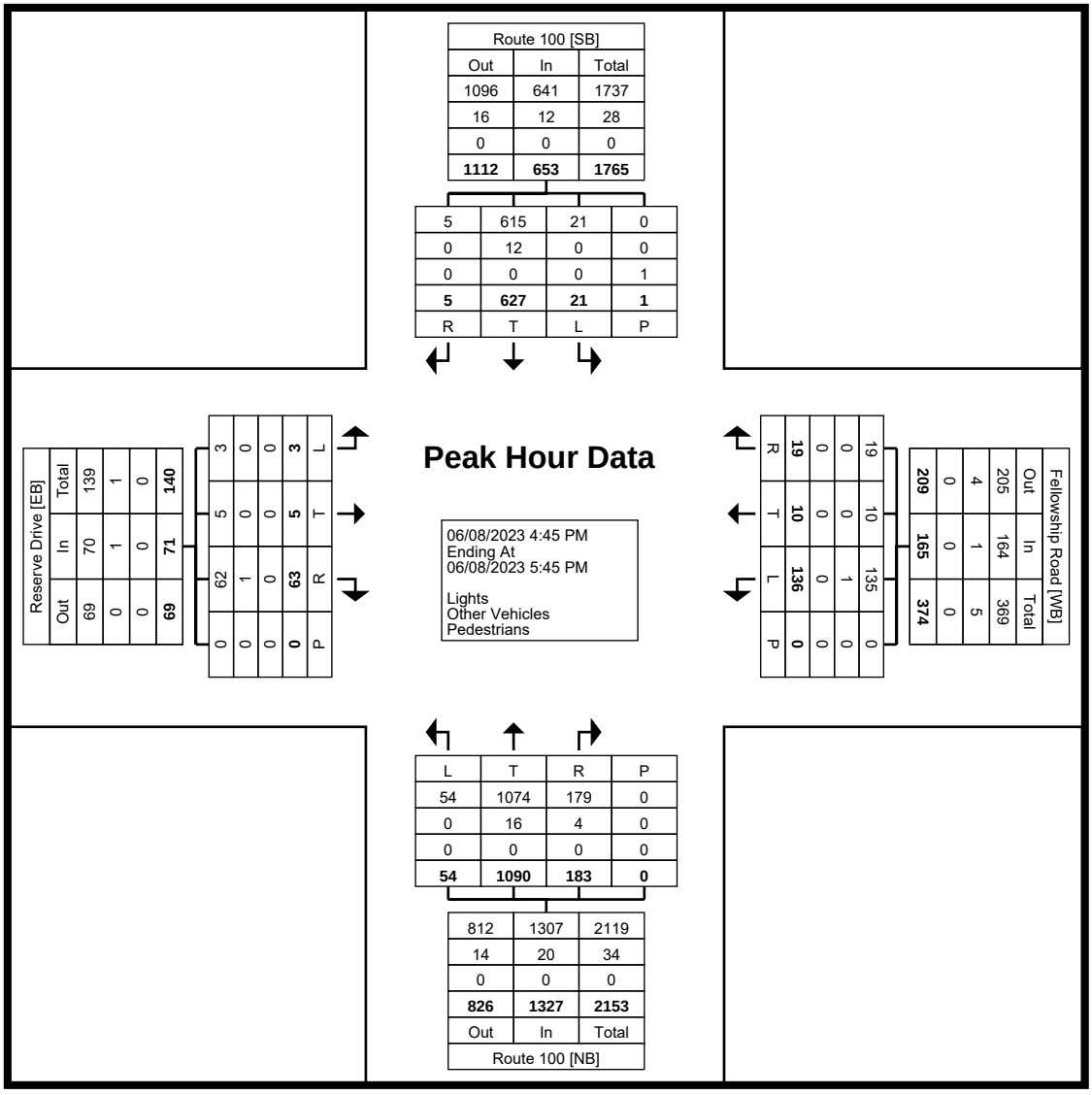
Counter: MIO:
Set up By JB:

Count Name: 2 Route 100 &
Fellowship Road
Site Code:
Start Date: 06/08/2023
Page No: 6



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

Counter: MIO:
Set up By JB:

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Suite 650
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610.326.3100

Count Name: 3 Route 100 & Garrison Road-Milford Road
Site Code:
Start Date: 06/08/2023

Turning Movement Data

Start Time	Milford Road Eastbound					Garrison Road Westbound					Route 100 Northbound					Route 100 Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	4	1	5	0	10	11	0	1	1	12	1	54	3	0	58	0	164	4	0	168	248
7:15 AM	5	1	1	0	7	14	0	2	0	16	1	52	2	0	55	2	192	4	0	198	276
7:30 AM	3	0	5	0	8	9	1	4	0	14	4	68	4	0	76	1	198	6	0	205	303
7:45 AM	7	1	3	0	11	4	1	2	0	7	1	106	2	0	109	2	182	0	0	184	311
Hourly Total	19	3	14	0	36	38	2	9	1	49	7	280	11	0	298	5	736	14	0	755	1138
8:00 AM	3	1	2	0	6	5	0	3	0	8	4	72	3	0	79	4	125	4	0	133	226
8:15 AM	6	0	6	0	12	12	1	2	0	15	1	68	3	0	72	2	147	7	0	156	255
8:30 AM	6	1	7	0	14	12	1	2	0	15	3	94	5	0	102	2	162	3	0	167	298
8:45 AM	4	0	4	0	8	10	0	0	0	10	5	87	8	0	100	1	121	2	0	124	242
Hourly Total	19	2	19	0	40	39	2	7	0	48	13	321	19	0	353	9	555	16	0	580	1021
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	8	1	7	0	16	11	0	1	0	12	6	200	6	0	212	1	100	2	0	103	343
4:15 PM	3	1	2	0	6	14	1	0	0	15	4	204	12	0	220	2	117	4	0	123	364
4:30 PM	3	0	4	0	7	8	0	3	0	11	1	204	13	0	218	1	122	6	0	129	365
4:45 PM	4	0	4	0	8	10	0	2	0	12	9	190	10	0	209	3	120	9	0	132	361
Hourly Total	18	2	17	0	37	43	1	6	0	50	20	798	41	0	859	7	459	21	0	487	1433
5:00 PM	4	0	6	0	10	14	1	4	0	19	3	202	21	0	226	4	89	4	0	97	352
5:15 PM	3	1	3	0	7	17	1	1	0	19	4	196	12	0	212	2	116	4	0	122	360
5:30 PM	1	1	1	0	3	8	1	3	2	12	2	210	10	0	222	9	114	4	0	127	364
5:45 PM	4	1	6	0	11	18	1	2	0	21	3	147	11	0	161	5	106	0	0	111	304
Hourly Total	12	3	16	0	31	57	4	10	2	71	12	755	54	0	821	20	425	12	0	457	1380
Grand Total	68	10	66	0	144	177	9	32	3	218	52	2154	125	0	2331	41	2175	63	0	2279	4972
Approach %	47.2	6.9	45.8	-	-	81.2	4.1	14.7	-	-	2.2	92.4	5.4	-	-	1.8	95.4	2.8	-	-	-
Total %	1.4	0.2	1.3	-	2.9	3.6	0.2	0.6	-	4.4	1.0	43.3	2.5	-	46.9	0.8	43.7	1.3	-	45.8	-
Lights	65	9	65	-	139	171	8	31	-	210	51	2074	119	-	2244	37	2090	60	-	2187	4780
% Lights	95.6	90.0	98.5	-	96.5	96.6	88.9	96.9	-	96.3	98.1	96.3	95.2	-	96.3	90.2	96.1	95.2	-	96.0	96.1
Other Vehicles	3	1	1	-	5	6	1	1	-	8	1	80	6	-	87	4	85	3	-	92	192
% Other Vehicles	4.4	10.0	1.5	-	3.5	3.4	11.1	3.1	-	3.7	1.9	3.7	4.8	-	3.7	9.8	3.9	4.8	-	4.0	3.9
Pedestrians	-	-	-	0	-	-	-	-	3	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

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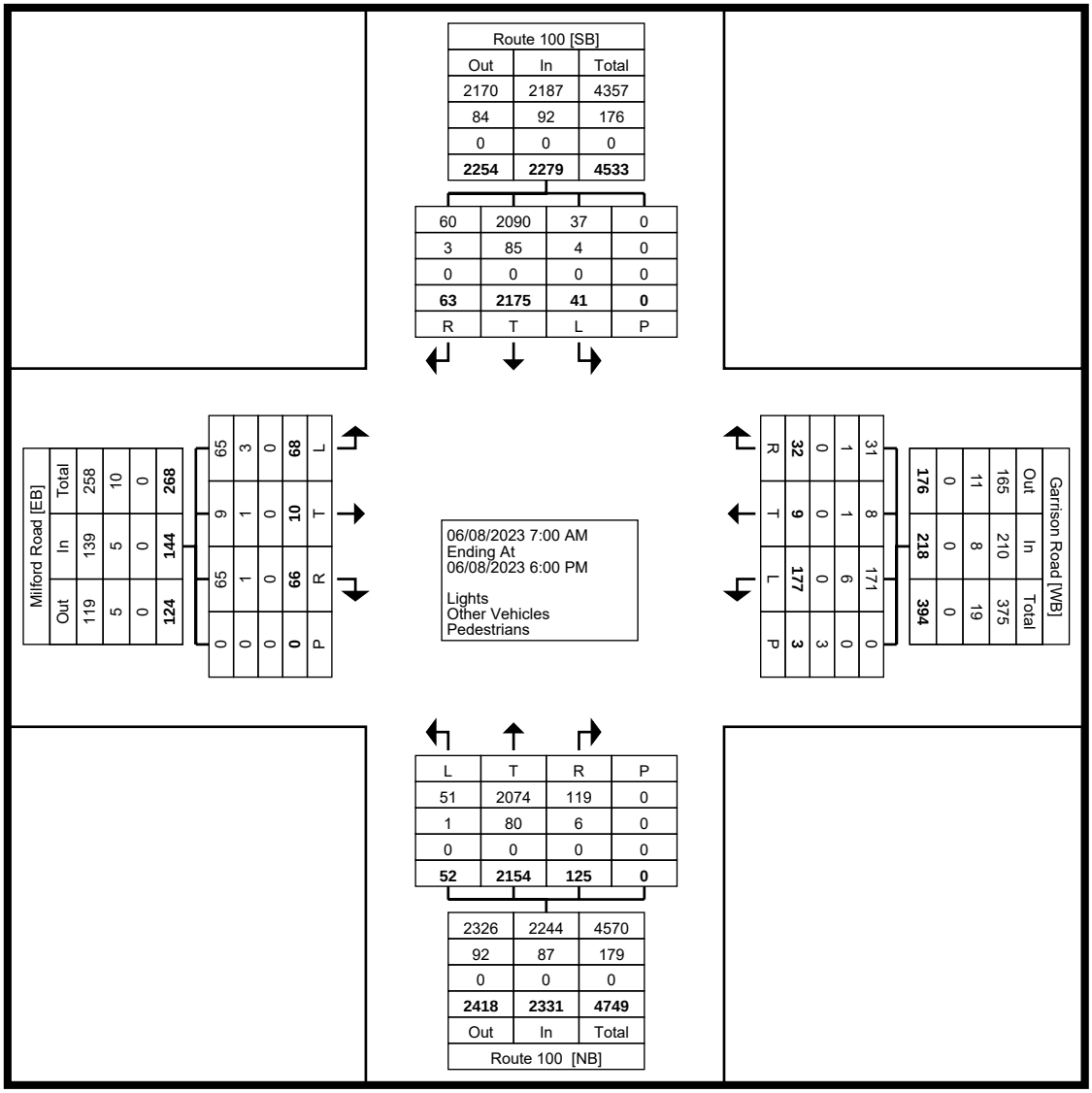
610.326.3100

Counter: MIO:
Set up By JB:

Count Name: 3 Route 100 & Garrison Road-Milford Road
Site Code:
Start Date: 06/08/2023



Turning Movement Data Plot

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

Counter: MIO:
Set up By JB:

Count Name: 3 Route 100 & Garrison Road-Milford Road
Site Code:
Start Date: 06/08/2023

Turning Movement Peak Hour Data (7:00 AM)

Start Time	Milford Road Eastbound					Garrison Road Westbound					Route 100 Northbound					Route 100 Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	4	1	5	0	10	11	0	1	1	12	1	54	3	0	58	0	164	4	0	168	248
7:15 AM	5	1	1	0	7	14	0	2	0	16	1	52	2	0	55	2	192	4	0	198	276
7:30 AM	3	0	5	0	8	9	1	4	0	14	4	68	4	0	76	1	198	6	0	205	303
7:45 AM	7	1	3	0	11	4	1	2	0	7	1	106	2	0	109	2	182	0	0	184	311
Total	19	3	14	0	36	38	2	9	1	49	7	280	11	0	298	5	736	14	0	755	1138
Approach %	52.8	8.3	38.9	-	-	77.6	4.1	18.4	-	-	2.3	94.0	3.7	-	-	0.7	97.5	1.9	-	-	-
Total %	1.7	0.3	1.2	-	3.2	3.3	0.2	0.8	-	4.3	0.6	24.6	1.0	-	26.2	0.4	64.7	1.2	-	66.3	-
PHF	0.679	0.750	0.700	-	0.818	0.679	0.500	0.563	-	0.766	0.438	0.660	0.688	-	0.683	0.625	0.929	0.583	-	0.921	0.915
Lights	19	2	14	-	35	37	2	9	-	48	7	258	6	-	271	4	699	14	-	717	1071
% Lights	100.0	66.7	100.0	-	97.2	97.4	100.0	100.0	-	98.0	100.0	92.1	54.5	-	90.9	80.0	95.0	100.0	-	95.0	94.1
Other Vehicles	0	1	0	-	1	1	0	0	-	1	0	22	5	-	27	1	37	0	-	38	67
% Other Vehicles	0.0	33.3	0.0	-	2.8	2.6	0.0	0.0	-	2.0	0.0	7.9	45.5	-	9.1	20.0	5.0	0.0	-	5.0	5.9
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

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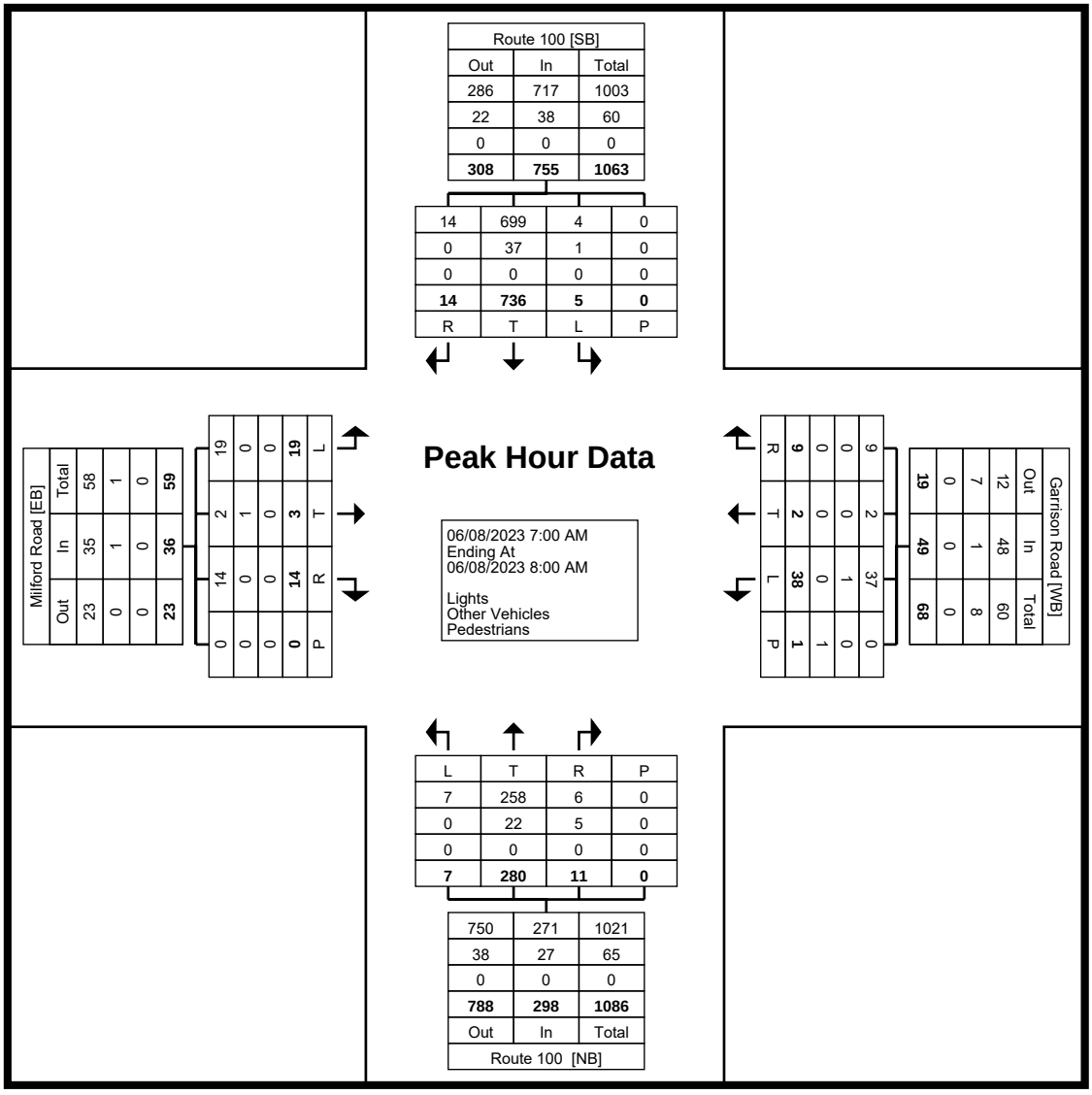
Pottstown, Pennsylvania, United States 19464
610.326.3100

Counter: MIO:
Set up By JB:

Count Name: 3 Route 100 & Garrison Road-Milford Road
Site Code:
Start Date: 06/08/2023



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

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

Counter: MIO:
Set up By JB:

Count Name: 3 Route 100 & Garrison Road-Milford Road
Site Code:
Start Date: 06/08/2023

Turning Movement Peak Hour Data (4:15 PM)

Start Time	Milford Road Eastbound					Garrison Road Westbound					Route 100 Northbound					Route 100 Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:15 PM	3	1	2	0	6	14	1	0	0	15	4	204	12	0	220	2	117	4	0	123	364
4:30 PM	3	0	4	0	7	8	0	3	0	11	1	204	13	0	218	1	122	6	0	129	365
4:45 PM	4	0	4	0	8	10	0	2	0	12	9	190	10	0	209	3	120	9	0	132	361
5:00 PM	4	0	6	0	10	14	1	4	0	19	3	202	21	0	226	4	89	4	0	97	352
Total	14	1	16	0	31	46	2	9	0	57	17	800	56	0	873	10	448	23	0	481	1442
Approach %	45.2	3.2	51.6	-	-	80.7	3.5	15.8	-	-	1.9	91.6	6.4	-	-	2.1	93.1	4.8	-	-	-
Total %	1.0	0.1	1.1	-	2.1	3.2	0.1	0.6	-	4.0	1.2	55.5	3.9	-	60.5	0.7	31.1	1.6	-	33.4	-
PHF	0.875	0.250	0.667	-	0.775	0.821	0.500	0.563	-	0.750	0.472	0.980	0.667	-	0.966	0.625	0.918	0.639	-	0.911	0.988
Lights	13	1	15	-	29	45	2	9	-	56	17	784	55	-	856	10	440	23	-	473	1414
% Lights	92.9	100.0	93.8	-	93.5	97.8	100.0	100.0	-	98.2	100.0	98.0	98.2	-	98.1	100.0	98.2	100.0	-	98.3	98.1
Other Vehicles	1	0	1	-	2	1	0	0	-	1	0	16	1	-	17	0	8	0	-	8	28
% Other Vehicles	7.1	0.0	6.3	-	6.5	2.2	0.0	0.0	-	1.8	0.0	2.0	1.8	-	1.9	0.0	1.8	0.0	-	1.7	1.9
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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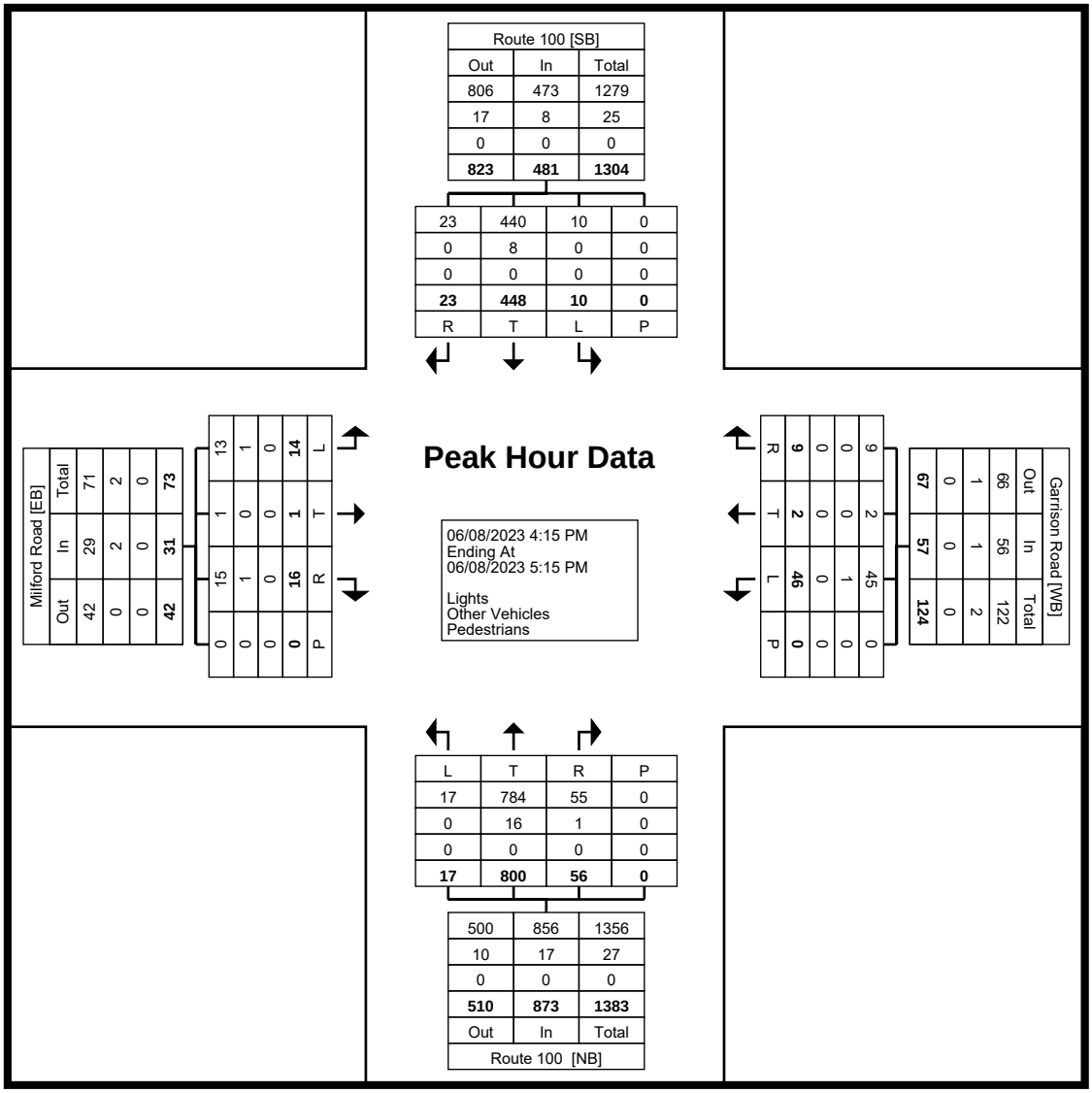
Counter: MIO:
Set up By JB:

Count Name: 3 Route 100 & Garrison Road-Milford Road
Site Code:
Start Date: 06/08/2023



Turning Movement Peak Hour Data Plot (4:15 PM)

APPENDIX D:

Nearby Development Data

McKee-Fetters Tract

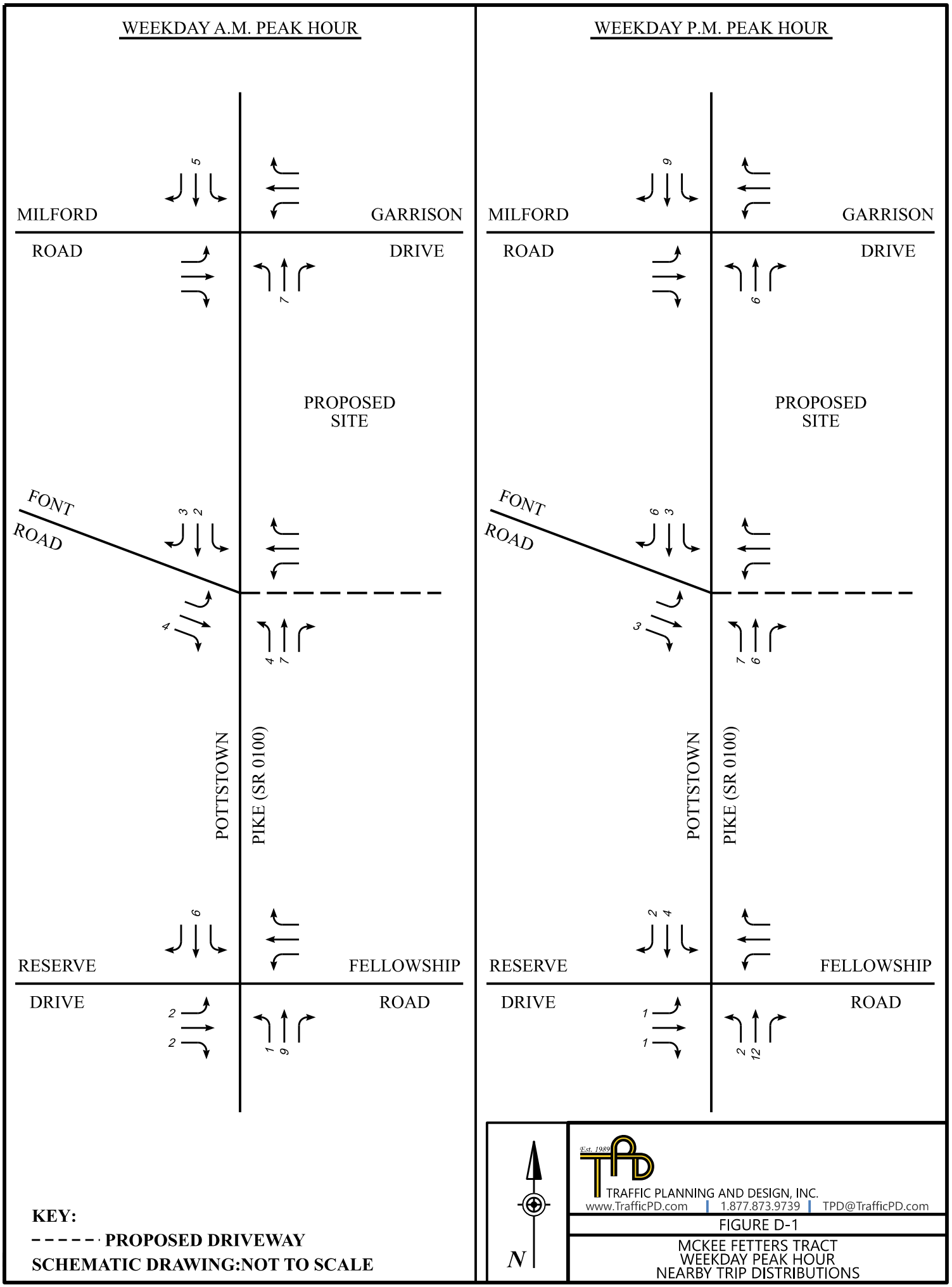

WEEKDAY A.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
PROPOSED SITE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
5
7
3
2
4
4
7
6
2
2
1
9
WEEKDAY P.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
PROPOSED SITE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
9
6
6
3
3
7
6
2
4
1
1
2
12
KEY:
PROPOSED DRIVEWAY
SCHEMATIC DRAWING:NOT TO SCALE
N
Est. 1989
TRAFFIC PLANNING AND DESIGN, INC.
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FIGURE D-1
MCKEE FETTERS TRACT
WEEKDAY PEAK HOUR
NEARBY TRIP DISTRIBUTIONS

Byers Station Parcel 5C Lot 2B

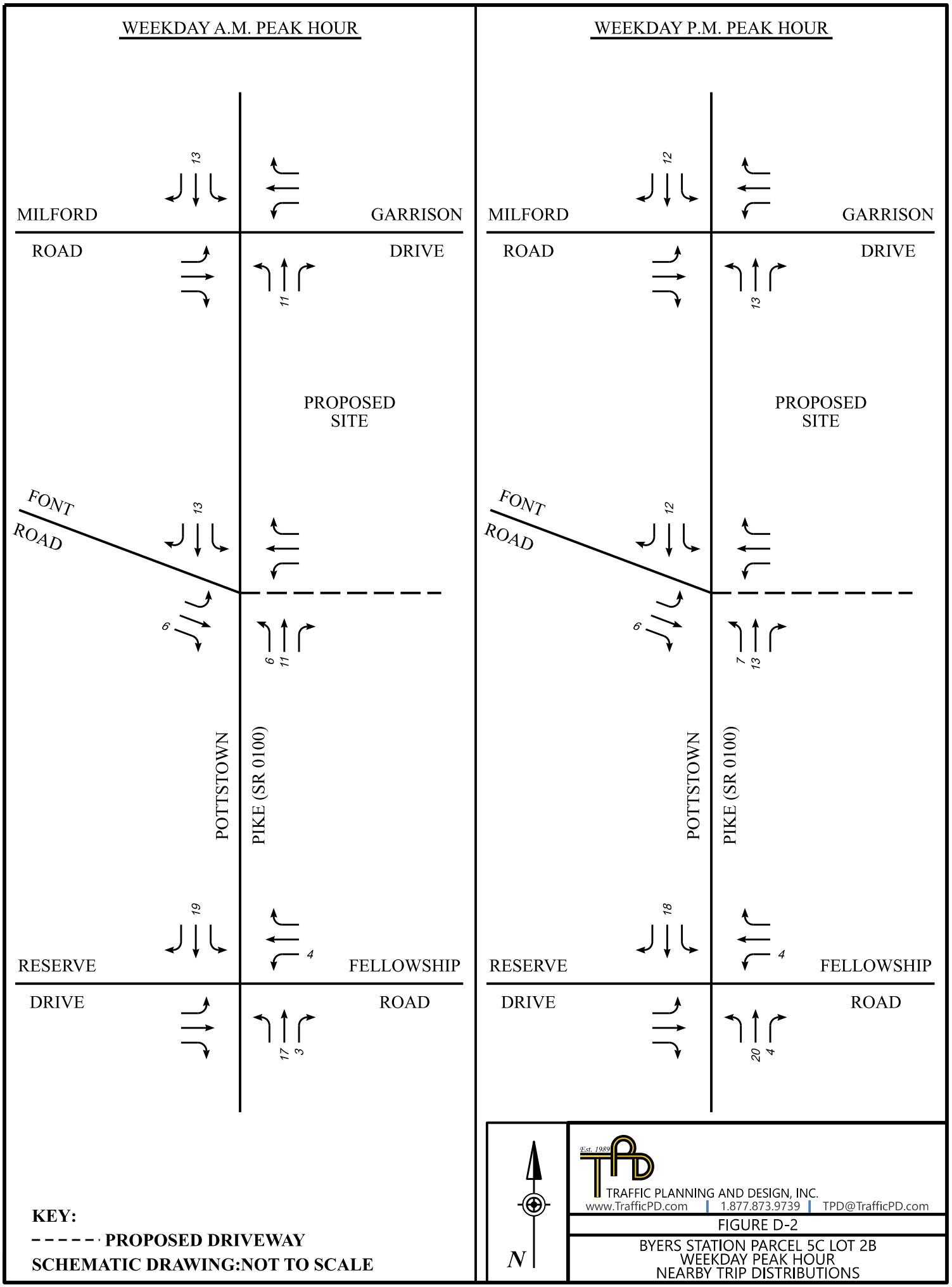
WEEKDAY A.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
PROPOSED SITE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
13
11
13
6
6
11
19
4
17
3
WEEKDAY P.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
PROPOSED SITE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
12
13
12
6
7
13
18
4
20
4
KEY:
PROPOSED DRIVEWAY
SCHEMATIC DRAWING:NOT TO SCALE
N
Est. 1989
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FIGURE D-2
BYERS STATION PARCEL 5C LOT 2B
WEEKDAY PEAK HOUR
NEARBY TRIP DISTRIBUTIONS

Byers Station Parcel 6C

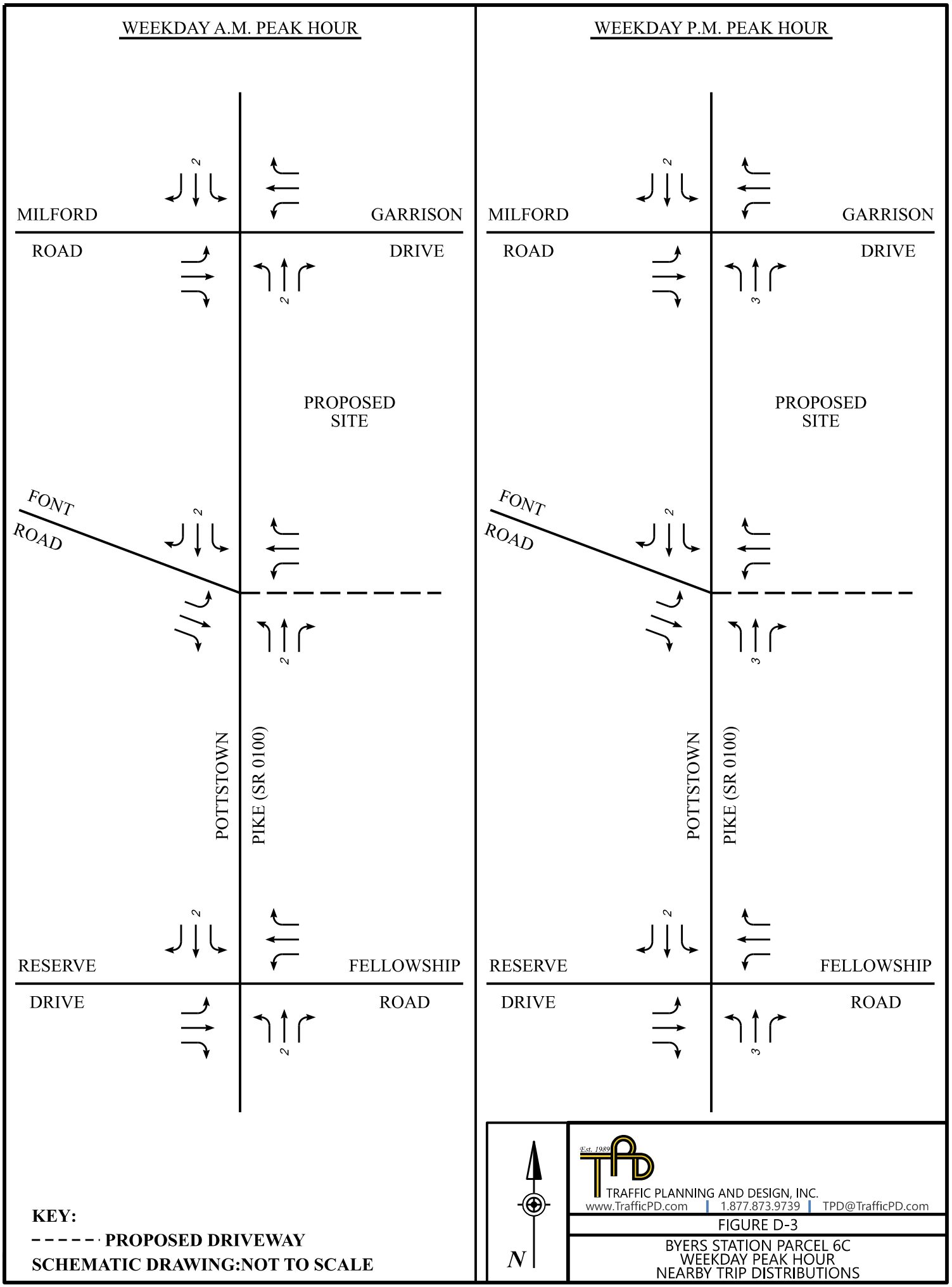
WEEKDAY A.M. PEAK HOUR
WEEKDAY P.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
PROPOSED SITE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
KEY:
PROPOSED DRIVEWAY
SCHEMATIC DRAWING:NOT TO SCALE
N
Est. 1989
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FIGURE D-3
BYERS STATION PARCEL 6C
WEEKDAY PEAK HOUR
NEARBY TRIP DISTRIBUTIONS

100 Greenridge Road
Residential Development

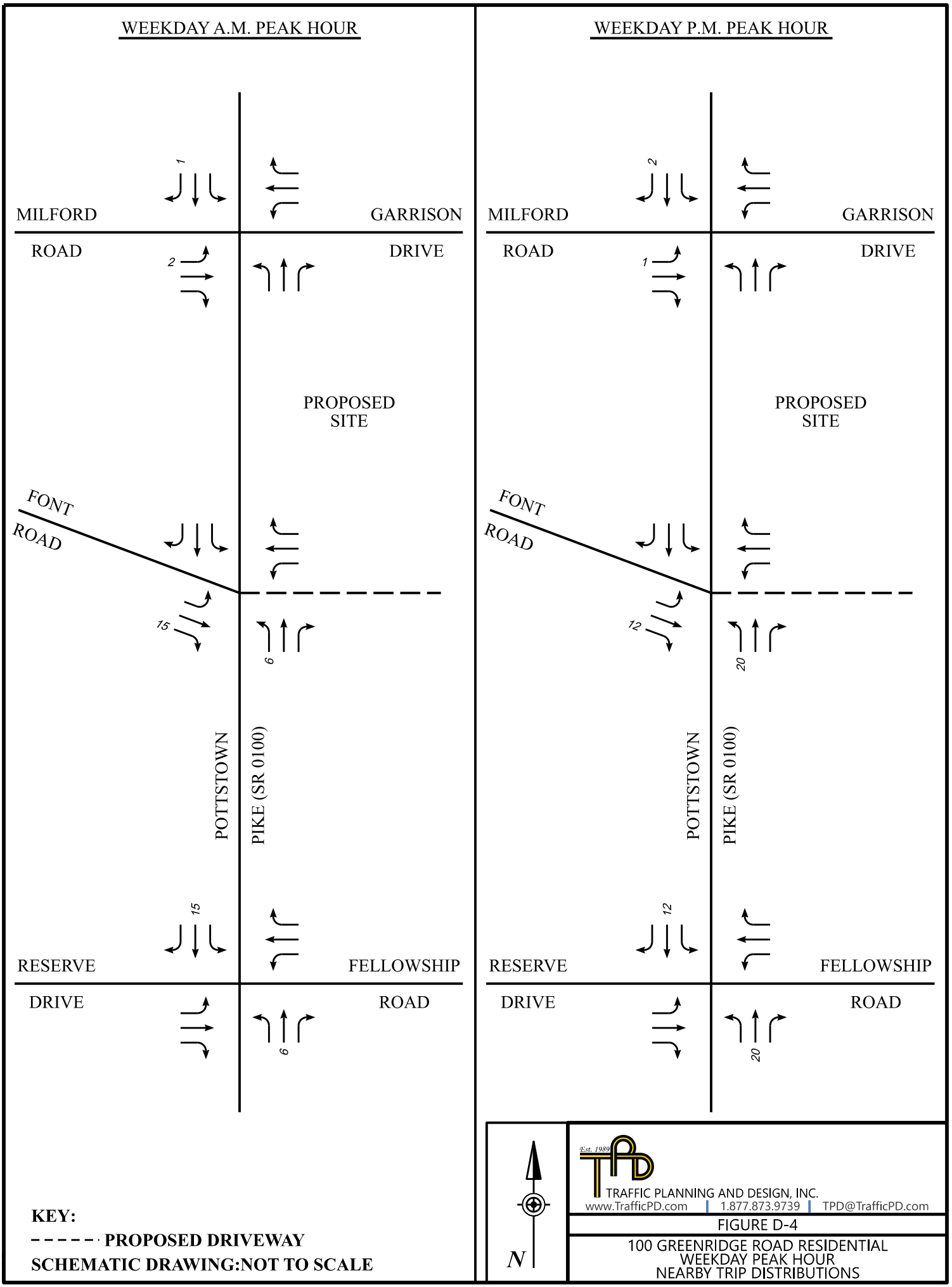
WEEKDAY A.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
PROPOSED SITE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
1
2
15
6
15
6
WEEKDAY P.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
PROPOSED SITE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
2
1
12
20
12
20
KEY:
PROPOSED DRIVEWAY
SCHEMATIC DRAWING:NOT TO SCALE
N
Est. 1989
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FIGURE D-4
100 GREENRIDGE ROAD RESIDENTIAL
WEEKDAY PEAK HOUR
NEARBY TRIP DISTRIBUTIONS

APPENDIX E:

Volume Development Spreadsheets & Trip Assignment Data

Volume Development Spreadsheets

TPD# TMAS.00013
3/4/2024
Traffic Volumes Worksheet

Intersection:	**Pottstown Pike (S.R. 0100) & Font Road/Proposed Driveway**								
Synchro Node:	**1**	**Adjacent intersections:**	**West**	**0**	**East**	**0**	**North**	**0**	**South**	**0**

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2023 Existing Counts	**9**		**201**				**75**	**289**			**779**	**5**	**1358**
Balancing (0.48% compunded for 1 yr)	0		1				0	1			4	0	6
2024 Existing Volumes (Balanced)	**9**		**202**				**75**	**290**			**783**	**5**	**1364**
Base growth (0.48% compounded for 3 yrs)	0		3				1	4			11	0	19
McKee-Fetters Tract (~40% Built/Occupied)			4				4	7			2	3	20
Byers Station Parcel 5C Lot 2B			6				6	11			13		36
Byers Station Parcel 6C								2			2		4
100 Greenridge Road Residential			15				6						21
2027 Base Volumes	**9**		**230**				**92**	**314**			**811**	**8**	**1464**

ENTER =	**51**
EXIT =	**20**

Trip Assignment % - New Enter		10.0%							57.0%	33.0%			
Trip Assignment % - New Exit				57.0%	10.0%	33.0%							
New Trips		5		11	2	7			29	17			**71**
2027 Projected Volumes	**9**	**5**	**230**	**11**	**2**	**7**	**92**	**314**	**29**	**17**	**811**	**8**	**1535**

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2023 Existing Counts	**13**		**157**				**256**	**854**			**498**	**16**	**1794**
Balancing (0.48% compunded for 1 yr)	0		1				1	4			2	0	8
2024 Existing Volumes (Balanced)	**13**		**158**				**257**	**858**			**500**	**16**	**1802**
Base growth (0.48% compounded for 3 yrs)	0		2				4	12			7	0	25
McKee-Fetters Tract (~40% Built/Occupied)			3				7	6			3	6	25
Byers Station Parcel 5C Lot 2B			6				7	13			12		38
Byers Station Parcel 6C								3			2		5
100 Greenridge Road Residential			12				20						32
2027 Base Volumes	**13**		**181**				**295**	**892**			**524**	**22**	**1927**

ENTER =	**30**
EXIT =	**47**

Trip Assignment % - New Enter		10.0%							57.0%	33.0%			
Trip Assignment % - New Exit				57.0%	10.0%	33.0%							
New Trips		3		27	5	15			17	10			**77**
2027 Projected Volumes	**13**	**3**	**181**	**27**	**5**	**15**	**295**	**892**	**17**	**10**	**524**	**22**	**2004**

TPD# TMAS.00013
3/4/2024
Traffic Volumes Worksheet

Intersection:	**Pottstown Pike (S.R. 0100) & Reserve Drive/Fellowship Drive**									
Synchro Node:	**2**	**Adjacent intersections:**	**West**	**0**	**East**	**0**	**North**	**0**	**South**	**0**

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2023 Existing Counts	**0**	**0**	**76**	**225**	**4**	**38**	**15**	**432**	**80**	**24**	**780**	**1**	**1675**
Balancing (0.48% compunded for 1 yr)	0	0	0	1	0	0	0	2	0	0	4	0	7
2024 Existing Volumes (Balanced)	**0**	**0**	**76**	**226**	**4**	**38**	**15**	**434**	**80**	**24**	**784**	**1**	**1682**
Base growth (0.48% compounded for 3 yrs)				3		1		6	1	0	11		22
McKee-Fetters Tract (~40% Built/Occupied)	2		2				1	9			6		20
Byers Station Parcel 5C Lot 2B				4				17	3		19		43
Byers Station Parcel 6C								2			2		4
100 Greenridge Road Residential								6			15		21
2027 Base Volumes	**2**	**0**	**78**	**233**	**4**	**39**	**16**	**474**	**84**	**24**	**837**	**1**	**1792**

ENTER =	**51**
EXIT =	**20**

Trip Assignment % - New Enter						5.0%		52.0%					
Trip Assignment % - New Exit										5.0%	52.0%		
New Trips						3		26		1	10		**40**
2027 Projected Volumes	**2**	**0**	**78**	**233**	**4**	**42**	**16**	**500**	**84**	**25**	**847**	**1**	**1832**

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2023 Existing Counts	**3**	**5**	**63**	**136**	**10**	**19**	**54**	**1090**	**183**	**21**	**627**	**5**	**2216**
Balancing (0.48% compunded for 1 yr)	0	0	0	1	0	0	0	5	1	0	3	0	10
2024 Existing Volumes (Balanced)	**3**	**5**	**63**	**137**	**10**	**19**	**54**	**1095**	**184**	**21**	**630**	**5**	**2226**
Base growth (0.48% compounded for 3 yrs)				2		0		16	3	0	9		30
McKee-Fetters Tract (~40% Built/Occupied)	1		1				2	12			4	2	22
Byers Station Parcel 5C Lot 2B				4				20	4		18		46
Byers Station Parcel 6C								3			2		5
100 Greenridge Road Residential								20			12		32
2027 Base Volumes	**4**	**5**	**64**	**143**	**10**	**19**	**56**	**1166**	**191**	**21**	**675**	**7**	**2361**

ENTER =	**30**
EXIT =	**47**

Trip Assignment % - New Enter						5.0%		52.0%					
Trip Assignment % - New Exit										5.0%	52.0%		
New Trips						1		16		2	25		**44**
2027 Projected Volumes	**4**	**5**	**64**	**143**	**10**	**20**	**56**	**1182**	**191**	**23**	**700**	**7**	**2405**

TPD# TMAS.00013
3/4/2024
Traffic Volumes Worksheet

Intersection:	**Pottstown Pike (S.R. 0100) & Milford Road/Garrison Drive**									
Synchro Node:	**3**	**Adjacent intersections:**	**West**	**0**	**East**	**0**	**North**	**0**	**South**	**0**

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2023 Existing Counts	**19**	**3**	**14**	**38**	**2**	**9**	**7**	**280**	**11**	**5**	**736**	**14**	**1138**
Balancing (0.48% compunded for 1 yr)	0	0	0	0	0	0	0	1	0	0	4	0	5
2024 Existing Volumes (Balanced)	**19**	**3**	**14**	**38**	**2**	**9**	**7**	**281**	**11**	**5**	**740**	**14**	**1143**
Base growth (0.48% compounded for 3 yrs)								4			11		15
McKee-Fetters Tract (~40% Built/Occupied)								7			5		12
Byers Station Parcel 5C Lot 2B								11			13		24
Byers Station Parcel 6C								2			2		4
100 Greenridge Road Residential	2											1	3
2027 Base Volumes	**21**	**3**	**14**	**38**	**2**	**9**	**7**	**305**	**11**	**5**	**771**	**15**	**1201**

ENTER =	**51**
EXIT =	**20**

Trip Assignment % - New Enter											33.0%		
Trip Assignment % - New Exit								33.0%					
New Trips								7			17		**24**
2027 Projected Volumes	**21**	**3**	**14**	**38**	**2**	**9**	**7**	**312**	**11**	**5**	**788**	**15**	**1225**

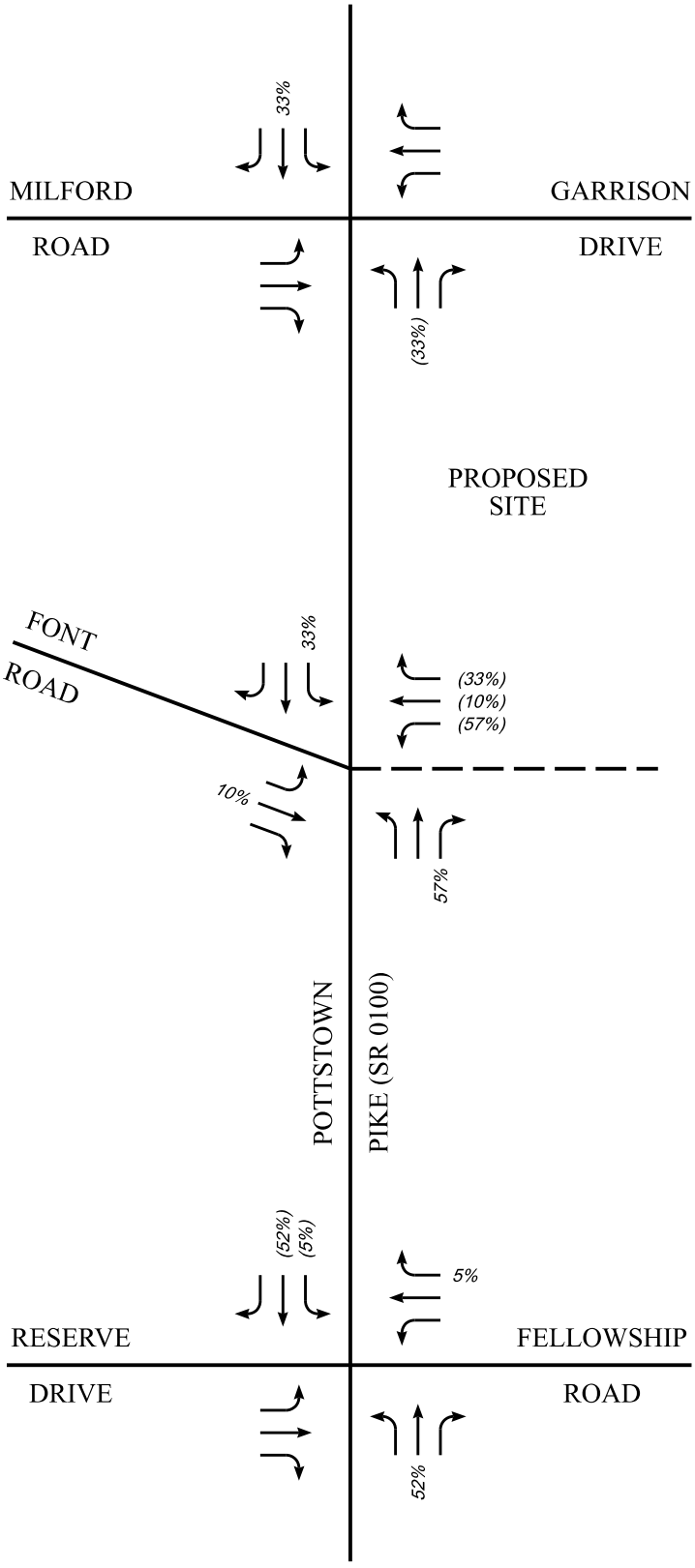
Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Volume
2023 Existing Counts	**14**	**1**	**16**	**46**	**2**	**9**	**17**	**800**	**56**	**10**	**448**	**23**	**1442**
Balancing (0.48% compunded for 1 yr)	0	0	0	0	0	0	0	4	0	0	2	0	6
2024 Existing Volumes (Balanced)	**14**	**1**	**16**	**46**	**2**	**9**	**17**	**804**	**56**	**10**	**450**	**23**	**1448**
Base growth (0.48% compounded for 3 yrs)								12			7		19
McKee-Fetters Tract (~40% Built/Occupied)								6			9		15
Byers Station Parcel 5C Lot 2B								13			12		25
Byers Station Parcel 6C								3			2		5
100 Greenridge Road Residential	1											2	3
2027 Base Volumes	**15**	**1**	**16**	**46**	**2**	**9**	**17**	**838**	**56**	**10**	**480**	**25**	**1515**

ENTER =	**30**
EXIT =	**47**

Trip Assignment % - New Enter											33.0%		
Trip Assignment % - New Exit								33.0%					
New Trips								15			10		**25**
2027 Projected Volumes	**15**	**1**	**16**	**46**	**2**	**9**	**17**	**853**	**56**	**10**	**490**	**25**	**1540**

Trip Assignment Data



KEY:

- - - - - PROPOSED DRIVEWAY

SCHEMATIC DRAWING:NOT TO SCALE

N

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FIGURE E-1

AUTOMOTIVE SERVICE CENTER
WEEKDAY PEAK HOUR
TRAFFIC VOLUMES

APPENDIX F:

Critical/Follow-up Gap Data

CRITICAL HEADWAY CALCULATIONS FOR TWSC INTERSECTION WITHIN SUBURBAN LAND USE CONTEXT
BASED ON PENNSYLVANIA DEFAULT VALUES FROM CHAPTER 10 OF PENNDOT PUBLICATION 46

$t_{c,x} = t_{c,\,base} + t_{c,HV} * P_{HV} + t_{c,G} * G - t_{3,LT}$

where:

$t_{c,x}$ = critical headway for movement x (s)
$t_{c,base}$ = base crtitcal headway from Chapter 10 of PennDOT Publication 46
$t_{c,HV}$ = adjustment factor for heavy vehciles (1.0 for major streets with one lane in each direction; 2.0 for major streets with two or three lanes in each direction) (s)
P_{HV} = proportion of heavy vehciles for movement (expressed as a decimal; e.g., P_{HV}=0.02 for 2% heavy vehciles)
$t_{c,G}$ = adjustment factor for grade (0.1 for Movement 9 and 12; 0.2 for Movements 7,8,10, and 11) (s)
G = percent grade (expressed as an integer; e.g., G= -2 for a 2% downhill grade)
$t_{c,base}$ = adjustment factor for intersction geometry (0.7 for minor street left-turn movement at three-leg intersections; 0.0 otherwise) (s)

LEFT TURN FROM MAJOR ROADWAY - TWO LANES ($t_{c,\,base}$ = 4.3)

GRADE	0	-1	1	-2	2	-3	3	-4	4	-5	5	-6	6	-7	7	-8	8	-9	9	-10	10
HV %																					
0	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
1	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
4	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
5	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
6	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
7	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
8	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
9	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
10	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4

LEFT TURN FROM MINOR ROADWAY - TWO LANES - 4-LEG INTERSECTION ($t_{c,\,base}$ = 7.1)

GRADE	0	-1	1	-2	2	-3	3	-4	4	-5	5	-6	6	-7	7	-8	8	-9	9	-10	10
HV %																					
0	7.1	6.9	7.3	6.7	7.5	6.5	7.7	6.3	7.9	6.1	8.1	5.9	8.3	5.7	8.5	5.5	8.7	5.3	8.9	5.1	9.1
1	7.1	6.9	7.3	6.7	7.5	6.5	7.7	6.3	7.9	6.1	8.1	5.9	8.3	5.7	8.5	5.5	8.7	5.3	8.9	5.1	9.1
2	7.1	6.9	7.3	6.7	7.5	6.5	7.7	6.3	7.9	6.1	8.1	5.9	8.3	5.7	8.5	5.5	8.7	5.3	8.9	5.1	9.1
3	7.1	6.9	7.3	6.7	7.5	6.5	7.7	6.3	7.9	6.1	8.1	5.9	8.3	5.7	8.5	5.5	8.7	5.3	8.9	5.1	9.1
4	7.1	6.9	7.3	6.7	7.5	6.5	7.7	6.3	7.9	6.1	8.1	5.9	8.3	5.7	8.5	5.5	8.7	5.3	8.9	5.1	9.1
5	7.2	7.0	7.4	6.8	7.6	6.6	7.8	6.4	8.0	6.2	8.2	6.0	8.4	5.8	8.6	5.6	8.8	5.4	9.0	5.2	9.2
6	7.2	7.0	7.4	6.8	7.6	6.6	7.8	6.4	8.0	6.2	8.2	6.0	8.4	5.8	8.6	5.6	8.8	5.4	9.0	5.2	9.2
7	7.2	7.0	7.4	6.8	7.6	6.6	7.8	6.4	8.0	6.2	8.2	6.0	8.4	5.8	8.6	5.6	8.8	5.4	9.0	5.2	9.2
8	7.2	7.0	7.4	6.8	7.6	6.6	7.8	6.4	8.0	6.2	8.2	6.0	8.4	5.8	8.6	5.6	8.8	5.4	9.0	5.2	9.2
9	7.2	7.0	7.4	6.8	7.6	6.6	7.8	6.4	8.0	6.2	8.2	6.0	8.4	5.8	8.6	5.6	8.8	5.4	9.0	5.2	9.2
10	7.2	7.0	7.4	6.8	7.6	6.6	7.8	6.4	8.0	6.2	8.2	6.0	8.4	5.8	8.6	5.6	8.8	5.4	9.0	5.2	9.2

THROUGH TRAFFIC ON MINOR ROADWAY - TWO LANES ($t_{c,\,base}$ = 6.5)

GRADE	0	-1	1	-2	2	-3	3	-4	4	-5	5	-6	6	-7	7	-8	8	-9	9	-10	10
HV %																					
0	6.5	6.3	6.7	6.1	6.9	5.9	7.1	5.7	7.3	5.5	7.5	5.3	7.7	5.1	7.9	4.9	8.1	4.7	8.3	4.5	8.5
1	6.5	6.3	6.7	6.1	6.9	5.9	7.1	5.7	7.3	5.5	7.5	5.3	7.7	5.1	7.9	4.9	8.1	4.7	8.3	4.5	8.5
2	6.5	6.3	6.7	6.1	6.9	5.9	7.1	5.7	7.3	5.5	7.5	5.3	7.7	5.1	7.9	4.9	8.1	4.7	8.3	4.5	8.5
3	6.5	6.3	6.7	6.1	6.9	5.9	7.1	5.7	7.3	5.5	7.5	5.3	7.7	5.1	7.9	4.9	8.1	4.7	8.3	4.5	8.5
4	6.5	6.3	6.7	6.1	6.9	5.9	7.1	5.7	7.3	5.5	7.5	5.3	7.7	5.1	7.9	4.9	8.1	4.7	8.3	4.5	8.5
5	6.6	6.4	6.8	6.2	7.0	6.0	7.2	5.8	7.4	5.6	7.6	5.4	7.8	5.2	8.0	5.0	8.2	4.8	8.4	4.6	8.6
6	6.6	6.4	6.8	6.2	7.0	6.0	7.2	5.8	7.4	5.6	7.6	5.4	7.8	5.2	8.0	5.0	8.2	4.8	8.4	4.6	8.6
7	6.6	6.4	6.8	6.2	7.0	6.0	7.2	5.8	7.4	5.6	7.6	5.4	7.8	5.2	8.0	5.0	8.2	4.8	8.4	4.6	8.6
8	6.6	6.4	6.8	6.2	7.0	6.0	7.2	5.8	7.4	5.6	7.6	5.4	7.8	5.2	8.0	5.0	8.2	4.8	8.4	4.6	8.6
9	6.6	6.4	6.8	6.2	7.0	6.0	7.2	5.8	7.4	5.6	7.6	5.4	7.8	5.2	8.0	5.0	8.2	4.8	8.4	4.6	8.6
10	6.6	6.4	6.8	6.2	7.0	6.0	7.2	5.8	7.4	5.6	7.6	5.4	7.8	5.2	8.0	5.0	8.2	4.8	8.4	4.6	8.6

RIGHT TURN FROM MINOR ROADWAY - TWO LANES ($t_{c,\,base}$ = 6.2)

GRADE	0	-1	1	-2	2	-3	3	-4	4	-5	5	-6	6	-7	7	-8	8	-9	9	-10	10
HV %																					
0	6.2	6.1	6.3	6.0	6.4	5.9	6.5	5.8	6.6	5.7	6.7	5.6	6.8	5.5	6.9	5.4	7.0	5.3	7.1	5.2	7.2
1	6.2	6.1	6.3	6.0	6.4	5.9	6.5	5.8	6.6	5.7	6.7	5.6	6.8	5.5	6.9	5.4	7.0	5.3	7.1	5.2	7.2
2	6.2	6.1	6.3	6.0	6.4	5.9	6.5	5.8	6.6	5.7	6.7	5.6	6.8	5.5	6.9	5.4	7.0	5.3	7.1	5.2	7.2
3	6.2	6.1	6.3	6.0	6.4	5.9	6.5	5.8	6.6	5.7	6.7	5.6	6.8	5.5	6.9	5.4	7.0	5.3	7.1	5.2	7.2
4	6.2	6.1	6.3	6.0	6.4	5.9	6.5	5.8	6.6	5.7	6.7	5.6	6.8	5.5	6.9	5.4	7.0	5.3	7.1	5.2	7.2
5	6.3	6.2	6.4	6.1	6.5	6.0	6.6	5.9	6.7	5.8	6.8	5.7	6.9	5.6	7.0	5.5	7.1	5.4	7.2	5.3	7.3
6	6.3	6.2	6.4	6.1	6.5	6.0	6.6	5.9	6.7	5.8	6.8	5.7	6.9	5.6	7.0	5.5	7.1	5.4	7.2	5.3	7.3
7	6.3	6.2	6.4	6.1	6.5	6.0	6.6	5.9	6.7	5.8	6.8	5.7	6.9	5.6	7.0	5.5	7.1	5.4	7.2	5.3	7.3
8	6.3	6.2	6.4	6.1	6.5	6.0	6.6	5.9	6.7	5.8	6.8	5.7	6.9	5.6	7.0	5.5	7.1	5.4	7.2	5.3	7.3
9	6.3	6.2	6.4	6.1	6.5	6.0	6.6	5.9	6.7	5.8	6.8	5.7	6.9	5.6	7.0	5.5	7.1	5.4	7.2	5.3	7.3
10	6.3	6.2	6.4	6.1	6.5	6.0	6.6	5.9	6.7	5.8	6.8	5.7	6.9	5.6	7.0	5.5	7.1	5.4	7.2	5.3	7.3

CRITICAL HEADWAY CALCULATIONS FOR TWSC INTERSECTION WITHIN SUBURBAN LAND USE CONTEXT
BASED ON PENNSYLVANIA DEFAULT VALUES FROM CHAPTER 10 OF PENNDOT PUBLICATION 46

$t_{c,x} = t_{c,\,base} + t_{c,HV} * P_{HV} + t_{c,G} * G - t_{3,LT}$

where:

$t_{c,x}$ = critical headway for movement x (s)
$t_{c,base}$ = base crtitcal headway from Chapter 10 of PennDOT Publication 46
$t_{c,HV}$ = adjustment factor for heavy vehciles (1.0 for major streets with one lane in each direction; 2.0 for major streets with two or three lanes in each direction) (s)
P_{HV} = proportion of heavy vehciles for movement (expressed as a decimal; e.g., P_{HV}=0.02 for 2% heavy vehciles)
$t_{c,G}$ = adjustment factor for grade (0.1 for Movement 9 and 12; 0.2 for Movements 7,8,10, and 11) (s)
G = percent grade (expressed as an integer; e.g., G= -2 for a 2% downhill grade)
$t_{c,base}$ = adjustment factor for intersction geometry (0.7 for minor street left-turn movement at three-leg intersections; 0.0 otherwise) (s)

LEFT TURN FROM MAJOR ROADWAY - TWO LANES ($t_{c,\,base}$ = 4.3)

GRADE	0	-1	1	-2	2	-3	3	-4	4	-5	5	-6	6	-7	7	-8	8	-9	9	-10	10
HV %																					
0	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
1	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
4	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
5	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
6	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
7	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
8	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
9	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
10	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4

LEFT TURN FROM MINOR ROADWAY - TWO LANES - 3-LEG INTERSECTION ($t_{c,\,base}$ = 7.1)

GRADE	0	-1	1	-2	2	-3	3	-4	4	-5	5	-6	6	-7	7	-8	8	-9	9	-10	10
HV %																					
0	6.4	6.2	6.6	6.0	6.8	5.8	7.0	5.6	7.2	5.4	7.4	5.2	7.6	5.0	7.8	4.8	8.0	4.6	8.2	4.4	8.4
1	6.4	6.2	6.6	6.0	6.8	5.8	7.0	5.6	7.2	5.4	7.4	5.2	7.6	5.0	7.8	4.8	8.0	4.6	8.2	4.4	8.4
2	6.4	6.2	6.6	6.0	6.8	5.8	7.0	5.6	7.2	5.4	7.4	5.2	7.6	5.0	7.8	4.8	8.0	4.6	8.2	4.4	8.4
3	6.4	6.2	6.6	6.0	6.8	5.8	7.0	5.6	7.2	5.4	7.4	5.2	7.6	5.0	7.8	4.8	8.0	4.6	8.2	4.4	8.4
4	6.4	6.2	6.6	6.0	6.8	5.8	7.0	5.6	7.2	5.4	7.4	5.2	7.6	5.0	7.8	4.8	8.0	4.6	8.2	4.4	8.4
5	6.5	6.3	6.7	6.1	6.9	5.9	7.1	5.7	7.3	5.5	7.5	5.3	7.7	5.1	7.9	4.9	8.1	4.7	8.3	4.5	8.5
6	6.5	6.3	6.7	6.1	6.9	5.9	7.1	5.7	7.3	5.5	7.5	5.3	7.7	5.1	7.9	4.9	8.1	4.7	8.3	4.5	8.5
7	6.5	6.3	6.7	6.1	6.9	5.9	7.1	5.7	7.3	5.5	7.5	5.3	7.7	5.1	7.9	4.9	8.1	4.7	8.3	4.5	8.5
8	6.5	6.3	6.7	6.1	6.9	5.9	7.1	5.7	7.3	5.5	7.5	5.3	7.7	5.1	7.9	4.9	8.1	4.7	8.3	4.5	8.5
9	6.5	6.3	6.7	6.1	6.9	5.9	7.1	5.7	7.3	5.5	7.5	5.3	7.7	5.1	7.9	4.9	8.1	4.7	8.3	4.5	8.5
10	6.5	6.3	6.7	6.1	6.9	5.9	7.1	5.7	7.3	5.5	7.5	5.3	7.7	5.1	7.9	4.9	8.1	4.7	8.3	4.5	8.5

RIGHT TURN FROM MINOR ROADWAY - TWO LANES ($t_{c,\,base}$ = 6.2)

GRADE	0	-1	1	-2	2	-3	3	-4	4	-5	5	-6	6	-7	7	-8	8	-9	9	-10	10
HV %																					
0	6.2	6.1	6.3	6.0	6.4	5.9	6.5	5.8	6.6	5.7	6.7	5.6	6.8	5.5	6.9	5.4	7.0	5.3	7.1	5.2	7.2
1	6.2	6.1	6.3	6.0	6.4	5.9	6.5	5.8	6.6	5.7	6.7	5.6	6.8	5.5	6.9	5.4	7.0	5.3	7.1	5.2	7.2
2	6.2	6.1	6.3	6.0	6.4	5.9	6.5	5.8	6.6	5.7	6.7	5.6	6.8	5.5	6.9	5.4	7.0	5.3	7.1	5.2	7.2
3	6.2	6.1	6.3	6.0	6.4	5.9	6.5	5.8	6.6	5.7	6.7	5.6	6.8	5.5	6.9	5.4	7.0	5.3	7.1	5.2	7.2
4	6.2	6.1	6.3	6.0	6.4	5.9	6.5	5.8	6.6	5.7	6.7	5.6	6.8	5.5	6.9	5.4	7.0	5.3	7.1	5.2	7.2
5	6.3	6.2	6.4	6.1	6.5	6.0	6.6	5.9	6.7	5.8	6.8	5.7	6.9	5.6	7.0	5.5	7.1	5.4	7.2	5.3	7.3
6	6.3	6.2	6.4	6.1	6.5	6.0	6.6	5.9	6.7	5.8	6.8	5.7	6.9	5.6	7.0	5.5	7.1	5.4	7.2	5.3	7.3
7	6.3	6.2	6.4	6.1	6.5	6.0	6.6	5.9	6.7	5.8	6.8	5.7	6.9	5.6	7.0	5.5	7.1	5.4	7.2	5.3	7.3
8	6.3	6.2	6.4	6.1	6.5	6.0	6.6	5.9	6.7	5.8	6.8	5.7	6.9	5.6	7.0	5.5	7.1	5.4	7.2	5.3	7.3
9	6.3	6.2	6.4	6.1	6.5	6.0	6.6	5.9	6.7	5.8	6.8	5.7	6.9	5.6	7.0	5.5	7.1	5.4	7.2	5.3	7.3
10	6.3	6.2	6.4	6.1	6.5	6.0	6.6	5.9	6.7	5.8	6.8	5.7	6.9	5.6	7.0	5.5	7.1	5.4	7.2	5.3	7.3

FOLLOW-UP HEADWAY CALCULATIONS FOR TWSC INTERSECTION WITHIN SUBURBAN LAND USE CONTEXT
BASED ON PENNSYLVANIA DEFAULT VALUES FROM CHAPTER 10 OF PENNDOT PUBLICATION 46

$t_{f,x} = t_{f,\,base} + t_{f,HV} * P_{HV}$

where:

$t_{f,x}$ = follow-up headway for movement x (s)
$t_{f,base}$ = base follow-up headway from Chapter 10 of PennDOT Publication 46
$t_{f,HV}$ = adjustment factor for heavy vehciles (0.9 for major streets with one lane in each direction; 1.0 for major streets with two or three lanes in each direction) (s)
P_{HV} = proportion of heavy vehciles for movement (expressed as a decimal; e.g., P_{HV}=0.02 for 2% heavy vehciles)

LEFT TURN FROM MAJOR ROADWAY - TWO LANES ($t_{f,\,base}$ = 3.0)

GRADE	0	-1	1	-2	2	-3	3	-4	4	-5	5	-6	6	-7	7	-8	8	-9	9	-10	10
HV %																					
0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
6	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
7	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
8	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
9	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
10	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1

LEFT TURN FROM MINOR ROADWAY - TWO LANES ($t_{f,\,base}$ = 3.0)

GRADE	0	-1	1	-2	2	-3	3	-4	4	-5	5	-6	6	-7	7	-8	8	-9	9	-10	10
HV %																					
0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
6	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
7	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
8	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
9	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
10	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1

THROUGH TRAFFIC ON MINOR ROADWAY - TWO LANES ($t_{f,\,base}$ = 4.0)

GRADE	0	-1	1	-2	2	-3	3	-4	4	-5	5	-6	6	-7	7	-8	8	-9	9	-10	10
HV %																					
0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
3	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
4	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
6	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
7	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
8	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
9	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
10	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1

RIGHT TURN FROM MINOR ROADWAY - TWO LANES ($t_{f,\,base}$ = 3.1)

GRADE	0	-1	1	-2	2	-3	3	-4	4	-5	5	-6	6	-7	7	-8	8	-9	9	-10	10
HV %																					
0	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
3	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
4	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
5	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
6	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
7	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
8	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
9	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
10	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2

APPENDIX G:

Capacity Analysis Worksheets

Existing Conditions

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	202	75	290	783	5
Future Volume (vph)	9	202	75	290	783	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	11	12	11	12
Grade (%)	-1%			1%	-1%	
Storage Length (ft)	0	85	300			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1114	1558	1430	1643	1647	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1114	1558	1430	1643	1647	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	380			1166	1743	
Travel Time (s)	10.4			17.7	26.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	44%	2%	15%	9%	6%	20%
Adj. Flow (vph)	10	217	81	312	842	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	217	81	312	847	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	202	75	290	783	5
Future Vol, veh/h	9	202	75	290	783	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	85	300	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-1	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	44	2	15	9	6	20
Mvmt Flow	10	217	81	312	842	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1319	845	847	0	-	0
Stage 1	845	-	-	-	-	-
Stage 2	474	-	-	-	-	-
Critical Hdwy	6.64	6.12	4.5	-	-	-
Critical Hdwy Stg 1	5.64	-	-	-	-	-
Critical Hdwy Stg 2	5.64	-	-	-	-	-
Follow-up Hdwy	3.4	3.1	3.1	-	-	-
Pot Cap-1 Maneuver	163	389	567	-	-	-
Stage 1	409	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	140	389	567	-	-	-
Mov Cap-2 Maneuver	140	-	-	-	-	-
Stage 1	351	-	-	-	-	-
Stage 2	625	-	-	-	-	-

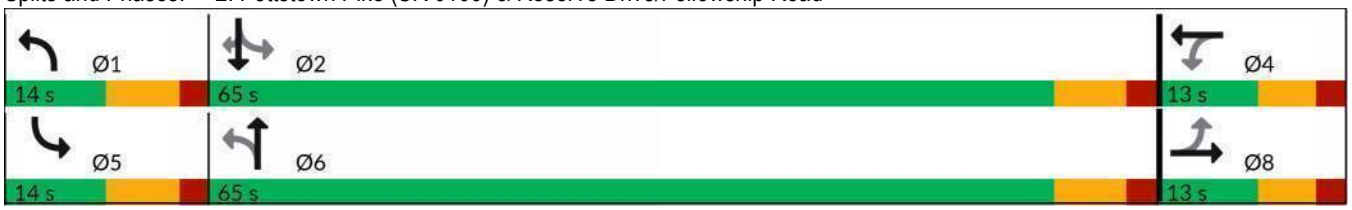
Approach	EB	NB	SB
HCM Control Delay, s/v	25.6	2.5	0
HCM LOS	D		

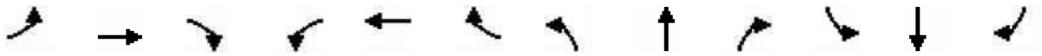
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	567	-	140	389	-	-
HCM Lane V/C Ratio	0.142	-	0.069	0.558	-	-
HCM Control Delay (s/veh)	12.4	-	32.6	25.3	-	-
HCM Lane LOS	B	-	D	D	-	-
HCM 95th %tile Q (veh)	0.5	-	0.2	3.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	76	226	4	38	15	434	80	24	784	1
Future Volume (vph)	0	0	76	226	4	38	15	434	80	24	784	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			-1%			2%			0%	
Storage Length (ft)	125		0	195		0	90		0	340		190
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.850			0.863			0.977				0.850
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	1680	1520	0	1637	1369	0	1693	3096	0	1644	1731	1530
Flt Permitted				0.703			0.168			0.429		
Satd. Flow (perm)	1680	1520	0	1211	1369	0	299	3096	0	742	1731	1530
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		288			41			46				119
Link Speed (mph)		35			35			35			45	
Link Distance (ft)		229			662			548			828	
Travel Time (s)		4.5			12.9			10.7			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	5%	25%	13%	0%	7%	6%	4%	4%	0%
Adj. Flow (vph)	0	0	83	246	4	41	16	472	87	26	852	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	83	0	246	45	0	16	559	0	26	852	1
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	8	8		4	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	11.0	11.0		11.0	11.0		12.0	22.0		12.0	22.0	22.0
Total Split (s)	13.0	13.0		13.0	13.0		14.0	65.0		14.0	65.0	65.0
Total Split (%)	14.1%	14.1%		14.1%	14.1%		15.2%	70.7%		15.2%	70.7%	70.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min		None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 92	
Actuated Cycle Length: 58.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	76	226	4	38	15	434	80	24	784	1
Future Volume (veh/h)	0	0	76	226	4	38	15	434	80	24	784	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1744	1766	1482	1652	1778	1679	1693	1744	1744	1800
Adj Flow Rate, veh/h	0	0	53	246	4	18	16	472	69	26	852	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	4	5	25	13	0	7	6	4	4	0
Cap, veh/h	119	0	210	259	31	140	255	1512	220	556	960	840
Arrive On Green	0.00	0.00	0.12	0.13	0.13	0.12	0.04	0.54	0.52	0.05	0.55	0.00
Sat Flow, veh/h	1337	0	1586	1276	235	1057	1693	2795	407	1661	1744	1525
Grp Volume(v), veh/h	0	0	53	246	0	22	16	268	273	26	852	0
Grp Sat Flow(s),veh/h/ln	1337	0	1586	1276	0	1292	1693	1595	1606	1661	1744	1525
Q Serve(g_s), s	0.0	0.0	1.8	6.7	0.0	0.9	0.2	5.6	5.7	0.4	26.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	1.8	8.0	0.0	0.9	0.2	5.6	5.7	0.4	26.0	0.0
Prop In Lane	1.00		1.00	1.00		0.82	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	119	0	210	259	0	171	255	863	869	556	960	840
V/C Ratio(X)	0.00	0.00	0.25	0.95	0.00	0.13	0.06	0.31	0.31	0.05	0.89	0.00
Avail Cap(c_a), veh/h	119	0	210	259	0	171	418	1556	1566	700	1701	1488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	24.0	28.3	0.0	23.5	10.9	7.7	7.8	5.5	11.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.6	41.8	0.0	0.3	0.1	0.2	0.2	0.0	3.0	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	0.0	0.0	1.2	10.5	0.0	0.5	0.1	2.8	2.8	0.2	11.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	24.7	70.1	0.0	23.9	11.0	7.9	8.0	5.6	15.0	0.0
LnGrp LOS			C	E		C	B	A	A	A	B	
Approach Vol, veh/h		53			268			557			878	
Approach Delay, s/veh		24.7			66.3			8.0			14.7	
Approach LOS		C			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	39.3		13.0	8.8	38.7		13.0				
Change Period (Y+Rc), s	7.0	7.0		6.0	7.0	7.0		6.0				
Max Green Setting (Gmax), s	7.0	58.0		7.0	7.0	58.0		7.0				
Max Q Clear Time (g_c+I1), s	2.7	28.5		10.5	2.9	8.1		3.8				
Green Ext Time (p_c), s	0.0	3.9		0.0	0.0	2.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay, s/veh		20.7	
HCM 6th LOS		C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	3	14	38	2	9	7	281	11	5	740	14
Future Volume (vph)	19	3	14	38	2	9	7	281	11	5	740	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	13	12	12	13	12	11	13	11	11	12	11
Grade (%)		1%			1%			1%			-2%	
Storage Length (ft)	0		0	0		0	125		250	125		150
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.948			0.975				0.850			0.850
Flt Protected		0.974			0.963		0.950			0.950		
Satd. Flow (prot)	0	1667	0	0	1698	0	1645	1714	1008	1391	1731	1494
Flt Permitted		0.974			0.963		0.950			0.950		
Satd. Flow (perm)	0	1667	0	0	1698	0	1645	1714	1008	1391	1731	1494
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		215			346			1743			721	
Travel Time (s)		5.9			9.4			26.4			10.9	
Confl. Peds. (#/hr)				1		1						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	33%	0%	3%	0%	0%	0%	8%	46%	20%	5%	0%
Adj. Flow (vph)	21	3	15	41	2	10	8	305	12	5	804	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	53	0	8	305	12	5	804	15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	3	14	38	2	9	7	281	11	5	740	14
Future Vol, veh/h	19	3	14	38	2	9	7	281	11	5	740	14
Conflicting Peds, #/hr	0	0	0	1	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	250	125	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	1	-	-	1	-	-	-2	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	33	0	3	0	0	0	8	46	20	5	0
Mvmt Flow	21	3	15	41	2	10	8	305	12	5	804	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1148	1147	805	1153	1150	306	819	0	0	317	0	0
Stage 1	814	814	-	321	321	-	-	-	-	-	-	-
Stage 2	334	333	-	832	829	-	-	-	-	-	-	-
Critical Hdwy	7.3	7.03	6.3	7.33	6.7	6.3	4.3	-	-	4.5	-	-
Critical Hdwy Stg 1	6.3	6.03	-	6.33	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	6.03	-	6.33	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3	4.297	3.1	3	4	3.1	3	-	-	3.2	-	-
Pot Cap-1 Maneuver	182	164	394	179	188	773	622	-	-	869	-	-
Stage 1	398	335	-	778	644	-	-	-	-	-	-	-
Stage 2	766	581	-	385	371	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	175	161	394	167	184	772	622	-	-	869	-	-
Mov Cap-2 Maneuver	175	161	-	167	184	-	-	-	-	-	-	-
Stage 1	393	333	-	768	636	-	-	-	-	-	-	-
Stage 2	743	573	-	364	369	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	24.8	30.1	0.3	0.1
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	622	-	-	221	196	869	-	-
HCM Lane V/C Ratio	0.012	-	-	0.177	0.272	0.006	-	-
HCM Control Delay (s/veh)	10.9	-	-	24.8	30.1	9.2	-	-
HCM Lane LOS	B	-	-	C	D	A	-	-
HCM 95th %tile Q (veh)	0	-	-	0.6	1.1	0	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	13	158	257	858	500	16
Future Volume (vph)	13	158	257	858	500	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	11	12	11	12
Grade (%)	-1%			1%	-1%	
Storage Length (ft)	0	85	300			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.996	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1485	1589	1628	1756	1686	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1485	1589	1628	1756	1686	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	380			1166	1743	
Travel Time (s)	10.4			17.7	26.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	0%	1%	2%	3%	13%
Adj. Flow (vph)	14	168	273	913	532	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	168	273	913	549	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

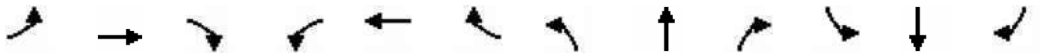
Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	158	257	858	500	16
Future Vol, veh/h	13	158	257	858	500	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	85	300	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-1	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	0	1	2	3	13
Mvmt Flow	14	168	273	913	532	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2000	541	549	0	-	0
Stage 1	541	-	-	-	-	-
Stage 2	1459	-	-	-	-	-
Critical Hdwy	6.28	6.1	4.3	-	-	-
Critical Hdwy Stg 1	5.28	-	-	-	-	-
Critical Hdwy Stg 2	5.28	-	-	-	-	-
Follow-up Hdwy	3.1	3.1	3	-	-	-
Pot Cap-1 Maneuver	74	581	776	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	240	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	48	581	776	-	-	-
Mov Cap-2 Maneuver	48	-	-	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	240	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	20.9	2.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	776	-	48	581	-	-
HCM Lane V/C Ratio	0.352	-	0.288	0.289	-	-
HCM Control Delay (s/veh)	12.1	-	107.9	13.7	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q (veh)	1.6	-	1	1.2	-	-

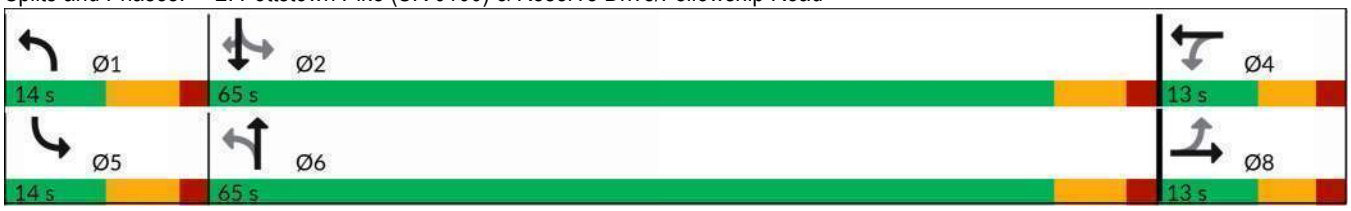


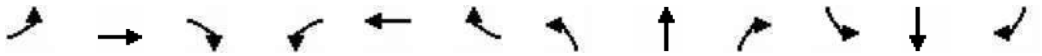
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	5	63	137	10	19	54	1095	184	21	630	5
Future Volume (vph)	3	5	63	137	10	19	54	1095	184	21	630	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			-1%			2%			0%	
Storage Length (ft)	125		0	195		0	90		0	340		190
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor										0.99		0.97
Frt		0.860			0.903			0.978				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1596	1570	0	1702	1634	0	1693	3246	0	1710	1765	1530
Flt Permitted	0.737			0.709			0.265			0.134		
Satd. Flow (perm)	1238	1570	0	1270	1634	0	472	3246	0	241	1765	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		68			20			41				119
Link Speed (mph)		35			35			35			45	
Link Distance (ft)		229			662			548			828	
Travel Time (s)		4.5			12.9			10.7			12.5	
Confl. Peds. (#/hr)										1		1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	2%	1%	0%	0%	0%	2%	2%	0%	2%	0%
Adj. Flow (vph)	3	5	68	147	11	20	58	1177	198	23	677	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	73	0	147	31	0	58	1375	0	23	677	5
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	8	8		4	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	11.0	11.0		11.0	11.0		12.0	22.0		12.0	22.0	22.0
Total Split (s)	13.0	13.0		13.0	13.0		14.0	65.0		14.0	65.0	65.0
Total Split (%)	14.1%	14.1%		14.1%	14.1%		15.2%	70.7%		15.2%	70.7%	70.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min		None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 92	
Actuated Cycle Length: 62.4	
Natural Cycle: 60	

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	5	63	137	10	19	54	1095	184	21	630	5
Future Volume (veh/h)	3	5	63	137	10	19	54	1095	184	21	630	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1772	1823	1837	1837	1778	1750	1750	1800	1772	1800
Adj Flow Rate, veh/h	3	5	37	147	11	11	58	1177	172	23	677	2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	2	1	0	0	0	2	2	0	2	0
Cap, veh/h	314	27	202	298	120	120	368	1489	217	275	860	740
Arrive On Green	0.14	0.14	0.12	0.14	0.14	0.12	0.07	0.51	0.49	0.04	0.49	0.49
Sat Flow, veh/h	1337	192	1423	1330	843	843	1693	2912	424	1714	1772	1524
Grp Volume(v), veh/h	3	0	42	147	0	22	58	670	679	23	677	2
Grp Sat Flow(s),veh/h/ln	1337	0	1616	1330	0	1686	1693	1662	1673	1714	1772	1524
Q Serve(g_s), s	0.1	0.0	1.3	6.1	0.0	0.6	0.9	18.6	18.8	0.4	17.9	0.0
Cycle Q Clear(g_c), s	0.3	0.0	1.3	6.9	0.0	0.6	0.9	18.6	18.8	0.4	17.9	0.0
Prop In Lane	1.00		0.88	1.00		0.50	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	314	0	230	298	0	239	368	850	856	275	860	740
V/C Ratio(X)	0.01	0.00	0.18	0.49	0.00	0.09	0.16	0.79	0.79	0.08	0.79	0.00
Avail Cap(c_a), veh/h	314	0	230	298	0	239	489	1741	1753	442	1857	1597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	0.0	21.7	24.1	0.0	21.2	8.8	11.3	11.4	9.1	12.1	7.5
Incr Delay (d2), s/veh	0.0	0.0	0.4	1.3	0.0	0.2	0.2	1.7	1.7	0.1	1.6	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	0.1	0.0	0.9	3.3	0.0	0.4	0.4	9.3	9.6	0.2	9.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.9	0.0	22.1	25.4	0.0	21.4	9.0	12.9	13.1	9.2	13.7	7.5
LnGrp LOS	C		C	C		C	A	B	B	A	B	A
Approach Vol, veh/h		45			169			1407			702	
Approach Delay, s/veh		22.0			24.8			12.9			13.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	33.3		13.0	8.5	34.8		13.0				
Change Period (Y+Rc), s	7.0	7.0		6.0	7.0	7.0		6.0				
Max Green Setting (Gmax), s	7.0	58.0		7.0	7.0	58.0		7.0				
Max Q Clear Time (g_c+I1), s	3.4	20.4		9.4	2.9	21.1		3.3				
Green Ext Time (p_c), s	0.0	2.8		0.0	0.0	6.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay, s/veh		14.1	
HCM 6th LOS		B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	1	16	46	2	9	17	804	56	10	450	23
Future Volume (vph)	14	1	16	46	2	9	17	804	56	10	450	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	13	12	12	13	12	11	13	11	11	12	11
Grade (%)		1%			1%			1%			-2%	
Storage Length (ft)	0		0	0		0	125		250	125		150
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.930			0.979				0.850			0.850
Flt Protected		0.978			0.961		0.950			0.950		
Satd. Flow (prot)	0	1584	0	0	1714	0	1645	1814	1443	1670	1782	1494
Flt Permitted		0.978			0.961		0.950			0.950		
Satd. Flow (perm)	0	1584	0	0	1714	0	1645	1814	1443	1670	1782	1494
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		215			346			1743			721	
Travel Time (s)		5.9			9.4			26.4			10.9	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	0%	6%	2%	0%	0%	0%	2%	2%	0%	2%	0%
Adj. Flow (vph)	14	1	16	46	2	9	17	812	57	10	455	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	31	0	0	57	0	17	812	57	10	455	23
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	1	16	46	2	9	17	804	56	10	450	23
Future Vol, veh/h	14	1	16	46	2	9	17	804	56	10	450	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	250	125	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	1	-	-	1	-	-	-2	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	7	0	6	2	0	0	0	2	2	0	2	0
Mvmt Flow	14	1	16	46	2	9	17	812	57	10	455	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1355	1378	455	1341	1344	812	478	0	0	869	0	0
Stage 1	475	475	-	846	846	-	-	-	-	-	-	-
Stage 2	880	903	-	495	498	-	-	-	-	-	-	-
Critical Hdwy	7.37	6.7	6.36	7.32	6.7	6.3	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.37	5.7	-	6.32	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.37	5.7	-	6.32	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.1	4	3.2	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	123	135	612	130	142	390	822	-	-	597	-	-
Stage 1	611	546	-	379	364	-	-	-	-	-	-	-
Stage 2	349	341	-	614	533	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	115	130	612	122	137	390	822	-	-	597	-	-
Mov Cap-2 Maneuver	115	130	-	122	137	-	-	-	-	-	-	-
Stage 1	598	537	-	371	356	-	-	-	-	-	-	-
Stage 2	332	334	-	587	524	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	26.4	49.1	0.2	0.2
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	822	-	-	199	137	597	-	-
HCM Lane V/C Ratio	0.021	-	-	0.157	0.42	0.017	-	-
HCM Control Delay (s/veh)	9.5	-	-	26.4	49.1	11.1	-	-
HCM Lane LOS	A	-	-	D	E	B	-	-
HCM 95th %tile Q (veh)	0.1	-	-	0.5	1.8	0.1	-	-

2027 Base Conditions

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	230	92	314	811	8
Future Volume (vph)	9	230	92	314	811	8
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	11	12	11	12
Grade (%)	-1%			1%	-1%	
Storage Length (ft)	0	85	300			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1114	1558	1430	1643	1646	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1114	1558	1430	1643	1646	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	380			1166	1743	
Travel Time (s)	10.4			17.7	26.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	44%	2%	15%	9%	6%	20%
Adj. Flow (vph)	10	247	99	338	872	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	247	99	338	881	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	230	92	314	811	8
Future Vol, veh/h	9	230	92	314	811	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	85	300	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-1	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	44	2	15	9	6	20
Mvmt Flow	10	247	99	338	872	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1413	877	881	0	-	0
Stage 1	877	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Critical Hdwy	6.64	6.12	4.5	-	-	-
Critical Hdwy Stg 1	5.64	-	-	-	-	-
Critical Hdwy Stg 2	5.64	-	-	-	-	-
Follow-up Hdwy	3.4	3.1	3.1	-	-	-
Pot Cap-1 Maneuver	142	373	551	-	-	-
Stage 1	394	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	116	373	551	-	-	-
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	323	-	-	-	-	-
Stage 2	583	-	-	-	-	-

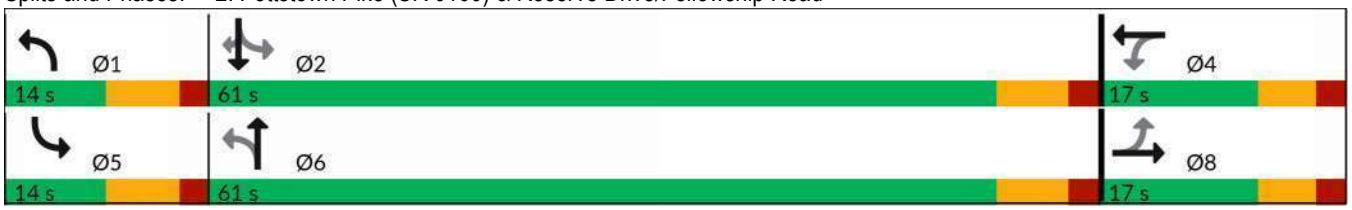
Approach	EB	NB	SB
HCM Control Delay, s/v	32	2.9	0
HCM LOS	D		

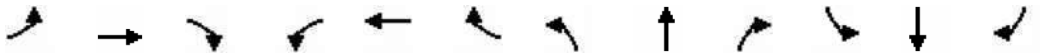
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	551	-	116	373	-	-
HCM Lane V/C Ratio	0.18	-	0.083	0.663	-	-
HCM Control Delay (s/veh)	13	-	38.8	31.7	-	-
HCM Lane LOS	B	-	E	D	-	-
HCM 95th %tile Q (veh)	0.6	-	0.3	4.6	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	78	233	4	39	16	474	84	24	837	1
Future Volume (vph)	2	0	78	233	4	39	16	474	84	24	837	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			-1%			2%			0%	
Storage Length (ft)	125		0	195		0	90		0	340		190
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.850			0.863			0.977				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1596	1520	0	1637	1369	0	1693	3096	0	1644	1731	1530
Flt Permitted	0.727			0.702			0.112			0.412		
Satd. Flow (perm)	1221	1520	0	1209	1369	0	200	3096	0	713	1731	1530
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		255			42			39				119
Link Speed (mph)		35			35			35			45	
Link Distance (ft)		229			662			548			828	
Travel Time (s)		4.5			12.9			10.7			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	5%	25%	13%	0%	7%	6%	4%	4%	0%
Adj. Flow (vph)	2	0	85	253	4	42	17	515	91	26	910	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	85	0	253	46	0	17	606	0	26	910	1
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	8	8		4	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	11.0	11.0		11.0	11.0		12.0	22.0		12.0	22.0	22.0
Total Split (s)	17.0	17.0		17.0	17.0		14.0	61.0		14.0	61.0	61.0
Total Split (%)	18.5%	18.5%		18.5%	18.5%		15.2%	66.3%		15.2%	66.3%	66.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min		None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 92	
Actuated Cycle Length: 70.2	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	78	233	4	39	16	474	84	24	837	1
Future Volume (veh/h)	2	0	78	233	4	39	16	474	84	24	837	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1744	1766	1482	1652	1778	1679	1693	1744	1744	1800
Adj Flow Rate, veh/h	2	0	55	253	4	19	17	515	73	26	910	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	4	5	25	13	0	7	6	4	4	0
Cap, veh/h	306	0	260	277	37	175	214	1577	223	526	994	869
Arrive On Green	0.16	0.00	0.15	0.16	0.16	0.15	0.03	0.56	0.55	0.04	0.57	0.00
Sat Flow, veh/h	1336	0	1586	1274	224	1066	1693	2807	396	1661	1744	1525
Grp Volume(v), veh/h	2	0	55	253	0	23	17	292	296	26	910	0
Grp Sat Flow(s),veh/h/ln	1336	0	1586	1274	0	1290	1693	1595	1608	1661	1744	1525
Q Serve(g_s), s	0.1	0.0	2.2	10.3	0.0	1.1	0.3	7.2	7.3	0.5	34.3	0.0
Cycle Q Clear(g_c), s	0.7	0.0	2.2	12.0	0.0	1.1	0.3	7.2	7.3	0.5	34.3	0.0
Prop In Lane	1.00		1.00	1.00		0.83	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	306	0	260	277	0	212	214	896	903	526	994	869
V/C Ratio(X)	0.01	0.00	0.21	0.91	0.00	0.11	0.08	0.33	0.33	0.05	0.92	0.00
Avail Cap(c_a), veh/h	306	0	260	277	0	212	342	1200	1210	638	1312	1147
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.1	0.0	26.9	32.9	0.0	26.4	14.1	8.6	8.7	6.2	14.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.4	32.0	0.0	0.2	0.2	0.2	0.2	0.0	8.4	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	0.1	0.0	1.5	11.1	0.0	0.6	0.2	3.8	3.9	0.2	17.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.1	0.0	27.3	64.9	0.0	26.6	14.2	8.8	8.9	6.2	22.5	0.0
LnGrp LOS	C		C	E		C	B	A	A	A	C	
Approach Vol, veh/h		57			276			605			936	
Approach Delay, s/veh		27.3			61.7			9.0			22.1	
Approach LOS		C			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	47.7		17.0	9.1	47.1		17.0				
Change Period (Y+Rc), s	7.0	7.0		6.0	7.0	7.0		6.0				
Max Green Setting (Gmax), s	7.0	54.0		11.0	7.0	54.0		11.0				
Max Q Clear Time (g_c+I1), s	2.8	36.8		14.5	3.0	9.7		4.2				
Green Ext Time (p_c), s	0.0	3.8		0.0	0.0	2.2		0.1				

Intersection Summary			
HCM 6th Ctrl Delay, s/veh		23.9	
HCM 6th LOS		C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	3	14	38	2	9	7	305	11	5	771	15
Future Volume (vph)	21	3	14	38	2	9	7	305	11	5	771	15
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	13	12	12	13	12	11	13	11	11	12	11
Grade (%)		1%			1%			1%			-2%	
Storage Length (ft)	0		0	0		0	125		250	125		150
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.951			0.975				0.850			0.850
Flt Protected		0.973			0.963		0.950			0.950		
Satd. Flow (prot)	0	1672	0	0	1698	0	1645	1714	1008	1391	1731	1494
Flt Permitted		0.973			0.963		0.950			0.950		
Satd. Flow (perm)	0	1672	0	0	1698	0	1645	1714	1008	1391	1731	1494
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		215			346			1743			721	
Travel Time (s)		5.9			9.4			26.4			10.9	
Confl. Peds. (#/hr)				1		1						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	33%	0%	3%	0%	0%	0%	8%	46%	20%	5%	0%
Adj. Flow (vph)	23	3	15	41	2	10	8	332	12	5	838	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	53	0	8	332	12	5	838	16
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	3	14	38	2	9	7	305	11	5	771	15
Future Vol, veh/h	21	3	14	38	2	9	7	305	11	5	771	15
Conflicting Peds, #/hr	0	0	0	1	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	250	125	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	1	-	-	1	-	-	-2	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	33	0	3	0	0	0	8	46	20	5	0
Mvmt Flow	23	3	15	41	2	10	8	332	12	5	838	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1209	1208	839	1214	1212	333	854	0	0	344	0	0
Stage 1	848	848	-	348	348	-	-	-	-	-	-	-
Stage 2	361	360	-	866	864	-	-	-	-	-	-	-
Critical Hdwy	7.3	7.03	6.3	7.33	6.7	6.3	4.3	-	-	4.5	-	-
Critical Hdwy Stg 1	6.3	6.03	-	6.33	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	6.03	-	6.33	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3	4.297	3.1	3	4	3.1	3	-	-	3.2	-	-
Pot Cap-1 Maneuver	164	150	376	161	172	746	605	-	-	849	-	-
Stage 1	379	322	-	750	625	-	-	-	-	-	-	-
Stage 2	739	564	-	367	356	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	158	147	376	150	169	745	605	-	-	849	-	-
Mov Cap-2 Maneuver	158	147	-	150	169	-	-	-	-	-	-	-
Stage 1	374	320	-	740	617	-	-	-	-	-	-	-
Stage 2	716	557	-	346	354	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	27.8	33.9	0.2	0.1
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	605	-	-	199	177	849	-	-
HCM Lane V/C Ratio	0.013	-	-	0.208	0.301	0.006	-	-
HCM Control Delay (s/veh)	11	-	-	27.8	33.9	9.3	-	-
HCM Lane LOS	B	-	-	D	D	A	-	-
HCM 95th %tile Q (veh)	0	-	-	0.8	1.2	0	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	13	181	295	892	524	22
Future Volume (vph)	13	181	295	892	524	22
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	11	12	11	12
Grade (%)	-1%			1%	-1%	
Storage Length (ft)	0	85	300			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.995	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1485	1589	1628	1756	1683	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1485	1589	1628	1756	1683	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	380			1166	1743	
Travel Time (s)	10.4			17.7	26.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	0%	1%	2%	3%	13%
Adj. Flow (vph)	14	193	314	949	557	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	193	314	949	580	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

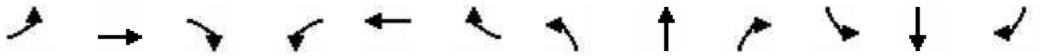
Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	181	295	892	524	22
Future Vol, veh/h	13	181	295	892	524	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	85	300	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-1	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	0	1	2	3	13
Mvmt Flow	14	193	314	949	557	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2146	569	580	0	-	0
Stage 1	569	-	-	-	-	-
Stage 2	1577	-	-	-	-	-
Critical Hdwy	6.28	6.1	4.3	-	-	-
Critical Hdwy Stg 1	5.28	-	-	-	-	-
Critical Hdwy Stg 2	5.28	-	-	-	-	-
Follow-up Hdwy	3.1	3.1	3	-	-	-
Pot Cap-1 Maneuver	60	560	757	-	-	-
Stage 1	638	-	-	-	-	-
Stage 2	210	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	35	560	757	-	-	-
Mov Cap-2 Maneuver	35	-	-	-	-	-
Stage 1	373	-	-	-	-	-
Stage 2	210	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	24.8	3.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	757	-	35	560	-	-
HCM Lane V/C Ratio	0.415	-	0.395	0.344	-	-
HCM Control Delay (s/veh)	13.1	-	163.6	14.8	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q (veh)	2	-	1.3	1.5	-	-

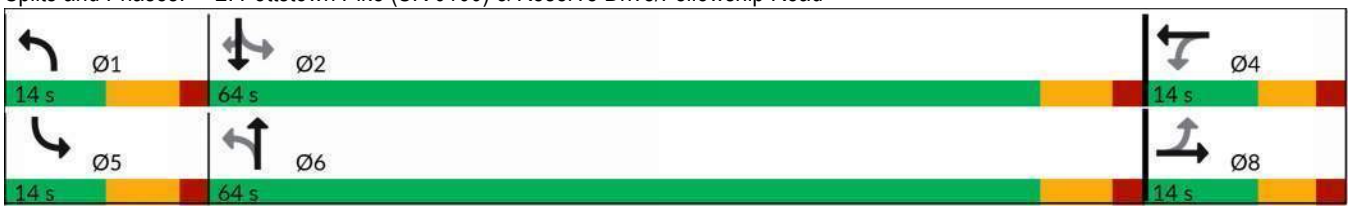


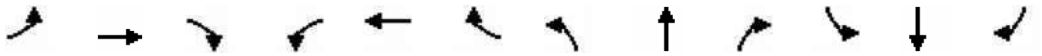
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	5	64	143	10	19	56	1166	191	21	675	7
Future Volume (vph)	4	5	64	143	10	19	56	1166	191	21	675	7
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			-1%			2%			0%	
Storage Length (ft)	125		0	195		0	90		0	340		190
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor										0.99		0.97
Frt		0.860			0.903			0.979				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1596	1570	0	1702	1634	0	1693	3250	0	1710	1765	1530
Flt Permitted	0.737			0.709			0.240			0.117		
Satd. Flow (perm)	1238	1570	0	1270	1634	0	428	3250	0	211	1765	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69			20			39				119
Link Speed (mph)		35			35			35			45	
Link Distance (ft)		229			662			548			828	
Travel Time (s)		4.5			12.9			10.7			12.5	
Confl. Peds. (#/hr)										1		1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	2%	1%	0%	0%	0%	2%	2%	0%	2%	0%
Adj. Flow (vph)	4	5	69	154	11	20	60	1254	205	23	726	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	74	0	154	31	0	60	1459	0	23	726	8
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	8	8		4	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	11.0	11.0		11.0	11.0		12.0	22.0		12.0	22.0	22.0
Total Split (s)	14.0	14.0		14.0	14.0		14.0	64.0		14.0	64.0	64.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	69.6%		15.2%	69.6%	69.6%
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min		None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 92	
Actuated Cycle Length: 67.8	
Natural Cycle: 65	

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	5	64	143	10	19	56	1166	191	21	675	7
Future Volume (veh/h)	4	5	64	143	10	19	56	1166	191	21	675	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1772	1823	1837	1837	1778	1750	1750	1800	1772	1800
Adj Flow Rate, veh/h	4	5	38	154	11	11	60	1254	179	23	726	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	2	1	0	0	0	2	2	0	2	0
Cap, veh/h	312	28	211	295	125	125	344	1547	220	256	892	767
Arrive On Green	0.15	0.15	0.13	0.15	0.15	0.13	0.07	0.53	0.51	0.04	0.50	0.50
Sat Flow, veh/h	1337	188	1427	1329	843	843	1693	2922	415	1714	1772	1524
Grp Volume(v), veh/h	4	0	43	154	0	22	60	710	723	23	726	5
Grp Sat Flow(s),veh/h/ln	1337	0	1615	1329	0	1686	1693	1662	1675	1714	1772	1524
Q Serve(g_s), s	0.2	0.0	1.4	6.9	0.0	0.7	1.0	21.4	21.8	0.4	21.0	0.1
Cycle Q Clear(g_c), s	0.3	0.0	1.4	7.8	0.0	0.7	1.0	21.4	21.8	0.4	21.0	0.1
Prop In Lane	1.00		0.88	1.00		0.50	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	312	0	239	295	0	250	344	880	887	256	892	767
V/C Ratio(X)	0.01	0.00	0.18	0.52	0.00	0.09	0.17	0.81	0.82	0.09	0.81	0.01
Avail Cap(c_a), veh/h	312	0	239	295	0	250	451	1586	1598	408	1691	1454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	0.0	23.1	25.9	0.0	22.6	9.7	11.8	12.0	9.8	12.7	7.5
Incr Delay (d2), s/veh	0.0	0.0	0.4	1.7	0.0	0.2	0.2	1.8	1.9	0.1	1.9	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	0.1	0.0	1.0	3.9	0.0	0.5	0.5	10.6	11.0	0.2	10.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.3	0.0	23.4	27.5	0.0	22.7	10.0	13.6	13.8	9.9	14.6	7.5
LnGrp LOS	C		C	C		C	A	B	B	A	B	A
Approach Vol, veh/h		47			176			1493			754	
Approach Delay, s/veh		23.3			26.9			13.6			14.4	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	36.6		14.0	8.6	38.2		14.0				
Change Period (Y+Rc), s	7.0	7.0		6.0	7.0	7.0		6.0				
Max Green Setting (Gmax), s	7.0	57.0		8.0	7.0	57.0		8.0				
Max Q Clear Time (g_c+I1), s	3.5	23.5		10.3	2.9	23.9		3.4				
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	7.3		0.0				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			14.9									
HCM 6th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1	16	46	2	9	17	838	56	10	480	25
Future Volume (vph)	15	1	16	46	2	9	17	838	56	10	480	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	13	12	12	13	12	11	13	11	11	12	11
Grade (%)		1%			1%			1%			-2%	
Storage Length (ft)	0		0	0		0	125		250	125		150
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932			0.979				0.850			0.850
Flt Protected		0.977			0.961		0.950			0.950		
Satd. Flow (prot)	0	1586	0	0	1714	0	1645	1814	1443	1670	1782	1494
Flt Permitted		0.977			0.961		0.950			0.950		
Satd. Flow (perm)	0	1586	0	0	1714	0	1645	1814	1443	1670	1782	1494
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		215			346			1743			721	
Travel Time (s)		5.9			9.4			26.4			10.9	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	0%	6%	2%	0%	0%	0%	2%	2%	0%	2%	0%
Adj. Flow (vph)	15	1	16	46	2	9	17	846	57	10	485	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	57	0	17	846	57	10	485	25
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	15	1	16	46	2	9	17	838	56	10	480	25
Future Vol, veh/h	15	1	16	46	2	9	17	838	56	10	480	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	250	125	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	1	-	-	1	-	-	-2	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	7	0	6	2	0	0	0	2	2	0	2	0
Mvmt Flow	15	1	16	46	2	9	17	846	57	10	485	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1419	1442	485	1406	1410	846	510	0	0	903	0	0
Stage 1	505	505	-	880	880	-	-	-	-	-	-	-
Stage 2	914	937	-	526	530	-	-	-	-	-	-	-
Critical Hdwy	7.37	6.7	6.36	7.32	6.7	6.3	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.37	5.7	-	6.32	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.37	5.7	-	6.32	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.1	4	3.2	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	110	123	588	117	129	372	801	-	-	581	-	-
Stage 1	586	529	-	361	350	-	-	-	-	-	-	-
Stage 2	333	329	-	589	515	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	103	118	588	110	124	372	801	-	-	581	-	-
Mov Cap-2 Maneuver	103	118	-	110	124	-	-	-	-	-	-	-
Stage 1	574	520	-	353	343	-	-	-	-	-	-	-
Stage 2	316	322	-	562	506	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	30	57	0.2	0.2
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	801	-	-	176	124	581	-	-
HCM Lane V/C Ratio	0.021	-	-	0.184	0.464	0.017	-	-
HCM Control Delay (s/veh)	9.6	-	-	30	57	11.3	-	-
HCM Lane LOS	A	-	-	D	F	B	-	-
HCM 95th %tile Q (veh)	0.1	-	-	0.7	2.1	0.1	-	-

2027 Projected Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	5	230	11	2	7	92	314	29	17	811	8
Future Volume (vph)	9	5	230	11	2	7	92	314	29	17	811	8
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	10	13	12	12	12	11	12	12	12	11	12
Grade (%)		-1%			0%			1%			-1%	
Storage Length (ft)	0		85	0		0	300		0	0		0
Storage Lanes	1		1	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.951			0.987			0.999	
Flt Protected		0.968			0.973		0.950				0.999	
Satd. Flow (prot)	0	1257	1558	0	1633	0	1430	1631	0	0	1645	0
Flt Permitted		0.968			0.973		0.950				0.999	
Satd. Flow (perm)	0	1257	1558	0	1633	0	1430	1631	0	0	1645	0
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		380			289			1166			1743	
Travel Time (s)		10.4			0.0			17.7			26.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	44%	2%	2%	2%	2%	2%	15%	9%	2%	2%	6%	20%
Adj. Flow (vph)	10	5	247	12	2	8	99	338	31	18	872	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	247	0	22	0	99	369	0	0	899	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	5	230	11	2	7	92	314	29	17	811	8
Future Vol, veh/h	9	5	230	11	2	7	92	314	29	17	811	8
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	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	0	-	85	-	-	-	300	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	1	-	-	-1	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	44	2	2	2	2	2	15	9	2	2	6	20
Mvmt Flow	10	5	247	12	2	8	99	338	31	18	872	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1470	1480	877	1467	1469	354	881	0	0	369	0	0
Stage 1	913	913	-	552	552	-	-	-	-	-	-	-
Stage 2	557	567	-	915	917	-	-	-	-	-	-	-
Critical Hdwy	7.34	6.32	6.12	7.12	6.52	6.22	4.5	-	-	4.3	-	-
Critical Hdwy Stg 1	6.34	5.32	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.34	5.32	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.4	4.018	3.1	3	4.018	3.1	3.1	-	-	3	-	-
Pot Cap-1 Maneuver	98	136	373	114	127	731	551	-	-	897	-	-
Stage 1	317	371	-	586	515	-	-	-	-	-	-	-
Stage 2	511	523	-	362	351	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	80	107	373	31	100	731	551	-	-	897	-	-
Mov Cap-2 Maneuver	80	107	-	31	100	-	-	-	-	-	-	-
Stage 1	260	357	-	481	422	-	-	-	-	-	-	-
Stage 2	413	429	-	115	337	-	-	-	-	-	-	-

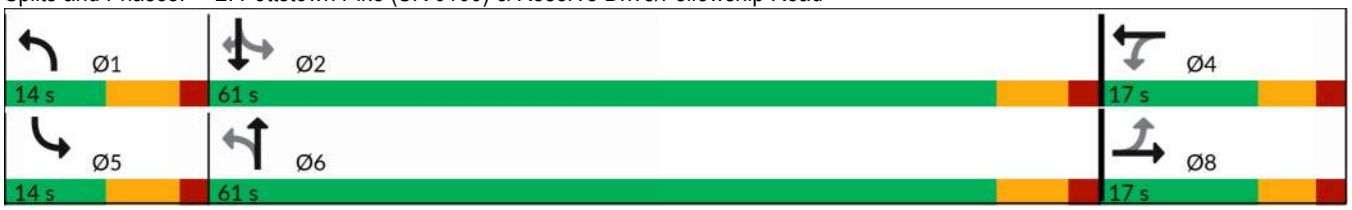
Approach	EB	WB	NB	SB
HCM Control Delay, s/v	33	116.3	2.7	0.2
HCM LOS	D	F		

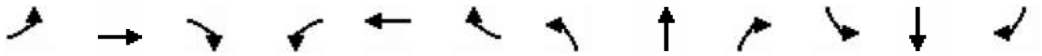
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	551	-	-	88	373	52	897	-	-
HCM Lane V/C Ratio	0.18	-	-	0.171	0.663	0.414	0.02	-	-
HCM Control Delay (s/veh)	13	-	-	54.2	31.7	116.3	9.1	0	-
HCM Lane LOS	B	-	-	F	D	F	A	A	-
HCM 95th %tile Q (veh)	0.6	-	-	0.6	4.6	1.5	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	78	233	4	42	16	500	84	25	847	1
Future Volume (vph)	2	0	78	233	4	42	16	500	84	25	847	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			-1%			2%			0%	
Storage Length (ft)	125		0	195		0	90		0	340		190
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.850			0.862			0.978				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1596	1520	0	1637	1368	0	1693	3099	0	1644	1731	1530
Flt Permitted	0.724			0.702			0.110			0.396		
Satd. Flow (perm)	1216	1520	0	1209	1368	0	196	3099	0	685	1731	1530
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		252			46			36				119
Link Speed (mph)		35			35			35			45	
Link Distance (ft)		229			662			548			828	
Travel Time (s)		4.5			12.9			10.7			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	5%	25%	13%	0%	7%	6%	4%	4%	0%
Adj. Flow (vph)	2	0	85	253	4	46	17	543	91	27	921	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	85	0	253	50	0	17	634	0	27	921	1
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	8	8		4	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	11.0	11.0		11.0	11.0		12.0	22.0		12.0	22.0	22.0
Total Split (s)	17.0	17.0		17.0	17.0		14.0	61.0		14.0	61.0	61.0
Total Split (%)	18.5%	18.5%		18.5%	18.5%		15.2%	66.3%		15.2%	66.3%	66.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min		None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 92	
Actuated Cycle Length: 71	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	78	233	4	42	16	500	84	25	847	1
Future Volume (veh/h)	2	0	78	233	4	42	16	500	84	25	847	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1744	1766	1482	1652	1778	1679	1693	1744	1744	1800
Adj Flow Rate, veh/h	2	0	55	253	4	23	17	543	73	27	921	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	4	5	25	13	0	7	6	4	4	0
Cap, veh/h	298	0	257	273	31	177	211	1600	215	516	1002	877
Arrive On Green	0.16	0.00	0.15	0.16	0.16	0.15	0.03	0.57	0.55	0.04	0.57	0.00
Sat Flow, veh/h	1331	0	1586	1274	190	1094	1693	2828	379	1661	1744	1525
Grp Volume(v), veh/h	2	0	55	253	0	27	17	306	310	27	921	0
Grp Sat Flow(s),veh/h/ln	1331	0	1586	1274	0	1285	1693	1595	1611	1661	1744	1525
Q Serve(g_s), s	0.1	0.0	2.3	10.2	0.0	1.3	0.3	7.6	7.7	0.5	35.2	0.0
Cycle Q Clear(g_c), s	0.9	0.0	2.3	12.0	0.0	1.3	0.3	7.6	7.7	0.5	35.2	0.0
Prop In Lane	1.00		1.00	1.00		0.85	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	298	0	257	273	0	208	211	903	912	516	1002	877
V/C Ratio(X)	0.01	0.00	0.21	0.93	0.00	0.13	0.08	0.34	0.34	0.05	0.92	0.00
Avail Cap(c_a), veh/h	298	0	257	273	0	208	337	1185	1197	625	1295	1133
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.7	0.0	27.4	33.5	0.0	26.9	14.3	8.6	8.7	6.2	14.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.4	35.1	0.0	0.3	0.2	0.2	0.2	0.0	8.9	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	0.1	0.0	1.5	11.4	0.0	0.7	0.2	4.1	4.2	0.2	18.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.8	0.0	27.8	68.6	0.0	27.2	14.5	8.8	8.9	6.2	23.1	0.0
LnGrp LOS	C		C	E		C	B	A	A	A	C	
Approach Vol, veh/h		57			280			633			948	
Approach Delay, s/veh		27.7			64.6			9.0			22.6	
Approach LOS		C			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	48.6		17.0	9.1	47.9		17.0				
Change Period (Y+Rc), s	7.0	7.0		6.0	7.0	7.0		6.0				
Max Green Setting (Gmax), s	7.0	54.0		11.0	7.0	54.0		11.0				
Max Q Clear Time (g_c+I1), s	2.8	37.7		14.5	3.0	10.1		4.3				
Green Ext Time (p_c), s	0.0	3.8		0.0	0.0	2.4		0.1				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			24.4									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	3	14	38	2	9	7	312	11	5	788	15
Future Volume (vph)	21	3	14	38	2	9	7	312	11	5	788	15
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	13	12	12	13	12	11	13	11	11	12	11
Grade (%)		1%			1%			1%			-2%	
Storage Length (ft)	0		0	0		0	125		250	125		150
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.951			0.975				0.850			0.850
Flt Protected		0.973			0.963		0.950			0.950		
Satd. Flow (prot)	0	1672	0	0	1698	0	1645	1714	1008	1391	1731	1494
Flt Permitted		0.973			0.963		0.950			0.950		
Satd. Flow (perm)	0	1672	0	0	1698	0	1645	1714	1008	1391	1731	1494
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		215			346			1743			721	
Travel Time (s)		5.9			9.4			26.4			10.9	
Confl. Peds. (#/hr)				1		1						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	33%	0%	3%	0%	0%	0%	8%	46%	20%	5%	0%
Adj. Flow (vph)	23	3	15	41	2	10	8	339	12	5	857	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	53	0	8	339	12	5	857	16
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

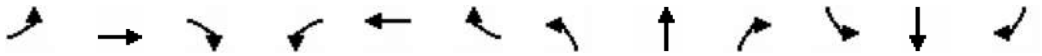
Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	3	14	38	2	9	7	312	11	5	788	15
Future Vol, veh/h	21	3	14	38	2	9	7	312	11	5	788	15
Conflicting Peds, #/hr	0	0	0	1	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	250	125	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	1	-	-	1	-	-	-2	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	33	0	3	0	0	0	8	46	20	5	0
Mvmt Flow	23	3	15	41	2	10	8	339	12	5	857	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1235	1234	858	1240	1238	340	873	0	0	351	0	0
Stage 1	867	867	-	355	355	-	-	-	-	-	-	-
Stage 2	368	367	-	885	883	-	-	-	-	-	-	-
Critical Hdwy	7.3	7.03	6.3	7.33	6.7	6.3	4.3	-	-	4.5	-	-
Critical Hdwy Stg 1	6.3	6.03	-	6.33	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	6.03	-	6.33	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3	4.297	3.1	3	4	3.1	3	-	-	3.2	-	-
Pot Cap-1 Maneuver	157	144	366	154	165	739	595	-	-	844	-	-
Stage 1	370	315	-	743	621	-	-	-	-	-	-	-
Stage 2	732	560	-	358	349	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	151	141	366	143	162	738	595	-	-	844	-	-
Mov Cap-2 Maneuver	151	141	-	143	162	-	-	-	-	-	-	-
Stage 1	365	313	-	733	613	-	-	-	-	-	-	-
Stage 2	709	553	-	337	347	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	29	35.8	0.2	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	595	-	-	191	169	844	-	-
HCM Lane V/C Ratio	0.013	-	-	0.216	0.315	0.006	-	-
HCM Control Delay (s/veh)	11.1	-	-	29	35.8	9.3	-	-
HCM Lane LOS	B	-	-	D	E	A	-	-
HCM 95th %tile Q (veh)	0	-	-	0.8	1.3	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	3	181	27	5	15	295	892	17	10	524	22
Future Volume (vph)	13	3	181	27	5	15	295	892	17	10	524	22
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	10	13	12	12	12	11	12	12	12	11	12
Grade (%)		-1%			0%			1%			-1%	
Storage Length (ft)	0		85	0		0	300		0	0		0
Storage Lanes	1		1	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.957			0.997			0.995	
Flt Protected		0.960			0.972		0.950				0.999	
Satd. Flow (prot)	0	1516	1589	0	1642	0	1628	1751	0	0	1682	0
Flt Permitted		0.960			0.972		0.950				0.999	
Satd. Flow (perm)	0	1516	1589	0	1642	0	1628	1751	0	0	1682	0
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		380			235			1166			1743	
Travel Time (s)		10.4			0.0			17.7			26.4	
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 (%)	8%	2%	0%	2%	2%	2%	1%	2%	2%	2%	3%	13%
Adj. Flow (vph)	14	3	193	29	5	16	314	949	18	11	557	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	193	0	50	0	314	967	0	0	591	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	28.8

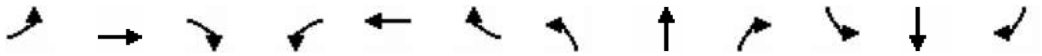
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	3	181	27	5	15	295	892	17	10	524	22
Future Vol, veh/h	13	3	181	27	5	15	295	892	17	10	524	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	0	-	85	-	-	-	300	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	1	-	-	-1	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	8	2	0	2	2	2	1	2	2	2	3	13
Mvmt Flow	14	3	193	29	5	16	314	949	18	11	557	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2188	2186	569	2178	2188	958	580	0	0	967	0	0
Stage 1	591	591	-	1586	1586	-	-	-	-	-	-	-
Stage 2	1597	1595	-	592	602	-	-	-	-	-	-	-
Critical Hdwy	6.98	6.32	6.1	7.12	6.52	6.22	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	5.98	5.32	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.98	5.32	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.1	4.018	3.1	3	4.018	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	37	52	560	35	46	326	757	-	-	551	-	-
Stage 1	555	511	-	146	168	-	-	-	-	-	-	-
Stage 2	151	182	-	556	489	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	20	29	560	~ 14	26	326	757	-	-	551	-	-
Mov Cap-2 Maneuver	20	29	-	~ 14	26	-	-	-	-	-	-	-
Stage 1	325	496	-	85	98	-	-	-	-	-	-	-
Stage 2	79	106	-	352	474	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	45.1	$ 954.4	3.2	0.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	757	-	-	21	560	22	551	-	-
HCM Lane V/C Ratio	0.415	-	-	0.811	0.344	2.273	0.019	-	-
HCM Control Delay (s/veh)	13.1	-	-	$ 387.5	14.8	$ 954.4	11.7	0	-
HCM Lane LOS	B	-	-	F	B	F	B	A	-
HCM 95th %tile Q (veh)	2	-	-	2.3	1.5	6.4	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

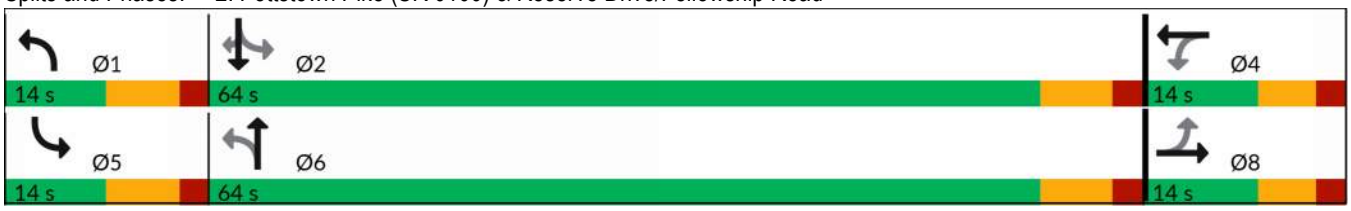


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	5	64	143	10	20	56	1182	191	23	700	7
Future Volume (vph)	4	5	64	143	10	20	56	1182	191	23	700	7
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			-1%			2%			0%	
Storage Length (ft)	125		0	195		0	90		0	340		190
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor										0.99		0.97
Frt		0.860			0.900			0.979				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1596	1570	0	1702	1628	0	1693	3250	0	1710	1765	1530
Flt Permitted	0.736			0.709			0.227			0.115		
Satd. Flow (perm)	1236	1570	0	1270	1628	0	405	3250	0	207	1765	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69			22			38				119
Link Speed (mph)		35			35			35			45	
Link Distance (ft)		229			662			548			828	
Travel Time (s)		4.5			12.9			10.7			12.5	
Confl. Peds. (#/hr)										1		1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	2%	1%	0%	0%	0%	2%	2%	0%	2%	0%
Adj. Flow (vph)	4	5	69	154	11	22	60	1271	205	25	753	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	74	0	154	33	0	60	1476	0	25	753	8
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	8	8		4	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	11.0	11.0		11.0	11.0		12.0	22.0		12.0	22.0	22.0
Total Split (s)	14.0	14.0		14.0	14.0		14.0	64.0		14.0	64.0	64.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	69.6%		15.2%	69.6%	69.6%
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min		None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 92	
Actuated Cycle Length: 68.8	
Natural Cycle: 65	

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	5	64	143	10	20	56	1182	191	23	700	7
Future Volume (veh/h)	4	5	64	143	10	20	56	1182	191	23	700	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1772	1823	1837	1837	1778	1750	1750	1800	1772	1800
Adj Flow Rate, veh/h	4	5	38	154	11	13	60	1271	179	25	753	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	2	1	0	0	0	2	2	0	2	0
Cap, veh/h	306	27	209	291	112	133	331	1561	219	256	903	776
Arrive On Green	0.15	0.15	0.13	0.15	0.15	0.13	0.07	0.53	0.52	0.04	0.51	0.51
Sat Flow, veh/h	1335	188	1427	1329	767	907	1693	2928	410	1714	1772	1524
Grp Volume(v), veh/h	4	0	43	154	0	24	60	718	732	25	753	5
Grp Sat Flow(s),veh/h/ln	1335	0	1615	1329	0	1674	1693	1662	1676	1714	1772	1524
Q Serve(g_s), s	0.2	0.0	1.5	7.0	0.0	0.8	1.0	21.9	22.3	0.4	22.3	0.1
Cycle Q Clear(g_c), s	0.4	0.0	1.5	8.0	0.0	0.8	1.0	21.9	22.3	0.4	22.3	0.1
Prop In Lane	1.00		0.88	1.00		0.54	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	306	0	236	291	0	245	331	886	894	256	903	776
V/C Ratio(X)	0.01	0.00	0.18	0.53	0.00	0.10	0.18	0.81	0.82	0.10	0.83	0.01
Avail Cap(c_a), veh/h	306	0	236	291	0	245	436	1566	1579	403	1669	1436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	23.5	26.3	0.0	23.0	10.1	11.8	12.0	9.9	12.9	7.4
Incr Delay (d2), s/veh	0.0	0.0	0.4	1.8	0.0	0.2	0.3	1.8	1.9	0.2	2.1	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	0.1	0.0	1.0	4.0	0.0	0.5	0.5	10.8	11.2	0.2	11.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.8	0.0	23.8	28.1	0.0	23.2	10.4	13.6	13.9	10.0	15.0	7.4
LnGrp LOS	C		C	C		C	B	B	B	B	B	A
Approach Vol, veh/h		47			178			1510			783	
Approach Delay, s/veh		23.7			27.5			13.7			14.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	37.4		14.0	8.7	38.8		14.0				
Change Period (Y+Rc), s	7.0	7.0		6.0	7.0	7.0		6.0				
Max Green Setting (Gmax), s	7.0	57.0		8.0	7.0	57.0		8.0				
Max Q Clear Time (g_c+I1), s	3.5	24.8		10.5	2.9	24.4		3.5				
Green Ext Time (p_c), s	0.0	3.2		0.0	0.0	7.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay, s/veh		15.2	
HCM 6th LOS		B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1	16	46	2	9	17	853	56	10	490	25
Future Volume (vph)	15	1	16	46	2	9	17	853	56	10	490	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	13	12	12	13	12	11	13	11	11	12	11
Grade (%)		1%			1%			1%			-2%	
Storage Length (ft)	0		0	0		0	125		250	125		150
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932			0.979				0.850			0.850
Flt Protected		0.977			0.961		0.950			0.950		
Satd. Flow (prot)	0	1586	0	0	1714	0	1645	1814	1443	1670	1782	1494
Flt Permitted		0.977			0.961		0.950			0.950		
Satd. Flow (perm)	0	1586	0	0	1714	0	1645	1814	1443	1670	1782	1494
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		215			346			1743			721	
Travel Time (s)		5.9			9.4			26.4			10.9	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	0%	6%	2%	0%	0%	0%	2%	2%	0%	2%	0%
Adj. Flow (vph)	15	1	16	46	2	9	17	862	57	10	495	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	57	0	17	862	57	10	495	25
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	15	1	16	46	2	9	17	853	56	10	490	25
Future Vol, veh/h	15	1	16	46	2	9	17	853	56	10	490	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	250	125	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	1	-	-	1	-	-	-2	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	7	0	6	2	0	0	0	2	2	0	2	0
Mvmt Flow	15	1	16	46	2	9	17	862	57	10	495	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1445	1468	495	1432	1436	862	520	0	0	919	0	0
Stage 1	515	515	-	896	896	-	-	-	-	-	-	-
Stage 2	930	953	-	536	540	-	-	-	-	-	-	-
Critical Hdwy	7.37	6.7	6.36	7.32	6.7	6.3	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.37	5.7	-	6.32	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.37	5.7	-	6.32	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.1	4	3.2	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	105	119	580	112	124	364	795	-	-	573	-	-
Stage 1	578	523	-	353	344	-	-	-	-	-	-	-
Stage 2	326	323	-	581	509	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	98	114	580	105	119	364	795	-	-	573	-	-
Mov Cap-2 Maneuver	98	114	-	105	119	-	-	-	-	-	-	-
Stage 1	566	514	-	346	337	-	-	-	-	-	-	-
Stage 2	309	316	-	554	500	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	31.3	60.8	0.2	0.2
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	795	-	-	169	119	573	-	-
HCM Lane V/C Ratio	0.022	-	-	0.191	0.484	0.018	-	-
HCM Control Delay (s/veh)	9.6	-	-	31.3	60.8	11.4	-	-
HCM Lane LOS	A	-	-	D	F	B	-	-
HCM 95th %tile Q (veh)	0.1	-	-	0.7	2.2	0.1	-	-

2027 Projected Conditions With Improvements

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	5	230	11	2	7	92	314	29	17	811	8
Future Volume (vph)	9	5	230	11	2	7	92	314	29	17	811	8
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	10	13	12	12	12	11	12	12	12	11	12
Grade (%)		-1%			0%			1%			-1%	
Storage Length (ft)	0		85	0		0	300		0	125		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.951			0.987			0.998	
Flt Protected		0.968			0.973		0.950			0.950		
Satd. Flow (prot)	0	1257	1558	0	1633	0	1430	1631	0	1685	1644	0
Flt Permitted		0.968			0.973		0.950			0.950		
Satd. Flow (perm)	0	1257	1558	0	1633	0	1430	1631	0	1685	1644	0
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		380			289			1166			1743	
Travel Time (s)		10.4			0.0			17.7			26.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	44%	2%	2%	2%	2%	2%	15%	9%	2%	2%	6%	20%
Adj. Flow (vph)	10	5	247	12	2	8	99	338	31	18	872	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	247	0	22	0	99	369	0	18	881	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	5	230	11	2	7	92	314	29	17	811	8
Future Vol, veh/h	9	5	230	11	2	7	92	314	29	17	811	8
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	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	0	-	85	-	-	-	300	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	1	-	-	-1	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	44	2	2	2	2	2	15	9	2	2	6	20
Mvmt Flow	10	5	247	12	2	8	99	338	31	18	872	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1470	1480	877	1467	1469	354	881	0	0	369	0	0
Stage 1	913	913	-	552	552	-	-	-	-	-	-	-
Stage 2	557	567	-	915	917	-	-	-	-	-	-	-
Critical Hdwy	7.34	6.32	6.12	7.12	6.52	6.22	4.5	-	-	4.3	-	-
Critical Hdwy Stg 1	6.34	5.32	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.34	5.32	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.4	4.018	3.1	3	4.018	3.1	3.1	-	-	3	-	-
Pot Cap-1 Maneuver	98	136	373	114	127	731	551	-	-	897	-	-
Stage 1	317	371	-	586	515	-	-	-	-	-	-	-
Stage 2	511	523	-	362	351	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	81	109	373	31	102	731	551	-	-	897	-	-
Mov Cap-2 Maneuver	81	109	-	31	102	-	-	-	-	-	-	-
Stage 1	260	364	-	481	422	-	-	-	-	-	-	-
Stage 2	413	429	-	118	344	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	33	116.3	2.7	0.2
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	551	-	-	89	373	52	897	-	-
HCM Lane V/C Ratio	0.18	-	-	0.169	0.663	0.414	0.02	-	-
HCM Control Delay (s/veh)	13	-	-	53.5	31.7	116.3	9.1	-	-
HCM Lane LOS	B	-	-	F	D	F	A	-	-
HCM 95th %tile Q (veh)	0.6	-	-	0.6	4.6	1.5	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	3	181	27	5	15	295	892	17	10	524	22
Future Volume (vph)	13	3	181	27	5	15	295	892	17	10	524	22
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	10	13	12	12	12	11	12	12	12	11	12
Grade (%)		-1%			0%			1%			-1%	
Storage Length (ft)	0		85	0		0	300		0	125		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.957			0.997			0.994	
Flt Protected		0.960			0.972		0.950			0.950		
Satd. Flow (prot)	0	1516	1589	0	1642	0	1628	1751	0	1685	1681	0
Flt Permitted		0.960			0.972		0.950			0.950		
Satd. Flow (perm)	0	1516	1589	0	1642	0	1628	1751	0	1685	1681	0
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		380			235			1166			1743	
Travel Time (s)		10.4			0.0			17.7			26.4	
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 (%)	8%	2%	0%	2%	2%	2%	1%	2%	2%	2%	3%	13%
Adj. Flow (vph)	14	3	193	29	5	16	314	949	18	11	557	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	193	0	50	0	314	967	0	11	580	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	28.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	3	181	27	5	15	295	892	17	10	524	22
Future Vol, veh/h	13	3	181	27	5	15	295	892	17	10	524	22
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	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	0	-	85	-	-	-	300	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	1	-	-	-1	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	8	2	0	2	2	2	1	2	2	2	3	13
Mvmt Flow	14	3	193	29	5	16	314	949	18	11	557	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2188	2186	569	2178	2188	958	580	0	0	967	0	0
Stage 1	591	591	-	1586	1586	-	-	-	-	-	-	-
Stage 2	1597	1595	-	592	602	-	-	-	-	-	-	-
Critical Hdwy	6.98	6.32	6.1	7.12	6.52	6.22	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	5.98	5.32	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.98	5.32	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.1	4.018	3.1	3	4.018	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	37	52	560	35	46	326	757	-	-	551	-	-
Stage 1	555	511	-	146	168	-	-	-	-	-	-	-
Stage 2	151	182	-	556	489	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	20	30	560	~ 14	26	326	757	-	-	551	-	-
Mov Cap-2 Maneuver	20	30	-	~ 14	26	-	-	-	-	-	-	-
Stage 1	325	501	-	85	98	-	-	-	-	-	-	-
Stage 2	79	106	-	355	479	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	45.1	$ 954.4	3.2	0.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	757	-	-	21	560	22	551	-	-
HCM Lane V/C Ratio	0.415	-	-	0.811	0.344	2.273	0.019	-	-
HCM Control Delay (s/veh)	13.1	-	-	$ 387.5	14.8	$ 954.4	11.7	-	-
HCM Lane LOS	B	-	-	F	B	F	B	-	-
HCM 95th %tile Q (veh)	2	-	-	2.3	1.5	6.4	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX H:

PennDOT Traffic Signal Plans

MOVEMENT, SEQUENCE, AND TIMING DIAGRAM

PHASE	1+5			1+6				2+5				2+6					4+8					FLASH
SIGNAL \ INTERVAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Y
1	R/←G	R/←Y①	R①	G/←G	G/←G	Y②	R③	R	R	R	R	R	G	G	Y	R	R	R	R	R	R	Y
2	R	R	R	G	G	Y③	R③	R	R	R	R	R	G	G	Y	R	R	R	R	R	R	Y
3	R/←G	R/←Y④	R④	R	R	R	R	G/←G	G/←G	Y②	R③	R	G	G	Y	R	R	R	R	R	R	Y
4	R	R	R	R	R	R	R	G	G	Y③	R③	R	G	G	Y	R	R	R	R	R	R	Y
5,6,7	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	Y	R	R
8,9	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	Y	R	R
10,17	H	H	H	M	FH⑤	H⑤	H⑤	H	H	H	H	M	M	FH	H	H	H	H	H	H	H	OFF
11,12	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	M	M	FH	H	H	OFF
13,14	H	H	H	H	H	H	H	M	FH⑤	H⑤	H⑤	M	M	FH	H	H	H	H	H	H	H	OFF
15,16	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	M	M	FH	H	H	OFF

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
FIXED		5	2			5	2			5	2				5	2				4	2
MINIMUM	5			5				5					15					5			
PASSAGE	3			3				3					**					3			
MAXIMUM	7			7				7					58								
PEDESTRIAN✳	⑥			⑥				⑥				3	4	24			3	4	22		
MEMORY	NL			NL				NL					MN					NL			

✳ UPON PEDESTRIAN ACTUATION ONLY

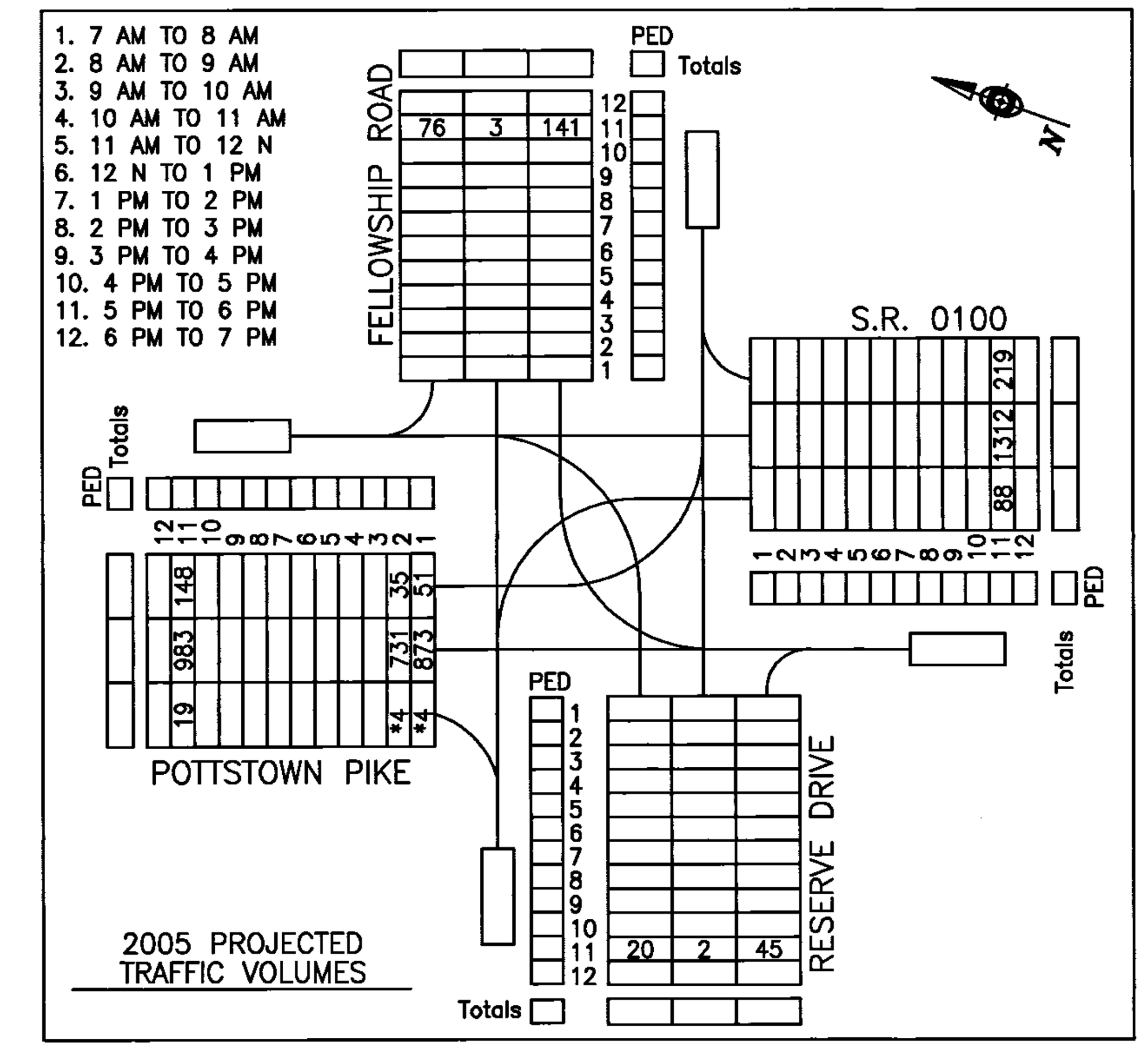
- CONTROLLER TO DWELL IN PHASE 2+6 UNTIL ACTUATED BY PHASE 4+8
- REFER TO SYSTEM PLAN #I–0014 FOR ADAPTIVE SIGNAL CONTROL OPERATION.
- PHASE 6 & 8 SHALL BE A PEDESTRIAN ADVANCE

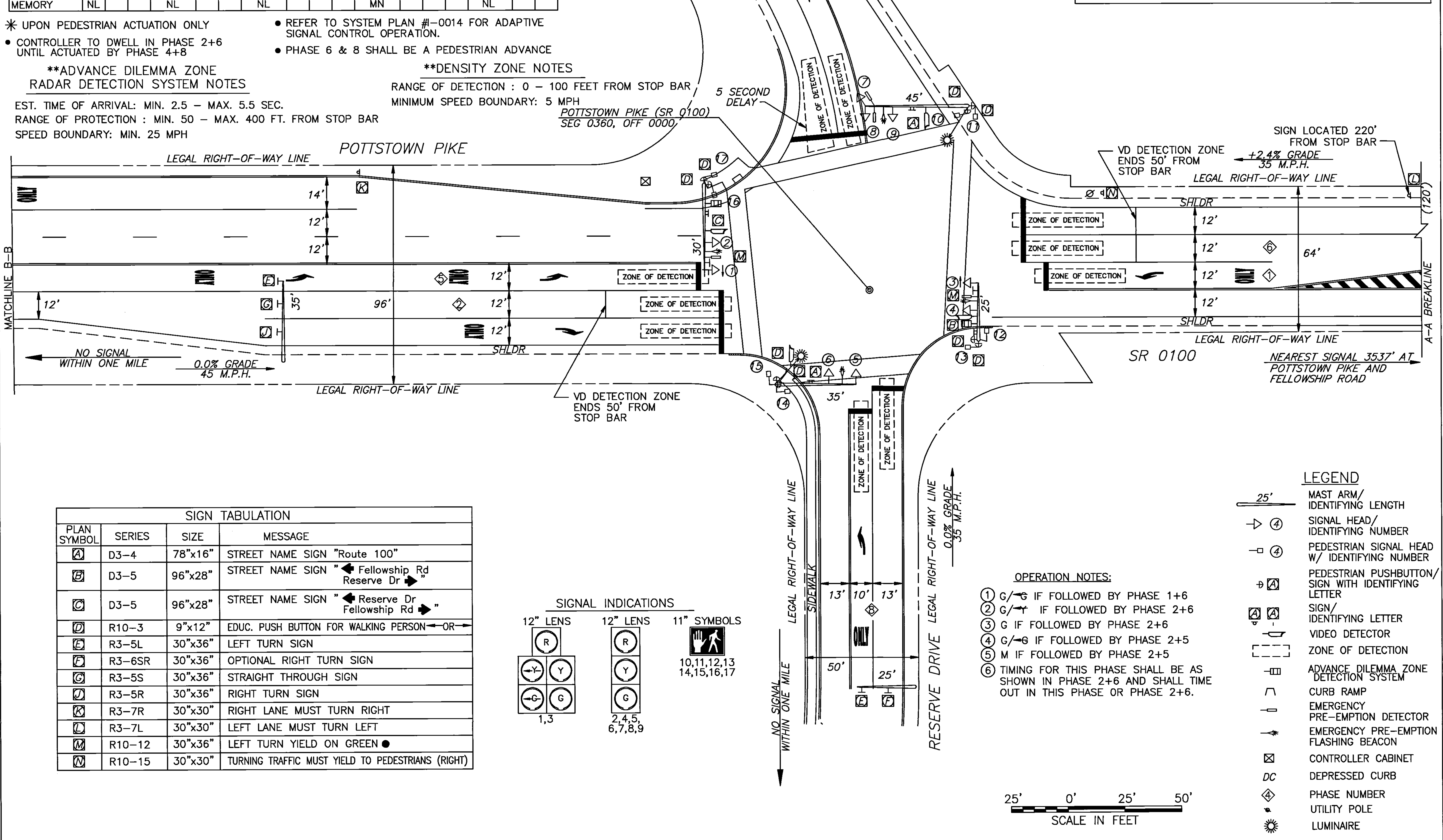
**ADVANCE DILEMMA ZONE RADAR DETECTION SYSTEM NOTES

EST. TIME OF ARRIVAL: MIN. 2.5 – MAX. 5.5 SEC.
RANGE OF PROTECTION : MIN. 50 – MAX. 400 FT. FROM STOP BAR
SPEED BOUNDARY: MIN. 25 MPH

**DENSITY ZONE NOTES

RANGE OF DETECTION : 0 – 100 FEET FROM STOP BAR
MINIMUM SPEED BOUNDARY: 5 MPH





SIGN TABULATION

PLAN SYMBOL	SERIES	SIZE	MESSAGE
A	D3–4	78"x16"	STREET NAME SIGN "Route 100"
B	D3–5	96"x28"	STREET NAME SIGN "◀ Fellowship Rd Reserve Dr ▶"
C	D3–5	96"x28"	STREET NAME SIGN "◀ Reserve Dr Fellowship Rd ▶"
D	R10–3	9"x12"	EDUC. PUSH BUTTON FOR WALKING PERSON ←OR→
E	R3–5L	30"x36"	LEFT TURN SIGN
F	R3–6SR	30"x36"	OPTIONAL RIGHT TURN SIGN
G	R3–5S	30"x36"	STRAIGHT THROUGH SIGN
J	R3–5R	30"x36"	RIGHT TURN SIGN
K	R3–7R	30"x30"	RIGHT LANE MUST TURN RIGHT
L	R3–7L	30"x30"	LEFT LANE MUST TURN LEFT
M	R10–12	30"x36"	LEFT TURN YIELD ON GREEN ●
N	R10–15	30"x30"	TURNING TRAFFIC MUST YIELD TO PEDESTRIANS (RIGHT)

SIGNAL INDICATIONS

12" LENS — 1,3
12" LENS — 2,4,5,6,7,8,9
11" SYMBOLS — 10,11,12,13,14,15,16,17

OPERATION NOTES:

1. G/←G IF FOLLOWED BY PHASE 1+6
2. G/←Y IF FOLLOWED BY PHASE 2+6
3. G IF FOLLOWED BY PHASE 2+6
4. G/←G IF FOLLOWED BY PHASE 2+5
5. M IF FOLLOWED BY PHASE 2+5
6. TIMING FOR THIS PHASE SHALL BE AS SHOWN IN PHASE 2+6 AND SHALL TIME OUT IN THIS PHASE OR PHASE 2+6.

SCALE IN FEET: 25' 0' 25' 50'

LEGEND

- 25' — MAST ARM/ IDENTIFYING LENGTH
- SIGNAL HEAD/ IDENTIFYING NUMBER
- PEDESTRIAN SIGNAL HEAD W/ IDENTIFYING NUMBER
- PEDESTRIAN PUSHBUTTON/ SIGN WITH IDENTIFYING LETTER
- SIGN/ IDENTIFYING LETTER
- VIDEO DETECTOR
- ZONE OF DETECTION
- ADVANCE DILEMMA ZONE DETECTION SYSTEM
- CURB RAMP
- EMERGENCY PRE–EMPTION DETECTOR
- EMERGENCY PRE–EMPTION FLASHING BEACON
- CONTROLLER CABINET
- DC — DEPRESSED CURB
- PHASE NUMBER
- UTILITY POLE
- LUMINAIRE

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SYSTEM PERMIT #I–0014

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6–0

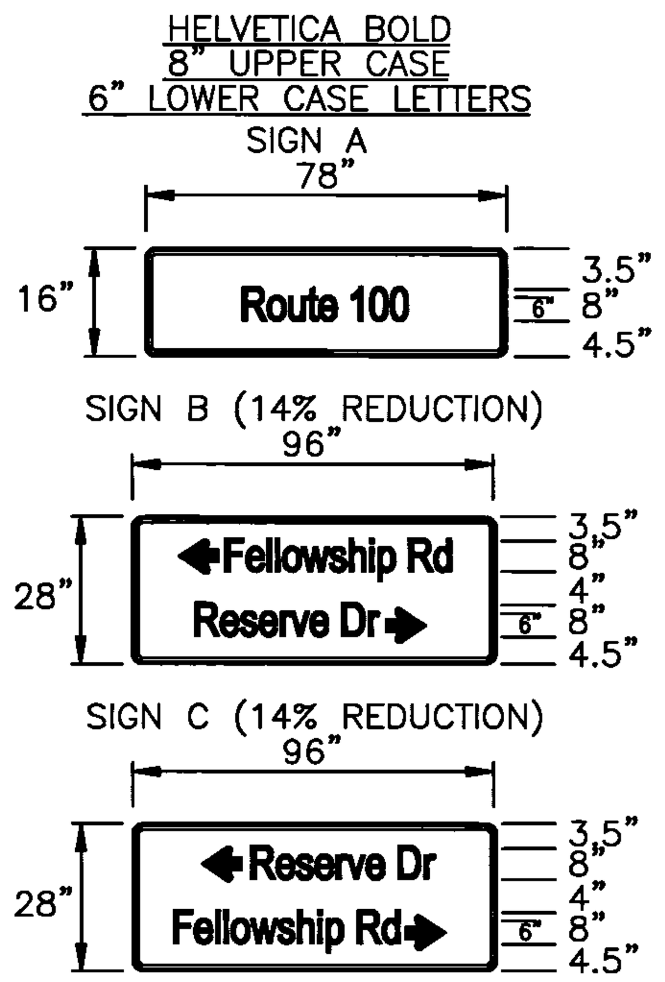
COUNTY: CHESTER
MUNICIPALITY: UPPER UWCHLAN TOWNSHIP
INTERSECTION: POTTSTOWN PIKE (SR 0100) & FELLOWSHIP ROAD / RESERVE DRIVE

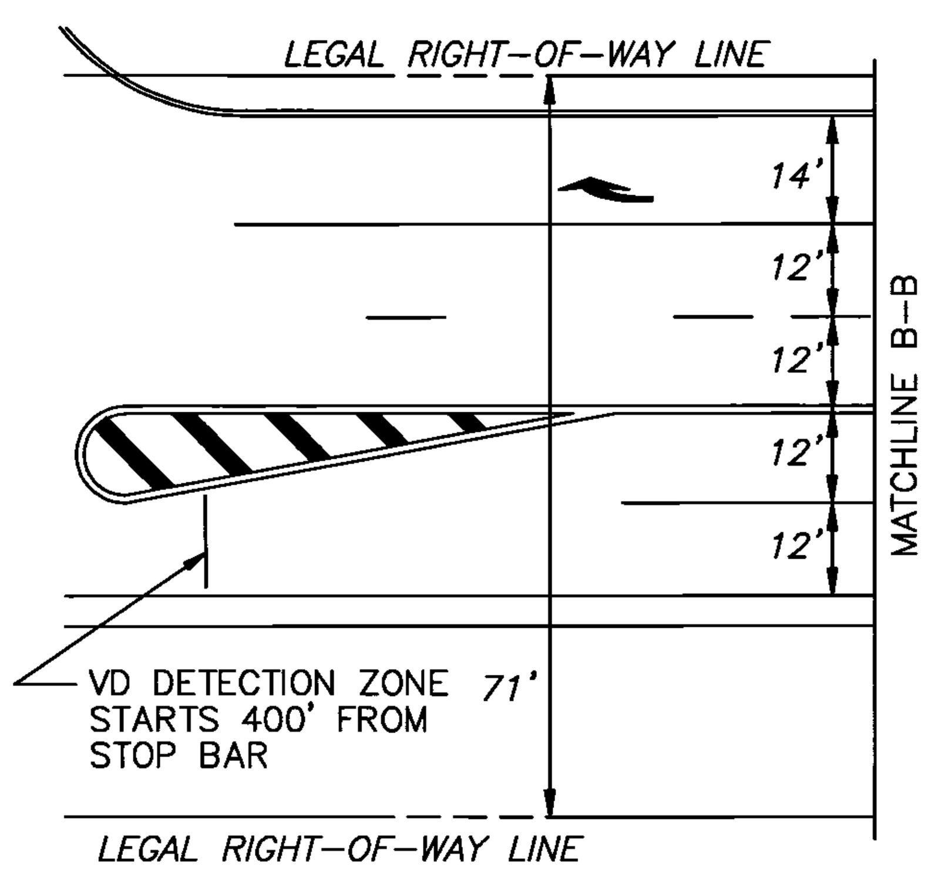
REVIEWED: ______ DATE
MUNICIPAL OFFICIAL ______ DATE

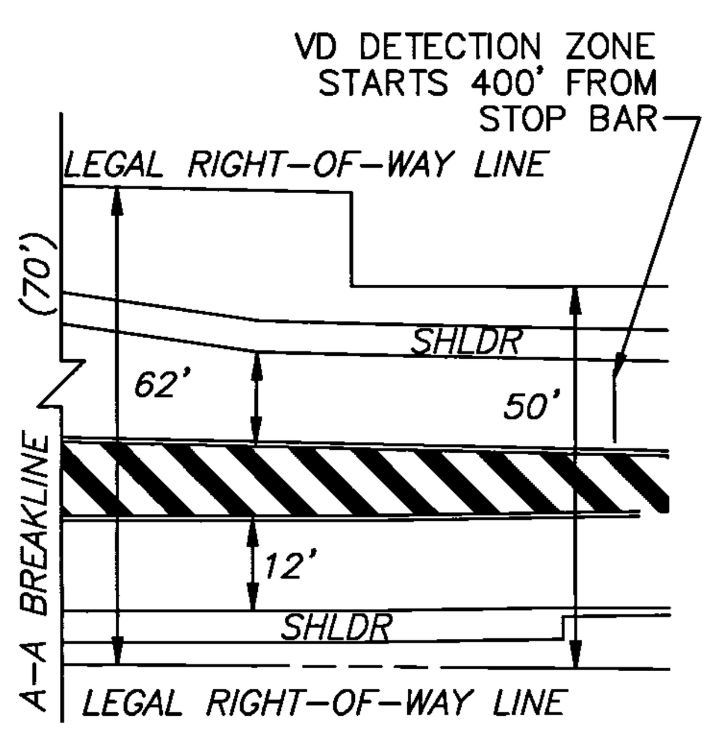
RECOMMENDED:
MARK L. KRAY 2/13/02
LOUIS R. BELMONTE 2/14/02
DISTRICT TRAFFIC ENGINEER DATE

NO	REVISION	DES/REVW	DATE	REVW	DATE	RECOM	DATE
1	ADD 5 SEC. DELAY TO LOOP IN LTL OF WB FELLOWSHIP	JJS	1/7/04	MLK	1/9/04	LRB	1/15/04
2	ADD PED HEADS, LEFT TURN PHASE, NORTHBOUND RECEIVING LANE	LANGAN	5/3/05				
3	REVISED PRE-EMPT NOTES AND TIMINGS PER VERBAL COMMENTS	LANGAN	7/25/05				
4	REVISED PER EMAIL/ VERBAL COMMENTS	LANGAN	8/17/05	MLK	8/23/05	LRB	8/24/05
5	ADAPTIVE SIGNAL SYSTEM REVISION	MCM	2/22/17	LUTZ	3/23/17	ABP	3/31/17
6	ADDED PED ADVANCE INTERVAL TO PHASES 2&8	MCM	8/14/17	WJZ	8/17/17	[illegible]	8/17/17
7							
8							

SHEET 2 OF 3 PERMIT # 62–3346 FILE # 3346

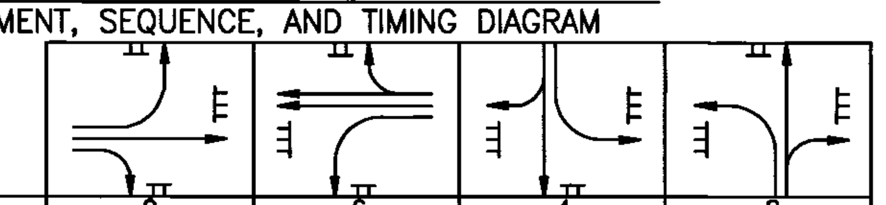






EMERGENCY PRE-EMPTION PHASING

MOVEMENT, SEQUENCE, AND TIMING DIAGRAM



PHASE	2				6				4				8			
SIGNALS \ INTERVAL	22	23	24		25	26	27		28	29	30		31	32	33	
1	R	R	R		G/←G	Y ⓐ	R ⓑ		R	R	R		R	R	R	
2	R	R	R		G	Y ⓑ	R ⓑ		R	R	R		R	R	R	
3	G/←G	Y ⓐ	R ⓑ		R	R	R		G	Y	R		R	R	R	
4	G	Y ⓑ	R ⓑ		R	R	R		R	R	R		R	R	R	
5,6,7	R	R	R		R	R	R		G	Y	R		R	R	R	
8,9	R	R	R		R	R	R		R	R	R		G	Y	R	
10,13,14,17	H	H	H		H	H	H		H	H	H		H	H	H	
11,12,15,16	H	H	H		H	H	H		H	H	H		H	H	H	
FIXED	▲	5	2		▲	5	2		▲	4	2		▲	4	2	

▲ FOR DURATION OF PRE-EMPTION

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

ⓐ G/←G WHEN RETURNING TO NORMAL OPERATION
ⓑ G WHEN RETURNING TO NORMAL OPERATION

EMERGENCY PREEMPTION NOTES:

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PREEMPTION FOR THE NORTHBOUND & SOUTHBOUND APPROACHES OF POTTSTOWN PIKE AND THE EASTBOUND APPROACH OF RESERVE DRIVE & WESTBOUND APPROACH OF FELLOWSHIP ROAD WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION.
  THIS EMERGENCY BEACON SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL FLASH WHEN THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH.
  LOCATION OF EMERGENCY VEHICLE DETECTORS ARE TO BE FIELD ADJUSTED TO ACHIEVE MAXIMUM OPERATION.
- THE SIGNALS SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS, ACCORDINGLY. THEN THE GREEN INTERVAL FOR THE PREEMPTED PHASE SHALL FOLLOW.
- THE SIGNALS SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, WHEN ACTIVATED BY EMERGENCY VEHICLE, FOLLOWED BY THE GREEN INTERVAL OF THE PREEMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- IF SIGNALS HAS BEEN ACTUATED BY PEDESTRIAN PUSH BUTTON AND THE SIGNAL IS PREEMPTED DURING THE MAN INTERVAL, THE "MAN" INTERVAL SHALL TERMINATE IMMEDIATELY FOLLOWED BY THE "FLASHING HAND" INDICATION IN ITS ENTIRETY, FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES BEFORE PROCEEDING INTO THE PREEMPTION PHASE.
- IF THE SIGNALS ARE FLASHING WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ALL SIGNALS SHALL REMAIN FLASHING.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PREEMPTION, THE ORIGINAL PREEMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PREEMPTION PHASE.
- UPON COMPLETION OF PREEMPTION, PHASE 2,4,6 OR 8 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 12 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED, PREEMPTION SHALL BE A "FIRST COME, FIRST SERVED" OPERATION.

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

SYSTEM PERMIT #I-0014

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: CHESTER
MUNICIPALITY: UPPER UWCHLAN TOWNSHIP
INTERSECTION: POTTSTOWN PIKE (SR 0100) & FELLOWSHIP ROAD / RESERVE DRIVE

REVIEWED:

DATE

MUNICIPAL OFFICIAL DATE

RECOMMENDED:
MARK L. KRAY 2/13/02

LOUIS R. BELMONTE 2/14/02
DISTRICT TRAFFIC ENGINEER DATE

NO	REVISION	DES/ REVW	DATE	REVW	DATE	RECOM	DATE
1	ADD 5 SEC. DELAY TO LOOP IN LTL OF WB FELLOWSHIP	JJS	1/7/04	MLK	1/9/04	LRB	1/15/04
2	ADD PED HEADS, LEFT TURN PHASE, NORTHBOUND RECEIVING LANE	LANGAN	5/3/05				
3	REVISED PRE-EMPT NOTES AND TIMINGS PER VERBAL COMMENTS	LANGAN	7/25/05				
4	REVISED PER EMAIL/ VERBAL COMMENTS	LANGAN	8/17/05	MLK	8/23/05	LRB	8/24/05
5	ADAPTIVE SIGNAL SYSTEM REVISION	MCM	2/22/17	LUTZ	3/23/17	ABP	3/31/17
6	ADDED PED ADVANCE INTERVAL TO PHASES 2&8	MCM	8/14/17	[signature]	8/17/17	[signature]	8/17/17
7							
8							

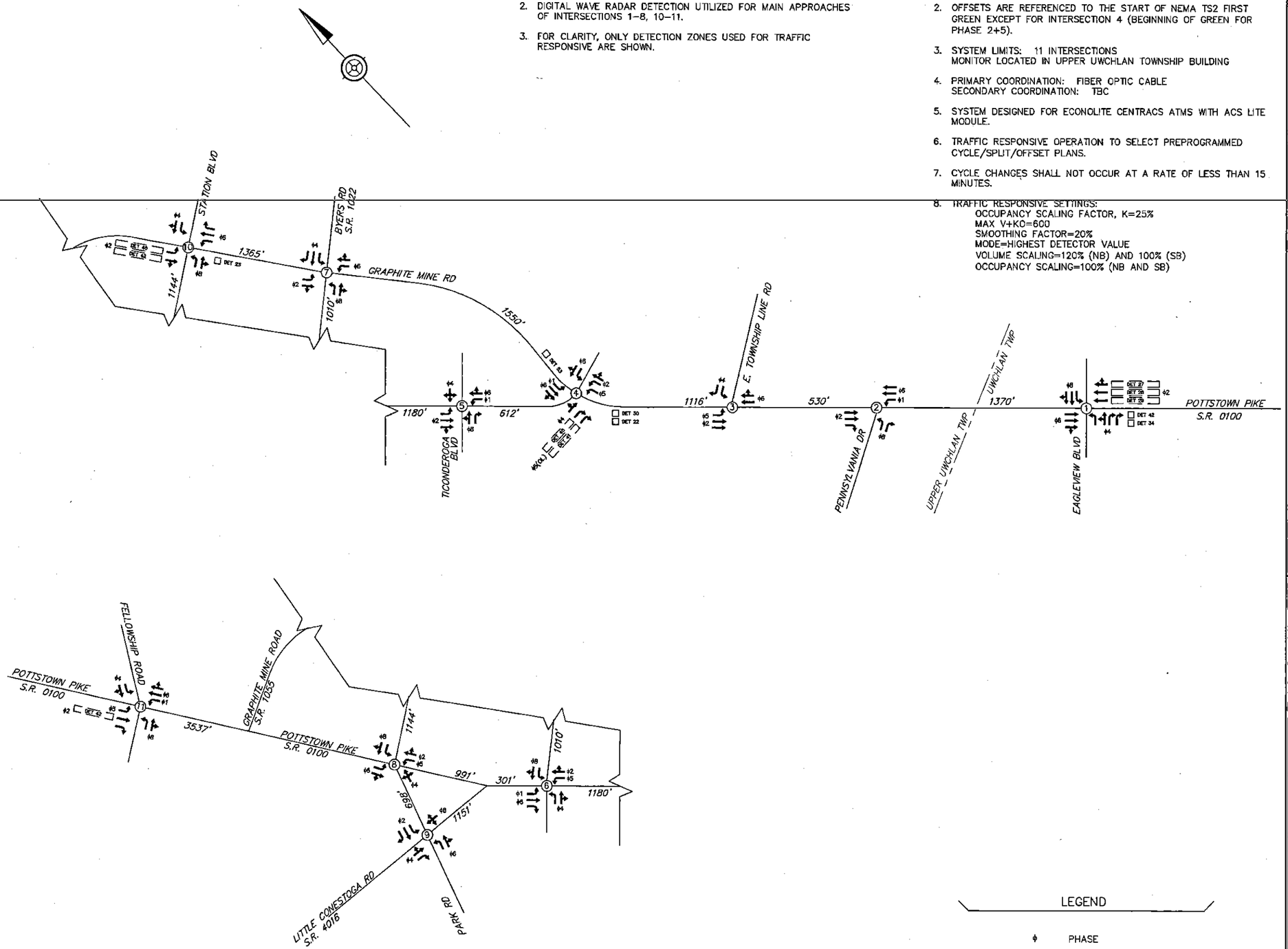
SHEET 3 OF 3 PERMIT # 62-3346 FILE # 3346

DETECTOR NOTES

1. VIDEO DETECTION UTILIZED FOR STOP BAR PRESENCE DETECTION ON ALL APPROACHES FOR ALL SIGNALS.
2. DIGITAL WAVE RADAR DETECTION UTILIZED FOR MAIN APPROACHES OF INTERSECTIONS 1–8, 10–11.
3. FOR CLARITY, ONLY DETECTION ZONES USED FOR TRAFFIC RESPONSIVE ARE SHOWN.

SYSTEM NOTES

1. PROGRAM TO BE SELECTED BY TRAFFIC RESPONSIVE OPERATIONS AND ADJUSTED BY ADAPTIVE SIGNAL CONTROL.
2. OFFSETS ARE REFERENCED TO THE START OF NEMA TS2 FIRST GREEN EXCEPT FOR INTERSECTION 4 (BEGINNING OF GREEN FOR PHASE 2+5).
3. SYSTEM LIMITS: 11 INTERSECTIONS
   MONITOR LOCATED IN UPPER UWCHLAN TOWNSHIP BUILDING
4. PRIMARY COORDINATION: FIBER OPTIC CABLE
   SECONDARY COORDINATION: TBC
5. SYSTEM DESIGNED FOR ECONOLITE CENTRACS ATMS WITH ACS LITE MODULE.
6. TRAFFIC RESPONSIVE OPERATION TO SELECT PREPROGRAMMED CYCLE/SPLIT/OFFSET PLANS.
7. CYCLE CHANGES SHALL NOT OCCUR AT A RATE OF LESS THAN 15 MINUTES.
8. TRAFFIC RESPONSIVE SETTINGS:
   OCCUPANCY SCALING FACTOR, K=25%
   MAX V+KO=600
   SMOOTHING FACTOR=20%
   MODE=HIGHEST DETECTOR VALUE
   VOLUME SCALING=120% (NB) AND 100% (SB)
   OCCUPANCY SCALING=100% (NB AND SB)



LEGEND

ϕ PHASE

SCALE: NOT TO SCALE

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

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

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

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

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

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

OBTAIN POLE ATTACHMENT PERMIT FOR AERIAL FIBER OPTIC INSTALLATION.

MAINTAIN MASTER CONTROLLER COMMUNICATION SUCH AS PHONE DROPS.

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PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: CHESTER
MUNICIPALITY: UPPER UWCHLAN TOWNSHIP
INTERSECTION: UPPER UWCHLAN SYSTEM PLAN

REVIEWED:

DATE

MUNICIPAL OFFICIAL DATE

RECOMMENDED:

DISTRICT TRAFFIC ENGINEER DATE

NO.	REVISION	DES./ REVW.	DATE	REVW.	DATE	RECOM.	DATE
1	ADAPTIVE SIGNAL SYSTEM	MCM		LUTZ	2/28/12	LRB	3/9/12
2	AS-BUILTS	MCM	8/12/14	WJK	9/15/14	LRB	9/30/14
3							
4							
5							
6							
7							
8							

INTERCONNECT PERMIT #I-0014 | SHEET 1 OF 2

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TRAFFIC RESPONSIVE DETECTOR ASSIGNMENT

CHANNELS	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DIRECTION 1 (DR1)	1 (29)	1 (26)	1 (27)						1 (34)	4 (53)	1 (42)			
DIRECTION 2 (DR2)				10 (42)	11 (42)	10 (45)						4 (30)	4 (22)	10 (23)
GROUP 1 (GP1)														
GROUP 2 (GP2)														
SPLIT DEMAND 1 (NA1)														
SPLIT DEMAND 2 (NA2)														
OPTION 1														
OPTION 2														
SIDESTREET							4 (41)	4 (45)						

WEEKLY PROGRAM CHART

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

MONDAY = DAY 1
OFFSETS IN SECONDS
* INTERSECTIONS 7 AND 10 TO RUN MAX I

CYCLE/OFFSET/SPLIT

LEVEL 1

	Intersections	File #	Master	Phase 1	2	3	4	5	6	7	8	Cycle	Offset Northbound	Balanced	Southbound
1	POTTSTOWN PIKE & EAGLEVIEW BLVD	2527			69		23(SPLIT)		69		28(SPLIT)	120			45
2	POTTSTOWN PIKE & PENNSYLVANIA DR	2931		28(LEAD)	71				99		21	120			115
3	POTTSTOWN PIKE & E. TWP LINE RD	3040			87		33	13(LEAD)	74			120			21
4	POTTSTOWN PIKE & GRAPHITE MINE RD	3570		13(LAG)	78		12(SPLIT)	43(LEAD)	48		17(SPLIT)	120			0
5	POTTSTOWN PIKE & TICONDEROGA BLVD	3319		20(LEAD)	76		24		96		24	120			91
6	POTTSTOWN PIKE & BYERS ROAD	2096		13(LEAD)	79		28	13(LEAD)	79		28	120			93
7	GRAPHITE MINE RD & BYERS RD	3608			88		34		86		34	120			19
8	POTTSTOWN PIKE & PARK ROAD	2680			84		36	19(LEAD)	65		36	120			74
9	PARK ROAD & LITTLE CONESTOGA ROAD	2758										FREE			
10	GRAPHITE MINE RD & STATION BLVD	3760			65		55		65		55	120			9
11	POTTSTOWN PIKE & FELLOWSHIP ROAD	3346										FREE			

LEVEL 2

	Intersections	File #	Master	Phase 1	2	3	4	5	6	7	8	Cycle	Offset Northbound	Balanced	Southbound
1	POTTSTOWN PIKE & EAGLEVIEW BLVD	2527			48		21(SPLIT)		48		21(SPLIT)	90		78	
2	POTTSTOWN PIKE & PENNSYLVANIA DR	2931		20(LEAD)	48				68		22	90		23	
3	POTTSTOWN PIKE & E. TWP LINE RD	3040			67		23	13(LEAD)	54			90		18	
4	POTTSTOWN PIKE & GRAPHITE MINE RD	3570		13(LAG)	45		12(SPLIT)	34(LEAD)	24		20(SPLIT)	90		0	
5	POTTSTOWN PIKE & TICONDEROGA BLVD	3319		16(LEAD)	55		19		71		19	90		11	
6	POTTSTOWN PIKE & BYERS ROAD	2096		16(LEAD)	46		28	16(LEAD)	46		28	90		0	
7	GRAPHITE MINE RD & BYERS RD	3608			43		17		43		17	60		43	
8	POTTSTOWN PIKE & PARK ROAD	2680			58		32	18(LEAD)	40		32	90		26	
9	PARK ROAD & LITTLE CONESTOGA ROAD	2758										FREE			
10	GRAPHITE MINE RD & STATION BLVD	3760			41		19		41		19	60		14	
11	POTTSTOWN PIKE & FELLOWSHIP ROAD	3346										FREE			

LEVEL 3

	Intersections	File #	Master	Phase 1	2	3	4	5	6	7	8	Cycle	Offset Northbound	Balanced	Southbound
1	POTTSTOWN PIKE & EAGLEVIEW BLVD	2527			56		21(SPLIT)		56		33(SPLIT)	110	38		
2	POTTSTOWN PIKE & PENNSYLVANIA DR	2931		28(LEAD)	52				80		30	110	81		
3	POTTSTOWN PIKE & E. TWP LINE RD	3040			83		27	13(LEAD)	70			110	77		
4	POTTSTOWN PIKE & GRAPHITE MINE RD	3570		13(LAG)	65		12(SPLIT)	47(LEAD)	31		20(SPLIT)	110	0		
5	POTTSTOWN PIKE & TICONDEROGA BLVD	3319		24(LEAD)	64		22		88		22	110	11		
6	POTTSTOWN PIKE & BYERS ROAD	2096		17(LEAD)	59		34	17(LEAD)	59		34	110	0		
7	GRAPHITE MINE RD & BYERS RD	3608			86		24		86		24	110	30		
8	POTTSTOWN PIKE & PARK ROAD	2680			70		40	27(LEAD)	43		40	110	12		
9	PARK ROAD & LITTLE CONESTOGA ROAD	2758										FREE			
10	GRAPHITE MINE RD & STATION BLVD	3760			86		24		86		24	110	53		
11	POTTSTOWN PIKE & FELLOWSHIP ROAD	3346										FREE			

LEVEL 4

	Intersections	File #	Master	Phase 1	2	3	4	5	6	7	8	Cycle	Offset Northbound	Balanced	Southbound
1	POTTSTOWN PIKE & EAGLEVIEW BLVD	2527			88		31(SPLIT)		88		31(SPLIT)	150			150
2	POTTSTOWN PIKE & PENNSYLVANIA DR	2931		35(LEAD)	88				123		27	150			144
3	POTTSTOWN PIKE & E. TWP LINE RD	3040			108		42	13(LEAD)	95			150			27
4	POTTSTOWN PIKE & GRAPHITE MINE RD	3570		13(LAG)	105		12(SPLIT)	52(LEAD)	66		20(SPLIT)	150			0
5	POTTSTOWN PIKE & TICONDEROGA BLVD	3319		33(LEAD)	88		29		121		29	150			108
6	POTTSTOWN PIKE & BYERS ROAD	2096		23(LEAD)	79		48	23(LEAD)	79		48	150			132
7	GRAPHITE MINE RD & BYERS RD	3608			120		30		120		30	150			26
8	POTTSTOWN PIKE & PARK ROAD	2680			94		56	28(LEAD)	66		56	150			101
9	PARK ROAD & LITTLE CONESTOGA ROAD	2758										FREE			
10	GRAPHITE MINE RD & STATION BLVD	3760			95		55		95		55	150			27
11	POTTSTOWN PIKE & FELLOWSHIP ROAD	3346										FREE			

LEVEL 5

	Intersections	File #	Master	Phase 1	2	3	4	5	6	7	8	Cycle	Offset Northbound	Balanced	Southbound
1	POTTSTOWN PIKE & EAGLEVIEW BLVD	2527			74		31(SPLIT)		74		45(SPLIT)	150	103		
2	POTTSTOWN PIKE & PENNSYLVANIA DR	2931		38(LEAD)	77				105		45	150	124		
3	POTTSTOWN PIKE & E. TWP LINE RD	3040			108		42	13(LEAD)	95			150	120		
4	POTTSTOWN PIKE & GRAPHITE MINE RD	3570		13(LAG)	105		12(SPLIT)	64(LEAD)	54		20(SPLIT)	150	0		
5	POTTSTOWN PIKE & TICONDEROGA BLVD	3319		33(LEAD)	87		30		120		30	150	10		
6	POTTSTOWN PIKE & BYERS ROAD	2096		12(LEAD)	107		31	12(LEAD)	107		31	150	27	x	145
7	GRAPHITE MINE RD & BYERS RD	3608			120		30		120		30	150	19		
8	POTTSTOWN PIKE & PARK ROAD	2680			119		31	18(LEAD)	101		31	150	52	x	130
9	PARK ROAD & LITTLE CONESTOGA ROAD	2758										FREE			
10	GRAPHITE MINE RD & STATION BLVD	3760			95		55		95		55	150	42		
11	POTTSTOWN PIKE & FELLOWSHIP ROAD	3346										FREE			

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

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

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

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PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: CHESTER
MUNICIPALITY: UPPER UWCHLAN TOWNSHIP
INTERSECTION: UPPER UWCHLAN SYSTEM PLAN

REVIEWED:

DATE

MUNICIPAL OFFICIAL DATE

RECOMMENDED:

DISTRICT TRAFFIC ENGINEER DATE

NO.	REVISION	DES./REVW.	DATE	REVW.	DATE	RECOM.	DATE
1	ADAPTIVE SIGNAL SYSTEM	MCM		LUTZ	2/28/12	LRB	3/9/12
2	AS-BUILTS	MCM	8/12/14	[illegible]	9/18/14	[illegible]	9/22/14
3							
4							
5							
6							
7							
8							

INTERCONNECT PERMIT #1-0014 SHEET 2 OF 2

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APPENDIX I:
PennDOT ICE Form

Pennsylvania Department of Transportation
Intersection Control Evaluation (ICE) Form
Stage I: Screening

To fulfill the requirements of Stage 1 (Screening) of PennDOT's ICE procedures, complete the following form and append all supporting documentation. Completed forms can be submitted to the District Traffic Engineer (DTE) for the project's location.

Project Information

Project Name	TMAS.013	Project Setting	Suburban	Project ICE Reference Number	
Submitted By	BH	Agency/Company	TPD	Email	
Project Purpose and Goals (*What is the catalyst for this project and what are the intended outcomes?*)	The proposed site's access will form the fourth leg of the existing Font Road and Pottstown Pike (SR 0100) intersection. The goal is to evaluate the control options and determine the most effective control.				
Project Setting Description (*Describe the area surrounding the intersection*)	The proposed study area consists of Pottstown Pike (SR 0100) being an arterial highway surrounded primairly by residential developments.				
County	CHESTER	Project Locality (Township/Borough/City)	Upper Uwchlan Township		
PennDOT District	District 6	Project Type (select most appropriate)	Highway Occupancy Permit (HOP) Application		
Multimodal Context (*Describe pedestrian, bicycle, and transit activity in the area and the potential for activity based on surrounding land uses and development pattern*)	There is no public transportation in the immediate vicinty of the site. At the site access, there is also no existing pedestrian or bicycle accomodations.				

Basic Intersection Information

Major Street

Major Street Route Number(s)	SR 0100	Major Street Route Name(s)	Pottstown Pike	SR Segment #	370	SR Offset	0
Primary Functional Classification	Principal Arterial	Secondary Functional Class. (if app.)		Existing AADT	12,675	Existing Control	Two-way Stop-Controlled
Major Street Ownership	State	Sidewalks are present along:	Neither side of the roadway				
Crosswalks?	On-Street Bike Facilities?	Multi-Use Path?	Scheduled Bus Service?	Bus stop at intersection?			

Approach #1	Number of Lanes (Count Shared Lanes as Through):	Left-Turn		Through		Right-Turn		
	AM Peak Hour Traffic Volumes:	Left-Turn	92	Through	314	Right-Turn	29	
	PM Peak Hour Traffic Volumes:	Left-Turn	295	Through	892	Right-Turn	17	
Approach #2	Number of Lanes (Count Shared Lanes as Through):	Left-Turn		Through		Right-Turn		
	AM Peak Hour Traffic Volumes:	Left-Turn	17	Through	811	Right-Turn	8	
	PM Peak Hour Traffic Volumes:	Left-Turn	10	Through	524	Right-Turn	22	

Minor Street

Existing / New

Minor Street Route Number(s)		Minor Street Route Name(s)	Font Road-Site Driveway	SR Segment #		SR Offset	
Primary Functional Classification	Local Road	Secondary Functional Class. (if app.)		Existing AADT (if available)			
Minor Street Ownership	Township	Sidewalks are present along:	Neither side of the roadway				
Crosswalks?	On-Street Bike Facilities?	Multi-Use Path?	Scheduled Bus Service?	Bus stop at intersection?			

Approach #1	Number of Lanes (Count Shared Lanes as Through):	Left-Turn		Through		Right-Turn		
	AM Peak Hour Traffic Volumes:	Left-Turn	9	Through	5	Right-Turn	230	
	PM Peak Hour Traffic Volumes:	Left-Turn	13	Through	3	Right-Turn	181	
Approach #2	Number of Lanes (Count Shared Lanes as Through):	Left-Turn		Through		Right-Turn		
	AM Peak Hour Traffic Volumes:	Left-Turn	11	Through	2	Right-Turn	7	
	PM Peak Hour Traffic Volumes:	Left-Turn	27	Through	5	Right-Turn	15	
Approach #3	Number of Lanes (Count Shared Lanes as Through):	Left-Turn		Through		Right-Turn		
	AM Peak Hour Traffic Volumes:	Left-Turn		Through		Right-Turn		
	PM Peak Hour Traffic Volumes:	Left-Turn		Through		Right-Turn		

Crash History (Existing Intersections Only)

Append the most recent five-years of crash data for the intersection from the CDART. If the crash data evidences any issues relating to safety performance, discuss briefly here:

There were no crashes in the most recent five years at the interesection of Pottstown Pike and Font Road.

Screening Evaluation

Provide a brief justification as to why each of the following control strategies should be advanced or not. Justification should consider potential environmental impacts.

Note: FHWA's CAP-X tool is helpful for assessing the viability of alternative intersection forms.

Control Strategy	Strategy Viable?	Justification	Strategy to be Advanced?
Two-way Stop-Controlled	Yes	Existing Control	Yes
All-way Stop-Controlled	Yes	Included as viable option	No
Signalized Control	Yes	Included as viable option but was not advanced due to the traffic signal not being warranted	No
Roundabout	No	Included as viable option but was not advanced due to lack of ROW and lack of physcial space to fit a roundabout.	No
Median U-Turn	No		
Restricted Crossing U-Turn (RCUT) Signalized	No		
Restricted Crossing U-Turn (RCUT) Unsignalized	No		
Jughandle	No		
Displaced Left-Turn	No		
Continuous Green Tee	No		
Quadrant Roadway	No		
Other	No		

Resolution

To be filled out by PennDOT District Traffic Engineer or designee only.

Project Determination				
Comments				
DTE or Designee Name *(Type)*		Signature		Date

CAP-X Results Report

3/4/2024 - 10:34 AM

Project Information

Project Name	TMAS.013
Project Agency	TPD
Project Analyst	BH
County	CHESTER
City	Upper Uwchlan Township
Major Facility	NORTH_SOUTH
East-West Facility Name	Font Road-Site Driveway
North-South Facility Name	Pottstown Pike (SR 0100)
Evaluation Type	CAP_X
Additional Project Notes	

Traffic Volumes

Opening Year - AM Peak

	Left	Through	Right	Truck %
Southbound	17	811	8	2
Eastbound	9	5	230	2
Westbound	11	2	7	2
Northbound	92	314	29	2

Opening Year - PM Peak

	Left	Through	Right	Truck %
Southbound	10	524	22	2
Eastbound	13	3	181	2
Westbound	27	5	15	2
Northbound	295	892	17	2

Opening Year - Weekend Peak

	Left	Through	Right	Truck %
Southbound	0	0	0	2
Eastbound	0	0	0	2
Westbound	0	0	0	2
Northbound	0	0	0	2

Design Year - AM Peak

	Left	Through	Right	Truck %
Southbound	0	0	0	2
Eastbound	0	0	0	2
Westbound	0	0	0	2
Northbound	0	0	0	2

Design Year - PM Peak

	Left	Through	Right	Truck %
Southbound	0	0	0	2
Eastbound	0	0	0	2
Westbound	0	0	0	2
Northbound	0	0	0	2

Design Year - Weekend Peak

	Left	Through	Right	Truck %
Southbound	0	0	0	2
Eastbound	0	0	0	2
Westbound	0	0	0	2
Northbound	0	0	0	2

Capacity Analysis

			Opening Year V/C			Design Year V/C		
#	Name	Max V/C	AM Peak	PM Peak	Weekend Peak	AM Peak	PM Peak	Weekend Peak
1	Conventional Signal	0.55	0.30	0.55	0.00	0.00	0.00	0.00
2	Roundabout	0.91	0.69	0.91	0.00	0.00	0.00	0.00
3	All-Way Stop Control	1.36	1.04	1.36	0.00	0.00	0.00	0.00
4	Two-Way Stop Control	1.31	0.41	1.31	0.00	0.00	0.00	0.00

1–4 of 4

APPENDIX J:

Traffic Signal Warrant Analysis Worksheets

Job #: TMAS.00013
Intersection: Pottstown Pike (SR 0100) and Font Road-Site Driveway

Volume Development (2027 Projected Conditions)

2023 Existing Counts:

Movement	Time Period (Weekday)					
	7-8 A.M.	8-9 A.M.	A.M. Peak	4-5 P.M.	5-6 P.M.	P.M. Peak
EBL	9	9	**9**	12	10	**13**
EBT						
EBR	201	213	**201**	149	166	**157**
WBL						
WBT						
WBR						
NBL	75	119	**75**	228	267	**256**
NBT	289	347	**289**	851	807	**854**
NBR						
SBL						
SBT	779	599	**779**	516	482	**498**
SBR	5	12	**5**	13	23	**16**
Total	**1358**	**1299**	**1358**	**1769**	**1755**	**1794**
K-Factor Calculations						
EB K-Factor	**1.00**	**1.06**	---	**0.95**	**1.04**	---
WB K-Factor	**0.90**	**0.90**	---	**0.90**	**0.90**	---
NB K-Factor	**1.00**	**1.28**	--	**0.97**	**0.97**	--
SB K-Factor	**1.00**	**0.78**	---	**1.03**	**0.98**	---

K-Factor = Hourly Volume

2027 Projected Conditions

Movement	Time Period					
	A.M. Peak	7-8 A.M.	8-9 A.M.	P.M. Peak	4-5 P.M.	5-6 P.M.
EBL	**9**	9	10	**13**	12	13
EBT	**5**	5	5	**3**	3	3
EBR		0	0		0	0
WBL	**11**	10	10	**27**	24	24
WBT	**2**	2	2	**5**	5	5
WBR	**7**	6	6	**15**	14	14
NBL	**92**	92	118	**295**	287	285
NBT	**314**	314	402	**892**	867	863
NBR	**29**	29	37	**17**	17	16
SBL	**17**	17	13	**10**	10	10
SBT	**811**	811	632	**524**	539	515
SBR	**8**	8	6	**22**	23	22
Total	**1305**	**1303**	**1241**	**1823**	**1801**	**1770**

Traffic Signal Warrant Analysis Workbook

STUDY AND ANALYSIS INFORMATION

Municipality:	Upper Uwchlan Twp	**Analysis Date:**	3/1/2024
County:	Chester County	**Conducted By:**	MB
PennDOT Engineering District:	6	**Agency/Company Name:**	TPD

Analysis Information

Data Collection Date:	6/8/2023
Day of the Week:	Thursday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Major Street Information

Major Street Name and Route Number:	Pottstown Pike (SR 0100)
Major Street Approach #1 Direction:	N-Bound
Major Street Approach #2 Direction:	S-Bound

Number of Lanes for Moving Traffic on Each Major Street Approach:	1	**LANE(S)**
Speed Limit or 85th Percentile Speed on the Major Street:	45	**MPH**

Minor Street Information

Minor Street Name and Route Number:	Font Road - Site Driveway
Minor Street Approach #1 Direction:	E-Bound
Minor Street Approach #2 Direction:	W-Bound

Number of Lanes for Moving Traffic on Each Minor Street Approach:	1	**LANE(S)**

TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	**No**	**N/A**
Warrant 2, Four-Hour Vehicular Volume	**Yes**	**No**
Warrant 3, Peak Hour	**No**	**N/A**
Warrant 4, Pedestrian Volume	**Yes**	**No**
Warrant 5, School Crossing	**No**	**N/A**
Warrant 6, Coordinated Signal System	**No**	**N/A**
Warrant 7, Crash Experience	**Yes**	**No**
Warrant 8, Roadway Network	**No**	**N/A**
Warrant 9, Intersection Near a Grade Crossing	**No**	**N/A**
Warrant PA-1, ADT Volume Warrant	**No**	**N/A**
Warrant PA-2, Midblock and Trail Crossings	**No**	**N/A**

Traffic Signal Warrant Analysis Workbook

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH

Time Interval		Major Street Approach #1 (N-Bound)	Major Street Approach #2 (S-Bound)	Major Street Combined	Minor Street Approach #1 (E-Bound)	Minor Street Approach #2 (W-Bound)
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 AM	12:14 AM			0		
12:15 AM	12:29 AM			0		
12:30 AM	12:44 AM			0		
12:45 AM	12:59 AM			0		
1:00 AM	1:14 AM			0		
1:15 AM	1:29 AM			0		
1:30 AM	1:44 AM			0		
1:45 AM	1:59 AM			0		
2:00 AM	2:14 AM			0		
2:15 AM	2:29 AM			0		
2:30 AM	2:44 AM			0		
2:45 AM	2:59 AM			0		
3:00 AM	3:14 AM			0		
3:15 AM	3:29 AM			0		
3:30 AM	3:44 AM			0		
3:45 AM	3:59 AM			0		
4:00 AM	4:14 AM			0		
4:15 AM	4:29 AM			0		
4:30 AM	4:44 AM			0		
4:45 AM	4:59 AM			0		
5:00 AM	5:14 AM			0		
5:15 AM	5:29 AM			0		
5:30 AM	5:44 AM			0		
5:45 AM	5:59 AM			0		
6:00 AM	6:14 AM			0		
6:15 AM	6:29 AM			0		
6:30 AM	6:44 AM			0		
6:45 AM	6:59 AM			0		
7:00 AM	7:14 AM	435	836	1271	14	18
7:15 AM	7:29 AM			0		
7:30 AM	7:44 AM			0		
7:45 AM	7:59 AM			0		
8:00 AM	8:14 AM	557	651	1208	15	18
8:15 AM	8:29 AM			0		
8:30 AM	8:44 AM			0		
8:45 AM	8:59 AM			0		
9:00 AM	9:14 AM			0		
9:15 AM	9:29 AM			0		
9:30 AM	9:44 AM			0		
9:45 AM	9:59 AM			0		
10:00 AM	10:14 AM			0		
10:15 AM	10:29 AM			0		
10:30 AM	10:44 AM			0		
10:45 AM	10:59 AM			0		
11:00 AM	11:14 AM			0		
11:15 AM	11:29 AM			0		
11:30 AM	11:44 AM			0		
11:45 AM	11:59 AM			0		

Traffic Signal Warrant Analysis Workbook

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH

Time Interval		Major Street Approach #1 (N-Bound)	Major Street Approach #2 (S-Bound)	Major Street Combined	Minor Street Approach #1 (E-Bound)	Minor Street Approach #2 (W-Bound)
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 PM	12:14 PM			0		
12:15 PM	12:29 PM			0		
12:30 PM	12:44 PM			0		
12:45 PM	12:59 PM			0		
1:00 PM	1:14 PM			0		
1:15 PM	1:29 PM			0		
1:30 PM	1:44 PM			0		
1:45 PM	1:59 PM			0		
2:00 PM	2:14 PM			0		
2:15 PM	2:29 PM			0		
2:30 PM	2:44 PM			0		
2:45 PM	2:59 PM			0		
3:00 PM	3:14 PM			0		
3:15 PM	3:29 PM			0		
3:30 PM	3:44 PM			0		
3:45 PM	3:59 PM			0		
4:00 PM	4:14 PM	1171	572	1743	15	43
4:15 PM	4:29 PM			0		
4:30 PM	4:44 PM			0		
4:45 PM	4:59 PM			0		
5:00 PM	5:14 PM			0		
5:15 PM	5:29 PM	1164	547	1711	16	43
5:30 PM	5:44 PM			0		
5:45 PM	5:59 PM			0		
6:00 PM	6:14 PM			0		
6:15 PM	6:29 PM			0		
6:30 PM	6:44 PM			0		
6:45 PM	6:59 PM			0		
7:00 PM	7:14 PM			0		
7:15 PM	7:29 PM			0		
7:30 PM	7:44 PM			0		
7:45 PM	7:59 PM			0		
8:00 PM	8:14 PM			0		
8:15 PM	8:29 PM			0		
8:30 PM	8:44 PM			0		
8:45 PM	8:59 PM			0		
9:00 PM	9:14 PM			0		
9:15 PM	9:29 PM			0		
9:30 PM	9:44 PM			0		
9:45 PM	9:59 PM			0		
10:00 PM	10:14 PM			0		
10:15 PM	10:29 PM			0		
10:30 PM	10:44 PM			0		
10:45 PM	10:59 PM			0		
11:00 PM	11:14 PM			0		
11:15 PM	11:29 PM			0		
11:30 PM	11:44 PM			0		
11:45 PM	11:59 PM			0		
Approach Totals:		3327	2606	5933	60	122

MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

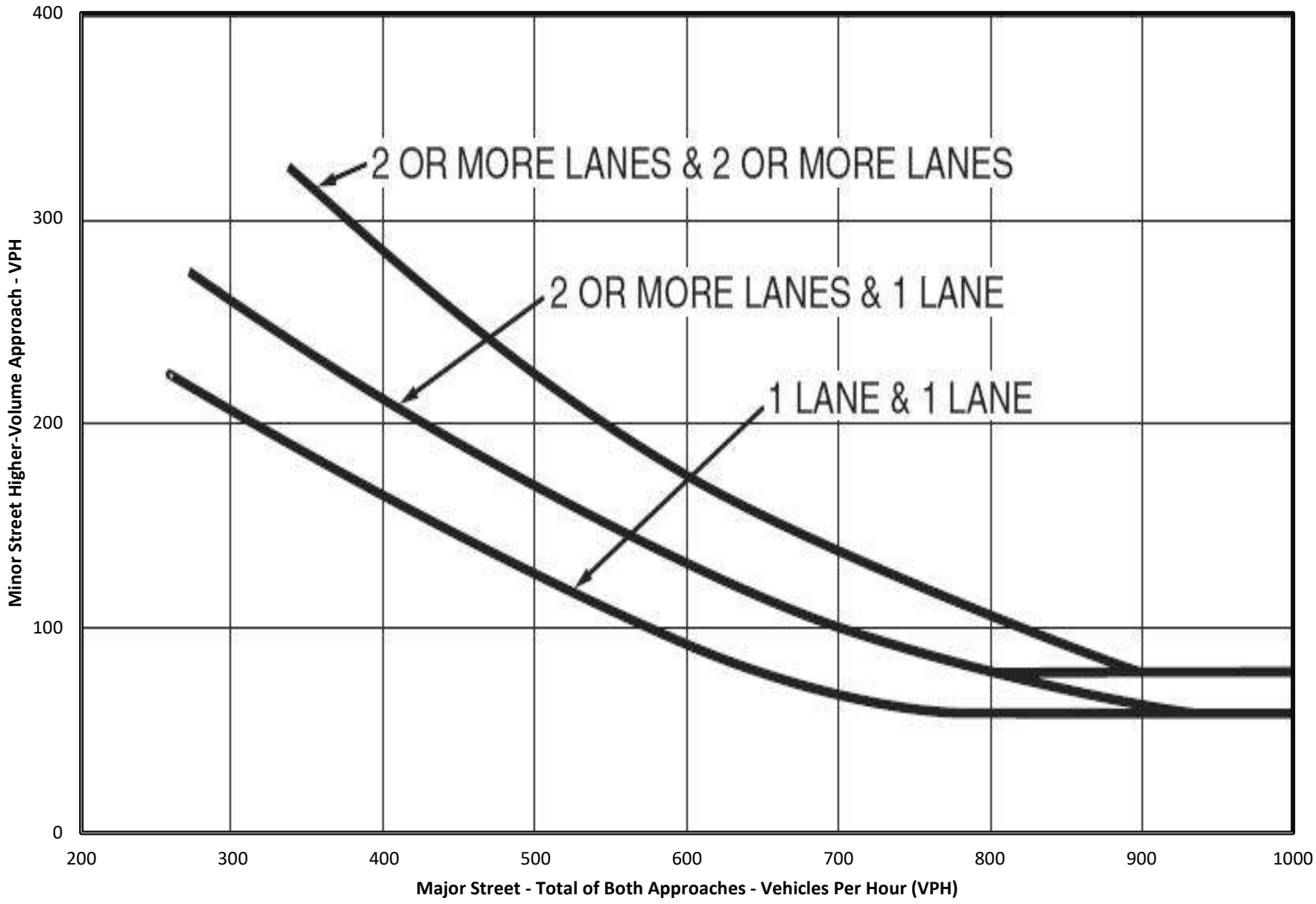
Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

Total Number of Unique Hours Met On Figure 4C-2
0

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes

Hourly Vehicular Volume			
Hour Interval Beginning At	Major Street Combined Vehicles Per Hour (VPH)	Highest Minor Street Approach Vehicles Per Hour (VPH)	Hour Met?
12:00 AM	0	0	
12:15 AM	0	0	
12:30 AM	0	0	
12:45 AM	0	0	
1:00 AM	0	0	
1:15 AM	0	0	
1:30 AM	0	0	
1:45 AM	0	0	
2:00 AM	0	0	
2:15 AM	0	0	
2:30 AM	0	0	
2:45 AM	0	0	
3:00 AM	0	0	
3:15 AM	0	0	
3:30 AM	0	0	
3:45 AM	0	0	
4:00 AM	0	0	
4:15 AM	0	0	
4:30 AM	0	0	
4:45 AM	0	0	
5:00 AM	0	0	
5:15 AM	0	0	
5:30 AM	0	0	
5:45 AM	0	0	
6:00 AM	0	0	
6:15 AM	1271	18	
6:30 AM	1271	18	
6:45 AM	1271	18	
7:00 AM	1271	18	
7:15 AM	1208	18	
7:30 AM	1208	18	
7:45 AM	1208	18	
8:00 AM	1208	18	
8:15 AM	0	0	
8:30 AM	0	0	
8:45 AM	0	0	
9:00 AM	0	0	
9:15 AM	0	0	
9:30 AM	0	0	
9:45 AM	0	0	
10:00 AM	0	0	
10:15 AM	0	0	
10:30 AM	0	0	
10:45 AM	0	0	
11:00 AM	0	0	
11:15 AM	0	0	
11:30 AM	0	0	
11:45 AM	0	0	
12:00 PM	0	0	
12:15 PM	0	0	
12:30 PM	0	0	
12:45 PM	0	0	
1:00 PM	0	0	
1:15 PM	0	0	
1:30 PM	0	0	
1:45 PM	0	0	
2:00 PM	0	0	
2:15 PM	0	0	
2:30 PM	0	0	
2:45 PM	0	0	
3:00 PM	0	0	
3:15 PM	1743	43	
3:30 PM	1743	43	
3:45 PM	1743	43	
4:00 PM	1743	43	
4:15 PM	0	0	
4:30 PM	1711	43	
4:45 PM	1711	43	
5:00 PM	1711	43	
5:15 PM	1711	43	
5:30 PM	0	0	
5:45 PM	0	0	
6:00 PM	0	0	
6:15 PM	0	0	
6:30 PM	0	0	
6:45 PM	0	0	
7:00 PM	0	0	
7:15 PM	0	0	
7:30 PM	0	0	
7:45 PM	0	0	
8:00 PM	0	0	
8:15 PM	0	0	
8:30 PM	0	0	
8:45 PM	0	0	
9:00 PM	0	0	
9:15 PM	0	0	
9:30 PM	0	0	
9:45 PM	0	0	
10:00 PM	0	0	
10:15 PM	0	0	
10:30 PM	0	0	
10:45 PM	0	0	
11:00 PM	0	0	

MUTCD Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)



MUTCD WARRANT 4, PEDESTRIAN VOLUME

Built-up Isolated Community With Less Than 10,000 Population or Above 35 MPH on Major Street?	Yes
15th Percentile Pedestrian Crossing Speed Less than 3.5 f/s?*	No
Is the distance to the nearest traffic control signal or STOP sign controlling the major street that pedestrians desire to cross less than 300 feet?	No
If the distance to the nearest traffic control signal or STOP sign controlling the major street that pedestrians desire to cross is less than 300 feet, will the proposed traffic control signal restrict the progressive movement of traffic?*	N/A
Total Number of Unique Hours Met for Criterion A:	**0**
Total Number of Unique Hours Met for Criterion B:	**0**

*If applicable, attach all supporting calculations, documentation, and findings.

*If applicable, attach supporting justification.

Hourly Vehicular & Pedestrian Volume				
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Total of All Pedestrians Crossing Major Street Pedestrians Per Hour (PPH)**	**Criterion A: 4-Hour Hour Met on Figure 4C-6?**	**Criterion B: 1-Hour Hour Met on Figure 4C-8?**
12:00 AM	0			
12:15 AM	0			
12:30 AM	0			
12:45 AM	0			
1:00 AM	0			
1:15 AM	0			
1:30 AM	0			
1:45 AM	0			
2:00 AM	0			
2:15 AM	0			
2:30 AM	0			
2:45 AM	0			
3:00 AM	0			
3:15 AM	0			
3:30 AM	0			
3:45 AM	0			
4:00 AM	0			
4:15 AM	0			
4:30 AM	0			
4:45 AM	0			
5:00 AM	0			
5:15 AM	0			
5:30 AM	0			
5:45 AM	0			
6:00 AM	0			
6:15 AM	1271			
6:30 AM	1271			
6:45 AM	1271			
7:00 AM	1271			
7:15 AM	1208			
7:30 AM	1208			
7:45 AM	1208			
8:00 AM	1208	1		
8:15 AM	0			
8:30 AM	0			
8:45 AM	0			
9:00 AM	0			
9:15 AM	0			
9:30 AM	0			
9:45 AM	0			

Hourly Vehicular & Pedestrian Volume				
Hour Interval Beginning At	Major Street Combined Vehicles Per Hour (VPH)	Total of All Pedestrians Crossing Major Street Pedestrians Per Hour (PPH)	Criterion A: 4-Hour Hour Met on Figure 4C-6?	Criterion B: 1-Hour Hour Met on Figure 4C-8?
10:00 AM	0			
10:15 AM	0			
10:30 AM	0			
10:45 AM	0			
11:00 AM	0			
11:15 AM	0			
11:30 AM	0			
11:45 AM	0			
12:00 PM	0			
12:15 PM	0			
12:30 PM	0			
12:45 PM	0			
1:00 PM	0			
1:15 PM	0			
1:30 PM	0			
1:45 PM	0			
2:00 PM	0			
2:15 PM	0			
2:30 PM	0			
2:45 PM	0			
3:00 PM	0			
3:15 PM	1743			
3:30 PM	1743			
3:45 PM	1743			
4:00 PM	1743			
4:15 PM	0			
4:30 PM	1711			
4:45 PM	1711			
5:00 PM	1711			
5:15 PM	1711			
5:30 PM	0			
5:45 PM	0			
6:00 PM	0			
6:15 PM	0			
6:30 PM	0			
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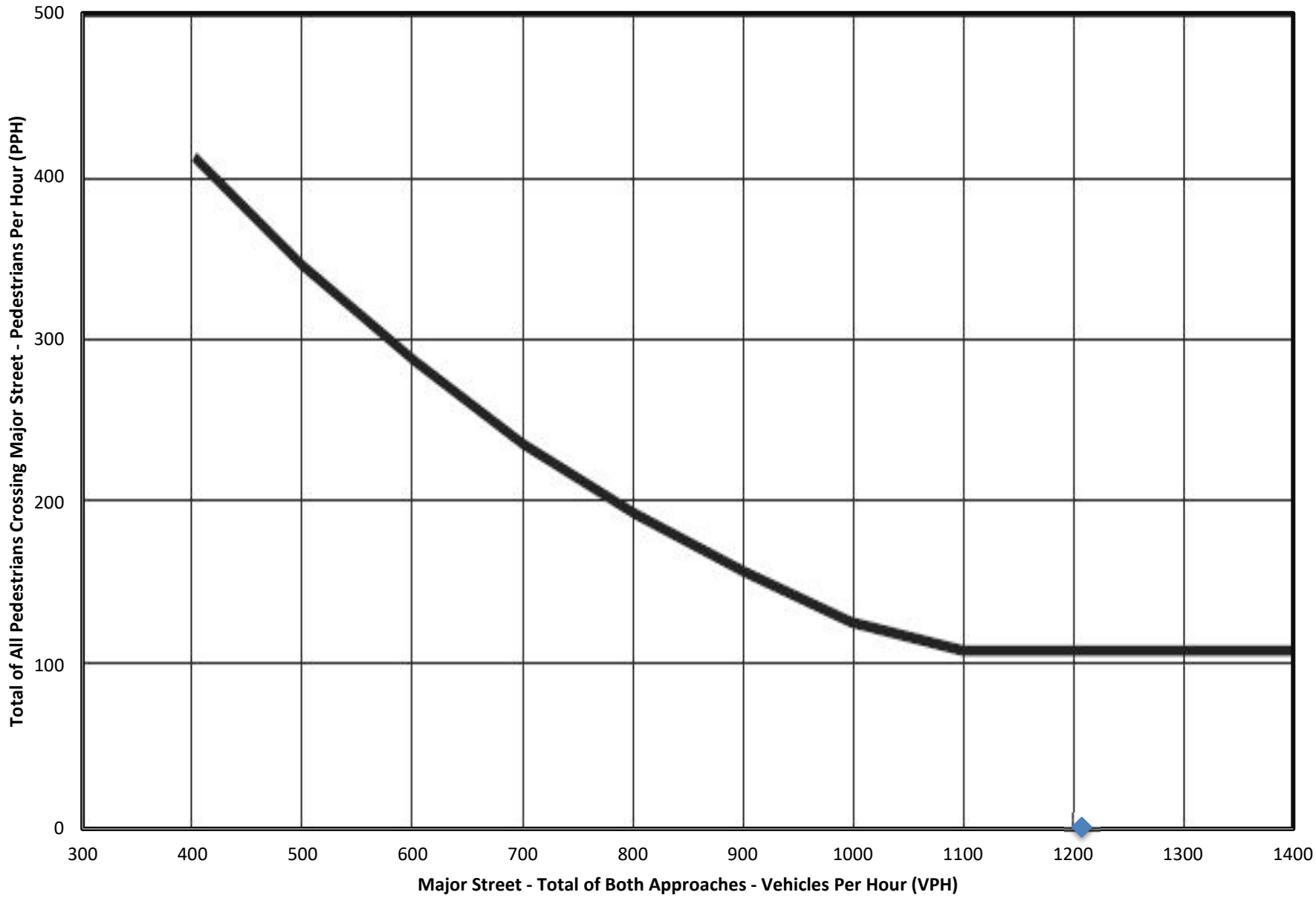
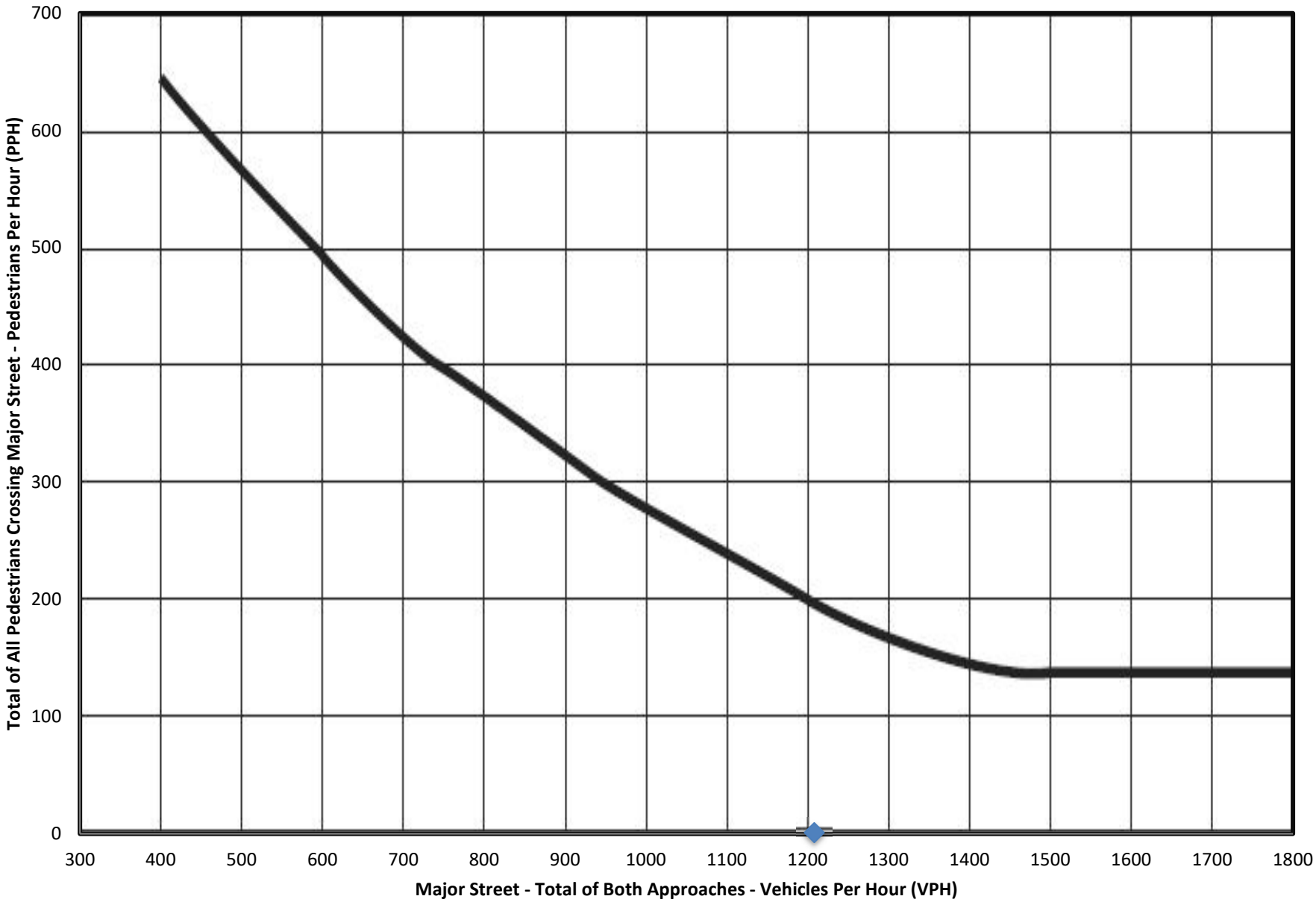
7:15 PM	0			
7:30 PM	0			
7:45 PM	0			
8:00 PM	0			
8:15 PM	0			
8:30 PM	0			
8:45 PM	0			
9:00 PM	0			
9:15 PM	0			
9:30 PM	0			
9:45 PM	0			
10:00 PM	0			
10:15 PM	0			
10:30 PM	0			
10:45 PM	0			
11:00 PM	0			

MUTCD Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume



MUTCD Figure 4C-7. Warrant 4, Pedestrian Peak Hour



MUTCD WARRANT 7, CRASH EXPERIENCE

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

Has adequate trial of alternatives with satisfactory observance and enforcement failed to reduce the crash frequency? N/A

Five or more reportable and/or non-reportable crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period during the most recent 3 years of available crash data.* No

**If applicable, attach a summary of the crash data analysis used for this criterion.*

For each of any 8 hours of an average day, the vehicles per hour given in both the 80% columns of Condition A in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection. **No**

For each of any 8 hours of an average day, the vehicles per hour given in both the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection. **No**

The volume of pedestrian traffic is not less than 80% of the requirements specified in Warrant 4, the Pedestrian Volume warrant.* No

**If applicable, attach all supporting calculations and documentation.*

MUTCD WARRANT 8, ROADWAY NETWORK*

Is the major street classified as an Urban Extension, Principal Arterial, or Minor Arterial that is a reasonable connection between two Principal Arterials and/or Urban Extensions as shown on the official Functional Classification Map? No

Does the intersection have a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1,2, and 3 during an average weekday? No

Does the intersection have a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday)? No

Is the major street part of the street or highway system that serves as the principal roadway network for through traffic flow? No

Does the major street include rural or suburban highways outside, entering, or traversing a city? No

Does the major street appear as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study? No

**Refer to Section 4.3 of PennDOT Publication 46 (Traffic Engineering Manual) for additional Department documentation requirements to justify the installation of a signal under Warrant 8. Attach all supplementary documentation and calculations, especially those relating to traffic volume projections and subsequent Warrant analyses.*

APPENDIX K:
Gap Analysis

Gap Calculation for Unsignalized Intersection
Left Turn from Minor Road to 2-Lane Major Road

Intersection: **Major St.** **Pottstown Pike (SR 0100)**
Minor St. **Font Road - Proposed Site Driveway**

Time Studied: **Weekday A.M. Peak Hour**
Date of Study: **Thursday, June 8, 2023**

Critical Gap: **7.1**
Follow-Up Time: **3.0**

Minimum Gap	Number of Cars
0	0
7.1	1
10.1	2
13.1	3
16.1	4
19.1	5
22.1	6
25.1	7
28.1	8

Length of Gap (seconds)	Vehicles Accomodated	Number of Gaps Observed	Total Vehicles
0 - 7.0	0	0	0
7.1 - 10.0	1	21	21
10.1 - 13.0	2	9	18
13.1 - 16.0	3	4	12
16.1 - 19.0	4	3	12
19.1 - 22.0	5	1	5
22.1 - 25.0	6	4	24
25.1 - 28.0	7	0	0
28.1+	8	1	8
Total Vehicles Accomodated			**100**

Gap Calculation for Unsignalized Intersection
Left Turn from Minor Road to 2-Lane Major Road

Intersection: **Major St.** **Pottstown Pike (SR 0100)**
Minor St. **Font Road - Proposed Site Driveway**

Time Studied: **Weekday P.M. Peak Hour**
Date of Study: **Thursday, June 8, 2023**

Critical Gap: **7.1**
Follow-Up Time: **3.0**

Minimum Gap	Number of Cars
0	0
7.1	1
10.1	2
13.1	3
16.1	4
19.1	5
22.1	6
25.1	7
28.1	8

Length of Gap (seconds)	Vehicles Accomodated	Number of Gaps Observed	Total Vehicles
0 - 7.0	0	0	0
7.1 - 10.0	1	11	11
10.1 - 13.0	2	4	8
13.1 - 16.0	3	5	15
16.1 - 19.0	4	1	4
19.1 - 22.0	5	2	10
22.1 - 25.0	6	0	0
25.1 - 28.0	7	0	0
28.1+	8	0	0
Total Vehicles Accomodated			**48**

APPENDIX L:

Auxiliary Turn Lane Warrant Analysis

Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Upper Uwchlan Township	**Analysis Date:**	3/1/2024
County:	Chester County	**Conducted By:**	BH
PennDOT Engineering District:	6	**Checked By:**	MB
		Agency/Company Name:	Traffic Planning and Design, Inc.

Intersection & Approach Description: Pottstown Pike (SR 0100) and Font Road/Site Driveway

Analysis Period:	2027 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?:**	Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	17	2.0%	18
	Through	-	811	6.0%	836
	Right	Yes	8	20.0%	9
Opposing	Left	Yes	92	15.0%	99
	Through	-	314	9.0%	329
	Right	Yes	29	2.0%	30

Advancing Volume:	863
Opposing Volume:	458
Left Turn Volume:	18
% Left Turns in Advancing Volume:	2.09%

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	92	15.0%	N/A
	Through	-	314	9.0%	N/A
	Right	-	29	2.0%	N/A

Advancing Volume:	N/A
Right Turn Volume:	N/A

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure: Figure 3

Warrant Met?: Yes

Right Turn Lane Warrant Findings

Applicable Warrant Figure: N/A

Warrant Met?: N/A

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	18
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	

Average # of Vehicles/Cycle: 1.0

PennDOT Publication 46, Exhibit 11-6

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

Left Turn Lane Storage Length, Condition A:	N/A	Feet
Condition B:	125	Feet
Condition C:	N/A	Feet
Required Left Turn Lane Storage Length:	125	Feet

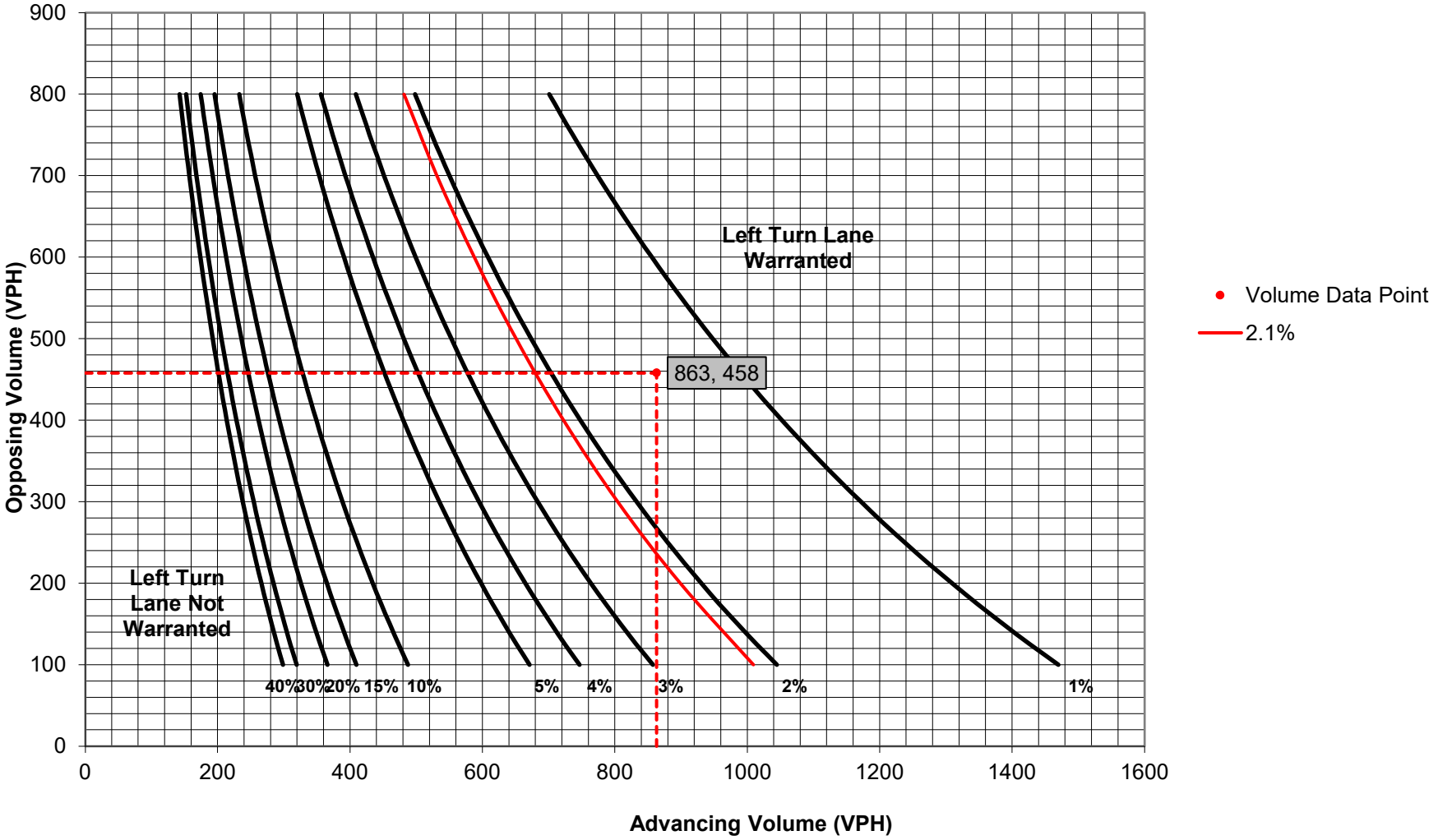
Additional Findings:

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:	Upper Uwchlan Township	**Analysis Date:**	3/1/2024
County:	Chester County	**Conducted By:**	BH
PennDOT Engineering District:	6	**Checked By:**	MB
		Agency/Company Name:	Traffic Planning and Design, Inc.

Intersection & Approach Description: Pottstown Pike (SR 0100) and Font Road/Site Driveway

Analysis Period:	2027 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	17	2.0%	N/A
	Through	-	811	6.0%	N/A
	Right	Yes	8	20.0%	N/A
Opposing	Left	Yes	92	15.0%	N/A
	Through	-	314	9.0%	N/A
	Right	Yes	29	2.0%	N/A

Advancing Volume:	N/A
Opposing Volume:	N/A
Left Turn Volume:	N/A
% Left Turns in Advancing Volume:	N/A

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	92	15.0%	99
	Through	-	314	9.0%	329
	Right	-	29	2.0%	30

Advancing Volume:	458
Right Turn Volume:	30

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:	30
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

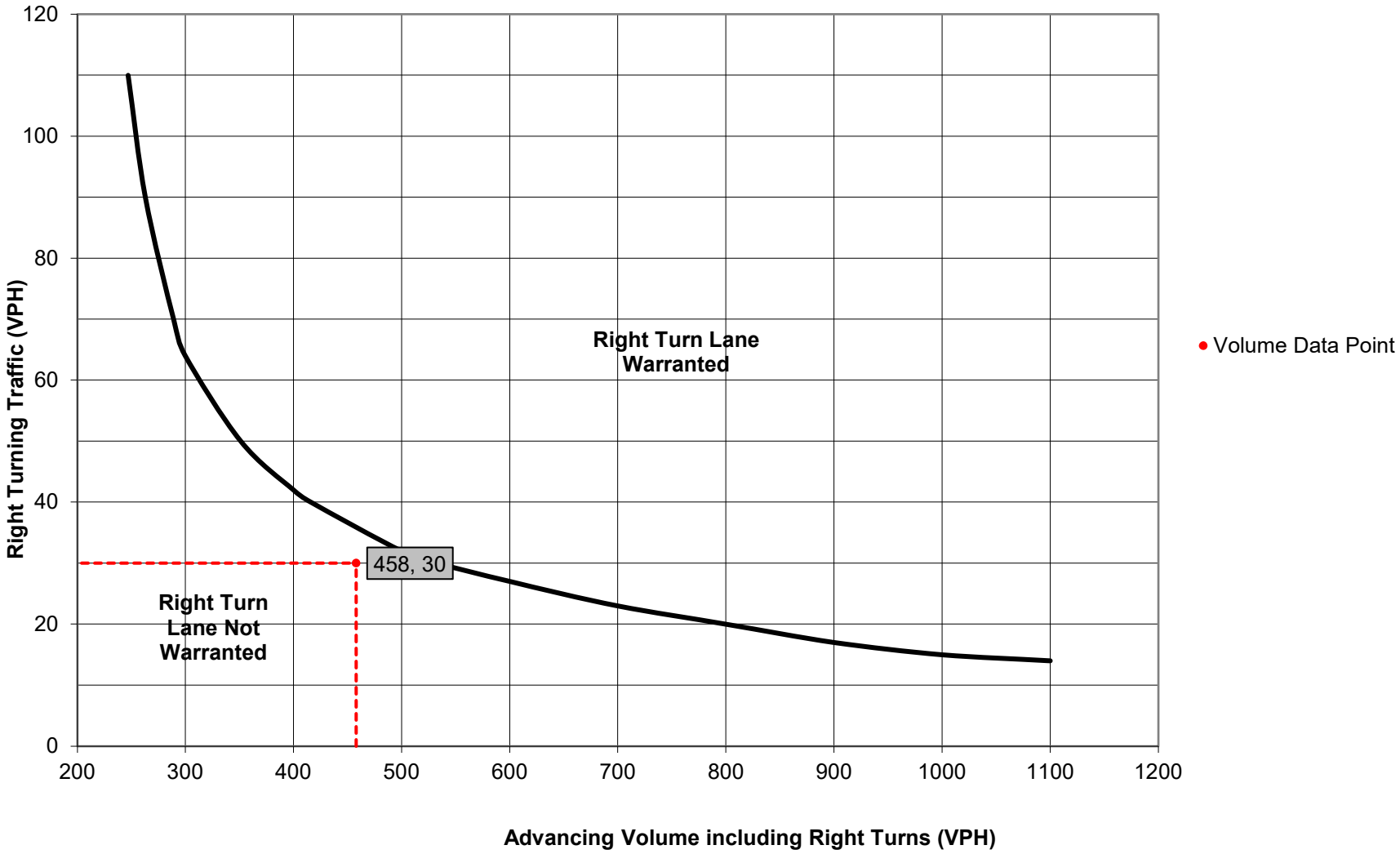
Right Turn Lane Storage Length, Condition A:	N/A	Feet
Condition B:	N/A	Feet
Condition C:	N/A	Feet
Required Right Turn Lane Storage Length:	N/A	Feet

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:	Upper Uwchlan Township	**Analysis Date:**	3/1/2024
County:	Chester County	**Conducted By:**	BH
PennDOT Engineering District:	6	**Checked By:**	MB
		Agency/Company Name:	Traffic Planning and Design, Inc.

Intersection & Approach Description: Pottstown Pike (SR 0100) and Font Road/Site Driveway

Analysis Period:	2027 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?:**	Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	10	2.0%	11
	Through	-	524	3.0%	532
	Right	Yes	22	13.0%	24
Opposing	Left	Yes	295	1.0%	297
	Through	-	892	2.0%	901
	Right	Yes	17	2.0%	18

Advancing Volume:	567
Opposing Volume:	1216
Left Turn Volume:	11
% Left Turns in Advancing Volume:	1.94%

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	295	1.0%	N/A
	Through	-	892	2.0%	N/A
	Right	-	17	2.0%	N/A

Advancing Volume:	N/A
Right Turn Volume:	N/A

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure: Figure 3

Warrant Met?: Yes

Right Turn Lane Warrant Findings

Applicable Warrant Figure: N/A

Warrant Met?: N/A

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	11
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	

Average # of Vehicles/Cycle: 1.0

PennDOT Publication 46, Exhibit 11-6

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

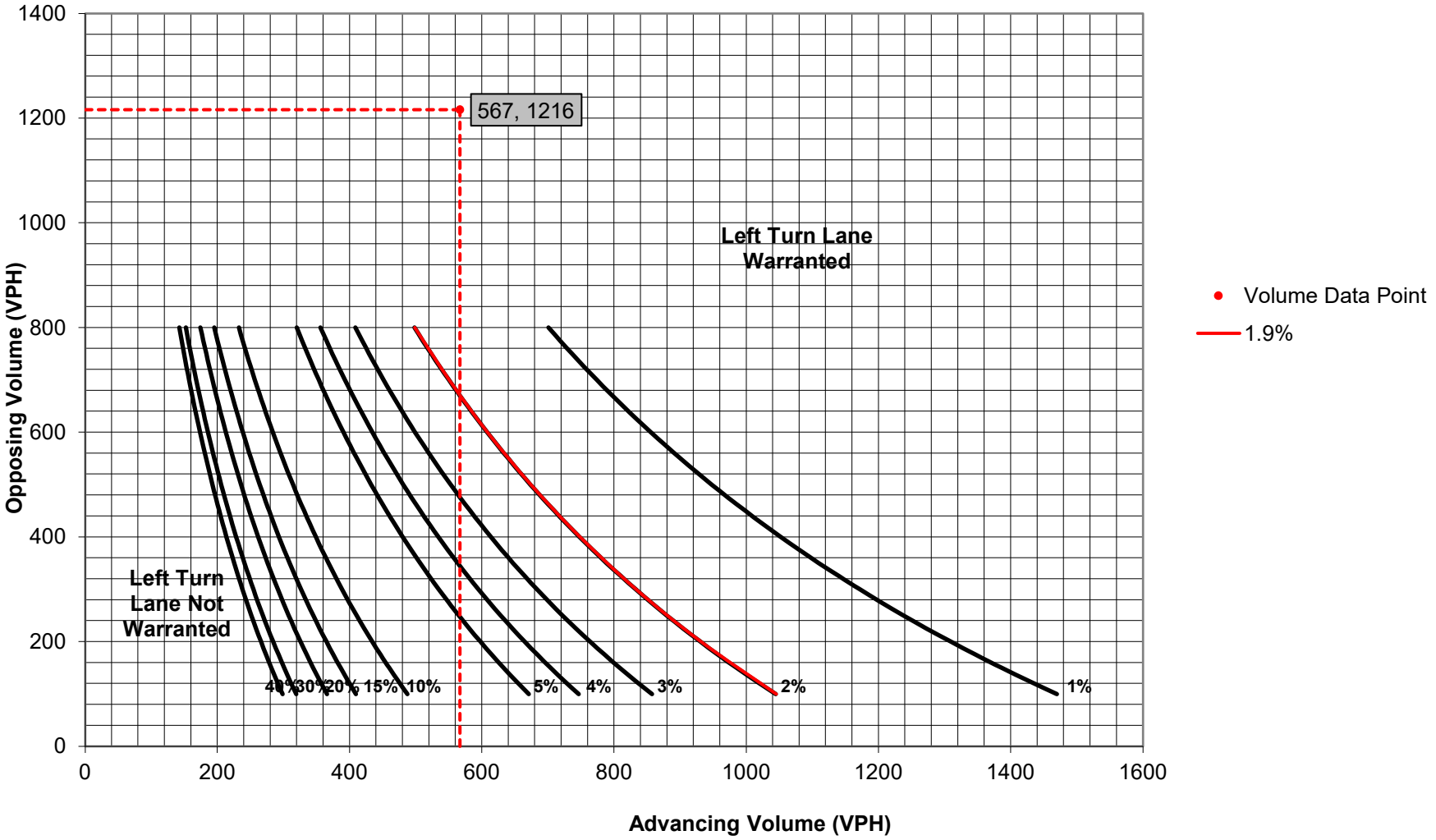
Left Turn Lane Storage Length, Condition A:	N/A	Feet
Condition B:	125	Feet
Condition C:	N/A	Feet
Required Left Turn Lane Storage Length:	125	Feet

Additional Findings:

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:	Upper Uwchlan Township	**Analysis Date:**	3/1/2024
County:	Chester County	**Conducted By:**	BH
PennDOT Engineering District:	6	**Checked By:**	MB
		Agency/Company Name:	Traffic Planning and Design, Inc.

Intersection & Approach Description: Pottstown Pike (SR 0100) and Font Road/Site Driveway

Analysis Period:	2027 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	10	2.0%	N/A
	Through	-	524	3.0%	N/A
	Right	Yes	22	13.0%	N/A
Opposing	Left	Yes	295	1.0%	N/A
	Through	-	892	2.0%	N/A
	Right	Yes	17	2.0%	N/A

Advancing Volume:	N/A
Opposing Volume:	N/A
Left Turn Volume:	N/A
% Left Turns in Advancing Volume:	N/A

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	295	1.0%	297
	Through	-	892	2.0%	901
	Right	-	17	2.0%	18

Advancing Volume:	1216
Right Turn Volume:	18

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?: Yes

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	18
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	

Average # of Vehicles/Cycle: 1.0

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

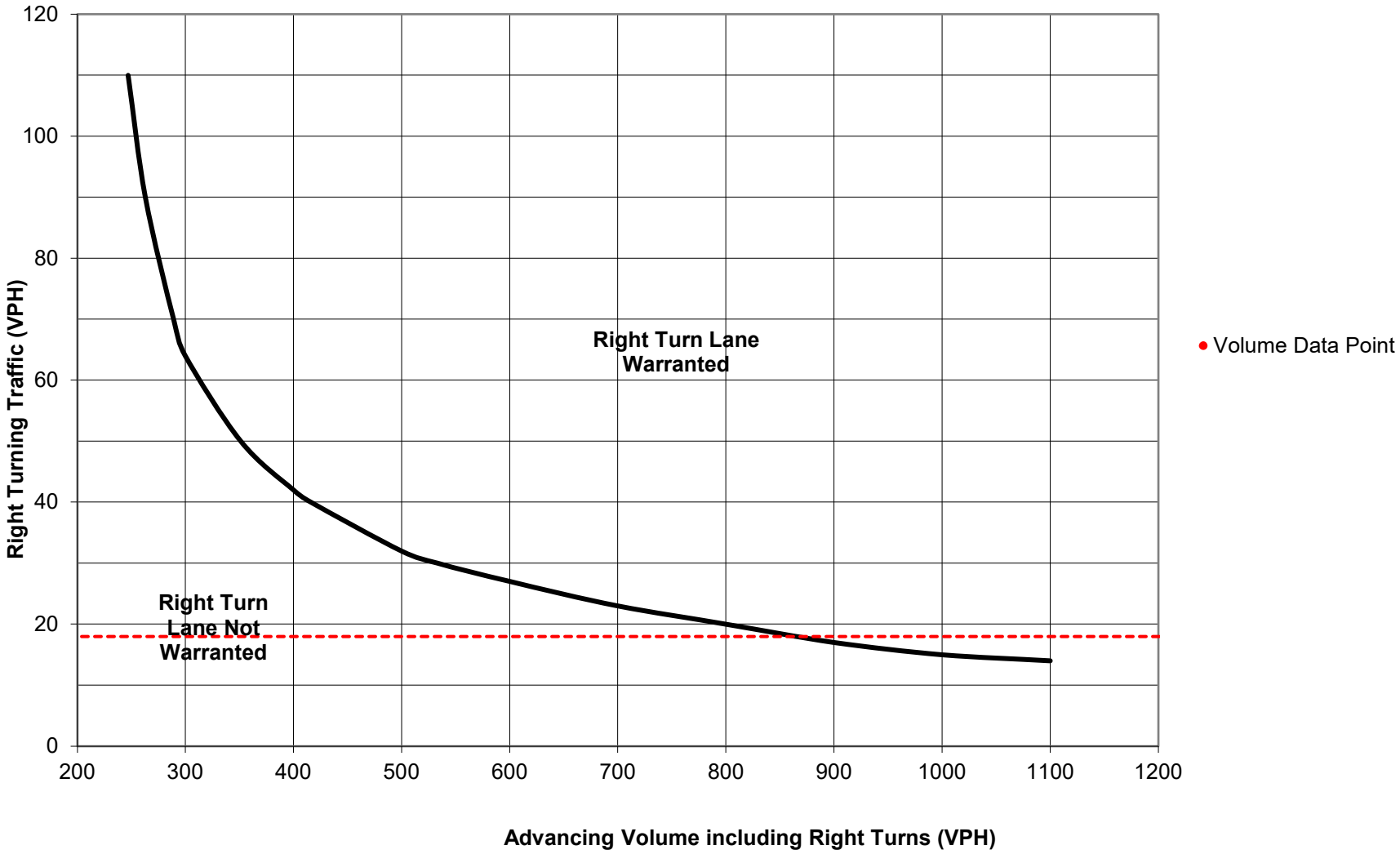
Right Turn Lane Storage Length, Condition A:	N/A	Feet
Condition B:	125	Feet
Condition C:	N/A	Feet
Required Right Turn Lane Storage Length:	125	Feet

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)



Upper Uwchlan Township Historical Commission

500 Pottstown Pike Conditional Use Application and Plan — Approved Recommendations

For April 2, 2024 Meeting — Prepared by Vivian S. McCardell, Chair Historical Commission

Approved Recommendations for April 2, 2024 HC Meeting

Background:

- Rockhill Real Estate Enterprises XVII LP submitted a Conditional Use Application and Plan, along with various other documents for 500 Pottstown Pike which is a vacant lot located in the C-3 Highway Commercial District
- Rockhill proposes to construct a 36,380 sq ft vehicle service center with 415 parking spaces for the service center and to store vehicles as inventory for off-site local dealerships, with a driveway aligned with the intersection of Pottstown Pike and Font Road
- Conditional use approval is needed from Board of Supervisors to operate vehicular sales and service uses in the C-3 Highway Commercial District and variance relief is needed for disturbance and use of steep slope areas
- 500 Pottstown Pike is across the Pike from the historic 1819 John Keeley House which is historic resource # 30 on the Township's Historic Resource Inventory and a Class II resource and adjacent to the subdivided historic 1820 John Keeley Barn which is proposed to be historic resource #30A. Both the house and the barn are important historic resources. Both are illustrated in Futhey and Cope's iconic *History of Chester County, Pennsylvania (1881)* and the house's restoration won an award.
- Township ordinance Section 162-9H(5) requires an applicant to provide an historic resources impact statement under certain circumstances to better inform the Planning and Historical Commission and the Board on the proposed project and its impact on nearby historic resources
- Township ordinance Section 200-39 provides the use regulations of Section 200-33 (which requires compliance with the design standards in Section 200-36) for the C-1 Village District apply to any lot in the C-3 Highway Commercial District with direct frontage on old Route 100 (Pottstown Pike) and located north of Ticonderoga Boulevard and south of Byers Road, for all other lots, at the reasonable discretion of the Board, conditional uses may be approved subject to compliance with the design standards in Section 200-36 for the C-1 Village District (Note: Rockhill cites only the later part of the ordinance)

Approved Recommendations for April 2, 2024 HC Meeting (con't)

Recommendations to Planning Commission and Board of Supervisors, as applicable:

- Approve proposed uses
- Request the Township engineer to confirm that the 500 Pottstown Pike property line is within 250 ft of the John Keeley House which will trigger the historic resources impact statement requirement
- If the John Keeley House is not within 250 ft of the property line, condition the approval of the conditional use and variance requests on Rockhill preparing an historic resources impact statement given that the historic Keeley House is across the Pike and the historic Keeley Barn is adjacent to the property (Note: The Barn appears to have been subdivided from the House sometime in the 1950s and not recorded as an historic resource on the Township's Inventory. The Barn is currently proposed to be added as historic resource #30A and it is unclear if it, alone, would trigger the historic resources impact statement)
- As a condition of the conditional use and variance requests, require Rockhill to comply with the design standards of Section 200-36 for construction of its service center, if Section 200-36 is not otherwise found to apply; locate as many of the parking spaces as practicable in the rear of the property; and design landscaping to shield the Keeley Barn and House from the new construction and parking areas

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

April 8, 2024

File No. 23-01103

Upper Uwchlan Township Manager
140 Pottstown Pike
Chester Springs, PA 19425

VIA E-MAIL ONLY

Attention: Tony Scheivert, Township Manager

Reference: Rockhill Real Estate Enterprises XVII LLP (500 Pottstown Pike)
Conditional Use Application Review
Upper Uwchlan Township, Chester County, PA

Dear Tony:

The Township Consultants are in receipt of the following information regarding the above referenced application:

- Plan titled "RDS Automotive Group Conditional Use Plans" prepared by T&M Associates Inc., dated February 16, 2024.
- Conditional Use Application with addendum dated March 11, 2024.
- Fiscal Impact Analysis prepared by EH Creative Services LL dated March 4, 2024.
- TIS Scoping Review prepared by Traffic Planning & Design, Inc., dated March 4, 2024

G&A, along with the other Township Consultants, have completed our first review of the above referenced conditional use application and wish to submit the following comments for your consideration.

I. OVERVIEW

The Applicant, is proposing to construct a 36,380 SF Vehicle Service Center with associated parking. The property is located at 500 Pottstown Pike and in the C3 (Highway Commercial) Zoning District. The applicant is requesting a conditional use for proposed use, as well as to

permit multiple uses on one property, and finally, for the disturbance of Precautionary Steep Slopes.

II. TOWNSHIP ZONING OFFICER COMMENTS

During the conditional use process, the applicant should clarify the type of work being done on the site. Specifically body work on any vehicles, etc.

III. TOWNSHIP ENGINEER COMMENTS – ZONING ORDINANCE GILMORE & ASSOCIATES

1. Section 200-39.B.(7)&(9). – These sections permit the sale and repair of vehicles as a conditional use respectively. The applicant is request same. Based on the conditional use application, it is not the applicant's intent to sell cars from this facility, but rather to store them for sale at other dealerships owned by the applicant. We would recommend conditions be provided in any decision prohibiting sales of vehicles from this site without seeking a modification to the approval.

2. Section 200-73.D.(5).(a). – The conditional use plan proposes four (4) ADA accessible parking spaces. Based on the number of overall spaces provided, nine (9) are required. The Zoning Officer should confirm how many spaces should be required for this use.

3. Section 200-74 – The applicant has provided a loading / unloading berth as required under this section. However, if the space is being utilized, it will prohibit circulation around the building. The space should be relocated, or the site layout modified to permit circulation around the building.

4. Section 200-78.A.(2). – Based on the conditional use plan it appears there will be sufficient room to meet the Townships landscaping requirements. However, some of the landscaping appears to be in conflict with the proposed parking. This should be reviewed by the Applicant. We would recommend the Applicant work with Township Planning Commission and our office to potentially exceed these requirements, specifically along the Pottstown Pike frontage to maximize buffering of the parking areas.

5. Section 200-79 – A condition should be provided in the conditional use decision requiring a lighting plan be provided which complies with the requirements of this section.

6. 200-107.C.(2). – A plan has been provided which indicates the existing steep slopes on the site. There is a note on the plan which states the source of the topography is from a separate plan which is not provided with this submission, so it is not clear whether the information was gathered via field survey or some other method. This plan should be provided. In addition, if the contouring is correct, it appears there should be significantly greater areas of steep slopes delineated.

7. Section 200-107.D.(2). – The application proposes disturbance of prohibitive steep slope areas which will require a variance from the Zoning Hearing Board. The applicant has acknowledged this and will be seeking a variance.

8. Section 200-107.D.(3).(b).[1] & [4] – These sections require conditional use approval for construction of structures and sanitary and storm sewer facilities within Precautionary Steep Slopes. The applicant has requested a conditional use under this section.

9. Section 200-107.D.3.(c). – This section limits the amount of impervious surface which may be installed within precautionary slope areas. Computations should be provided demonstrating compliance with this section.

10. Section 200-117.I. – An Historic Impact Statement is required per this section. The Applicant is requesting a waiver from providing.

IV. TOWNSHIP ENGINEER COMMENTS – SUBDIVISION AND LAND DEVELOPMENT ORDINANCE
GILMORE & ASSOCIATES

1. Section 162-9.D.(1).[f]. – The plans should indicate if the wetlands as well as Waters of The Commonwealth have been recently delineated for the site and if so, by whom and when the evaluation was completed.

2. Section 162-9.H.(4) – The following is our review of the provided Fiscal Impact Study:

    a. The Fiscal Impact Analysis should provide a source or data supporting the indicated total market value of approximately $8 million for the improved property.

b. As per the Upper Uwchlan Township 2024 Adopted Budget, the budgeted expenditures for Codes Administration is $427,501. Table 2 in the Fiscal Impact Analysis shows Codes Administration as $425,501. The Fiscal Impact Analysis should be revised to accurately reflect the 2024 Adopted Budget figures.

c. Not all expenditure line items shown in the Upper Uwchlan Township 2024 Budget were included in Table 2, General Fund Expenses. A methodology/justification should be provided explaining why certain line items were excluded from the analysis.

d. As per the 2024 Upper Uwchlan Township Budget, there is a real estate transfer tax, as 1% tax collected, and shared equally between the Township and the School District. The report should indicate whether this transfer tax is applicable, and if so, include revenue from the transfer tax as a one-time revenue in the calculation of revenues.

e. The Fiscal Impact Analysis has two separate tables labeled as “Table 2.” The Per-Capita Cost Calculation Methodology Table on page 4 should be revised to be titled “Table 3.”

f. Table 4 provides Planning Standards for EMS Calls (per year) of 31.31 that do not align with the Development Impact Assessment Handbook, 1994 provided planning standards of 36.5, or the apportioned 9.125 for non-residential. The Fiscal Impact Assessment should provide reasoning for using alternate planning standards.

V. TOWNSHIP TRAFFIC CONSULTANT COMMENTS BOWMAN

1. ZO Section 200-75.H(3) – The following comments pertain to the sight distances at the proposed site access intersection:

   a. The traffic study indicates adequate sight distance can be provided at the site access intersection based on the posted 45 miles per hour speed limit along Pottstown Pike. However, the available sight distance for traffic exiting the access looking to the right may be limited due to the presence of a building north of the site access located on an adjacent property. The available sight distance may not be sufficient based on PennDOT’s safe stopping sight distance criteria if traffic is traveling above the posted speed limit. A speed study should be conducted along Pottstown Pike to determine the prevailing (i.e., 85th percentile) speed of traffic for use in calculating the required safe stopping sight distances. This evaluation should

be provided as part of the conditional use review to confirm whether safe access to the site can be provided.

b. The plans should dimension and label the sight distances for exiting traffic (looking to the left and right), as well as left-turn vehicles entering the proposed driveway looking ahead and behind.

c. During land development, the plans should include a PennDOT-style sight distance note which states the required sight distances, as follows. The required sight distances should be based on the results of the speed study.

"All sight distance obstructions (including but not limited to embankments and vegetation) shall be removed by the permittee to provide a minimum of XXX sight distance to the left and XXX sight distance to the right for a driver exiting the proposed driveways onto the through highway. The driver must be considered to be positioned ten feet from the near edge of the closest highway through travel lane (from the curbline if curbing is present) at an eye height of three feet six inches (3' 6") above the pavement surface located in the center of the closest highway travel lane designated for use by approaching traffic. This sight distance shall be maintained by the permittee."

2. SALDO Section 169-9.H(1)(a) – The traffic counts were completed on the last day of the 2022-2023 school year for Downingtown Area School District, which was a half day, and seniors may not have had school that day. The traffic counts should be updated to capture normal traffic conditions when school is in regular session.

3. SALDO Section 169-9.H(1)(a) – Our office previously reviewed the TIS scoping application and we preliminarily agreed with the method of estimating the site trip generation; however, additional information is provided with this submission which results in questions regarding the trip generation methodology. The traffic study uses the Automobile Parts and Service Center (ITE Land Use Code 943) land use to calculate the trip generation for the proposed site. The traffic study also notes the site will be used for an automotive service center and new car storage. However, based on the conditional use application, the applicant is "requesting conditional use approval from Section 200-39.B(1), (7), and (9) of the Zoning Ordinance to operate vehicular sales and service establishments on the property". The applicant should provide more information about the uses proposed on the site, and also provide additional information regarding the proposed operation of the new car storage on the site in order to justify the trip generation calculation. Subject to review of this additional

information, Automobile Parts and Service Center may not be the most appropriate land use for the site. Other potentially more appropriate land uses may result in higher trip generation.

4. SALDO Section 169-9.H(1)(a) – The crash evaluation should be updated to include non-reportable crash data, and especially for the Pottstown Pike/Font Road intersection.

5. SALDO Section 169-9.H(1)(a) – Based on the results of the traffic signal warrant evaluation provided in the traffic study, a traffic signal is not warranted at the intersection of Pottstown Pike and Font Road. The following comments apply to the traffic signal warrant evaluation:

   a. Additional and updated traffic count data should be used to evaluate the need for a traffic signal at this intersection. As such, please complete a continuous 11-hour traffic count (7:00 AM to 6:00 PM).

   b. The traffic volumes used in the traffic signal warrant analysis do not include the Font Road side street right-turn movement, which is typically an appropriate assumption when the right-turn traffic occurs in a channelized right-turn lane. However, in this case, the channelized right-turn movement represents a significant amount of traffic (between 149 and 213 existing vehicles) with minimal storage provided for the right-turn channelized movement, and in our judgement, this traffic should be considered.

   c. Due to the high volume of northbound Pottstown Pike left-turn traffic (between 75 and 267 existing vehicles), the traffic signal warrant analysis should evaluate a scenario using the southbound Pottstown Pike through movement as the major street traffic volume and the northbound Pottstown Pike left-turn movement as the minor street traffic volume.

   d. Evaluate Warrant 7 (Crash Experience) using the non-reportable crash data.

   e. Evaluate Warrant PA-1 (ADT Warrant).

6. SALDO Section 169-9.H(1)(a) – The traffic study indicates the eastbound Font Road shared through/left-turn movement, and the westbound site access approach to their intersection with Pottstown Pike operates with delay (LOS F) during both peak hours. The traffic study includes a gap study evaluation for this intersection. The following comments pertain to the provided gap study:

a. The gap study uses the critical and follow up headways for left-turn traffic to determine the number of effective gaps for use by side street traffic, and concludes that there are 100 weekday morning and 48 weekday afternoon peak hour combined gaps for use by side street, which exceeds the total left-turn volume of 20 vehicles (total of both side street approaches) during the weekday morning peak hour and 40 vehicles (total of both side street approaches) during the weekday afternoon peak hour. However, since the difference between the number of available gaps and the left-turn traffic is so close (80 gaps in the weekday morning peak hour and 8 gaps during the weekday afternoon peak hour), and given the high volume of northbound Pottstown Pike left-turn traffic and eastbound Font Road right-turn traffic, it is not clear that adequate gaps will be available for side street traffic.

b. It is not clear whether the counted gap information assumes use of major street gaps by existing turning movements, especially the eastbound Font Road right-turn movement and the northbound Pottstown Pike left-turn movement.

c. The gap study should be updated using new traffic counts.

7. SALDO Section 169-9.H(1)(a) – Due to the sight distance and traffic operational concerns at the Pottstown Pike/Font Road/Site Access intersection noted above, we question the viability of this access intersection as proposed. As such, we recommend a more detailed evaluation of future traffic control at the intersection through PennDOT's Intersection Control Evaluation (ICE) process, including capacity analysis and conceptual improvement plans (especially for the roundabout option) for all alternatives considered. At this time, the Township recommends a traffic signal or a roundabout at this intersection to accommodate the new access. The applicant should arrange a meeting with PennDOT and the Township to discuss the future intersection traffic control.

8. SALDO Section 162-9.H(1)(a) – The traffic study recommends a 125-foot southbound Pottstown Pike left-turn lane for traffic entering the proposed site access. However, the conditional use plan shows only a 75-foot southbound Pottstown Pike left-turn lane. The conditional use plan should be revised to show a 125-foot southbound Pottstown Pike left-turn lane as recommended in the traffic study.

9. SALDO Section 162-9.H(1)(a) – The traffic study indicates a 125-foot northbound Pottstown Pike right-turn lane is warranted for traffic entering the proposed site access based on PennDOT's turn lane warrant criteria. However, the study recommends

installation of only a deceleration taper for northbound Pottstown Pike. A concept plan should be prepared which shows the necessary access improvements.

10. SALDO Section 162-28.A – The plans should clearly label and dimension the existing legal right-of-way along the Pottstown Pike site frontage.

11. The Township's Active Transportation Plan (ATP) envisions a shared use path on the east side of Route 100 in this area, which should be incorporated into the site plan, as well as a pedestrian crossing of Route 100 at the site access location, assuming intersection traffic control improvements. Also, an alternative option may be to locate the trail through the rear of the property, but this would require further coordination between the applicant, the Township and coordination with the adjacent property owners. Furthermore, the ATP envisions a "Yield Roadway" to the north, which could traverse through the northern edge of the property near the border with the Texas Eastern property. This should be discussed with the Township as the land development project moves forward.

12. ZO Section 200-73.H and 200-73.K – According to the parking/loading requirements table on sheet 4, the site only requires 114 parking spaces, including 52 spaces for stored vehicles. However, the site provides 415 parking spaces, which exceeds the Township's parking supply requirements by 301 parking spaces. The applicant should provide additional justification for the proposed parking supply. The plans also indicate there are 91 double and triple stacked parking spaces, which indicates that it is proposed to store more than 52 vehicles on the site at one time. The proposed number of stored vehicles on the site should be accurately reflected in the parking calculation.

13. ZO Section 200-74.A(1) – The proposed loading area on the northeast corner of the building will extend into the adjacent parking aisle, and reduce the parking aisle width to approximately 9.5 feet. The plans should be revised to shift the loading area so it does not obstruct the required 25-foot wide parking aisle for 90 degree parking spaces.

14. Sheet 5 includes a truck turning template for a fire truck circulating through the site. In addition, the plans should include a truck turning template for the largest delivery vehicle anticipated to visit the site, such as a car carrier tractor trailer.

15. Chapter 79-8.C – The proposed development is located in the Township's Act 209 Transportation Service Area, and as such, this development is subject to the Townships Transportation Impact Fee of **$2,334** per weekday afternoon peak hour trip. The

Transportation Impact Fee will be calculated once the trip generation comments above are addressed.

VI. TOWNSHIP LAND PLANNER COMMENTS BRANDYWINE CONSERVANCY

1. The area of the proposed project is designated as Suburban Employment on the Future Land Use Map contained in the Township's 2014 Comprehensive Plan. The proposed use of the site is in general alignment with the proposed future land use of this area and other existing dealership businesses in the same future land use category.

2. The Conservancy notes the applicant plans to seek variance relief from Sections 200-107.D(3)(b)[1] and [4] of the Zoning Ordinance with respect to manmade precautionary and prohibitive steep slopes. Assuming the Township's engineer can sufficiently determine the precautionary and prohibitive steep slopes are manmade because of prior land use, the Conservancy is in support of this variance request.

3. The recently completed Active Transportation Plan (ATP) for Upper Uwchlan Township recommends a 'shared use path' along the east side of Route 100 in front of the proposed development. The Plan also proposes crossing improvements at the intersection of Route 100 and Font Road as part of the broader implementation of the Active Transportation Plan and trail network. The Brandywine Conservancy encourages the Township to seek the implementation of the 'shared use path' along Route 100 as part of this Conditional Use application and seek advice from the Township's transportation consultant on possible crossing improvements at this intersection. In addition, the Brandywine Conservancy encourages the applicants to provide a connection from the 'shared use path' to the service center, allowing customers the option of walking to nearby recreational areas and commercial establishments while waiting for their vehicle to be serviced.

    - A shared use path in the ATP is defined as a combined bikeway and walkway that is designed for shared use by bicyclists and pedestrians of all abilities. Shared use paths along or adjacent to a roadway are physically separated from vehicular traffic by a verge, fencing, or other barrier. A shared use path has dimensions of 10-12 feet wide (8 feet is permissible where there are constraints). When a shared use path is adjacent to a roadway, a 5-foot-wide verge is recommended between the edge of the shoulder and the path. If this width is not feasible, a suitable physical barrier is recommended.

4. The Brandywine Conservancy is encouraged to see the proposed vegetated stormwater management basin as part of the stormwater management system. The inclusion of the native perennial seed mix will greatly enhance pollinator habitat and enhance infiltration at the site over a traditional grass basin. Realizing this is a preliminary landscape plan, the Conservancy does suggest the applicant site the proposed shrubs for the stormwater basin in compatible locations that meet the requirements of the species selected. The Conservancy also suggests the Township receives arrangements acceptable to them that ensures the stormwater basin will be maintained in a healthy and/or sound condition.

5. The proposed plant material includes several non-native species. The Conservancy encourages the applicant to seek alternative native plants for those non-native species, specifically the Pennisetum, Spirea, Hosta, Hemerocallis, Cotoneaster, and Liriope.

6. Whilst only a preliminary plan for Conditional Use approval, the Conservancy encourages the applicant to ensure they meet the landscaping and tree replacement and planting requirements of the Township's Zoning Ordinance and Subdivision and Land Development Ordinance upon application for full Land Development.

VI. TOWNSHIP SEWER CONSULTANT COMMENTS ARRO CONSULTING, INC.

1. The plans propose the construction of a 36,380 square foot (SF) service center, with vehicular lot and parking lot for vehicular sales and service uses on the site. The site is not currently connected to public sewer, although the applicant proposes the site to be connected. The applicant will need to meet with the Authority Administrator and the Authority Engineer to discuss how public sanitary sewer will be extended to this site. The applicant will need to provide estimated wastewater usage data from similar sized facilities, to determine the required capacity. The required capacity will need to be purchased by the applicant.

2. The following notes shall be on the plan:

   - All sanitary sewer improvements must be provided and constructed in accordance with the Upper Uwchlan Township Municipal Authority Technical Specifications for the Construction of Sewer Mains and Appurtenances to be connected to the public sewer system.

- The Authority Engineer shall be notified 48 hours prior to the beginning of sanitary sewer construction.

- The existing on-lot septic system shall be decommissioned in accordance with the Chester County Health Department requirements.

- Wastewater discharge shall be in compliance with the Regulations for the Discharge of Non-Residential Waste into the Upper Uwchlan Township Municipal Authority's Sewerage System, Resolution #10-20-04-15, dated October 20, 2004. The Township personnel and/or agents shall have access to site for implementation of this resolution.

- A record (as-built) plan must be submitted to the Authority Engineer.

3. Sewage facilities planning module (SFPM) approval will need to be obtained by the Pennsylvania Department of Environmental Protection (PADEP).

4. An appropriately sized oil grease interceptor shall be provided for service center.

5. The necessary financial security shall be posted with the Township, which shall be in a form and amount acceptable to the Township.

It is our hope that the Township finds the above comments useful in their review of the above reference application. Should you have any questions, please do not hesitate to contact me.

Sincerely,

David N. Leh

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

Reference: Rockhill Real Estate Enterprises XVII LLP (500 Pottstown Pike)
Conditional Use Application Review
Upper Uwchlan Township, Chester County, PA

File No. 23-01103
April 8, 2024
cc: Upper Uwchlan Township Board of Supervisors
Upper Uwchlan Planning Commission
Gwen Jonik – Township Secretary
Rhys Lloyd – Director of Code Enforcement
Anthony Campbell – Zoning Officer
Mathew Brown, PE – Upper Uwchlan Township Authority
Kristin Camp, Esq. – BBM&M, LLC
Chris Williams, PE Bowman Associates
Dave Schlott, PE – Arro Consulting
Robert DiStanislao – RDS (Applicant)
Alyson Zarro, Esq. – RRH&C
Erik Hetzel AICP/PP - EH Creative Services LLC.
Matt Hammond, PE – TPD
Jacob Tackett – T&M Associates, Inc.

UPPER UWCHLAN TOWNSHIP
Planning Commission
March 14, 2024
7:00 p.m. Meeting
Minutes
Draft

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

Attendees:
Sally Winterton, Chair; Joe Stoyack, Vice-Chair; Chad Adams, David Colajezzi, Jim Dewees, Jeff Smith, Jessica Wilhide

Mary Lou Lowrie, P.E., Gilmore & Associates
Gwen Jonik, Planning Commission Secretary

Absent: Stephen Fean, Taylor Young

Sally Winterton called the meeting to order at 7:00 p.m. and welcomed Jessica Wilhide to the Planning Commission. There were 5 citizens in attendance.

241 Park Road – Conditional Use Application

Mike Malloy, Esq. introduced Jody Thompson, Ducklings Daycare owner, Scott Risbon, Planebrook Partners, and Vic Kelly, P.E. A revised conditional use presentation plan and revised building elevation, dated March 7, 2024, had been distributed for the Commission to review and a Conditional Use Hearing is scheduled for April 9, 2024 at 5:30 p.m. The Application is to construct a daycare center, Ducklings Daycare, on 2 parcels at the corner of Park Road and Ticonderoga Boulevard. This is a permitted use via conditional use approval. The initial submission was a conditional use and land development plan and a first round of reviews had been conducted. The Application seeks conditional use approval for a 2-story 6,000 SF daycare, with parking, and play areas. The exterior will have an area of stone at the base, board & batten, horizontal siding, and it will be served by public water and sewer. The Plan distributed tonight has addressed some of the consultants' January 2024 comments. However, at this time, they are seeking the Planning Commission's recommendation of approval for only the Use, not the land development plan. Waivers and other items will be discussed during the land development plan approval process. However, discussion of the consultants' review letter included:
the square footage of the classrooms and the play area is determined by the number of children that could be in that space at a given time, not all at once. The daycare is required to comply with the State's regulations for educational purposes. The State interprets the minimum area required differently than the Township;
They've added a variety of materials to the exterior but can't offset the façade by 10 feet after 60 feet in length as that will negatively impact the interior function of the daycare;
There will be landscaping along the long side of the building;
They'll comply with the pitched roof and exterior materials;
HVAC will be hidden;
The daycare will be for infants to age 5. They do not provide before-school or after-school care. Employees park to the outside of the lot so parents park close to the building for quicker convenience;
There won't be drop-off lines in the parking lot --parents bring the child(ren) in to their teacher;
There are keypads for security purposes;
They open at 7:00 a.m. and close at 6:00 p.m.; the busiest time is 7:30-8:30 a.m.
Commission members were concerned with the play area being along Ticonderoga Blvd. Mr. Kelly noted there's a fence, curb and retaining wall – the play area is higher than the roadway;

Windsor Baptist Church will be realigning their Park Road access with Ticonderoga Blvd. which will remove conflict with the daycare access;
Commission members concerned with the parking lot so close to the play area and suggested bollards be added, which Applicant agreed could be placed.
The duck feet have been removed from the exterior, and they are trying to retain historic feel – open to ideas for the architecture on the long side of the building as long as it doesn't affect the interior operations.

Jeff Smith moved, seconded by Jim Dewees, that the Planning Commission approve the Applicant moving forward in the Conditional Use process and consider the Planning Commission's concerns with the following:
adequacy of the structural wall along Ticonderoga Boulevard;
install a protective barrier in the parking lot at the outdoor play area;
the architecture needs to be broken up on the long sides of the building;
flow of traffic in the parking lot should be re-evaluated.
The motion passed unanimously.

Eagle Animal Hospital Sketch Plan

Bob Linn, Architect, introduced a Sketch Plan for reconstruction of the Animal Hospital on Byers Road. They are seeking the Commission's acceptance of the Plan for consultant review. The veterinarians were also in attendance. Mr. Linn attended the Historical Commission's (HC) March meeting and had good conversation regarding the architecture. Mr. Linn distributed a 4-page Historical Narrative and Request for Determination of No Adverse Effect, which the HC was reviewing. The Plan keeps the existing curb cut to Byers Road, keeps the existing parking area and expands in the front of building, they're keep the 3-seat privy and the 1920s garden shed. The proposed building is slightly larger than it was – 6,800 SF and 83' long. The elevations have been revised following the HC's meeting -- sloping roof on the dormers, looking for vinyl siding with German style, landscaping (bushes) and fencing, parking is lower than road. No sidewalk is proposed as it was previously waived and it wouldn't connect to other sidewalk – neighboring properties have no room for a sidewalk. Points of discussion included suggesting protection at the front door from the parking area; whether sprinklers are required; this is not a boarding facility, no animals overnight; there are 2 vets, plus 6-8 staff; they see an average of 40 animals / day; this Lot has been a veterinarian business for a long time; the Commission is pleased the business is staying in the Village; they'll clean up the privy and garden shed.
Jeff Smith moved, seconded by Jim Dewees, to accept the Plan for consultant review. The motion carried unanimously.

Meeting Updates ~ Reports

Environmental Advisory Council (EAC). Currently there is no liaison. Jessica might be interested.
Historical Commission (HC). David Colajezzi reported the last meeting focused on Eagle Animal Hospital's sketch plan and renderings.
Village Concept Plan/Village Design Guidelines (VCP/VDG). Sally Winterton noted they haven't met recently.
Comprehensive Plan (CompPlan). Sally reported the group met Tuesday night and reviewed most of a rough draft.

Approval of Minutes

Jeff Smith moved, seconded by Jim Dewees, to approve as presented the minutes of the Planning Commission's February 8, 2024 Meeting. The motion carried unanimously.

C1, C3, LI Zoning District Uses ~ Ordinance Amendment Draft

A draft ordinance was distributed including the Planning Commission's and the Board of Supervisors' amendments to the C1, C3 and LI zoning district uses. Before Joe Stoyack had to leave the meeting, he asked the group if we need to add the distance between a medical marijuana dispensary and schools, daycares, etc. Chad Adams noted that wouldn't be necessary as the State's regulations supersede ours.

Commission members will review the draft ordinance over the next month and discuss it at the April 11, 2024 Workshop (6:00 p.m.)

Next Meeting Date

Sally Winterton announced the next meeting date is April 11, 2024, with a Workshop at 6:00 p.m. and the Meeting at 7:00 p.m.

Open Session

Jim Dewees questioned the result of the zoning hearing for the billboard company. It's been rescheduled for April 24, 2024.

Adjournment

Jim Dewees moved, seconded by David Colajezzi, to adjourn at 8:53 p.m. All were in favor.

Respectfully submitted,

Gwen A. Jonik
Planning Commission Secretary