UPPER UWCHLAN TOWNSHIP
PLANNING COMMISSION
AGENDA

May 8, 2025

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 p.m. Workshop
Review and discuss: sign ordinance amendments revised April 14, 2025, and make recommendation to the Board of Supervisors; landscaping/ screening regulations amendments drafted February 28, 2025. 2 13

II. 7:00 p.m. Meeting Call to Order

III. 500 Pottstown Pike – Rockhill Real Estate / Porsche Service Center 44
Review and discuss consultants comments of the preliminary land development plans (April 10, 2025) for a proposed vehicle service center, facility to store inventory for off-site sales center, and potential future sales center.

IV. Meeting Updates ~ Reports
A. Environmental Advisory Council (EAC)
B. Historical Commission (HC)
C. Planned Industrial / Office Zoning District Uses ~ Subcommittee

V. Approval of Minutes: April 10, 2025 Meeting 374

VI. Next Meeting Date: June 12, 2025 7:00 p.m.

VII. Open Session

VIII. Adjournment

UPPER UWCHLAN TOWNSHIP

CHESTER COUNTY, PENNSYLVANIA

ORDINANCE _____ - _____

AN ORDINANCE OF THE TOWNSHIP OF UPPER UWCHLAN, CHESTER COUNTY, PENNSYLVANIA, AMENDING CHAPTER 200 OF THE UPPER UWCHLAN TOWNSHIP CODE TITLED "ZONING" TO AMEND CERTAIN SIGN REGULATIONS; SPECIFICALLY SECTIONS 200-94.B, 200-94.I, 200-94.O, 200-95.F, 200-95.K, 200-96, 200-98(C)(3), 200-98(C)(4), 200-98(D)(3); TO DELETE SECTIONS 200-62.B(2), 200-94.E, 200-94.F, 200-94.G, 200-94.W AND 200-94.X; AND TO AMEND SECTION 200-62.B TO PROHIBIT COMMERCIAL VEHICLES OVER 26,001 POUNDS REGISTERED GROSS VEHICLE WEIGHT TO BE PARKED ON A LOT IN A RESIDENTIAL DISTRICT.

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. Section 200-94, titled, "Regulations applicable to all signs", subparagraph B shall be amended as follows:

"B. No sign shall be erected or maintained within the lines of, or project over, any public street or public sidewalk, or shall be closer to a street or sidewalk surface than ~~10~~ 5 feet, ~~except for real estate signs which may be set closer than 10 for proper view from the street line~~; unless said sign is a street sign or~~,~~ attached flatly to a building.~~ and/or is specifically authorized by this chapter and other ordinances and regulations of Upper Uwchlan Township, especially § 200-98E of this article, or is authorized as a special exception by the Zoning Hearing Board.~~

SECTION 2. Section 200-94, titled, "Regulations applicable to all signs", subparagraph E shall be deleted and the section number reserved.

~~[A sign shall be considered unsafe upon lapse of any insurance as may be required by § **200-99D** of this article; the owner of such unsafe sign shall remove the unsafe sign within 90 days unless acceptable evidence of insurance renewal is provided to the Zoning Officer.]~~

SECTION 3. Section 200-94, titled, "Regulations applicable to all signs", subparagraph F shall be deleted.

~~[No commercial building in any residential district including multiple-family dwellings and apartments shall have signage that is internally illuminated, or externally illuminated by such means as neon, strip, floodlighting or spot lighting.]~~

SECTION 4. Section 200-94, titled, “Regulations applicable to all signs”, subparagraph G shall be deleted.

~~[Freestanding signs (pole or monument) shall be prohibited within 400 feet of a public park of three acres or more in area and such other parks as the Township Supervisors may designate.]~~

SECTION 5. Section 200-94, titled, “Regulations applicable to all signs”, subparagraph I shall be revised as follows:

“I. Signs on vehicles denoting a business-related activity are business signs. Vehicles containing a business sign and parked in a residential district shall be permitted provided the vehicle is parked on the driveway or within a garage. This prohibition shall not apply ~~concealed (e.g., garaged) from public view except~~ where the vehicle owner is actually engaged in authorized repairs or construction at the ~~at~~ location where the vehicle is parked.

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SECTION 6. Section 200-94, titled, “Regulations applicable to all signs”, subparagraph O shall be revised as follows:

“O. ~~If a use ceases or is abandoned, as prescribed in § **200-102D** and **E**, respectively, signs advertising the ceased use shall be removed by the owner of the property within y two weeks~~. Any sign which no longer advertises an existing use conducted on the premises shall be removed by the owner of the property within 30 days. The Zoning Officer, upon determining that a use has ceased while a sign remains, shall notify the owner of the premises, in writing, to remove said sign within 30 days from the date of such notice. Upon failure to comply with such notice within the prescribed period, the Zoning Officer may remove or cause the removal of such sign and collect the cost of such removal, together with any penalties, from the owner in a manner provided by law.”

SECTION 7. Section 200-94, titled, “Regulations applicable to all signs”, subparagraph W shall be deleted.

~~[At no time shall the Township permit the erection of an outdoor advertising billboard, other than as allowed by § **200-98I** of this article.]~~

SECTION 8. Section 200-94, titled, “Regulations applicable to all signs”, subparagraph X shall be deleted.

~~[The Township reserves the right to require sign landscaping, as part of a sign permit required pursuant to § **200-99**.]~~

SECTION 9. Section 200-95, titled, “Exempt signs”, subparagraph F shall be revised as follows:

“F. Permanent window signs shall not be included in the computation of total permitted sign area and shall not require a sign permit. The total area of all window signs, including both temporary and permanent window signs, shall be limited to 25% of the glass area and shall

not obscure views from the outside to the interior of the commercial use. ~~Window signs indicating the store hours or names of credit institutions or other businesses, provided that the total area of such signs or signs does not exceed two square feet."~~

SECTION 10. Section 200-95, titled, "Exempt signs", subparagraph K shall be revised as follows:

"K. The following temporary signs:

(1) One temporary sign per 1/4 acre of net lot area of property may be located on the owner's property for a period of 30 days prior to an election involving a voter referendum or candidates for a federal, state or local office that represents the district in which the property is located. Such signs shall not exceed 15 square feet and shall be removed within 14 days of the election.

(2) One temporary sign may be located on a property that is being offered for sale for a period of 7 days following the date on which the settlement occurs. Such signs shall not exceed 15 square feet.

(3) A temporary sign of contractors or artisans, erected and maintained on the premises during the period of their work or as established by any applicable building permit. Such signs shall not exceed 15 square feet.

(4) Temporary signs announcing special events, promotions and the temporary lawful sale of products, goods and/or services such as the sale of Christmas trees. Such signs shall not exceed 24 square feet and shall be removed within 14 days of the special event, promotion or temporary sale.
.

(5) Temporary signs advertising a community special event. Where such signs are in the form of banners proposed for suspension across public roads, the following standards shall apply in addition to the above standards:

[a] The sign shall not exceed three feet high by 30 feet wide and the bottom edge of the sign shall be at least 15 feet above the road surface.

[b]The Township shall be notified prior to the erection of such signs.

[c] When the proposed banner spans a state road, the applicant shall also comply with the Pennsylvania Department of Transportation's (PennDOT) procedural requirements for the placement of signs or banners across state highways. Evidence of such compliance shall be supplied to the Township prior to the erection of the sign."

[d] The sign shall be removed within 14 days of the special event.

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SECTION 12. Section 200-96, titled, “Temporary sign regulations”, shall be retitled “Portable signs” and shall be revised as follows:

“**§ 200-96. Portable signs.** A limit of one portable sign per commercial use shall be permitted and may be placed within the sidewalk, so long as each portable sign shall not exceed nine square feet, and a minimum clear walking width of four feet shall be maintained on the sidewalk. Portable signs shall be constructed of weather-resistant materials, such as wood, plastic or metal. No portable sign shall create hazardous conditions to motorists, bicyclists, or pedestrians. No portable sign may contain lights of any kind. Portable signs must be sufficiently weighted or constructed to keep the sign in the approved location. All portable signs shall be taken indoors at the close of each business day. The area of portable signs shall not be included in the computation of total permitted sign area.”

SECTION 13. Section 200-98, titled, “Signs in commercial, limited industrial and planned industrial/office districts”, subparagraph C(1) shall be revised as follows:

“C(1). Not more than one freestanding sign (pole or monument) shall be permitted for an establishment occupying an individual structure on a single lot. In the case of uses in combination, shopping centers, industrial or office parks, only one freestanding sign shall be permitted to identify the combined uses. For tracts with street frontage in excess of 1,000 feet of frontage ~~on another public street~~, ~~only~~ one additional freestanding sign, ~~of the monument type only,~~ shall be permitted provided that such sign shall be located no closer than 400 feet from the other.”

SECTION 14. Section 200-98, titled, “Signs in commercial, limited industrial and planned industrial/office districts”, subparagraph C(3) shall be revised by deleting subparagraph (c).

[Freestanding signs may be located no closer to a side or rear property boundary line or street right-of-way than the greatest of:
(a) Fifteen feet.
(b) A distance equivalent to the height of the sign.
~~**(c)** The minimum side or rear yard required for the permitted use being identified.~~]

SECTION 15. Section 200-98, titled, “Signs in commercial, limited industrial and planned industrial/office districts”, subparagraph C(4) shall be revised as follows:

“C(4). No freestanding sign shall exceed 12 feet in height when measured from the ground level to the top of the sign. ~~The sign shall have a any area where s walk- areas where vehicles drive. minimum distance of eight feet measured from ground level to the bottom of the sign.~~

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SECTION 16. Section 200-98, titled, “Signs in commercial, limited industrial and planned industrial/office districts”, subparagraph D(3) shall be revised to delete subparagraph (b) so that the section now reads:

“D(3). The maximum display area of a sign mounted on any wall of a building or structure shall not exceed one square foot for each linear foot of building frontage on which the sign is

mounted, provided that the total display area of such sign shall not exceed 10% of the total area of the wall on which the sign is mounted."

[The maximum display area of a sign mounted on any wall of a building or structure shall not exceed one square foot for each linear foot of building frontage on which the sign is mounted, provided that:
(a) The total display area of such sign shall not exceed 10% of the total area of the wall on which the sign is mounted.
~~**(b)** The total display area of all signs mounted on the sides and/or rear of a structure shall not exceed the area of the sign mounted on the front wall.~~]

SECTION 17. Section 200-98, titled, "Signs in commercial, limited industrial and planned industrial/office districts", subparagraph D(5) shall be deleted.

[Signs mounted on a side or rear wall exposed to the public view from either a street or parking area shall not extend above the height of the front mounted sign.]

SECTION 18. Section 200-62.B(2) shall be revised as follows:
~~deleted and the section number reserved.~~

"B. No commercial vehicle, or part thereof or combination thereof, having a registered gross weight, either solely or in combination exceeding 26,001 ~~8,000~~ pounds, or which is in excess of 18 feet in length, shall be parked, stored or maintained on any ~~street, road right-of-way,~~ lot ~~or within any building or structure~~ in any residential district established in § **200-8** of this chapter, except a construction vehicle or vehicles owned by a contractor or other tradesman temporarily engaged in the performance of actual work or delivery of materials to any such ~~street, road right-of-way,~~ lot~~, building or structure~~. The proper maintenance and storage of farm equipment, horse vans, boats, recreation vehicles or a motor home, a recreational trailer or a farm truck, as the latter terms are defined in the Pennsylvania Vehicle Code,[1] on a lot owned or occupied by the owner of such equipment or vehicle, shall not be deemed to be prohibited by this section. For the purposes of this section, the term "registered gross weight" shall have the meaning ascribed to it in the definitions section of the Pennsylvania Vehicle Code."

~~**SECTION 19.** A new Section 200-72.3, titled, "Commercial motor vehicle restriction" shall be adopted and provide as follows:~~

~~"**§200-72.3. Commercial motor vehicle restriction.** It shall be unlawful to park any commercial vehicle, whether operated under its own power or not, on any street or highway in the Township, other than temporarily, for the limited purpose of loading from, unloading to, or providing service directly for a particular property in the Township. For purposes of this regulation, "commercial vehicle" shall include any vehicle with more than two axles and/or the following types of vehicles: those defined by the Pennsylvania Vehicle Code as "commercial motor vehicle", "construction truck," "farm equipment," "farm vehicle," "mass transit vehicle," "modular housing undercarriage," "motor carrier vehicle," "special mobile equipment," or "truck tractor;" any motor vehicle towing a trailer or another vehicle or with a trailer or other vehicle attached to it for towing; and an unattached trailer. This section shall not apply to a small truck or van with no more than two axles parked at the residence or place~~

~~of business of the driver, provided it is otherwise in compliance with all other applicable parking, traffic and zoning regulations, except that trailers of any kind may not be parked on the street unattached to a motorized vehicle."~~

Commented [KC1]: This could also go in Vehicle Chapter and not zoning?

SECTION 19. 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 this Ordinance would have been adopted had such unconstitutional, illegal, or invalid sentence, clause, section, or part thereof not been included herein.

SECTION 20. **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 21. **Effective Date**. This Ordinance shall become effective five (5) days following the enactment as by law provided.

ENACTED AND ORDAINED this ____ day of _____, 2025.

ATTEST:

UPPER UWCHLAN TOWNSHIP
BOARD OF SUPERVISORS

_____
Gwen A. Jonik, Secretary

_____
Jennifer F. Baxter, Chair

_____
Andrew P. Durkin, Vice-Chair

_____
Sandra M. D'Amico, Member

UPPER UWCHLAN TOWNSHIP

CHESTER COUNTY, PENNSYLVANIA

ORDINANCE _____ - _____

AN ORDINANCE OF THE TOWNSHIP OF UPPER UWCHLAN, CHESTER COUNTY, PENNSYLVANIA, AMENDING CHAPTER 200 OF THE UPPER UWCHLAN TOWNSHIP CODE TITLED "ZONING" TO AMEND CERTAIN SIGN REGULATIONS; SPECIFICALLY SECTIONS 200-94.B, 200-94.I, 200-94.O, 200-95.F, 200-95.K, 200-96, 200-98(C)(3), 200-98(C)(4), 200-98(D)(3); TO DELETE SECTIONS 200-62.B(2), 200-94.E, 200-94.F, 200-94.G, 200-94.W AND 200-94.X; AND TO AMEND SECTION 200-62.B TO PROHIBIT COMMERCIAL VEHICLES OVER 26,001 POUNDS REGISTERED GROSS VEHICLE WEIGHT TO BE PARKED ON A LOT IN A RESIDENTIAL DISTRICT.

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SECTION 1. Section 200-94, titled, "Regulations applicable to all signs", subparagraph B shall be amended as follows:

"B. No sign shall be erected or maintained within the lines of, or project over, any public street or public sidewalk, or shall be closer to a street or sidewalk surface than 5 feet,; unless said sign is a street sign or attached flatly to a building.

SECTION 2. Section 200-94, titled, "Regulations applicable to all signs", subparagraph E shall be deleted and the section number reserved.

SECTION 3. Section 200-94, titled, "Regulations applicable to all signs", subparagraph F shall be deleted.

SECTION 4. Section 200-94, titled, "Regulations applicable to all signs", subparagraph G shall be deleted.

SECTION 5. Section 200-94, titled, "Regulations applicable to all signs", subparagraph I shall be revised as follows:

"I. Signs on vehicles denoting a business-related activity are business signs. Vehicles containing a business sign and parked in a residential district shall be permitted provided the vehicle is parked on the driveway or within a garage. This prohibition shall not apply

where the vehicle owner is actually engaged in authorized repairs or construction at the location where the vehicle is parked.

SECTION 6. Section 200-94, titled, “Regulations applicable to all signs”, subparagraph O shall be revised as follows:

“O. y . Any sign which no longer advertises an existing use conducted on the premises shall be removed by the owner of the property within 30 days. The Zoning Officer, upon determining that a use has ceased while a sign remains, shall notify the owner of the premises, in writing, to remove said sign within 30 days from the date of such notice. Upon failure to comply with such notice within the prescribed period, the Zoning Officer may remove or cause the removal of such sign and collect the cost of such removal, together with any penalties, from the owner in a manner provided by law.”

SECTION 7. Section 200-94, titled, “Regulations applicable to all signs”, subparagraph W shall be deleted.

SECTION 8. Section 200-94, titled, “Regulations applicable to all signs”, subparagraph X shall be deleted.

SECTION 9. Section 200-95, titled, “Exempt signs”, subparagraph F shall be revised as follows:

“F. Permanent window signs shall not be included in the computation of total permitted sign area and shall not require a sign permit. The total area of all window signs, including both temporary and permanent window signs, shall be limited to 25% of the glass area and shall not obscure views from the outside to the interior of the commercial use.

SECTION 10. Section 200-95, titled, “Exempt signs”, subparagraph K shall be revised as follows:

“K. The following temporary signs:

(1) One temporary sign per 1/4 acre of net lot area of property may be located on the owner's property for a period of 30 days prior to an election involving a voter referendum or candidates for a federal, state or local office that represents the district in which the property is located. Such signs shall not exceed 15 square feet and shall be removed within 14 days of the election.

(2) One temporary sign may be located on a property that is being offered for sale for a period of 7 days following the date on which the settlement occurs. Such signs shall not exceed 15 square feet.

(3) A temporary sign of contractors or artisans, erected and maintained on the premises during the period of their work or as established by any applicable building permit. Such signs shall not exceed 15 square feet.

(4) Temporary signs announcing special events, promotions and the temporary lawful sale of products, goods and/or services such as the sale of Christmas trees. Such signs shall not exceed 24 square feet and shall be removed within 14 days of the special event, promotion or temporary sale.
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(5) Temporary signs advertising a community special event. Where such signs are in the form of banners proposed for suspension across public roads, the following standards shall apply in addition to the above standards:

[a] The sign shall not exceed three feet high by 30 feet wide and the bottom edge of the sign shall be at least 15 feet above the road surface.

[b]The Township shall be notified prior to the erection of such signs.

[c] When the proposed banner spans a state road, the applicant shall also comply with the Pennsylvania Department of Transportation's (PennDOT) procedural requirements for the placement of signs or banners across state highways. Evidence of such compliance shall be supplied to the Township prior to the erection of the sign."

[d] The sign shall be removed within 14 days of the special event.

SECTION 12. Section 200-96, titled, "Temporary sign regulations", shall be retitled "Portable signs" and shall be revised as follows:

"**§ 200-96. Portable signs.** A limit of one portable sign per commercial use shall be permitted and may be placed within the sidewalk, so long as each portable sign shall not exceed nine square feet, and a minimum clear walking width of four feet shall be maintained on the sidewalk. Portable signs shall be constructed of weather-resistant materials, such as wood, plastic or metal. No portable sign shall create hazardous conditions to motorists, bicyclists, or pedestrians. No portable sign may contain lights of any kind. Portable signs must be sufficiently weighted or constructed to keep the sign in the approved location. All portable signs shall be taken indoors at the close of each business day. The area of portable signs shall not be included in the computation of total permitted sign area."

SECTION 13. Section 200-98, titled, "Signs in commercial, limited industrial and planned industrial/office districts", subparagraph C(1) shall be revised as follows:

"C(1). Not more than one freestanding sign (pole or monument) shall be permitted for an establishment occupying an individual structure on a single lot. In the case of uses in combination, shopping centers, industrial or office parks, only one freestanding sign shall be permitted to identify the combined uses. For tracts with street frontage in excess of 1,000 feet of frontage, one additional freestanding sign, shall be permitted provided that such sign shall be located no closer than 400 feet from the other."

SECTION 14. Section 200-98, titled, “Signs in commercial, limited industrial and planned industrial/office districts”, subparagraph C(3) shall be revised by deleting subparagraph (c).

[Freestanding signs may be located no closer to a side or rear property boundary line or street right-of-way than the greatest of:
(a) Fifteen feet.
(b) A distance equivalent to the height of the sign.
]

SECTION 15. Section 200-98, titled, “Signs in commercial, limited industrial and planned industrial/office districts”, subparagraph C(4) shall be revised as follows:

“C(4). No freestanding sign shall exceed 12 feet in height when measured from the ground level to the top of the sign.
SECTION 16. Section 200-98, titled, “Signs in commercial, limited industrial and planned industrial/office districts”, subparagraph D(3) shall be revised to delete subparagraph (b) so that the section now reads:

“D(3). The maximum display area of a sign mounted on any wall of a building or structure shall not exceed one square foot for each linear foot of building frontage on which the sign is mounted, provided that the total display area of such sign shall not exceed 10% of the total area of the wall on which the sign is mounted.”

[The maximum display area of a sign mounted on any wall of a building or structure shall not exceed one square foot for each linear foot of building frontage on which the sign is mounted, provided that:
(a) The total display area of such sign shall not exceed 10% of the total area of the wall on which the sign is mounted.

SECTION 17. Section 200-98, titled, “Signs in commercial, limited industrial and planned industrial/office districts”, subparagraph D(5) shall be deleted.

[Signs mounted on a side or rear wall exposed to the public view from either a street or parking area shall not extend above the height of the front mounted sign.]

SECTION 18. Section 200-62.B(2) shall be revised as follows:

“B. No commercial vehicle, or part thereof or combination thereof, having a registered gross weight, either solely or in combination exceeding 26,001 pounds, or which is in excess of 18 feet in length, shall be parked, stored or maintained on any lot in any residential district established in § **200-8** of this chapter, except a construction vehicle or vehicles owned by a contractor or other tradesman temporarily engaged in the performance of actual work or delivery of materials to any such lot. The proper maintenance and storage of farm equipment, horse vans, boats, recreation vehicles or a motor home, a recreational trailer or a farm truck, as the latter terms are defined in the Pennsylvania Vehicle Code,[1] on a lot owned or occupied by the owner of such equipment or vehicle, shall not be deemed to be prohibited by this

section. For the purposes of this section, the term "registered gross weight" shall have the meaning ascribed to it in the definitions section of the Pennsylvania Vehicle Code."

SECTION 19. 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 this Ordinance would have been adopted had such unconstitutional, illegal, or invalid sentence, clause, section, or part thereof not been included herein.

SECTION 20. **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 21. **Effective Date**. This Ordinance shall become effective five (5) days following the enactment as by law provided.

ENACTED AND ORDAINED this ____ day of _____, 2025.

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

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February 28, 2025

The Township of Upper Uwchlan has engaged RGS Associates to update the local township ordinance in respect to landscape requirements. The following text is a copy of sections of the Upper Uwchlan Ordinance that contain landscape requirements. RGS methodically read through the ordinance and noted areas that could be improved for clarity, conciseness and quantification.

The red text in this document is RGS comments and recommended changes about the noted sections.

The blue and green text in this document are recommendations pulled from other Southeastern Pennsylvania Township Ordinances RGS has found to function well in regard to producing township landscape plans.

Text that has been struck out is being recommended to be removed from the existing ordinance.

Township of Upper Uwchlan,
Chapter 200. Zoning

Relevant Definitions

WOODLAND
A tree mass or plant community in which tree species are dominant or codominant. Any area, grove, or stand of mature or largely mature trees covering an area of 1/4 of an acre or more or consisting of more than 10 individual trees larger than 12 inches dbh, shall be considered a woodland. For the purposes of this chapter, the extent of any woodland plant community or any part thereof shall be measured from the outermost dripline of all the trees in the community. Woodland shall include any area where timber has been harvested within the previous three years and/or woodland disturbance has occurred within the previous three years which would have met the definition of woodland prior to timbering or disturbance. Woodlands do not include nursery stock, orchards, or old fields, except where natural succession has been allowed to occur and where most naturally occurring trees are larger than six inches dbh.
[Added 6-17-2002 by Ord. No. 02-04]

WOODLAND DISTURBANCE
Any activity which alters the existing structure of a woodland or hedgerow; alterations include the cutting or removal of canopy trees, subcanopy trees, understory shrubs and vines, woody and herbaceous woodland floor species. Also includes any activity which constitutes a land disturbance (exposes soils, alters topography) within a woodland or hedgerow. Woodland disturbance does not include the selective cutting or removal of invasive alien trees, shrubs, vines or herbaceous species, including but not limited to Rosa multiflora (multiflora rose), Eleagnus umbellata (autumn olive), Lonicera japonica (Japanese honeysuckle), Celastrus orbiculatus (oriental bittersweet), and Polygonum perfoliatum (mile-a-minute weed).
[Added 6-17-2002 by Ord. No. 02-04]

SPECIMEN TREE
Any tree equal to or exceeding 24 inches dbh or any other unique or otherwise specifically selected plant or tree which most typically represents a class or group in terms of shape, form, historical importance or other characteristics and which may be designated as such by the Township.
[Added 6-17-2002 by Ord. No. 02-04]

LANDSCAPE PLAN
A plan conforming to the requirements of § **162-57** of Chapter **162**, Subdivision and Land Development, required to accompany subdivision and/or land development plans, or as otherwise required pursuant to the provisions of this chapter.
[Added 6-17-2002 by Ord. No. 02-04]

LANDSCAPING
The planting of turf or other appropriate ground cover or the planting of deciduous and evergreen trees and shrubbery, including the maintenance thereof, for control of erosion, retention of precipitation, protection against the elements, and promotion of human comfort and welfare

HEDGEROW
A linear plant community dominated by trees and/or shrubs. Hedgerows often occur along roads, fence lines, property lines, or between fields, and may occur naturally or be specially planted (e.g., as a windbreak).
[Added 6-17-2002 by Ord. No. 02-04]

Article XV. Common Regulations

§ 200-77. Screening.

Add chart similar to Radnor Township to clearly identify buffer requirements between proposed and existing uses. Compare with other ordinances to use this method. Issue here is vague and leaves a lot up to interpretation.

Move This section to 162-67. Landscaping Design – reference SALDO here.

A. Screening requirements shall be applicable under the following circumstances:

~~(1) Where a proposed commercial, industrial or institutional use abuts an existing residential use or residential district.~~

~~(2) Where any proposed multifamily residential use abuts another residential district or an existing single-family or two-family dwelling.~~

~~(3) Any other instance where screening is required by this chapter or by the Township.~~

Screening requirements can be broken down into different “strengths”. Other ordinances use 2 or 3 buffering types like Perimeter Buffer / Screening Buffer. Each one would be described / calculated using a certain method.

See below for examples.

Example Chart - West Whiteland

	Adjoining Land Use										
Proposed Land Use	**Ag**	**Rec**	**Hist**	**Res**	**Life Care**	**Inst**	**Ofc.**	**Com.**	**Util.**	**Junk**	**Ind.**
Agriculture	P	P	P	S	S	S	S	S	S	S	S
Recreational	S	P	S	S	P	P	S	S	S	S	S
Historic	S	S	S	S	S	S	S	S	S	S	S
Residential	S	S	S	P	P	S	S	S	S	S	S
Life care/day care	S	P	S	P	P	P	S	S	S	S	S
Institutional	S	P	S	S	P	P	P	S	S	S	S
Office	S	S	S	S	S	S	P	S	S	S	S
Commercial	S	S	S	S	S	S	S	P	S	S	S
Utility	S	S	S	S	S	S	S	S	P	S	P
Junkyard	S	S	S	S	S	S	S	S	S	S	S
Industrial	S	S	S	S	S	S	S	S	P	S	P

i. S = screening buffer
ii. P = perimeter buffer

B. Screening shall comply with the following requirements:

Two charts would replace the: when, where and how of screening. Would be tailored to Upper Uwchlans' Zone Names / Nomenclature.

Example Buffer Types West Whiteland

1. **Berms:**
   a. Berms shall be a minimum of two feet in height and shall not be steeper than 3:1
2. **Screening buffers**: 50 feet in width, adjacent to the property line.
   a. One shade tree per 50 feet of length. Up to 25% may be substituted with ornamental trees at a ratio of 2:1
   b. Two evergreen trees per 50 feet of length.
   c. Ten small shrubs or five large shrubs per 50 feet of length.
3. **Perimeter buffers:** 25 feet in width, placed at the property line, right-of-way line, or around the circumference of stormwater management basins.
   a. One shade tree per 100 feet of length. Up to 25% may be substituted with ornamental trees at a ratio of 2:1
   b. Two evergreen trees per 100 feet of length.
   c. Ten small shrubs or five large shrubs per 100 feet of length.

Alternate example Whitemarsh Township

Following Charts from Whitemarsh Township Ordinance

SUBDIVISION AND LAND DEVELOPMENT

105 Attachment 1

Table 1
Determination of Buffer Yard Class

		Adjacent Land Use									Vacant Land				Adjacent Street Classification				
		Single-family Detached	Planned Cluster Development	Multifamily	Institutional	Office	Retail and Consumer Service	Utilities, Public Service	Industrial	Nonresidential Parking	AAAA and AAA Districts	AA, A, B, C, AD and APT Districts	CR-H, CR-L, AR and SC Districts	CLI, CLI-X, LIM, LIM-X, HVY and HVY-X Districts	Expressway	Arterial	Major Collector	Minor Collector	Local/Court
Proposed Land Use	Single-family detached	--	--	--	--	--	--	--	--	B	--	--	--	--	B	B	A	A	*
	Planned cluster development	--	--	A	B	B	B	B	B	B	--	--	--	A	B	B	A	A	*
	Multifamily	B	B	--	B	B	B	B	B	B	A	A	A	A	B	B	A	A	*
	Institutional	B	B	B	--	--	A	A	A	B	B	B	--	--	B	A	A	A	*
	Office	B	B	B	--	--	--	--	--	A	B	B	--	--	B	*	*	*	*
	Retail and consumer service	B	B	B	A	--	--	--	--	A	B	B	--	--	B	*	*	*	*
	Utilities	B	B	B	A	--	--	--	--	A	B	B	--	--	B	*	*	*	*
	Industrial	B	B	B	A	--	--	--	--	--	B	B	--	--	A	*	*	*	*
	Nonresidential parking	B	B	B	B	A	A	A	--	--	B	B	--	--	A	A	A	A	A
Proposed Street	Expressway	B	B	B	B	B	*	*	A	A									
	Arterial	B	B	B	A	*	*	*	*	A									
	Major collector	A	A	A	A	*	*	*	*	A									
	Minor collector	A	A	A	A	*	*	*	*	A									
	Local/court	*	*	*	*	*	*	*	*	A									

* NOTE: Street trees, as required by § 105-48.

1. All buffers shall have a minimum width of 50 feet.

Class	Option	Requirements
A	1	1 canopy tree per 40ft along boundary line 1 flowering tree per 60ft, informally arranged 1 evergreen tree per 60 ft, informally arranged
	2	1 canopy tree per 40ft, informally arranged 1 evergreen per 30ft, informally arranged
B	1	1 evergreen per 8ft, informally arranged
	2	1 evergreen per 15ft with 4ft berm
	3	1 evergreen per 15ft, informally arranged 1 evergreen shrub per 8ft, informally arranged
	4	1 evergreen per 10ft, informally arranged 1 shrub per 4ft, informally arranged
	5	Hedgerow on property line (3ft centers)

~~(1) The portion of the tract that abuts a use or district intended to be screened shall be provided with a minimum of thirty-foot planting strip which will act as an effective screen separating uses. The planting strip may be included in private yard space and shall be based upon the following criteria:~~

(a) ~~Vegetative screening shall include a variety of evergreen species (but no more than three) which are indigenous to the area so as to provide a year-round visual barrier.~~ Resolved by above list.

(b) Vegetative screening shall incorporate earthen mounds or berms, wherever possible, to improve sound as well as visual buffering, and shall be broken at points of vehicular or pedestrian access. Berming option to remain and be relocated.

(c) ~~Plant materials used in the screen planting shall be at least six feet in height when planted and be of a species which will produce within two years a complete visual screen of at least eight feet in height.~~ Will Resolved height / plant standards requirements in Section C standards.

(d) No plantings shall be placed with their center closer than five feet from the property line of the tract. Move this to Section C standards.

(e) ~~All existing trees within the required planting strip above three inches in caliper and/or eight feet in height shall be preserved wherever possible.~~ Not needed here, addressed in another section.

(f) Screening shall be designed so as not to obstruct sight distances at intersections. Move this to Section C standards. - (Add more

information here. Height of plants allowed etc.)

(g) Screening design, including the type of plant materials to be used, spacing of plant materials, and the use and location of earthen berms, shall be subject to review and approval by the Board of Supervisors upon the recommendation of the Planning Commission. Berms will be addressed in the Buffer section.

(h) Vegetative screens shall be perpetually maintained during the period the principal use causing the need for screening is in operation. Any plant material which does not survive shall be replaced within six months. (Move this to Section D guarantee and maintenance section in SALDO.)

(2) Water towers, storage tanks, processing equipment, fans, skylights, cooling towers, vents and any other structures or equipment which rises above the roof line shall be architecturally compatible or effectively shielded from view from any public or private dedicated street by an architecturally sound method which shall be approved, in writing, by the Township before construction or erection of said structures or equipment. Keep here does not pertain to landscape.

§ 200-78. Landscaping.

[Amended 6-17-2002 by Ord. No. 02-04]

This section is fine. All of this text references SALDO / When it applies.

A. Applicability.

(1) Except for individual lots existing at the time of adoption of this section and occupied or intended to be occupied by single-family or two-family dwellings, the provisions of § **162-57** of Chapter **162**, Subdivision and Land Development, shall apply to all uses and to any change in use in Upper Uwchlan Township, such standards incorporated herein by this reference.

(2) Where any use or activity requires approval of any building or zoning permit, zoning variance, special exception or conditional use, such approval or permit shall be conditioned upon compliance with the provisions of said § **162-57**, including submission of a landscaping plan as set forth in § **162-57A** and **B**. Plans accompanying conditional use application may be conceptual in nature but shall demonstrate the ability to achieve the objectives of § **162-57A** and **B**.

(3) It is the intention of this section that the provisions of said § **162-57** shall apply independently under this chapter only where Chapter **162**, Subdivision and Land Development, does not otherwise apply to the proposed use or activity. Therefore, where any use, activity, permit or approval is also subject to subdivision or land development review, there shall be no requirement for additional review under this chapter. Further, where and to the extent that modification(s) of any of the

provisions of said § **162-57** has/have been approved by the Upper Uwchlan Board of Supervisors in connection with any subdivision or land development review, the said requirements shall not be independently enforced pursuant to this chapter.

Any modifications to SALDO make sure to change references here.

B. Modifications. No modifications suggested here.

(1) For any use or activity subject to subdivision or land development review, modification(s) to the provisions of § **162-57** of Chapter **162**, Subdivision and Land Development, may be requested, which modification(s) may be granted at the discretion of the Board of Supervisors pursuant to the provisions of that chapter.

(2) For any use or activity not subject to subdivision or land development review, but where the use or activity is subject to application for approval of a conditional use, special exception, or zoning variance, modification(s) to

the provisions of said § **162-57** may be requested as part of such application.

(3) For any use or activity not otherwise subject to permit or approval as provided in Subsection **B(1)** or **(2)** above, modification(s) to the provisions of said § **162-57** may be requested in the form of an application for grant of a special exception by the Upper Uwchlan Zoning Hearing Board. Such applications shall be submitted to the Upper Uwchlan Planning Commission for review and comment prior to formal special exception application to the Zoning Hearing Board.

(4) In approving any application pursuant to Subsection **B(2)** or **(3)** above, the Zoning Hearing Board or Board of Supervisors, as applicable, as a condition of approval of such application, may permit specific modification(s) to the provisions of said § **162-57** subject to the following:

(a) The Zoning Hearing Board or Board of Supervisors, as applicable, shall determine that the specific nature of the lawful use or activity, existing site conditions, and/or safety considerations warrant such modification(s); and

(b) Permitted modifications shall be consistent with the purposes of said
§ **162-57**.

Chapter 162. Subdivision and Land Development
Article VI. Development Design Standards

§ 162-44 General standards.
§ 162-45 Land requirements.
§ 162-46 Lot design.
§ 162-47 Monuments and iron pins.
§ 162-48 Wastewater treatment and disposal.
§ 162-49 Water supply.
§ 162-50 Other utilities.
§ 162-51 Erosion and sediment control.
§ 162-52 Stripping, piling, replacement or removal of topsoil.
§ 162-53 Design standards for land development.
§ 162-54 Community facilities and public open space.
§ 162-55 Natural and historic features conservation.
§ 162-56 Parking.
§ 162-57 Landscape design, installation and maintenance standards.
§ 162-58 Lighting.

§ 162-55 Natural and historic features conservation.

[Amended 12-15-2003 by Ord. No. 03-06]

A. General.

(1) For all uses, activities, or improvements subject to this chapter or Chapter 200, Zoning, consideration shall be shown for the protection of all natural and historic features in Upper Uwchlan Township, including, but not limited to, woodlands, specimen trees, hedgerows, wetlands and watercourses, riparian buffers, prohibitive and precautionary slopes, trails, and historic resources which, if preserved, will add attractiveness and value to developed areas. The values of these natural and historic resources are documented and described in numerous Township documents and publications, most notably, Upper Uwchlan's Comprehensive Plan, as amended. The provisions of this section apply to all uses, activities, or improvements subject to this chapter or Chapter 200, Zoning, pursuant to § 200-108. Where any applicant demonstrates to the satisfaction of the Township that strict adherence to the provisions of this section will render the lot or tract unusable or unsuitable for development in accordance with applicable zoning district regulations or demonstrates that alternative design provisions shall achieve similar conservation objectives, the provisions of this section may be waived or modified as determined appropriate by the Board of Supervisors.

(2.) Where the proposed subdivision will be subject to a site analysis and impact plan (§ 162-9D of this chapter), the applicable narrative and plan submittal requirements of this section can be made part of the site analysis and impact plan. The resource management, protection, and improvement requirements of this section can be included in the open space requirements of this chapter (§ 162-54) or Chapter 200, Zoning (§ 200-69), as applicable to the proposed project.

B. Woodlands and hedgerows. The purpose of this section is to promote conservation of woodlands, including specimen trees and hedgerows, throughout Upper Uwchlan Township through the establishment of specific provisions for land development activities, replacement requirements, and management planning.

(1) Woodland and hedgerow disturbance resulting from any land development or land use change shall be minimized. No portions of tree masses or trees with a diameter at breast height (dbh) of six inches or greater shall be cleared unless demonstrated to be necessary and in accordance with this chapter. Applicants shall make all reasonable efforts to harmonize their plans with the preservation of existing woodlands and hedgerows. (Typical language.)

(2) No healthy and viable specimen tree(s) shall be removed from any lot or tract except where the applicant demonstrates to the satisfaction of the Board of Supervisors that such removal is essential to eliminate hazardous condition(s) or otherwise permit lawful use of the lot or tract; where permitted, removal of specimen trees shall be minimized. Specimen trees to be retained shall be credited toward any tree replacement required under Subsections B(6) through B(9) below. This is confusing, further discussion needed.

Alternative Text about Tree Credits – I'm not sure it belongs in this section…
Move to Landscaping Section / Possibly standards Section C.

(1) Credits for existing preserved healthy and viable ~~transplanted~~ vegetation. Preserved deciduous trees shall be credited toward shade and street tree requirements, evergreen trees shall be credited toward evergreen requirements, and shrubs shall be credited toward shrub requirements. No credit shall be given for weedy, brittle or invasive species unless otherwise approved by the Township.

(2) Preserved healthy and viable trees shall be credited toward satisfying the requirements of this § 281-34 in the area that they are preserved. That is, if a tree is preserved along a property line, it shall be credited toward the buffer or screen requirements along that property line. A

tree preserved within a parking area may not be counted toward satisfying buffer requirements.

(3) Preserved, healthy and viable ~~transplanted~~ trees shall be credited toward satisfying the requirements of this as follows:
Six- up to twelve-inch diameter equals two trees.
Twelve- up to thirty-inch diameter equals four trees.
Thirty-inch diameter or greater equals six trees.

(3) Woodland and hedgerow disturbance of healthy and viable trees exceeding any of the following standards shall require woodland replacement in accordance with Subsections B(6) through B(9) below. (For purposes of this section, the extent of any woodland or hedgerow disturbance shall be measured to include the entire area within the dripline of any tree where any part of the area within the dripline of said tree is subject to woodland or hedgerow disturbance.)

(a) Woodland disturbance in excess of 10,000 square feet of existing area of woodland or hedgerow for each principal use permitted on any lot or tract. As an example, where two principal uses are permitted, woodland disturbance may involve up to 20,000 square feet (10,000 x 2) before replacement is required.
(b) Woodland disturbance in excess of 50% of any existing area of woodland or hedgerow on any single lot that is part of a tract subject to subdivision.
(c) Woodland disturbance in excess of 25% of any existing area of woodland or hedgerow on any tract subject to subdivision, measured in its entirety, or on any single lot or tract subdivided prior to enactment of this section.

(4) In determining where necessary woodland or hedgerow disturbance shall occur, applicant shall consider the following:
(a) The location(s) and benefit of conservation of healthy mature woodland or hedgerow stands;
(b) The impacts, in terms of functions and values to wildlife, of separating, dividing and/or encroaching on wildlife travel corridors and/or extensive habitat areas, especially woodlands and hedgerows exceeding 10 acres in area; and
(c) The location of hedgerows relative to exterior or perimeter property lines as well as to existing or future trails, as consistent with applicable Township criteria such as the Open Space, Recreation, and Environmental Resources Plan (as amended), the Comprehensive Plan (as amended), or Trail Feasibility/Master Plan documents (as amended).

(5) In areas of permitted woodland or hedgerow disturbance and areas adjacent to permitted woodland and hedgerow disturbance, care shall be exercised to protect remaining trees from damage. To the maximum extent practicable, the following procedures shall be utilized during construction in order to protect remaining trees:

Leave number 5 – Follow with note that tree protection standards follow SALDO Landscape Section C Standards.

(a) Where existing trees are to remain, no change in existing grade shall be permitted within the dripline of the trees. Appropriate fencing four feet in height shall be placed at the dripline of trees to remain, wherever adjacent to proposed construction. Such fencing shall be maintained in place throughout the duration of construction activity. Roots shall not be cut within the dripline of any trees to remain.

(b) Trees within 25 feet of a building, or bordering entrances or exits to building sites, shall be protected by a temporary barrier to be maintained in place throughout the duration of construction activity.

(c) No boards or other material shall be nailed or otherwise attached to trees during construction.

(d) Construction materials, equipment, soil and/or debris shall not be stored nor disposed of within the driplines of trees to remain, except for mulched vegetative matter used to prevent soil compaction.

(e) Tree trunks, limbs, and exposed roots damaged during construction shall be protected from further damage through immediate treatment in accordance with accepted professional landscape procedures.

Part 5 Tree protection fence and notes should go under standards Section C because it should pertain to all trees not just woodlands and hedgerows.

(6) Where woodland or hedgerow disturbance involves more than the maximum area permitted under Subsection B(3) above, one tree and two shrubs shall be planted for each 300 square feet of woodland or hedgerow disturbance area, or fraction thereof, in excess of the maximum permitted area of disturbance. All specimen trees to be retained on any tract proposed for subdivision or land development shall be credited toward any tree replacement requirement, at a ratio of three trees credited for each individual specimen tree retained. Further, plant materials used to comply with the required minimum number of replacement plantings shall be three-and-one-half-inch caliper, minimum (trees); and 24 to 30 inches in height, minimum (shrubs).

(7) In addition to the vegetation replacement standards established in Subsection B(6) above, and for each tree greater than six inches dbh removed, replacement trees shall be planted in accordance with the following schedule.

For Each Healthy and Viable Tree to be Removed, at the Following Sizes, dbh (inches)	Minimum Number and Caliper of Replacement Trees
One, 6 to 8 dbh	One, 3 to 3 1/2 inch caliper
One, 8 to 12 dbh	One, 4 to 4 1/2 or two 3 to 3 1/2 inch caliper
One, 12 to 18 dbh	One, 5 to 5 1/2 or three 3 to 3 1/2 inch caliper
One, 18 to 24 dbh	One, 6 to 6 1/2 or four 3 to 3 1/2 inch caliper
One, greater than 24 dbh	Two, 6 to 6 1/2 or five 3 to 3 1/2 inch caliper

This chart is very detailed. The suggestion would be to minimize the number of size categories. Possibly 3 or 4 categories.

One, 6 to 12 dbh	One, 2 1/2 to 3 inch caliper tree
One, 12 to 24 dbh	Two, 2 1/2 to 3 inch caliper tree
One, greater than 24 dbh	Three, 2 1/2 to 3 inch caliper tree

ALTERNATE CALCULATION METHOD FOR REPLACEMENTS BY DBH

The compensatory planting requirement shall be based upon the size and of trees being removed, as follows:

For deciduous trees of 6 inches up to 12 inches DBH, one inch of new tree diameter shall be provided for every four inches of existing tree diameter cut or removed.

For deciduous trees and evergreen trees of 12 inches up to 24 inches DBH, one inch of new tree diameter shall be provided for every three inches of existing tree diameter cut or removed.

For deciduous trees and evergreen trees of 24 inches and greater DBH, one inch of new tree diameter shall be provided for every two inches of existing tree

diameter cut or removed.

Reduce the size of the tree caliper required to 2.5-to-3-inch caliper.
Offer alternative replacement tree types for replacement trees: 10-12' ht. understory or 8' ht. evergreen.

Example Whitemarsh Township

1.) A maximum of 30% of the replacement trees may be replaced with ornamental or evergreen trees at a ratio of two flowering trees or two evergreens per required 2.5-3" caliper shade tree.

2.) A maximum of 20% of the replacement trees may be replaced as shrubs with a minimum size of 24" ht. at a ratio of 6 shrubs per required 2.5-3" caliper shade tree.

3.) A maximum of 10% of the replacement trees may be replaced as groundcover at a ratio of 40 plants to one 2.5-3" caliper shade tree. The minimum size of the ground cover shall be 1 gallon.

4.) A maximum of 5% of the replacement trees may be replaced with plugs at a rate of 240 plugs 1.25 inches x 1.25 inches x 2.5" deep root zone for every 2.5-3" caliper shade tree.

Number 8 shall be moved to Standards in Landscape Section C Standards.

(8) Woodland and hedgerow replacement plantings and their measurement shall conform to the standards of the publications "American or U.S.A. Standard for Nursery Stock," American National Standards Institute (ANSI) or USAS Z60.1 of the American Association of Nurserymen, as amended. All plant material used on the site shall have been grown within the same U.S. Department of Agriculture (USDA) hardiness zone as the site, shall be free of disease, and shall be nursery grown, unless it is determined by the Township that the transplanting of trees partially fulfills the requirements of this section. ~~At the discretion of the Township, replacement trees as required above may be substituted by trees of at least 1 1/2-inch caliper at a ratio of three trees for each one tree otherwise required~~. Species of replacement plantings selected, and planting locations shall reflect careful site evaluation, and, in particular, the following considerations:

(a) Existing and proposed site conditions and their suitability for the plant materials, based upon the site's geology, hydrology, soils, and microclimate.
(b) Specific functional and design objectives of the plantings, which

may include but not necessarily be limited to: replacement of woodland and hedgerow area removed; enhancement of existing woodland, hedgerow, or old field area(s); reforestation of riparian buffer areas; provision for landscape buffer; visual screening, noise abatement, energy conservation, wildlife habitats, and aesthetic values (e.g., autumn coloration, type of flowers and fruit, bark and crown characteristics, amount of dieback present); or wind resistance.

(c) Maintenance considerations such as hardiness, resistance to insects and disease, longevity, and availability.

(d) Because of the many benefits of native plants (ease of maintenance, longevity, wildlife habitat, etc.), their use is encouraged. Species selection should reflect species diversity characteristic of the native woodland and hedgerow.

(a. through d. can be added to standards and guarantee section for all plants / landscaping. In standards I would also add % of native or diversity requirements that can be quantified to the standards)

(9) Applicant shall include provisions, in narrative and/or graphic form, of sufficient detail to satisfy the Township, for the long-term management of any woodland and hedgerow area not subject to woodland and hedgerow disturbance and any area selected for introduction of replacement plantings in accordance with this section. The submission shall include a statement of woodland and hedgerow management objectives and shall demonstrate the feasibility of intended management practices, aiming to ensure the success of stated objectives, including the viability of introduced plantings, deterrence of invasive species, and means to minimize any future woodland and hedgerow disturbance. Additional requirements include:

(a) The manner in which the woodland area will be owned and by whom it will be managed, maintained, and improved (the latter as necessary).

(b) The conservation and/or land management techniques and practices that will be used to conserve and protect such areas, as applicable.

(c) The professional and personnel resources that are expected to be necessary to, and will be committed to, maintain and manage the woodland area.

(d) Applicants are strongly encouraged to seek woodland management assistance through the Pennsylvania "Forest Stewardship Program" administered by the Pennsylvania Bureau of Forestry.

Sections a-d has to do with maintenance / creating a maintenance plan, I'm not aware of any issues that have come up about this. Suggestion to leave as is or put in standards.

(10) Installation of woodland and hedgerow replacement plantings shall be guaranteed along with all other site improvements in accordance with §§ 162-61, 162-63, and 162-64 of this chapter. The costs of planting material and installation shall be considered in determining the amount of any performance guarantee required. At the Township's discretion, the applicant may be required to escrow sufficient additional funds for the maintenance and/or replacement of the proposed or existing vegetation in accordance with this section. In addition, an escrow may be required for the removal and replacement of woodlands, specimen trees, or hedgerows damaged during construction. These escrows shall be in addition to any financial security posted for dedication of other required improvements. At its sole discretion, the Township may remedy failure to complete installation or to maintain required woodland and hedgerow replacement plantings in accordance with the provisions of this chapter. (Move to Guarantee and Maintenance section under Landscaping)

(11) ~~Required replacement plantings shall be in addition to and consistent with any required landscape plan, street trees, or any other landscape material, improvements, or related requirements stipulated by applicable provisions of this chapter or of Chapter 200, Zoning.~~

Change –
Any new trees placed on the property may be credited toward the compensatory tree requirement, provided that such new trees meet the following size requirements:

a) Deciduous shade or ornamental trees shall be a minimum of two and a half inches to three-inch caliper.

b) Multi-stem shade or ornamental trees shall have a minimum height of ten to twelve feet.

c) Evergreen trees shall have a minimum height of eight feet.

(12) In lieu of actual tree replacement, the Township may, at its sole discretion, require the applicant to place the equivalent cash value, as agreed upon by the Township and the applicant, of some or all of the required replacement trees into a special fund established for that purpose. Such funds shall be utilized for the purchase and installation of trees elsewhere in the Township at the discretion of the Township, especially if the site in question cannot accommodate the replacement

trees required pursuant to this chapter. (Typical)

SALDO
§ 162-56 Parking.
[Amended 6-17-2002 by Ord. No. 02-04]
Any activity or use subject to this chapter shall comply with the provisions of § 200-73 of Chapter 200, Zoning.
Add a note to send you to landscape section for parking.

SALDO
§ 162-57 Landscape design, installation and maintenance standards.
[Added 6-17-2002 by Ord. No. 02-04]

A. Applicability. Landscaping conforming to the provisions of this section shall be provided in any of the following situations:
SCREENING AND BUFFERING INFORMATION TO MOVE HERE.

(1) Required screening.

(a) ~~Where any use or activity is subject to the screening requirements of § **200-77** of Chapter **200**, Zoning~~; Move the Screening Charts and Types into Saldo here and reference the SALDO from Zoning Chapter 200-77.

(b) ~~Any situation where screening is imposed by the Zoning Hearing Board or otherwise by the Township as a condition of any approval or permit. In consideration of any approval or permit, the Township may require screening or buffering for the purpose of providing privacy for dwellings, separating incompatible land uses, shielding unattractive structures from view, noise abatement or reduction in light or glare~~. This will be covered under screening and buffering requirement charts. No need for additional language about it here.

(2) ~~Perimeter buffer requirement. The entire perimeter of any tract subject to subdivision or land development approval, or any tract occupied by a use subject to the provisions of § **200-78** of Chapter **200**, Zoning, shall be provided with a minimum twenty-foot-wide buffer planting strip which will act as an effective separation between uses. The perimeter buffer strip shall be designed, installed, and maintained in compliance with the requirements of this section.~~ This will be covered under screening and buffering requirement charts. No need for additional language about it here.

(3) General landscaping requirement. On any tract subject to subdivision or land development approval, or any lot or tract occupied by a use subject to the provisions of § **200-78** of Chapter **200**, Zoning, any part or portion of such lot or tract which is not occupied by buildings nor used for loading and parking spaces and aisles, sidewalks and designated storage areas shall be landscaped according to an overall landscape plan, prepared and approved as provided in

this section or shall be left in its natural state. What is the purpose for this section 3? Needs further clarification.

(4) Parking lot landscaping requirement. On any tract subject to subdivision or land development approval, or any lot or tract occupied by a use subject to the provisions of § **200-78** of Chapter **200**, Zoning, all parking lots or areas shall be landscaped subject to the provisions of Subsection **C(7)** below. Okay. Not sure why this needs to be added here. Section 200-78 already references the parking lot landscape requirements.

B. Landscape plan.

(1) All required landscaping and screening shall be installed and maintained in accordance with a landscape plan prepared by a ~~qualified~~ registered landscape architect in the Commonwealth of Pennsylvania and approved by the Township. The landscape plan shall depict all proposed plantings required to complement, screen or accentuate building, roads, parking areas, sidewalks, walkways, sitting areas, service or maintenance structures, courtyards, entry road treatments, and other site features and/or structures. Plant sizes, spacing and types shall be in accordance with this section, especially Subsection **C**, Landscape design standards. (**Subsection C)** This is where we should put all required standards and guarantees that have been mentioned previously in other sections. We can reference this section in those sections if need be.

(2) All required landscape plans shall be submitted at the time when all other required applications and/or plans are submitted (e.g., sketch, preliminary, or final land development plan submission, conditional use approval application, change in use, etc.). Plans shall be based on and reflect the following objectives:

(a) A design which is responsive to the functional and aesthetic characteristics of the tract or lot, and existing and proposed principal and accessory buildings and other structures.

(b) A design which respects/incorporates existing topography, landscape, and other natural features such as hedgerows and woodlands.

(c) A design which demonstrates an effective proposal for screening the proposed use or activity from the adjoining properties.

(d) A design which creates visual interest for the users and/or residents of the proposed project and enhances views.

(e) A design which promotes effective management of stormwater to minimize soil erosion and sedimentation and creates opportunities for infiltration to the groundwater system.

(f) The use of plant material which is acclimated to local conditions; located and spaced to achieve required screening, compatible groupings and other effective purposes; and not injurious of persons or pedestrians and vehicular circulation.

(3) Submitted landscape plans shall include notes, diagrams, sketches or other depictions appropriate to demonstrate consideration and analysis of the following:

(a) Consistency with the objectives stated in Subsection **B(2)**, above, as well as the design standards of Subsection **C** below.

(b) Analysis of the site in terms of existing site conditions, including topography and vegetation, and existing views to and from the areas which are proposed for development.

(c) Analysis of any need(s) for screening related to the proposed development or use.

(d) Consideration of the use of introduced landscaping to provide visual interest, define outdoor spaces, complement architectural features, blend into surrounding landscapes and/or other aesthetic purposes.

Add all applicable standards and guarantees to this section C below. Landscape Design Standards. Also put TPF standards here.

The tree protection and landscaping standards contained in this section shall be applicable to all subdivisions of land and any parcels undertaking land development activities. All parts of properties being redeveloped, renovated, and improved as part of a subdivision or land development application shall be brought into compliance with the requirements of this section, to the extent possible.

General standards. List Standards – keep in line with existing standards identified in Upper Uwchlan just pull them into this section.

C. Landscape design standards. All required landscaping shall be designed, installed and maintained in accordance with the standards herein, including specific standards for screening, street trees, perimeter buffer and parking area landscaping, replacement trees as applicable.

(1) Total plantings required. The minimum number of plantings required shall be determined in accordance with Subsection **D** below. Section D does not outline all required plantings. It outlines "additional required plantings." Required plantings may be utilized anywhere on the subject site for purposes of compliance with general landscape standards as well as specific standards for screening, perimeter buffer and parking area landscaping, as applicable. Additional plantings may be provided to further the purposes of this section. Plantings provided in excess of the minimum required need not comply with the dimensional standards herein. Existing trees and shrubs to be retained and protected may be credited towards the minimum planting standards, subject to review and approval of the Township. Where existing trees have been identified for credit, the Township may require the applicant to commit to a tree replacement program for non-surviving plants.

Alternative Text about Tree Credits

(1) Credits for existing preserved healthy and viable ~~transplanted~~ vegetation. Preserved deciduous trees shall be credited toward shade and street tree requirements, evergreen trees shall be credited toward evergreen requirements, and shrubs shall be credited toward shrub requirements. No credit shall be given for weedy, brittle or invasive species unless otherwise approved by the Township.

(2) Preserved healthy and viable trees shall be credited toward satisfying the requirements of this § 281-34 in the area that they are preserved. That is, if a tree is preserved along a property line, it shall be credited toward the buffer or screen requirements along that property line. A tree preserved within a parking area may not be counted toward satisfying buffer requirements.

(3) Preserved and healthy and viable ~~transplanted~~ trees shall be credited toward satisfying the requirements of this as follows:

Six- up to twelve-inch diameter equals two trees.
Twelve- up to twenty four-inch diameter equals four trees.
Twenty four inch diameter or greater equals six trees.

(2) ~~Mitigation of development impacts. Consistent with the terms of this section and especially with the results of the screening analysis conducted in accordance with Subsection **B(3)(c)**, applicant shall plant trees and shrubs and make other landscape improvements (e.g., berms, fencing) as necessary to mitigate any adverse impacts of the proposed action or project, including visual impacts on the subject property, adjoining properties, and the Township in general, and~~

~~otherwise address landscape issues identified through the required landscape planning process.~~

I do not feel that the screening analysis is needed if we use the buffer charts.

(3) General landscape design.

(a) Plantings and other landscape improvements shall be provided in arrangements and locations to have an overall benefit to the landscape and in response to specific site conditions. Additional considerations shall include feasibility of using native species, proximity to existing dwellings, compatibility of adjacent uses and landscaping, nature of views into and across the subject site, and in consideration of privacy of neighboring residential development. Native percentage to be added.

Recommendation:

At least 50% of the proposed shade trees shall be native to the region.
At least 60% of the understory trees shall be native to the region.
At least 30% of the evergreen trees shall be native to the region.
At least 60% of the Shrubs shall be native to the region.

(b) Use of linear measurements for purposes of calculation is not intended to specify linear arrangement of plantings. Groupings of plantings are encouraged in lieu of linear arrangement, consistent with the provisions of this section. Keep.

(c) In selecting the location and mix of required plantings, consideration shall be given to the natural landscape characteristics of the setting, the environmental conditions to be created following site disturbance, and the texture, coloration and compatibility of different plant species. It is strongly encouraged that improved landscapes be designed in such a manner as to be creative and attractive while maintaining the integrity of the natural landscape within which such work is proposed. Keep.

(d) The locations, dimensions, and spacing of required plantings shall be adequate for their proper growth and maintenance, taking into account the sizes of such plantings at maturity and their present and future environmental requirements, such as moisture and sunlight. In selecting locations for shade trees, consideration also shall be given to aesthetic qualities of the site and to the protection of solar access. Keep.

(e) Plantings shall be limited or carefully selected for locations where they may be disturbed or contribute to conditions hazardous to public safety.

Examples of such locations include but shall not be limited to the edges of parking areas; public street rights-of-way; underground and aboveground utilities; and sight triangle areas required for unobstructed views at street intersections. No trees shall be planted closer than 15 feet from fire hydrants, streetlights, or stop signs. Keep.

BUFFER

I would have the charts for the buffers located here. In the zoning section they can reference this section. Buffer and screening section will be combined.

(4) Perimeter buffer.

(a) Except where screening is required, the perimeter buffer need not be planted entirely with trees and shrubs, but is intended to blend into the surrounding landscape.

(b) The Township may reduce or eliminate the perimeter buffer requirement where any tract abuts similar uses such that the Board agrees that buffering is not necessary or where the applicant can demonstrate to the satisfaction of the Board that existing vegetation, structural and/or topographic conditions will, on a year-round basis, buffer the subject development or use from view from adjacent tracts.

The Township can still have this option to reduce or eliminate.

(c) Except for post-and-rail or board fences less than four feet in height and stone landscape walls, no fences or walls shall be located within any required perimeter buffer along any public street or road. Fences and walls provided for security or access control purposes and constructed of chain link or any solid material and/or exceeding four feet in height, may be located behind the perimeter buffer and shall be screened from view in accordance with the provisions of this section.

Seem okay to keep this. Add charts and Buffer / Screen section.

(d) The perimeter buffer strip may include or coincide with areas where screening is otherwise required and may be included in private yard space, common open space, or a combination thereof; the perimeter buffer strip may also be part of any required setback areas as well as be part of any established usable lot area.

Seem okay to keep this.

SCREENING

Screening to be combined with buffer section.

(5) Screening. ~~Where specific requirement(s) for visual screening have been identified, the following design standards shall be employed. See Appendix I for the minimum screening standards sample calculation.~~[1]

Screening standards will be handled by new charts.

(a) ~~Vegetative screening shall include a variety of evergreen species so as to provide a year-round visual barrier. Evergreen plantings shall be provided that are at least seven to eight feet in height, planted at intervals no less than 10 feet on center. Where the Township agrees that an eventual screen (in three to five years) is acceptable in lieu of an immediate screen (to buffer future development, for example), evergreen plantings shall be at least four to five feet in height, substituted at a ratio of three to one and planted at intervals of five feet on center. See Appendix I for the minimum screening sample calculation.~~[Amended 1-17-2006 by Ord. No. 06-01]

(b) Screening shall incorporate earthen mounds or berms where appropriate to improve sound as well as visual buffering. Where earthen berms are used, they should be designed to be low-profile, and supplemented with plantings so that an effective visual barrier of at least eight feet in height measured from the crown of the adjoining public street is created in appropriate locations, particularly where used to screen outdoor storage, truck or heavy equipment parking, storage and loading areas or trash dumpsters from public view. If berms are used as a landscape or screening feature, plantings are to be installed on both sides of the berm, not solely at the ridgeline or top of the berm and shall be subject to the review and approval of the Township. Side slopes shall not exceed a 4:1 ratio, and berms shall be designed to blend with adjoining property topographic conditions or similarly landscaped buffer rather than end abruptly at the property line. Keep this part about the berms.

(c) Other than street trees, no trees shall be placed with their center less than five feet from any property line, and no shrubs with their center less than two feet from any property line. (This moves to standards Section C.)

(d) Screening shall be designed so as not to obstruct sight distances at intersections. Standards.

(e) Vegetative screening shall be continuously maintained for the duration of operation of the use for which screening is required. During such period, any plant material which does not survive shall be replaced prior to the start of the next growing season. Guarantee and Maintenance.

~~*Editor's Note: Appendix I is* **included as an attachment to this chapter**.~~

STREET TREES

(6) Street trees. Any subdivision or land development shall provide street trees along the entire length of any public street. Street trees of varying species shall not be planted so close to the cartway edge that they become a maintenance problem, but close enough to the cartway edge to provide shade. The arrangements and locations of all street trees should be shown on the landscape plan and are subject to review and approval by the Township. The arrangements and locations of tree plantings shall respond to specific site conditions and development design objectives and shall comply with the following:

Specify if you want the trees in the ROW or out of the ROW. Needs clarification. Specify a specific max. and or min. distance from ROW or Cartway.

(a) Selected street tree species shall be hardy indigenous varieties with minimal maintenance requirements, and shall be selected such that, at maturity, they shall provide adequate summer shade along the public road. The Township may consider approval of nonindigenous species on a case-by-case basis. Selected street tree species shall be of the nongrafted type~~. Refer to Subsection **H** for a suggested species list. This list should be removed~~.

Refer to Cornell Universities Recommended Urban Trees Publication for Street Trees.

DCNR / Native Plants | Department of Conservation and Natural Resources| Commonwealth of Pennsylvania

Or alternate publication that will be updated as information / disease / invasive status changes

(b) The spacing between street trees shall be no greater than 50 feet. Change to 40.

(c) At the time of planting, street trees shall be at least 14 feet to 16 feet in height and three-inch to three-and-one-half-inch caliper in size. Change size to 2.5”-3” caliper and remove height requirement. Caliper and height of trees do not always correlate in different species. Reference the standards section C.

Add alternative notes about street trees in front of store fronts / commercial districts. Alternative placement methods to allow signage to be visible.

PARKING – I think this section is okay – where it calls out 15' wide parking islands in the below highlighted text 10' would be an acceptable width for plantings and trees.

(7) Parking lot landscaping. All off-street parking areas, except those intended solely for use by individual single-family residences, shall be landscaped with trees and shrubs of varying species, in accordance with the following:

(a) Off-street parking areas shall be landscaped to reduce wind and air turbulence, heat and noise, and the glare of automobile lights; to reduce the level of carbon dioxide; to provide shade; to ameliorate stormwater drainage problems; to replenish the groundwater table using bioretention islands; to provide for a more attractive setting; to protect the character and stability of residential, business, institutional, and industrial areas; and to conserve the value of land and buildings on surrounding properties and neighborhoods.

(b) Any parking for five or more vehicles on a lot which abuts a residential district or a lot for residential purposes, whether single-family or multifamily, shall be screened from the adjacent property by an effective vegetative screen the entire length of said parking lot, in accordance with the requirements of this section.

(c) The interior of each parking area or lot shall have at least one shade tree for every five parking spaces. Such shade trees shall meet the standards provided for street trees in Subsection **C(6)** above.

(d) Planting areas shall be placed so as to facilitate snow removal and to provide for safe movement of traffic without interference of proper surface water drainage. Planting areas shall be bordered appropriately to prevent erosion or damage from automobiles. Bollards may be used to afford protection of trees from vehicular movement.

(e) Planting areas utilized for stormwater management/bioretention can count toward parking lot landscaping minimum requirements. Such planting area design and maintenance shall be clearly described in the applicant's stormwater management plan submitted as part of a subdivision or land development application.

(f) The landscaping and planting areas shall be reasonably dispersed throughout the parking lot, except where there are more than 20 spaces in which the following shall apply:

[1] Landscaped areas at least 10 feet wide shall be provided around the periphery of parking areas. Such areas shall, at a minimum, extend the full length and width of the parking areas, except for necessary access ways, to prevent the encroachment of moving vehicles into parking areas.

[2] Landscaped islands at least ~~15 feet~~ 10 feet wide shall be provided between each set of two parking bays, except as otherwise approved by the Township.

[3] Landscaped islands shall be provided at the end of each parking bay where such parking bay abuts or opens onto any street or accessway. Such landscaped islands shall be at least ~~15 feet~~ 10 feet in width and shall extend parallel to the parking spaces in each abutting parking area the length of one parking space. No more than 20 parking spaces shall occur between islands. Parking bays providing more than 20 spaces in a single bay shall be broken by a similar landscape island.

[4] Two feet of each parking stall adjacent to planting strips required in Subsection **C(7)(f)[1]** and **[2]** above shall be of a permeable surface (e.g., concrete paver blocks filled with stone) to allow water to percolate into the ground.

(g) Parking lots which do not conform to the criteria listed above shall be planted with the same ratio of trees to parking spaces as conventional parking lots but these may be planted in more varied configurations.

(h) All parking lots shall be designed to provide for safe, reasonable pedestrian access. Parking lots with more than 50 spaces shall include paved pedestrian walkways. Pedestrian walkways may be located along or through landscaped islands or other landscaped areas adjacent to the parking lot.

This section D below is all additional landscaping for – Building SF, Parking SF Area, Road Frontage, and tract boundary all of which are already landscaped under Parking landscaping criteria, Street Trees, and Buffer Landscaping. Building SF requirement can stay for building foundation plantings I would remove the other sections. If you are going to ask it as a requirement add it to the Parking Standards, Street Tree Standards or Buffer Standards, not as an add on at the end.

D. Minimum planting standards. All required landscaping shall meet the minimum planting standards, criteria for selection of plant material, and design standards of this section.

(1) The total number of plantings required shall be no less than the total calculated from all columns in the following table and ~~shall be in addition to any required replacement plantings due to woodland disturbance~~. The total number of required plantings may be dispersed throughout the tract to meet the objectives of this section. Additional plantings may be provided. See Appendix II for the minimum planting standards sample calculation.[2] Appendix II to be amended as needed.

Improvement/Conditions	Deciduous Trees	Evergreen Trees	Shrubs
Per 1,000 square feet gross building area, ground floor only (building "footprint"); residential subdivisions exempt KEEP	2	1	8
~~Per 2,000 square feet off-street parking or loading area, excluding driveways less than 18 feet wide; residential subdivisions exempt~~	~~1~~	~~1~~	~~4~~
~~Per 100 linear feet of new and existing public or private road frontage, measured on both sides where applicable~~	~~2~~	~~1~~	~~5~~
~~Per 100 linear feet of existing tract boundary, where not coincident with existing or proposed road frontage~~	~~1~~	~~2~~	~~8~~

[2]*Editor's Note: Appendix II is **included as an attachment to this chapter**.*

(2) ~~Where applicant can demonstrate to the satisfaction of the Township that existing vegetation, structural and/or topographic conditions located within 100 feet of existing tract boundaries or within 100 feet of the cartway of existing or new roadway segments will conceal, on a year-round basis, adjacent development from view from such tract boundary or roadway segments, the linear footage of such tract boundary or roadway segments may be excluded from calculation of required plantings as above.~~

(3) Where calculation of the minimum number of plantings required as above results in fractions of plants required, the minimum number of plants required shall be rounded up to the nearest whole number. Move to Buffer and Steet Tree sections.

(4) Plantings. THIS SECTION GOES UNDERS STANDARDS and Applies to all plant material.

(a) Plantings used to comply with the minimum number of plantings required as above shall be:

[1] Deciduous trees: two and a half inch to three inch caliper, ~~three-inch to three-and-one-half-inch caliper~~, minimum.

[2] Evergreen trees: ~~seven feet to~~ eight feet in height, minimum Eight ft. ht. min.

[3] Shrubs: 24 inches to 30 inches in height, minimum. Okay.

(b) Plantings and their measurement shall conform to the standards of the publications "American or U.S.A. Standard for Nursery Stock," American National Standards Institute (ANSI) or U.S.A.S. Z60.1 of the American Association of Nurserymen, as amended. All plant material used on the site shall have been grown within the same U.S. Department of Agriculture (USDA) hardiness zone as the site, shall be free of disease, and shall be nursery grown, unless it is determined by the Township that the transplanting of trees partially fulfills the requirements of this section. At the discretion of the Township, plantings required as above may be waived or reduced if applicant can demonstrate to the satisfaction of the Township that retaining existing plant material or other means of landscaping substantially achieves the objectives of this section. The applicant shall note, on all appropriate submittals, the location, type, extent, and condition of the existing plant materials or other means of landscaping that would be the basis for the proposed waiver or reduction. Should the Township issue a waiver or reduction, the approved, existing plant materials or other means of landscaping shall be protected during construction from impacts such as, but not limited to, root compaction, debarking, and soil stripping. The Township shall conduct a post-construction inspection, and reserves the right to require additional plantings if the existing plant material or other means of landscaping are damaged or did not survive construction. Move to standards section C.

E. Criteria for selection of plant material.

(1) Species selected by the applicant shall reflect careful evaluation of the required site analysis plan and in particular the following considerations:

(a) Existing and proposed site conditions and their suitability for the plant materials, based upon the site's geology, hydrology, soils, and microclimate.

(b) Specific functional and design objectives of the plantings, which may include but not necessarily be limited to provision for landscape buffer, visual screening, noise abatement, energy conservation, wildlife habitats, and aesthetic values.

(c) Maintenance considerations such as hardiness, resistance to insects and disease, longevity, availability, and drought and salt resistance.

(2) Use of native plants, because of their many benefits (such as ease of maintenance, longevity, wildlife habitat, etc.), is encouraged to meet the requirements of this section. A suggested plant list is included in Subsection **H**.

(3) Species for shade trees, including street trees, shall be selected with particular emphasis on hardiness, growing habit for pedestrian and vehicle passage, minimal need for maintenance, and compatibility with other features of the site and surrounding environs.

(4) For the purposes of promoting disease protection, minimum maintenance, diverse natural plant associations, and long-term stability of plantings, the applicant is encouraged to choose those combinations of species which may be expected to be found together under more or less natural conditions on sites comparable to those where the trees and shrubs are to be planted.

F. Conservation of existing vegetation and natural features. Consistent with § **162-55A** of this chapter, all landscape plans shall be designed to conserve woodlands, hedgerows, watercourses, specimen trees, and riparian buffer areas, and to minimize woodland disturbance. Applicants shall make all reasonable efforts to harmonize their plans with the conservation of existing vegetation and natural features. Care shall be exercised to protect remaining vegetation from damage during construction, in accordance with the procedures set forth in § **162-55**. Keep. Move other applicable sections to this section.

G. Site maintenance and guarantee.

(1) All landscape improvements, to be provided in accordance with this section, shall be installed and maintained by accepted practices as recognized by the American Association of Nurserymen. Planting and maintenance of vegetation shall include, as appropriate, but not necessarily be limited to, provisions for surface mulch, guy wires and stakes, irrigation, fertilization, insect and disease control, pruning, mulching, weeding, and watering.

(2) Applicant shall make arrangements acceptable to the Township that all landscaping incorporated into the landscape plan and proposed in accordance with this chapter shall be maintained in a healthy and/or sound condition, or otherwise be replaced once by equivalent improvements, for one complete growing season

after the date of construction completion. After installation and prior to Township acceptance of the site improvements, representatives of the Township shall perform an inspection of the finished site for compliance with approved landscape plan(s).
(3) Installation of landscape improvements shall be guaranteed along with all other site improvements in accordance with §§ **162-61**, **162-63**, and **162-64** of this chapter. The costs of landscape material and installation shall be considered in determining the amount of any performance guarantee required. At the Township's discretion, the applicant may be required to escrow sufficient additional funds for the maintenance and/or replacement of the proposed or existing vegetation in accordance with Subsection **G(2)** above. In addition, an escrow may be required for the removal and replacement of specimen vegetation damaged during construction. These escrows shall be in addition to any financial security posted for dedication of other required improvements. At its sole discretion, the Township may remedy failure to complete installation or to maintain required landscape improvements in accordance with the provisions of this chapter.
This will be part of Maintenance and Guarantee. Add other applicable sections found throughout this document to this section.

H. ~~Suggested plant list (not an exclusive list). Examples of species appropriate for use where screening is required are indicated with an asterisk (*). Street tree specifications, as referenced in Subsection **C(6)** of this section and § **200-78** of Chapter **200**, Zoning, include, but are not limited to, the following species, noted by "ST":~~
[Amended 1-17-2006 by Ord. No. 06-01] Remove this plant list and reference an updated publication. DCNR or PSU or Cornell University. Must relate to PA climate conditions.

Common Name	Latin Name
~~Evergreen Trees:~~	
~~Eastern redcedar*~~	~~Juniperus virginiana~~
~~Canadian Hemlock~~	~~Tsuga canadensis~~
~~Red (Eastern or Yellow) spruce*~~	~~Picea rubens~~
~~Norway spruce*~~	~~Picea abies~~
~~Eastern White Pine*~~	~~Pinus strobus~~
~~Common Name~~	~~Latin Name~~
~~Shade Trees:~~	
~~Red maple, ST~~	~~Acer rubrum~~
~~Sugar maple, ST~~	~~Acer saccharum~~

Common Name	Latin Name
~~White ash, ST~~	~~Fraxinus americana~~
~~Green ash, ST~~	~~Fraxinus pennsylvanica~~
~~Sycamore~~	~~Platanus occidentalis~~
~~White oak, ST~~	~~Quercus alba~~
~~Northern red oak, ST~~	~~Quercus rubra~~
~~Tulip poplar~~	~~Liriodendron tulipifera~~
~~Scarlet oak, ST~~	~~Quercus coccinea~~
~~Pin oak, ST~~	~~Quercus palustris~~
~~Shagbark hickory~~	~~Carya ovata~~
~~American basswood~~	~~Tilia americana~~
~~American beech~~	~~Fagus grandifolia~~
~~London plane tree~~	~~Platanus acerifolia~~
~~Common Name~~	~~Latin Name~~
~~Small Trees and Shrubs:~~	
~~Rhododendron~~	~~Rhododendron sp.~~
~~Black cherry~~	~~Prunus serotina~~
~~Shadbush/Serviceberry*~~	~~Amelanchier canadensis~~
~~Redbud~~	~~Cercis canadensis~~
~~Flowering dogwood*~~	~~Cornus florida white~~
~~Winterberry~~	~~Ilex verticulata~~
~~Washington hawthorn*~~	~~Crataegus phaemopyrum~~
~~Highbush blueberry~~	~~Vaccinium corybosum~~
~~Sourwood~~	~~Oxydendrum arboreum~~
~~Ironwood~~	~~Ostrya virginiana~~
~~Arrowwood~~	~~Viburnum dentatum~~
~~Black Haw~~	~~Viburnum prunifolium~~

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

May 2, 2025

File No. 23-01103

VIA E-MAIL ONLY

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

Reference: 500 Pottstown Pike – Chester Springs Service Center
Preliminary Land Development Plan – Second Review
Upper Uwchlan Township, Chester County, PA

Dear Tony:

Gilmore & Associates, Inc. (G&A) is in receipt of the following documents prepared by T&M Associates, unless otherwise stated:

1. Letter to Upper Uwchlan Township dated April 10, 2025, responding to review comments in G&A's November 11, 2024 review letter.

2. Phase 1 Environmental Site Assessment Report dated March 31, 2023, and prepared by Sovereign Environmental Group.

3. Cover Letter to T&M Associates from the Department of the Army (US Army Corps of Engineers) regarding the Preliminary Jurisdictional Determination NAP-2009-01363-100 dated October 22, 2024.

4. "Will Serve" letter from Aqua dated May 9, 2024.

5. Plan set consisting of thirty-seven (37) sheets titled "Preliminary Land Development Plans Chester Springs Service Center," dated August 1, 2024, and last revised April 10, 2025.

6. Chester Springs Service Center Stormwater Management Report dated September 25, 2024, and last revised March 31, 2025.

7. Historic Resources Impact Statement dated April 10, 2025, prepared by kd2.

8. Letter from Riley Riper Hollin & Colagreco (RRHC) to Upper Uwchlan Township dated December 19, 2024, granting a time extension for review through May 19, 2025.

G&A as well as the other Township Consultants have completed our second review of the above referenced items for compliance with the applicable sections of the Township's Zoning Ordinance, Subdivision and Land

Development Ordinance, and Stormwater Management Ordinance, and wish to submit the following comments for your consideration.

Please note that comments with a **(V)** or **(RW)** require relief from the Township Ordinances. A **(V)** denotes a variance is required, **(RW)** denotes a requested waiver, and a **(W)** denotes a waiver that may be required. Comments in *italics* are from our previous review letter, and comments in **bold text** require resolution from the applicant. Previous comments that have been satisfactorily addressed are not repeated herein.

I. OVERVIEW

The application proposes the construction of a Service Center building (±45,774 SF) with associated parking and a stormwater management basin on a 13.79-acre parcel (TMP# 32-1-34.1C). The property, currently vacant, is located at 500 Pottstown Pike in the C-3 Highway Commercial District.

II. TOWNSHIP ZONING OFFICER COMMENTS

Comments (if any) will follow under separate cover.

III. CONDITIONAL USE ORDER REVIEW

1. *The July 15, 2024 Conditional Use Order allows two principal uses on the property, allowing the development of a vehicular sales establishment being the storage of vehicle inventory from the sales facility located in Newton Square, and allows a vehicular service establishment. The Zoning Data table on Sheet 6 lists the proposed uses as Vehicular Service Establishment and Vehicular Sales Establishment. Per Conditions of Approval #3, "Vehicular Sales Establishment" shall be revised to include "the storage of vehicle inventory for off premises vehicular sales."*

   While this note has been added, it has been added under the Parking and Loading Requirements. Please insert into the Zoning Table along with the other proposed uses.

2. *Conditions of Approval #11 requires that an attempt be made to provide a location for a public trail to provide a connection to the trails at the Township's Park at Fellowship Road.*

   Nothing is shown on the plans per this requirement.

3. *Conditional Use Condition of Approval #13 requires an entrance feature consistent with other entrance features in the vicinity of the property. Currently no site signage is shown; the plans shall be revised to be in accordance with this Condition of Approval.*

   Plans show a "Monument Sign" location at the entrance to the property. The response letter states the final sign location shall be in conformance with the approved HOP plans. **Details shall be provided for the proposed entrance feature.**

IV. TOWNSHIP ENGINEER'S COMMENTS – ZONING ORDINANCE GILMORE & ASSOCIATES

1. ***Section 200-73.B(3) – Pedestrian paths shall be provided from the parking areas to the entrances of buildings and adjacent street sidewalks. Pedestrian walks crossing any parking and driveway aisles shall be delineated by either stripes or a different paving material.***

   The Applicant has indicated "Final locations of pedestrian paths will be clearly delineated prior to final plan approval."

2. *Section 200-73.D(5)(a) – Based on the number of proposed parking spaces (358), eight (8) accessible spaces are required. The plan shows 5 accessible parking spaces. The Zoning Officer should confirm how many spaces are required for these uses.*

   The Applicant has indicated "Approval of the number of ADA parking spaces will be obtained from Zoning Officer prior to final plan approval."

3. *Section 200-107.D.(2) – The application proposes disturbance of prohibitive steep slope areas which requires a variance from the Zoning Hearing Board. This variance was granted on October 11, 2024; the Order should be listed (verbatim) on the Record Plan.*

   The order has been listed under "Waiver from the Zoning Ordinance" on Sheet 1. **However, please revise "Waiver from the Zoning ordinance" to "Variance from the Zoning Ordinance". Also please revise the overall title "Zoning and Stormwater Waivers" to "Zoning Variance and Waivers".** We also note the Order is also located on Sheet 3 under "Zoning Hearing Board Approval".

V. TOWNSHIP ENGINEER'S COMMENTS – SUBDIVISION & LAND DEVELOPMENT ORDINANCE GILMORE & ASSOCIATES

1. *Sections 162-9.B(1)(b) and 162-9.B(2)(b)[7] – Dimensions shall be set and curves shall be described as outlined in this section, shall be prepared and certified by a registered professional land surveyor, and shall be shown on a Record Plan.*

   We note that this information appears to be provided on Sheet 5 (Conservation Plan), which is not to be recorded. **The existing boundary information shall be provided on the Existing Conditions Plan and the Site Plan, with any proposed boundary information being provided on the Site Plan (Recorded Plans).**

2. *Section 162-9.B(1)(d) – Provide Legends on each plan sheet and verify that all features are included with matching line types / symbols. The Standard Legend on Sheet 2 should be expanded.*

   Legends are not provided on each plan sheet, e.g., no Legend on Existing Features Plan or on Landscape plan, and there appears to be no change to the Legend on Sheet 2.

The chain link fence line type on the Demo plan is identified as a "FLOW LINE" in Legend Sheet 6, and not all features / symbols / line types are in the Legend as are on plan view.

Regarding trees to remain as shown on the Demo Plan (Sheet 6), the following shall be revised: the plan shows exact outline of the trail across front as only area of trees to be removed, but does not account for grading, which is also not shown on the Grading Plan (Sheet 7); does not show 10-feet horizontal separation between storm pipe and vegetation (note that installation may require more room); there is a proposed 513-contour going through trees to remain in front; the trees along SY parking likely won't survive; and trees to remain are shown where a retaining wall / dumpster, etc. are proposed. The SAN MH RIM 508.09 (Sheet 6) in FY appears to be removed but is not indicated as such; please verify / revise.

Identify and show the proposed trees to remain line on all proposed conditions plans.

Proposed Storm MH A10 appears to conflict with the existing underground utilities ("UGT" per plan view) across the site frontage.

Show the existing storm inlets and storm piping along Rt. 100 on the Existing Conditions Plan and verify the information matches the Grading Plan.

3. Section 162-9.B(2)(b)[12] – *Any proposed improvements requiring a permit from the U.S. Army Corps of Engineers or the Pennsylvania Department of Environmental Protection shall be so indicated.*

Provide the PJD form referenced in the preliminary Jurisdictional Determination as well the "Wetland Location Plan" prepared by T&M Associates, dated 04-AUG-2023, last revised 20-SEP-2024.

4. Section 162.9.C(2)(a)[11] – Note that all waivers being requested by the applicant, as well as all waivers granted to the applicant by the Board, shall be clearly stated on the first sheet of the final plan submission. **Provide a letter to the Township outlining all current waiver requests and reasons for same.**

5. *Sections 162-9.D(1)(d) and (f) – General Notes #10 (Sheet 4) states that watercourses and wetlands shown are under review by the US Army Corps (PJD Application NAP-2009-01363-100). This note shall be on a Record Plan, updated to cite required information on the Assessment, and ~~shall~~ include the date of the JD (when obtained). Wetlands shall be clearly indicated on all plan view sheets, with Legends defining all wetland flag / data point symbols.*

The wetlands evaluation and Preliminary JD are noted on the plans (General Notes #7 & #8 on Sheet 5); these notes shall also be on a sheet to be recorded. A wetlands certification should be added to the signature sheet as well. All applicable sheet Legends shall be verified /

revised to include the wetlands line type / symbol; for example, Sheet 7 Legend defines the line type used for Wetlands on the plan view as an Easement Line.

6. *Sections 162-9.E(1)(f) – The Conservation Plan (Sheet 4) shall show all applicable items from these sections.*

All applicable items have been shown with the exception of subsection (f) regarding **all trees or portions of tree masses proposed to be cleared, together with reasons for such clearing; all proposed alterations of the natural grade, whether by cut or by fill, exceeding two feet, together with the reasons for such alteration. The response letter states that this requirement is shown on Sheet 6; however, we note that the tree clearing appears to be shown incorrectly on Sheet 6 and is required to be shown on the Conservation Plan. Please revise.**

7. *Section 162-9.H(5) – An historic resources impact statement is required when land development plans which will lead to the new construction of buildings, structures, roads, driveways, parking area, etc. is proposed within 250 feet of an historic resource. The site is within 250 feet of the "John Keeley House.*

An Historic Resources Impact Statement dated April 10, 2025, prepared by kd2 has been submitted. We defer to the Historic Commission in this matter.

8. *Section 162-9.H.(4) – The Fiscal Impact Study shall be revised per comments in the CU review letter dated April 8, 2024.*

Per the response letter the revised fiscal impact study will be revised prior to final plan approval.

9. *Section 162-47.A(1) &(4) – Permanent stone or concrete monuments shall be accurately placed at the intersection of all lines forming angles and at changes in directions of lines in the boundary (perimeter) of the property being subdivided. Currently rebar is proposed.*

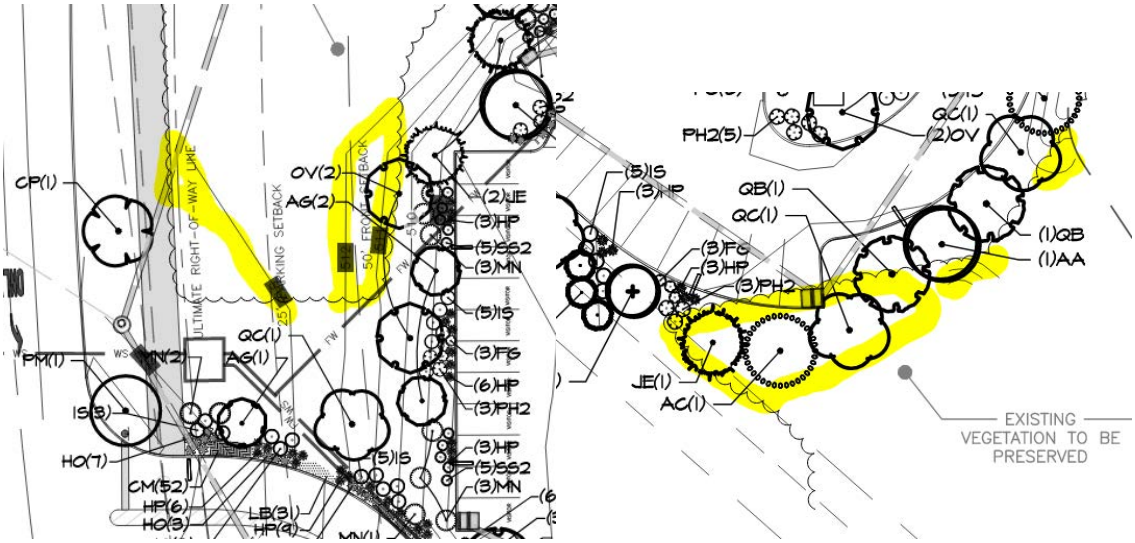
Sheet 7 should be revised to clearly show where stone or concrete monuments are proposed.

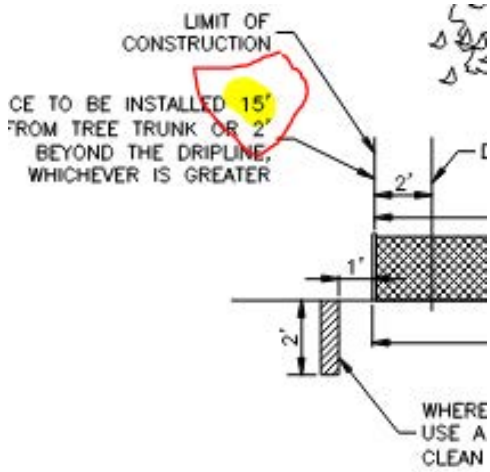
10. **(RW)** *Section 162-55.B(3)(a) – Woodland and hedgerow disturbance in excess of 10,000 square feet of existing area of woodland or hedgerow for each principal use permitted on any lot or tract shall require woodland replacement in accordance with Subsections B(6) through B(9). The plans show that 39,462 SF of existing woodland is proposed for disturbance. A waiver is being requested from Section 162-55.B to the extent required to provide a fee in lieu of required plantings. We note that the Landscape Requirements Table SALDO on Sheet 18 states "replacement requirements listed below", but there does not appear to be a quantity provided. The number of required replacement trees shall be provided. Finally, the table does not indicate a Waiver is being requested from this section, which shall be verified. The waiver request from Section 162-55.B should be revised to indicate specific subsections.*

The response indicates that a waiver has been requested, and a tree survey is scheduled to measure trees 6 inches or greater and additional calculations for replacement quantities will be provided prior to final plans approval. **The number of replacement trees required shall be provided to demonstrate compliance with the conditions of approval.**

11. *Section 162-55.B(5)(a) – Revise the Landscape Plan (Sheet 10) to include tree protection fencing. The Tree Protection and Pruning detail as well as the Orange Construction Fence / Tree Protection Fence (TPF) detail shall be added to the Landscaping notes and details sheet. The Tree Protection and Pruning detail indicates that the TPF is to be installed 15-feet from the tree trunk or 2-feet beyond the dripline of the tree. Tree Protection Notes #4 (Sheet 19) states that feeder roots of trees to be preserved shall not be cut closer than 25-feet from tree trunks. Therefore, we recommend that if accurate driplines are not shown, the TPF be shown a minimum of 25-feet from all trees to remain (conversely, show a minimum 25-foot separation between disturbance and TPF /vegetation to remain). Trees are shown to remain / be protected in the NW front/side of the site where stormwater features and grading are shown; on the southern side of the parking lot grading and plantings are shown in an area of existing vegetation to be preserved. These areas (see snippets below) shall be revised accordingly. Finally, note that if the woodland / hedgerow disturbance area increases, all replacement tree quantities should be increased.*

Note has been provided, however, these areas show proposed grading and disturbance within trees labeled as protected with disturbance less than 25 feet from the dripline. The tree protection detail on Sheet 13 indicates “fence to be installed 15 feet from tree trunk”. **Plans shall be revised to show trees to remain only if disturbance is less than 25 feet from their trunks in these areas highlighted below to demonstrate compliance with the conditions of the approval and tree protection detail should be revised to be 25 feet.**





12. **(RW)** *Section 162-55.B(6) – Where woodland or hedgerow disturbance involves more than the maximum area permitted, one tree and two shrubs shall be planted for each 300 square feet of woodland or hedgerow disturbance area, in excess of the maximum permitted area of disturbance. A waiver is being requested from Section 162-55.B to the extent required to provide a fee in lieu of required plantings. The Landscape Requirements Table SALDO on Sheet 18 indicates "Yes" to Waiver, and that 99 trees and 197 shrubs are required.*

13. **(RW)** *Section 162-55.B(7) – In addition to the vegetation replacement standards established in B(6), for each tree greater than six inches dbh removed, replacement trees shall be planted based on the requirements in this section. A waiver is being requested from Section 162-55.B to the extent required to provide a fee in lieu of required plantings; the Landscape Requirements Table on Sheet 18 indicates "Yes" to a waiver from this section. Per Section 162-9.E(1)(c), specimen trees and individual freestanding trees over six inches dbh should be shown on the plans. However, no sizes of existing trees are noted on the plans; verify whether any trees greater than six inches dbh exist.*

The response indicates a tree survey is scheduled and will be completed prior to final plan approval. **However, sizes and number of existing trees greater than six inches dbh shall be included on the plan and plans shall be revised to show the required replacement trees to demonstrate compliance with the conditions of the approval.**

14. *Section 162-55.B(12) – In lieu of actual tree replacement, the Township may, at its sole discretion, require the applicant to place the equivalent cash value, as agreed upon by the Township and the applicant, of some or all of the required replacement trees into a special fund established for that purpose. Such funds shall be utilized for the purchase and installation of trees elsewhere in the Township at the discretion of the Township, especially if the site in question cannot accommodate the replacement trees required pursuant to this chapter.*

The applicant shall discuss this with the Township.

15. *Section 162-55.D(1)(d) and 162-55.D(2) – No structures shall be placed within any riparian buffer area, and no land disturbance shall be permitted within any riparian buffer area except for regulated activities permitted by applicable state or federal regulations, and, as applicable, in accordance with Subsection **C** of this section. A waiver from Chapter 105 is being sought to permit the proposed filling of wetlands. Riparian buffer area is defined as any area within 75 feet of the bank of any stream, any wetlands and any area within 25 feet of any wetland; and any area of hydric soil.* No *structures or land disturbance* are *permitted within this buffer.*

Per the response letter, "PADEP has confirmed that no waiver is required to fill the ephemeral features onsite. The previously noted features are not considered waters of the commonwealth. The waiver request for disturbance within 75 feet is still being sought."

PADEP has concluded that the ephemeral feature is not a stream; the plans currently show the riparian buffers around the delineated wetlands. **Clarify the waiver request noted in the response. Revise the grading around the "WF" wetland area to show proposed 504-contour (near "WF5") and clarify whether grading will occur inside the buffer related to the 503-contour (near "WF7"). Clarify how the proposed retaining wall will not involve grading in the riparian buffer from the "WCC" wetlands (near "WCC8"). Verify the riparian buffer setback from the "WCC" wetlands as it does not appear correct.**

16. *Section 162-57.A(2) – The entire perimeter of any tract subject to land development approval shall include a minimum 20-foot-wide perimeter buffer planting strip which will act as an effective separation between uses. The width of the proposed buffer along the northern property line appears to be less than required with only shrubs proposed along the property line. We note that the Landscape Requirements Table SALDO on Sheet 18 indicates "Yes" to Waiver; however, this section is not listed in the Waiver Request Letter.*

The applicant shall confirm whether or not a waiver is being requested.

17. **(RW)** *Section 162-57.D(1) – All required landscaping shall meet the minimum planting requirements outlined herein. A waiver is being requested to permit providing less than the required number of plantings and we note that the Landscape Requirements table indicates that 198 deciduous trees, 180 evergreen trees and 896 shrubs are required, and that 99 deciduous trees, 54 evergreen trees and 728 shrubs are proposed.*

The shortage of 99 Deciduous trees, 126 evergreen trees and 168 shrubs shall be planted offsite and/or a fee in lieu of providing these trees shall be determined to demonstrate compliance with the approved conditions.

18. *Section 162-58.C(1) Illumination levels. The concrete area at the southwest corner of the proposed service center building does not appear to be adequately illuminated for pedestrian circulation around the building/entrance. The plan shall be revised.*

The applicant has indicated that the lighting design will be revised prior to final approval to be within the required illumination levels.

19. Section 162-58.C(2)(b) – Fixtures shall meet full-cutoff criteria. **Proposed light fixtures have an uplight rating of 2 and are not full cutoff fixtures. An alternate fixture shall be provided.**

20. *Section 162-58.C(2)(h) – Requires that LED light sources have a color temperature that does not exceed 3000K in commercial and industrial districts. It is noted that proposed lighting has a color temperature of 4000K. The plan shall be revised.*

The Luminaire Schedule indicates a 3000K color temperature whereas the catalog number indicates 4000K color. The plan shall be revised.

21. *Section 162-58.C(4)(b) – Requires that poles for lighting fixtures for parking areas be located a minimum of five feet outside paved area or on concrete pedestals at least 30 inches high above the pavement, or suitably protected from potential vehicular impact. The Light Base detail provided on Sheet 20 Lighting Details specifies a height of only 2'-0" for lights within 5' of vehicular traffic.*

The detail shall be revised.

22. *Section 162-58.D(1)(a) – Requires the lighting plan to show vegetation that might interfere with lighting. It is noted that the proposed vegetation is not shown on Sheet 11 Lighting Plan, however in comparison to Sheet 10 Landscape Plan, it appears there may be multiple conflicts between proposed vegetation and lighting. The plan shall demonstrate that landscape and lighting have been coordinated.*

Several canopy trees within the parking area are in close proximity to proposed light fixture locations; landscape and lighting shall be coordinated.

23. *Section 162-58.D(1)(c) – Requires that fixture catalog cut sheets be provided. It appears that the fixture cut sheets provided on Sheet 20 Lighting Details do not coordinate with the catalog numbers of the fixtures listed in the Luminaire Schedule on Sheet 11 Lighting Plan. Cut sheets for all proposed fixtures shall be provided.*

Cutsheets for proposed fixtures have been provided; however, the alternative fixtures shall be selected since they do not meet full-cutoff criteria.

VI. TOWNSHIP ENGINEER'S COMMENTS – STORMWATER MANAGEMENT ORDINANCE GILMORE & ASSOCIATES

1. **(RW)** *Section 152-301.T – Disturbance of existing ground cover during construction of the proposed regulated activity is prohibited within 75 feet of top-of-bank of all perennial and intermittent waterways, water bodies (lakes, ponds, etc.) and wetlands, except for activities otherwise approved by state or local agencies (e.g. stream restoration projects, road crossings, subsurface utility projects, etc. The plans show disturbance less than 75-feet from wetlands. The applicant is seeking a waiver from this requirement. Per Section 152-111.C, the Board of Supervisors cannot grant a waiver or modification of any regulated stormwater activity involving earth disturbance*

greater than or equal to one acre unless that action is approved in advance by PADEP or the Chester County Conservation District. Please provide approval from PADEP or the Chester County Conservation District for the Boards consideration.

Please provide approval from PADEP or the Chester County Conservation District for the Boards consideration.

2. ***Sections 152-302.A and C – Permits for all regulated activities subject to permit or regulatory requirements by PADEP under regulations at Title 25 Pennsylvania Code Chapter 102 and any BMP or conveyance that would be located in or adjacent to surface waters of the commonwealth, including wetlands, subject to permit by PADEP under Title 25 Pennsylvania Code Chapter 105 are required prior to construction.***

3. *Section 152-303.A(1) – A "letter of adequacy" from the Conservation District and an NPDES permit are required for the project. Copies of all correspondence shall be provided to the Township.*

4. *Section 152-305.A – The post-construction total runoff volume shall not exceed the predevelopment total runoff volume for all storms equal to or less than the two-year, twenty-four-hour duration precipitation (design storm). Infiltration is not proposed, as the testing showed the site does not infiltrate. Please provide verification the required volume will be managed by the MRC Basin.*

Infiltration testing results have been provided which show that the site does not provide acceptable infiltration rates. As such a waiver must be requested. We would support the waiver as an MRC (Slow Release Basin) is being proposed.

5. **(W)** *Section 152-306.D – Only if a minimum infiltration of the first ½ inch of runoff volume cannot be physically accomplished on the site, shall a waiver from Section 152-306 be considered by the municipality in accordance with Section 152-111 (the Board of Supervisors cannot grant a waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one acre unless that action is approved in advance by PADEP or the Chester County Conservation District). Infiltration testing indicates the site does not infiltrate. Please provide approval from PADEP or the Chester County Conservation District for the Boards' consideration.*

The Applicant has indicated in his response letter Approval from PADEP will be forwarded once received. It is important to note, it is our understanding the Board cannot take action on this application until this is received.

6. *Section 152-311.G(6) – At all inlets or manholes, the maximum allowable headwater depth shall be one foot below the top of the inlet grate of the manhole cover. Once the upstream drainage area has been verified, compliance can be determined.*

MH A10 and MH A9 appear to be less than one foot headwater depth, which shall be verified.

Drainage computations have been provided for the 100-year storm which show there is surcharging in inlets during this event. This is acceptable, so long as the system can adequately pass the 25-year storm. **Computations should be provided confirming this.**

MHs A11, A10 and A9 are not shown in the Node Summary for pipe capacity (pg. 320/549) which shall be verified.

7. **(W)** *Section 152-311.H(1) – The maximum depth of water in a detention or retention basin shall be two feet as a result of a 2-year, twenty-four-hour storm event and five feet as a result of a 100-year, twenty-four-hour storm event. The plans and report indicate there will be a permanent water depth in the basin of five feet, with a total depth of 6.65-feet during the 2-yr. storm event and a total depth of 8.48-feet during the 100-yr. storm event. Therefore, the water depth maximums have been exceeded and a waiver will need to be sought. In accordance with Section 152-111, the Board of Supervisors cannot grant a waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one acre unless that action is approved in advance by PADEP or the Chester County Conservation District. Please provide approval from PADEP or the Chester County Conservation District for the Boards' consideration.*

The Applicant has indicated in his response letter Approval from PADEP will be forwarded once received. It is important to note, it is our understanding the Board cannot take action on this application until this is received.

8. *Section 152-311.H(3) – Emergency spillways for facilities which may attenuate more than three feet of water, shall be paved with concrete monoslab pavers which shall run off the sides and down each side of the berm. Revise the spillway detail accordingly.*

Per the response, the "spillway has been revised to be lined with cable concrete from the interior of the embankment to the outer edge of the spillway. The area from the outer edge of the spillway to the tow of the slope will be lined with Typar Grassprotecta Blanket due to avoid disturbance within the wetland buffer. Earth disturbance shall not occur during installation of the Typar. A partial waiver for this section will be requested. See detail on Sheet 30 (PCSM-DTL-1)." **Clarify what partial waiver request is being sought. Show the wetlands, the riparian buffers and the extents of the erosion blanket on the PCSM plan. Show the wetlands and the riparian buffers on the E&S plans. Provide a detail for the erosion blanket.**

9. *Section 152-402.B(8)(q) – Boundaries of a seventy-five-foot construction non-disturbance buffer to protect streams (intermittent and perennial), wetlands and other water bodies during construction of the proposed regulated activity shall be shown on the PCSM plan. We note the applicant is requesting a waiver from this requirement in Section 152-301.T.*

10. *Sections 152-402.B(18)(c), 152-702.A(10), 152-704.A and 152-704.B – Verify that all proposed easement information is shown. We recommend that a blanket easement be provided, which should be noted on the Record Plan as well as the PCSM Plan.*

The plans indicate a blanket easement is proposed to be granted. **The notes should be revised to include "to grant the municipality the right of access to all BMPs and conveyances for the purposes of inspection and enforcement of the requirements of this chapter, and any applicable O&M plans and O&M agreements."**

11. *Section 152-402.F – The documents outlined in this section shall be prepared and submitted to the municipality for review and approval as part of the SWM site plan for each BMP and conveyance included in the SWM site plan. Verify that all applicable items are provided.*

    Per the response letter, these will be provided prior to final plan approval.

12. *Section 152-404.H – All of the final approved SWM site plans shall be recorded (as "recorded plans") per the instructions of the municipality. For clarity we recommend a notation be added to the plans stating which SWM plans are to be recorded.*

    The notation "Record Plan Sheet 18 [through 22] of 22" has been added to the PCSM plans. **Unless the applicant intends to record the PCSM plans twice, this should be revised as these plans will be recorded with the stormwater agreement.**

13. *Sections 152-701.D, 152-701.E, 152-701.F and 152-703 – All agreements and plans (i.e., O&M agreement, O&M plan, deed restrictions, right of entry, covenants, etc.) shall be provided for approval and recorded as outlined in these sections.*

    Per the response letter, these will be provided prior to final plan approval.

14. **The I-1.13 UNDIST 0.60AC shall be revised as this area includes proposed parking.**

15. *Revise BMP Specifications (Sheet 30) to provide the actual proposed plantings on the plans.*

    Please revise the plans to include the specified seed mixture and provide cut sheet information showing the actual type of seed mix and percentage of species information for all 3 seed mixtures to satisfy this comment.

16. **Add ID numbers to all stormwater structures and BMPs on the PCSM Plan, show storm manholes and the drywell / seepage pit.**

17. **A Cistern has been added (Detail Sheet 31), no elevations or inverts have been provided. On all plan views, show the riser / manhole and all related discharge piping. Pond Report (pg. 167/549) lists 740 CF as storage whereas detail lists 3,043; however, the cistern is to be modeled as "dead storage". Clarify that the cistern is not modeled as storage; the report shows it being routed to the basin. Clarify location of OCS A2 detail.**

18. **Label the structure near MH 1.8A, Sheet 34.**

19. **Verify discharge pipe from MRC basin: report routing (186/549) has 24" discharge pipe at 70'; basin profile sheet 32 shows 31 LF; OS detail 35.5 LF; plan view sheet 9 31.2 LF. Clarify how TW in MH 1.10 is accounted for; i.e., offsite bypass flow. Verify size of MH 1.10 (4' per sheet 9), i.e., 24" RCP pipe in, 24" HPDE pipe in, 36" RCP pipe out.**

20. **Sheet 32 basin profile, clarify why there are two INV OUT and no INV IN for OCS A1.**

21. **OCS A1 detail (Sheet 30), 6" DIP INV 491, 24"x11" orifice INV 491.90 (0.4' above ID 6" DIP). Verify clearance?**

22. **Rename HW A1 or EW A1; i.e., OCS A1, HW A1, EW A1…**

23. **Remove existing steep slope shading from the PCSM Plan.**

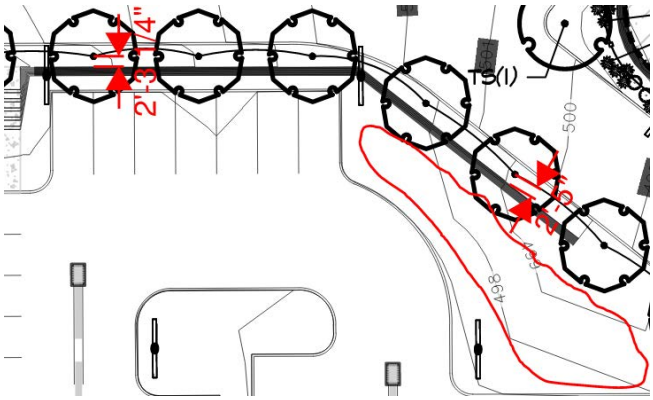
24. **Remove the Proposed Stormwater Management Basin outline (Sheet 7) from the Landscape Plan.**

VII. TOWNSHIP ENGINEER'S COMMENTS – GENERAL GILMORE & ASSOCIATES

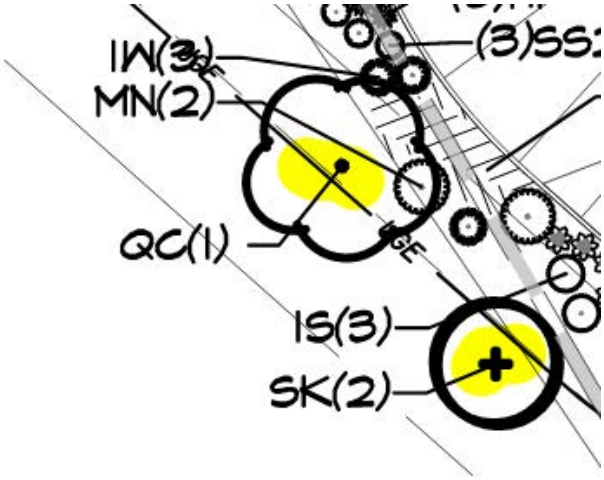
1. *Trees are planted less than 4-feet from retaining walls in numerous locations, located less than 10-feet from utilities (storm, sanitary, etc.) in several locations, and are on the UGE utility line between Pottstown Pike and the parking, all of which should be revised.*

   The response indicates that "Trees have been relocated to at least 4 feet from retaining walls and 10 feet from utilities where possible. Tree species provided within proximity to retaining walls and underground utilities are selected based on smaller size to avoid conflict to the greatest extent feasible. Trees planted along retaining walls are located at the bottom of the wall at the maximum distance away."

   Plans propose 5 Ostrya virginiana less than 2.5 feet away from the top of the wall in the area of the parking lot east of the Service Center. **These trees can grow to 25 to 40 feet tall with a spread of 20 to 30 feet wide and should be relocated to the bottom of the wall near elevation 498 and 499 to avoid conflicts to demonstrate compliance with the conditions of the approval.**



Additionally there are 2 trees located within four feet of the UGE line along Pottstown Pike that need to be revised to be 10 feet from utilities to demonstrate compliance with the conditions of the approval (highlighted in yellow below).



2. *The retaining wall is over 4-feet in height; engineered design drawings and details are required. General Notes #2 (Sheet 8) states the contractor to refer to retaining wall plans by others for storm conveyance penetration details; this note shall be on the Record Plan and shall reference the retaining wall plans and calculations (i.e., by title / preparer and note latest approved [revision] date).*

Additional retaining walls are proposed, all of which are over 4 feet in height. **Provide fencing for the interior retaining walls and verify that the fence along the Basin 1 retaining wall should end as shown. Verify the 497-contour near MH 1.0 and clarify whether depressed curb is proposed along the curb radius. The General Notes #1 on Sheet 7 shall be revised to**

reference the retaining wall plans and calculations (i.e., by title / preparer and note latest approved [revision] date).

3. *Based on proposed stormwater structure depths (i.e., MH A9 and MH A8 less than 3-feet from property line), it appears that grading may occur on the northern adjacent property; this shall be verified.*

MH A9 has a proposed RIM 515.42 with the existing pipe INV ±514.36 (Sheet 6) and ±514.35 (Sheets 4 & 5). Verify the INV IN (EXG-IN1) of 512.35. Finally, INV OUT is 500.17, 15-feet lower than grade. **Clarify how no grading will occur on adjacent property. Show the existing pipe to MH A11 on Sheets 4 & 6; while shown on Sheet 5, no pipe information is provided.**

4. **Morella Pensylvanica is noted in the plant list and should be corrected to be Myrica Pensylvanica.**

VIII. TOWNSHIP TRAFFIC ENGINEER'S COMMENTS BOWMAN

Conditional Use Decision and Order

1. Condition 6 – Subject to PennDOT approval, the applicant shall fund and install a traffic signal at the site access intersection with Pottstown Pike/Font Road. Based on a meeting with the applicant and PennDOT on March 7th, and based on the revised traffic study, a traffic signal is now recommended as warranted, and is proposed as part of the development. Although unlikely at this time, but per the condition, if PennDOT ultimately does not approve a traffic signal, then the applicant shall be responsible to fund and install other intersection improvements or restrict turning movements at the access intersection. The applicant should continue to coordinate with the Township and copy the Township on all correspondence with PennDOT.

2. Condition 7 – As required by this condition, the land development plans show a 125-foot southbound Pottstown Pike left-turn lane for traffic entering the site. This should also be reflected on the PennDOT Highway Occupancy Permit (HOP) plans and within the updated traffic study. The design will be reviewed further during the HOP plan review.

3. Condition 8 – Subject to PennDOT approval, the plans shall be revised to show a northbound Pottstown Pike right-turn deceleration lane or taper at the driveway intersection. As detailed in this condition, the Township prefers the deceleration lane but also understands that PennDOT review and approval is required. As discussed at a March 7th meeting with the applicant and PennDOT, the Township and PennDOT will review the revised traffic study to determine if a deceleration taper is sufficient in lieu of the warranted right-turn deceleration lane.

The revised traffic study demonstrates acceptable traffic operations with a traffic signal at this location with only a right-turn taper. Subject to agreement by PennDOT, if the right-turn deceleration lane is not required at this time, then we recommend a condition of approval that the

right-turn deceleration lane will be required by this applicant if it is determined there is a safety or operational issue at this intersection in the future after the development opens. Furthermore, we understand the applicant proposes to modify and expand operations at this site in the future to also allow auto sales. At that time, an updated traffic study will be required to include evaluation of the warrants for a right-turn deceleration lane. The detailed design of the access intersection and the right-turn deceleration taper (or lane if required by PennDOT) will be reviewed as part of the PennDOT HOP plan submission. The applicant should continue to coordinate with the Township and copy the Township on all correspondence with PennDOT. The land development plans should be revised to reflect the final access improvements subject to further evaluation and coordination with the Township and PennDOT.

4. Condition 10 – As required by this condition, the land development plans have been revised to show a 10-foot wide multi-use trail along the site frontage.

5. Condition 11 – As required by this condition, the applicant shall coordinate with the Township to provide a public trail on this property to provide a connection to the trails at the Township Park on Fellowship Road. The Township's Active Transportation Plan envisions a "Yield Roadway" which follows the alignment of an existing private driveway, a portion of which is located within the northern portion of this site. The goal of this yield roadway is to provide access to the Township Park on Fellowship Road. The applicant's engineer indicates a trail connection to the Township Park is not feasible at this time. However, we request the applicant explore providing an on-site trail which connects between the proposed Route 100 multi-use trail and the existing private drive along the northern property edge within the 15-foot parking setback. We recommend the applicant schedule a meeting with the Township to review this further.

6. Condition 12 – The proposed development is located in the Township's Act 209 Transportation Service Area, and as such, this development is subject to the Township's Transportation Impact Fee of $2,334 per weekday afternoon peak hour trip. Based on the traffic study, the site will generate 96 weekday afternoon peak hour trips, and therefore, the Transportation Impact Fee is $224,064.

Transportation Impact Study

7. The traffic study should be updated relative to the Pottstown Pike/Font Road intersection to include the eastbound Font Road channelized right-turn moment as part of the traffic signal.

Land Development Plans

8. ZO Section 200-75.H(3) – As previously requested, the limits of the plan information along Pottstown Pike should be expanded to show the full extent of the labeled sight distances. As currently shown, we are unable to verify whether the sight distance lines are shown correctly. In addition, the plans should dimension and label the sight distances for left-turn vehicles entering the proposed driveway looking ahead and behind. Furthermore, the plans should include a PennDOT-

style sight distance note. The available and required sight distances shown on the plan should match with the information provided in Table 4 of the traffic study.

9. SALDO Section 162-28.A – The applicant's engineer should verify whether the right-of-way line along the site frontage is an ultimate right-of-way (as currently labeled) or the existing legal right-of-way line.

10. The Township's Active Transportation Plan envisions a "Yield Roadway" along the alignment of the private drive through the northern edge of the property. We recommend a 30-foot wide easement should be provided along the existing private drive to accommodate this future yield roadway. The applicant's engineer indicates that this comment requires additional coordination with the Township and shall be satisfied prior to final plan approval. We recommend the applicant set up a meeting with the Township to discuss prior to the next plan submission.

11. Detailed designs for all proposed curb ramps located within public right-of-way or for public use 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, label all proposed curb ramp types, and provide the appropriate PennDOT curb ramp details and notes on the detail sheets. The applicant's engineer indicates this information will be provided as part of the PennDOT HOP design. Preliminarily, we note the following comments regarding the proposed multi-use trail:

    a. As currently shown, the multi-use trail crossing of the site access occurs behind the stop bar. We recommend the crossing should be moved closer to Route 100 and the stop bar should be placed four feet behind the crosswalk.

    b. The applicant should consider squaring off the multi-use trail at the southern property line for constructability.

12. Since retaining walls are shown throughout the site, we question whether fence is needed in areas of anticipated pedestrian activity, if any. Also, we question whether a railing is needed for the stairs near the northeast corner of the building. Our office will defer to the Township Engineer on this matter.

IX. TOWNSHIP PLANNER COMMENTS BRANDYWINE CONSERVANCY

1. Given that the applicant simply noted some of the previous comments of the Conservancy, some of these have been left below (in *italics*) for reference purposes. The Conservancy still encourages the Township to seek a full fee-in-lieu of the required plantings to support additional tree planting elsewhere in the township, especially given the two grass species (a total of 199 plants) are still shown as counting toward the shrub requirement. The general botanical definition of a shrub is a woody plant that is smaller than a tree, typically having multiple stems arising from near its base.

Neither the panicum nor pennisetum meet this definition. The Conservancy also notes the inclusion of a Historic Impact Statement, fulfilling the requirement of Section 162.9.H(5) of the Subdivision and Land Development Ordinance.

2. *The Conservancy notes the applicant has requested several waivers to various Township ordinances. These are:*

   a. *Chapter 152, Stormwater Management, Section 152-301.T – General Requirements.*
      i. *The Brandywine Conservancy suggests the Township seeks advice from its engineer and/or a qualified wetland specialist to determine if the claims of the applicant, that the wetlands are manmade and of poor quality, are accurate and to then base their waiver decision on information obtained from the appropriate professional consultant.*

   b. *Chapter 162, Subdivision and Land Development, Section 162-55.B – Woodland Replacement*
      i. *The Brandywine conservancy recognizes that the proposed use, development, and layout of the site makes conforming to this Section of the Subdivision and Land Development Ordinance difficult. If the Township moves to grant this Waiver, the Brandywine Conservancy strongly encourages the Township to seek a full, fee-in-lieu of the required plantings to support additional tree planting elsewhere in the township.*

   c. *Chapter 162, Subdivision and Land Development, Section 162.57.D(1) – Minimum Planting Standards*
      i. *Like the previous Waiver, the Brandywine Conservancy recognizes that the proposed use, development, and layout of the site makes conforming to this Section difficult. The Conservancy suggests the applicant examine whether additional plantings can be made within the constructed stormwater wetland to increase the number of plantings and reach closer to the goal.*

      ii. *Related to this item, the Conservancy notes that two grass species (totaling 199 plants) have been included within the shrub table on sheet 18. Without these grasses (which don't meet the definition of a shrub), the shrub total would be lower still.*

3. The Brandywine Conservancy notes that the applicant stated in their response letter that vegetative cover and seed mix has been added to the stormwater feature on sheet 33 (PCSM-NTE). However, the only reference found was in note BMP 6.5.1 3, 'seed plant and mulch according to planting plan'. However, the Landscape & PCSM Plan (sheet 11), nor the Landscape Notes and Details (sheet 12) show any indication of a seed mix or vegetative cover for the areas shown as low and high wedge marshes on sheet 32 (PCMS-CWD), or below the elevation of the FACW Meadow Seeding Mix (ERNMX-122) on sheet 11 (LSP). The Conservancy suggests these new details be added to sheet 11.

4. The Brandywine Conservancy is pleased to see the incorporation of a 10' wide asphalt trail along Pottstown Pike, consistent with its recently adopted Active Transportation Plan. However, we suggest the Township seek advice from their traffic engineers to determine if the proposed island between the entryway and exit is sufficient in size, and designed and constructed in a manner that it can act as a safety refuge for pedestrians crossing the entrance to the development.

5. The proposed plant material still contains several non-native species. The Conservancy encourages the applicant to seek alternative native plants for those non-native species currently included in the plan.

X. TOWNSHIP SEWER AUTHORITY ENGINEER COMMENTS
ARRO

1. The plans propose the construction of a 45,774 square foot (SF) service center, with a lot for vehicular sales and service uses of 358 spaces on the site. The applicant's engineer has been working with ARRO to determine the required capacity need for the proposed site. The required capacity will need to be purchased by the applicant prior to connection into the sanitary sewer system.

2. Currently, there is no sewer main within the Pottstown Pike's (SR 0100) right-of way to connect this site to public sanitary sewer. Based on discussions with the applicant's engineer, in the interim they propose, a temporary holding/retaining tank serve the site. We offer the following :

    - The temporary holding/retaining tank shall be only for the proposed service center employees, not more than 225 gallon per day.
    - The applicant shall be responsible for the ownership, maintenance, and all hauling disposal costs.
    - It must comply with all requirements of Upper Uwchlan Township Codes and Ordinances, the Chester County Health Department and Pennsylvania Department of Environment.
    - Ultimately the connection into the sanitary sewer system conveying to the Route 100 wastewater treatment plant.
    - The proposed design is subject to review and approval. The appropriate construction details shall be provided on the plan.

3. 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.

4. Sewage facilities planning module (SFPM) approval will need to be obtained by the Pennsylvania Department of Environmental Protection (PADEP).

5. The appropriate Standard Authority Sanitary Sewer Details shall be added to the plans.

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

XI. TOWNSHIP FIRE MARSHAL COMMENTS

Comments (If any) will be provided under separate cover.

XII. HISTORICAL COMMISSION COMMENTS

Comments (If any) will be provided under separate cover.

This concludes our second 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.

Reference: 500 Pottstown Pike – Chester Springs Service Center
Preliminary Land Development Plan – Second Review
Upper Uwchlan Township, Chester County, PA

File No. 23-01103
May 2, 2025

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
Rob Daniels – Brandywine Conservancy
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. Cameron Wolfson, Esq. – RRHC

Upper Uwchlan Township
Historical Commission
5/6/2025

Historic Resources Impact Statement Worksheet and Report
500 Pottstown Pike — Porsche Service Center
Historic Resources Impact Statement Dated 4/10/2025

A. Is Historic Resources Impact Statement (HRIS) under Section 162-9H(5) Required?

Ordinance Requirement	Yes	No	Comments
1. Is there one or more historic resources identified in the "Historic Resources Inventory: Upper Uwchlan Township, Chester County, Pennsylvania (Wise Preservation Planning, 2001)" on or within 250 feet of the proposed action (see #2 immediately below)?	**YES, THE JOHN KEELEY HOUSE, CLASS II IS ACROSS POTTSTOWN PIKE ON A SEPARATE TAX PARCEL** If yes, continue Worksheet	If no, stop! No HRIS required!	**JOHN KEELEY BARN, CLASS II, RECENTLY ADDED TO HISTORIC RESOURCE INVENTORY, ADJACENT TO PROPERTY**
2. Is the Historic Resource within 250 feet of the proposed action?	**YES** If yes, continue Worksheet	If no, stop! No HRIS required!	250 foot requirement has been measured from closest property line of property where proposed action will take place to Historic Resource

3. Is the proposed action subdivision or land development plans that lead to new construction of buildings, structures, roads, driveways, parking area, etc.?	**YES, NEW + or - 45,774 SQ. FT. CAR SERVICE CENTER WILL BE BUILT W/ 358 PARKING SPACES** **Also, trash enclosure and battery burnout shelter** If yes, skip to Section B	If no, continue this Section A	See definition of subdivision, land development and structure in section 162-5 if unclear proposed action is covered **Note increase in proposed building's size and reduction on parking spaces.**
4. Is the proposed action subdivision or land development plans that propose adaptive reuse or demolition of historic resources as identified in this chapter?	If yes, skip to Section B	If no, continue this Section A	
5. Is the proposed action general bridge or road construction or substantial repair?	If yes, skip to Section B	If no, continue this Section A	
6. Is the proposed action another land development, land disturbance, or exterior structural alteration?	If yes, skip to Section B	If no, continue this Section A	
7. Is the proposed action any conditional use application?	If yes, skip to Section B	If no, continue this Section A	
8. Is the proposed action any planned credential development application?	If yes, skip to Section B	If no, continue this Section A	
9. Is the proposed action any special exception or zoning variance request?	If yes, continue to Section B	If no, stop! No HRIS required!	

B. May the HRIS be Waived?

In the Decision and Order for the conditional use approval, the BoS stated in the Discussion Section that the applicant has requested a waiver from the HRIS requirement, although required under the Ordinance. The BoS also stated that during the land development process, the BoS would examine the historical studies and reports that had been submitted to the Township when the John Keeley House was approved for adaptive reuse as a bank. In addition, the BoS stated that it would analyze if additional information that Section 162-9H would require applicant to include in an HRS would be helpful or meaningful to the BoS's review of the land development plans and impact the proposed development of the property on the historic resource across the street. It would appear that the BoS has already decided to not grant a total waiver, but may grant a partial waiver based on its analysis of the information submitted for the John Keeley House's 2006 adaptive reuse as a barn.

Please note that it is the HC's preference that the applicant submit a new updated HRIS focused on the property being developed rather than rely on the 2006 HRIS that focused on the John Keeley property almost 20 years ago.

Ordinance Requirement	Yes	No	Comments
Are specific requirements inapplicable to preliminary or land development application?	If yes, BoS or Zoning Hearing Board, as applicable, may modify requirements, and waive HRIS.	**NO** If no, HRIS is required and continue to Section C.	This provision has been viewed as permitting the BoS to waive all or part of the HRIS requirements.

C. Has the HRIS Been Presented to the Historical Commission?

YES — APPLICANT SUBMITTED AN HRIS, DATED APRIL 10, 2025

Ordinance Requirement	Yes	No	Comments
Has the HRIS been presented by the applicant for discussion at an Upper Uwchlan Historical Commission meeting?	**YES** If yes, continue to Section D.	If no, applicant must satisfy requirement.	

D. Is the HRIS Preparer a Qualified Professional? UNCLEAR

Ordinance Requirement	Yes	No	Comments
Is the preparer a qualified professional in historic preservation, historical architecture, planning or related disciplines?	**UNCLEAR — PREPARER IS KEVIN DOWELL, AN ARCHITECT.** **NO INFORMATION WAS PROVIDED REGARDING WHETHER HE IS A "QUALIFIED PROFESSIONAL" IN HISTORIC PRESERVATION, HISTORICAL ARCHITECTURE, PLANNING OR RELATED DISCIPLINES.** If yes, continue to Section D.	If no, the HRIS must be rejected and resubmitted by a qualified professional.	**MORE INFORMATION SHOULD BE REQUESTED TO SHOW MR. DOWELL IS A "QUALIFIED PROFESSIONAL."**

E. Does the HRIS Satisfy the Content Requirements?

Each of the Ordinance requirements listed below must be satisfied, subject to the exception in Section F of the Worksheet.

The HC's review below is based on whether the information submitted in the applicant's April 10, 2025 HRIS, plus the 2006 HRIS submitted for the John Keeley House in connection with its adaptive reuse, taken together satisfy the HRIS requirements for the proposed project.

Ordinance Requirement	Yes	No	Comments
1. Unless otherwise provided by applicant, does the HRIS have the general site plan and description, including topography, watercourses, vegetation, landscaping, existing drives etc.		**NO. UNLESS, THE APPLICANT ALEADY PROVIDED THIS INFORMATION WITH ITS LAND DEVELOPMENT PLAN**	**It is our understanding that this information has already been provided separately to the Township in the Preliminary Land Development Plan, but the Township should confirm.**

2. Does the HRIS have a general description and classification of all historic resources, including archeological resources as may be identified by Pennsylvania Historical and Museum Commission located on subject tract, on tracts immediately adjacent to subject tract or road or within 250 feet of subject tract or road?	**YES, THE JOHN KEELEY HOUSE AND BARN ARE COVERED IN THE 2006 HRIS. PRESUMABLY, IF THERE WERE ANY HISTORIC RESOURCES (OTHER THAN ON THE INVENTORY) THEY WOULD HAVE BEEN COVERED.**		Although only an historic resource on the Township's inventory triggers an HRIS, this provision has been interpreted to apply a broader meaning to "historic resource" for purposes of this requirement and others that refer to it.
3. Does the HRIS have a physical description of significance of all historic resources identified in #2 immediately above?	**YES, COVERED IN 2006 HRIS.**		
4. Does the HRIS have a statement of significance of each historic resource, both relative to the Township and region in general?	**YES, COVERED IN 2006 HRIS.**		
5. Does the HRIS have a narrative description of historical development of subject tract or road?		**NO. THIS MUST BE PROVIDED OR WAIVED BY BoS.**	**HC RECOMMENDS THAT THIS INFORMATION BE PROVIDED AND NOT WAIVED.**
6. Does the HRIS have sufficient number of 8-inch by 10-inch photographs to show every historic resource identified in #2 above in its setting?	**YES, BUT 2006 PHOTOS OUTDATED.**	**NO NEW PHOTOS PROVIDED.**	**HC RECOMMENDS UPDATED PHOTOS BE PROVIDED AND NOT WAIVED.**
7. Does the HRIS have a general description of the project, including a timetable of phases?		**NO TIMETABLE. THIS MUST BE PROVIDED OR WAIVED BY BoS.**	

8. Does the HRIS have a description of the impact on each historic resource identified pursuant to the HRIS Ordinance Section, with regard to architectural integrity, historic setting or landscape and future use?		**YES, AS TO JOHN KEELEY HOUSE, BUT NOT THE BARN.** **2025 HRIS STATES "WITH A DENSE VEGETATIVE BUFFER, IT IS ANTICIPATED THAT THERE IS NO IMPACT TO THE ARCHITECTURAL INTEGRITY, HISTORIC SETTING OR LANDSCAPE."**	**THE HC IS CONCERNED THAT ITS RECOMMENDATION TO PROVIDE A BUFFER OR SCREENING FOR THE JOHN KEELEY BARN DOES NOT SEEM TO HAVE BEEN FOLLOWED. THIS IS EVEN MORE IMPORTANT NOW SINCE THE BoS RECENTLY ACKNOWLEDGED THE HC'S ADDITION OF THE BARN TO THE HISTORIC RESOURCE INVENTORY.** **HC RECOMMENDS DENSE VEGETATIVE BUFFER BE PROVIDED FOR JOHN KEELEY BARN TOO.**

9. Does the HRIS have a general description of the effect of noise and traffic and any other impacts generated by the proposed change on each historic resource?		**YES — 2025 HRIS STATES "THERE IS MORE THAN 200-FEET HORIZONTALLY BETWEEN THE PROPOSED BUILDING AND PARKING AREA AND THE JOHN KEELEY HOUSE. AT THAT DISTANCE, SOUND DECIBELS GENERATED ARE ALMOST HALVED FROM THEIR SOURCE. ADDITIONALLY, 500 POTTSTOWN PIKE IS AN ACTIVE ARTERIAL ROADWAY AND DUE TO ITS OPERATION AND DISTANCE TO THE JOHN KEELEY HOUSE, GENERATES NOISE FAR BEYOND WHAT IS ANTICIPATED FROM THE PROPOSED SERVICE CENTER. THE PROPOSED SERVICE CENTER OPERATIONS ARE RESERVED FOR HIGHER-END LUXURY VEHICLES AND TRAFFIC GENERATED BY THE NEW DEVELOPMENT IS ANTICIPATED TO GENERATE SIGNIFICANTLY LOWER VOLUME THAN OTHER BY-RIGHT USES IN THE UNDERLYING ZONING DISTRICT."**	

10. Does the HRIS have recommendations for mitigating the proposed project's impacts on historic resources, including design alternatives, screening in accordance with section 200-77, landscaping in accordance with section 200-78 and any other appropriate measures permitted under the terms of this and other Township ordinances?		**YES — 2025 HRIS STATES "MITIGATION MEASURES PROPOSED AS PART OF THIS PROJECT INCLUDE MAINTAINING THE EXISTING VEGETATIVE BUFFER BETWEEN PROPERTIES, ADDITIONAL LANDSCAPING IN THE FRONT YARD OF 500 POTTSTOWN PIKE, AND LOWERING OF THE FIRST FLOOR ELEVATION OF THE BUILDING TO THE EXTENT PRACTICABLE TO FURTHER MITIGATE IMPACT OF THE VIEWSHED FROM THE JOHN KEELEY HOUSE.**	

F. May Some Requirements of the HRIS be Waived?

Ordinance Requirement	Yes	No	Comments
Are specific requirements inapplicable to preliminary or land development application?	**YES, AS TO INFORMATION IN THE 2006 HRIS AND AS OTHERWISE NOTED ABOVE.** If yes, BoS or Zoning Hearing Board, as applicable, may modify requirements.	If no, all HRIS requirements must be met.	This provision has been viewed as permitting the BoS to waive or modify all or part of the HRIS requirements.

G. Has the Historical Commission Reviewed and Provided Report?

YES

Ordinance Requirement	Yes	No	Comments
Has the HC reviewed the HRIS and provided its evaluation and recommendations in a written report?	**YES. THIS WORKSHEET AND REPORT REFLECT THE HC'S EVALUATION AND RECOMMENDATIONS.**		

architecture
interiors
planning

Historic Resources Impact Statement

Application of Rockhill Real Estate Enterprises XVII, LP
500 Pottstown Pike

April 10, 2025

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

Mr. Scheivert,

On behalf of Rockhill Real Estate Enterprises XVII, LP, this Historic Impact Statement is submitted in connection with the proposed development of 500 Pottstown Pike ("Property"), pursuant to Section 162-9.H(5) of the Upper Uwchlan Township Subdivision and Land Development Ordinance. The Chester Springs Service Center project on the Property is proposed to be completed in a single phase, which includes the construction of a ±45,774-sf vehicular service center with associated parking areas, a trash enclosure, battery burnout shelter, and new driveway connection to Pottstown Pike. Pedestrian walkway elements, stormwater management improvements, and utility connections are also proposed as part of the development.

The viewshed from the street will include landscaping, a parking area, and the front façade of the proposed building.

There are no Upper Uwchlan Township ("Township") Historic Resources located on the Property. One Township Historic Resource, a Class II Historic Resource known as the John Keely House, identified as Township Historic Resource #30, is within 250 feet of the proposed development and is across Pottstown Pike from the Property at 210 Font Road. The John Keely House has been adaptively reused and is currently occupied by a WSFS bank branch.

The Landscape Plan included as part of the Preliminary Land Development Plan provides for retention of "as much of the existing mature and healthy vegetation along the northwestern corner of the Property as is feasible and sensible given the health of the vegetation" pursuant to Condition 4 of the Conditional Use Decision and Order dated July 15, 2024 for the proposed development. Regarding the line of sight from the John Keely House, this existing dense vegetative buffer is proposed to remain in accordance with Condition 4. Additional trees and vegetation, if necessary, will also be included as required by Condition 4. It is intended that the line of sight from the John Keeley House remains largely unchanged as result of the proposed development. With a dense vegetative buffer, it is anticipated that there is no impact to the architectural integrity, historic setting or landscape.

Additionally, the proposed building will sit roughly 100' behind the front building setback line and between 6' and 7' below street level to further reduce sightline impact to the John Keely House.

There is more than 200-feet horizontally between the proposed building and parking area and the John Keeley House. At that distance, sound decibels generated are almost halved from their source. Additionally, 500 Pottstown Pike is an active arterial roadway and due to its operation and distance to the John Keeley House, generates noise far beyond what is anticipated from the proposed Service Center.

The proposed Service Center operations are reserved for higher-end luxury vehicles and traffic generated by the new development is anticipated to generate significantly lower volume than other by-right uses in the underlying zoning district.

Mitigation measures proposed as part of this project include maintaining the existing vegetative buffer between properties, additional landscaping in the front yard of 500 Pottstown Pike, and lowering of the first floor elevation of the building to the extent practicable to further mitigate impact of the viewshed from the John Keeley House.

Thank you,

Kevin Dowell AIA, LEED AP BD+C
Kd2 architects, inc.



PRELIMINARY LAND DEVELOPMENT PLANS

CHESTER SPRINGS SERVICE CENTER

UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

ZONING AND STORMWATER WAIVERS

THE BOARD OF SUPERVISORS APPROVED THE FOLLOWING WAIVERS:

WAIVER FROM THE ZONING ORDINANCE:

SECTION 200-107.D(2) – TO PERMIT A PORTION OF THE PROPOSED BUILDING, PARKING, DRIVE AISLES, STORMWATER MANAGEMENT FACILITIES, AND UTILITIES, TOGETHER WITH RELATED GRADING AND CONSTRUCTION ACTIVITIES, TO BE LOCATED IN AREAS OF PROHIBITIVE STEEP SLOPES ON THE PROPERTY.

ORDER; AND NOW, THIS 11TH DAY OF OCTOBER, 2024, UPON CONSIDERATION OF THE APPLICATION AND TESTIMONY AND EVIDENCE PRESENTED, THE APPLICATION OF ROCKHILL REAL ESTATE ENTERPRISES XVII, LP, FOR A VARIANCE FROM THE STEEP SLOPE PROVISIONS OF SECTION 200.107.D(2) OF THE UPPER UWCHLAN TOWNSHIP ZONING ORDINANCE IS HEREBY GRANTED UNDER AND SUBJECT TO THE CONDITION THAT APPLICANT WILL PROCEED IN STRICT ACCORDANCE WITH ALL OF THE TESTIMONY PRESENTED, AND IN ACCORDANCE WITH THE APPLICABLE TOWNSHIP AND STATE LAWS, REGULATIONS AND ORDINANCES.

THE FOLLOWING WAIVERS ARE PENDING:

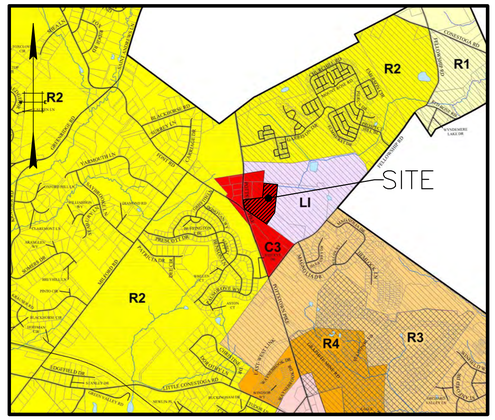
WAIVER FROM THE 2022 STORMWATER MANAGEMENT ORDINANCE

SECTIOIN 152-301.T – DISTURBANCE OF EXISTING GROUND COVER DURING CONSTRUCTION OF THE PROPOSED REGULATED ACTIVITY IS PROHIBITED WITHIN 75 FEET OF TOP-OF-BANK OF ALL PERENNIAL AND INTERMITTENT WATERWAYS, WATER BODIES (LAKES, PONDS, ETC.) AND WETLANDS, EXCEPT FOR ACTIVITIES OTHERWISE APPROVED BY STATE OR LOCAL AGENCIES (E.G. STREAM RESTORATION PROJECTS, ROAD CROSSINGS, SUBSURFACE UTILITY PROJECTS, ETC.).



LOCATION MAP

SCALE: 1"=600'



ZONING MAP

SCALE: 1"=2000'

C3 – HIGHWAY COMMERCIAL DISTRICT
LI – LIMITED INDUSTRIAL DISTRICT
R1 – RESIDENTIAL DISTRICT (1 DWELLING UNIT/2 ACRES)
R2 – RESIDENTIAL DISTRICT (1 DWELLING UNIT/ACRE)
R3 – RESIDENTIAL DISTRICT (1.5 DWELLING UNITS/ACRE)
R4 – RESIDENTIAL DISTRICT (2-4 DWELLING UNITS/ACRE)

RECORD OWNER:

OCKHILL REAL ESTATE ENTERPRISES XVII LP
4005 WEST CHESTER PIKE
NEWTOWN SQUARE, PA 19073

PROPERTY:

500 POTTSTOWN PIKE
CHESTER SPRINGS, PA 19425
UPI: 32-1-34.1C
PARCEL ID: 3201 003401C0

CERTIFICATE OF CONFORMANCE – P.E.

I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THESE PLANS ARE IN CONFORMITY WITH ENGINEERING, ZONING, BUILDING, SANITATION AND OTHER APPLICABLE TOWNSHIP ORDINANCES AND REGULATIONS.

_____
KEITH A. LIEBERMAN, P.E.
LICENSE NO. PE056901-E

COMMONWEALTH OF PENNSYLVANIA, COUNTY OF CHESTER:

ON THIS THE _____ DAY OF _____, 20_____, BEFORE ME, THE SUBSCRIBER, PERSONALLY APPEARED **RDS AUTOMOTIVE GROUP,** AND THAT AS MUCH TO DO SO, HE EXECUTED THE FOREGOING PLAN BY SIGNING THE NAME OF SAID CORPORATION BY HIMSELF AS _____, THAT THE SAID CORPORATION IS THE OWNER OF THE DESIGNATED LAND, THAT ALL NECESSARY APPROVAL OF THE PLAN HAS BEEN OBTAINED AND ENDORSED THEREON AND THAT THE SAID CORPORATION DESIRES THAT THE FOREGOING PLAN MAY BE DULY RECORDED.

BY: _____
OWNER
ROCKHILL REAL ESTATE ENTERPRISES XVII LP

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES ON THIS _____ DAY OF _____ , 20 ____.

REVIEWED

BY THE PLANNING COMMISSION OF **UPPER UWCHLAND TOWNSHIP, CHESTER COUNTY,** PENNSYLVANIA, THIS _____ DAY OF _____, 20_____.

_____
CHAIRPERSON

_____ _____
MEMBER

_____ _____
MEMBER

_____ _____
MEMBER

_____ _____
MEMBER

_____
MEMBER

APPROVED

BY THE TOWNSHIP SUPERVISORS OF **UPPER UWCHLAN TOWNSHIP,** CHESTER COUNTY, PENNSYLVANIA, THIS _____ DAY OF _____, 20_____.

_____
CHAIRPERSON

_____
VICE CHAIRPERSON

_____ _____
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

RECORDED

RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF **CHESTER COUNTY AT WEST CHESTER,** PENNSYLVANIA, IN PLAN BOOK _____ PAGE _____, ON THIS _____ DAY OF _____, 20_____.

_____
(DEPUTY) RECORDER OF DEEDS

Sheet List Table

Sheet Number	Sheet Title	Sheet Description	Record Plan
1	CVR	COVER SHEET	*
2	LEG-1	LEGEND & NOTES-1	*
3	LEG-2	LEGEND & NOTES-2	*
4	EXC-0A	EXISTING CONDITIONS PLAN – OVERALL	*
5	CVP	CONSERVATION PLAN	
6	DEM	DEMOLITION PLAN	
7	STE	SITE PLAN	*
8	GRD	GRADING PLAN	
9	DRN	DRAINAGE PLAN	*
10	UTL	UTILITY PLAN	*
11	LSP	LANDSCAPE & PCSM PLAN	*
12	LSP-DTL-1	LANDSCAPE NOTES & DETAILS	*
13	LSP-DTL-2	LANDSCAPE NOTES & DETAILS	*
14	LGT	LIGHTING PLAN	
15	LGT-DTL-1	LIGHTING DETAILS	
16	CSD-1	SITE CONSTRUCTION DETAILS	
17	CSD-2	SITE CONSTRUCTION DETAILS	
18	STRM-1	STORM SEWER DETAILS	
19	STRM-2	STORM SEWER DETAILS	
20	SAN-1	SANITARY SEWER DETAILS	
21	WAT-1	WATER DETAILS	
22	ES-1	EROSION & SEDIMENT CONTROL PLAN – STAGE 1	*
23	ES-2	EROSION & SEDIMENT CONTROL PLAN – STAGE 2	*
24	ES-3	EROSION & SEDIMENT CONTROL PLAN – STAGE 3	*
25	ES-DTL-1	EROSION AND SEDIMENT CONTROL DETAILS	*
26	ES-DTL-2	EROSION AND SEDIMENT CONTROL DETAILS	*
27	ES-DTL-3	EROSION AND SEDIMENT CONTROL DETAILS	*
28	ES-NTE	EROSION AND SEDIMENT CONTROL NOTES	*
29	PCSM	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN	*
30	PCSM-DTL-1	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS	*
31	PCSM-DTL-2	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS	*
32	PCSM-DTL-3	POST CONSTRUCTION MANAGEMENT DETAILS – CONSTRUCTED WETLANDS DETAILS	*
33	PCSM-NTE	POST CONSTRUCTION STORMWATER MANAGEMENT NOTES	*
34	PRF-1	STORM PROFILES	
35	PRF 2	CONSTRUCTED WETLAND PROFILES	
36	TRUCK	DELIVERY VEHICLE TURNING PLAN	
37	FIRE	FIRE TRUCK TURNING PLAN	

NO.	DATE	REVISIONS	BY	CHKD
2	04/10/2025	REVISED PER TOWNSHIP REVIEW LETTER	SJC	JDT
1	10/02/2025	PRELIMINARY LAND DEVELOPMENT SUBMISSION	SJC	JDT

KEITH A. LIEBERMAN, P.E.
LICENSED PROFESSIONAL ENGINEER
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. 056901-E
DATE: 05/03/2024

RDS AUTOMOTIVE GROUP
CHESTER SPRINGS SERVICE CENTER
500 POTTSTOWN PIKE, CHESTER SPRINGS, PA, 19425
UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PA

COVER SHEET

YOUR GOALS. OUR MISSION.
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FAX 215-627-3459
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DESIGNED BY	JDT
CHECKED BY	JDT/KAL
DRAWN BY	SEE
DATE	08/01/2024
SCALE	AS SHOWN
PROJ. NO.	PORS00021
DRAWING	CVR
SHEET	1 OF 37

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LAST SAVED DATE AND TIME: 10 Apr 2025, 12:31PM
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STANDARD LEGEND

PA PLANE COORDINATE SYSTEM — NORTH ARROW

EXISTING (Show Size and Type)	PROPOSED (Show Size and Type)	
CATV	CATV	CABLE TELEVISION
TC	TC	TELECOMMUNICATION CONDUIT
W	W	WATER MAIN
G	G	GAS MAIN
T	T	TELEPHONE CONDUIT
E	E	ELECTRIC CONDUIT
Existing Junction Box	PROPOSED JUNCTION BOX	ELECTRIC CONDUIT, HIGHWAY
Flow	RECONSTRUCT / RESET HEAD	EXISTING STORM DRAINS
Exist Inv. El. (Over 30" Draw To Size)	(Size and Type)	EXISTING SANITARY SEWERS
PROPOSED INV. EL. S	S FLOW S	PROPOSED SANITARY SEWERS AND STORM DRAINS (ONLY IN SPECIAL CASES DRAW TO SIZE)
BITUMINOUS	BITUMINOUS	EDGE OF PAVEMENT (BITUMINOUS, CONCRETE)
TOE (T) TOP (C)	TOE (T) TOP (C)	SHOULDERS
12 13 R.O.W. R.O.W.	24 25 R.O.W. R.O.W.	SLOPES
		CENTERLINE, BASELINE AND TRAVERSE LINE LABEL LINE: ℄, ℄, ℄
		RIGHT OF WAY LINES
		ACCESS PERMITTED
		NO ACCESS
		BOROUGH/TOWNSHIP, CITY, COUNTY LINE
		PROPERTY LINES
		WETLANDS LINE
		CURBS
		FENCES
		RESET BEAM GUIDE RAIL
		BEAM GUIDE RAIL
		RAILROAD
GeB2		NRCS SOIL BOUNDARY
Flow Existing Channels	Flow PROPOSED DITCH (Size)	REPRESENTS BOTTOM OF DITCH OR CREEK
Exist	PROPOSED	INLETS (TYPE AS INDICATED)
Existing Monument	RESET EXISTING CASTING	
Sign	NEW INLET CASTING (TYPE AS SPECIFIED)	
Exist. Light	RECONSTRUCT	
WV-Water Gate Valve	INLETS CONVERTED TO MANHOLE	
Pole No. & Type (Guy,Light,Etc.)	NEW MONUMENT	
GV-Gas Gate Valve	PROPOSED R.C. END SECT. OR C.M. HEADWALL	
Hydrant	PROPOSED HEADWALL & APRON	
Traffic Light	PROPOSED HEADWALL	
Traffic Control Box	TREE TO BE REMOVED (T.B.R.)	
Exist. R.C. End Section Or C.M. Headwall	PROPOSED UTILITY POLE	
Bush or Brush	BORING TEST LOCATION	
Deciduous Trees (size, kind)		
Wooded Area	FINISH LINE / LEVEL LINE	
	SIGN	

GeB2 ——— GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED

UzxD ——— URBAN LAND-WORTHAM COMPLEX, 0 TO 8 PERCENT SLOPES

SITE DATA & NOTES

GENERAL NOTES

1. RECORD OWNER:
   ROCKHILL REAL ESTATE ENTERPRISES XVII LP
   4005 WEST CHESTER PIKE
   NEWTOWN SQUARE, PA 19073
2. SOURCE OF TITLE: DEED BOOK 11052, PAGE 1945
3. TAX PARCEL (UPI): 32-1-34.1C
4. LOT AREA: EXISTING GROSS: 600,739.30 SF (13.791 AC)
   WITHIN ULTIMATE R-O-W: 7,768.42 SF (0.178 AC)
   EXISTING NET: 592,970.88 SF (13.613 AC)
5. TOPOGRAPHIC FEATURES SHOWN FROM ACTUAL FIELD SURVEY BY ASH ASSOCIATES COMPLETED SEPTEMBER 30, 2022 AND IS LIMITED TO SHOWING FEATURES OF INTEREST ONLY.
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. ENTIRE SITE IS LOCATED IN FLOOD ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. PER FEMA FLOOD INSURANCE RATE MAP (FIRM) OF CHESTER COUNTY, PANEL 90 OF 380, MAP # 42029C0090G, REVISED SEPTEMBER 29, 2017.

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.

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GENERAL NOTES

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS, SPECIFICATIONS, AND REFERENCED DOCUMENTS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT OR DISCREPANCY WITH THE DRAWINGS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION MEETS ALL APPLICABLE CODE REQUIREMENTS.
2. ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVEGROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL AND VERTICAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF THE PENNSYLVANIA LEGISLATIVE ACT NUMBER 287, ACT OF 1974, AS AMENDED BY ACT 181 OF 2006, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. PA LAW REQUIRES THREE WORKING DAYS NOTICE FOR CONSTRUCTION PHASE. CALL THE PA ONE CALL SYSTEM AT 1-800-242-1776. SERIAL NO. 20240653115-000 WAS PLACED FOR SURVEY PURPOSES ONLY.
3. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS BY ALL OF THE PERMITTING AUTHORITIES.
4. ALL PROPOSED IMPROVEMENTS SHALL COMPLY WITH "THE AMERICAN DISABILITIES ACT", "ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES", AND "THE PENNSYLVANIA UNIVERSAL ACCESSIBILITY ACT".
5. THIS PLAN SHALL NOT BE USED FOR BUILDING STAKEOUT PURPOSES. PROPOSED BUILDING LOCATION AS DEPICTED IS WITHIN ACCEPTABLE TOLERANCES FOR SITE WORK ONLY. PLEASE REFER TO ARCHITECTURAL/STRUCTURAL PLANS FOR EXACT BUILDING PLACEMENT.
6. THE BUILDING FOOTPRINTS DEPICTED HEREON HAVE BEEN TRANSPOSED FROM ARCHITECTURAL PLANS. FINAL BUILDING DIMENSIONS MAY VARY SLIGHTLY FROM THOSE DEPICTED HEREON BUT SHALL ULTIMATELY CONFORM TO ALL APPLICABLE ZONING SETBACKS, IMPERVIOUS SURFACE COVERAGE RATIOS, ETC. CONTRACTOR SHALL NOTIFY PROJECT ENGINEER IF FINAL BUILDING FOOTPRINTS SUBSTANTIALLY VARY FROM THE FOOTPRINTS HEREON.
7. CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH PENNDOT "PUBLICATION 408", LATEST EDITION, MUNICIPAL STANDARDS AND SPECIFICATIONS, AND UTILITY AUTHORITY/CO. STANDARDS AND SPECIFICATIONS, WHICHEVER ARE MORE RESTRICTIVE.
8. CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS AND COMPLETE ALL WORK INDICATED OR IMPLIED ON THE PROJECT PLANS AND/OR SPECIFICATIONS THAT ARE NOT EXISTING ON THE PROJECT SITE AND THAT ARE NOT SPECIFICALLY NOTED AS 'FUTURE' OR 'NOT IN CONTRACT (NIC)', 'BY OTHERS', 'BY OTHER CONTRACTORS', 'BY EC', 'BY PC', 'BY MC'.
9. THE CONTRACTOR SHALL BE FAMILIAR WITH AND RESPONSIBLE FOR ANY/ALL CERTIFICATIONS, INSPECTIONS, ETC. REQUIRED BY ALL GOVERNING JURISDICTIONAL AGENCIES DURING AND AFTER CONSTRUCTION FOR SIGN-OFF AND CERTIFICATE OF OCCUPANCY ISSUANCE INCLUDING BUT NOT LIMITED TO PROCUREMENT OF SERVICES, SCHEDULING OF FIELD OBSERVATIONS AND COORDINATION WITH REPRESENTATIVES OF THE APPROPRIATE PARTIES. CONTRACTOR IS RESPONSIBLE TO COORDINATE CERTIFICATIONS, SIGN-OFFS, ETC. NECESSARY FOR JOB CLOSEOUT AND ISSUANCE OF CERTIFICATE OF OCCUPANCY.
10. THE PROPERTY SURVEY AS CERTIFIED SHALL BE CONSIDERED A PART OF THESE PLANS.
11. THESE PLANS ARE BASED ON INFORMATION PROVIDED TO OUR OFFICE AT THE TIME OF PLAN PREPARATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY THE ENGINEER IN WRITING IF ACTUAL SITE CONDITIONS DIFFER FROM THAT SHOWN ON THE PLAN, OR IF THE PROPOSED WORK WOULD BE INHIBITED BY ANY OTHER EXISTING SITE FEATURES.
12. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK DUE TO DISCREPANCIES OR CONFLICTS ON THE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN PRIOR TO THE START OF WORK AND MATERIALS PROCUREMENT.
13. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL/MEPF PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY SERVICE LOCATIONS AND SITE ELECTRICAL DESIGN.
14. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, COUNTY, STATE AND FEDERAL LAWS AND APPLICABLE CODES. CONTRACTOR SHALL PROPERLY REMOVE AND DISPOSE OF HAZARDOUS/UNSUITABLE MATERIAL IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES AND LAWS.
15. THE CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION AND SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS, AS WELL AS ADDITIONAL PROVISIONS TO ASSURE STABILITY OF CONTIGUOUS STRUCTURES, AS FIELD CONDITIONS DICTATE.
16. THE CONTRACTOR IS TO EXERCISE CARE WHEN PERFORMING WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES AND FACILITIES THAT ARE TO REMAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE MEASURES AS NECESSARY TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT TO REMAIN, AND PROVIDE A SAFE WORK AREA.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL REPLACE ALL SIGNAL INTERCONNECTION CABLE, CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION.
18. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO EXISTING ITEMS DURING CONSTRUCTION SUCH AS BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, SIDEWALK, ETC. REPAIR SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE TO PROVIDE DOCUMENTATION OF THE CONDITION OF EXISTING ITEMS TO THE OWNER'S DESIGNATED REPRESENTATIVE PRIOR TO CONSTRUCTION START.
19. CONCRETE SHALL HAVE THE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS INDICATED IN SPECIFICATIONS AND REFERENCE DOCUMENTS UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT.
20. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS/MEANS FOR COMPLETION OF THE WORK DEPICTED ON THESE PLANS NOR ANY CONFLICTS/SCOPE REVISIONS WHICH RESULT FROM THE SAME. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING METHODS/MEANS FOR COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND NOTIFICATION OF OWNER AND ENGINEER OF RECORD IN WRITING WHEN A CONFLICT IS IDENTIFIED.
21. NEITHER THE PROFESSIONAL ACTIVITIES OF T&M ASSOCIATES NOR THE PRESENCE OF T&M ASSOCIATES OR ITS EMPLOYEES AND SUB-CONSULTANTS AT A CONSTRUCTION/PROJECT SITE, SHALL RELIEVE THE CONTRACTOR OF ITS OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. T&M ASSOCIATES AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE ENGINEER OF RECORD HEREIN IS NOT RESPONSIBLE FOR JOB SITE SAFETY NOR HAS HE BEEN RETAINED FOR SUCH PURPOSES. T&M ASSOCIATES SHALL BE INDEMNIFIED BY THE CONTRACTOR AND SHALL BE MADE AN ADDITIONAL INSURED UNDER THE CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE.
22. T&M ASSOCIATES SHALL REVIEW AND COMMENT OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN CONCEPT AND THE INFORMATION SHOWN IN THE CONSTRUCTION MEANS OR METHODS. COORDINATION OF THE WORK WITH OTHER TRADES AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. T&M ASSOCIATES' REVIEW SHALL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM SHALL NOT INDICATE THAT T&M ASSOCIATES HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. T&M ASSOCIATES SHALL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT BROUGHT TO THE ATTENTION OF T&M IN WRITING BY THE CONTRACTOR. T&M ASSOCIATES SHALL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OR CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
23. ALL RADII SHALL BE MIN. 5' UNLESS OTHERWISE NOTED OR DIMENSIONED.
24. THE OWNER/EQUITABLE OWNER OF THE PROPERTIES WILL BE RESPONSIBLE FOR THE ONGOING INSPECTIONS, OPERATION, REPAIR, AND MAINTENANCE OF THE STORMWATER MANAGEMENT BMP'S AND CONVEYANCE SYSTEMS AFTER COMPLETION OF CONSTRUCTION.
25. ALL PROPOSED PEDESTRIAN FACILITIES WITHIN THE SITE AND WITHIN THE PUBLIC RIGHT-OF-WAY (INCLUDING CURB RAMPS AND PEDESTRIAN ACCESS ROUTES) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE U.S. ACCESS BOARD, PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG) OF THE ACCESSIBILITY GUIDELINES OF BUILDINGS AND FACILITIES (ADAAAG), PENNDOT DESIGN MANUAL PART 2, CHAPTER 6, AND PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION (PUBLICATION 72M, RC-67M). UNLESS SPECIFIED OTHERWISE THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO INSTALLATION.
26. CONTRACTOR SHALL PROVIDE A DUST CONTROL PLAN WITH SPECIFIC INFORMATION ABOUT THE GENERATION AND CONTROL OF DUST EMISSIONS DURING EXCAVATION, STOCKPILING, STABILIZATION, BACK FILLING AND ASSOCIATED ACTIVITIES OF THIS PROJECT.
27. A BLANKET STORMWATER MANAGEMENT EASEMENT OVER THE ENTIRE SITE IS PROPOSED TO BE GRANTED TO THE TOWNSHIP TO ALLOW LEGAL ACCESS AND MAINTENANCE VEHICLE ACCESS FOR MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES SHOULD THE NEED ARISE.

GENERAL UTILITIES NOTES

1. ALL NEW UTILITIES/SERVICES, INCLUDING ELECTRIC, TELEPHONE, CABLE TV, ETC. ARE TO BE INSTALLED UNDERGROUND. ALL NEW UTILITIES/SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE UTILITY/SERVICE PROVIDER INSTALLATION SPECIFICATIONS AND STANDARDS.
2. THE LOCATION OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, REMOVAL OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINT CONFLICTS SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER.
3. ALL UTILITY EXTENSIONS FROM THE BUILDING BY OTHER TRADES SHALL BE CONNECTED TO THE CONTINUATION UTILITY LINES ON THE SITE. THE GENERAL CONTRACTOR SHALL MAKE THE CONNECTIONS AT A POINT 5' FROM THE BUILDING WALL WHERE OTHER TRADES HAVE ENDED THEIR WORK. THE GC SHALL COORDINATE SCHEDULING OF THESE CONNECTIONS WITH OTHER TRADES TO ASSURE THE SYSTEM IS COMPLETE WHEN FLOW WILL BEGIN IN THE LINES.
4. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
5. DEFINE AND LOCATE VERTICALLY AND HORIZONTALLY ALL ACTIVE UTILITY AND/OR SERVICE SYSTEMS THAT ARE NOT TO REMAIN. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE ACTIVITY.
6. THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY WORK AS IDENTIFIED OR REQUIRED FOR PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATIONS THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTION AND UTILITY COMPANY REQUIREMENTS.
7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, DOOR ACCESS, AND EXTERIOR GRADING. THE UTILITY SERVICE SIZES ARE TO BE DETERMINED BY ARCHITECT.) THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES TO AVOID CONFLICTS AND ENSURE PROPER DEPTHS ARE ACHIEVED. IN ADDITION TO MEETING THE UTILITY OWNER REQUIREMENTS, THE UTILITY TIE-INS/CONNECTIONS SHALL BE COORDINATED. THIS SHALL BE COMPLETED PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE CONFLICTS EXIST WITH THESE PLANS, THE ENGINEER OF RECORD SHALL BE NOTIFIED IN WRITING TO RESOLVE SAID CONFLICTS PRIOR TO CONSTRUCTION.
8. CONTRACTOR SHALL CONTACT THE TOWNSHIP CODE ENFORCEMENT OFFICE WHEN UNDERGROUND PIPING IS BEING HYDROSTATICALLY TESTED ON SITE. APPLICANTS ARE ALSO REMINDED THAT FLUSHING OF THE UNDERGROUND PIPING SHALL BE WITNESSED BY A TOWNSHIP OFFICIAL PRIOR TO FINAL RISER CONNECTIONS, PER NFPA 13.
9. REFER TO THE SITE / RECORD PLAN FOR ADDITIONAL NOTES.
10. ALL PROPOSED SANITARY SEWER SHALL COMPLY WITH THE AUTHORITY HAVING JURISDICTION'S POLICIES AND SPECIFICATIONS.
11. CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT AND AVOID DAMAGE TO EXISTING SEWER SYSTEM.
12. ANY DAMAGES TO THE AUTHORITY SYSTEM DURING THE CONSTRUCTION FOR SEWER CONNECTION SHALL BE REPAIRED TO THE SATISFACTION OF THE AUTHORITY. THE AUTHORITY SHALL NOT BE RESPONSIBLE FOR ANY COSTS FOR THE REPAIRS DUE TO THE DAMAGES.
13. THE EXISTING SANITARY SEWER SHALL MAINTAIN A MINIMUM DEPTH OF 4' OF COVER FROM THE FINISHED GRADE ELEVATION TO THE SEWER INVERT ELEVATION.

WATER LINE NOTES

1. CONTRACTOR SHALL VERIFY ALL SIZES OF EXISTING PIPES, TO BE REPLACED OR CONNECTED TO, PRIOR TO ORDERING MATERIALS.
2. ALL WATER LINES MUST BE SURVEY STAKED PRIOR TO CONSTRUCTION, WITH STAKES PROVIDED AT INTERVALS OF 50 FEET, AS WELL AS AT ALL FITTING LOCATIONS AND UTILITY CROSSINGS. STAKES SHALL BE MARKED WITH WRITTEN ELEVATIONS FOR BOTTOM OF WATER PIPE (INCLUDES BOTTOM OF OTHER UTILITY PIPE ELEVATIONS AND PIPE SIZE AT ALL UTILITY CROSSINGS TO VERIFY CLEARANCE). FIRE HYDRANTS AND WATER SERVICE CURB STOPS MUST ALSO BE FIELD STAKED AND ELEVATIONS INDICATING TOP-OF-CURB OR FINISHED GRADE SHOWN ON THE PLANS.
3. ALL WATER MAINS MUST BE CONSTRUCTED WITH DOUBLE CEMENT LINED, THICKNESS CLASS 52 DUCTILE IRON PIPE WITH TYTON JOINTS AND WITH AN INTERNAL SEAL COAT AND EXTERNAL ASPHALT SEAL COAT IN ACCORDANCE WITH AWWA C104.
4. ALL WATER LINE VALVES, FITTINGS, ETC. SHALL BE INSTALLED WITH MECHANICAL JOINTS AND MEGALUG RESISTANT GLANDS.
5. ALL WATER LINE CONSTRUCTION TO BE COMPLETED IN ACCORDANCE WITH THE UTILITY OWNER'S LATEST STANDARDS AND SPECIFICATIONS.
6. ALL POTABLE WATER PIPES SHALL HAVE A MINIMUM COVER OF FOUR (4) FEET. POTABLE WATER AND SANITARY SEWER LINE CROSSINGS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF EIGHTEEN (18) INCHES OR A MINIMUM HORIZONTAL SEPARATION OF TEN (10) FEET. IF THESE CLEARANCES CANNOT BE MET, THE WATER LINE MUST THEN BE ENCASED IN CONCRETE FOR 10 LF ON EACH SIDE OF THE CROSSING. IF THE POTABLE WATER PASSES BENEATH THE SANITARY, NO MATTER HOW MUCH CLEARANCE, THE POTABLE WATER MUST BE ENCASED IN CONCRETE FOR 10 LF ON EACH SIDE OF THE CROSSING.
7. ALL WATER LINES ARE TO BE PRESSURE TESTED TO 1.5 TIMES THE WORKING PRESSURE OR 150 P.S.I., WHICHEVER IS GREATER, IN SECTIONS BETWEEN VALVES. THE TEST PRESSURE SHALL BE MAINTAINED FOR A PERIOD NOT LESS THAN 2 HOURS. SHOULD ANY PRESSURE TEST DISCLOSE AN INABILITY TO HOLD THE TEST PRESSURE, THE CONTRACTOR SHALL LOCATE AND CORRECT DEFECTS AND RETEST TO THE SATISFACTION OF THE UTILITY OWNER.
8. THE INSTALLATION OR REPAIR OF ANY UNDERGROUND FACILITIES OR PIPING WHICH CONNECTS TO OR FURNISHES WATER FOR THE FIRE PROTECTION SPRINKLER SYSTEM SHALL BE PERFORMED ONLY BY A LICENSED UTILITY CONTRACTOR, FIRE PROTECTION SPRINKLER CONTRACTOR, OR LICENSED PLUMBER. A COPY OF THE LICENSE OR CERTIFICATE OF COMPETENCY SHALL BE PROVIDED TO THE INSPECTOR AT THE FINAL INSPECTION.
9. REFER TO THE SITE / RECORD PLAN FOR ADDITIONAL NOTES.

ADA CONSTRUCTION NOTES

1. CROSS SLOPES OF THE ACCESSIBLE ROUTE SHALL NOT EXCEED 2%, INCLUDING CURB RAMPS AND ASSOCIATED GUTTERS AND CROSS WALKS.
2. RUNNING SLOPES ALONG THE ACCESSIBLE ROUTE (INCLUDING GUTTERS) SHALL NOT EXCEED 5%. IF RUNNING SLOPES OF ACCESSIBLE ROUTES EXCEED 5%, THEN ALL RAMP CRITERIA APPLY. SLOPES ARE LIMITED TO A RUNNING SLOPE OF NO MORE THAN 5% FOR WALKING SURFACES AND 8.3% FOR RAMPS.
3. SLOPES AT INTERSECTIONS OF ACCESSIBLE ROUTES SHALL NOT EXCEED 2% IN ANY DIRECTION.
4. SLOPES OF MANEUVERING CLEARANCES AT DOORS SHALL NOT EXCEED 2% IN ANY DIRECTION.
5. A 30X48 INCH CLEAR FLOOR SPACE FLUSH SHALL BE PROVIDED WITH A CONTROL (E.G., MAGNETIC CARD READER). SLOPES OF CLEAR FLOOR SPACES AT FIXTURES AND CONTROLS SHALL NOT EXCEED 2% IN ANY DIRECTION.
6. LEVEL CHANGES BETWEEN GROUND SURFACE MATERIALS (E.G., PAVERS TO CONCRETE) SHALL COMPLY WITH THE FOLLOWING:
   - VERTICAL LEVEL SHALL NOT EXCEED ¼ INCH
   - LEVEL CHANGES UP TO ½ INCH ARE BEVELED WITH A SLOPE NOT EXCEEDING 1:2
   - LEVEL CHANGES EXCEEDING ½ INCH ARE RAMPED
7. GAPS OR OPENINGS ALONG THE ACCESSIBLE ROUTE SHALL NOT EXCEED ½ INCH IN WIDTH, PERPENDICULAR TO THE PREDOMINATE FLOW OF PEDESTRIAN TRAFFIC.

STORM SEWER NOTES

1. ALL STORM CONVEYANCE PIPE SHALL BE SMOOTH LINED DOUBLE WALLED HIGH DENSITY POLYETHYLENE PIPE (HDPE), UNLESS OTHERWISE SPECIFIED. ANY ROOF LEADERS SHALL BE SCHEDULE 40 PVC.
2. IF A CONFLICT ARISES DURING THE INSTALLATION OF ANY PART OF THE STORM SEWER SYSTEM THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY IN WRITING.
3. LANDSCAPING, FENCES AND STRUCTURES SHALL BE PLACED A MINIMUM OF 10 FEET AWAY FROM STORM SEWERS OUTSIDE OF THE RIGHT OF WAY OF STREETS.
4. REFER TO SITE / RECORD PLAN FOR ADDITIONAL NOTES.

GRADING NOTES

1. VERTICAL DATUM IS NAVD 1988 AND ESTABLISHED BY GPS OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK.
2. THE MINIMUM SLOPE IN GRASSED AREAS SHALL NOT BE LESS THAN 2% AND THE MINIMUM IN PAVED AREAS SHOULD NOT BE LESS THAN 1%.
3. PAVEMENT SHALL BE SAW CUT IN STRAIGHT LINES TO THE FULL DEPTH OF THE EXISTING PAVEMENT. ALL DEBRIS FROM REMOVAL OPERATIONS SHALL BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS WILL NOT BE PERMITTED.
4. IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE / RECORD PLAN WILL SUPERSEDE IN ALL CASES. THE ENGINEER OF RECORD MUST BE IMMEDIATELY NOTIFIED IN WRITING OF ANY CONFLICTS.
5. THE CONTRACTOR SHALL BE REQUIRED TO SECURE ALL NECESSARY PERMITS (INCLUDING DEP, ETC.) FOR ALL OFF-SITE HAUL AND/OR BORROW SITES. CONTRACTOR SHALL SUPPLY A COPY OF APPROVALS TO DESIGN ENGINEER AND OWNER PRIOR TO INITIATING WORK.
6. EXISTING INLETS AND STORM SEW

ORDER

AND NOW, this 15th day of July, 2024, the Board hereby approves the Application and grants the following approval:

1. A conditional use pursuant to Section 200-39.B(1) of the Ordinance to allow two principal uses on the Property, namely a vehicular sales and vehicular service establishment.

2. A conditional use pursuant to Section 200-39.B(7) of the Ordinance to allow the development of a vehicular sales establishment, that being the storage of vehicle inventory from Applicant's sales facility located in Newtown Square.

3. A conditional use pursuant to Section 200-39.B(9) of the Ordinance to allow the development of a vehicular service establishment.

4. A conditional use pursuant to Section 200-107.D(3)(b)[1] to disturb precautionary steep slopes in order to install a portion of the proposed Service Building as generally depicted on the Revised Plans.

5. A conditional use pursuant to Section 200-107.D(3)(b)[4] to disturb precautionary steep slopes in order to install sanitary sewers and storm sewers as generally depicted on the Revised Plans.

CONDITIONS OF APPROVAL

1. The development shall be built and designed generally in accordance with the Revised Plans which were admitted as Exhibit A-8 as such plans are revised to comply with this Order and to obtain final land development approval from the Board of Supervisors.

2. Prior to approval of the final land development plans for the proposed development of the Property, Applicant shall address to the satisfaction of the Board all outstanding comments in the Township consultants' review letter dated April 8, 2024 which was admitted as Exhibit B-9.

3. This approval only allows the use of a vehicular service establishment and storage of inventory for off premises vehicular sales. No sales of vehicles may be conducted from the Property until further conditional use approval is obtained from the Board.

4. The final landscaping plan for the development shall be approved by the Board during land development and shall comply with the Township Code unless the Board grants waivers of certain provisions of the Code. At a minimum, the landscaping plan shall retain as much of the existing mature and healthy vegetation along the northwestern corner of the Property as is feasible and sensible given the health of the vegetation. If necessary to provide an effective buffer of the development from Pottstown Pike and the John Keely House, the landscaping plan shall add additional trees and vegetation to this area so that there is a landscape buffer along Pottstown Pike in this location.

5. Applicant shall submit a lighting plan which complies with the Township Code prior to issuance of final land development approval.

6. During the land development approval process, Applicant shall coordinate its efforts with the Township traffic engineer and work with PennDOT to advocate for PennDOT's approval of the installation of a traffic signal at the intersection of the access driveway/Font Road and Pottstown Pike. Provided that PennDOT approves the installation of such traffic signal, Applicant shall be responsible for the design, permitting and installation of the same, as well as any associated intersection improvements, as part of the land development for the Property. If PennDOT does not approve the installation of a traffic light at the intersection, Applicant shall coordinate with the Township and PennDOT to identify other appropriate intersection improvements, and the Applicant shall, subject to PennDOT approval of same, be responsible for the design and implementation of the other appropriate road improvements to improve the level of service and design of the intersection. If appropriate improvements are not identified, the Applicant shall restrict driveway turning movements at the intersection, subject to PennDOT approval of same.

7. Subject to PennDOT's approval of the necessary highway occupancy permit, the Revised Plans shall be revised to provide a 125 foot left turn lane on southbound Pottstown Pike as recommended in Applicant's TIA.

8. Subject to PennDOT's approval of the necessary highway occupancy permit, the Revised Plans shall be revised to provide a right turn deceleration lane or taper at the access driveway on northbound Pottstown Pike. Applicant's TIA found that a deceleration lane is warranted but that Applicant does not own sufficient land for the length necessary and therefore recommends the installation of a taper. The Board prefers the installation of a deceleration lane but recognizes the specifications for the right turn deceleration lane or taper must be approved by PennDOT.

9. No customer test drives may occur from the Property.

10. Applicant shall revise the Revised Plans to provide a shared use path or sidewalk along the frontage of the Property along Pottstown Pike. The specifications for the shared use path or sidewalk shall be approved by the Board as part of the land development plans.

11. Applicant shall coordinate with the Township during land development and attempt to provide a location for a public trail on the Property that would provide a connection to the trails at the Township park at Fellowship Road.

12. Unless another arrangement is agreed upon by the Applicant and Township during land development, Applicant shall pay the Township's transportation impact fee based on Chapter 79 of the Township Code as calculated by the Township Traffic Engineer.

13. Applicant shall design and install an entrance feature to the Property that is consistent with other entrance features that have been installed in the vicinity of the property such as the monument sign for the Lexus dealership at 400 Pottstown Pike and the monument sign for the Reserve at Eagle development.

14. Applicant and its successors and assigns in interest to the Property shall be strictly bound by this Decision.

UPPER UWCHLAN TOWNSHIP
BOARD OF SUPERVISORS

Jennifer F. Baxter, Chairperson

Andrew P. Durkin, Vice Chairperson

Sandra M. D'Amico, Supervisor

ORDER

AND NOW, this 11th day of October, 2024, upon consideration of the Application and testimony and evidence presented, the Application of Rockhill Real Estate Enterprises XVII, LP, for a variance from the steep slope provisions of Section 200.107.D(2) of the Upper Uwchlan Township Zoning Ordinance is hereby GRANTED

UNDER AND SUBJECT to the condition that Applicant will proceed in strict accordance with all of the testimony presented, and in accordance with the applicable Township and state laws, regulations and ordinances.

UPPER UWCHLAN TOWNSHIP
ZONING HEARING BOARD

James Greaney, Chairman

Peter Egan, Vice Chairman

Joseph Cerebelli, Member

NO.	DATE	REVISIONS	BY	CHKD
2	04/10/2025	REVISED PER TOWNSHIP REVIEW LETTER	SJC	JDT
1	10/02/2025	PRELIMINARY LAND DEVELOPMENT SUBMISSION	SJC	JDT

KEITH A. LIEBERMAN, P.E.
LICENSED PROFESSIONAL ENGINEER
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. 056901-E
DATE: 05/03/2024

RDS AUTOMOTIVE GROUP

CHESTER SPRINGS SERVICE CENTER
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UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PA

LEGEND & NOTES-2

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FILE NAME: PORS00021-LEG-2.dwg
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POTTSTOWN PIKE
(SR 0100)
PRIVATE DRIVE
FONT ROAD
LAND N/F
WALTER J. STYER & SARAH P. STYER
APN 32-1-34.10
DB 5599, PG 413
520 POTTSTOWN PIKE
EXCEPTION 20 - PLAN BK 16231, PG 1 - LOT 4
LAND N/F
TEXAS EASTERN TRANSMISSION CORP
APN 32-1-34
740 POTTSTOWN PIKE
EXCEPTION 20 - PLAN BK 16231, PG 1 - LOT 3
LAND N/F
OSCAR SENN & TREDA SENN
APN 32-2-24
DB 45, PG 45
480 POTTSTOWN PIKE
LAND N/F
UPPER LINCHLAN TOWNSHIP
APN 32-1-34.09
DB 3153, PG 286
275 FELLOWSHIP ROAD
EXCEPTION 20 - PLAN BK 16231, PG 1 - LOT 2
LAND N/F
FELLOWSHIP ROAD LP
APN 32-1-34.07
DB 2886, PG 2072
225 FELLOWSHIP ROAD
SET 1 DATA POINT
REBAR TO BE SET
REBAR FOUND
MAGNETIC NAIL FOUND
REBAR IN CONCRETE FOUND
5/8" IRON PIN FOUND
5/8" IRON PIN FOUND BENT
REBAR FOUND BENT
24" CIP INV 490.86
24" CIP SLOTD INV 514.35
24" CIP INV 491.41
24" CIP INV 479.83
24" CIP INV 484.81
24" CIP INV 487.58
24" CIP INV 482.00
24" DIP INV 480.57
24" DIP INV 490.03
6" DIP INV 487.58
SLOTD 24" CIP CONCRETE DAM TOP 490.03
CONCRETE DAM TOP 480.14
SINK HOLE
SINK HOLE DEPTH 3'
INV 491.59
INV 485.08
24" GAS MAIN
8" GAS MAIN
UP W/TRANSFORMER
2 STORY BUILDING
UP W/LAMP
30.1' GATE
ASPHALT DRIVE
INLET TO 520.17
INLET FILLED WITH DEBRIS TO 516.81
APPROXIMATE LOCATION OF MULTIPLE UNDERGROUND TELECOM PER PATOALL PLANS
UP 10 & 6903 PECO 92005 W/GUY WIRES
SITE BM ELEV.=509.34
UP 10 & 6903 PECO 92002 W/LAMP & TRANSFORMER W/UG PEDS PECO PLAN 508.1
STOP SIGN
WRONG WAY SIGN
RT 100 & FONT RD SIGNS
DO NOT ENTER SIGN
STOP DO NOT ENTER SIGNS
SR 100 360 SIGN
CONCRETE WALL
UP 10 & 6903 PECO 92003D
CHAIN LINK FENCE
ASPHALT PARKING AREA
WOODED AREA
NO BUILDINGS
EXCEPTION 14 - BK 5431, PG 2034 EXCEPTION 20 - APPROXIMATE DRAIN FIELD & SEWAGE FORCE MAIN
EXCEPTION 14 - BK 5431, PG 2034 EXCEPTION 20 - APPROXIMATE SEWAGE FORCE MAIN
SEWAGE FORCE MAIN
SEWER MANHOLE
SEWER LINE
SEPTIC TANK
SEPTIC FIELD
TILE AREA
FILL AREA
TEST AREA
±30' GAP IN FENCE
5/8" REBAR FOUND
CALCULATED CORNER-POSITION
0.19'
CLOSED
DETAIL 'A'
SEE DETAIL 'A'
PERMANENT STONE OR CONCRETE MONUMENTS TO BE SET, IF REQUIRED, TYP. TO ALL PROPERTY CORNERS
OUTLET STRUCTURE TO 503.20 INV 484.20 30" DIP INV 485.08 24" OPENING W/TRASH RACK
CHAIN LINK FENCE
111.0' GATE
WC1
WC2
WC3
WC4
WC5
WC6
WC7
WC8
WC9
WC10
WC11
WC12
WC13
WC14
WC15
WC16
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WC33
WC34
WC35
WC36
WC37
WC38
WC39
WC40





LOCATION MAP

SCALE: 1"=600'

RECORD OWNER:

ROCKHILL REAL ESTATE ENTERPRISES XVII LP
4005 WEST CHESTER PIKE
NEWTOWN SQUARE, PA 19073

PROPERTY:

500 POTTSTOWN PIKE
UPI: 32-1-34.1C
PARCEL ID: 3201 003401C0

GENERAL NOTES:

1. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN BASED ON A FIELD SURVEY PERFORMED BY ASH ASSOCIATES ON SEPTEMBER 30, 2022.
2. VERTICAL DATUM IS BASED ON 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'.
3. HORIZONTAL DATUM IS BASED ON 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.
4. ENTIRE SITE IS LOCATED IN FLOOD ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, PER FEMA FLOOD INSURANCE RATE MAP (FIRM) OFCHESTER COUNTY, PANEL 90 OF 380, MAP # 42029C0090G, REVISED SEPTEMBER 29, 2017.
5. OBSERVATIONS DURING FIELD SURVEY SHOW THAT THERE IS NO EVIDENCE OF:
   - BUILDINGS, PARKING SPACES OR OTHER ON-SITE IMPROVEMENTS
   - RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS
   - RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS
6. ALL PROPOSED ALTERATIONS OF THE NATURAL GRADE (BY CUT AND BY FILL) ARE SHOWN ON A PLAN TITLED "GRADING PLAN", SHEET GRD-01, PREPARED BY T&M ASSOCIATES AND DATED 03/09/2024.
7. THE PROJECT OBTAINED A DETERMINATION FROM PADEP ON 2/11/2025 THAT A CHAPTER 105 WAIVER WAS NOT REQUIRED TO FILL THE EPHEMERAL FEATURES OSITE.
8. THE WETLANDS SHOWN HEREON ARE PER THE APPROVED PRELIMINARY JURISDICTIONAL DETERMINATION ISSUED BY THE UNITED STATES ARMY CORPS OF ENGINEERS ON 10/22/2024.

LEGEND

SOIL TYPE BOUNDARY

LIMIT OF DISTURBANCE

SOIL TYPE		
UrB	URBAN LAND	0 TO 8%
GdB	GLADSTONE GAVELLY LOAM	3 TO 8%

GRAPHIC SCALE

75' 35' 0 70' 140'

(IN FEET)

1 inch = 70 ft.

NO.	DATE	REVISIONS	BY	CHKD
2	04/10/2025	REVISED PER TOWNSHIP REVIEW LETTER	SJC	JDT
1	10/02/2025	PRELIMINARY LAND DEVELOPMENT SUBMISSION	SJC	JDT

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LICENSED PROFESSIONAL ENGINEER
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LICENSE NO. 056901-E
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CONSERVATION PLAN

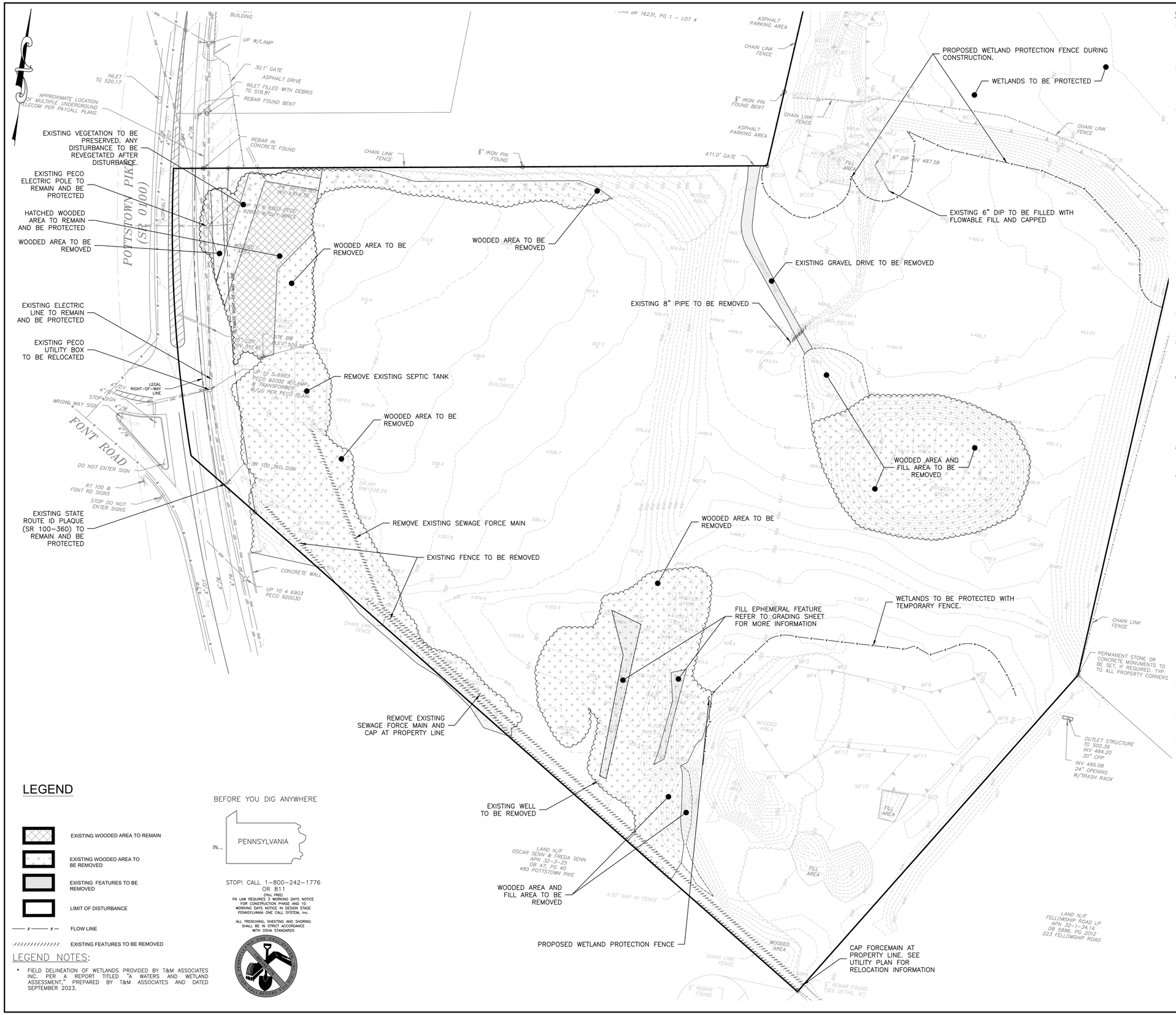
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DATE	08/01/2024
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DRAWING	CVP
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FILE NAME: ESHEET-CVP.dwg
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LAST SAVE BY: epasnok



LEGEND

- EXISTING WOODED AREA TO REMAIN
- EXISTING WOODED AREA TO BE REMOVED
- EXISTING FEATURES TO BE REMOVED
- LIMIT OF DISTURBANCE
- x — x — FLOW LINE
- EXISTING FEATURES TO BE REMOVED

LEGEND NOTES:

* FIELD DELINEATION OF WETLANDS PROVIDED BY T&M ASSOCIATES INC. PER A REPORT TITLED "A WATERS AND WETLAND ASSESSMENT," PREPARED BY T&M ASSOCIATES AND DATED SEPTEMBER 2023.

BEFORE YOU DIG ANYWHERE

IN... PENNSYLVANIA

STOP! CALL 1-800-242-1776 OR 811
(TOLL FREE)
PA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS NOTICE IN DESIGN STAGE
PENNSYLVANIA ONE CALL SYSTEM, Inc.

ALL TRENCHING, SHEETING AND SHORING SHALL BE IN STRICT ACCORDANCE WITH OSHA STANDARDS

GENERAL DEMOLITION NOTES:

1. ALL DEMOLITION ACTIVITIES ARE TO BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AS WELL AS ALL FEDERAL, STATE AND LOCAL REGULATIONS. ANY DISCREPANCIES OR DEVIATIONS IDENTIFIED BY THE CONTRACTOR SHALL BE REPORTED TO THE ENGINEER IN WRITING FOR RESOLUTION PRIOR TO INITIATION OF ACTIVITY.
2. THE FIRM OR ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. CONTRACTOR IS TO PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, FOLLOWING ALL THE OSHA REQUIREMENTS AND OTHER FEDERAL, STATE, AND LOCAL REGULATIONS, TO ENSURE THE PUBLIC AND CONTRACTOR SAFETY.
3. PRIOR TO STARTING ANY DEMOLITION CONTRACTOR IS RESPONSIBLE FOR/TO:
   A. ENSURE COPIES OF ALL PERMITS AND APPROVALS ARE ON SITE FOR REVIEW.
   B. THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO SITE DISTURBANCE.
   C. ALL EXISTING UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE, SHALL BE VERTICALLY AND HORIZONTALLY LOCATED. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES.
   D. PROTECT AND MAINTAIN IN OPERATION, ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED DURING DEMOLITION ACTIVITIES.
   E. FAMILIARIZE THEMSELVES WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AND RELOCATION AS IDENTIFIED OR REQUIRED FOR PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTION AND UTILITY COMPANY REQUIREMENTS.
   F. COORDINATE WITH UTILITY COMPANIES REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS MAY BE REQUIRED TO MINIMIZE THE IMPACT OF THE AFFECTED PARTIES.
4. THE CONTRACTOR SHALL PROVIDE ALL THE "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES AND ANY OTHER IMPROVEMENTS TO REMAIN ON OR OFF SITE.
5. IN ABSENCE OF SPECIFIC SPECIFICATION, THE CONTRACTOR SHALL PERFORM EARTH MOVING ACTIVITIES, DEMOLITION AND REMOVAL OF ALL FOUNDATION WALLS, FOOTINGS, AND OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE IN ACCORDANCE WITH DIRECTION BY OWNER'S GEOTECHNICAL ENGINEER.
6. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL," AS WELL AS FEDERAL, STATE, AND LOCAL REGULATIONS WHEN DEMOLITION RELATED ACTIVITIES IMPACT ROADWAYS OR ROADWAY RIGHT-OF-WAYS.
7. CONDUCT DEMOLITION ACTIVITIES IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND OTHER ADJACENT FACILITIES. STREET CLOSURE PERMITS MUST BE RECEIVED FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY.
8. DEMOLITION ACTIVITIES AND EQUIPMENT SHALL NOT USE AREAS OUTSIDE THE DEFINED LIMIT OF DISTURBANCE, WITHOUT WRITTEN PERMISSION OF THE OWNER, AND/OR APPROPRIATE GOVERNMENT AGENCY.
9. USE DUST CONTROL MEASURES TO LIMIT THE AMOUNT OF AIRBORNE DUST AND DIRT RISING AND SCATTERING IN THE AIR TO WITHIN FEDERAL, STATE, AND/OR LOCAL STANDARDS. AFTER THE DEMOLITION IS COMPLETE, ADJACENT STRUCTURES AND IMPROVEMENTS SHALL BE CLEANED OF ALL DUST AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION" CONDITION.
10. CONTRACTOR IS RESPONSIBLE TO SAFEGUARD SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE UNAUTHORIZED ENTRY OF PERSONS AT ANY TIME.
11. THIS DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING ITEMS/CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED TO PROVIDE DIRECTION OTHER THAN THAT ALL METHODS AND MEANS ARE TO BE IN ACCORDANCE WITH STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE.
12. THE DEMOLITION CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE TO REMAIN AS A RESULT OF HIS ACTIVITIES. ALL REPAIRS SHALL USE NEW MATERIAL. THE REPAIRS SHALL RESTORE THE ITEM TO THE PRE-DEMOLITION CONDITION.
13. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES. CONTRACTOR SHALL PROPERLY REMOVE AND DISPOSE OF HAZARDOUS/UNSUITABLE MATERIAL OFFSITE IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, AND LAWS.
14. THE CONTRACTOR SHALL COORDINATE SERVICE SHUTOFF AND DISCONNECT/REMOVAL PROCEDURES WITH EACH RESPECTIVE UTILITY COMPANY FOR THE EXISTING UTILITIES SHOWN TO BE REMOVED.
15. THE DEMOLITION PLAN IS NOT INTENDED TO SHOW EROSION CONTROL MEASURES. FOR SUCH GUIDELINES AND DETAILS, SEE THE EROSION AND SEDIMENT CONTROL PLAN AND DETAILS.
16. THIS DRAWING REFERENCES A BOUNDARY & TOPOGRAPHIC SURVEY PLAN BY:
    ASH ASSOCIATES, INC.
    765 TENNIS AVENUE
    AMBLER, PA 19002
    ENTITLED: "ALTA/NSPS LAND TITLE SURVEY" DATED: 10/11/2022

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

NO.	DATE	REVISIONS	BY	CHKD
2	04/10/2025	REVISED PER TOWNSHIP REVIEW LETTER	SJC	JDT
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LICENSED PROFESSIONAL ENGINEER
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. 056901-E
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UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PA

DEMOLITION PLAN

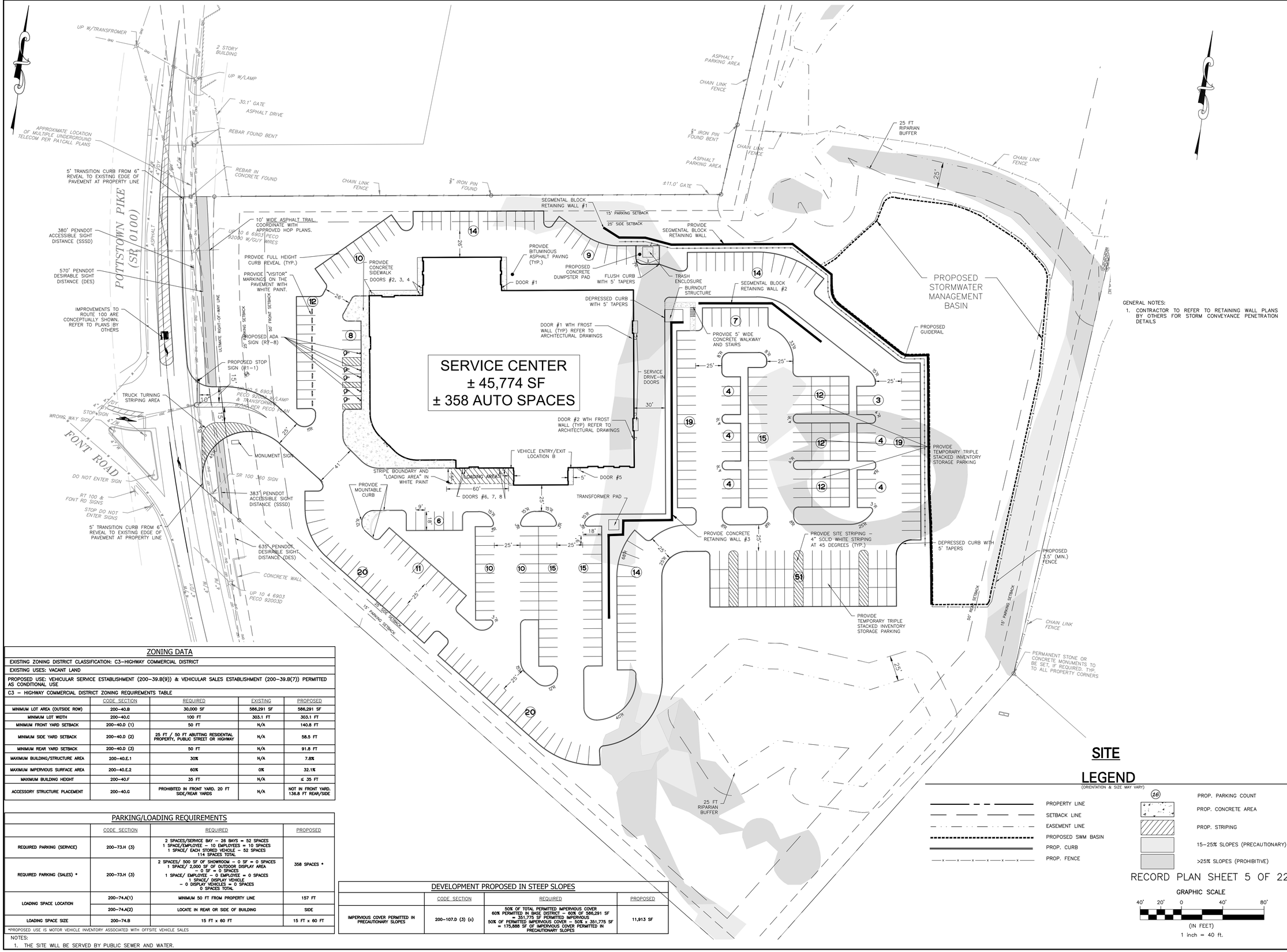
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FILE NAME: PORS00021-DEM.dwg
LAST SAVED DATE AND TIME: 10 Apr 2025, 11:33AM
LAST SAVE BY: EPasmok



GENERAL NOTES:

1. CONTRACTOR TO REFER TO RETAINING WALL PLANS BY OTHERS FOR STORM CONVEYANCE PENETRATION DETAILS

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	140.8 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	7.8%
MAXIMUM IMPERVIOUS SURFACE AREA	200–40.E.2	60%	0%	32.1%
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	358 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 – 0 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	157 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

NOTES:

1. THE SITE WILL BE SERVED BY PUBLIC SEWER AND WATER.

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	11,913 SF

SITE

LEGEND

(ORIENTATION & SIZE MAY VARY)

PROPERTY LINE
SETBACK LINE
EASEMENT LINE
PROPOSED SWM BASIN
PROP. CURB
PROP. FENCE

(16) PROP. PARKING COUNT
PROP. CONCRETE AREA
PROP. STRIPING
15–25% SLOPES (PRECAUTIONARY)
>25% SLOPES (PROHIBITIVE)

RECORD PLAN SHEET 5 OF 22

GRAPHIC SCALE

40' 20' 0 40' 80'

(IN FEET)

1 inch = 40 ft.

NO.	DATE	REVISIONS	BY
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			CHKD

KEITH A. LIEBERMAN, P.E.
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LICENSE NO. 056901-E
DATE: 05/03/2024

RDS AUTOMOTIVE GROUP

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

SITE PLAN

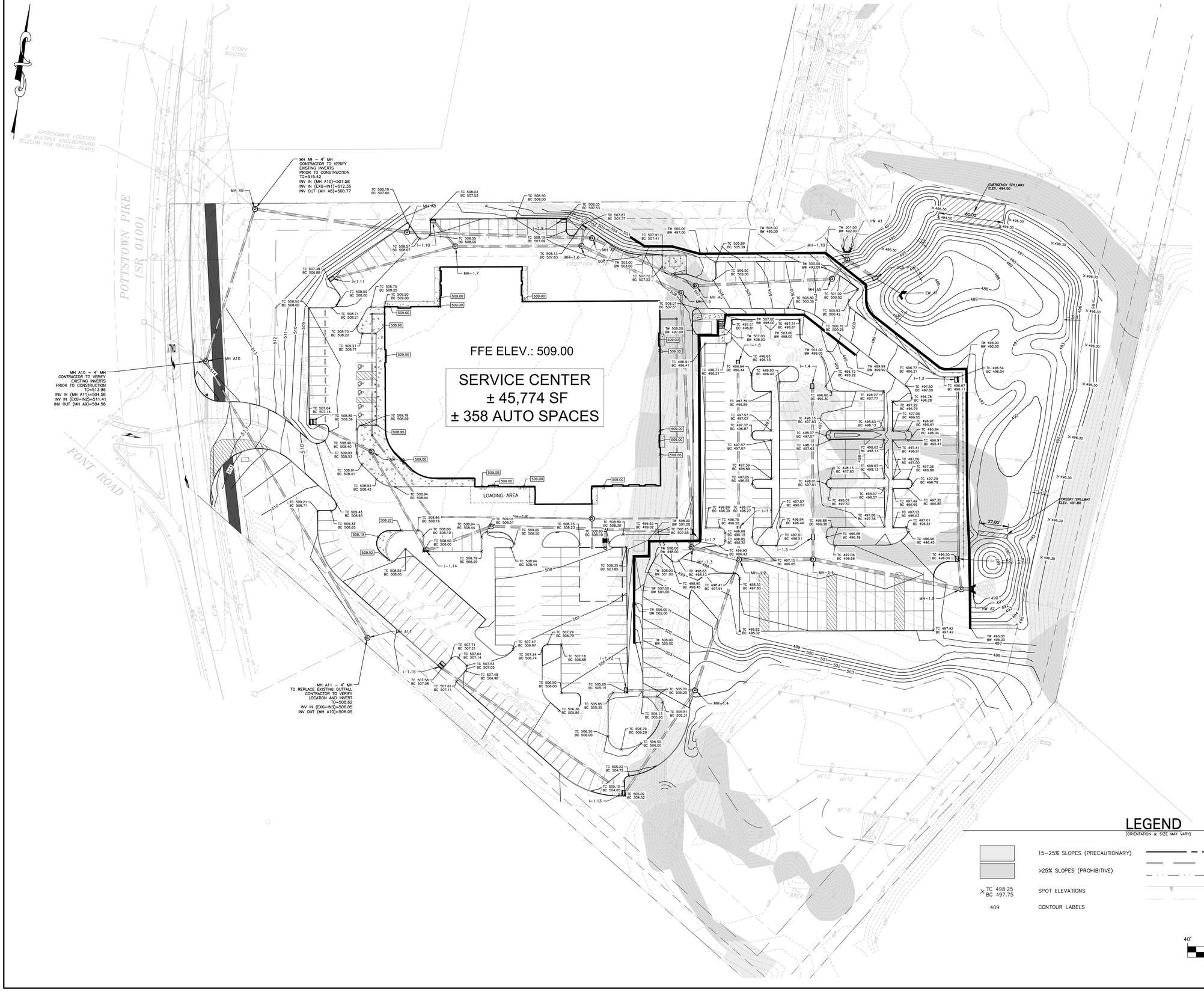
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SHEET	6 OF 37

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GRADING PLAN

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SERVICE CENTER
± 45,774 SF
± 358 AUTO SPACES

POTTSTOWN PIKE (SR 0100)

FONT ROAD

APPROXIMATE LOCATION OF MULTIPLE UNDERGROUND TELECOM PER PATCALL PLANS

EXG–IN1
EXISTING INLET
CONTRACTOR TO VERIFY LOCATION AND INVERTS
TG=518.00
INV OUT=513.89

24" HDPE PIPE
CONTRACTOR TO VERIFY SLOPE AND INVERTS
L=78.1 LF
S=1.97%

MH A9 – 4' MH
CONTRACTOR TO VERIFY EXISTING INVERTS PRIOR TO CONSTRUCTION
TG=515.42
INV IN (MH A10)=501.58
INV IN (EXG–IN1)=512.35
INV OUT (MH A8)=500.77

24" HDPE
L=143.1 LF
S=2.00%

18" HDPE Pipe
L=148.8 LF
S=2.00%

15" HDPE Pipe
CONTRACTOR TO VERIFY SLOPE AND INVERTS
L=468.0 LF
S=2.00%

EXG–IN2
EXISTING INLET
CONTRACTOR TO VERIFY LOCATION AND INVERTS
TG=516.00
INV OUT=512.77

MH A10 – 4' MH
TG=513.96
INV IN (MH A11)=504.56
INV IN (EXG–IN2)=511.41
INV OUT (MH A9)=504.56

MH A8 – 4' MH
TG=507.71
INV IN (MH A9)=497.91
INV OUT (MH A7)=497.81

I–1.10 – TYPE C
TG=507.58
INV OUT (MH–1.7)=503.00

18" HDPE
L=31.9 LF
S=1.25%

18" HDPE
L=118.9 LF
S=0.50%

I–1.11 – TYPE M
TG=506.95
INV OUT (MH–1.7)=502.10

I–1.15 – TYPE C (DOUBLE)
TG=507.16
INV OUT (MH–1.9)=502.50

18" HDPE
L=68.4 LF
S=2.00%

MH–1.9 – 4' MH
TG=508.95
INV IN (I–1.15)=501.23
INV OUT (I–1.14)=501.13

I–1.14 – TYPE C
TG=507.99
INV IN (MH–1.9)=500.08
INV OUT (MH–1.8)=499.98

18" HDPE
L=105.1 LF
S=1.00%

18" HDPE Pipe
L=105.8 LF
S=1.66%

24" HDPE Pipe
L=64.7 LF
S=1.00%

MH–1.8 – 4' MH
TG=508.60
INV IN (I–1.14)=499.33
INV OUT (MH–1.84)=499.23

I–1.9 – TYPE C
TG=507.56
INV OUT (I–1.8)=503.00

18" HDPE Pipe
L=20.3 LF
S=0.50%

MH A7 – 4' MH
TG=507.63
INV IN (MH A8)=494.37
INV OUT (MH A6)=494.27

I–1.8 – TYPE C
TG=507.41
INV IN (I–1.9)=502.90
INV OUT (MH–1.6)=502.80

MH A6 – 4' MH
TG=506.80
INV IN (MH A7)=492.14
INV OUT (MH A5)=492.04

18" HDPE
L=17.9 LF
S=2.50%

24" HDPE
L=172.1 LF
S=2.00%

24" HDPE
L=106.3 LF
S=2.00%

24" HDPE
L=117.3 LF
S=0.50%

MH–1.7 – 4' MH
TG=508.55
INV IN (I–1.10)=502.60
INV IN (I–1.11)=501.51
INV OUT (MH–1.6)=501.51

24" HDPE
L=102.6 LF
S=1.50%

MH–1.6 – 4' MH
TG=507.85
INV IN (MH–1.7)=500.92
INV IN (I–1.8)=502.35
INV OUT (MH–1.5)=500.82

MH–1.5 – 4' MH
TG=507.68
INV IN (MH–1.6)=499.28
INV OUT (I–1.7)=499.18

DWS–1

24" HDPE Pipe
L=222.1 LF
S=1.50%

I–1.7 – TYPE C
TG=507.69
INV IN (MH–1.8A)=496.44
INV IN (MH–1.5)=495.85
INV OUT (MH–1.3)=492.86

30" HDPE Pipe
L=14.7 LF
S=0.68%

MH–1.8A – 4' MH
TG=508.40
INV IN (MH–1.8)=497.46
INV IN (OCS A2)=497.56
INV OUT (I–1.7)=497.46

INV IN=505.00
12" HDPE Pipe
L=13.5 LF
S=2.39%

30" HDPE Pipe
L=81.2 LF
S=2.25%

OCS A2 – 4'X4' BOX
TG=508.15
INV IN (SEEPAGE PIT OUT)=494.35
INV OUT (MH–1.8A)=497.78

MH–1.3 – 5' DIA MH
TG=498.04
INV IN (I–1.3)=492.76
INV OUT (MH–1.2)=492.66

I–1.12 – TYPE C
TG=505.19
INV OUT (MH–1.4)=500.00

MH–1.4 – 4' DIA MH
TG=504.70
INV IN (I–1.13)=500.00
INV IN (I–1.12)=499.03
INV OUT (MH–1.2)=496.00

I–1.13 – TYPE C (DOUBLE)
TG=504.54
INV IN (I–1.16)=500.68
INV OUT (MH–1.4)=500.58

I–1.16 – TYPE C (DOUBLE)
TG=507.10
INV OUT (I–1.13)=502.76

18" HDPE
L=115.8 LF
S=1.54%

18" HDPE
L=115.8 LF
S=0.50%

18" HDPE Pipe
L=105.8 LF
S=2.00%

18" HDPE Pipe
CONTRACTOR TO VERIFY SLOPE AND INVERTS
L=117.0 LF
S=2.00%

EXG–IN3
EXISTING INLET
CONTRACTOR TO VERIFY LOCATION AND INVERTS
TG=512.31
INV OUT=508.39

MH–R11 – 4' MH
TO REPLACE EXISTING OUTFALL CONTRACTOR TO VERIFY LOCATION AND INVERT
TG=508.62
INV IN (EXG–IN3)=506.05
INV OUT (MH A10)=506.05

BASIN 2 CENTERLINE

50.00'

HW A1 – HEADWALL
TG=490.71
INV IN (MH–1.10)=487.37

OCS A1 – 5X5 BOX
TG=494.00
INV OUT (MH–1.10)=491.00
INV OUT (EW A1)=491.00

36" Concrete Pipe
L=9.7 LF
S=1.00%

MH–1.10 – 4' MH
TG=493.68
INV IN (OCS A1)=490.69
INV IN (MH A5)=488.27
INV OUT (HW A1)=487.44

24" HDPE
L=22.7 LF
S=5.00%

EW A1 – HEADWALL
TG=488.04
INV IN (OCS A1)=487.00

24" HDPE
L=126.8 LF
S=2.00%

MH A5 – 72" MH
TG=501.30
INV IN (MH A6)=489.50
INV OUT (MH–1.10)=489.40

24" RCP
L=31.2 LF
S=1.01%

6" DIP
L=27.6 LF
S=14.51%

PROPOSED CONSTRUCTED WETLAND REFER TO STORMWATER DETAILS FOR BMP INFORMATION

I–1.6 – TYPE M
TG=496.05
INV OUT (I–1.5)=493.47

I–1.4 – TYPE M
TG=496.00
INV OUT (I–1.3)=492.90

18" CL IV RCP
L=153.1 LF
S=0.50%

I–1.2 – TYPE C
TG=496.06
INV OUT (I–1.1)=492.26

18" CL IV RCP
L=140.3 LF
S=0.50%

18" HDPE Pipe
L=166.4 LF
S=0.50%

I–1.3 – TYPE M
TG=496.00
INV IN (I–1.4)=492.20
INV OUT (MH–1.3)=492.10

I–1.5 – TYPE M
TG=496.05
INV IN (I–1.6)=492.70
INV OUT (MH–1.2)=492.60

18" CL IV RCP
L=29.8 LF
S=0.50%

18" CL IV RCP
L=20.5 LF
S=0.50%

I–1.1 – TYPE C
TG=496.02
INV IN (I–1.2)=491.43
INV OUT (MH–1.0)=491.33

18" HDPE Pipe
L=28.5 LF
S=0.53%

36" HDPE
L=140.6 LF
S=0.50%

36" HDPE
L=69.0 LF
S=0.50%

MH–1.2 – 6' DIA MH
TG=497.13
INV IN (MH–1.4)=492.50
INV IN (MH–1.3)=492.43
INV IN (I–1.5)=492.45
INV OUT (MH–1.1)=492.35

MH–1.1 – 5' DIA MH
TG=496.67
INV IN (MH–1.2)=492.00
INV IN (I–1.3)=492.00
INV OUT (MH–1.0)=491.90

PROJECT HW A2 THROUGH RETAINING WALL, CONTRACTOR TO COORDINATE WITH RETAINING WALL DETAILS PROVIDED BY OTHERS

HW A2 – TYPE D–W ENDWALL
TG=493.93
INV IN (MH–1.0)=491.00

MH–1.0 – 6' DIA MH
TG=495.41
INV IN (MH–1.1)=491.20
INV IN (I–1.1)=491.18
INV OUT (HW A2)=491.10

36" HDPE
L=9.5 LF
S=1.05%

LEGEND
(ORIENTATION & SIZE MAY VARY)

- PROPERTY LINE
- SETBACK LINE
- EASEMENT LINE
- PROPOSED SWM BASIN
- NEW STORM PIPE
- NEW STORM STRUCTURES

GENERAL NOTES:

1. CONTRACTOR TO REFER TO RETAINING WALL PLANS BY OTHERS FOR STORM CONVEYANCE PENETRATION DETAILS

RECORD PLAN SHEET 6 OF 22

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

NO.	DATE	REVISIONS	BY
2	04/10/2025	REVISED PER TOWNSHIP REVIEW LETTER	SJC
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KEITH A. LIEBERMAN, P.E.
LICENSED PROFESSIONAL ENGINEER
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. 056901-E
DATE: 05/03/2024

RDS AUTOMOTIVE GROUP

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DRAINAGE PLAN

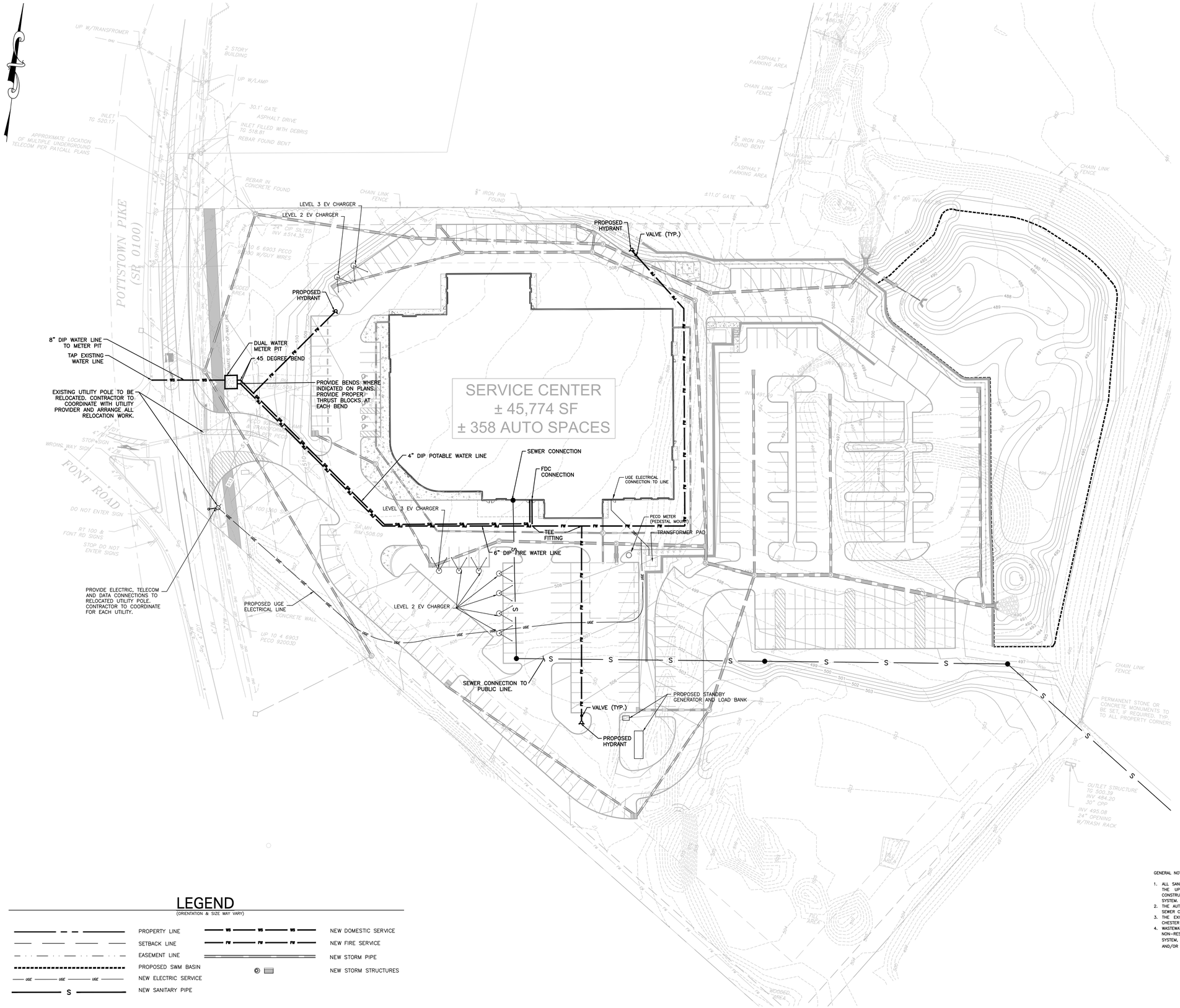
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FILE NAME: DRAINAGE PLAN.dwg
LAST SAVED DATE AND TIME: 10 Apr 2025, 11:12AM
LAST SAVE BY: DPasnak



LEGEND

(ORIENTATION & SIZE MAY VARY)

- PROPERTY LINE
- SETBACK LINE
- EASEMENT LINE
- PROPOSED SWM BASIN
- NEW ELECTRIC SERVICE
- NEW SANITARY PIPE
- NEW DOMESTIC SERVICE
- NEW FIRE SERVICE
- NEW STORM PIPE
- NEW STORM STRUCTURES

RECORD PLAN SHEET 7 OF 22

GENERAL NOTES:

1. 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.
2. THE AUTHORITY ENGINEER SHALL BE NOTIFIED 48 HOURS PRIOR TO THE BEGINNING OF SANITARY SEWER CONSTRUCTION.
3. THE EXISTING ON-LOT SEPTIC SYSTEM SHALL BE DECOMMISSIONED IN ACCORDANCE WITH THE CHESTER COUNTY HEALTH DEPARTMENT REQUIREMENTS.
4. 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.

GRAPHIC SCALE

40' 20' 0 40' 80'

(IN FEET)

1 inch = 40 ft.

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LICENSE NO. 056901-E
DATE: 05/03/2024

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CHESTER SPRINGS SERVICE CENTER
500 POTTSTOWN PIKE, CHESTER SPRINGS, PA. 19425
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UTILITY PLAN

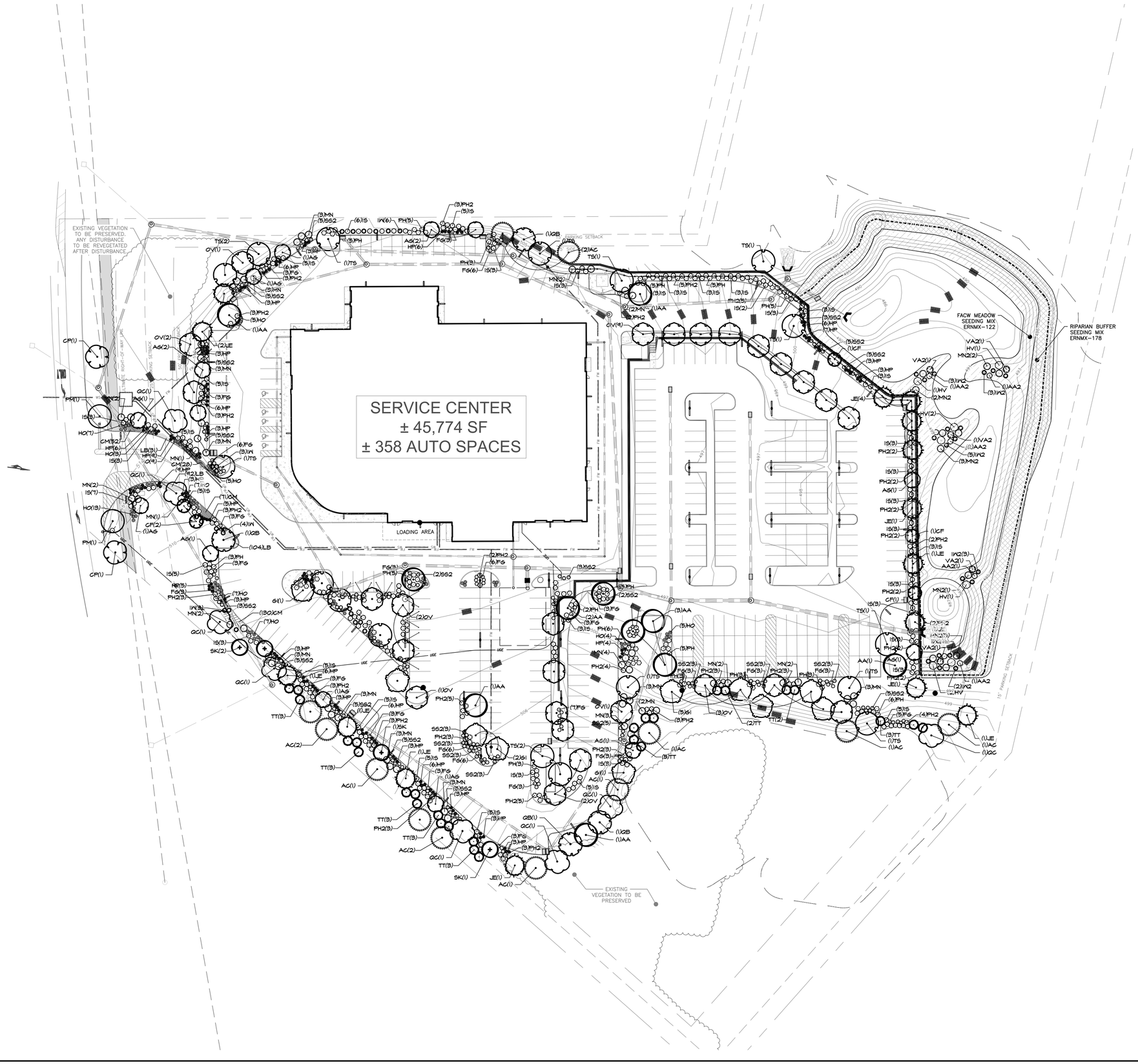
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FILE NAME: PROJECT UTILITY PLAN.dwg
LAST SAVED DATE AND TIME: 10 Apr 2025, 9:01AM
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RECORD PLAN SHEET 8 OF 22

GRAPHIC SCALE

40' 20' 0 40' 80'

(IN FEET)

1 inch = 40 ft.

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KEITH A. LIEBERMAN, P.E.
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COMMONWEALTH OF PENNSYLVANIA DATE: 05/03/2024
LICENSE NO. 056901-E

RDS AUTOMOTIVE GROUP

CHESTER SPRINGS SERVICE CENTER

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LANDSCAPE & PCSM PLAN

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DRAWING	LSP
SHEET	11 OF 37

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PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	ROOT	CALIPER	HEIGHT	REMARKS
DECIDUOUS TREES								
	AG	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"		
	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	11	ACER RUBRUM 'AUTUMN FLAME'	AUTUMN FLAME RED MAPLE	B & B	2 1/2"-3"		
	GI	10	GLEDITSIA TRIACANTHOS INERMIS	THORNLESS HONEY LOCUST	B & B	2 1/2"-3"		
	OV	26	OSTRYA VIRGINIANA	AMERICAN HOPHORNBEAM	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"		
	TS	17	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	117	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	3 GAL		18"-24"	
	IS	171	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	5 GAL		24"-30"	
	IV	21	ILEX VERTICILLATA	WINTERBERRY	5 GAL		24"-30"	
	MN	55	MORELLA PENSYLVANICA	NORTHERN BAYBERRY	7 GAL		30"-36"	
	PH	90	PANICUM VIRGATUM 'HEAVY METAL'	HEAVY METAL SWITCH GRASS	3 GAL		18"-24"	
	PH2	119	PENNISETUM ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	5 GAL		24"-36"	
	SS2	106	SPIRAEA JAPONICA 'ANTHONY WATERER'	ANTHONY WATERER JAPANESE SPIREA	3 GAL		18"-24"	
BASIN PLANTINGS								
	AA2	7	ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA'	BRILLIANT RED CHOKEBERRY	5 GAL		24"-36"	
	HV	7	HAMAMELIS VIRGINIANA	COMMON WITCH HAZEL	7 GAL		36" MIN	
	IV2	19	ILEX VERTICILLATA	WINTERBERRY	5 GAL		24"-30"	
	MN2	11	MORELLA PENSYLVANICA	NORTHERN BAYBERRY	7 GAL		30"-36"	
	VA2	5	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	7 GAL		30"-36"	
PERENNIALS								
	HO	95	HEMEROCALLIS X 'STELLA DE ORO'	STELLA DE ORO DAYLILY	1 GAL			
	HP	135	HOSTA X 'PATRIOT'	PATRIOT HOSTA	1 GAL			

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACING	REMARKS
GROUND COVERS								
	CM	281	COTONEASTER DAMMERI 'MOONCREEPER'	MOONCREEPER COTONEASTER	2" PLUG		12" o.c.	
	LB	227	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILYTURF	2" PLUG		12" o.c.	

Landscape Requirements Table - SALDO

No.	Section		Requirement	Proposed	Waiver
1	162-57.A(2)	Perimeter Buffer Requirement	Minimum twenty-foot-wide buffer planting strip shall be provided along the entire perimeter of any tract subject to subdivision or land development approval, or any tract occupied by a use subject to the provisions of §200-78	Minimum twenty-foot-wide buffer planting strip around entire tract	YES
2	162-55.B(3)	Woodland and hedgerow disturbance	Woodland and hedgerow disturbance exceeding any of the following standards shall require woodland replacement in accordance with Subsection B(6) through B(9) (a) Woodland disturbance in excess of 10,000 SF for each principal use permitted	40287 SF of existing woodland area to be disturbed Replacement requirements listed below	
3	162-55.B(6)	Woodland Replacement	one tree and two shrubs shall be planted for each 300 SF of disturbed woodland area above the maximum area permitted under Subsection B(3) 40,287 SF woodland disturbance - 10,000 SF maximum allowable disturbance area = 30,287 SF 30,287 / 300 = 100.9566 Trees Required: 100 Shrubs Required: 100.9566 x 2 = 201	A fee-in-lieu for required plantings is proposed A waiver is requested	YES
4	162-55.B(7)	Woodland Replacement	In addition to the vegetative replacement standards established in Subsection B(6), for each tree greater than six inches DBH removed, replacement trees shall be planted in accordance with the following schedule:	A fee-in-lieu for required plantings is proposed A waiver is requested	YES

For Each Tree to be Removed, at the Following Sizes, dbh (inches)	Minimum Number and Caliper of Replacement Trees
One, 6 to 8 dbh	One, 3 to 3 1/2 inch caliper
One, 8 to 12 dbh	One, 4 to 4 1/2 or two 3 to 3 1/2 inch caliper
One, 12 to 18 dbh	One, 5 to 5 1/2 or three 3 to 3 1/2 inch caliper
One, 18 to 24 dbh	One, 6 to 6 1/2 or four 3 to 3 1/2 inch caliper
One, greater than 24 dbh	Two, 6 to 6 1/2 or five 3 to 3 1/2 inch caliper

4	162-57.C(6)		Any Subdivision or Land Development shall provide street trees along the entire length of any public street Spacing between street trees shall be no greater than 50 feet 315 LF of road frontage - 35 LF of access drive - 90 LF of existing wooded area to remain = 190 / 50 = 4 Street Trees	4 Street trees	NO
5	162-57.C(7)(c)	Parking Lot Trees	The interior of each parking area or lot shall have at least one shade tree for every five parking spaces 380 parking spaces / 5 = 76 trees	76 trees	NO
6	162-57.C(7)(f)	Parking Lot Interior Landscaping	[1] Landscaped areas at least 10 feet wide shall be provided around the periphery of parking areas [2] Landscaped islands at least 15 feet wide shall be provided between each set of two parking bays [3] Landscaped islands shall be provided at the end of each parking bay where such parking bay abuts or opens onto any street or accessway. Such landscaped islands shall be at least 15 feet in width; No more than 20 parking spaces shall occur between islands		NO
7	162-57.D(1)	Minimum Planting Standards	The total number of plantings required shall be no less than the total calculated from all columns in the following table and shall be in addition to any required replacement plantings due to woodland disturbance	Deciduous Trees = 99 Evergreen Trees = 54 Shrubs = 728	YES

Improvement/Conditions	Deciduous Trees	Evergreen Trees	Shrubs
Per 1,000 square feet gross building area, ground floor only (building "footprint"); residential subdivisions exempt	2	1	8
Per 2,000 square feet off-street parking or loading area, excluding driveways less than 18 feet wide; residential subdivisions exempt	1	1	4
Per 100 linear feet of new and existing public or private road frontage, measured on both sides where applicable	2	1	5
Per 100 linear feet of existing tract boundary, where not coincident with existing or proposed road frontage	1	2	8

			Building Area Improvements/Conditions: 45,722 SF of gross building area / 1000 = 45.72 45.72 x 2 = 92 Deciduous Trees 45.72 x 1 = 46 Evergreen Trees 45.72 x 8 = 366 Shrubs		
			Parking & Loading Area Improvements/Conditions: 132,319 SF of parking & loading area / 2000 = 66.16 66.16 x 1 = 67 Deciduous Trees 66.16 x 1 = 67 Evergreen Trees 66.16 x 4 = 265 Shrubs		
			Road Frontage Improvements/Conditions: 315 LF of road frontage / 100 = 3.15 3.15 x 2 = 7 Deciduous Trees 3.15 x 1 = 4 Evergreen Trees 3.15 x 5 = 16 Shrubs		
			Tract Boundary Improvements/Conditions: 3,112 LF of Tract Boundary / 100 = 31.12 31.12 x 1 = 32 Deciduous Trees 31.12 x 2 = 63 Evergreen Trees 31.12 x 8 = 249 Shrubs		
			Total Calculated Plantings Required per §162-57.D(1): Deciduous Trees = 198 Evergreen Trees = 180 Shrubs = 896		

RECORD PLAN SHEET 9 OF 22

NO.	DATE	REVISIONS	BY	CHKD
2	04/10/2025	REVISED PER TOWNSHIP REVIEW LETTER	SJC	JDT
1	10/02/2025	PRELIMINARY LAND DEVELOPMENT SUBMISSION	SJC	JDT

KEITH A. LIEBERMAN, P.E.
LICENSED PROFESSIONAL ENGINEER
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. 056901-E
DATE: 05/03/2024

RDS AUTOMOTIVE GROUP
CHESTER SPRINGS SERVICE CENTER
500 POTTSTOWN PIKE, CHESTER SPRINGS, PA, 19425
UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PA

LANDSCAPE NOTES & DETAILS

YOUR GOALS. OUR MISSION.
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DESIGNED BY	JDT
CHECKED BY	JDT/KAL
DRAWN BY	SEE
DATE	08/01/2024
SCALE	AS SHOWN
PROJ. NO.	PORS00021
DRAWING	LSP-DTL-1
SHEET	12 OF 37

PROJECT INFORMATION:
FILE PATH: G:\Projects\PORS\00021\Plans\
FILE NAME: LSP-DTL-1.dwg
LAST SAVED DATE AND TIME: 10 Apr 2025, 11:07AM
LAST SAVE BY: EPasnak

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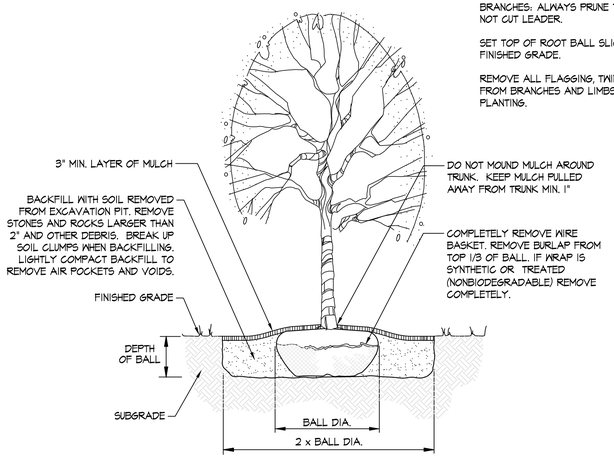
PLANTING NOTES:

SET PLANTS PLUMB AND FACE TO GIVE THE BEST APPEARANCE OR RELATIONSHIP TO ADJACENT AREAS.

PRUNE ONLY TO REMOVE DEAD AND/OR BROKEN BRANCHES. ALWAYS PRUNE TO NODE OR CROTCH; DO NOT CUT LEADER.

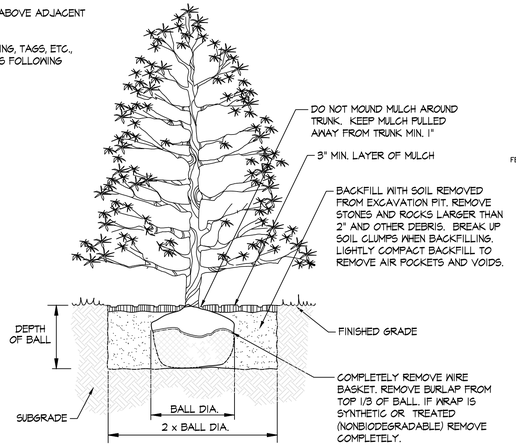
SET TOP OF ROOT BALL SLIGHTLY ABOVE ADJACENT FINISHED GRADE.

REMOVE ALL FLAGGING, TWINE, STRING, TAGS, ETC., FROM BRANCHES AND LIMBS/TRUNKS FOLLOWING PLANTING.



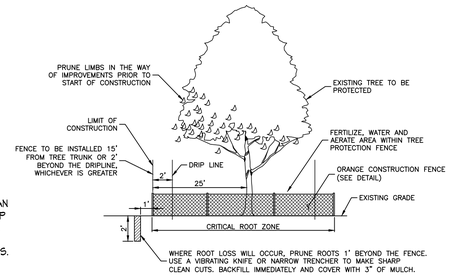
DECIDUOUS TREE PLANTING

NOT TO SCALE



EVERGREEN TREE PLANTING

NOT TO SCALE



NOTES:

1. NO ENTRY, STORAGE, DISTURBANCE OR ALTERATION SHALL OCCUR IN AREA WITHIN TREE PROTECTION FENCE.

TREE PROTECTION AND PRUNING

NOT TO SCALE

NOTES:

1. GROUND COVER MATERIAL SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUS GRADE IN THE NURSERY.

PLUG AND PERENNIAL PLANTING

NOT TO SCALE

PLANT SPACING DIAGRAM

NOT TO SCALE

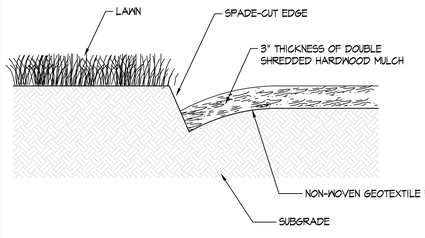
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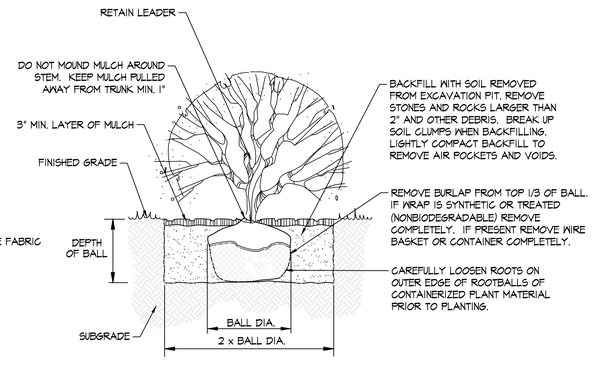
SET TOP OF ROOT BALL SLIGHTLY ABOVE ADJACENT FINISHED GRADE.

REMOVE ALL FLAGGING, TWINE, STRING, TAGS, ETC., FROM BRANCHES AND LIMBS/TRUNKS FOLLOWING PLANTING.



EDGING AT MULCH BED

NOT TO SCALE



SHRUB PLANTING

NOT TO SCALE

SEEDING MIXTURES:

FACW Wetland Meadow Mix - ERNMX-122

	Botanical Name	Common Name	Price/Lb
22.00 %	*Carex lurida, PA Ecotype*	Lurid Sedge, PA Ecotype	67.20
20.00 %	*Elymus virginicus, Madison-NY Ecotype*	Virginia Wildrye, Madison-NY Ecotype	10.45
19.50 %	*Carex vulpinoidea, PA Ecotype*	Fox Sedge, PA Ecotype	28.80
18.20 %	*Carex scoparia, PA Ecotype*	Blunt Broom Sedge, PA Ecotype	81.60
3.00 %	*Juncus effusus*	Soft Rush	48.00
3.00 %	*Verbena hastata, PA Ecotype*	Blue Vervain, PA Ecotype	38.40
2.00 %	*Asclepias incarnata, PA Ecotype*	Swamp Milkweed, PA Ecotype	177.60
2.00 %	*Heliopsis helianthoides, PA Ecotype*	Oxeye Sunflower, PA Ecotype	33.60
1.50 %	*Verbena urticifolia, PA Ecotype*	White Vervain, PA Ecotype	144.00
1.50 %	*Zizia aurea, PA Ecotype*	Golden Alexanders, PA Ecotype	72.00
1.00 %	*Juncus tenuis, PA Ecotype*	Path Rush, PA Ecotype	48.00
1.00 %	*Lycopus americanus, PA Ecotype*	American Water Horehound, PA Ecotype	72.00
0.80 %	*Solidago rugosa, PA Ecotype*	Wrinkleleaf Goldenrod, PA Ecotype	264.00
0.70 %	*Eupatorium perfoliatum, PA Ecotype*	Boneset, PA Ecotype	192.00
0.70 %	*Lobelia siphilitica, PA Ecotype*	Great Blue Lobelia, PA Ecotype	384.00
0.70 %	*Scirpus atrovirens, PA Ecotype*	Green Bulrush, PA Ecotype	144.00
0.60 %	*Aster lanceolatus*	Lance Leaved Aster	432.00
0.50 %	*Carex crinita, PA Ecotype*	Fringed Sedge, PA Ecotype	216.00
0.50 %	*Mimulus ringens, PA Ecotype*	Square Stemmed Monkeyflower, PA Ecotype	216.00
0.40 %	*Aster puniceus, PA Ecotype*	Purplestem Aster, PA Ecotype	432.00
0.30 %	*Scirpus cyperinus, PA Ecotype*	Woolgrass, PA Ecotype	115.20
0.10 %	*Alisma subcordatum, PA Ecotype*	Mud Plantain, PA Ecotype	192.00
100.00 %		**Mix Price/Lb Bulk:**	**$62.77**

Seeding Rate: 20 lb per acre, or 1/2 lb per 1,000 sq ft with a cover crop. For a cover crop use one of the following: grain rye (1 Sep to 30 Apr; 30 lbs/acre), Japanese millet (1 May to 31 Aug; 10 lbs/acre), or barnyard grass (1 May to 31 Aug; 10 lbs/acre).

Grasses & Grass-like Species - Herbaceous Perennial; Herbaceous Flowering Species - Herbaceous Perennial; Wet Meadows & Wetlands

The diverse species provide pollinator habitat and erosion control in wet meadows. Excellent for facultative wetland mitigation sites. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

Riparian Buffer Mix - ERNMX-178

	Botanical Name	Common Name	Price/Lb
20.00 %	*Elymus virginicus*	Virginia Wildrye	8.84
18.00 %	*Panicum clandestinum, Tioga*	Deertongue, Tioga	22.08
17.90 %	*Andropogon gerardii, 'Southlow'-MI Ecotype*	Big Bluestem, 'Southlow'-MI Ecotype	10.81
17.90 %	*Sorghastrum nutans, NY4 Ecotype*	Indiangrass, NY4 Ecotype	14.47
9.00 %	*Panicum virgatum, 'Shelter'*	Switchgrass, 'Shelter'	12.53
3.50 %	*Verbena hastata, PA Ecotype*	Blue Vervain, PA Ecotype	38.40
3.00 %	*Rudbeckia hirta*	Blackeyed Susan	31.20
2.40 %	*Asclepias incarnata, PA Ecotype*	Swamp Milkweed, PA Ecotype	177.60
2.00 %	*Aster pilosus, PA Ecotype*	Heath Aster, PA Ecotype	264.00
2.00 %	*Heliopsis helianthoides, PA Ecotype*	Oxeye Sunflower, PA Ecotype	33.60
1.50 %	*Zizia aurea, PA Ecotype*	Golden Alexanders, PA Ecotype	72.00
0.80 %	*Eupatorium perfoliatum, PA Ecotype*	Boneset, PA Ecotype	192.00
0.80 %	*Solidago rugosa, PA Ecotype*	Wrinkleleaf Goldenrod, PA Ecotype	264.00
0.50 %	*Monarda fistulosa, Fort Indiantown Gap-PA Ecotype*	Wild Bergamot, Fort Indiantown Gap-PA Ecotype	96.00
0.40 %	*Aster lanceolatus*	Lance Leaved Aster	432.00
0.30 %	*Eupatorium fistulosum, PA Ecotype*	Joe Pye Weed, PA Ecotype	273.60
100.00 %		**Mix Price/Lb Bulk:**	**$31.65**

Seeding Rate: 20 lb per acre with a cover crop at 30 lb per acre (dry sites - grain oats, Jan 1-Aug 1; or, grain rye, Aug 1-Jan 1; moist sites - grain rye year-round)

Grasses & Grass-like Species - Herbaceous Perennial; Herbaceous Flowering Species - Herbaceous Perennial; Riparian Sites

A diverse mix of upland and wetland grasses and forbs with extensive wildlife and pollinator value. Provides food and cover for many of our songbirds, pheasants, deer and turkey. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

LANDSCAPE PLANTING NOTES AND SPECIFICATIONS:

1. ALL PLANT MATERIAL SHALL BE PROVIDED AND INSTALLED IN STRICT CONFORMANCE WITH USDA STANDARDS FOR NURSERY STOCK AND THE 'AMERICAN NURSERY AND LANDSCAPE ASSOCIATION' STANDARDS LATEST EDITIONS.

2. THE CONTRACTOR SHALL VERIFY ALL UTILITIES WITHIN WORK AREA PRIOR TO COMMENCING WITH ANY EXCAVATIONS 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. IF A DISCREPANCY SHOULD ARISE BETWEEN THE AMOUNT OF PLANTS SHOWN ON THE PLAN VS. THE PLANT SCHEDULE, THE PLAN SHALL GOVERN.

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 WITHIN A REASONABLE DISTANCE, SUBSTITUTIONS MAY BE MADE UPON REQUEST BY THE CONTRACTOR IF APPROVED BY THE LANDSCAPE ARCHITECT OR HIS/HER REPRESENTATIVE.

8. ALL AREAS TO BE SHOWN AS LAWN SHALL BE SEEDED, AS SPECIFIED, AND WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.

9. TREE LOCATIONS MAY NEED TO BE ADJUSTED BASED ON LOCATIONS OF UTILITIES, FIELD CONDITIONS, OR FINAL GRADING. THE CONTRACTOR SHALL NOTIFY THE OWNER AND/OR THEIR REPRESENTATIVE IF ADJUSTMENTS ARE NECESSARY.

10. ALL PLANTING BEDS TO RECEIVE 3" SHREDDED HARDWOOD MULCH.

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, TRUNK AND BARK DAMAGE 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. ALL NON- BIODEGRADABLE MATERIAL SHALL BE TOTALLY REMOVED. WIRE BASKETS SHALL BE CAREFULLY REMOVED ENTIRELY AT THE TIME OF PLANTING, PREFERABLY AFTER THE ROOT BALL HAS BEEN INSTALLED IN THE PLANTING PIT.

14. PREPARATION OF PLANTING: CLEAN SOIL EXCAVATED FROM PLANTING PIT OF ROOTS, PLANTS, STONES LARGER THAN 2", 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. INSTALL ALL PLANTS SO THAT THE TOP OF THE ROOTBALL IS SLIGHTLY ABOVE FINISHED GRADE. IN NO CASE SHALL THE PLAN BE INSTALLED WITH NO LESS THAN THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL ROOT CROWN. EXCESS SOIL MAY EXIST AROUND THE ROOT CROWN FROM NURSERY OPERATIONS. THIS EXCESS MATERIAL SHALL BE REMOVED PRIOR TO PLANTING TO DETERMINE THE PROPER BALL INSTALLATION DEPTH.

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 TRAVELED 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 NON-BIODEGRADEABLE ROOT WRAPPING MATERIAL 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 MINIMUM.

22. THE CONTRACTOR SHALL LAYOUT WITH IDENTIFIABLE STAKES INDIVIDUAL TREE AND SHRUB LOCATIONS AND AREAS FOR MULTIPLE PLANTINGS 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 TRIMMED TO REMOVE BROKEN AND/OR DEAD VEGETATIVE MATERIAL.

24. ALL PLANTS SHALL BE INSTALLED AS PER THE PLANTING DETAILS AND THE CONTRACT SPECIFICATIONS, WHERE APPLICABLE.

25. ALL PLANTS SHALL BE INSTALLED 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.

27. 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.

28. WARRANT TREES AND SHRUBS FOR A MINIMUM PERIOD OF 18 MONTHS AFTER DATE OF WRITTEN FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT AND/OR THE OWNERS AUTHORIZED REPRESENTATIVE AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MONITOR THE PROJECT PLANTINGS DURING THE WARRANTY PERIOD AND NOTIFY THE OWNER IF PROBLEMS DEVELOP. PLANTS THAT DIE DURING THE WARRANTY PERIOD SHALL BE REMOVED IMMEDIATELY AND REPLACED.

TREE PROTECTION NOTES:

1. NO MORE THAN THREE (3) INCHES OF SOIL SHALL BE PLACED AROUND THE TRUNKS OF TREES WHICH ARE TO REMAIN. FOR THOSE TREES WHICH ARE TO REMAIN, WHERE MORE THAN THREE (3) INCHES OF SOIL ARE TO BE PLACED, TREE WELLS SHALL BE CONSTRUCTED TO PRESERVE TREES.

2. TREES TO REMAIN SHALL BE PROTECTED BY WOODEN SLAT SNOW FENCING OR ORANGE SAFTY CONSTRUCTION FENCE, PLACED AROUND THE DRIP LINE OF SUCH TREES, AS SHOWN IN THE TREE PROTECTION DETAIL.

3. NO BOARDS OR OTHER MATERIAL SHALL BE NAILED TO TREES DURING CONSTRUCTION, AND NO TREES TO REMAIN SHALL BE SPRAYED WITH PAINT.

4. HEAVY EQUIPMENT OPERATORS SHALL AVOID DAMAGING EXISTING TREE TRUNKS AND ROOTS. FEEDER ROOTS OF TREES TO BE PRESERVED SHALL NOT BE CUT CLOSER THAN TWENTY-FIVE (25) FEET FROM TREE TRUNKS.

5. TREE TRUNKS AND EXPOSED ROOTS DAMAGED DURING CONSTRUCTION SHALL BE PROTECTED FROM FURTHER DAMAGE BY BEING PRUNED FLUSH, AND IF TRUNKS ARE SCARRED THEY SHALL BE TRACED OUT FOR PROPER HEALING.

6. TREE LIMBS DAMAGED DURING CONSTRUCTION SHALL BE SAWED FLUSH TO TREE TRUNKS AND TREATED WITH TREE PAINTS AS NECESSARY.

7. THE OPERATION OF HEAVY EQUIPMENT OVER ROOT SYSTEMS OF SUCH TREES SHALL BE MINIMIZED IN ORDER TO PREVENT SOIL COMPACTION.

8. DECIDUOUS TREES SHALL BE GIVEN A HEAVY APPLICATION OF FERTILIZER TO AID IN THEIR RECOVERY FROM POSSIBLE DAMAGE CAUSED BY CONSTRUCTION OPERATIONS.

9. CONSTRUCTION DEBRIS SHALL NOT BE DISPOSED OF NEAR OR AROUND THE BASES OF SUCH TREES.

NO.	DATE	REVISIONS	BY	CHKD
2	04/10/2025	REVISED PER TOWNSHIP REVIEW LETTER	SJC	JDT
1	10/02/2025	PRELIMINARY LAND DEVELOPMENT SUBMISSION	SJC	JDT

KEITH A. LIEBERMAN, P.E.
LICENSED PROFESSIONAL ENGINEER
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. 056901-E
DATE: 05/03/2024

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CHESTER SPRINGS SERVICE CENTER

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LANDSCAPE NOTES & DETAILS

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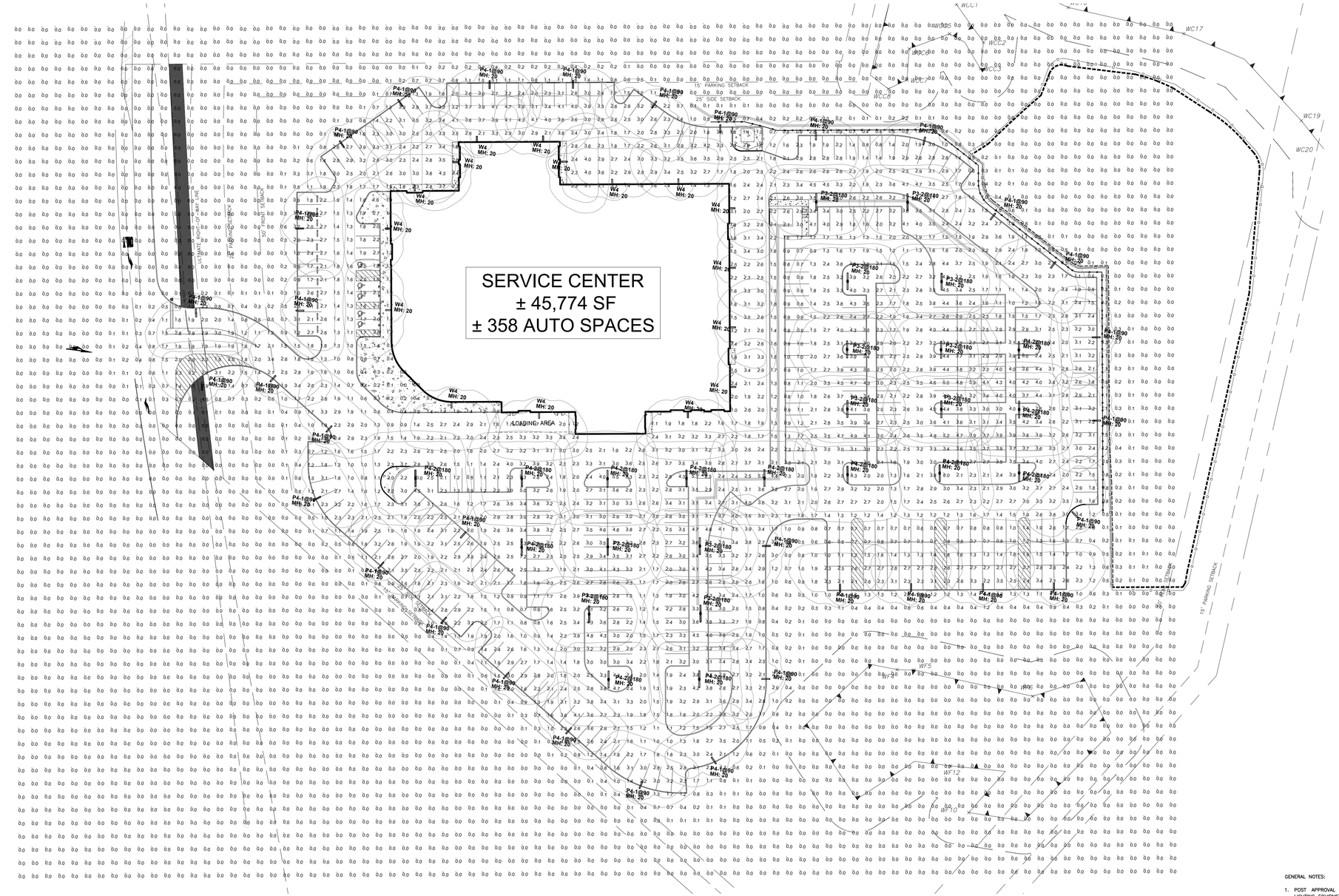
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DRAWN BY	SEE
DATE	08/01/2024
SCALE	AS SHOWN
PROJ. NO.	PORS00021
DRAWING	LSP-DTL-2
SHEET	13 OF 37

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LAST SAVE BY: EPosnak

LUMINAIRE SCHEDULE **REFER TO LIGHTING FIXTURE CUTSHEETS FOR COMPLETE CATALOG NUMBERS**

Symbol	Qty	Arrangement	Fixture Type	Description	Manufacturer	Catalog Number	CCT	LLF	Total Watts	Delivered Lumens	Mounting Height	Pole Spec	Filename
	12	Back-Back	P3-2@180	POLE MOUNTED FULL CUT-OFF AREA LIGHT, TYPE 3 DISTRIBUTION, DOUBLE SETUP	ARCHITECTURAL AREA LIGHTING	K42-T3-MO-7040-P	3000K	0.900	138.22	11312	20	K4-2-P-S-4-20-125	K4X-T3-MO-7040.ies
	33	Single	P4-1@90	POLE MOUNTED FULL CUT-OFF AREA LIGHT, TYPE 4 DISTRIBUTION, SINGLE SETUP	ARCHITECTURAL AREA LIGHTING	K41-T4-MO-7040-P	3000K	0.900	63.92	5979	20	K4-1-P-S-4-20-125	K4X-T4-MO-7040.ies
	13	Back-Back	P4-2@180	POLE MOUNTED FULL CUT-OFF AREA LIGHT, TYPE 4 DISTRIBUTION, DOUBLE SETUP	ARCHITECTURAL AREA LIGHTING	K42-T4-MO-7040-P	3000K	0.900	127.84	11958	20	K4-2-P-S-4-20-125	K4X-T4-MO-7040.ies
	16	Single	W4	WALL MOUNTED FULL CUT-OFF AREA LIGHT, TYPE 4 DISTRIBUTION	ARCHITECTURAL AREA LIGHTING	KM51-T4-MO-5040-WMK	3000K	0.900	50	5214	20	N/A	KM5-T4-MO-5040.ies



CALCULATION SUMMARY

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	PtSpcLr	PtSpcTb	Grid Z
CALC PTS TO ZERO_Ground	Illuminance	Fc	1.0	10.0	0.0	N.A.	N.A.	10	N.A.	N.A.
PARKING LOT & DRIVELANES_Ground	Illuminance	Fc	2.5	10.0	0.6	4.2	16.7	10	N.A.	N.A.

GENERAL NOTES:

1. POST APPROVAL ALTERATIONS TO LIGHTING PLAN OR INTENDED SUBSTITUTIONS FOR APPROVED LIGHTING EQUIPMENT SHALL BE SUBMITTED TO THE TOWNSHIP FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
2. SITE LIGHTING APPLICATIONS TO BE CONTROLLED BY AUTOMATIC SWITCHING DEVICES TO EXTINGUISH OUTDOOR LIGHTING FIXTURES DURING THE HOURS OF 11:00 P.M. AND DAWN, OR TO ONLY HAVE LIGHTING ON WHEN MOTION IS DETECTED.

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

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LIGHTING PLAN

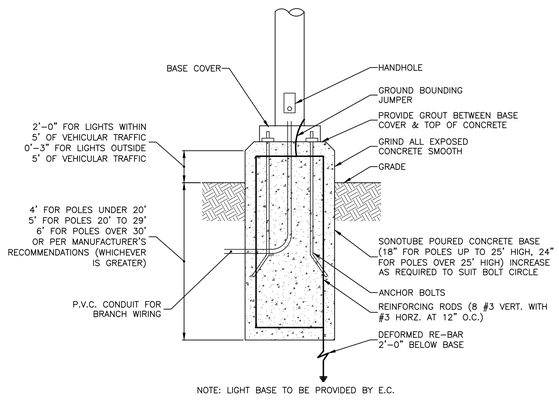
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DESIGNED BY	JDT
CHECKED BY	JDT/KAL
DRAWN BY	SEE
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SHEET	14 OF 37

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FILE NAME: PORS00021-LGT.dwg
LAST SAVED DATE AND TIME: 09 Apr 2025, 5:35PM
LAST SAVE BY: scadman



NOTE: LIGHT BASE TO BE PROVIDED BY E.C.

LIGHT BASE

NOT TO SCALE

architectural area lighting

K4A-LED (TYPE P4's)

ARCHITECTURAL AREA LIGHTING

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

KICK™

FEATURES

- Integral Motion Sensor
- Staggered twin mounting
- ANSI C136.31-2010 4G Rated
- IES Type II, III and IV distributions
- 3000K , 4000K, 5000K CCT
- Integral thermal protection



Kick Small

CONTROL TECHNOLOGY

LIGHTGRID®

SPECIFICATIONS

CONSTRUCTION

- Housing shroud is made of fabricated 5052-H32 aluminum alloy with a rear mounting interface that is made of fabricated 304 stainless steel
- Housing mounting interface is a stamped silicone gasket
- Luminaire housing is free of any visible heat fins, hardware or fasteners
- Bracketry and hardware is made of stainless steel
- Base is made of cast aluminum #356 alloy and heat treated to a T-6 condition
- Shaft is extruded aluminum 6061 alloy and heat treated to a T-6 condition
- Anchor bolts are hot dip galvanized steel. Eight galvanized hex nuts and flat washers,and a bolt circle template are provided. Anchor bolt for poles are 3/4" x 24" x 3"
- Luminaire finish consist of a five stage pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish
- Luminaire finish meets the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance

LED/OPTICS

- LEDs are mounted to a metal printed circuit board assembly (MCPCB) with a uniform conformal coating over the panel surface and electrical features
- Optical lenses is made of clear injection molded PMMA acrylic
- Each MCPCB and optic are sealed to an extruded 6063-T6 aluminum alloy heat spreader and sealed with a continuous one piece injection molded silicone rubber gasket. IP66

LED/OPTICS (CONTINUED)

- Patent Pending design of optical array is independently shielding each LED optic across the length of the aperture
- Optical surfaces are painted white unless the optional fixture finish (FO) or matte black finish (MO) is selected
- Optional matte black finish optics (MO) are required to meet UO classification with zero percent uplight
- Optional fixture finish optical surfaces (FO) do not exceed BUG ratings of the standard white finish and will be greater than or equal to the delivered lumens of the optional matte black optical surface finish (MO)

INSTALLATION

- Integral pole mount luminaires require assembly of fixture(s) to the pole, mounting hardware, anchor bolts and anchor bolt template is included. See page 6 for additional considerations specific to the integral pole
- Tenon mount luminaires require assembly of fixture(s) to the tenon adapter, mounting hardware is included. Tenon adapter secures to the tenon with eight 5/16-18 stainless steel set screws
- Side mount luminaires are supplied with hardware compatible with AAL mountings.
- Twin mounted staggered height fixtures are configured separately
- Service access to the optical array and driver assembly is via a tool-less internal latch and have an audible click.
- Optical array has to hang freely in an open service position for inspection of internal wire connections. Once in service position, the optical array is able to be removed for service by lifting the assembly up off the rear hinge and disconnecting the wiring plugs.
- Driver assembly is mounted to a prewired internal tray with quick disconnects for removal

ELECTRICAL

- Drivers are in direct contact with the aluminum housing across the entire surface area of the widest face for maximum thermal transfer
- Luminaires have integral surge protection that is U.L. recognized and have a surge current rating of 10,000 Amps using the industry standard 8/20uSec wave and surge rating of 372J. Surge protection device is wired in series
- Drivers are U.L recognized
- Drivers are not compatible with current sourcing dimmers, consult factory for current list of known compatible dimming systems approved dimmers include Lutron Diva AVTV, Lutron Nova NFTV and NTFTV
- Luminaire are capable of operating at 100% brightness in a 40°C environment. Both driver and optical array have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C
- Luminaires not configured with a control system or ANSI C136 receptacle option are provided with 0-10 purple and pink dimming leads



continued on page 3

KEY DATA	
Lumen Range	3,820–7,691
Wattage Range	46–64
Efficacy Range (LPW)	79–120
Weight	15 lbs 6.8 kg
EPA	1.03

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architectural area lighting

KM5A-LED (TYPE W)

ARCHITECTURAL AREA LIGHTING

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

KICK™

FEATURES

- Integral Motion Sensor
- Staggered twin mounting
- ANSI C136.31-2010 4G Rated
- IES Type II, III and IV distributions
- 3000K , 4000K, 5000K CCT
- Integral thermal protection



Kick Small

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- Shaft is extruded aluminum 6061 alloy and heat treated to a T-6 condition
- Anchor bolts are hot dip galvanized steel. Eight galvanized hex nuts and flat washers,and a bolt circle template are provided. Anchor bolt for poles are 3/4" x 24" x 3"
- Luminaire finish consist of a five stage pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish
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LED/OPTICS

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- Optical lenses is made of clear injection molded PMMA acrylic
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LED/OPTICS (CONTINUED)

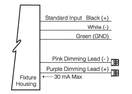
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- Luminaires not configured with a control system or ANSI C136 receptacle option are provided with 0-10 purple and gray dimming leads



continued on page 3

KEY DATA	
LUMEN RANGE	4,312–7,939
WATTAGE RANGE	24–33
EFFICACY RANGE (LPW)	50–70
WEIGHT	15 lbs 6.80 kg
EPA	0.75

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NO.	DATE	REVISIONS	BY
2	04/10/2025	REVISED PER TOWNSHIP REVIEW LETTER	SJC
1	10/02/2025	PRELIMINARY LAND DEVELOPMENT SUBMISSION	SJC
			CHHD

KEITH A. LIEBERMAN, P.E.
LICENSED PROFESSIONAL ENGINEER
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. 056901-E
DATE: 05/03/2024

RDS AUTOMOTIVE GROUP

CHESTER SPRINGS SERVICE CENTER

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

LIGHTING DETAILS

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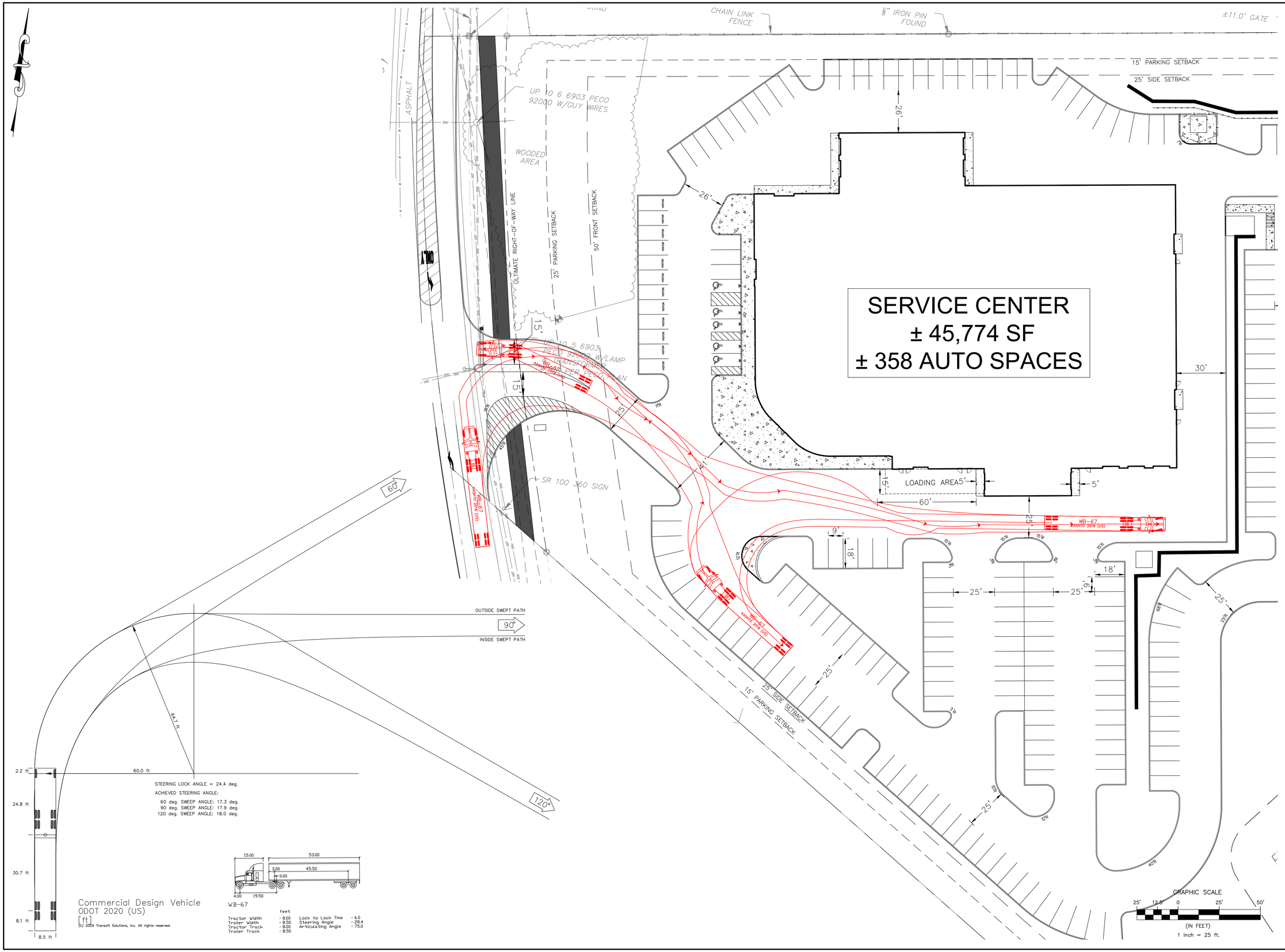
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DRAWN BY	SEE
DATE	08/01/2024
SCALE	AS SHOWN
PROJ. NO.	PORS00021
DRAWING	LGT-DTL-1
SHEET	15 OF 37

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FILE NAME: PORS00021_DTL.dwg
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DELIVERY VEHICLE TURNING PLAN

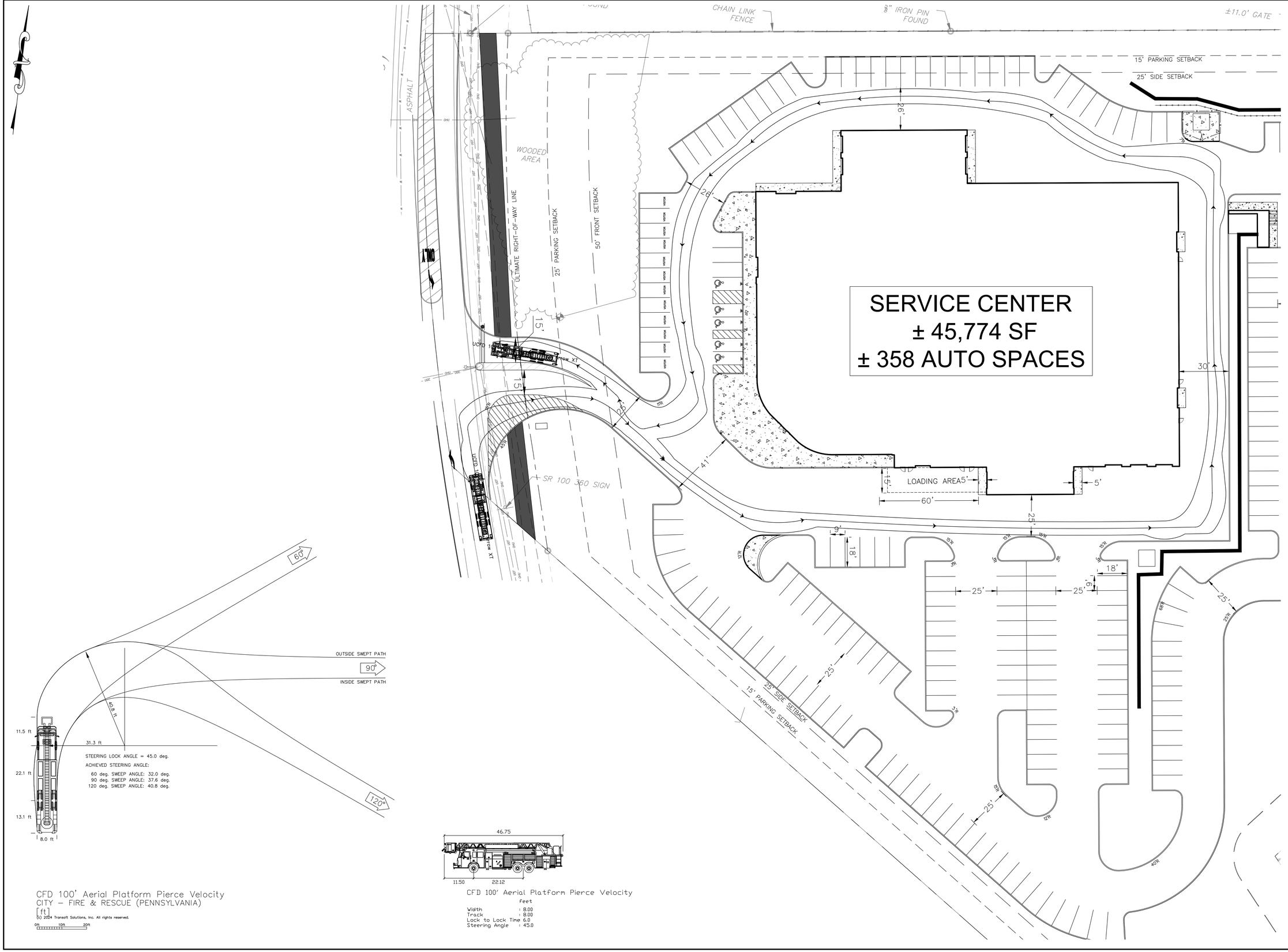
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DATE	08/01/2024
SCALE	AS SHOWN
PROJ. NO.	PORS00021
DRAWING	TRUCK
SHEET	36 OF 37

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FILE NAME: PORS00021_TRUCK.dwg
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CFD 100' Aerial Platform Pierce Velocity
CITY – FIRE & RESCUE (PENNSYLVANIA)

ft
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0ft 10ft 20ft

CFD 100' Aerial Platform Pierce Velocity

feet

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

PROJECT INFORMATION:
FILE PATH: G:\Projects\2025\0002\Plans\
FILE NAME: FIRE TRUCK TURNING.dwg
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			JDT
			JDT
			CHHD

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LICENSED PROFESSIONAL ENGINEER
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. 056901-E
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CHESTER SPRINGS SERVICE CENTER

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FIRE TRUCK TURNING PLAN

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SHEET	37
OF	37

YOUR GOALS. OUR MISSION.

April 10, 2025

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

RE: 500 Pottstown Pike – Chester Springs Service Center
Preliminary Land Development Plan
Upper Uwchlan Township, Chester County, PA
T&M Associates Project No. PORS00021

Dear Mr. Scheivert:

The following is our response to the review comments in the Gilmore & Associates, Inc. review letter dated November 11, 2024, regarding the above referenced project. (Original comments are depicted below following the format of the review letter. Our responses are provided in **bold**.)

II. TOWNSHIP ZONING OFFICER COMMENTS

Please provide additional information regarding the proposed "Burn Out Building".

III. CONDITIONAL USE ORDER REVIEW

1. The July 15, 2024 Conditional Use Order allows two principal uses on the property, allowing the development of a vehicular sales establishment being the storage of vehicle inventory from the sales facility located in Newton Square, and allows a vehicular service establishment. The Zoning Data table on Sheet 6 lists the proposed uses as Vehicular Service Establishment and Vehicular Sales. Per Conditions of Approval #3, "Vehicular Sales Establishment" shall be revised to include "the storage of vehicle inventory for off premises vehicular sales." The full Conditional Use Order, the date of the Order, and the Conditions of Approval shall be listed (verbatim) on a Record Plan.

   T&M Response: Comment addressed. The full conditional use order has been added to Sheet 3 (LEG).

2. Per Conditions of Approval #4, the landscaping plan shall retain as much of the existing mature and healthy vegetation along the northwestern corner of the Property as is feasible and sensible given the health of the vegetation. If necessary to provide an effective buffer of the development from Pottstown Pike and the John Keely House, the landscaping plan shall add additional trees and vegetation to this area so that there is a landscape buffer along Pottstown Pike in this location. We note that disturbance is proposed at the northwestern front of the site in an area that is indicated as "Wooded Areas to Remain and be Protected" (Sheet 5). Plans shall be revised to demonstrate compliance with this condition of the approval.

   T&M Response: Comment addressed. Hatched wooded area to remain and be protected has been revised to existing wooded area to be removed. A callout has been added to Sheet 6 indicating revegetation after disturbance.

3. Conditions of Approval #10 requires a shared use path or sidewalk along the property's Pottstown Pike frontage, and Conditions of Approval #11 requires that an attempt be made to provide a location for a public trail to provide a connection to the trails at the Township's Park at Fellowship Road. Nothing is shown on the plans per these requirements.

T&M Response: Comment addressed. A ten (10) foot wide sidewalk has been added along Pottstown Pike property line frontage, final layout of the sidewalk will be per HOP plans, see Sheet 7.(STE).

4. Conditional Use Condition of Approval #13 requires an entrance feature consistent with other entrance features in the vicinity of the property. Currently no site signage is shown; the plans shall be revised to be in accordance with this Condition of Approval.

T&M Response: Comment addressed. A Monument sign has added to the plans, see Sheet 7 (STE). Final sign location shall be in conformance with approved HOP Plans.

IV. TOWNSHIP ENGINEER'S COMMENTS – ZONING ORDINANCE GILMORE & ASSOCIATES

1. Add "Record Plan Sheet of " to all sheets to be recorded.

T&M Response: Comment addressed. Please refer to the Sheet 1 (CVR).

2. Section 200-34.C – Show the required front, side and rear yard setbacks with dimensions (i.e., show the building envelope). Show the full extents of the tract on the Record Plan (Sheet 6). We note yard setbacks lines are shown on the Grading Plan (Sheet 7) with "Exception – 20" noted on all; this shall be clarified.

T&M Response: Comment addressed. The setback lines are now shown on the Site Plan. Please refer Sheet 7 (STE).

3. Section 200-41.A – Public sewer and water are required for any use permitted in this district, if available. Add a note to the Zoning Data table stating that the site will be served by public sewer and water.

T&M Response: Comment addressed. Please refer to note 1 beneath the Zoning Data Table on Sheet 7 (STE).

4. Section 200-73.B(2)(a) – Access areas shall be clearly delineated by signs and pavement markings noting use restrictions. Clarify how the Loading Area meets this requirement.

T&M Response: Comment Addressed. Callouts have been added to show the loading area markings. See Sheet 7.

5. Section 200-73.B(3) – Pedestrian paths shall be provided from the parking areas to the entrances of buildings and adjacent street sidewalks. Pedestrian walks crossing any parking and driveway aisles shall be delineated by either stripes or a different paving material.

T&M Response: Will Comply. Final locations of pedestrian paths will be clearly delineated prior to final plan approval.

6. Section 200-73.C(1) – Parking spaces for each vehicle shall be at least nine feet by 18 feet in size. Provide a typical parking space dimension.

T&M Response: Comment addressed. A dimensional callout has been added to show a typical parking space dimension (Refer to Sheet 7).

7. Section 200-73.C(3) – The aisle width shall be 25-feet; verify that the entrance aisle meets this requirement (at narrowest point near the 11'R curb).

T&M Response: Comment addressed. A dimensional callout has been added to verify the drive aisle widths at the noted location. Please refer to Sheet 7.

8. Section 200-73.D(4) – Parking spaces shall be clearly delineated by suitable markings. Special use spaces such as short-term visitor parking, and pick-up/drop-off zones shall be differentiated from long-term parking by suitable signing and markings. Clarify how this requirement is met.

T&M Response: Comment Addressed. Callouts have been added to show visitor parking areas. Refer to Sheet 7.

9. Section 200-73.D(5)(a) – Based on the number of proposed parking spaces (358), eight (8) accessible spaces are required. The plan shows 5 accessible parking spaces. The Zoning Officer should confirm how many spaces are required for these uses.

T&M Response: Comment noted. Approval of the number of ADA parking spaces will be obtained from Zoning officer prior to final approval.

10. Section 200-73.H(1) – There shall be sufficient parking spaces provided for each use by the application of the appropriate formula for each use as listed in this subsection. In the case of mixed uses, the total number of required parking spaces shall be the sum of the required spaces for the various uses computed separately. The Parking/Loading Requirements table correctly indicates that 114 parking spaces are required for the vehicle service use. The table also lists that zero (0) spaces are required for vehicle sales use. A total of 358 spaces are provided (244 "extra"). We have no objection to the applicant providing more parking spaces than required.

T&M Response: Comment noted.

11. Sections 200-107.B(1) and 200-107.C(1) – The Steep Slopes shall be shown on the plan. Currently none are shown / indicated / highlighted / hatched / included in any Legend. Note that General Notes #7 on Sheet 4 references a sheet presumably not part of the submitted set. Any grading associated with the current application shall be shown only on the submitted plan set. Remove General Notes #7 on Sheet 4. Once Steep Slopes have been shown, further comments may be forthcoming.

T&M Response: Comment addressed. Steep slopes have been added to the conditional use plan, site plan, and grading plan. See sheets 7 and 8.

12. Section 200-107.C.(2) – Although conditional use was granted to allow the disturbance of steep slopes, they still need to be indicated on the plans. Currently, they are not delineated. Please revise the plans to indicate steep slope locations as shown on the conditional use plan.

T&M Response: Comment addressed. Steep slopes have been added to the conditional use plan, site plan, and grading plan. See sheets 7 and 8.

13. Section 200-107.D.(2) – The application proposes disturbance of prohibitive steep slope areas which requires a variance from the Zoning Hearing Board. This variance was granted on October 11, 2024; the Order should be listed (verbatim) on the Record Plan.

T&M Response: : Comment addressed. The Zoning Hearing Board Variance approval has been added to Legend and Notes-2 (Sheet 3).

14. 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.14

T&M Response: Comment addressed. A table has been added to the Site Plan (Sheet 7) with steep slope computations to demonstrate compliance.

V. TOWNSHIP ENGINEER'S COMMENTS – SUBDIVISION & LAND DEVELOPMENT ORDINANCE GILMORE & ASSOCIATES

1. Sections 162-9.B(1)(b) and 162-9.B(2)(b)[7] – Dimensions shall be set and curves shall be described as outlined in this section, shall be prepared and certified by a registered professional land surveyor, and shall be shown on a Record Plan.

   T&M Response: Will Comply

2. Section 162-9.B(1)(d) – Provide Legends on each plan sheet and verify that all features are included with matching line types / symbols. The Standard Legend on Sheet 2 should be expanded.

   T&M Response: Comment addressed. Legends have been added to all plan sheets.

3. Section 162-9.B(2)(b)[9] – The names of all owners and deed book reference of all adjacent lands and the locations and dimensions of any streets or right-of-way easements shall be provided on a Record Plan. Currently this information is only provided on the Existing Conditions Plan (Sheet 3) and the Conservation Plan (Sheet 4).

   T&M Response: Comment addressed. Sheet 3 is designated as a Record Plan.

4. Section 162-9.B(2)(b)[10] – Significant features within 100 feet of any part of the property proposed to be developed or subdivided should be shown on the plans. This may be addressed by adding an aerial photograph of the subject property and surrounding area with sufficient clarity to see existing features to the plan set.

   T&M Response: Significant features have been added to the conservation plan. See sheet 4.

5. Section 162-9.B(2)(b)[12] – Any proposed improvements requiring a permit from the U.S. Army Corps of Engineers or the Pennsylvania Department of Environmental Protection shall be so indicated.

   T&M Response: Comment noted. The approved Preliminary Jurisdictional Determination is included in this resubmission under separate cover.

6. Section 162-9.B(2)(c)[18] – Building setback lines along each street, minimum side and rear yard shall be shown. Verify that this information is shown on the Site Plan (Sheet 5).

   T&M Response: Comment addressed. Please refer to Sheet 7.

7. Sections 162-9.D(1)(d) and (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. Appendix H of the stormwater report contains a Waters and Wetland Assessment Parcel 32-1-34.1C 500 Pottstown Pike, prepared by T&M Associates and dated September 2023, Revised June 2024 & July 2024. General Notes #10 (Sheet 4) states that watercourses and wetlands shown are under review by the US Army Corps (PJD Application NAP- 2009-01363-100). This note shall be on a Record Plan, updated cite required information on the Assessment, and shall include the date of the JD (when obtained). Wetlands shall be clearly indicated on all plan view sheets, with Legends defining all wetland flag / data point symbols. We recommend that General Notes #1 regarding wetlands on Sheet 8 be removed.

   T&M Response: General Note #1 was removed from the Drainage Sheet. Notes 7 and 8 have been revised to indicate each approval.

8. Sections 162-9.E(1)(b), (c), (e), (f) and (g) – The Conservation Plan (Sheet 4) shall show all applicable items from these sections.

T&M Response: Comment addressed. Requirement b, the datum, is described in general note 2. Requirement c, existing watercourse, woodlands, trees, etc. are shown within the conservation plan. Requirement f is shown in the demolition plan (Sheet 6). The Limit of Disturbance (g) has been added to the conservation plan.

9. Section 162-9.G – The applicant shall provide a "will serve" letter from Aqua.

T&M Response: Comment addressed. The will serve letter from Aqua has been included in this resubmission under separate cover.

10. (RW) Section 162-9.H(5) – An historic resources impact statement is required when land development plans which will lead to the new construction of buildings, structures, roads, driveways, parking area, etc. is proposed within 250 feet of an historic resource. The site is within 250 feet of the "John Keeley House"; the applicant is requesting a waiver from providing a Historic Resource Impact Study.

T&M Response: Will Comply

11. Section 162-9.H.(4) – The Fiscal Impact Study shall be revised per comments in the CU review letter dated April 8, 2024.

T&M Response: Comment Noted. The revised fiscal impact study will be provided prior to final plan approval.

12. Section 162-47.A(1) – Permanent stone or concrete monuments shall be accurately placed at the intersection of all lines forming angles and at changes in directions of lines in the boundary (perimeter) of the property being subdivided. Currently rebar is proposed.

T&M Response: Comment Addressed. Permanent stone or concrete has been proposed in place of rebar (see Site Plan Sheet 7).

13. Section 162-47.A(4) – All streets shall be monumented on the right-of-way line at the following locations: at each intersection and at each end of each curved street line. Currently rebar is proposed at each right-of-way intersection with property lines.

T&M Response: Comment Addressed. Permanent stone or concrete has been proposed in place of rebar (see Site Plan Sheet 7).

14. Section 162-52 – Upon completion of other 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. A note shall be added to the plans stating same.

T&M Response: Comment addressed. Note 27 has been added to the Sheet 2 stating such.

15. (RW) Section 162-55.B(3)(a) – Woodland and hedgerow disturbance in excess of 10,000 square feet of existing area of woodland or hedgerow for each principal use permitted on any lot or tract shall require woodland replacement in accordance with Subsections B(6) through B(9). The plans show that 39,462 SF of existing woodland is proposed for disturbance. A waiver is being requested from Section 162-55.B to the extent required to provide a fee in lieu of required plantings. We note that the Landscape Requirements Table SALDO on Sheet 18 states "replacement requirements listed below", but there does not appear to be a quantity provided. The number of required replacement trees shall be provided. Finally, the table does not indicate a Waiver is being requested from this section, which shall be verified. The waiver request from Section 162-55.B should be revised to indicate specific subsections.

T&M Response: Waivers have been requested for 162-55.B and the specific subsections noted in the table. The notation in sub section 162-55.B(7) has been revised to include the waiver request. A tree survey is scheduled to measure trees 6 inches or greater and additional calculations for replacement quantities will be provided prior to final plan approval.

16. Section 162-55.B(5)(a) – Revise the Landscape Plan (Sheet 10) to include tree protection fencing. The Tree Protection and Pruning detail as well as the Orange Construction Fence / Tree Protection Fence (TPF) detail shall be added to the Landscaping notes and details sheet. The Tree Protection and Pruning detail indicates that the TPF is to be installed 15-feet from the tree trunk or 2-feet beyond the dripline of the tree. Tree Protection Notes #4 (Sheet 19) states that feeder roots of trees to be preserved shall not be cut closer than 25-feet from tree trunks. Therefore, we recommend that if accurate driplines are not shown, the TPF be shown a minimum of 25-feet from all trees to remain (conversely, show a minimum 25-foot separation between disturbance and TPF /vegetation to remain). Trees are shown to remain / be protected in the NW front/side of the site where stormwater features and grading are shown; on the southern side of the parking lot grading and plantings are shown in an area of existing vegetation to be preserved. These areas (see snippets below) shall be revised accordingly. Finally, note that if the woodland / hedgerow disturbance area increases, all replacement tree quantities should be increased.

T&M Response: The tree protection fencing has been added on the Landscaping detail (Sheet 13) and revised to include a 25-foot separation distance. Areas in the NW side of the site have been revised to be revegetated should disturbance occur.

17. (RW) Section 162-55.B(6) – Where woodland or hedgerow disturbance involves more than the maximum area permitted, one tree and two shrubs shall be planted for each 300 square feet of woodland or hedgerow disturbance area, in excess of the maximum permitted area of disturbance. A waiver is being requested from Section 162-55.B to the extent required to provide a fee in lieu of required plantings. The Landscape Requirements Table SALDO on Sheet 18 indicates “Yes” to Waiver, and that 99 trees and 197 shrubs are required.

T&M Response: Comment Noted.

18. (RW) Section 162-55.B(7) – In addition to the vegetation replacement standards established in B(6), for each tree greater than six inches dbh removed, replacement trees shall be planted based on the requirements in this section. A waiver is being requested from Section 162-55.B to the extent required to provide a fee in lieu of required plantings; the Landscape Requirements Table on Sheet 18 indicates “Yes” to a waiver from this section. Per Section 162-9.E(1)(c), specimen trees and individual freestanding trees over six inches dbh should be shown on the plans. However, no sizes of existing trees are noted on the plans; verify whether any trees greater than six inches dbh exist.

T&M Response: A tree survey is scheduled and will be completed prior to final plan approval.

19. Section 162-55.B(12) – In lieu of actual tree replacement, the Township may, at its sole discretion, require the applicant to place the equivalent cash value, as agreed upon by the Township and the applicant, of some or all of the required replacement trees into a special fund established for that purpose. Such funds shall be utilized for the purchase and installation of trees elsewhere in the Township at the discretion of the Township, especially if the site in question cannot accommodate the replacement trees required pursuant to this chapter.

T&M Response: Comment noted.

20. Section 162-55.C(1) – No wetlands or watercourses shall be regraded, filled, piped, diverted, channeled, built upon, or otherwise altered or disturbed except where all applicable state or federal permits have been obtained. General Notes #9 (Sheet 4) indicates ephemeral watercourses on site are proposed to be filled and a Chapter 105 Waiver will be sought. The Township should be copied on all correspondence and the waiver, when obtained, should be noted on the Record Plan.

T&M Response: Comment noted. PADEP confirmation that no permit or waiver is required to fill ephemeral features is included in this resubmission under separate cover.

21. Section 162-55.C(4) – All applicants shall specify the long-term management provisions that will be established for any wetlands or watercourse area, developed to minimize future land disturbance to the wetlands or watercourse area and improve the area's ecological functions and values as needed. Such management provisions shall be indicated in narrative and/or graphic form of sufficient detail to satisfy the Township that the issues in this section are adequately addressed.

T&M Response: Comment noted. Further coordination with the township engineer is required to satisfy this comment.

22. Section 162-55.D(1)(d) and 162-55.D(2) – No structures shall be placed within any riparian buffer area, and no land disturbance shall be permitted within any riparian buffer area except for regulated activities permitted by applicable state or federal regulations, and, as applicable, in accordance with Subsection C of this section. A waiver from Chapter 105 is being sought to permit the proposed filling of wetlands; however, the plans show other wetlands as well as what appears to be Waters of the Commonwealth, i.e., shows with "WC#" symbols which should be clarified. Riparian buffer area is defined as any area within 75 feet of the bank of any stream, any wetlands and any area within 25 feet of any wetland; and any area of hydric soil. The plans shall be revised to show all applicable riparian buffers; no structures or land disturbance (including plant-related disturbance) is permitted within this buffer.

T&M Response: Comment noted. PADEP has confirmed that no waiver is required to fill the ephemeral features onsite. The previously noted features are not considered waters of the commonwealth. The waiver request for disturbance within 75 feet is still being sought.

23. Section 162-57.A(2) – The entire perimeter of any tract subject to land development approval shall include a minimum 20-foot-wide perimeter buffer planting strip which will act as an effective separation between uses. The width of the proposed buffer along the northern property line appears to be less than required with only shrubs proposed along the property line. We note that the Landscape Requirements Table SALDO on Sheet 18 indicates "Yes" to Waiver; however, this section is not listed in the Waiver Request Letter.

T&M Response: Comment noted. A partial waiver has been requested to permit less than the required width along the northern property line, shared with 520 Pottstown Pike.

24. (RW) Section 162-57.D(1) – All required landscaping shall meet the minimum planting requirements outlined herein. A waiver is being requested to permit providing less than the required number of plantings and we note that the Landscape Requirements table indicates that 198 deciduous trees, 180 evergreen trees and 896 shrubs are required, and that 99 deciduous trees, 54 evergreen trees and 728 shrubs are proposed.

T&M Response: Comment noted.

25. Section 162-58.C(1) Illumination levels. The concrete area at the southwest corner of the proposed service center building does not appear to be adequately illuminated for pedestrian circulation around the building/entrance. The plan shall be revised.

T&M Response: Comment noted. The Lighting design will be revised prior to final approval to be within the required illumination levels. The applicant is working with the lighting vendor to revise the lighting design actively to be within compliance.

26. Section 162-58.C(2)(h) – Requires that LED light sources have a color temperature that does not exceed 3000K in commercial and industrial districts. It is noted that proposed lighting has a color temperature of 4000K. The plan shall be revised.

T&M Response: Comment noted. The Lighting design has been revised to not exceed 3000K in temperature. See Sheet 14 (LGT).

27. Section 162-58.C(3)(d) – Requires lighting for commercial, industrial, public recreational and institutional applications to be controlled by automatic switching devices to extinguish outdoor lighting fixtures during the hours of 11:00 p.m. and dawn, or to only have lighting on when motion is detected. It is noted the Lighting Plan does not provide any information regarding hours of illumination. Additional information shall be provided.

T&M Response: Comment Addressed. Note 2 has been added to the Lighting Plan to note the requirements for lighting controls between the hours of 11:00 p.m. and dawn. See Sheet 14.

28. Section 162-58.C(4)(b) – Requires that poles for lighting fixtures for parking areas be located a minimum of five feet outside paved area or on concrete pedestals at least 30 inches high above the pavement, or suitably protected from potential vehicular impact. The Light Base detail provided on Sheet 20 Lighting Details specifies a height of only 2'-0" for lights within 5' of vehicular traffic. The detail shall be revised.

T&M Response: Comment addressed. Refer to Sheet 14 (LGT).

29. Section 162-58.D(1)(a) – Requires the lighting plan to show vegetation that might interfere with lighting. It is noted that the proposed vegetation is not shown on Sheet 11 Lighting Plan, however in comparison to Sheet 10 Landscape Plan, it appears there may be multiple conflicts between proposed vegetation and lighting. The plan shall demonstrate that landscape and lighting have been coordinated.

T&M Response: Comment Addressed. Proposed vegetation has been revised to not interfere with proposed lighting. Sheet 11 (LSP) has been revised to show the proposed light poles.

30. Section 162-58.D(1)(c) – Requires that fixture catalog cut sheets be provided. It appears that the fixture cut sheets provided on Sheet 20 Lighting Details do not coordinate with the catalog numbers of the fixtures listed in the Luminaire Schedule on Sheet 11 Lighting Plan. Cut sheets for all proposed fixtures shall be provided.

T&M Response: Comment Addressed. Cut sheets for the proposed fixture types have been provided. See Sheet 15 (LGT-DTL-1).

31. Section 162-58.D(4) – Requires that the following note be placed on the lighting plan: "Post approval alterations to lighting plan or intended substitutions for approved lighting equipment shall be submitted to the Township for review and approval prior to installation."

T&M Response: Comment addressed. See Note 1 on Sheet 14 (LGT).

VI. TOWNSHIP ENGINEER'S COMMENTS – STORMWATER MANAGEMENT ORDINANCE GILMORE & ASSOCIATES

1. Section 152-301.H – Drainage facilities located on the site shall be designed to safely convey flows from outside of the site through the site. Currently the plans show an existing 24-inch CIP ("silted") and a 15-inch CCP discharging onto the site; these pipes are proposed to connect into the [bypass] site collection system (via proposed storm MHs A9 and A10). However, no upstream structures draining to the 15-inch CCP are shown (whereas two inlets are shown that drain through the 24- inch CIP). Note that there are multiple existing inlets that drain to these discharge points that should be shown on the plans. Also, there are existing inlets farther south on Pottstown Pike that may also discharge to the site; this shall be verified. The full DA to these structures shall be shown on the DA maps. Finally, we note that while "ex-struc1" and "ex-struct2" are shown in the Node Summary (Appendix E in stormwater report), it appears that no flow was modeled to MH A10 but flow is indicated to MH A9; these shall be verified. A view from the Township's MS4 Map showing existing inlets in this area is below (for reference).

T&M Response: The full drainage areas to the existing inlets (exg-1,-2 and -3) have been added to the DA plans and the storm sewer (SSA) report included in the Appendix E of the PCSM report have been updated accordingly to include the existing drainage areas to the bypass system (HW A3 to MH A11).

2. Section 152-301.M – Existing wetlands, either on the site or on an adjacent property, shall not be used to meet the minimum design requirements for stormwater management or stormwater runoff quality treatment. Stormwater discharges to existing wetlands shall not degrade the quality or hydrologic integrity of the wetland. DP-001 is located offsite, within an area of existing wetlands. Clarify why DP-001 is not located along the LOD (possibly HW A).

   T&M Response: Location of DP-001 has revised to be at HW-A1, and the point of analysis 1 (POA-001) has added to the property line to be consistent with the DEP PCSM Module 2 where stormwater managements requirements are demonstrated. See Sheet 29 (PCSM).

3. Section 152-301.N(3) and (11) – Specific structural or pollution prevention practices may be required, as determined to be necessary by the municipality, to pretreat runoff from hotspots prior to infiltration. Proposed possible hotspots include vehicle service and maintenance facilities and facilities that generate or store hazardous materials (battery burnout structure). Verify how neither will contribute to runoff pollution. Water quality inserts appear to be proposed in some inlets; clarify whether proposed in all (if not, provide in all). Verify that these inserts deal with expected pollutants. Provide a detail of the burnout structure.

   T&M Response: Water quality inserts are proposed on all the inlets, the PCSM plan has been updated accordingly to show locations. The Flexstorm Pure Inlet Filters Detail has been added to the plans, see sheet 31 (PCSM-DTL-2). The proposed pure inlet filter will remove the anticipated pollutants per the 2006 BMP Manual. A burnout structure detail has been added to the plans as "Quarantine Wall Detail". See sheet 17.

4. Section 152-301.O – Where BMPs may contribute to the migration of contaminants in groundwater, the water quality and runoff volume, stream channel protection, and peak rate control standards shall be met; however, at the municipality's discretion, the minimum infiltration requirement may be reduced or eliminated commensurate with the contaminated area and the required water quality and runoff control measures may be increased to mitigate the reduced infiltration requirement for the contaminated area. The stormwater report's Environment Conditions notes that a previously completed Phase I indicates that soils contaminated with petroleum remain on the site, i.e., an Historically Recognized Environmental Condition exists on the site. Please provide a copy of the Phase I study for review.

   T&M Response: A copy of the Phase I study has been provided. A release of liability was issued by PADEP previously indicating that residual potential contaminants are below nonresidential standards.

5. (RW) Section 152-301.T – Disturbance of existing ground cover during construction of the proposed regulated activity is prohibited within 75 feet of top-of-bank of all perennial and intermittent waterways, water bodies (lakes, ponds, etc.) and wetlands, except for activities otherwise approved by state or local agencies (e.g. stream restoration projects, road crossings, subsurface utility projects, etc. The plans show disturbance less than 75-feet from wetlands, and also shows areas of wetlands to be removed/filled. The applicant is seeking a waiver from this requirement. Per Section 152-111.C, the Board of Supervisors cannot grant a waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one acre unless that action is approved in advance by PADEP or the Chester County Conservation District. Please provide approval from PADEP or the Chester County Conservation District for the Boards consideration.

   T&M Response: Acknowledged. Approval from PADEP will be provided upon receipt.

6. Sections 152-302.A and C – Permits for all regulated activities subject to permit or regulatory requirements by PADEP under regulations at Title 25 Pennsylvania Code Chapter 102 and any BMP or conveyance that would be located in or adjacent to surface waters of the commonwealth, including wetlands, subject to permit by PADEP under Title 25 Pennsylvania Code Chapter 105 are required prior to construction.

T&M Response: Acknowledged

7. Section 152-303.A(1) – A "letter of adequacy" from the Conservation District and an NPDES permit are required for the project. Copies of all correspondence shall be provided to the Township.

T&M Response: Acknowledged. Copies of correspondence shall be provided upon receipt.

8. Section 152-305.A – The post-construction total runoff volume shall not exceed the predevelopment total runoff volume for all storms equal to or less than the two-year, twenty-four-hour duration precipitation (design storm). Infiltration is not proposed, as the testing showed the site does not infiltrate. Please provide verification the required volume will be managed by the MRC Basin.

T&M Response: The Modified SCM - Constructed Wetland Basin with MRC is demonstrated to meet or exceed all 15 standards developed for MRC raingarden/underground storage applications. The required volume credit is completed in NPDES Worksheet and as per full guidance of 2006 BMP Manual and Draft 2023 PCSM Manual.

9. (W) Section 152-306.D – Only if a minimum infiltration of the first ½ inch of runoff volume cannot be physically accomplished on the site, shall a waiver from Section 152-306 be considered by the municipality in accordance with Section 152-111 (the Board of Supervisors cannot grant a waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one acre unless that action is approved in advance by PADEP or the Chester County Conservation District). Infiltration testing indicates the site does not infiltrate. Please provide approval from PADEP or the Chester County Conservation District for the Boards' consideration.

T&M Response: Will Comply Acknowledged. Approval will be provided upon receipt.

10. Section 152-306.D(1)(b) – For regulated activities involving new development the applicant shall utilize the ground cover assumptions for all other areas than woods (including all impervious surfaces), predevelopment calculations shall assume ground cover of "meadow" for all predevelopment peak flow rate calculations. The stormwater report uses "paved parking" CN value for the DIST watershed which shall be revised accordingly.

T&M Response: The "paving parking" in the existing models represents a portion of paving along Pottstown Pike that is within the limit of disturbance where the proposed access driveway ties into, note that the required 20% impervious as meadow was included in the model.

11. Section 152-311.G(6) – At all inlets or manholes, the maximum allowable headwater depth shall be one foot below the top of the inlet grate of the manhole cover. Once the upstream drainage area has been verified, compliance can be determined.

T&M Response: All the Inlets and Manholes meet the required allowable headwater depth of 1 foot below the top of grate/cover. See the SSA report in Appendix E of the PCSM report.

12. (W) Section 152-311.H(1) – The maximum depth of water in a detention or retention basin shall be two feet as a result of a 2-year, twenty-four-hour storm event and five feet as a result of a 100-year, twenty-four-hour storm event. The plans and report indicate there will be a permanent water depth in the basin of five feet, with a total depth of 6.65-feet during the 2-yr. storm event and a total depth of 8.48-feet during the 100-yr. storm event. Therefore, the water depth maximums have been exceeded and a waiver will need to be sought. In accordance with Section 152-111, the Board of Supervisors cannot grant a waiver or modification of any regulated stormwater activity involving earth disturbance

greater than or equal to one acre unless that action is approved in advance by PADEP or the Chester County Conservation District. Please provide approval from PADEP or the Chester County Conservation District for the Boards' consideration.

T&M Response: Acknowledged. Approval shall be provided upon receipt.

13. Section 152-311.H(3) – Emergency spillways for facilities which may attenuate more than three feet of water, shall be paved with concrete monoslab pavers which shall run off the sides and down each side of the berm. Revise the spillway detail accordingly.

T&M Response: Spillway has been revised to be lined with cable concrete from the interior of the embankment to the outer edge of the spillway. The area from the outer edge of the spillway to the tow of the slope will be lined with Typar Grassprotecta Blanket due to avoid disturbance withing the wetland buffer. Earth disturbance shall not occur during installation of the Typar. A partial waiver for this section will be requested. See detail on Sheet 30 (PCSM-DTL-1).

14. Section 152-311.H(5) – The maximum slope of earthen detention basin embankments shall be three to one. Provide a typical slope label on the Grading Plan.

T&M Response: Slope labels have been added to the sides of the Constructed Wetland embankments, the maximum slope of three to one requirement is met. See Sheet 8 (GRD).

15. Section 152-311.H(6) – The minimum top width of detention basin berms which may attenuate greater than three feet of water, shall be 10 feet. Berms shall be constructed of clay and shall have a key cut into virgin soil. Provide dimensions and / or details as needed to verify compliance.

T&M Response: A berm detail showing constructed material, key cut, and berm width has been added to the plans, see Sheet 30 (PCSM-DTL-1).

16. Section 152-311.I(7) – Fencing shall be required around all basins where water may attenuate greater than three feet. All fencing shall be at least 3½ feet in height. Show the fencing on the plans and provide a detail.

T&M Response: The fence around constructed wetlands have been added to the site plan, see sheet 6 (STE). See "Fence-Chain Link" detail on Sheet 16 (CSD-1).

17. Section 152-402.A(2) – The PCSM plan shall include a listing of all regulatory approvals required for the proposed project and the status of the review and approval process for each. Final approval or adequacy letters must be submitted to the municipality prior to (or as a condition of) the municipality's issuing final approval of the SWM site plan. Proof of application or documentation of required permit(s) or approvals for the programs listed below shall be part of the SWM site plan, if applicable.

T&M Response: All the permits and approval for the aforementioned programs shall be submitted to the township upon receipt.

18. Sections 152-402.A(3) to A(5) – The statements / signature blocks in these sections are currently located on Sheet 1 and shall be relocated to the PCSM plan (Sheet 28).

T&M Response: Statement and signature blocks have been relocated to the PCSM plan, see sheet 29 (PCSM).

19. Section 152-402.B(8)(j) – The Areas classified by the municipality as steep slopes shall be shown on the PCSM plan.

T&M Response: Steep slopes areas have been added to the PCSM plan, see sheet 29 (PCSM).

20. Section 152-402.B(8)(q) – Boundaries of a seventy-five-foot construction non-disturbance buffer to protect streams (intermittent and perennial), wetlands and other water bodies during construction of

the proposed regulated activity shall be shown on the PCSM plan. We note the applicant is requesting a waiver from this requirement in Section 152-301.T.

T&M Response: Acknowledged.

21. Sections 152-402.B(12), 152-402.B(18)(b) and 152-702.A(5) – The total extent of the upstream area draining through the site shall be shown. Delineation of the land area, structures, impervious surfaces, and conveyances draining to and from the BMP or conveyance shall be shown. Flow onto the site needs to be verified as existing inlets that discharge onto the site are not included.

T&M Response: All the drainage areas contributing to the point of analysis (POA-001) including pervious/impervious surfaces have been added to the calculations and plans, see PCSM report appendix B, C, and J. Drainage area to the existing inlets (EXG IN-1,2, &3) that discharge onto the site have been included in the Drainage Area Plans in Appendix J.

22. Section 152-402.B(13) – Complete delineation of the flow paths used for calculating the time of concentration for the predevelopment and post-construction conditions shall be included. Verify that the Tc path is shown correctly on the Proposed Drainage Area Map, as it appears incorrect.

T&M Response: Delineation of time of concentration (TC) paths have been revised for existing and proposed conditions, see Existing and Proposed Drainage Area Maps included in Appendix J of the PCSM report.

23. Sections 152-402.B(18)(c), 152-702.A(10), 152-704.A and 152-704.B – Verify that all proposed easement information is shown. We recommend that a blanket easement be provided, which should be noted on the Record Plan as well as the PCSM Plan.

T&M Response: A blanket stormwater management easement over the entire site to granted to the township to allow legal access and maintenance note has been added to the plans, see General Note 27 on Sheet 2 (LEG) and Upper Uwchlan Township PCSM Notes on sheet 29 (PCSM) .

24. Section 152-402.F – The documents outlined in this section shall be prepared and submitted to the municipality for review and approval as part of the SWM site plan for each BMP and conveyance included in the SWM site plan. Verify that all applicable items are provided.

T&M Response: Acknowledged, all applicable items will be provided prior to final plan approval.

25. Section 152-404.H – All of the final approved SWM site plans shall be recorded (as "recorded plans") per the instructions of the municipality. For clarity we recommend a notation be added to the plans stating which SWM plans are to be recorded.

T&M Response: A notation stating "Record Plan Sheet __ of 22" has been added to the PCSM plans, see sheets 29 to 33.

26. Sections 152-701.D, 152-701.E, 152-701.F and 152-703 – All agreements and plans (i.e., O&M agreement, O&M plan, deed restrictions, right of entry, covenants, etc.) shall be provided for approval and recorded as outlined in these sections.

T&M Response: Acknowledged. All agreements and plans will be provided prior to final plan approval.

27. Sections 152-702.B(4), 152-702.C , 152-702.D, and 152-702.E – The statements in these sections shall be provided on the PCSM Plan (Sheet 18).

T&M Response: Statements have been added to Upper Uwchlan Township PCSM Notes, see Sheet 29 (PCSM).

28. Section 152-705.B – 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. Add a note to the PCSM plan (Sheet 18) stating same.

T&M Response: Statement under section 152-705.B is included under statement requirement of section 152.702.E and has been added to Upper Uwchlan Township PCSM, see Sheet 29 (PCSM).

29. Sections 152-804.A and 152-804.B – The statements in these sections shall be added as notes to the PCSM plan (Sheet 18).

T&M Response: Statements have been added to Upper Uwchlan Township Alteration of BMPS Notes, see Sheet 29 (PCSM).

30. On the Inlet DA Map, verify "DA I-1.15 OFF" and "I-1.16 OFF" as they appear incorrect (exclude upstream DA). On the Proposed DA map, verify OFFSITE BASIN 1 as it appears incorrect.

T&M Response: Drainage areas have been revised accordingly; existing inlets, drainage features, PASDA contours, site survey contours, and a site visit have been used to delineate all the DAs, see drainage areas plans. The areas "DA I-1.15 OFF" and "I-1.16 OFF" have been verified.

31. The existing pipes' INV IN shall be added to the MH A9 and A10 labels on the Grading Plan (Sheet 8).

T&M Response: Existing pipe inverts to MH-9, -10, and -11 have been added to the plans, see Sheet 8 (GRD).

32. Verify that the existing pipes and structures to MH A9 and MH A10 are shown on the PCSM Plan (Sheet 28).

T&M Response: Existing pipes and structures to MH-A9, -A10, and -A11 have been added to the plans, see Sheet 29 (PCSM).

33. The DA "UNM" appears to be missing the area between the EW and the upstream MH, which shall be revised.

T&M Response: DA UNM has been revised to include all disturbed areas, see drainage areas plans included in Appendix J of the PCSM report.

34. Revise the Inlet DA map to show the DA label for I-1.15 (currently "under" other text).

T&M Response: Inlet drainage area plan has been revised to clearly show label for I-1.15, see drainage areas plans included in Appendix J of the PCSM report.

35. The UNDIST1 BASIN1 area shall be revised to reflect the actual tree clearing required.

T&M Response: DIST TO BASIN 1 has been revised to include the tree clearing, and the UNDIST 1 BASIN 1 has been removed from the model, see drainage areas plans included in Appendix J of the PCSM report, and Proposed Condition Model included in Appendix D of the PCSM report

36. Verify which inlets are proposed to have water quality inserts; PCSM Plan (Sheet 28) indicates some inlets with a "B" designation, whereas the PCSM Legend shows a symbol for these inserts which is shown on every proposed inlet.

T&M Response: All inlets are proposed to have water quality inserts. A callout (designation C) has been added to all the inlets, see Sheet 29 (PCSM).

37. We recommend the Basin be routed a one BMP, i.e., without separately routing the Forebay.

T&M Response: Forebay has been added to Basin 1 (CW) to route as one SCM/BMP, see Proposed Condition Model Included in Appendix D of the PCSM report.

38. Provide details for the Basin 1 Forebay spillway.

T&M Response: A Basin 1 Forebay spillway detail has been added to the plans, see Sheet 30 (PCSM-DTL-1).

39. Provide dimensions and elevations on the Grading and PCSM plans for the Basin 1 Forebay spillway and provide dimensions on the Basin 1 Constructed Wetland Basin spillway.

T&M Response: Dimensions and elevations for the Basin 1 emergency spillway and Forebay spillway have been added to the plans, see sheet 8 (GRD) and sheet 29 (PCSM).

40. Clarify modeling the pipe from EW A1 into OS A2 as an outlet device.

T&M Response: The pipe from EW A1 to OS A2 is a reverse slope pipe that is a required component of the constructed wetland SCM/BMP per the guidance of 2006 BMP Manual and Draft 2023 PCSM Manual, the intend of the reverse pipe is reduce thermal impact since it draws water from a deeper, cooler section of the permanent pool.

41. Provide "T" in the Spillway detail (Sheet 29).

T&M Response: The spillway elevation for the top of spillway has been added to the callout, see Sheet 30 (PCSM-DTL-1).

42. Clarify where the dimensions for the grate opening (top) on the Constructed Wetlands Basin Outlet Structure are shown (Pond 7P Basin 1 CW indicates a 24"x48" grate / TG).

T&M Response: The constructed wetland basin outlet control structure top view on sheet 30 (PCSM-DTL-1) has been revised to show a standard inlet box with all the dimensions for the grate opening to be consistent with the Proposed Condition Model included in Appendix D of the PCSM report.

43. Provide additional proposed contour elevations in the Basin 1 Forebay on the Grading Plan (Sheet 7) and verify the grading matches the PCSM plan.

T&M Response: Contour elevations in the Basin 1 Forebay have been added to the plans, see sheet 8 (GRD) and sheet 30 (PCSM).

44. Revise the alignment of HW A1 to be in line with the pipe or revise the alignment of the pipe to be in line with HW A1.

T&M Response: A manhole MH-1.10 has been added between OCS A1 and HW A1 to align the pipe with HW A-1, see sheet 9 (DRN).

45. Revise BMP Specifications (Sheet 30) to provide the actual proposed plantings on the plans.

T&M Response: The Landscaping Schedule for the Basin Plantings has been added to sheet 33 (PCSM-NTE)

46. Verify the contours vs. the "dark lines" between the labeled 489- and 491-contours in the Forebay on the Constructed Wetland Basin Plan View (Sheet 31). Also note that the labeled 491-contour is also a "dark line."

T&M Response: Dark lines have been removed from the Constructed Wetland Basin Plan view on PCSM-DTL-3 sheet 32.

47. Clarify whether the Summary for Pond 5P: CW Below SW includes the permanent water in the Forebay.

T&M Response: Summary for Pond 5P: CW below SW does not include the forebay permanent water, the forebay water volume below the surface water is included in summary for Pond 6P: Forebay below SW includes, see Appendix B of the PCSM report.

48. Verify the "Spillway" from OCS A2 to HW A1 on the Constructed Wetland Basin Cross Section (Sheet 31) as it does appear correct.

T&M Response: Spillway callout on the Constructed Wetland Basin Cross Section has been removed, the alignment of the cross section does not cross the Basin 1 emergency spillway, see constructed wetland basin plan view on sheet 32 (PCSM-DTL-3).

VII. TOWNSHIP ENGINEER'S COMMENTS – GENERAL GILMORE & ASSOCIATES

1. Trees are planted less than 4-feet from retaining walls in numerous locations, located less than 10-feet from utilities (storm, sanitary, etc.) in several locations, and are on the UGE utility line between Pottstown Pike and the parking, all of which should be revised.

T&M Response: Trees have been relocated to at least 4 feet from retaining walls and 10 feet from utilities where possible. Tree species provided within proximity to retaining walls and underground utilities are selected based on smaller size to avoid conflict to the greatest extent feasible. Trees planted along retaining walls are located at the bottom of the wall at the maximum distance away.

2. The Demolition Plan (Sheet 5) shows disturbance (removal of an existing 6-inc DIP) beyond the wetland protection fence, which shall be verified / revised.

T&M Response: Comment addressed. The demolition plan has been revised to show the 6" DIP water line as a cap and fill not removal. Disturbance will not be conducted within the wetland protection fence.

3. The retaining wall is over 4-feet in height; engineered design drawings and details are required. General Notes #2 (Sheet 8) states the contractor to refer to retaining wall plans by others for storm conveyance penetration details; this note shall be on the Record Plan and shall reference the retaining wall plans and calculations (i.e., by title / preparer and note latest approved [revision] date).

T&M Response: Comment addressed. The note has been added to the site plan (Sheet 6).

4. Based on proposed stormwater structure depths (i.e., MH A9 and MH A8 less than 3-feet from property line), it appears that grading may occur on the northern adjacent property; this shall be verified.
T&M Response: The proposed storm piping run from MH-A9 to HW-A3 has been revised to connect to MH-1.10 and run through the proposed parking area. See Sheet 9 (DRN).

4. We recommend that the Landscape Notes & Details sheet and the Lighting Details sheet be located sequentially with the Landscape Plan and Lighting Plan.

T&M Response: Comment addressed.

6. There are General Notes included on many plan sheets; these Notes should be organized and on appropriate sheets. Examples are as follows:

   a. Site Data & Notes (Sheet 2) should be located on a Record Plan;

   T&M Response: Comment addressed.

b. Grading Notes #25 (Sheet 2) and General Demolition Notes #16 (Sheet 5) state "Refer to Site / Record Plan for additional notes"; however, there are no notes on the Site Plan (Sheet 6);

T&M Response: Comment addressed.

c. Title Exceptions (Sheet 3) should be on a Record Plan;

T&M Response: Comment addressed.

d. General Notes (Sheet 4) shall be on a Record Plan;

T&M Response: Comment addressed.

e. General Notes #6 (Sheet 4) should be removed as alterations to existing site should be shown on the submitted plans;

T&M Response: Comment addressed.

f. General Notes #8 (Sheet 4) should be removed as erosion and sedimentation compliance should be shown on the submitted plans.

T&M Response: Comment addressed.

VIII. TOWNSHIP TRAFFIC ENGINEER'S COMMENTS BOWMAN

Conditional Use Order

1. Conditional Use Order 2 – This condition requires the applicant to address all outstanding comments from the Township consultants during the conditional use review. The current land development submission does not include a revised traffic study, and therefore, those comments remain outstanding.

   T&M Response: The Traffic Impact Study has been revised and included in the resubmission package.

2. Conditional Use Order 6 – The applicant shall install a traffic signal at the site access intersection with Pottstown Pike/Font Road. If PennDOT does not approve a traffic signal, the applicant shall install other intersection improvements to improve intersection levels of service, or restrict turning movements at the access intersection. We are not aware of any progress by the applicant to pursue signalization of the intersection. The applicant must coordinate with the Township and copy the Township on all correspondence with PennDOT.

   T&M Response: Per the meeting held on March 7th, 2025 between the Applicant, PennDOT and the Township a traffic signal is now being proposed at the intersection of Route 100 & Font Road/Proposed access.

3. Conditional Use Order 7 – As required by this condition, the land development plans show a 125- foot southbound Pottstown Pike left-turn lane for traffic entering the site. This must also be reflected on the PennDOT Highway Occupancy Permit (HOP) and within the updated traffic study for further review.

   T&M Response: So noted. The warranted left turn lane will be included in the Land Development plans, as well as the future PennDOT HOP Plans.

4. Conditional Use Order 8 – Subject to PennDOT approval, the plans shall be revised to show a northbound Pottstown Pike right-turn deceleration lane or taper. As detailed in this condition, the Township prefers the deceleration lane. This must be explored in more detail by the applicant, and in coordination with PennDOT as part of the HOP process. The applicant must coordinate with the Township and copy the Township on all correspondence with PennDOT. The land development plans

should be revised to reflect the final access improvements subject to further evaluation and coordination with the Township and PennDOT.

T&M Response: Based on the meeting held on March 7th, 2025 between the Applicant, PennDOT and the Township, it was discussed that the Traffic Study would be updated to reflect the items discussed and based on the revised analysis, the Township and the Department would review the results to determine if the proposed deceleration taper would be sufficient to serve the proposed driveway in lieu of the warranted 125' deceleration lane.

5. Conditional Use Order 10 – As required by this condition, the land development plans should be revised to show a shared use path along the site frontage. If the applicant has any questions regarding this requirement, we recommend the applicant schedule a meeting with the Township.

T&M Response: Comment noted. A pedestrian pathway along the property frontage will be provided prior to final plan approval.

6. Conditional Use Order 11 – As required by this condition, the applicant shall coordinate with the Township to provide a public trail on the property that would provide a connection to Fellowship Fields. If the applicant has any questions regarding this requirement, we recommend the applicant schedule a meeting with the Township.

T&M Response: It has been assessed and determined infeasible to provide a pedestrian connection pathway to fellowship fields through the site.

7. Conditional Use Order 12 – The proposed development is located in the Township's Act 209 Transportation Service Area, and as such, this development is subject to the Township's Transportation Impact Fee of $2,334 per weekday afternoon peak hour trip.

T&M Response: So noted.

Transportation Impact Study

A revised traffic study was not provided as part of the current land development plan submission. As such, the following comments are largely carried over from the conditional use review, and modified as appropriate based on the land development plans.

8. ZO Section 200-75.H(3) – 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.

T&M Response: A traffic signal is now being proposed in relation to the intersection of Route 100 & Font Road/Proposed access. Therefore, egress can now be made during green time provided by the signal.

9. 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.

T&M Response: As requested, updated traffic counts were conducted at the intersection of Route 100 & Font Road/Proposed access on Thursday, April 18th, 2024, while schools were confirmed to be in session. The new counts were used to balance the volumes at the other two (2) study area intersections.

10. SALDO Section 169-9.H(1)(a) – The conditional use application and the previously submitted traffic study was based on a 36,380 square-foot building; however, the land development plans show a 45,774 square-foot building. In addition, we are aware that PennDOT previously had comments regarding the trip generation calculation. The traffic study should be updated to reflect the current square footage of the building and address PennDOT's trip generation comment.

T&M Response: Based on the March 7th, 2025 meeting held with PennDOT and Upper Uwchlan Township representatives, it is TPD's understanding that all parties were agreeable to trip generation methodology utilized in the TIS, specifically since the Proposed Site will service the local Porsche Dealership and not open to the public. However, the trip generation was updated to match the proposed building size depicted on the latest Land Development plans. It is TPD's opinion that the trip generation is conservative for the anticipated use.

11. SALDO Section 169-9.H(1)(a) – The crash evaluation should be updated to include non-reportable crash data for the Pottstown Pike/Font Road intersection.

T&M Response: Since Pottstown Pike (S.R. 0100) is a state-maintained roadway, TPD utilized PennDOT reportable crash data for the signal warrant evaluation, which showed zero (0) crashes during the analyzed time period. However, it should be noted that other volume-related signal warrants were satisfied at the intersection.

12. SALDO Section 169-9.H(1)(a) – 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).

T&M Response: Will comply. 12 hour traffic counts were completed, and the traffic signal warrant analyses were updated accordingly.

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.

T&M Response: So noted. The TIS has been revised to show multiple volume scenarios, with and without the EB Right turn volume included, as discussed during the March 7th, 2025 meeting.

d. 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.

T&M Response: Will Comply

e. Evaluate Warrant 7 (Crash Experience) using the non-reportable crash data.

T&M Response: Since Pottstown Pike (S.R. 0100) is a state-maintained roadway, TPD utilized PennDOT reportable crash data for the signal warrant evaluation, which showed zero (0) crashes during the analyzed time period. However, it should be noted that other volume-related signal warrants were satisfied at the intersection.

f. Evaluate Warrant PA-1 (ADT Warrant).

T&M Response: It is TPD's experience that PennDOT no longer accepts this warrant to justify signalization.

13. 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 operate with delay (LOS F) during both peak hours. The traffic study also includes a gap study evaluation for this intersection. The gap study shows there are some available gaps to accommodate side street traffic, but not an excessive number of gaps. Furthermore, the gap study should be updated using the new traffic counts. However, there is no need for an updated gap study if a traffic signal is approved for this intersection as part of this project.

T&M Response: This comment is no longer applicable, as a traffic signal is now being proposed at the intersection of Route 100 & Font Road/Proposed access.

14. 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.

T&M Response: So noted. Will comply. A meeting was held between the Applicant, PennDOT and the Township was held on March 7th, 2025 to discuss the intersection control to be provided as part of the proposed project. During that meeting, the roundabout option was determined to be no longer viable, however, it was agreed that pending the results of the traffic signal warrant analysis, a traffic signal would be installed at the intersection of Route 100 & Font Road/Proposed access. The Traffic Study has been updated to include signalization at this intersection to be installed by the Applicant.

Land Development Plans

15. ZO Section 200-75.H(3) – The limits of the plan information along Pottstown Pike should be expanded to show the full extent of the labeled sight distances. As currently shown, we are unable to verify whether the sight distance lines are shown correctly. In addition, the plans should dimension and label the sight distances for left-turn vehicles entering the proposed driveway looking ahead and behind. Furthermore, 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."

T&M Response: Comment addressed. Site distances are shown on the Sheet 6 (STE).

16. SALDO Section 162-28.A – The plans should clearly label and dimension the existing legal right-of- way along the Pottstown Pike site frontage.

T&M Response: Comment addressed. The legal right of way dimension has been added to Sheet 6 (STE).

17. The Township's Active Transportation Plan 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 part of the other trail and path comments as described in the conditional use decision.

T&M Response: This comment will require additional coordination with the township and shall be satisfied prior to final plan approval.

18. Detailed curb ramp designs for all proposed curb ramps located within public right-of-way or for public use 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.

T&M Response: Will Comply. Curb ramp shall be in conformance with approved HOP Plans.

19. ZO Section 200-73.H and 200-73.K – According to the parking/loading requirements table on sheet 6, the site requires 114 parking spaces, including 52 spaces for stored vehicles. By comparison, the plans show 358 parking spaces, which exceeds the parking supply requirement by 244 parking spaces. The plans also show there are 87 triple stacked parking spaces, which if used for storage, would indicate it is proposed to store more than 52 vehicles on the site at one time. However, we understand from the conditional use hearing that the applicant has future plans for a phase 2 development, which is not the subject of the current land development application; however, this phase 2 development will also include car sales for which additional parking will be needed, and is the reason for the excess parking supply provided on the current land development plans.

T&M Response: Comment noted.

20. Since retaining walls are shown throughout the site, we question whether fence is needed in areas of anticipated pedestrian activity, if any. Also, we question whether a railing is needed for the stairs near the northeast corner of the building. Our office will defer to the Township Engineer on this matter.

T&M Response: Comment noted.

IX. TOWNSHIP PLANNER COMMENTS BRANDYWINE CONSERVANCY COMMENTS

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.

T&M Response: Comment noted.

2. The Conservancy notes the applicant has requested several waivers to various Township ordinances. These are:

   a. Chapter 152, Stormwater Management, Section 152-301.T – General Requirements. The Brandywine Conservancy suggests the Township seeks advice from its engineer and/or a qualified wetland specialist to determine if the claims of the applicant, that the wetlands are manmade and of poor quality, are accurate and to then base their waiver decision on information obtained from the appropriate professional consultant.

   T&M Response: Comment noted.

   b. Chapter 162, Subdivision and Land Development, Section 162-9.H(5) – Historic Impact Statement.

The Brandywine is comfortable with the waiver request, assuming the applicant conforms to the conditions set during the Conditional Use Approval to provide an effective buffer between the John Keely House and the proposed development.

T&M Response: Comment noted. A historic impact statement has been included with the resubmission.

c. Chapter 162, Subdivision and Land Development, Section 162-55.B – Woodland Replacement

The Brandywine conservancy recognizes that the proposed use, development, and layout of the site makes conforming to this Section of the Subdivision and Land Development Ordinance difficult. If the Township moves to grant this Waiver, the Brandywine Conservancy strongly encourages the Township to seek a full, fee-in-lieu of the required plantings to support additional tree planting elsewhere in the township.

Related to this item, the Brandywine Conservancy suggest the applicant check their table on sheet 18 to ensure the "Yes" statements associated with Waivers are in the correct line of the table. The Conservancy does not believe the applicant is requesting a waiver for perimeter buffer requirements (line 1 in the table) but is seeking a waiver for Woodland and Hedgerow Disturbance (line 2 in the table).

T&M Response: Comment noted.

d. Chapter 162, Subdivision and Land Development, Section 162.57.D(1) – Minimum Planting Standards

Like the previous Waiver, the Brandywine Conservancy recognizes that the proposed use, development, and layout of the site makes conforming to this Section difficult. The Conservancy suggests the applicant examine whether additional plantings can be made within the constructed stormwater wetland to increase the number of plantings and reach closer to the goal.

Related to this item, the Conservancy notes that two grass species (totaling 199 plants) have been included within the shrub table on sheet 18. Without these grasses (which don't meet the definition of a shrub), the shrub total would be lower still.

T&M Response: Comment noted.

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 Preliminary Land Development 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.

T&M Response: Comment noted. A pedestrian pathway along the property frontage will be provided prior to final plan approval.

5. 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 mixes will greatly enhance pollinator habitat and enhance infiltration at the site over a traditional grass basin. However, the Brandywine Conservancy suggests that either the wetland meadow mix, an alternative seed mix, or appropriate plugs be shown to vegetate the areas shown as low and high wedge marshes on sheet 31. Currently, no ground cover or seed mix is shown for these areas.

   T&M Response: Comment addressed. Vegetative cover and seed mix has been added to the stormwater feature. See Sheet 33 (PCSM-NTE).

6. The proposed plant material still contains several non-native species. The Conservancy encourages the applicant to seek alternative native plants for those non-native species currently included in the plan.

   T&M Response: Comment noted.

7. The applicant should reorder the plan sheet set to have all the landscape related sheets adjacent to one another (the notes are currently 8+ sheets away from the landscape plan).

   T&M Response: Comment addressed. Plans were reordered in sequential order. See Sheets 11-13.

8. While a minor point, and having already been granted, we do suggest the applicant make note of the approved Variance associated with the manmade steep slopes on the property somewhere on the Plan set.

   T&M Response: Comment addressed

X. TOWNSHIP SEWER AUTHORITY ENGINEER COMMENTS ARRO

1. The plans propose the construction of a 45,774 square foot (SF) service center, with a lot for vehicular sales and service uses of 358 spaces 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.

   T&M Response: Comment noted.

2. The following notes shall be on the plan:

   a. 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.

      T&M Response: Comment noted.

   b. The Authority Engineer shall be notified 48 hours prior to the beginning of sanitary sewer construction.

      T&M Response: Comment noted.

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

T&M Response: Comment noted.

d. 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.

T&M Response: Comment noted.

e. A record (as-built) plan must be submitted to the Authority Engineer.

T&M Response: Comment noted.

2. Sewage facilities planning module (SFPM) approval will need to be obtained by the Pennsylvania Department of Environmental Protection (PADEP).

T&M Response: Comment noted.

3. Currently, there is no sewer main within the Pottsville Pike's (SR 0100) right-of way to connect this site to public sanitary sewer.

T&M Response: Comment noted.

4. The appropriate Standard Authority Sanitary Sewer Details shall be added to the plans.

T&M Response: Comment noted. Necessary details will be added to the plans.

5. An appropriately sized oil grease interceptor shall be provided for service center.

T&M Response: Comment noted.

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

T&M Response: Comment noted.

XI. TOWNSHIP FIRE MARSHAL COMMENTS

1. Please advise where hydrant(s) are located.

T&M Response: Comment addressed. Hydrants are shown on the utility plan.

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

T&M Response: Comment noted.

3. Advise what types of fuel and oil will be stored on the property, the quantities, type of containers, and location(s).

T&M Response: Comment noted. Response to comment will be discussed at future public meeting.

4. Advise the number of vehicles that will be stored on the property, inside and outside.

T&M Response: There are 356 parking spaces on site and are anticipated to be fully utilized. There are no internal storage parking spaces.

5. Advise the number of electric vehicles that will be stored on the property, inside and outside.

   T&M Response: There are 9 EV charging stations for 18 electric vehicles. EV's will be serviced and will be temporarily stores in the service center while being serviced.

6. Advise if all or part of the building will be sprinklered.

   T&M Response: Comment noted. The entire building will be sprinklered.

7. It appears that there is adequate turning radius and maneuverability for a 40' tower truck.

   T&M Response: Comment noted.

8. The property address needs to be clearly posted and visible when traveling in both directions of Pottstown Pike / Route 100.

   T&M Response: Comment noted.

9. Landscaping/trees along the driveway need to be of a variety that will not impede fire apparatus.

   T&M Response: Comment noted.

XII. HISTORICAL COMMISSION COMMENTS

Comments will be provided under separate cover.

Thank you very much for the opportunity to respond to these comments. If you have any questions, please feel free to contact me.

Very truly yours,
T&M Associates



Jacob Tackett
Principal Staff Designer

April 10, 2025
TPD# TMAS.00013

Info@TPDinc.com

AUTOMOTIVE SERVICE CENTER DEVELOPMENT

Transportation Impact Assessment

Upper Uwchlan Township, Chester County, PA

For Submission To:

Upper Uwchlan Township & PennDOT District 6-0

Moving ***Forward*** **Together**®

AUTOMOTIVE SERVICE CENTER DEVELOPMENT
TRANSPORTATION IMPACT ASSESSMENT

FOR SUBMISSION TO:

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

Prepared For:
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Mr. Jacob Tackett
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Philadelphia, PA 19103

February 14, 2024
(Last Revised April 10, 2025)
TPD # TMAS.00013

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EXECUTIVE SUMMARY

The purpose of this revised 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 45,774 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 to be signalized 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 **89 new trips** during the weekday A.M. peak hour and **96 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.
- 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 (4.3)	A (5.4)	A (6.9)	A (4.4)	Yes
	PM Peak	A (3.0)	A (3.5)	E (49.3)	A (8.6)	
Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road	AM Peak	C (28.9)	C (32.6)	C (33.6)	--	Yes
	PM Peak	B (14.0)	B (15.8)	B (16.3)	--	
Pottstown Pike (SR 0100) & Milford Road/Garrison Drive	AM Peak	A (2.4)	A (2.7)	A (2.8)	--	Yes
	PM Peak	A (3.2)	A (3.6)	A (3.9)	--	

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	Install a Traffic Signal
	Restripe the SB approach to provide a 125' Southbound Left Turn Lane
	Provide a Northbound Right Deceleration Taper
	Provide adequate turning ingress/egress radii
	Removal and maintenance of on-site vegetation to maximize available sight distance

INTRODUCTION

TPD, Inc. (TPD) has completed a revised 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 45,774 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 to be signalized 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 first round of TIS review letters and the meeting minutes from the March 7th, 2025 meeting are included in the project correspondence. 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 provide for 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, April 18, 2024	Weekday A.M.	7:30 to 8:30 A.M.
		Weekday P.M.	4:30 to 5:30 P.M.
Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road	Thursday, June 8, 2023	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 and balanced with the 2024 counts to develop 2024 Existing 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.

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 will form the fourth leg of the to be signalized intersection of Pottstown Pike (SR 0100) and Font Road.

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	45.774 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 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	45.774 ksf	760	380	380
New Car Storage Lot	+/-300 Spaces	10	5	5
Total	**--**	**770**	**385**	**385**
Weekday AM				
Automotive Service Center	45.774 ksf	87	63	24
New Car Storage Lot	+/-300 Spaces	2	1	1
Total	**--**	**89**	**64**	**25**
Weekday PM				
Automotive Service Center	45.774 ksf	94	37	57
New Car Storage Lot	+/-300 Spaces	2	1	1
Total	**--**	**96**	**38**	**58**

Based on the information contained in **Table 6**, the Proposed Site will generate **89 new trips** during the weekday A.M. peak hour and **96 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 11* 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 11* 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	2027			2024	2027		
		Exist.	Base	Proj.	Proj.[1]	Exist.	Base	Proj.	Proj.[1]
Pottstown Pike (SR 0100) & Font Road/Proposed Site Driveway	EB LT	C	D	E (36.4)	C	F (95.4)	F (134.0)	F (318.3)	C
	EB R	C	D	D	A	B	B	B	A
	WB LTR	--	--	F (98.2)	C	--	--	F (1642.6)	C
	NB L	B	B	B	A	B	B	B	A
	NB TR	--	--	--	A	--	--	--	A
	SB L	--	--	A	A	--	--	B	B
	SB TR	--	--	--	A	--	--	--	A
	ILOS	**A (4.3)**	**A (5.4)**	**A (6.9)**	**A (4.4)**	**A (3.0)**	**A (3.5)**	**E (49.3)**	**A (8.6)**
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	F (120.2)	F (108.0)	F (114.2)	--	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	B	B	--
	SB T	B	C	C	--	B	B	B	--
	SB R	A	A	A	--	A	A	A	--
	ILOS	**C (28.9)**	**C (32.6)**	**C (33.6)**	--	**B (14.0)**	**B (15.8)**	**B (16.3)**	--
Pottstown Pike (SR 0100) & Milford Road/Garrison Drive	EB LTR	D	D	D	--	D	E (36.0)	E (37.7)	--
	WB LTR	E (38.0)	E (43.6)	E (47.1)	--	F (66.1)	F (78.6)	F (85.9)	--
	NB L	B	B	B	--	A	A	A	--
	SB L	A	A	A	--	B	B	B	--
	ILOS	**A (2.4)**	**A (2.7)**	**A (2.8)**	--	**A (3.2)**	**A (3.6)**	**A (3.9)**	--

Exist. = Existing Condition, Base = No-Build scenario, Proj. = Build scenario
1 = With 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 12**, all study area intersections will satisfy PennDOT ILOS Standards.

ICE Evaluation

Since the Proposed Driveway is being added to an existing intersection, and as required by PennDOT, TPD completed the PennDOT ICE Form. As shown in the ICE evaluation, included in **Appendix I**, signalization of the intersection of Route 100 & Font Road/Proposed access was deemed to be the most appropriate intersection control.

Therefore, TPD conducted a traffic signal warrant evaluation (summarized later in this TIA) for the 2027 Projected Conditions. As shown later in this TIA, traffic signal warrants are 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 13 hours of count data at the intersection, using a K-Factor methodology.

TPD ran these warrants utilizing the following three (3) scenarios:

- *Scenario 1 – No EBR volumes* - 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, this scenario excludes the EBR volume from the analysis and assumes the minor street is one-lane. Consistent with Sections 4C.1-10 of the 2009 MUTCD and Section 4.2 of PennDOT Publication 46, Traffic Engineering Manual, TPD evaluated the following warrants:
  - Warrant 1 (Eight-Hour Vehicular Volume) – Warrant Not Satisfied (0 hours met)
  - Warrant 2 (Four-Hour Vehicular Volume) - Warrant Not Satisfied (0 hours met)
  - Warrant 4 (Pedestrian Volume) – Warrant Not Satisfied (No Pedestrians Observed)
  - Warrant 7 (Crash experience) – Warrant Not Satisfied (<5 crashes)

- *Scenario 2 – With EBR volumes included* - This scenario includes the EBR volume in the analysis and assumes the minor street is two-lane. Consistent with Sections 4C.1-10 of the 2009 MUTCD and Section 4.2 of PennDOT Publication 46, Traffic Engineering Manual, TPD evaluated the following warrants:
  - Warrant 1 (Eight-Hour Vehicular Volume) – Warrant Satisfied (12-13 hours met)
  - Warrant 2 (Four-Hour Vehicular Volume) - Warrant Satisfied (13 hours met)
  - Warrant 4 (Pedestrian Volume) – Warrant Not Satisfied (No Pedestrians Observed)
  - Warrant 7 (Crash experience) – Warrant Not Satisfied (<5 crashes)

- *Scenario 3 – With NBL volume as minor street* - This scenario includes the NBL volume as the minor street and the SB approach as the major street, with both streets as one-lane. Consistent with Sections 4C.1-10 of the 2009 MUTCD and Section 4.2 of PennDOT Publication 46, Traffic Engineering Manual, TPD evaluated the following warrants:
  - Warrant 1 (Eight-Hour Vehicular Volume) – Warrant Satisfied (8-11 hours met)
  - Warrant 2 (Four-Hour Vehicular Volume) - Warrant Satisfied (8 hours met)
  - Warrant 4 (Pedestrian Volume) – Warrant Not Satisfied (No Pedestrians Observed)
  - Warrant 7 (Crash experience) – Warrant Not Satisfied (<5 crashes)

Based on these evaluations, signal warrants will be 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.

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 10.**

TABLE 10
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]	0'	0'	5'	5'	10'	13'	35'	8'
	EB R	85'	80'	110'	110'	0'	33'	40'	40'	0'
	WB LTR	--	--	--	40'	20'	--	--	210'	50'
	NB L	300'	8'	10'	10'	15'	38'	48'	48'	80'
	NB TR	1000'[2]+	--	--	--	28'	--	--	--	198'
	SB L	**125'**	--	--	3'	3'	--	--	3'	5'
	SB TR	1000'[2]+				53'				45'
Pottstown Pike (SR 0100) & Reserve Drive/Fellowship Road	EB L	125'	0'	3'	3'	--	3'	3'	3'	--
	EB TR	330'[2]	35'	45'	45'	--	25'	28'	28'	--
	WB L	195'	363'	370'	383'	--	95'	110'	115'	--
	WB TR	1000'[2]+	15'	18'	23'	--	13'	13'	15'	--
	NB L	90'	5'	8'	8'	--	10'	13'	13'	--
	NB T	530'[2]	70'	95'	105'	--	265'	320'	330'	--
	NB TR	530'[2]	73'	98'	108'	--	273'	335'	348'	--
	SB L	340'	5'	5'	5'	--	5'	5'	5'	--
	SB T	1000'[2]+	393'	598'	620'	--	225'	273'	293'	--
	SB R	190'	0'	0'	0'	--	0'	0'	0'	--
Pottstown Pike (SR 0100) & Milford Road/Garrison Drive	EB LTR	150'[2]	18'	23'	25'	--	18'	20'	20'	--
	WB LTR	600'[2]	33'	38'	40'	--	58'	65'	70'	--
	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 **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 11 summarizes the results of the auxiliary turn lane analysis at the site access intersection.

TABLE 11
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 11**, 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) and the proposed operation of the NBR movement, TPD recommends a deceleration taper in lieu of a full deceleration lane for the northbound approach. The calculations for the auxiliary turn lane warrants are included in **Appendix K**.

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 12**.

TABLE 12
RECOMMENDATIONS

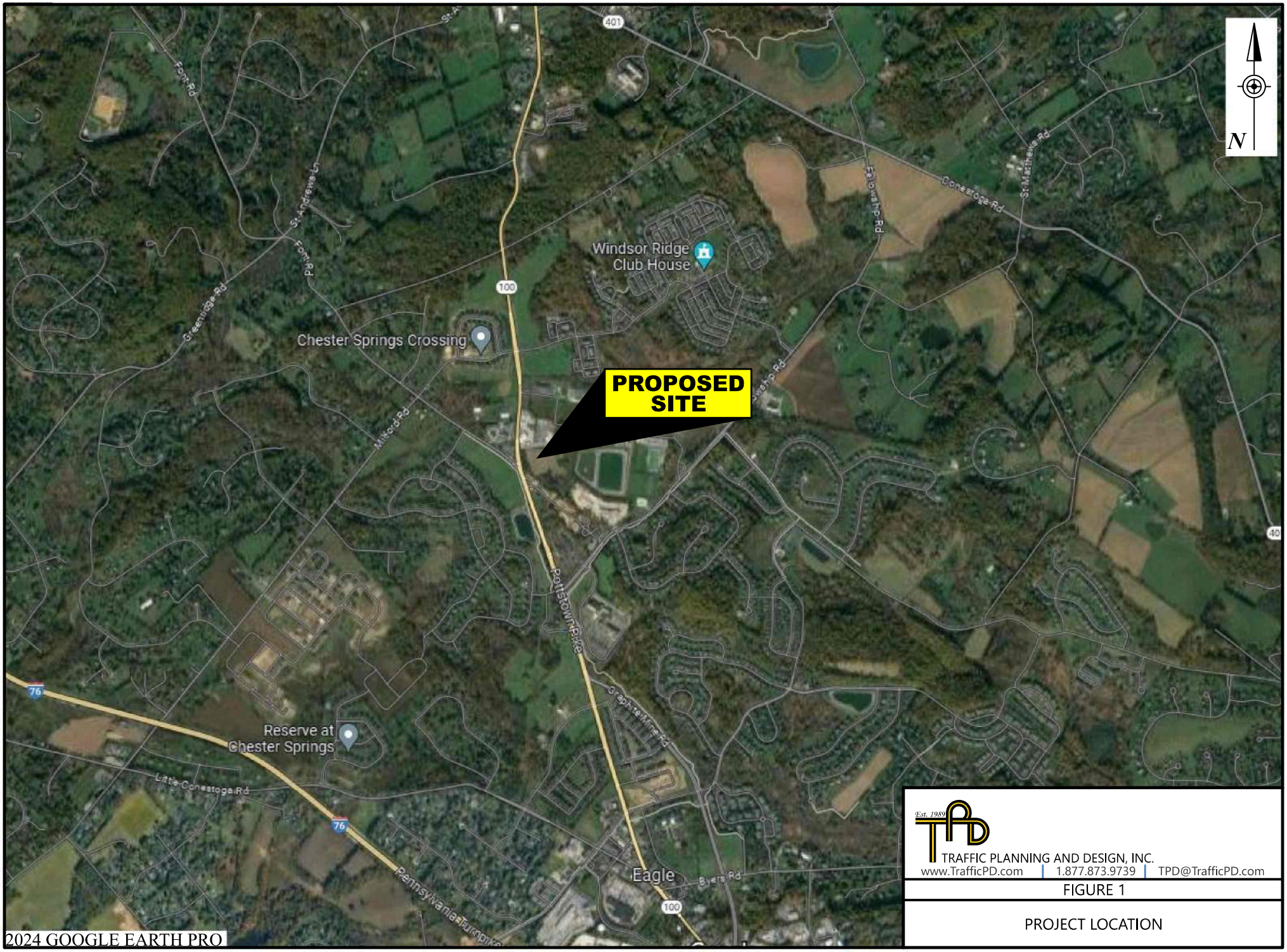
Intersection	Recommendation
Pottstown Pike (SR 0100) & Font Road/Proposed Site Driveway	Install a Traffic Signal
	Restripe the SB approach to provide a 125' Southbound Left Turn Lane
	Provide a Northbound Right Deceleration Taper
	Provide adequate turning ingress/egress radii
	Removal and maintenance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

CONCLUSIONS

Based on the results of the revised Transportation Impact Assessment, 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 45,774 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 to be signalized 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 **89 new trips** during the weekday A.M. peak hour and **96 new trips** during the weekday P.M. peak hour.

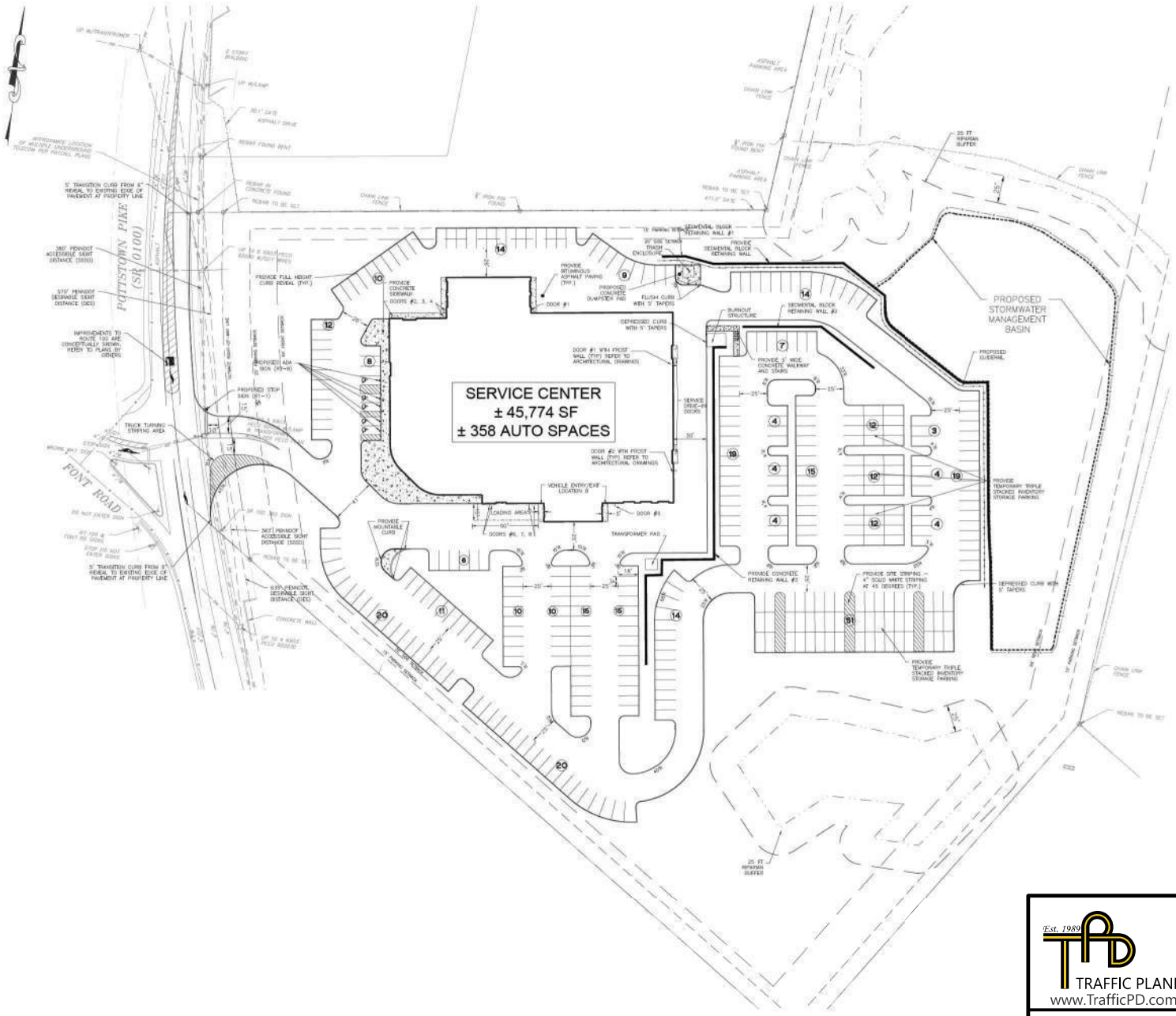
» Under all projected (build) conditions with the development of the proposed site and with site-related recommendations outlined in **Table 12**, all study area intersections will satisfy PennDOT ILOS Standards.



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FIGURE 1

PROJECT LOCATION

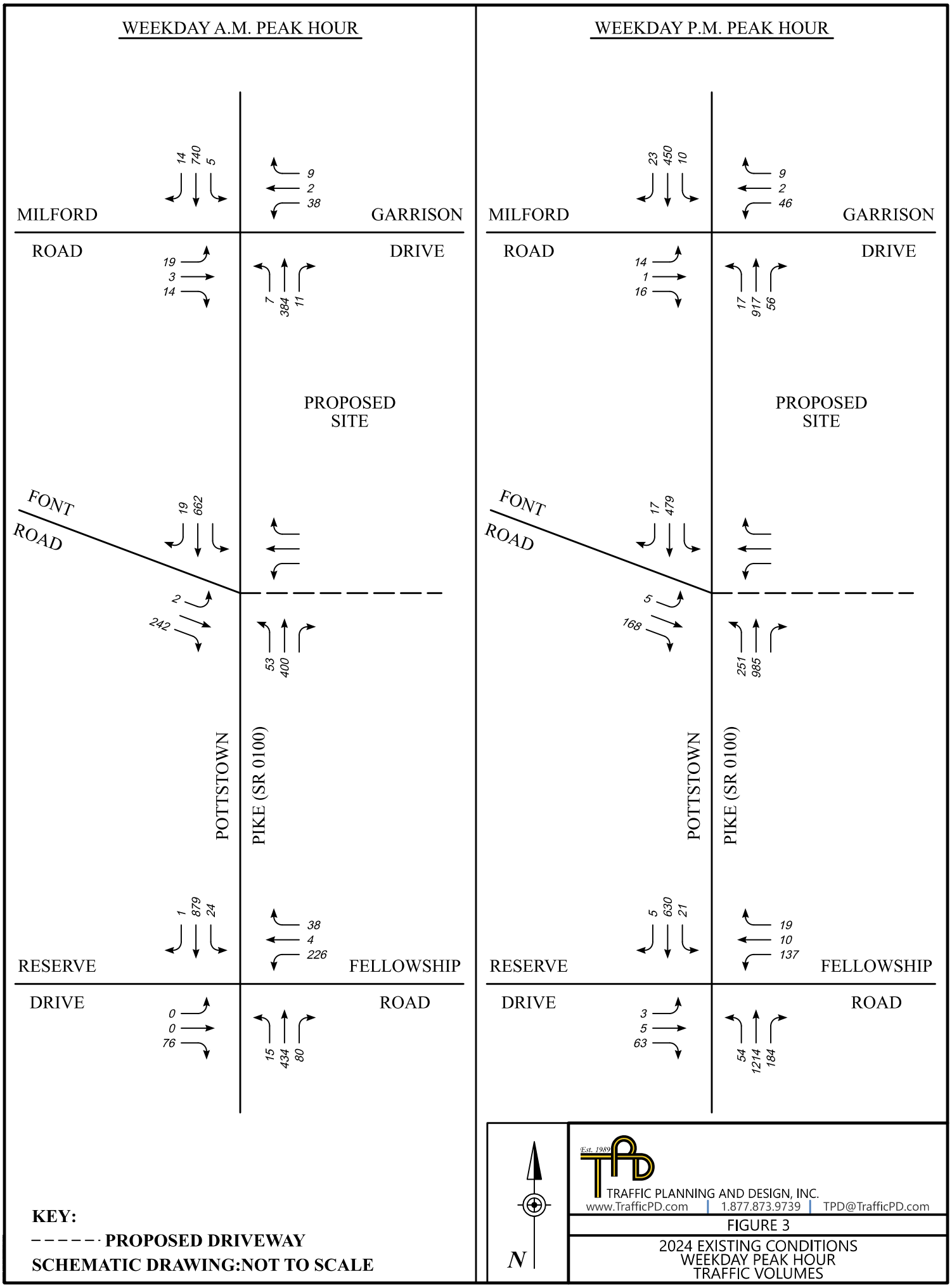


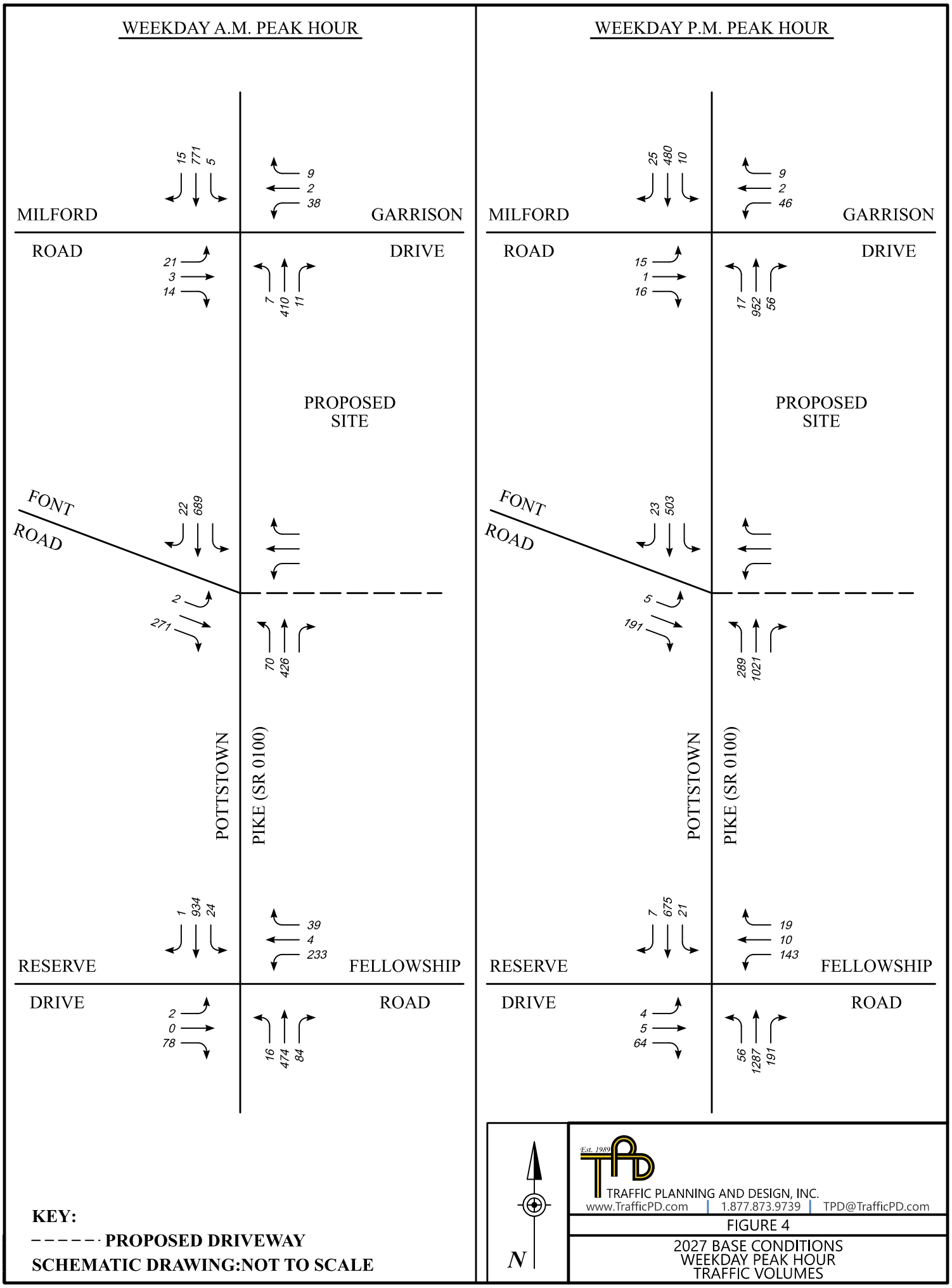
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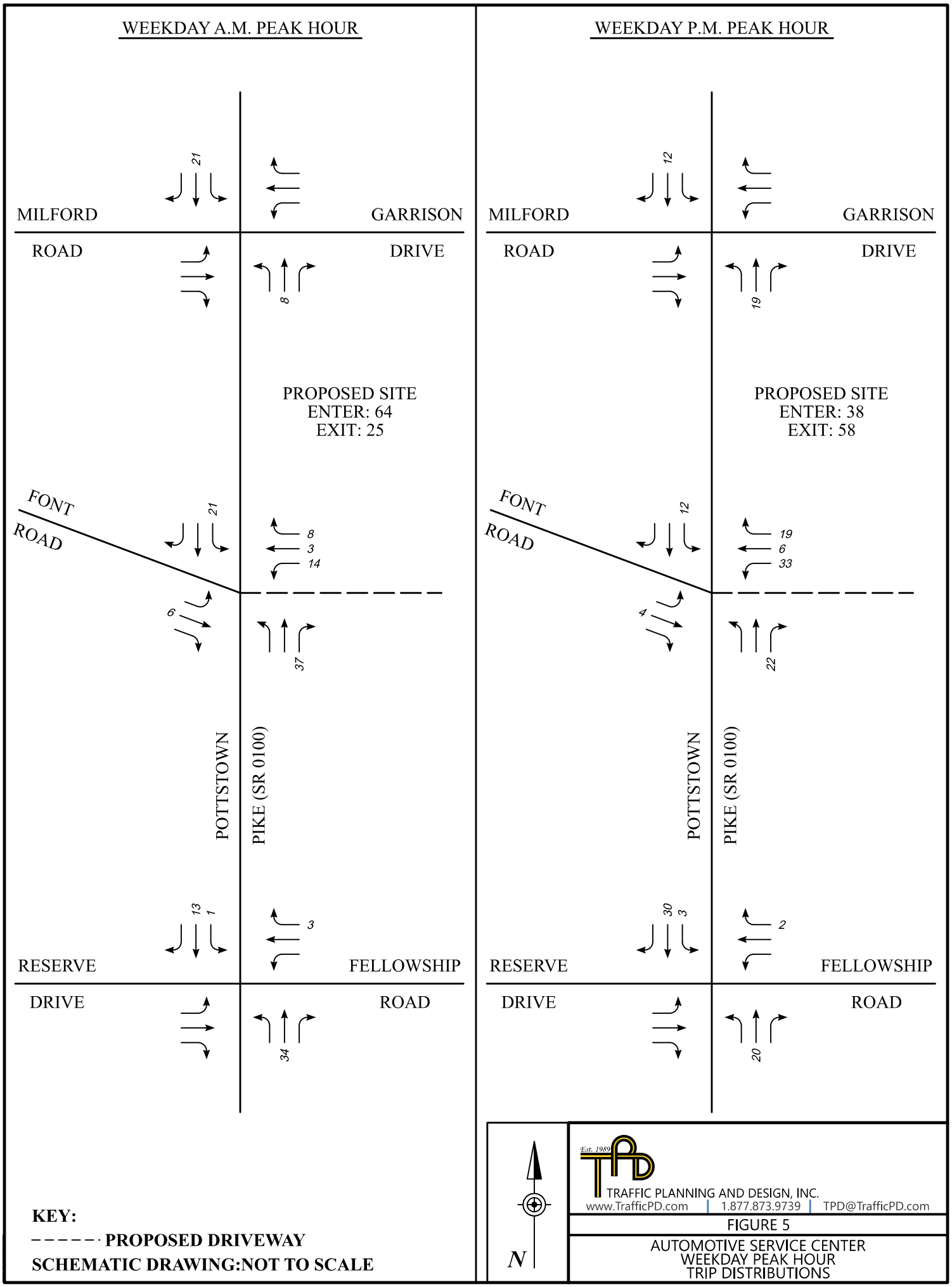
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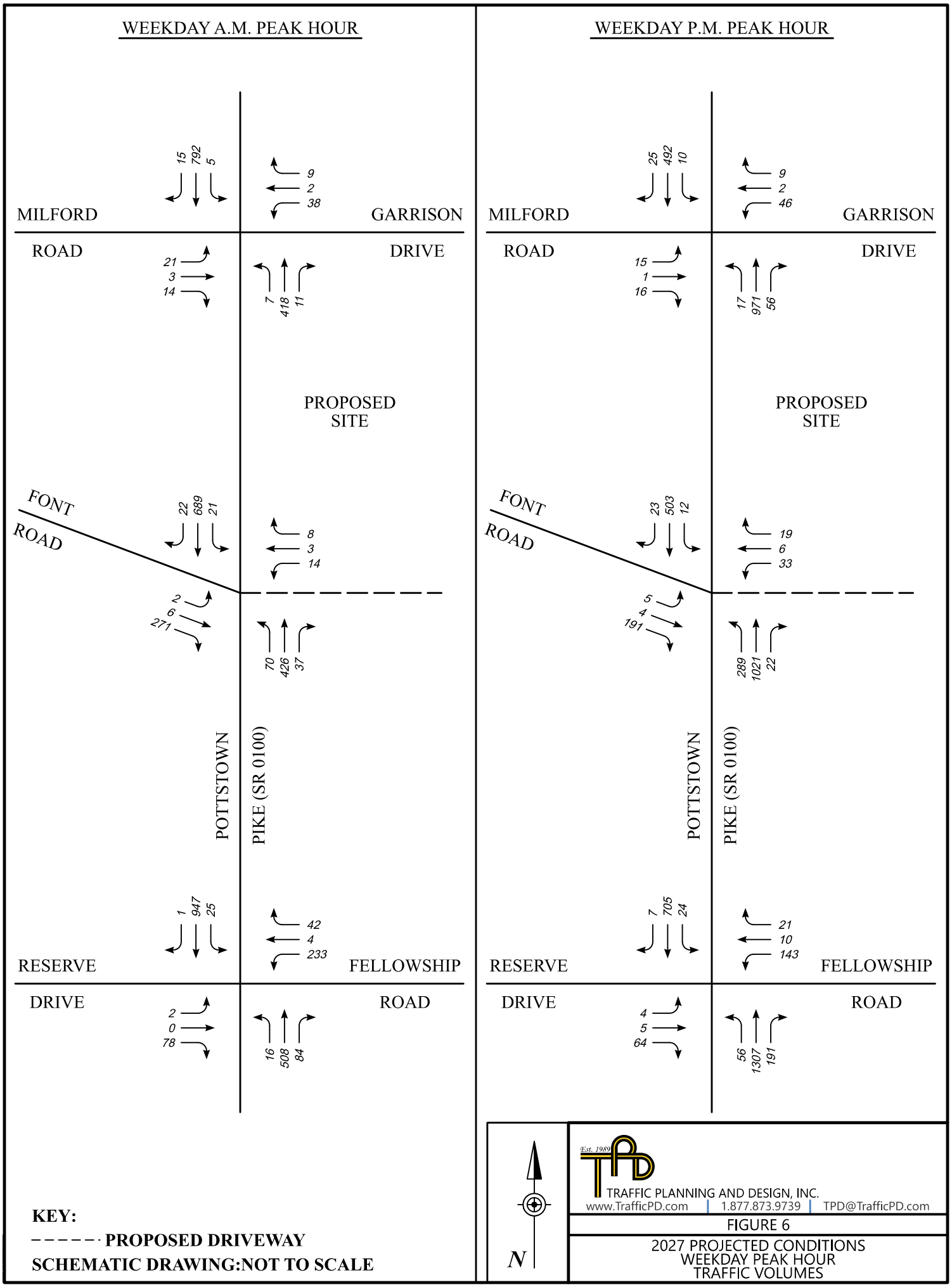
FIGURE 2

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
7 384 11
19 662
2 242
53 400
1 879 24
38 4 226
0 0 76
15 434 80
23 450 10
9 2 46
14 1 16
17 917 56
17 479
5 168
251 985
5 630 21
19 10 137
3 5 63
54 1214 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
MILFORD ROAD
GARRISON DRIVE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
PROPOSED SITE
15 771 5
9 2 38
21 3 14
7 410 11
22 689
2 271
70 426
1 934 24
39 4 233
2 0 78
16 474 84
WEEKDAY P.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
PROPOSED SITE
25 480 10
9 2 46
15 1 16
17 952 56
23 503
5 191
289 1021
7 675 21
19 10 143
4 5 64
56 1287 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
21
8
PROPOSED SITE
ENTER: 64
EXIT: 25
21
8
3
14
6
37
13
1
3
34
WEEKDAY P.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
12
19
PROPOSED SITE
ENTER: 38
EXIT: 58
12
19
6
33
4
22
30
3
2
20
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
15 792 5
9 2 38
21 3 14
7 418 11
22 689 21
8 3 14
2 6 271
70 426 37
1 947 25
42 4 233
2 0 78
16 508 84
WEEKDAY P.M. PEAK HOUR
MILFORD ROAD
GARRISON DRIVE
PROPOSED SITE
FONT ROAD
POTTSTOWN PIKE (SR 0100)
RESERVE DRIVE
FELLOWSHIP ROAD
25 492 10
9 2 46
15 1 16
17 971 56
23 503 12
19 6 33
5 4 191
289 1021 22
7 705 24
21 10 143
4 5 64
56 1307 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

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

MEETING MINUTES (FINAL)

TPD# TMAS.013

Subject: Pottstown Pike (Route 100) and Font Road Development (EPS# 336719)
Upper Uwchlan Township, Chester County, PA

Meeting Date: March 7, 2025 – 1:00 P.M.

Location: Virtual

Attendees:
Chris Williams (CW) – Bowman (Township Engineer)
John Gallagher (JG) – PennDOT 6-0
Scott Burton (SB) – PennDOT 6-0
Paul Lutz (PL) – PennDOT 6-0
Derek Shew (DS) – McCormick Taylor
Dave Leh (DL) – Gilmore Associates
Keith Lieberman (KL) – T & M Associates
Jacob Tackett (JT) - T & M Associates
Kristen Camp (KC) – Upper Uwchlan Township
Alyson Zarro (AZ) - RRHC
Matthew Hammond (MH) – TPD
Matthew Bressler (MB) – TPD
Brian Haesler (BH) – TPD

Preparer: Brian Haesler – Traffic Planning & Design, Inc. (TPD)

A coordination meeting including PennDOT Representatives, Upper Uwchlan Township Representatives and the Development Team was held on March 7th to discuss the proposed Development at Pottstown Pike (SR 0100) and Font Road, specifically the proposed intersection control at Pottstown Pike (SR 0100) and Font Road. The following items were discussed:

» MH gave a summary of project development to date.
  - The project site is proposed to consist of a Porsche Service Center.
  - The excess parking on the site will be for car storage relating to dealerships owned by the Applicant.
  - The main access for the property will be opposite Font Road.
  - The project had gone through a Conditional Use hearing with the Township in May 2024.
  - The project team has since submitted a scoping application and TIS for the site to PennDOT and the Township. Subsequent reviews for the TIS have been received.

» MH stated that the following conclusions were reached based on the analysis contained within the previously completed TIS:

- There are LOS degradations at the intersection of Route 100 and Font Road.
- Gap studies were completed along Font Road, in the vicinity of the access. It was determined that sufficient gaps were present, however the number of available gaps were not excessive, especially in the PM.
- The Styers building to the north limits desirable sight distance at the site access, and the building is to remain.
- The existing volumes showed that the intersection's heaviest movements were the EB Right and NB Left.

» MH mentioned that based on the results of the analyses conducted, TPD completed preliminary traffic signal warrants which were not met.

» MH stated that the original traffic counts were completed in June (when school was already out), so the township asked that new counts be conducted during typical school times and a comparison be done, as well as an updated traffic signal warrant analysis.

» MH said he believes the Township is in support of a traffic signal being installed at this intersection if PennDOT is also in agreement.

» CW spoke on behalf of the Township.

- CW states that the Township is aware of the fact that the EB Left turn movement onto Route 100 from Font Road is low volume primarily due to the drivers being uncomfortable with making that movement.
- CW states that the Township was operating under the thought that as any development came online on the eastern side of Route 100, that enhanced intersection control would be needed/evaluated.
- CW states that a traffic signal would make the development more viable and improve the intersection operations overall.

» PL stated that the Department is in support of a traffic signal at the subject intersection, pending a review of the traffic signal warrant analysis.

» PL also mentioned that the Department will require the Applicant to complete the PennDOT ICE evaluation, for documentation purposes. Additionally, with PennDOT knowing the municipal-owned property limitations of the intersection, the possibility of a roundabout is unlikely.

» PL stated that the Department has concerns with the alignment of the driveway with Font Road as currently depicted on the plans.

» MH mentioned that he understood the Department's concerns and explained that while the plan shows the proposed improvements and alignment, the plan can/will be revised to align the driveway during the Land Development and HOP processes.

» MH then started to discuss the topic of the right turn deceleration lane on Route 100 approaching the

proposed access.

- MH stated that a 125' right turn lane is warranted on the northbound approach to the access, however there is limited space/frontage to install a 125' decel lane.
- MH mentioned that he understands the Department requires the applicant to approach the adjacent property owner to see if an agreement could be made.
- MH stated that instead of installing the full deceleration lane, the Applicant is proposing to maximize the radius of the curve with a taper to the property line in order to get the traffic into the site/off Route 100.
- MH explained that the ITE trip generation is conservatively high for the service center and the service center will be the driver of the trip generation since the storage lot generates minimal traffic.
- SB asked for more detail with respect to the car carriers anticipated and the general operations of the site.
- MH stated that for the storage lot portion of the site, there will be 1-2 car carrier(s) per week, and it is the Applicants experience that there will be 3-5 cars entering/leaving the site throughout the day.
- KL stated that for the service center, some clients are delivered loaner cars, and some bring the loaner car back themselves to the service center so it will vary but will be a low traffic generator.
- SB suggested that the traffic volume entering/exiting the site should be low based on the proposed operations.
- KL confirmed that he is familiar with the West Chester Pike Porsche facility and the traffic is not as significant as predicted in the TIS.
- SB asked for PL and CW opinions on the need for a full deceleration lane, but states that the car carrier numbers would be one of the driving factors for the right turn lane being needed or not. And whether or not it is needed, would it need to be the full length.
- SB stated that there is limited site frontage so that is another factor in the decision.
- MH said that the car carrier traffic and general traffic is limited. It is not a Honda dealership where they are selling hundreds of cars per month, it is a Porsche service center in which the cars would be expensive and limited.
- PL asked if MH is concerned with the utility poles in the area of the proposed decel lane.
- MH confirmed that the utility pole is one of the concerns along with the other physical constraints mentioned.
- MH stated that we do not need to make a decision right now on the deceleration lane, but since it

appears everybody is in general agreement with the installation of a traffic signal at Route 100 & Font Road/Proposed Access, TPD has extensive revisions to the TIS that are needed, and once those revisions are completed, we can see where the TIS results stand.

» PL stated that the Department is on the fence about the right turn lane but would be willing to work with the applicant.

» PL asked if there are future expansions or uses proposed for the site.

» MH mentioned there is a possibility in the future that a portion of the proposed building would be dedicated to vehicle sales. There is nothing planned yet and there is an extensive internal process the Applicant needs to go through with Porsche in order to be approved for sales. In the event of sales being added to the site, the currently proposed building size would not change.

» KC asked about the statement relating to 1 car carrier per week visiting the site. Is that just for the service portion of the use or would that number increase if sales were added to the site.

» MH mentioned the number of car carriers would not increase with the addition of sales; it is dependent on the storage lot which will be present in both scenarios.

» KC asked CW if the Township should be so focused on the specific tenant (Porsche), since it is different than most car dealerships, or should the Township be focusing on the use itself.

» CW stated that all of the submissions thus far by TPD have been using general car dealership ITE data, but if they were going to add the sales portion to the site, the Applicant would have to come back into the Township and submit revised traffic studies that reflect the addition of sales.

» CW mentioned that the Township is encouraged to see safety improvements proposed to the intersection of Route 100 & Font Road/Proposed Access but stated that they have not seen the updated analysis. CW would want to see the updated analysis in terms of the right turn lane. Then at that point, the Township and PennDOT can decide on the finer details of the intersection design.

» MH confirmed there are many revisions needed to the Traffic Study based on this discussion, so TPD will start working on the revised traffic study and analyses.

» PL suggested, that in regarding to the left turn movement onto Route 100, from Font Road, in which there were some concerns raised earlier in the meeting about driver's hesitation in making these maneuvers based on the current conditions, the analyses may want to consider evaluating the future conditions once the intersection is improved and the left turn movement would be more comfortable for motorists instead of diverting elsewhere.

» Meeting concluded.

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

November 11, 2024

File No. 23-01103

VIA E-MAIL ONLY

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

Reference: 500 Pottstown Pike – Chester Springs Service Center
Preliminary Land Development Plan
Upper Uwchlan Township, Chester County, PA

Dear Tony:

Gilmore & Associates, Inc. (G&A) is in receipt of the following documents prepared by T&M Associates, unless otherwise stated:

- "Preliminary Land Development Plans Chester Springs Service Center," consisting of thirty-five (35) sheets dated August 1, 2024.
- Waiver Request Letter dated October 3, 2024.
- Stormwater Management Report titled "Chester Springs Service Center" dated September 25, 2024.
- Letter from Riley Riper Hollin & Colagreco (RRHC) to Upper Uwchlan Township dated October 3, 2024, outlining submitted items.
- Subdivision / Land Development Application for a Preliminary Submittal.
- Act 247 County Referral form.

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

Please note that comments with a **(V)** or **(RW)** require relief from the Township Ordinances. A **(V)** denotes a variance is required, **(RW)** denotes a requested waiver, and a **(W)** denotes a waiver that may be required.

184 W. Main Street | Suite 300 | Trappe, PA 19426
Phone: 610-489-4949 | Fax: 610-489-8447
www.gilmore-assoc.com

I. OVERVIEW

The application proposes the construction of a Service Center building (±45,774 SF) with associated parking and a stormwater management basin on a 13.79-acre parcel (TMP# 32-1-34.1C). The property, currently vacant, is located at 500 Pottstown Pike in the C-3 Highway Commercial District.

II. TOWNSHIP ZONING OFFICER COMMENTS

Please provide additional information regarding the proposed "Burn Out Building".

III. CONDITIONAL USE ORDER REVIEW

1. The July 15, 2024 Conditional Use Order allows two principal uses on the property, allowing the development of a vehicular sales establishment being the storage of vehicle inventory from the sales facility located in Newton Square, and allows a vehicular service establishment. The Zoning Data table on Sheet 6 lists the proposed uses as Vehicular Service Establishment and Vehicular Sales. Per Conditions of Approval #3, "Vehicular Sales Establishment" shall be revised to include "the storage of vehicle inventory for off premises vehicular sales." The full Conditional Use Order, the date of the Order, and the Conditions of Approval shall be listed (verbatim) on a Record Plan.

2. Per Conditions of Approval #4, the landscaping plan shall retain as much of the existing mature and healthy vegetation along the northwestern corner of the Property as is feasible and sensible given the health of the vegetation. If necessary to provide an effective buffer of the development from Pottstown Pike and the John Keely House, the landscaping plan shall add additional trees and vegetation to this area so that there is a landscape buffer along Pottstown Pike in this location. We note that disturbance is proposed at the northwestern front of the site in an area that is indicated as "Wooded Areas to Remain and be Protected" (Sheet 5). Plans shall be revised to demonstrate compliance with this condition of the approval.

3. Conditions of Approval #10 requires a shared use path or sidewalk along the property's Pottstown Pike frontage, and Conditions of Approval #11 requires that an attempt be made to provide a location for a public trail to provide a connection to the trails at the Township's Park at Fellowship Road. Nothing is shown on the plans per these requirements.

4. Conditional Use Condition of Approval #13 requires an entrance feature consistent with other entrance features in the vicinity of the property. Currently no site signage is shown; the plans shall be revised to be in accordance with this Condition of Approval.

IV. TOWNSHIP ENGINEER'S COMMENTS – ZONING ORDINANCE GILMORE & ASSOCIATES

1. Add "Record Plan Sheet __ of __" to all sheets to be recorded.

2. Section 200-34.C – Show the required front, side and rear yard setbacks with dimensions (i.e., show the building envelope). Show the full extents of the tract on the Record Plan (Sheet 6). We note yard setbacks lines are shown on the Grading Plan (Sheet 7) with "Exception – 20" noted on all; this shall be clarified.

3. Section 200-41.A – Public sewer and water are required for any use permitted in this district, if available. Add a note to the Zoning Data table stating that the site will be served by public sewer and water.

4. Section 200-73.B(2)(a) – Access areas shall be clearly delineated by signs and pavement markings noting use restrictions. Clarify how the Loading Area meets this requirement.

5. Section 200-73.B(3) – Pedestrian paths shall be provided from the parking areas to the entrances of buildings and adjacent street sidewalks. Pedestrian walks crossing any parking and driveway aisles shall be delineated by either stripes or a different paving material.

6. Section 200-73.C(1) – Parking spaces for each vehicle shall be at least nine feet by 18 feet in size. Provide a typical parking space dimension.

7. Section 200-73.C(3) – The aisle width shall be 25-feet; verify that the entrance aisle meets this requirement (at narrowest point near the 11'R curb).

8. Section 200-73.D(4) – Parking spaces shall be clearly delineated by suitable markings. Special use spaces such as short-term visitor parking, and pick-up/drop-off zones shall be differentiated from long-term parking by suitable signing and markings. Clarify how this requirement is met.

9. Section 200-73.D(5)(a) – Based on the number of proposed parking spaces (358), eight (8) accessible spaces are required. The plan shows 5 accessible parking spaces. The Zoning Officer should confirm how many spaces are required for these uses.

10. Section 200-73.H(1) – There shall be sufficient parking spaces provided for each use by the application of the appropriate formula for each use as listed in this subsection. In the case of mixed uses, the total number of required parking spaces shall be the sum of the required spaces for the various uses computed separately. The Parking/Loading Requirements table correctly indicates that 114 parking spaces are required for the vehicle service use. The table also lists that zero (0) spaces are required for vehicle sales use. A total of 358 spaces are provided (244 "extra"). We have no objection to the applicant providing more parking spaces than required.

11. Sections 200-107.B(1) and 200-107.C(1) – The Steep Slopes shall be shown on the plan. Currently none are shown / indicated / highlighted / hatched / included in any Legend. Note that General Notes #7 on Sheet 4 references a sheet presumably not part of the submitted set. Any grading associated with the current application shall be shown only on the submitted plan set. Remove General Notes #7 on Sheet 4. Once Steep Slopes have been shown, further comments may be forthcoming.

12. Section 200-107.C.(2) – Although conditional use was granted to allow the disturbance of steep slopes, they still need to be indicated on the plans. Currently, they are not delineated. Please revise the plans to indicate steep slope locations as shown on the conditional use plan.

13. Section 200-107.D.(2) – The application proposes disturbance of prohibitive steep slope areas which requires a variance from the Zoning Hearing Board. This variance was granted on October 11, 2024; the Order should be listed (verbatim) on the Record Plan.

14. 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.

V. TOWNSHIP ENGINEER'S COMMENTS – SUBDIVISION & LAND DEVELOPMENT ORDINANCE GILMORE & ASSOCIATES

1. Sections 162-9.B(1)(b) and 162-9.B(2)(b)[7] – Dimensions shall be set and curves shall be described as outlined in this section, shall be prepared and certified by a registered professional land surveyor, and shall be shown on a Record Plan.

2. Section 162-9.B(1)(d) – Provide Legends on each plan sheet and verify that all features are included with matching line types / symbols. The Standard Legend on Sheet 2 should be expanded.

3. Section 162-9.B(2)(b)[9] – The names of all owners and deed book reference of all adjacent lands and the locations and dimensions of any streets or right-of-way easements shall be provided on a Record Plan. Currently this information is only provided on the Existing Conditions Plan (Sheet 3) and the Conservation Plan (Sheet 4).

4. Section 162-9.B(2)(b)[10] – Significant features within 100 feet of any part of the property proposed to be developed or subdivided should be shown on the plans. This may be addressed by adding an aerial photograph of the subject property and surrounding area with sufficient clarity to see existing features to the plan set.

5. Section 162-9.B(2)(b)[12] – Any proposed improvements requiring a permit from the U.S. Army Corps of Engineers or the Pennsylvania Department of Environmental Protection shall be so indicated.

6. Section 162-9.B(2)(c)[18] – Building setback lines along each street, minimum side and rear yard shall be shown. Verify that this information is shown on the Site Plan (Sheet 5).

7. Sections 162-9.D(1)(d) and (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. Appendix H of the stormwater report contains a Waters and Wetland Assessment Parcel 32-1-34.1C 500 Pottstown Pike, prepared by T&M Associates and dated

September 2023, Revised June 2024 & July 2024. General Notes #10 (Sheet 4) states that watercourses and wetlands shown are under review by the US Army Corps (PJD Application NAP-2009-01363-100). This note shall be on a Record Plan, updated cite required information on the Assessment, and shall include the date of the JD (when obtained). Wetlands shall be clearly indicated on all plan view sheets, with Legends defining all wetland flag / data point symbols. We recommend that General Notes #1 regarding wetlands on Sheet 8 be removed.

8. Sections 162-9.E(1)(b), (c), (e), (f) and (g) – The Conservation Plan (Sheet 4) shall show all applicable items from these sections.

9. Section 162-9.G – The applicant shall provide a "will serve" letter from Aqua.

10. **(RW)** Section 162-9.H(5) – An historic resources impact statement is required when land development plans which will lead to the new construction of buildings, structures, roads, driveways, parking area, etc. is proposed within 250 feet of an historic resource. The site is within 250 feet of the "John Keeley House"; the applicant is requesting a waiver from providing a Historic Resource Impact Study.

11. Section 162-9.H.(4) – The Fiscal Impact Study shall be revised per comments in the CU review letter dated April 8, 2024.

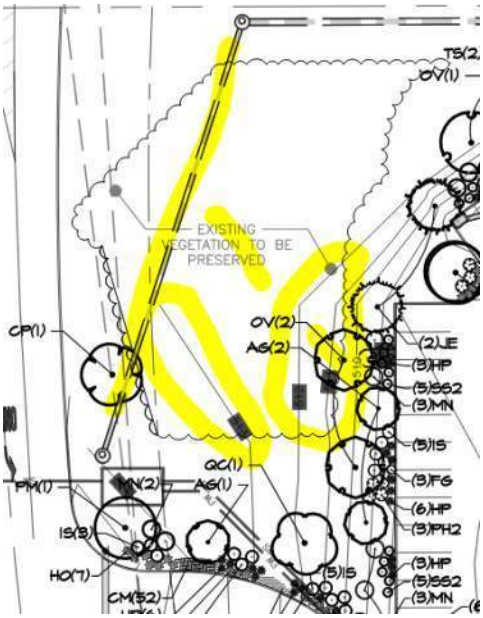
12. Section 162-47.A(1) – Permanent stone or concrete monuments shall be accurately placed at the intersection of all lines forming angles and at changes in directions of lines in the boundary (perimeter) of the property being subdivided. Currently rebar is proposed.

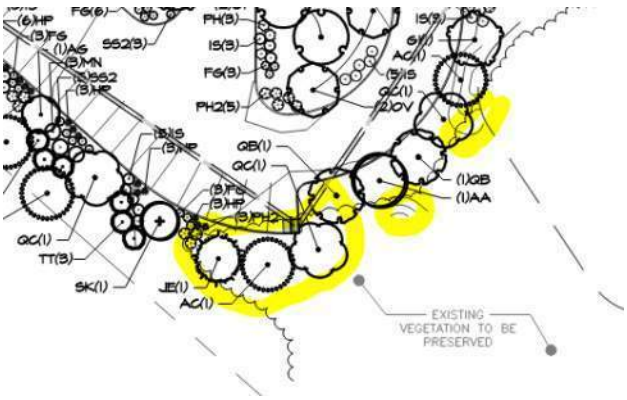
13. Section 162-47.A(4) – All streets shall be monumented on the right-of-way line at the following locations: at each intersection and at each end of each curved street line. Currently rebar is proposed at each right-of-way intersection with property lines.

14. Section 162-52 – Upon completion of other 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. A note shall be added to the plans stating same.

15. **(RW)** Section 162-55.B(3)(a) – Woodland and hedgerow disturbance in excess of 10,000 square feet of existing area of woodland or hedgerow for each principal use permitted on any lot or tract shall require woodland replacement in accordance with Subsections B(6) through B(9). The plans show that 39,462 SF of existing woodland is proposed for disturbance. A waiver is being requested from Section 162-55.B to the extent required to provide a fee in lieu of required plantings. We note that the Landscape Requirements Table SALDO on Sheet 18 states "replacement requirements listed below", but there does not appear to be a quantity provided. The number of required replacement trees shall be provided. Finally, the table does not indicate a Waiver is being requested from this section, which shall be verified. The waiver request from Section 162-55.B should be revised to indicate specific subsections.

16. Section 162-55.B(5)(a) – Revise the Landscape Plan (Sheet 10) to include tree protection fencing. The Tree Protection and Pruning detail as well as the Orange Construction Fence / Tree Protection Fence (TPF) detail shall be added to the Landscaping notes and details sheet. The Tree Protection and Pruning detail indicates that the TPF is to be installed 15-feet from the tree trunk or 2-feet beyond the dripline of the tree. Tree Protection Notes #4 (Sheet 19) states that feeder roots of trees to be preserved shall not be cut closer than 25-feet from tree trunks. Therefore, we recommend that if accurate driplines are not shown, the TPF be shown a minimum of 25-feet from all trees to remain (conversely, show a minimum 25-foot separation between disturbance and TPF /vegetation to remain). Trees are shown to remain / be protected in the NW front/side of the site where stormwater features and grading are shown; on the southern side of the parking lot grading and plantings are shown in an area of existing vegetation to be preserved. These areas (see snippets below) shall be revised accordingly. Finally, note that if the woodland / hedgerow disturbance area increases, all replacement tree quantities should be increased.





17. **(RW)** Section 162-55.B(6) – Where woodland or hedgerow disturbance involves more than the maximum area permitted, one tree and two shrubs shall be planted for each 300 square feet of woodland or hedgerow disturbance area, in excess of the maximum permitted area of disturbance. A waiver is being requested from Section 162-55.B to the extent required to provide a fee in lieu of required plantings. The Landscape Requirements Table SALDO on Sheet 18 indicates "Yes" to Waiver, and that 99 trees and 197 shrubs are required.

18. **(RW)** Section 162-55.B(7) – In addition to the vegetation replacement standards established in B(6), for each tree greater than six inches dbh removed, replacement trees shall be planted based on the requirements in this section. A waiver is being requested from Section 162-55.B to the extent required to provide a fee in lieu of required plantings; the Landscape Requirements Table on Sheet 18 indicates "Yes" to a waiver from this section. Per Section 162-9.E(1)(c), specimen trees and individual freestanding trees over six inches dbh should be shown on the plans. However, no sizes of existing trees are noted on the plans; verify whether any trees greater than six inches dbh exist.

19. Section 162-55.B(12) – In lieu of actual tree replacement, the Township may, at its sole discretion, require the applicant to place the equivalent cash value, as agreed upon by the Township and the applicant, of some or all of the required replacement trees into a special fund established for that purpose. Such funds shall be utilized for the purchase and installation of trees elsewhere in the Township at the discretion of the Township, especially if the site in question cannot accommodate the replacement trees required pursuant to this chapter.

20. Section 162-55.C(1) – No wetlands or watercourses shall be regraded, filled, piped, diverted, channeled, built upon, or otherwise altered or disturbed except where all applicable state or federal permits have been obtained. General Notes #9 (Sheet 4) indicates ephemeral watercourses on site are proposed to be filled and a Chapter 105 Waiver will be sought. The Township should be copied on all correspondence and the waiver, when obtained, should be noted on the Record Plan.

21. Section 162-55.C(4) – All applicants shall specify the long-term management provisions that will be established for any wetlands or watercourse area, developed to minimize future land disturbance to the wetlands or watercourse area and improve the area's ecological functions and values as needed. Such management provisions shall be indicated in narrative and/or graphic form of sufficient detail to satisfy the Township that the issues in this section are adequately addressed.

22. Section 162-55.D(1)(d) and 162-55.D(2) – No structures shall be placed within any riparian buffer area, and no land disturbance shall be permitted within any riparian buffer area except for regulated activities permitted by applicable state or federal regulations, and, as applicable, in accordance with Subsection **C** of this section. A waiver from Chapter 105 is being sought to permit the proposed filling of wetlands; however, the plans show other wetlands as well as what appears to be Waters of the Commonwealth, i.e., shows with "WC#" symbols which should be clarified. Riparian buffer area is defined as any area within 75 feet of the bank of any stream, any wetlands and any area within 25 feet of any wetland; and any area of hydric soil. The plans shall be revised to show all applicable

riparian buffers; no structures or land disturbance (including plant-related disturbance) is permitted within this buffer.

23. Section 162-57.A(2) – The entire perimeter of any tract subject to land development approval shall include a minimum 20-foot-wide perimeter buffer planting strip which will act as an effective separation between uses. The width of the proposed buffer along the northern property line appears to be less than required with only shrubs proposed along the property line. We note that the Landscape Requirements Table SALDO on Sheet 18 indicates "Yes" to Waiver; however, this section is not listed in the Waiver Request Letter.

24. **(RW)** Section 162-57.D(1) – All required landscaping shall meet the minimum planting requirements outlined herein. A waiver is being requested to permit providing less than the required number of plantings and we note that the Landscape Requirements table indicates that 198 deciduous trees, 180 evergreen trees and 896 shrubs are required, and that 99 deciduous trees, 54 evergreen trees and 728 shrubs are proposed.

25. Section 162-58.C(1) Illumination levels. The concrete area at the southwest corner of the proposed service center building does not appear to be adequately illuminated for pedestrian circulation around the building/entrance. The plan shall be revised.

26. Section 162-58.C(2)(h) – Requires that LED light sources have a color temperature that does not exceed 3000K in commercial and industrial districts. It is noted that proposed lighting has a color temperature of 4000K. The plan shall be revised.

27. Section 162-58.C(3)(d) – Requires lighting for commercial, industrial, public recreational and institutional applications to be controlled by automatic switching devices to extinguish outdoor lighting fixtures during the hours of 11:00 p.m. and dawn, or to only have lighting on when motion is detected. It is noted the Lighting Plan does not provide any information regarding hours of illumination. Additional information shall be provided.

28. Section 162-58.C(4)(b) – Requires that poles for lighting fixtures for parking areas be located a minimum of five feet outside paved area or on concrete pedestals at least 30 inches high above the pavement, or suitably protected from potential vehicular impact. The Light Base detail provided on Sheet 20 Lighting Details specifies a height of only 2'-0" for lights within 5' of vehicular traffic. The detail shall be revised.

29. Section 162-58.D(1)(a) – Requires the lighting plan to show vegetation that might interfere with lighting. It is noted that the proposed vegetation is not shown on Sheet 11 Lighting Plan, however in comparison to Sheet 10 Landscape Plan, it appears there may be multiple conflicts between proposed vegetation and lighting. The plan shall demonstrate that landscape and lighting have been coordinated.

30. Section 162-58.D(1)(c) – Requires that fixture catalog cut sheets be provided. It appears that the fixture cut sheets provided on Sheet 20 Lighting Details do not coordinate with the catalog numbers of the fixtures listed in the Luminaire Schedule on Sheet 11 Lighting Plan. Cut sheets for all proposed fixtures shall be provided.

31. Section 162-58.D(4) – Requires that the following note be placed on the lighting plan: "Post approval alterations to lighting plan or intended substitutions for approved lighting equipment shall be submitted to the Township for review and approval prior to installation."

VI. TOWNSHIP ENGINEER'S COMMENTS – STORMWATER MANAGEMENT ORDINANCE GILMORE & ASSOCIATES

1. Section 152-301.H – Drainage facilities located on the site shall be designed to safely convey flows from outside of the site through the site. Currently the plans show an existing 24-inch CIP ("silted") and a 15-inch CCP discharging onto the site; these pipes are proposed to connect into the [bypass] site collection system (via proposed storm MHs A9 and A10). However, no upstream structures draining to the 15-inch CCP are shown (whereas two inlets are shown that drain through the 24-inch CIP). Note that there are multiple existing inlets that drain to these discharge points that should be shown on the plans. Also, there are existing inlets farther south on Pottstown Pike that may also discharge to the site; this shall be verified. The full DA to these structures shall be shown on the DA maps. Finally, we note that while "ex-struc1" and "ex-struct2" are shown in the Node Summary (Appendix E in stormwater report), it appears that no flow was modeled to MH A10 but flow is indicated to MH A9; these shall be verified. A view from the Township's MS4 Map showing existing inlets in this area is below (for reference).



2. Section 152-301.M – Existing wetlands, either on the site or on an adjacent property, shall not be used to meet the minimum design requirements for stormwater management or stormwater runoff

quality treatment. Stormwater discharges to existing wetlands shall not degrade the quality or hydrologic integrity of the wetland. DP-001 is located offsite, within an area of existing wetlands. Clarify why DP-001 is not located along the LOD (possibly HW A).

3. Section 152-301.N(3) and (11) – Specific structural or pollution prevention practices may be required, as determined to be necessary by the municipality, to pretreat runoff from hotspots prior to infiltration. Proposed possible hotspots include vehicle service and maintenance facilities and facilities that generate or store hazardous materials (battery burnout structure). Verify how neither will contribute to runoff pollution. Water quality inserts appear to be proposed in some inlets; clarify whether proposed in all (if not, provide in all). Verify that these inserts deal with expected pollutants. Provide a detail of the burnout structure.

4. Section 152-301.O – Where BMPs may contribute to the migration of contaminants in groundwater, the water quality and runoff volume, stream channel protection, and peak rate control standards shall be met; however, at the municipality's discretion, the minimum infiltration requirement may be reduced or eliminated commensurate with the contaminated area and the required water quality and runoff control measures may be increased to mitigate the reduced infiltration requirement for the contaminated area. The stormwater report's Environment Conditions notes that a previously completed Phase I indicates that soils contaminated with petroleum remain on the site, i.e., an Historically Recognized Environmental Condition exists on the site. Please provide a copy of the Phase I study for review.

5. **(RW)** Section 152-301.T – Disturbance of existing ground cover during construction of the proposed regulated activity is prohibited within 75 feet of top-of-bank of all perennial and intermittent waterways, water bodies (lakes, ponds, etc.) and wetlands, except for activities otherwise approved by state or local agencies (e.g. stream restoration projects, road crossings, subsurface utility projects, etc. The plans show disturbance less than 75-feet from wetlands, and also shows areas of wetlands to be removed/filled. The applicant is seeking a waiver from this requirement. Per Section 152-111.C, the Board of Supervisors cannot grant a waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one acre unless that action is approved in advance by PADEP or the Chester County Conservation District. Please provide approval from PADEP or the Chester County Conservation District for the Boards consideration.

6. Sections 152-302.A and C – Permits for all regulated activities subject to permit or regulatory requirements by PADEP under regulations at Title 25 Pennsylvania Code Chapter 102 and any BMP or conveyance that would be located in or adjacent to surface waters of the commonwealth, including wetlands, subject to permit by PADEP under Title 25 Pennsylvania Code Chapter 105 are required prior to construction.

7. Section 152-303.A(1) – A "letter of adequacy" from the Conservation District and an NPDES permit are required for the project. Copies of all correspondence shall be provided to the Township.

8. Section 152-305.A – The post-construction total runoff volume shall not exceed the predevelopment total runoff volume for all storms equal to or less than the two-year, twenty-four-hour duration

precipitation (design storm). Infiltration is not proposed, as the testing showed the site does not infiltrate. Please provide verification the required volume will be managed by the MRC Basin.

9. **(W)** Section 152-306.D – Only if a minimum infiltration of the first ½ inch of runoff volume cannot be physically accomplished on the site, shall a waiver from Section 152-306 be considered by the municipality in accordance with Section 152-111 (the Board of Supervisors cannot grant a waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one acre unless that action is approved in advance by PADEP or the Chester County Conservation District). Infiltration testing indicates the site does not infiltrate. Please provide approval from PADEP or the Chester County Conservation District for the Boards' consideration.

10. Section 152-306.D(1)(b) – For regulated activities involving new development the applicant shall utilize the ground cover assumptions for all other areas than woods (including all impervious surfaces), predevelopment calculations shall assume ground cover of "meadow" for all predevelopment peak flow rate calculations. The stormwater report uses "paved parking" CN value for the DIST watershed which shall be revised accordingly.

11. Section 152-311.G(6) – At all inlets or manholes, the maximum allowable headwater depth shall be one foot below the top of the inlet grate of the manhole cover. Once the upstream drainage area has been verified, compliance can be determined.

12. **(W)** Section 152-311.H(1) – The maximum depth of water in a detention or retention basin shall be two feet as a result of a 2-year, twenty-four-hour storm event and five feet as a result of a 100-year, twenty-four-hour storm event. The plans and report indicate there will be a permanent water depth in the basin of five feet, with a total depth of 6.65-feet during the 2-yr. storm event and a total depth of 8.48-feet during the 100-yr. storm event. Therefore, the water depth maximums have been exceeded and a waiver will need to be sought. In accordance with Section 152-111, the Board of Supervisors cannot grant a waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one acre unless that action is approved in advance by PADEP or the Chester County Conservation District. Please provide approval from PADEP or the Chester County Conservation District for the Boards' consideration.

13. Section 152-311.H(3) – Emergency spillways for facilities which may attenuate more than three feet of water, shall be paved with concrete monoslab pavers which shall run off the sides and down each side of the berm. Revise the spillway detail accordingly.

14. Section 152-311.H(5) – The maximum slope of earthen detention basin embankments shall be three to one. Provide a typical slope label on the Grading Plan.

15. Section 152-311.H(6) – The minimum top width of detention basin berms which may attenuate greater than three feet of water, shall be 10 feet. Berms shall be constructed of clay and shall have a key cut into virgin soil. Provide dimensions and / or details as needed to verify compliance.

16. Section 152-311.I(7) – Fencing shall be required around all basins where water may attenuate greater than three feet. All fencing shall be at least 3½ feet in height. Show the fencing on the plans and provide a detail.

17. Section 152-402.A(2) – The PCSM plan shall include a listing of all regulatory approvals required for the proposed project and the status of the review and approval process for each. Final approval or adequacy letters must be submitted to the municipality prior to (or as a condition of) the municipality's issuing final approval of the SWM site plan. Proof of application or documentation of required permit(s) or approvals for the programs listed below shall be part of the SWM site plan, if applicable.

18. Sections 152-402.A(3) to A(5) – The statements / signature blocks in these sections are currently located on Sheet 1 and shall be relocated to the PCSM plan (Sheet 28).

19. Section 152-402.B(8)(j) – The Areas classified by the municipality as steep slopes shall be shown on the PCSM plan.

20. Section 152-402.B(8)(q) – Boundaries of a seventy-five-foot construction non-disturbance buffer to protect streams (intermittent and perennial), wetlands and other water bodies during construction of the proposed regulated activity shall be shown on the PCSM plan. We note the applicant is requesting a waiver from this requirement in Section 152-301.T.

21. Sections 152-402.B(12), 152-402.B(18)(b) and 152-702.A(5) – The total extent of the upstream area draining through the site shall be shown. Delineation of the land area, structures, impervious surfaces, and conveyances draining to and from the BMP or conveyance shall be shown. Flow onto the site needs to be verified as existing inlets that discharge onto the site are not included.

22. Section 152-402.B(13) – Complete delineation of the flow paths used for calculating the time of concentration for the predevelopment and post-construction conditions shall be included. Verify that the Tc path is shown correctly on the Proposed Drainage Area Map, as it appears incorrect.

23. Sections 152-402.B(18)(c), 152-702.A(10), 152-704.A and 152-704.B – Verify that all proposed easement information is shown. We recommend that a blanket easement be provided, which should be noted on the Record Plan as well as the PCSM Plan.

24. Section 152-402.F – The documents outlined in this section shall be prepared and submitted to the municipality for review and approval as part of the SWM site plan for each BMP and conveyance included in the SWM site plan. Verify that all applicable items are provided.

25. Section 152-404.H – All of the final approved SWM site plans shall be recorded (as "recorded plans") per the instructions of the municipality. For clarity we recommend a notation be added to the plans stating which SWM plans are to be recorded.

26. Sections 152-701.D, 152-701.E, 152-701.F and 152-703 – All agreements and plans (i.e., O&M agreement, O&M plan, deed restrictions, right of entry, covenants, etc.) shall be provided for approval and recorded as outlined in these sections.

27. Sections 152-702.B(4), 152-702.C , 152-702.D, and 152-702.E – The statements in these sections shall be provided on the PCSM Plan (Sheet 18).

28. Section 152-705.B – 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. Add a note to the PCSM plan (Sheet 18) stating same.

29. Sections 152-804.A and 152-804.B – The statements in these sections shall be added as notes to the PCSM plan (Sheet 18).

30. On the Inlet DA Map, verify “DA I-1.15 OFF” and “I-1.16 OFF” as they appear incorrect (exclude upstream DA). On the Proposed DA map, verify OFFSITE BASIN 1 as it appears incorrect.

31. The existing pipes’ INV IN shall be added to the MH A9 and A10 labels on the Grading Plan (Sheet 8).

32. Verify that the existing pipes and structures to MH A9 and MH A10 are shown on the PCSM Plan (Sheet 28).

33. The DA “UNM” appears to be missing the area between the EW and the upstream MH, which shall be revised.

34. Revise the Inlet DA map to show the DA label for I-1.15 (currently “under” other text).

35. The UNDIST1 BASIN1 area shall be revised to reflect the actual tree clearing required.

36. Verify which inlets are proposed to have water quality inserts; PCSM Plan (Sheet 28) indicates some inlets with a “B” designation, whereas the PCSM Legend shows a symbol for these inserts which is shown on every proposed inlet.

37. We recommend the Basin be routed a one BMP, i.e., without separately routing the Forebay.

38. Provide details for the Basin 1 Forebay spillway.

39. Provide dimensions and elevations on the Grading and PCSM plans for the Basin 1 Forebay spillway and provide dimensions on the Basin 1 Constructed Wetland Basin spillway.

40. Clarify modeling the pipe from EW A1 into OS A2 as an outlet device.

41. Provide “T” in the Spillway detail (Sheet 29).

42. Clarify where the dimensions for the grate opening (top) on the Constructed Wetlands Basin Outlet Structure are shown (Pond 7P Basin 1 CW indicates a 24”x48” grate / TG).

43. Provide additional proposed contour elevations in the Basin 1 Forebay on the Grading Plan (Sheet 7) and verify the grading matches the PCSM plan.

44. Revise the alignment of HW A1 to be in line with the pipe or revise the alignment of the pipe to be in line with HW A1.

45. Revise BMP Specifications (Sheet 30) to provide the actual proposed plantings on the plans.

46. Verify the contours vs. the “dark lines” between the labeled 489- and 491-contours in the Forebay on the Constructed Wetland Basin Plan View (Sheet 31). Also note that the labeled 491-contour is also a “dark line.”

47. Clarify whether the Summary for Pond 5P: CW Below SW includes the permanent water in the Forebay.

48. Verify the “Spillway” from OCS A2 to HW A1 on the Constructed Wetland Basin Cross Section (Sheet 31) as it does appear correct.

VII. TOWNSHIP ENGINEER’S COMMENTS – GENERAL GILMORE & ASSOCIATES

1. Trees are planted less than 4-feet from retaining walls in numerous locations, located less than 10-feet from utilities (storm, sanitary, etc.) in several locations, and are on the UGE utility line between Pottstown Pike and the parking, all of which should be revised.

2. The Demolition Plan (Sheet 5) shows disturbance (removal of an existing 6-inc DIP) beyond the wetland protection fence, which shall be verified / revised.

3. The retaining wall is over 4-feet in height; engineered design drawings and details are required. General Notes #2 (Sheet 8) states the contractor to refer to retaining wall plans by others for storm conveyance penetration details; this note shall be on the Record Plan and shall reference the retaining wall plans and calculations (i.e., by title / preparer and note latest approved [revision] date).

4. Based on proposed stormwater structure depths (i.e., MH A9 and MH A8 less than 3-feet from property line), it appears that grading may occur on the northern adjacent property; this shall be verified.

5. We recommend that the Landscape Notes & Details sheet and the Lighting Details sheet be located sequentially with the Landscape Plan and Lighting Plan.

6. There are General Notes included on many plan sheets; these Notes should be organized and on appropriate sheets. Examples are as follows:

   a. Site Data & Notes (Sheet 2) should be located on a Record Plan;

   b. Grading Notes #25 (Sheet 2) and General Demolition Notes #16 (Sheet 5) state "Refer to Site / Record Plan for additional notes"; however, there are no notes on the Site Plan (Sheet 6);

   c. Title Exceptions (Sheet 3) should be on a Record Plan;

   d. General Notes (Sheet 4) shall be on a Record Plan;

   e. General Notes #6 (Sheet 4) should be removed as alterations to existing site should be shown on the submitted plans;

   f. General Notes #8 (Sheet 4) should be removed as erosion and sedimentation compliance should be shown on the submitted plans.

VIII. TOWNSHIP TRAFFIC ENGINEER'S COMMENTS BOWMAN

Conditional Use Order

1. Conditional Use Order 2 – This condition requires the applicant to address all outstanding comments from the Township consultants during the conditional use review. The current land development submission does not include a revised traffic study, and therefore, those comments remain outstanding.

2. Conditional Use Order 6 – The applicant shall install a traffic signal at the site access intersection with Pottstown Pike/Font Road. If PennDOT does not approve a traffic signal, the applicant shall install other intersection improvements to improve intersection levels of service, or restrict turning movements at the access intersection. We are not aware of any progress by the applicant to pursue signalization of the intersection. The applicant must coordinate with the Township and copy the Township on all correspondence with PennDOT.

3. Conditional Use Order 7 – As required by this condition, the land development plans show a 125-foot southbound Pottstown Pike left-turn lane for traffic entering the site. This must also be reflected on the PennDOT Highway Occupancy Permit (HOP) and within the updated traffic study for further review.

4. Conditional Use Order 8 – Subject to PennDOT approval, the plans shall be revised to show a northbound Pottstown Pike right-turn deceleration lane or taper. As detailed in this condition, the Township prefers the deceleration lane. This must be explored in more detail by the applicant, and in coordination with PennDOT as part of the HOP process. The applicant must coordinate with the Township and copy the Township on all correspondence with PennDOT. The land development plans should be revised to reflect the final access improvements subject to further evaluation and coordination with the Township and PennDOT.

5. Conditional Use Order 10 – As required by this condition, the land development plans should be revised to show a shared use path along the site frontage. If the applicant has any questions regarding this requirement, we recommend the applicant schedule a meeting with the Township.

6. Conditional Use Order 11 – As required by this condition, the applicant shall coordinate with the Township to provide a public trail on the property that would provide a connection to Fellowship Fields. If the applicant has any questions regarding this requirement, we recommend the applicant schedule a meeting with the Township.

7. Conditional Use Order 12 – The proposed development is located in the Township's Act 209 Transportation Service Area, and as such, this development is subject to the Township's Transportation Impact Fee of $2,334 per weekday afternoon peak hour trip.

Transportation Impact Study

A revised traffic study was not provided as part of the current land development plan submission. As such, the following comments are largely carried over from the conditional use review, and modified as appropriate based on the land development plans.

8. ZO Section 200-75.H(3) – 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.

9. 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.

10. SALDO Section 169-9.H(1)(a) – The conditional use application and the previously submitted traffic study was based on a 36,380 square-foot building; however, the land development plans show a 45,774 square-foot building. In addition, we are aware that PennDOT previously had comments regarding the trip generation calculation. The traffic study should be updated to reflect the current square footage of the building and address PennDOT's trip generation comment.

11. SALDO Section 169-9.H(1)(a) – The crash evaluation should be updated to include non-reportable crash data for the Pottstown Pike/Font Road intersection.

12. SALDO Section 169-9.H(1)(a) – 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).

13. 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 operate with delay (LOS F) during both peak hours. The traffic study also includes a gap study evaluation for this intersection. The gap study shows there are some available gaps to accommodate side street traffic, but not an excessive number of gaps. Furthermore, the gap study should be updated using the new traffic counts. However, there is no need for an updated gap study if a traffic signal is approved for this intersection as part of this project.

14. 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.

Land Development Plans

15. ZO Section 200-75.H(3) – The limits of the plan information along Pottstown Pike should be expanded to show the full extent of the labeled sight distances. As currently shown, we are unable to verify whether the sight distance lines are shown correctly. In addition, the plans should dimension and label the sight distances for left-turn vehicles entering the proposed driveway looking ahead and behind. Furthermore, 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."

16. SALDO Section 162-28.A – The plans should clearly label and dimension the existing legal right-of-way along the Pottstown Pike site frontage.

17. The Township's Active Transportation Plan 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 part of the other trail and path comments as described in the conditional use decision.

18. Detailed curb ramp designs for all proposed curb ramps located within public right-of-way or for public use 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.

19. ZO Section 200-73.H and 200-73.K – According to the parking/loading requirements table on sheet 6, the site requires 114 parking spaces, including 52 spaces for stored vehicles. By comparison, the plans show 358 parking spaces, which exceeds the parking supply requirement by 244 parking spaces. The plans also show there are 87 triple stacked parking spaces, which if used for storage, would indicate it is proposed to store more than 52 vehicles on the site at one time. However, we understand from the conditional use hearing that the applicant has future plans for a phase 2 development, which is not the subject of the current land development application; however, this phase 2 development will also include car sales for which additional parking will be needed, and is the reason for the excess parking supply provided on the current land development plans.

20. Since retaining walls are shown throughout the site, we question whether fence is needed in areas of anticipated pedestrian activity, if any. Also, we question whether a railing is needed for the stairs near the northeast corner of the building. Our office will defer to the Township Engineer on this matter.

IX. TOWNSHIP PLANNER COMMENTS BRANDYWINE CONSERVANCY COMMENTS

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 has requested several waivers to various Township ordinances. These are:

   a. Chapter 152, Stormwater Management, Section 152-301.T – General Requirements.
   The Brandywine Conservancy suggests the Township seeks advice from its engineer and/or a qualified wetland specialist to determine if the claims of the applicant, that the wetlands are manmade and of poor quality, are accurate and to then base their waiver decision on information obtained from the appropriate professional consultant.

   b. Chapter 162, Subdivision and Land Development, Section 162-9.H(5) – Historic Impact Statement.

   The Brandywine is comfortable with the waiver request, assuming the applicant conforms to the conditions set during the Conditional Use Approval to provide an effective buffer between the John Keely House and the proposed development.

   c. Chapter 162, Subdivision and Land Development, Section 162-55.B – Woodland Replacement

   The Brandywine conservancy recognizes that the proposed use, development, and layout of the site makes conforming to this Section of the Subdivision and Land Development Ordinance difficult. If the Township moves to grant this Waiver, the Brandywine Conservancy strongly encourages the Township to seek a full, fee-in-lieu of the required plantings to support additional tree planting elsewhere in the township.

   Related to this item, the Brandywine Conservancy suggest the applicant check their table on sheet 18 to ensure the "Yes" statements associated with Waivers are in the correct line of the table. The Conservancy does not believe the applicant is requesting a waiver for perimeter buffer requirements (line 1 in the table) but is seeking a waiver for Woodland and Hedgerow Disturbance (line 2 in the table).

d. Chapter 162, Subdivision and Land Development, Section 162.57.D(1) – Minimum Planting Standards

Like the previous Waiver, the Brandywine Conservancy recognizes that the proposed use, development, and layout of the site makes conforming to this Section difficult. The Conservancy suggests the applicant examine whether additional plantings can be made within the constructed stormwater wetland to increase the number of plantings and reach closer to the goal.

Related to this item, the Conservancy notes that two grass species (totaling 199 plants) have been included within the shrub table on sheet 18. Without these grasses (which don't meet the definition of a shrub), the shrub total would be lower still.

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 Preliminary Land Development 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 mixes will greatly enhance pollinator habitat and enhance infiltration at the site over a traditional grass basin. However, the Brandywine Conservancy suggests that either the wetland meadow mix, an alternative seed mix, or appropriate plugs be shown to vegetate the areas shown as low and high wedge marshes on sheet 31. Currently, no ground cover or seed mix is shown for these areas.

5. The proposed plant material still contains several non-native species. The Conservancy encourages the applicant to seek alternative native plants for those non-native species currently included in the plan.

6. The applicant should reorder the plan sheet set to have all the landscape related sheets adjacent to one another (the notes are currently 8+ sheets away from the landscape plan).

7. While a minor point, and having already been granted, we do suggest the applicant make note of the approved Variance associated with the manmade steep slopes on the property somewhere on the Plan set.

X. TOWNSHIP SEWER AUTHORITY ENGINEER COMMENTS
ARRO

1. The plans propose the construction of a 45,774 square foot (SF) service center, with a lot for vehicular sales and service uses of 358 spaces 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:

   a. 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.

   b. The Authority Engineer shall be notified 48 hours prior to the beginning of sanitary sewer construction.

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

   d. 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.

   e. 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. Currently, there is no sewer main within the Pottsville Pike's (SR 0100) right-of way to connect this site to public sanitary sewer.

5. The appropriate Standard Authority Sanitary Sewer Details shall be added to the plans.

6. An appropriately sized oil grease interceptor shall be provided for service center.

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

XI. TOWNSHIP FIRE MARSHAL COMMENTS

1. Please advise where hydrant(s) are located.

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

3. Advise what types of fuel and oil will be stored on the property, the quantities, type of containers, and location(s).

4. Advise the number of vehicles that will be stored on the property, inside and outside.

5. Advise the number of electric vehicles that will be stored on the property, inside and outside.

6. Advise if all or part of the building will be sprinklered.

7. It appears that there is adequate turning radius and maneuverability for a 40’ tower truck.

8. The property address needs to be clearly posted and visible when traveling in both directions of Pottstown Pike / Route 100.

9. Landscaping/trees along the driveway need to be of a variety that will not impede fire apparatus.

XII. HISTORICAL COMMISSION COMMENTS

Comments will be provided under separate cover.

This concludes our review of the above referenced final minor subdivision 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 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. Cameron Wolfson, Esq. – RRHC

pennsylvania
DEPARTMENT OF TRANSPORTATION

Date: 04/10/2024

Subject: Highway Occupancy Permit Application No. 336719, Cycle No.1 - Returned For Revisions

To: Rockhill Real Estate Enterprises XVII LP
1700 Market Street
Suite 3110
Philadelphia, PA 19103

From: PennDOT Engineering District 6-0
7000 Geerdes Boulevard
King of Prussia, PA 19406

Dear Applicant,

PennDOT has reviewed your application for completeness, consistency and compliance with applicable Department Regulations. This review has identified issues that must be addressed in order for our review to continue.

The Department's review comments are attached.

Once the comments have been addressed, please resubmit the application and associated material for further review.

Upon resubmission, the applicant's engineer should put together a letter that describes how each comment has been addressed and where each can be found. This will help expedite the review. For guidance on HOP applications refer to 67 PA Code, Chapter 441, Chapter 459 and PennDOT Publication 282, "Highway Occupancy Permit Guidelines". Additional comments may follow upon review of the resubmitted application.

If you have any questions regarding this matter, you may contact Drew Sirianni, PE, at (215) 254-7893.

pennsylvania
DEPARTMENT OF TRANSPORTATION

Response Comments
Date: 04/10/2024
Application Number: 336719, Cycle No.1

Form Letter Notes

(1) * Upon resubmission, the applicant's engineer must prepare a letter that describes how each comment has been addressed. Further, if the applicant's engineer has made any design changes independent of PennDOT reviewer comments, they must include a section in the response-to-comments letter that describes the additional design changes.

* Additional comments may follow upon review of the resubmitted application. If you have any questions pertaining to the technical aspects of this review, please contact the Department's representative, Drew E. Sirianni, PE of Pennoni at 215-254-7893 or DSirianni@Pennoni.com. Please reference the HOP Application number in all correspondence.

* For guidance on Highway Occupancy Permit applications refer to PA Code Title 67, Chapter 441, Chapter 459 and PennDOT Publication 282. This will help expedite the review.

General

(1) PLEASE SUBMIT A CHECK FOR $100.00 MADE PAYABLE TO PENNDOT-ATTN: MARY ELLEN CULHANE, PERMITS SUPERVISOR, 7000 GEERDES BLVD. KING OF PRUSSIA, PA. 19406. PLEASE INCLUDE THE APPLICATION NUMBER ON THE CHECK FOR OUR REFERENCE.

(2) The Department requires that a cost estimate is entered into EPS. The cost estimate must include all work proposed within the Department's Right-of-Way including signal equipment, all roadway work, pavement markings and signage plus a 15% contingency to be entered into the "Fee information & Estimate Construction Cost" section in the Application setup box. Further, this section requires the cost estimate to be broken down into site frontage costs and off-site improvements costs. Please enter this information in the manner required.

(3) As previously indicated, applicants for Highway Occupancy Permits must apply for an EPS Business Partner ID (BPID). The EPS BPID is to be used in the establishment of a billing account for the invoicing of inspection costs. After an EPS BPID is obtained and activated by the applicant's system administrator, a user ID will then need to be created in order to ensure that the EPS BPID is integrated into EPS and searchable through the "looking glass" feature. Once this has been established, please provide the following information in the applicant contact information tab under

"Applicant Team":
-BPID
-Contact information (name/title/phone/email) for a general contact person (person that typically deals with the Highway Occupancy Permit application process)
-Contact information (name/title/phone/email) for a billing contact person (person that typically deals with the Highway Occupancy Permit invoicing process)
For information on obtaining an EPS BPID, you may visit:
https://www.epermitting.penndot.gov/EPS/home/manageBPRegistration.jsp (follow the instructions that are in the pink shaded row) or contact the ECMS Help Desk. Please be aware that having an ECMS BPID does not guarantee the establishment of an EPS BPID as they are not reciprocal to one another.

Transportation Impact Study/Transportation Impact Assessment

(1) Lack of Right-of-Way is an invalid reason for not exploring a potential design option. Provide a concept plan to show a potential roundabout at this intersection, which would include access to the proposed development. We note that the Township owns the parcel on the southwest corner of the intersection.
(2) If a roundabout is not ultimately the selected design alternative, then due to the excessive delay demonstrated in this TIA for the approach of the proposed site access to SR 0100, combined with the limited sight distance looking to the right (less than desirable), the left turn egress movement will be restricted from the site access. The applicant must provide raised overlapping medians on SR 0100 to preclude left turns from the site access and Font Road. A raised channelization island must be provided on the proposed site access to guide traffic toward making a right turn.
(3) As previously indicated, confirm if ITE 942 is more appropriate land use for the proposed site. Update trip generation estimates and any associated analysis, as appropriate.
(4) The Department currently uses Synchro Version 11, please submit the files in this version until the Department upgrades to Synchro 12.

Access Configuration/Profile- Driveways/Local Roads

(1) As previously indicated, the proposed driveway must be aligned perfectly with the existing Font Road alignment. Based on the submitted site plan, there is a slight mis-alignment. This issue will be reviewed in greater detail upon the determination of the most appropriate intersection traffic control method and the submission of HOP Plans.

Sight Distance- Driveways/Local Roads

(1) As previously indicated, available and required sight distances must be indicated on the plan for the proposed driveway. The Department is aware of the horizontal curve along SR 0100 and building location to the north of the proposed driveway and has concerns about the available sight distance.

TRAFFIC PLANNING AND DESIGN, INC.
WWW.TRAFFICPD.COM

March 8, 2024

Mr. Paul Lutz
Senior Manager – Transportation Services
PennDOT 6-0
7000 Geerdes Blvd
King of Prussia, PA 19406

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

Dear Mr. Lutz:

This letter pertains to the Proposed Automotive Service Center Development located in Upper Uwchlan Township, Chester County. Traffic Planning and Design, Inc. (TPD) has prepared this response letter to address the EPS TIA Scoping Review Comments from PennDOT dated March 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 and regular type:

PENNDOT REVIEW COMMENTS

1. *This is a preliminary review. The Department reserves the right to make additional comments when the application includes detailed plans. The Department has determined that a scoping meeting is not necessary at this time; however, if you have any questions pertaining to the technical aspects of this review, please contact the Department's representative, Drew E. Sirianni, PE at DSirianni@Pennoni.com or 215.254.7893.*

   Response: So noted.

2. *The Department supports Upper Uwchlan Township's request for an evaluation of the need for traffic control and pedestrian improvements at the intersection of Pottstown Pike (SR 0100) and Font Road/Proposed Site Access. Provide this evaluation in the forthcoming TIA. This HOP application is expected to include the addition of a leg to an existing intersection. As such, the applicant shall comply with PennDOT's Intersection Control Evaluation (ICE) Policy. Please refer to Appendix AI of Publication 10X (DM-1X) and the ICE portion of PennDOT's Traffic Signal Portal for additional information, guidance, and standard forms.*

   Response: An ICE evaluation was provided in the TIA.

3. *If a traffic signal is determined to be the appropriate intersection control, then fiber optic*

interconnect to the Upper Uwchlan Township system will be required.

Response: As shown in the TIA, signal warrants are not satisfied. This finding is similar to the findings found in the Township's ACT 209 Study.

4. *If a traffic signal is determined to be the appropriate intersection control, then provide access to the adjacent trail.*

   Response: As shown in the TIA, signal warrants are not satisfied. This finding is similar to the findings found in the Township's ACT 209 Study.

5. *Provide crash data analysis.*

   Response: A crash analysis was included in the TIA.

6. *The following scoping application elements appear to be acceptable: a. Study Intersections b. Study Area Type: Urbanc. Analysis Period and Times: AM Peak; PM Peak for the existing, base condition without development, and projected build opening year with development.*

   Response: So noted.

7. *Please provide additional information about the proposed development to confirm the use of ITE land use code 943. Based on the description of Land Use Code 943, an automobile parts and service center sell automobile parts for do-it-yourself maintenance and repair. The proposed 412 auto spaces seem excessive for this type of use.*

   Response: The main use for the proposed site will be an automobile service center to provide services for the local dealerships. The proposed site will also provide significant parking area for new car inventory storage associated with the local dealerships under the RDS Automotive Group. As shown in the TIA, this portion of the proposed site is anticipated to generate minimal external trips.

8. *Please include analysis of the Saturday mid-day peak hour if it is anticipated to be higher than the weekday commuter peak hours.*

   Response: The proposed site is anticipated to be an automobile service center to provide services for the local dealerships. Therefore the trip generation is anticipated to be minimal on a Saturday.

9. *Please note that new growth factors are now available for September 2023 to July 2024, no change is required since conservative growth factor is proposed.*

   Response: The most recent growth rate factor was utilized.

10. *Include all the planned and proposed developments in the background traffic growth projections that are identified in the Upper Uwchlan Township review dated February 5, 2024.*

    Response: Planned developments were coordinated with Upper Uwchlan Township and included in the TIA.

11. *The proposed driveway must be aligned perfectly with the existing Font Road alignment. Based*

on the submitted site plan, there is a slight mis-alignment. This issue will be reviewed in greater detail upon the determination of the most appropriate intersection traffic control method and the submission of HOP Plans.

Response: The driveway alignment will be further refined during the HOP process.

12. *Available and required sight distances must be indicated on the plan for the proposed driveway. The Department is aware of the horizontal curve along SR 0100 and building location to the north of the proposed driveway and has concerns about the available sight distance.*

    Response: Sight distance was evaluated in the TIA.

13. *Please be aware that the installation of drainage facilities within the Legal Right-of-Way may necessitate additional permitting requirements, including, but not limited to, a separate Highway Occupancy Permit from the Municipality for the future maintenance of the new drainage facilities. Specific information relating to five potential drainage scenarios, as well each scenario's submission requirements, is presented in PennDOT Strike-Off Letter 470-10-03. PennDOT is legally bound by Section 421 of the State Highway Law (36 P.S. ? 670-421) to enforce this maintenance responsibility for stormwater facilities relating to HOP projects. Please be guided accordingly.*

    Response: So noted.

14. *Please be advised that pursuant to and in accordance with Title 67, Chapter 441.8(h)(2)(iv) of the code, the Safe Stopping Sight Distance is the absolute minimum acceptable sight distance for any driveway. It is the designer's responsibility to ensure that this minimum requirement is satisfied. Furthermore, it should also be understood that any comments made (or guidance given) in this correspondence are preliminary in nature and the Department reserves the right to change, alter, withdraw, or amend them as it deems necessary in the future.*

    Response: So noted/Will comply.

15. *Please note that consistent with current Department Policy, applicants for Highway Occupancy Permits must apply for an EPS Business Partner ID (BPID). The EPS BPID is to be used in the establishment of a billing account for the invoicing of inspection costs. After an EPS BPID is obtained and activated by the applicant's system administrator, a user ID will then need to be created in order to ensure that the EPS BPID is integrated into EPS and searchable through the "looking glass" feature. Once this has been established, please provide the following information in the applicant contact information tab under "Applicant Team":*

    -BPID-Contact information (name/title/phone/email) for a general contact person (person that typically deals with the Highway Occupancy Permit application process)

    -Contact information (name/title/phone/email) for a billing contact person (person that typically deals with the Highway Occupancy Permit invoicing process)For information on obtaining an EPS BPID, you may visit:

    https://www.epermitting.penndot.gov/EPS/home/manageBPRegistration.jsp

    (follow the instructions that are in the pink shaded row) or contact the ECMS Help Desk. Please

be aware that having an ECMS BPID does not guarantee the establishment of an EPS BPID as they are not reciprocal to one another.

Response: So noted/Will comply as part of a future HOP application submission.

16. *Department records indicate that PennDOT Fiber Optic facilities are present within the proposed limits of work and may be impacted by the anticipated improvements. Be advised that if fiber optic facilities are affected, the applicant is responsible for the relocation of the fiber, testing of the fiber communications both during construction and after the relocation of the fiber indicated on the approved plans, and the associated costs. Electrical contractors in the region that have experience with fiber optic cable work include but are not limited to: Henkels and McCoy, Lenni Electric, Carr and Duff, Kuharchik Construction, Blair Park, and Armour and Sons Electric. The Highway Occupancy Permit will not be issued until the fiber optic impact has been reviewed and the relocation scheme ultimately approved by the Department.*

    Response: So noted.

We hope that these responses are helpful. If you require any 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: 3/5/2024 PennDOT EPS Review

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

Bressler, Matt

Subject: Scoping Meeting Application - Returned - Application Number is : S0620230072 (Sent on: 03/05/2024 01:52:18 PM)

From: ePermitting Help <penndotepermittinghelp@pa.gov>
Sent: Tuesday, March 05, 2024 1:52 PM
To: jhediger@porschemainline.com; JTackett@tandmassociates.com; Kramer, Eric <ekramer@trafficpd.com>; fhanney@pa.gov; jotten@pa.gov; slapenta@pa.gov; c-smccutch@pa.gov; scburton@pa.gov; ajparker@mccormicktaylor.com; cwilliams@bowman.com
Cc: RA-PDEPSPROD@pa.gov
Subject: :: Scoping Meeting Application - Returned - Application Number is : S0620230072 (Sent on: 03/05/2024 01:52:18 PM)

CAUTION: External email - do not click links or open attachments unless you recognize the sender and know the content is safe.

PennDOT has completed its review of the TIS Determination and Scoping Meeting Application.

Please address the following comments below, and resubmit the application to PennDOT for review.

PennDOT Review Comments :
1. This is a preliminary review. The Department reserves the right to make additional comments when the application includes detailed plans. The Department has determined that a scoping meeting is not necessary at this time; however, if you have any questions pertaining to the technical aspects of this review, please contact the Department's representative, Drew E. Sirianni, PE at DSirianni@Pennoni.com or 215.254.7893.
2. The Department supports Upper Uwchlan Township's request for an evaluation of the need for traffic control and pedestrian improvements at the intersection of Pottstown Pike (SR 0100) and Font Road/Proposed Site Access. Provide this evaluation in the forthcoming TIA. This HOP application is expected to include the addition of a leg to an existing intersection. As such, the applicant shall comply with PennDOT's Intersection Control Evaluation (ICE) Policy. Please refer to Appendix AI of Publication 10X (DM-1X) and the ICE portion of PennDOT's Traffic Signal Portal for additional information, guidance, and standard forms.
3. If a traffic signal is determined to be the appropriate intersection control, then fiber optic interconnect to the Upper Uwchlan Township system will be required.
4. If a traffic signal is determined to be the appropriate intersection control, then provide access to the adjacent trail.
5. Provide crash data analysis.
6. The following scoping application elements appear to be acceptable: a. Study Intersections b. Study Area Type: Urbanc. Analysis Period and Times: AM Peak; PM Peak for the existing, base condition without development, and projected build opening year with development.
7. Please provide additional information about the proposed development to confirm the use of ITE land use code 943. Based on the description of Land Use Code 943, an automobile parts and service center sell automobile parts for do-it-yourself maintenance and repair. The proposed 412 auto spaces seem excessive for this type of use.
8. Please include analysis of the Saturday mid-day peak hour if it is anticipated to be higher than the weekday commuter peak hours.
9. Please note that new growth factors are now available for September 2023 to July 2024, no change is required since conservative growth factor is proposed.
10. Include all the planned and proposed developments in the background traffic growth projections that are identified in the Upper Uwchlan Township review dated February 5, 2024.
11. The proposed driveway must be aligned perfectly with the existing Font Road alignment. Based on the submitted site plan, there is a slight mis-alignment. This issue will be reviewed in greater detail upon the determination of the most appropriate intersection traffic control method and the submission of HOP Plans.

12. Available and required sight distances must be indicated on the plan for the proposed driveway. The Department is aware of the horizontal curve along SR 0100 and building location to the north of the proposed driveway and has concerns about the available sight distance.
13. Please be aware that the installation of drainage facilities within the Legal Right-of-Way may necessitate additional permitting requirements, including, but not limited to, a separate Highway Occupancy Permit from the Municipality for the future maintenance of the new drainage facilities. Specific information relating to five potential drainage scenarios, as well each scenario's submission requirements, is presented in PennDOT Strike-Off Letter 470-10-03. PennDOT is legally bound by Section 421 of the State Highway Law (36 P.S. ? 670-421) to enforce this maintenance responsibility for stormwater facilities relating to HOP projects. Please be guided accordingly.
14. Please be advised that pursuant to and in accordance with Title 67, Chapter 441.8(h)(2)(iv) of the code, the Safe Stopping Sight Distance is the absolute minimum acceptable sight distance for any driveway. It is the designer's responsibility to ensure that this minimum requirement is satisfied. Furthermore, it should also be understood that any comments made (or guidance given) in this correspondence are preliminary in nature and the Department reserves the right to change, alter, withdraw, or amend them as it deems necessary in the future.
15. Please note that consistent with current Department Policy, applicants for Highway Occupancy Permits must apply for an EPS Business Partner ID (BPID). The EPS BPID is to be used in the establishment of a billing account for the invoicing of inspection costs. After an EPS BPID is obtained and activated by the applicant's system administrator, a user ID will then need to be created in order to ensure that the EPS BPID is integrated into EPS and searchable through the "looking glass" feature. Once this has been established, please provide the following information in the applicant contact information tab under "Applicant Team":-BPID-Contact information (name/title/phone/email) for a general contact person (person that typically deals with the Highway Occupancy Permit application process)-Contact information (name/title/phone/email) for a billing contact person (person that typically deals with the Highway Occupancy Permit invoicing process)For information on obtaining an EPS BPID, you may visit: https://www.epermitting.penndot.gov/EPS/home/manageBPRegistration.jsp (follow the instructions that are in the pink shaded row) or contact the ECMS Help Desk. Please be aware that having an ECMS BPID does not guarantee the establishment of an EPS BPID as they are not reciprocal to one another.
16. Department records indicate that PennDOT Fiber Optic facilities are present within the proposed limits of work and may be impacted by the anticipated improvements. Be advised that if fiber optic facilities are affected, the applicant is responsible for the relocation of the fiber, testing of the fiber communications both during construction and after the relocation of the fiber indicated on the approved plans, and the associated costs. Electrical contractors in the region that have experience with fiber optic cable work include but are not limited to: Henkels and McCoy, Lenni Electric, Carr and Duff, Kuharchik Construction, Blair Park, and Armour and Sons Electric. The Highway Occupancy Permit will not be issued until the fiber optic impact has been reviewed and the relocation scheme ultimately approved by the Department.

Click here to access the Scoping Application

PENNDOT EPERMIT - PLEASE DO NOT REPLY TO THIS EMAIL

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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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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February 14, 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.

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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. The additional parking spaces shown on the Proposed Site are anticipated to be for the servicing of vehicles, as well as the potential 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.

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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

Bressler, 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

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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

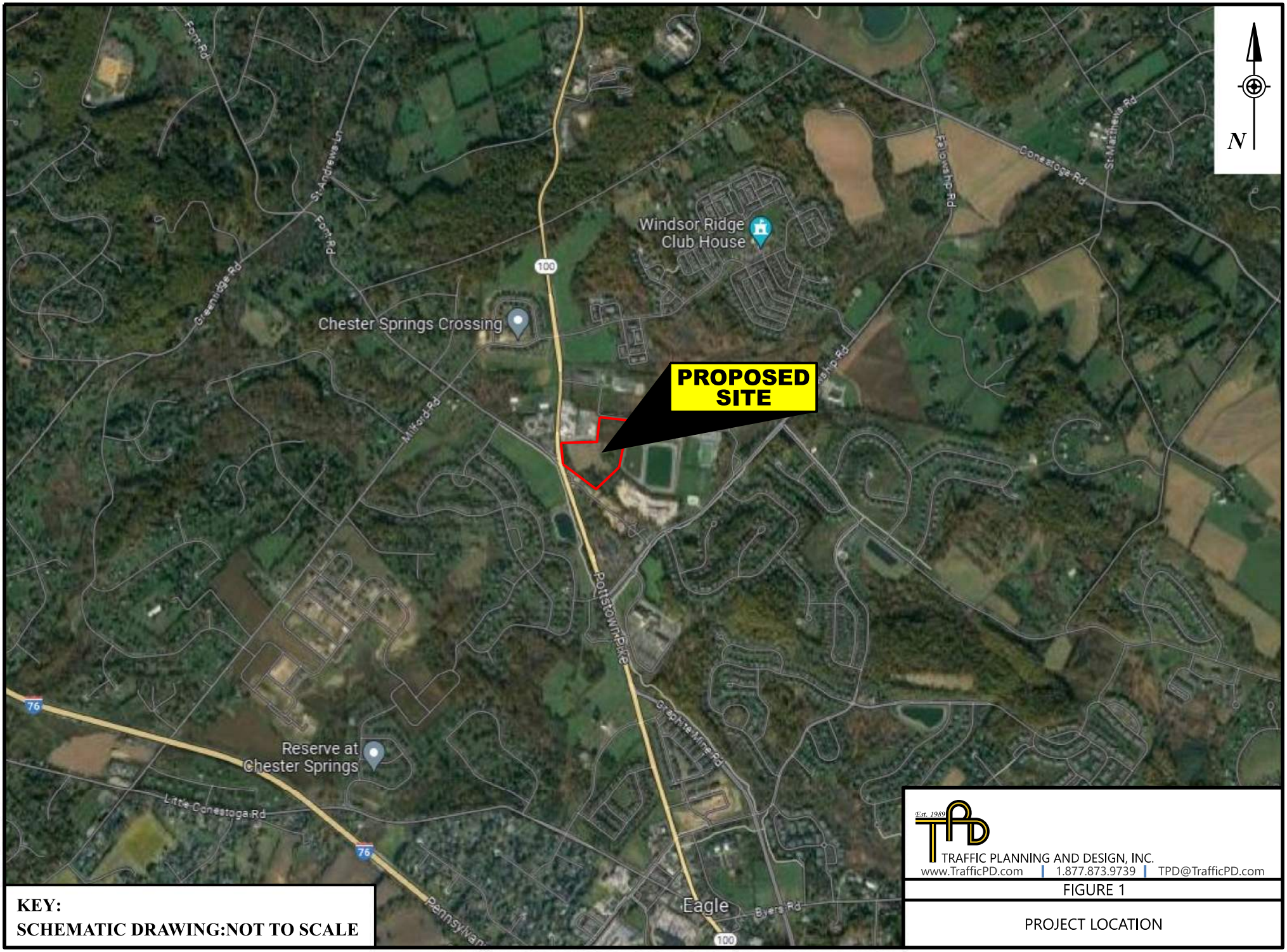
(17) ADDITIONAL COMMENTS OR RECOMMENDATIONS RELATIVE TO THE SCOPE OF THE TIS:

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.

This Electronic Copy Created on: 2024-01-17 11:45:04

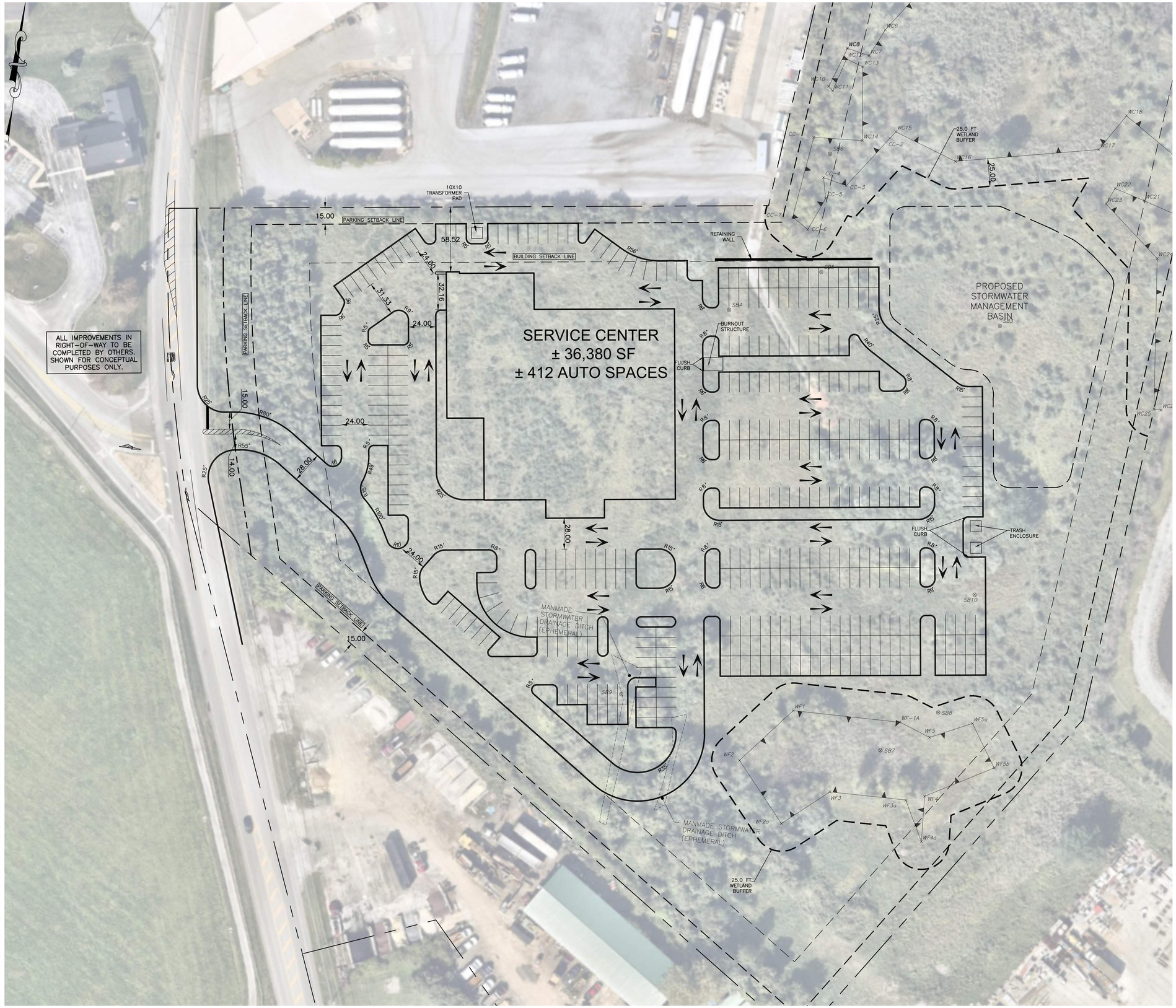


KEY:
SCHEMATIC DRAWING:NOT TO SCALE

Est. 1989
TRAFFIC PLANNING AND DESIGN, INC.
www.TrafficPD.com | 1.877.873.9739 | TPD@TrafficPD.com

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

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

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

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PROJECT INFORMATION:
FILE PATH: G:\Projects\PORS\00021\Plans\
FILE NAME: PORS00021-STE.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 JH::

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

Count Name: Font Road and Pottstown Pike (Route 100)
Site Code:
Start Date: 04/18/2024

Turning Movement Data

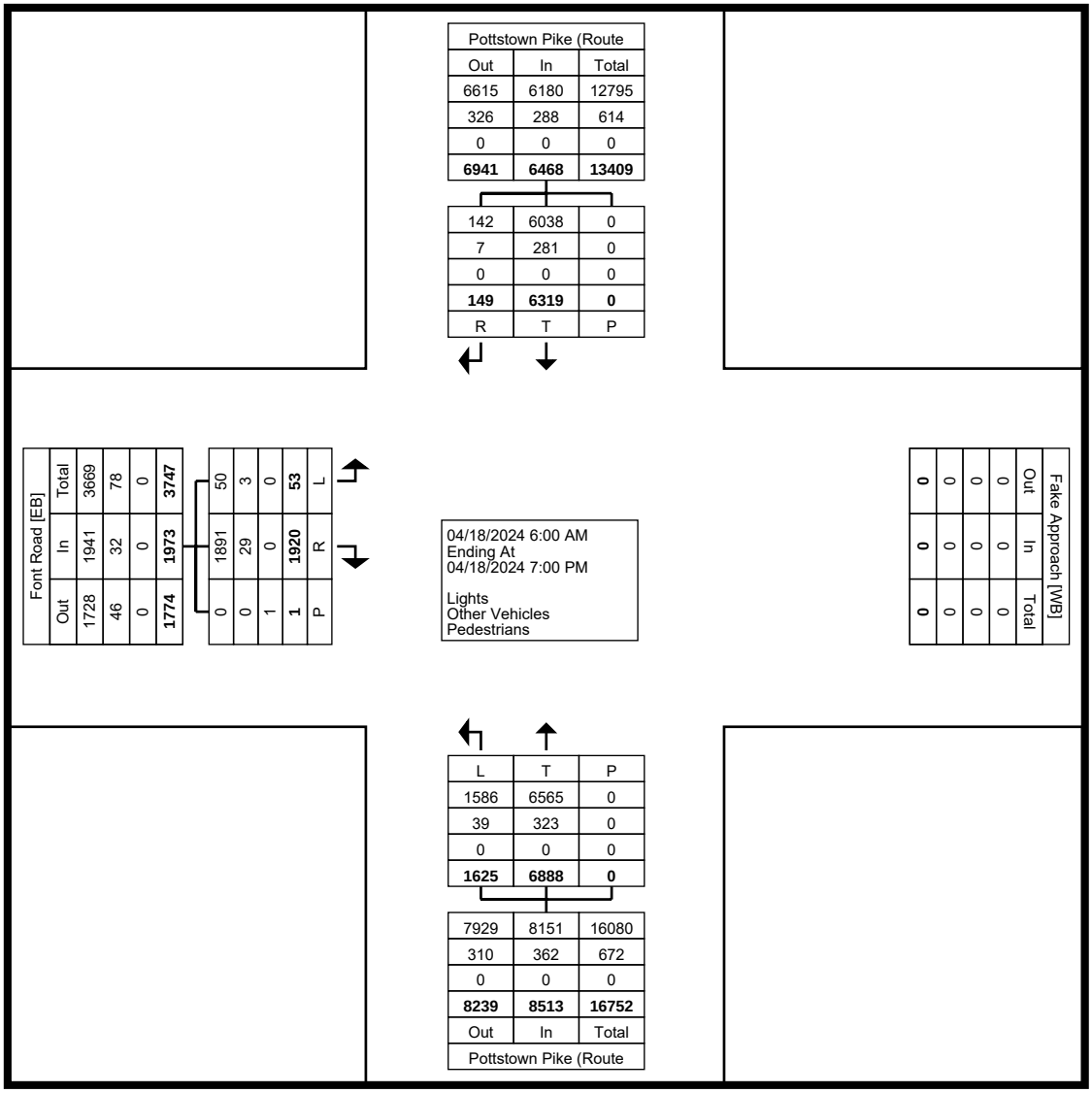
Start Time	Font Road Eastbound				Pottstown Pike (Route 100) Northbound				Pottstown Pike (Route 100) Southbound				Int. Total
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	
6:00 AM	1	14	0	15	2	26	0	28	135	0	0	135	178
6:15 AM	0	32	0	32	14	46	0	60	141	0	0	141	233
6:30 AM	0	31	0	31	11	65	0	76	171	0	0	171	278
6:45 AM	1	47	0	48	11	77	0	88	210	1	0	211	347
Hourly Total	2	124	0	126	38	214	0	252	657	1	0	658	1036
7:00 AM	0	56	0	56	7	66	0	73	204	2	0	206	335
7:15 AM	1	48	0	49	19	66	0	85	173	2	0	175	309
7:30 AM	0	56	0	56	16	91	0	107	196	5	0	201	364
7:45 AM	0	66	0	66	14	105	0	119	152	8	0	160	345
Hourly Total	1	226	0	227	56	328	0	384	725	17	0	742	1353
8:00 AM	1	59	0	60	12	119	0	131	154	4	0	158	349
8:15 AM	1	61	0	62	11	85	0	96	160	2	0	162	320
8:30 AM	0	61	0	61	10	99	0	109	164	4	0	168	338
8:45 AM	0	40	0	40	24	99	0	123	164	3	0	167	330
Hourly Total	2	221	0	223	57	402	0	459	642	13	0	655	1337
9:00 AM	1	30	0	31	17	103	0	120	124	1	0	125	276
9:15 AM	0	50	0	50	15	104	0	119	122	1	0	123	292
9:30 AM	1	43	0	44	23	105	0	128	105	5	0	110	282
9:45 AM	0	40	0	40	24	90	0	114	94	1	0	95	249
Hourly Total	2	163	0	165	79	402	0	481	445	8	0	453	1099
10:00 AM	0	31	0	31	24	97	0	121	107	2	0	109	261
10:15 AM	4	35	0	39	20	81	0	101	95	0	0	95	235
10:30 AM	5	25	0	30	21	88	0	109	100	3	0	103	242
10:45 AM	0	32	0	32	23	90	0	113	101	3	0	104	249
Hourly Total	9	123	0	132	88	356	0	444	403	8	0	411	987
11:00 AM	4	35	0	39	33	122	0	155	81	3	0	84	278
11:15 AM	2	31	0	33	27	115	0	142	99	0	0	99	274
11:30 AM	2	28	0	30	28	95	0	123	103	3	0	106	259
11:45 AM	4	36	0	40	24	106	0	130	114	1	0	115	285
Hourly Total	12	130	0	142	112	438	0	550	397	7	0	404	1096
12:00 PM	0	26	0	26	27	129	0	156	99	1	0	100	282
12:15 PM	1	24	0	25	36	102	0	138	107	0	0	107	270
12:30 PM	3	26	0	29	26	101	0	127	109	2	0	111	267
12:45 PM	1	24	0	25	27	125	0	152	120	2	0	122	299
Hourly Total	5	100	0	105	116	457	0	573	435	5	0	440	1118
1:00 PM	0	22	0	22	32	121	0	153	101	2	0	103	278
1:15 PM	1	35	0	36	33	124	0	157	92	3	0	95	288
1:30 PM	2	34	0	36	16	146	0	162	100	6	0	106	304
1:45 PM	0	38	0	38	35	113	0	148	100	5	0	105	291
Hourly Total	3	129	0	132	116	504	0	620	393	16	0	409	1161
2:00 PM	1	37	0	38	43	147	0	190	100	1	0	101	329
2:15 PM	1	26	0	27	30	140	0	170	128	5	0	133	330
2:30 PM	2	38	0	40	32	152	0	184	96	4	0	100	324
2:45 PM	0	23	0	23	34	163	0	197	109	3	0	112	332
Hourly Total	4	124	0	128	139	602	0	741	433	13	0	446	1315
3:00 PM	2	35	0	37	51	186	0	237	120	2	0	122	396
3:15 PM	2	26	0	28	38	199	0	237	131	3	0	134	399
3:30 PM	0	25	0	25	36	211	0	247	103	4	0	107	379
3:45 PM	1	49	0	50	62	211	0	273	130	3	0	133	456
Hourly Total	5	135	0	140	187	807	0	994	484	12	0	496	1630
4:00 PM	0	28	0	28	53	215	0	268	113	8	0	121	417
4:15 PM	0	41	0	41	48	217	0	265	93	6	0	99	405
4:30 PM	2	36	0	38	56	242	0	298	124	4	0	128	464
4:45 PM	1	50	0	51	55	247	0	302	111	4	0	115	468
Hourly Total	3	155	0	158	212	921	0	1133	441	22	0	463	1754
5:00 PM	1	47	0	48	80	246	0	326	128	5	0	133	507
5:15 PM	1	35	0	36	60	250	0	310	116	4	0	120	466
5:30 PM	1	40	0	41	53	204	0	257	144	2	0	146	444
5:45 PM	1	29	0	30	63	206	0	269	119	5	0	124	423
Hourly Total	4	151	0	155	256	906	0	1162	507	16	0	523	1840
6:00 PM	0	52	0	52	55	155	0	210	114	4	0	118	380

6:15 PM	1	30	0	31	40	154	0	194	104	4	0	108	333
6:30 PM	0	27	1	27	37	123	0	160	80	2	0	82	269
6:45 PM	0	30	0	30	37	119	0	156	59	1	0	60	246
Hourly Total	1	139	1	140	169	551	0	720	357	11	0	368	1228
Grand Total	53	1920	1	1973	1625	6888	0	8513	6319	149	0	6468	16954
Approach %	2.7	97.3	-	-	19.1	80.9	-	-	97.7	2.3	-	-	-
Total %	0.3	11.3	-	11.6	9.6	40.6	-	50.2	37.3	0.9	-	38.2	-
Lights	50	1891	-	1941	1586	6565	-	8151	6038	142	-	6180	16272
% Lights	94.3	98.5	-	98.4	97.6	95.3	-	95.7	95.6	95.3	-	95.5	96.0
Other Vehicles	3	29	-	32	39	323	-	362	281	7	-	288	682
% Other Vehicles	5.7	1.5	-	1.6	2.4	4.7	-	4.3	4.4	4.7	-	4.5	4.0
Pedestrians	-	-	1	-	-	-	0	-	-	-	0	-	-
% 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 JH::

Count Name: Font Road and Pottstown Pike (Route 100)
Site Code:
Start Date: 04/18/2024



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 JH::

Count Name: Font Road and Pottstown Pike (Route 100)
Site Code:
Start Date: 04/18/2024

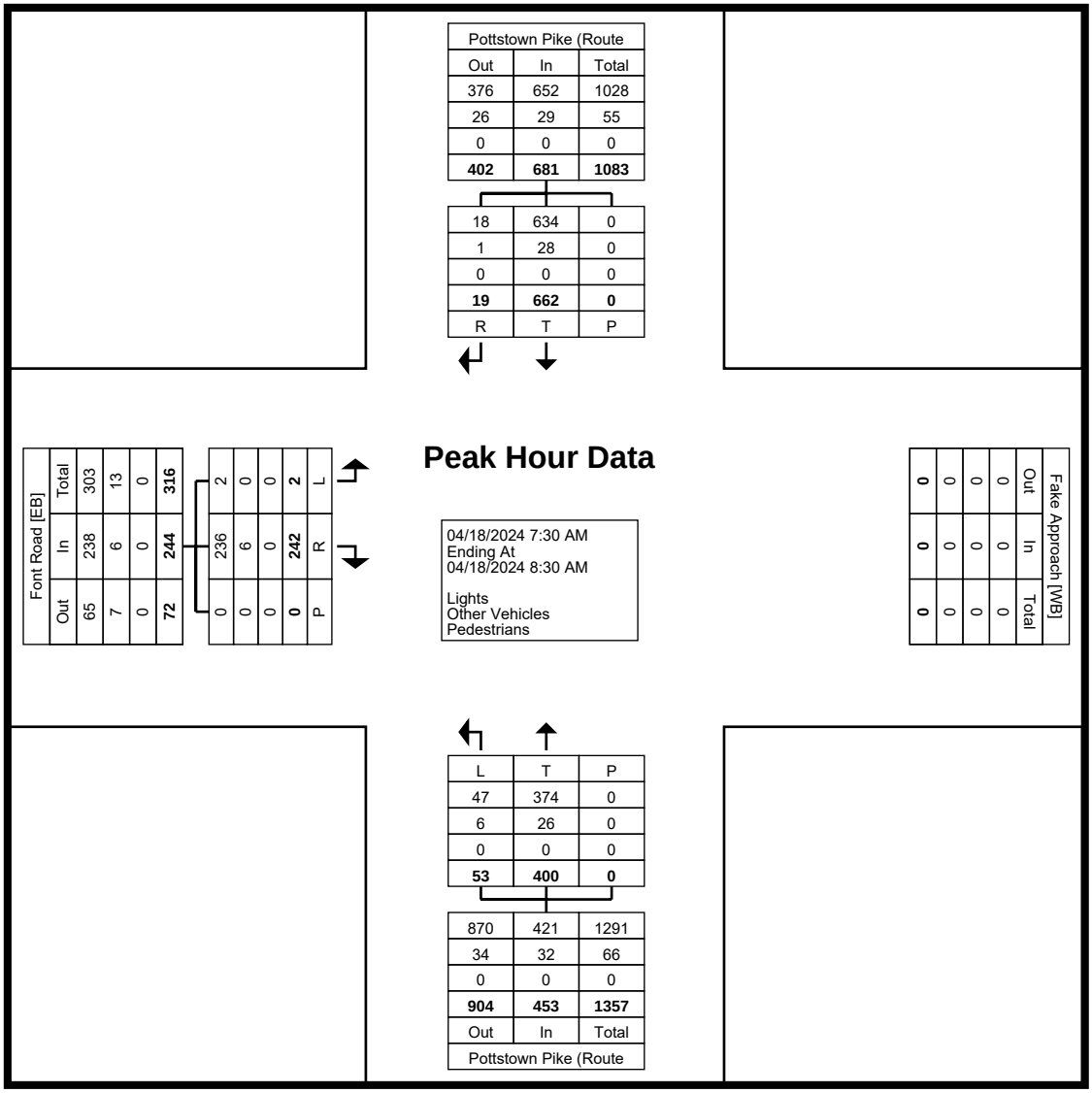
Turning Movement Peak Hour Data (7:30 AM)

Start Time	Font Road Eastbound				Pottstown Pike (Route 100) Northbound				Pottstown Pike (Route 100) Southbound				
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
7:30 AM	0	56	0	56	16	91	0	107	196	5	0	201	364
7:45 AM	0	66	0	66	14	105	0	119	152	8	0	160	345
8:00 AM	1	59	0	60	12	119	0	131	154	4	0	158	349
8:15 AM	1	61	0	62	11	85	0	96	160	2	0	162	320
Total	2	242	0	244	53	400	0	453	662	19	0	681	1378
Approach %	0.8	99.2	-	-	11.7	88.3	-	-	97.2	2.8	-	-	-
Total %	0.1	17.6	-	17.7	3.8	29.0	-	32.9	48.0	1.4	-	49.4	-
PHF	0.500	0.917	-	0.924	0.828	0.840	-	0.865	0.844	0.594	-	0.847	0.946
Lights	2	236	-	238	47	374	-	421	634	18	-	652	1311
% Lights	100.0	97.5	-	97.5	88.7	93.5	-	92.9	95.8	94.7	-	95.7	95.1
Other Vehicles	0	6	-	6	6	26	-	32	28	1	-	29	67
% Other Vehicles	0.0	2.5	-	2.5	11.3	6.5	-	7.1	4.2	5.3	-	4.3	4.9
Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Counter: MIO:
Set up By JH::

Count Name: Font Road and Pottstown Pike (Route 100)
Site Code:
Start Date: 04/18/2024



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

Counter: MIO:
Set up By JH::

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

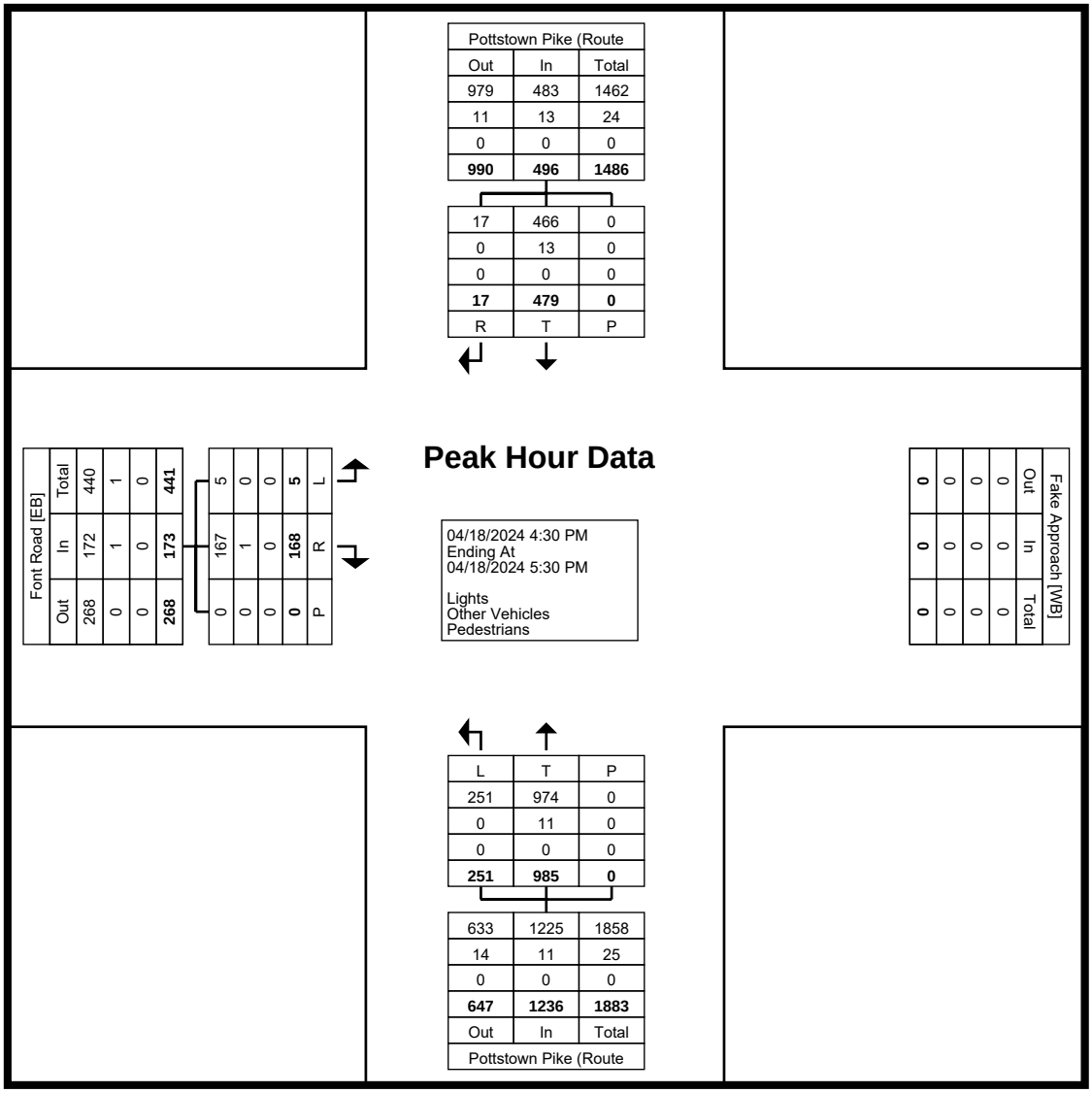
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Font Road Eastbound				Pottstown Pike (Route 100) Northbound				Pottstown Pike (Route 100) Southbound				
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
4:30 PM	2	36	0	38	56	242	0	298	124	4	0	128	464
4:45 PM	1	50	0	51	55	247	0	302	111	4	0	115	468
5:00 PM	1	47	0	48	80	246	0	326	128	5	0	133	507
5:15 PM	1	35	0	36	60	250	0	310	116	4	0	120	466
Total	5	168	0	173	251	985	0	1236	479	17	0	496	1905
Approach %	2.9	97.1	-	-	20.3	79.7	-	-	96.6	3.4	-	-	-
Total %	0.3	8.8	-	9.1	13.2	51.7	-	64.9	25.1	0.9	-	26.0	-
PHF	0.625	0.840	-	0.848	0.784	0.985	-	0.948	0.936	0.850	-	0.932	0.939
Lights	5	167	-	172	251	974	-	1225	466	17	-	483	1880
% Lights	100.0	99.4	-	99.4	100.0	98.9	-	99.1	97.3	100.0	-	97.4	98.7
Other Vehicles	0	1	-	1	0	11	-	11	13	0	-	13	25
% Other Vehicles	0.0	0.6	-	0.6	0.0	1.1	-	0.9	2.7	0.0	-	2.6	1.3
Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Counter: MIO:
Set up By JH::

Count Name: Font Road and Pottstown Pike (Route 100)
Site Code:
Start Date: 04/18/2024



Turning Movement Peak Hour Data Plot (4:30 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

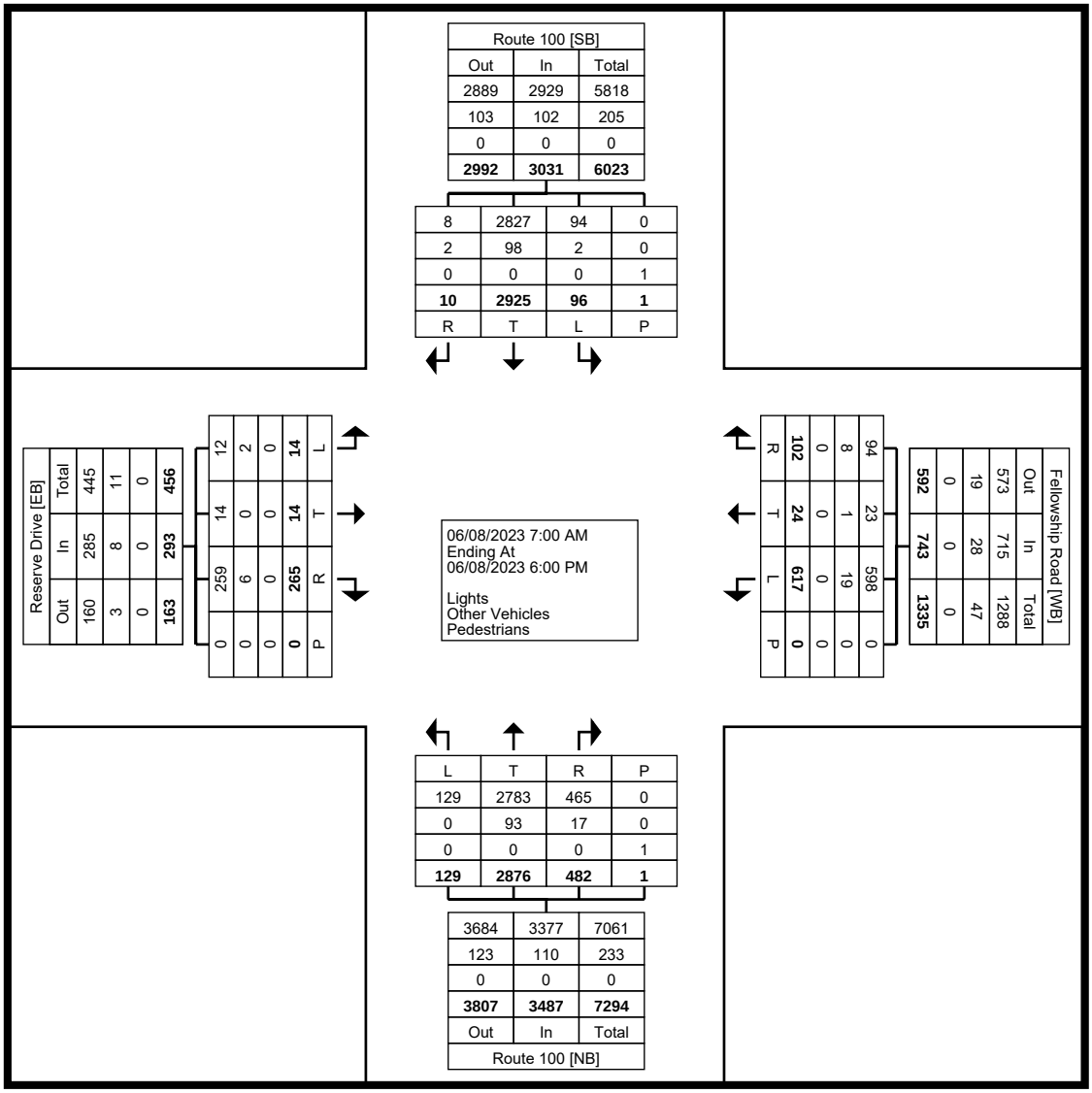
Turning Movement Data

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
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610.326.3100

Counter: MIO:
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Turning Movement Data Plot

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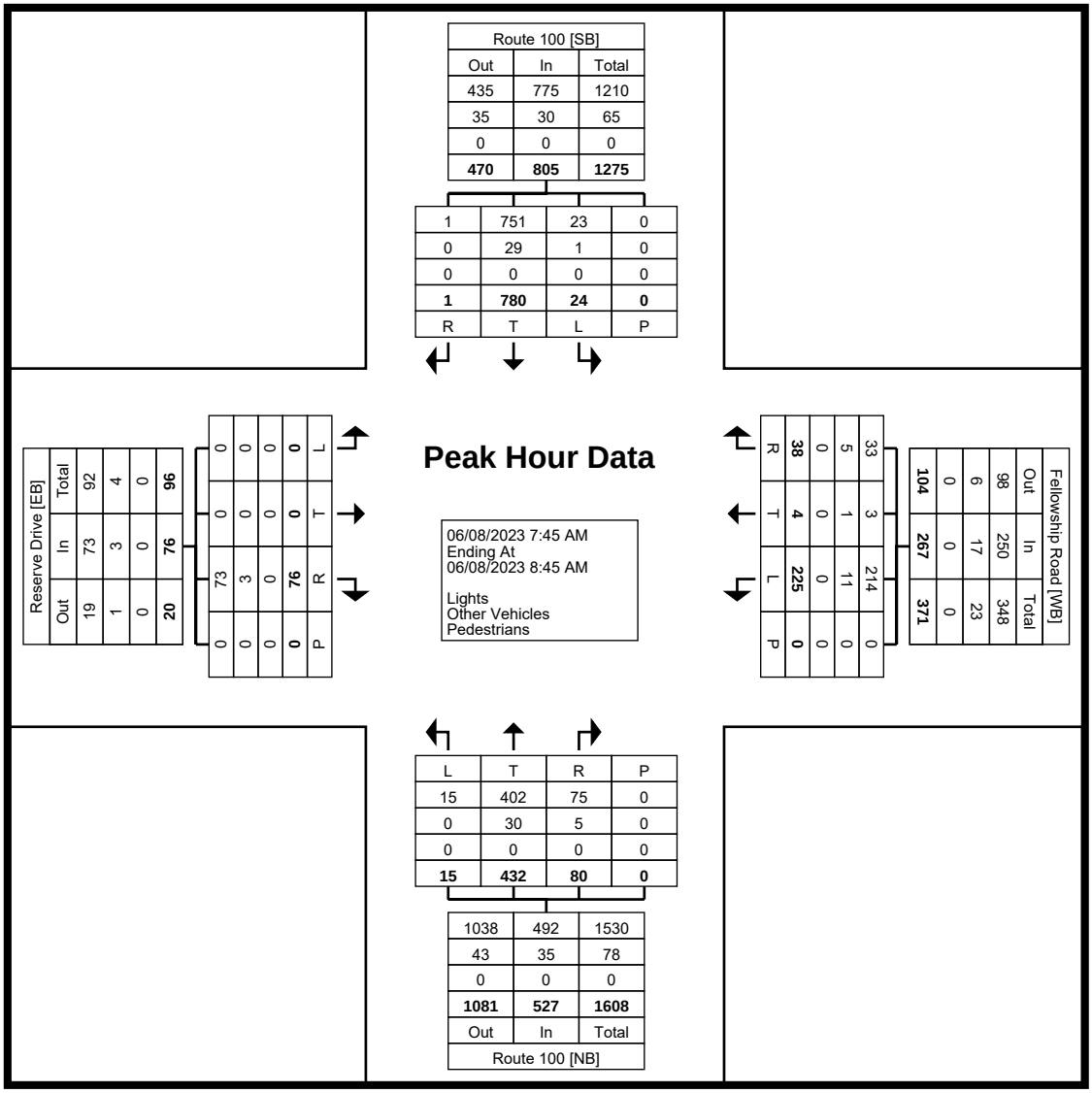
Turning Movement Peak Hour Data (7:45 AM)

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
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Turning Movement Peak Hour Data Plot (7:45 AM)

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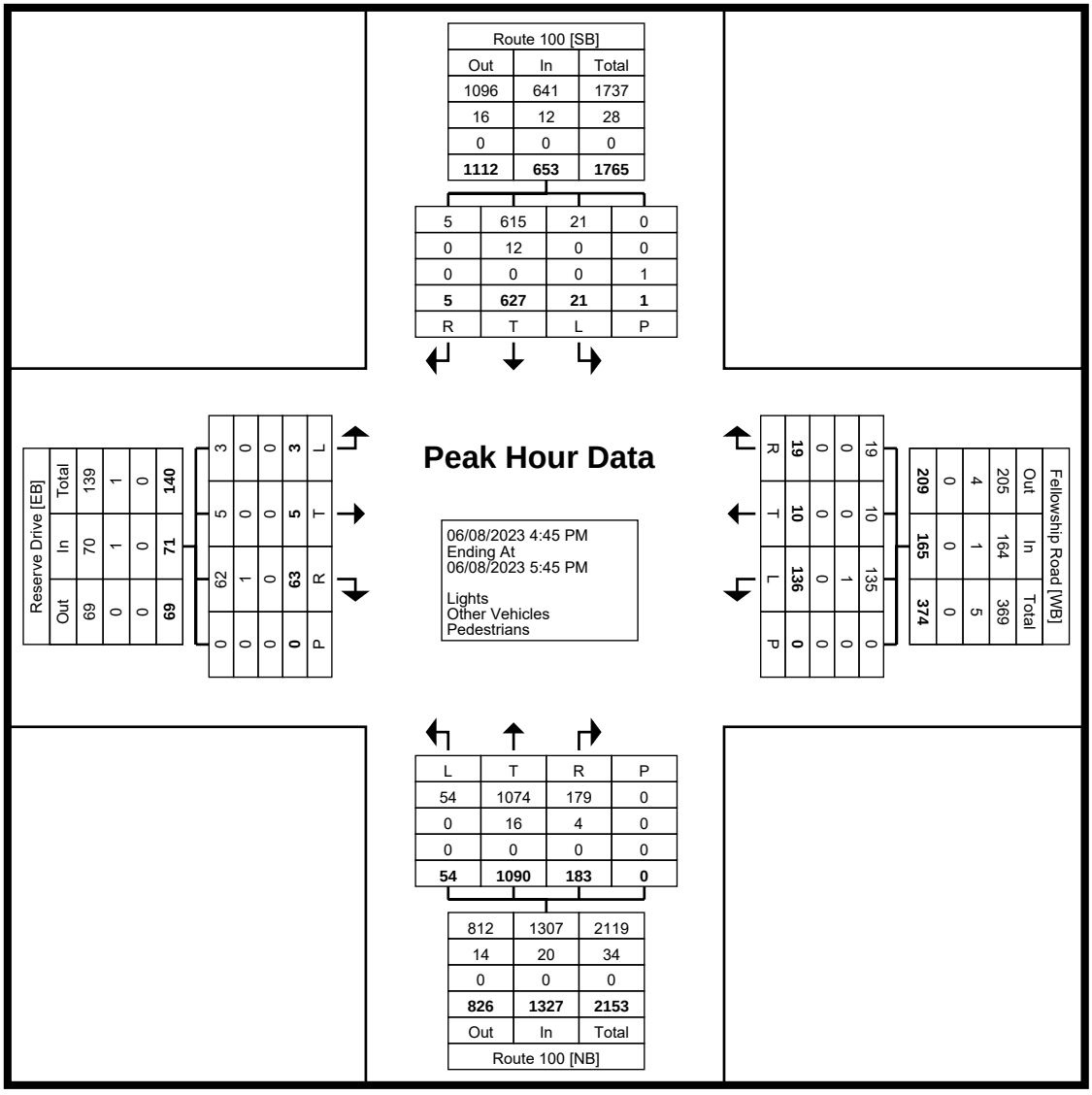
Turning Movement Peak Hour Data (4:45 PM)

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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Page No: 6



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

Counter: MIO:
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610.326.3100

Count Name: 3 Route 100 & Garrison Road-Milford Road
Site Code:
Start Date: 06/08/2023

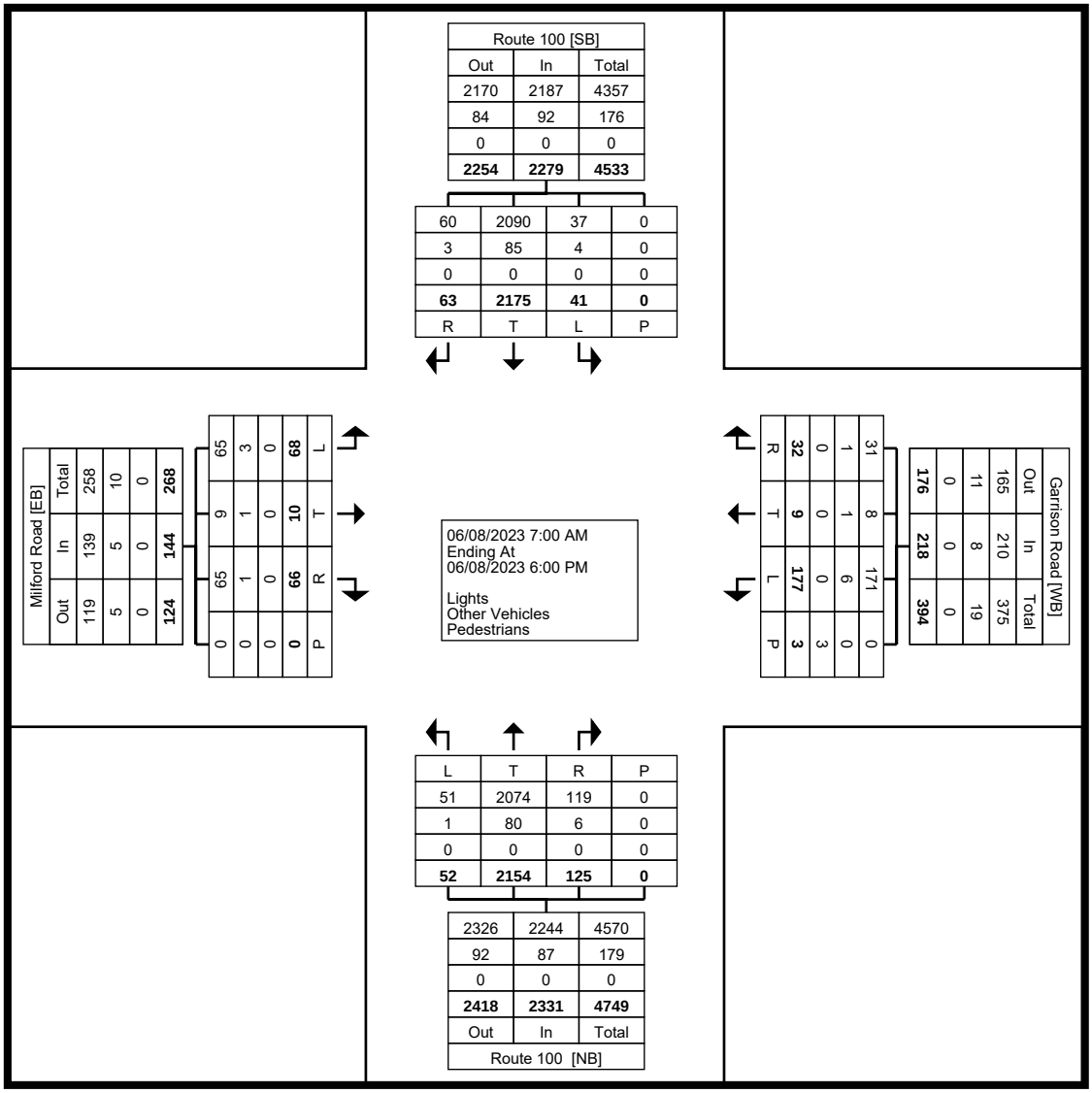
Turning Movement Data

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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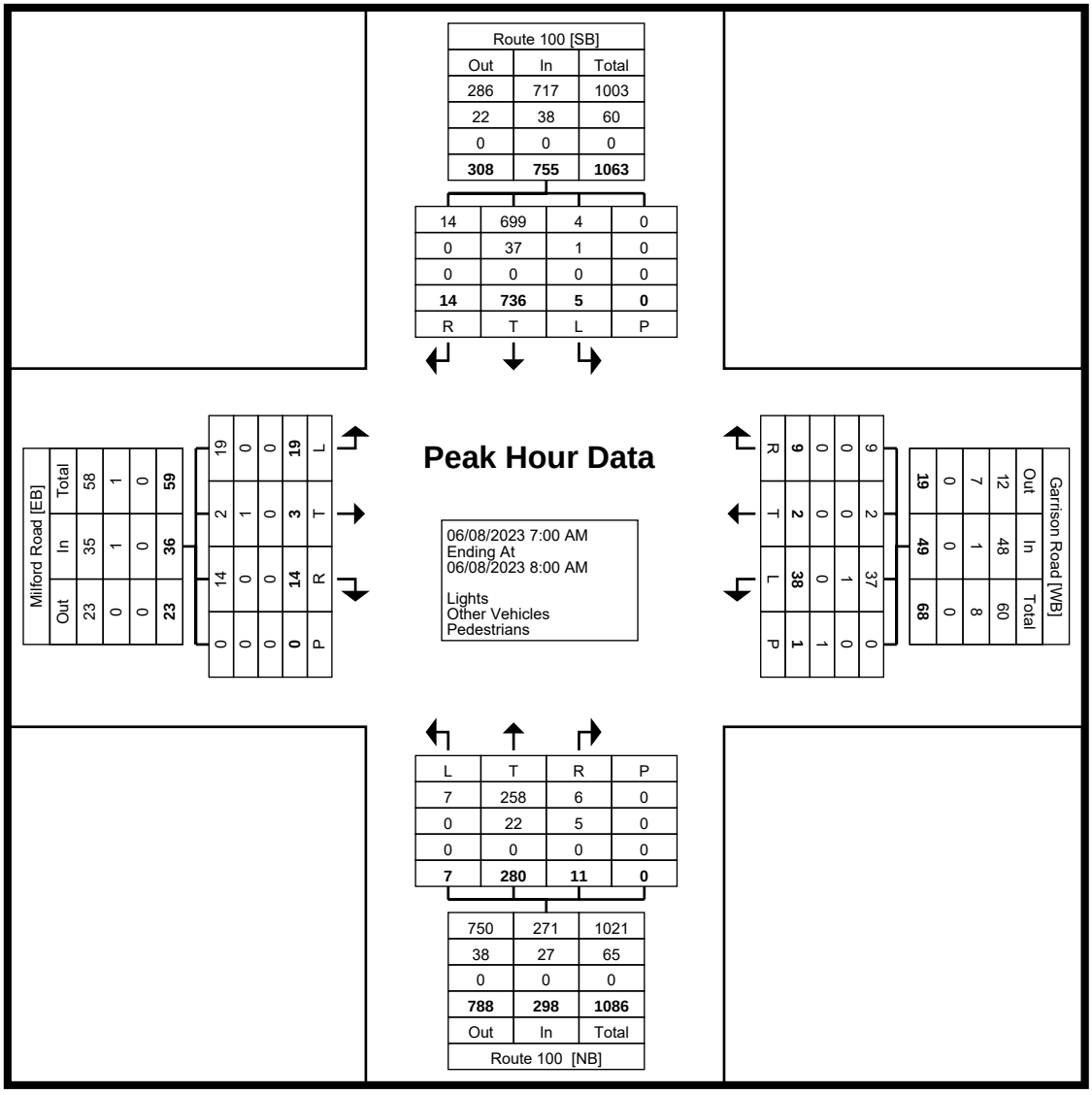
Turning Movement Peak Hour Data (7:00 AM)

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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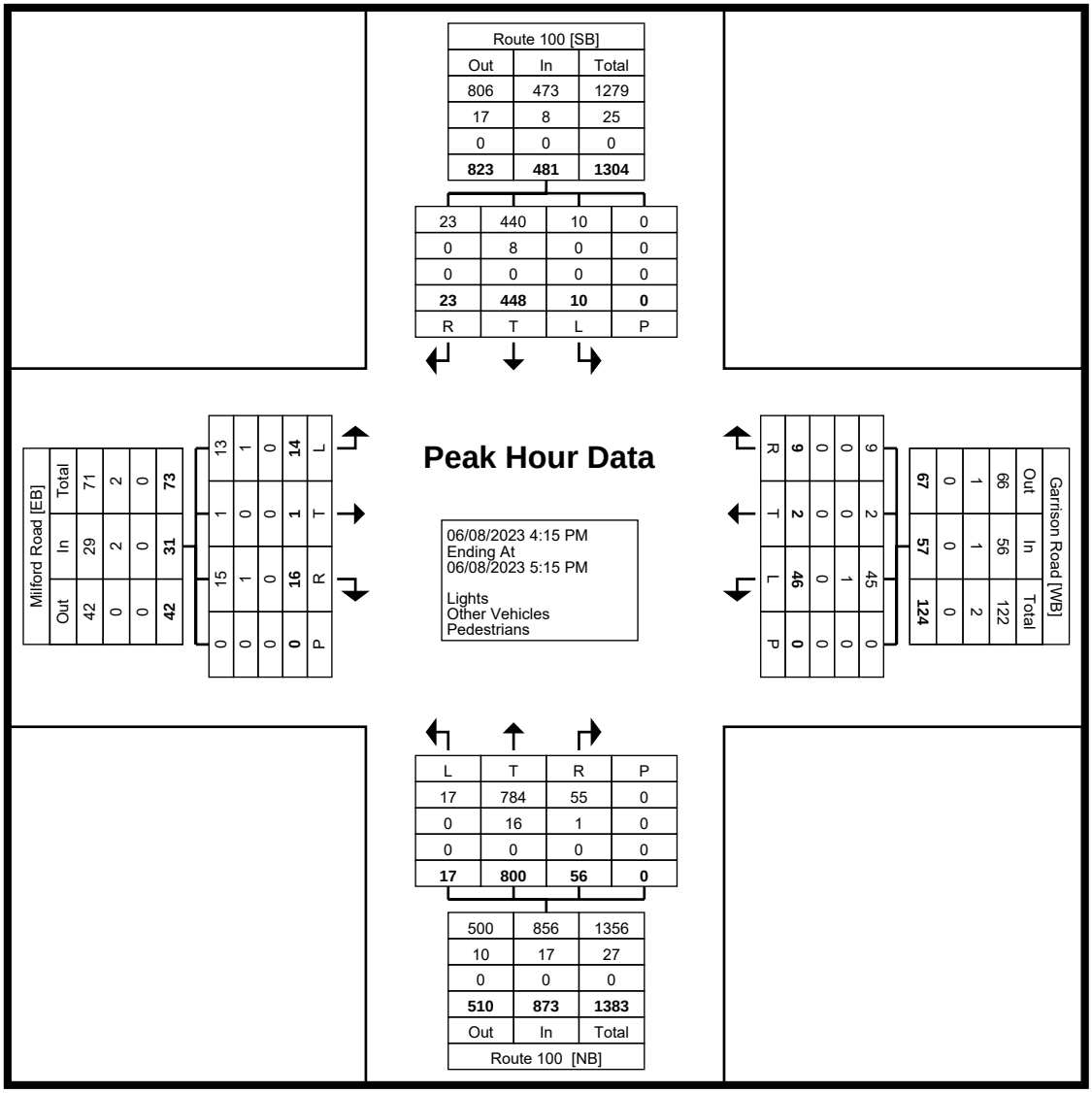
Turning Movement Peak Hour Data (4:15 PM)

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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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

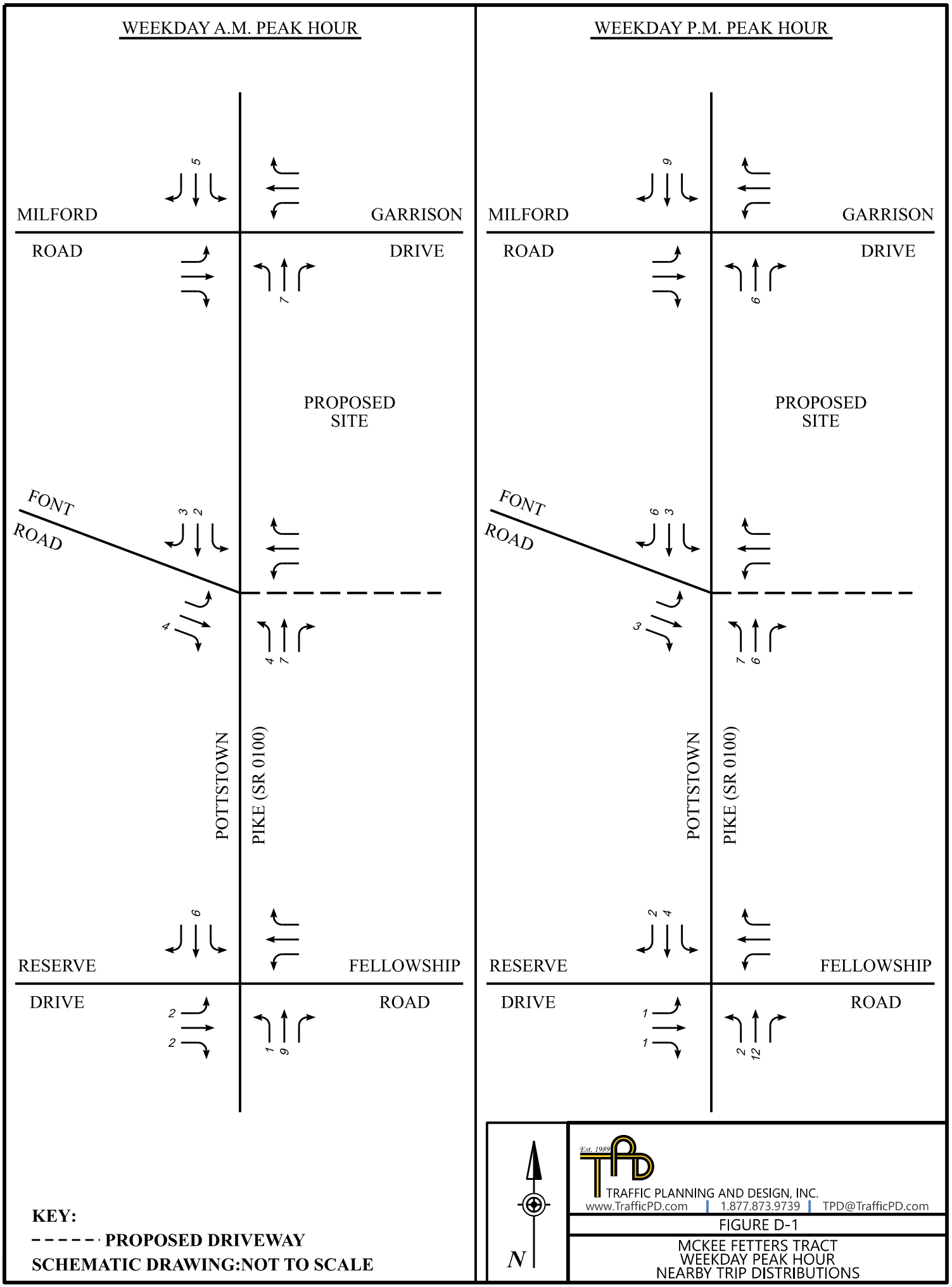


Turning Movement Peak Hour Data Plot (4:15 PM)

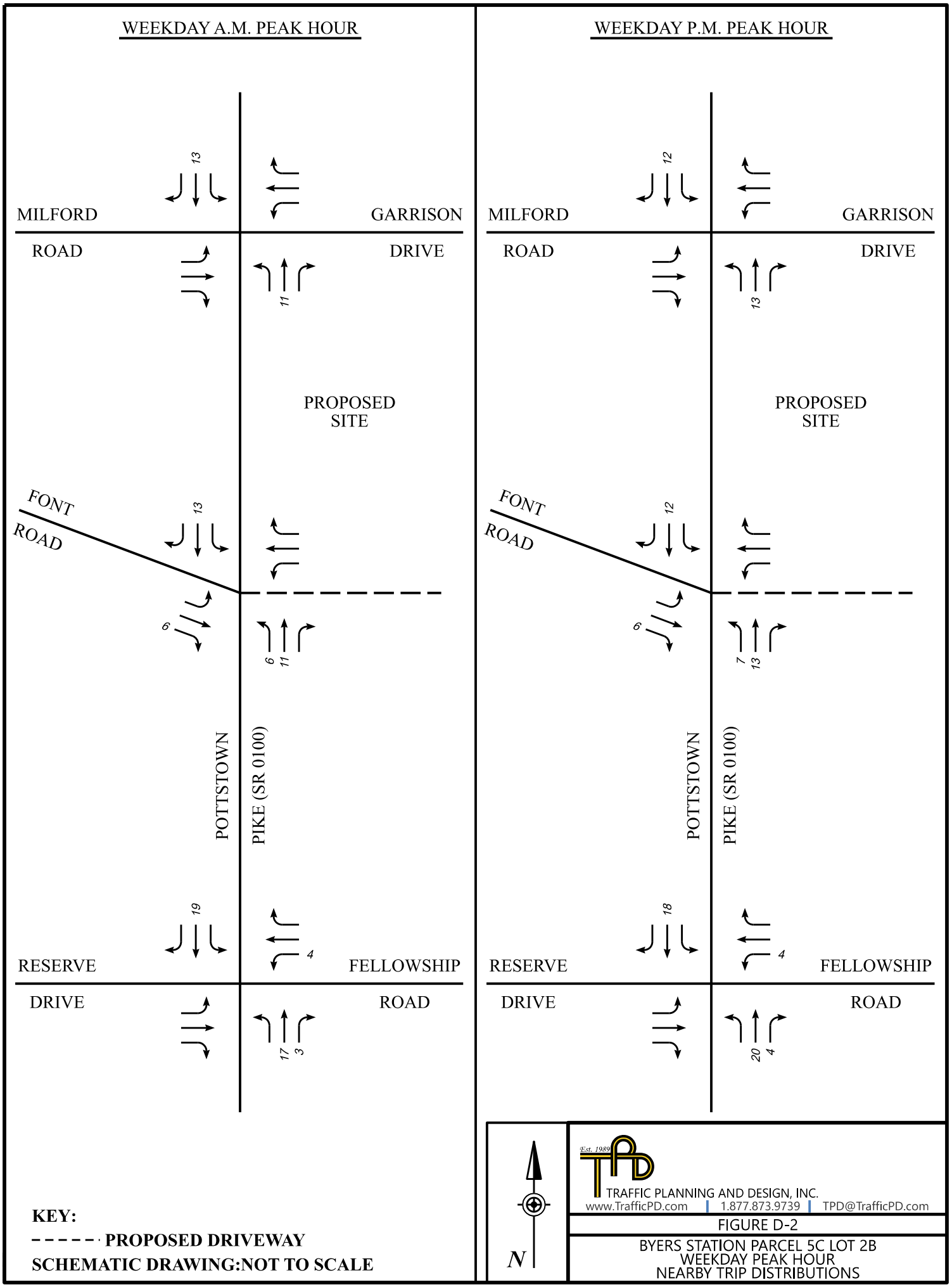
APPENDIX D:

Nearby Development Data

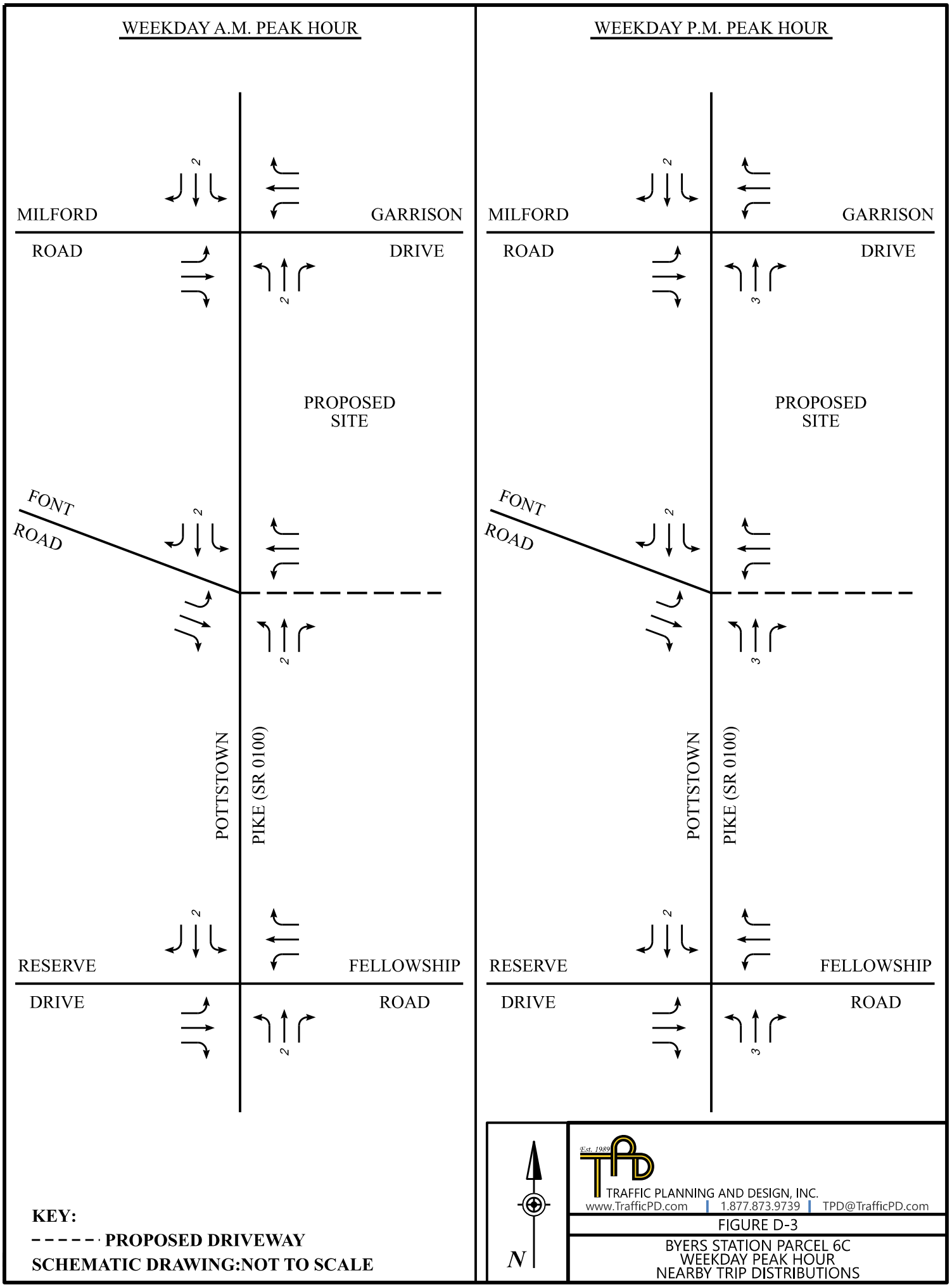
McKee-Fetters Tract


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
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FIGURE D-1
MCKEE FETTERS TRACT
WEEKDAY PEAK HOUR
NEARBY TRIP DISTRIBUTIONS

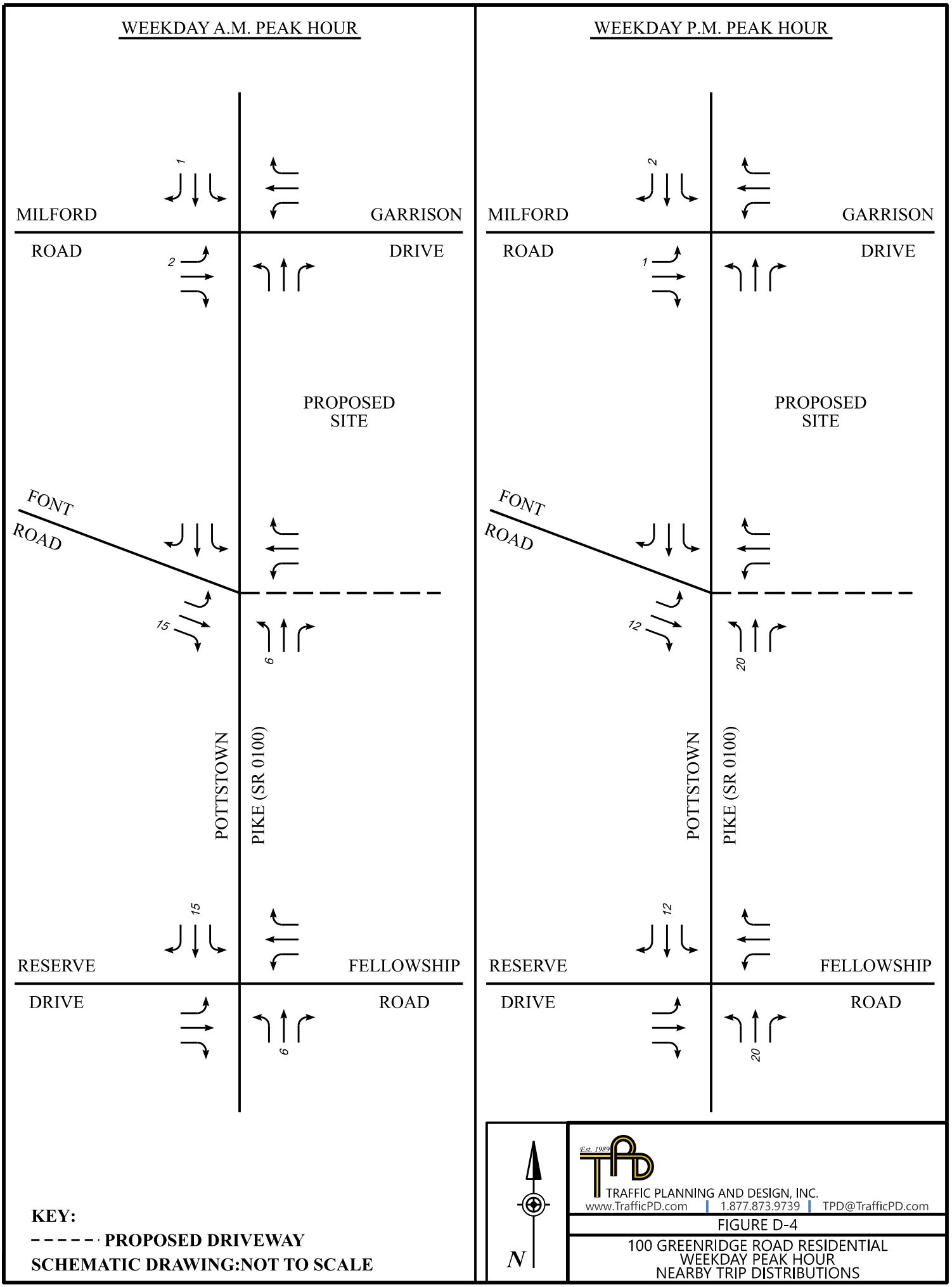
Byers Station Parcel 5C Lot 2B


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
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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
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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
4/8/2025
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
2024 Existing Counts	**2**		**242**				**53**	**400**			**662**	**19**	**1378**
													0
2024 Existing Volumes (Balanced)	**2**		**242**				**53**	**400**			**662**	**19**	**1378**
Base growth (0.48% compounded for 3 yrs)	0		4				1	6			10	0	21
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	**2**		**271**				**70**	**426**			**689**	**22**	**1480**

ENTER =	**64**
EXIT =	**25**

Trip Assignment % - New Enter		10.0%							57.0%	33.0%			
Trip Assignment % - New Exit				57.0%	10.0%	33.0%							
New Trips		6		14	3	8			37	21			**89**
2027 Projected Volumes	**2**	**6**	**271**	**14**	**3**	**8**	**70**	**426**	**37**	**21**	**689**	**22**	**1569**

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
2024 Existing Counts	**5**		**168**				**251**	**985**			**479**	**17**	**1905**
2024 Existing Volumes (Balanced)	**5**		**168**				**251**	**985**			**479**	**17**	**1905**
Base growth (0.48% compounded for 3 yrs)	0		2				4	14			7	0	27
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	**5**		**191**				**289**	**1021**			**503**	**23**	**2032**

ENTER =	**38**
EXIT =	**58**

Trip Assignment % - New Enter		10.0%							57.0%	33.0%			
Trip Assignment % - New Exit				57.0%	10.0%	33.0%							
New Trips		4		33	6	19			22	12			**96**
2027 Projected Volumes	**5**	**4**	**191**	**33**	**6**	**19**	**289**	**1021**	**22**	**12**	**503**	**23**	**2128**

TPD# TMAS.00013
4/8/2025
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)/Balancing	0	0	0	1	0	0	0	2	0	0	99	0	102
2024 Existing Volumes (Balanced)	**0**	**0**	**76**	**226**	**4**	**38**	**15**	**434**	**80**	**24**	**879**	**1**	**1777**
Base growth (0.48% compounded for 3 yrs)				3		1		6	1	0	13		24
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**	**934**	**1**	**1889**

ENTER = **64**
EXIT = **25**

Trip Assignment % - New Enter						5.0%		52.0%					
Trip Assignment % - New Exit										5.0%	52.0%		
New Trips						3		34		1	13		**51**
2027 Projected Volumes	**2**	**0**	**78**	**233**	**4**	**42**	**16**	**508**	**84**	**25**	**947**	**1**	**1940**

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)/Balancing	0	0	0	1	0	0	0	124	1	0	3	0	129
2024 Existing Volumes (Balanced)	**3**	**5**	**63**	**137**	**10**	**19**	**54**	**1214**	**184**	**21**	**630**	**5**	**2345**
Base growth (0.48% compounded for 3 yrs)				2		0		18	3	0	9		32
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**	**1287**	**191**	**21**	**675**	**7**	**2482**

ENTER = **38**
EXIT = **58**

Trip Assignment % - New Enter						5.0%		52.0%					
Trip Assignment % - New Exit										5.0%	52.0%		
New Trips						2		20		3	30		**55**
2027 Projected Volumes	**4**	**5**	**64**	**143**	**10**	**21**	**56**	**1307**	**191**	**24**	**705**	**7**	**2537**

TPD# TMAS.00013
4/8/2025
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)/Balancing	0	0	0	0	0	0	0	104	0	0	4	0	108
2024 Existing Volumes (Balanced)	**19**	**3**	**14**	**38**	**2**	**9**	**7**	**384**	**11**	**5**	**740**	**14**	**1246**
Base growth (0.48% compounded for 3 yrs)								6			11		17
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**	**410**	**11**	**5**	**771**	**15**	**1306**

ENTER =	**64**
EXIT =	**25**

Trip Assignment % - New Enter											33.0%		
Trip Assignment % - New Exit								33.0%					
New Trips								8			21		**29**
2027 Projected Volumes	**21**	**3**	**14**	**38**	**2**	**9**	**7**	**418**	**11**	**5**	**792**	**15**	**1335**

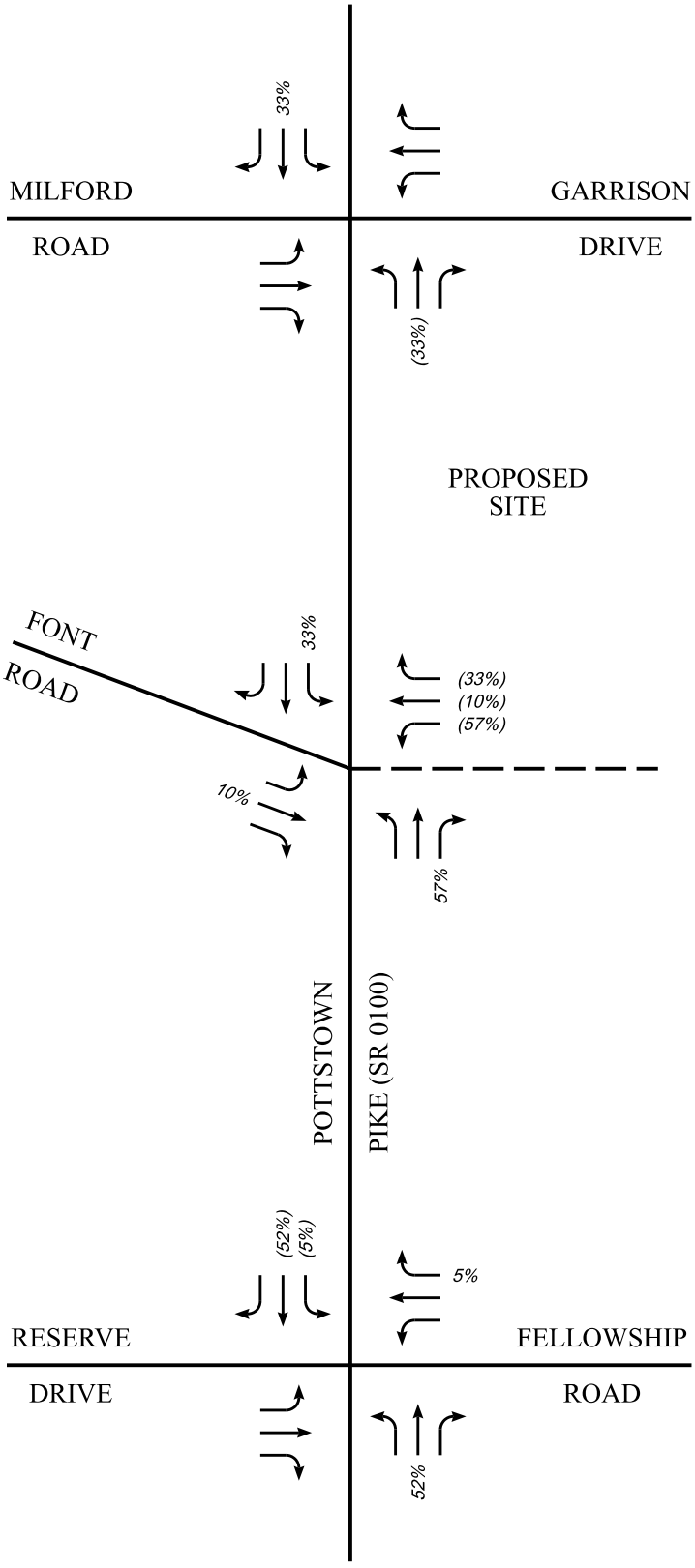
Time Period: Weekday P.M. Peak Hour

	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)/Balancing	0	0	0	0	0	0	0	117	0	0	2	0	119
2024 Existing Volumes (Balanced)	**14**	**1**	**16**	**46**	**2**	**9**	**17**	**917**	**56**	**10**	**450**	**23**	**1561**
Base growth (0.48% compounded for 3 yrs)								13			7		20
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**	**952**	**56**	**10**	**480**	**25**	**1629**

ENTER =	**38**
EXIT =	**58**

Trip Assignment % - New Enter											33.0%		
Trip Assignment % - New Exit								33.0%					
New Trips								19			12		**31**
2027 Projected Volumes	**15**	**1**	**16**	**46**	**2**	**9**	**17**	**971**	**56**	**10**	**492**	**25**	**1660**

Trip Assignment Data



KEY:

- - - - - PROPOSED DRIVEWAY

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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)	2	242	53	400	662	19
Future Volume (vph)	2	242	53	400	662	19
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)	1604	1543	1482	1674	1674	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1604	1543	1482	1674	1674	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	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	11%	7%	4%	5%
Adj. Flow (vph)	2	255	56	421	697	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	255	56	421	717	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	242	53	400	662	19
Future Vol, veh/h	2	242	53	400	662	19
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	95	95	95	95	95	95
Heavy Vehicles, %	0	3	11	7	4	5
Mvmt Flow	2	255	56	421	697	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1240	707	717	0	-	0
Stage 1	707	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Critical Hdwy	6.2	6.13	4.4	-	-	-
Critical Hdwy Stg 1	5.2	-	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-	-
Follow-up Hdwy	3	3.1	3.1	-	-	-
Pot Cap-1 Maneuver	227	465	648	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	207	465	648	-	-	-
Mov Cap-2 Maneuver	207	-	-	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	688	-	-	-	-	-

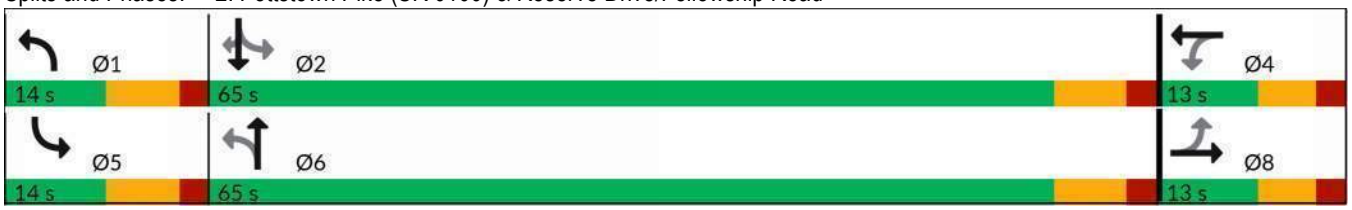
Approach	EB	NB	SB
HCM Control Delay, s/v	21.7	1.3	0
HCM LOS	C		

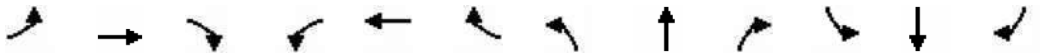
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	648	-	207	465	-	-
HCM Lane V/C Ratio	0.086	-	0.01	0.548	-	-
HCM Control Delay (s/veh)	11.1	-	22.6	21.7	-	-
HCM Lane LOS	B	-	C	C	-	-
HCM 95th %tile Q (veh)	0.3	-	0	3.2	-	-

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	879	1
Future Volume (vph)	0	0	76	226	4	38	15	434	80	24	879	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			0.121			0.441		
Satd. Flow (perm)	1680	1520	0	1211	1369	0	216	3096	0	763	1731	1530
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		255			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	955	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	83	0	246	45	0	16	559	0	26	955	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: 66.9	
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	879	1
Future Volume (veh/h)	0	0	76	226	4	38	15	434	80	24	879	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	955	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	105	0	186	225	27	124	228	1652	240	587	1047	916
Arrive On Green	0.00	0.00	0.10	0.12	0.12	0.10	0.03	0.59	0.58	0.04	0.60	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	955	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	2.1	6.4	0.0	1.1	0.2	5.7	5.8	0.4	33.1	0.0
Cycle Q Clear(g_c), s	0.0	0.0	2.1	8.0	0.0	1.1	0.2	5.7	5.8	0.4	33.1	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	105	0	186	225	0	151	228	943	949	587	1047	916
V/C Ratio(X)	0.00	0.00	0.29	1.10	0.00	0.15	0.07	0.28	0.29	0.04	0.91	0.00
Avail Cap(c_a), veh/h	105	0	186	225	0	151	369	1377	1387	710	1506	1317
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	28.0	32.5	0.0	27.5	12.8	6.9	7.0	4.9	12.1	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.8	87.7	0.0	0.4	0.1	0.2	0.2	0.0	6.5	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	1.4	14.5	0.0	0.6	0.2	2.8	2.9	0.2	15.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	28.9	120.2	0.0	27.9	12.9	7.0	7.1	4.9	18.6	0.0
LnGrp LOS			C	F		C	B	A	A	A	B	
Approach Vol, veh/h		53			268			557			981	
Approach Delay, s/veh		28.9			112.6			7.2			18.2	
Approach LOS		C			F			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.3	47.0		13.0	8.9	46.4		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	35.6		10.5	2.9	8.2		4.1				
Green Ext Time (p_c), s	0.0	4.5		0.0	0.0	2.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay, s/veh		28.9	
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	384	11	5	740	14
Future Volume (vph)	19	3	14	38	2	9	7	384	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	417	12	5	804	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	53	0	8	417	12	5	804	15
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	19	3	14	38	2	9	7	384	11	5	740	14
Future Vol, veh/h	19	3	14	38	2	9	7	384	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	417	12	5	804	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1260	1259	805	1265	1262	418	819	0	0	429	0	0
Stage 1	814	814	-	433	433	-	-	-	-	-	-	-
Stage 2	446	445	-	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	151	139	394	148	160	665	622	-	-	791	-	-
Stage 1	398	335	-	668	571	-	-	-	-	-	-	-
Stage 2	658	512	-	385	371	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	145	136	394	137	157	664	622	-	-	791	-	-
Mov Cap-2 Maneuver	145	136	-	137	157	-	-	-	-	-	-	-
Stage 1	393	333	-	659	564	-	-	-	-	-	-	-
Stage 2	637	505	-	364	369	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	28.6	38	0.2	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	622	-	-	191	161	791	-	-
HCM Lane V/C Ratio	0.012	-	-	0.205	0.331	0.007	-	-
HCM Control Delay (s/veh)	10.9	-	-	28.6	38	9.6	-	-
HCM Lane LOS	B	-	-	D	E	A	-	-
HCM 95th %tile Q (veh)	0	-	-	0.7	1.3	0	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	168	251	985	479	17
Future Volume (vph)	5	168	251	985	479	17
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)	1604	1573	1645	1773	1691	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1604	1573	1645	1773	1691	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 (%)	0%	1%	0%	1%	3%	0%
Adj. Flow (vph)	5	179	267	1048	510	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	179	267	1048	528	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

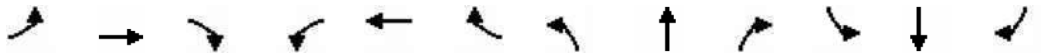
Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	168	251	985	479	17
Future Vol, veh/h	5	168	251	985	479	17
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, %	0	1	0	1	3	0
Mvmt Flow	5	179	267	1048	510	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2101	519	528	0	-	0
Stage 1	519	-	-	-	-	-
Stage 2	1582	-	-	-	-	-
Critical Hdwy	6.2	6.11	4.3	-	-	-
Critical Hdwy Stg 1	5.2	-	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-	-
Follow-up Hdwy	3	3.1	3	-	-	-
Pot Cap-1 Maneuver	68	597	789	-	-	-
Stage 1	698	-	-	-	-	-
Stage 2	220	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	45	597	789	-	-	-
Mov Cap-2 Maneuver	45	-	-	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	220	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	16	2.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	789	-	45	597	-	-
HCM Lane V/C Ratio	0.338	-	0.118	0.299	-	-
HCM Control Delay (s/veh)	11.9	-	95.4	13.6	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q (veh)	1.5	-	0.4	1.3	-	-

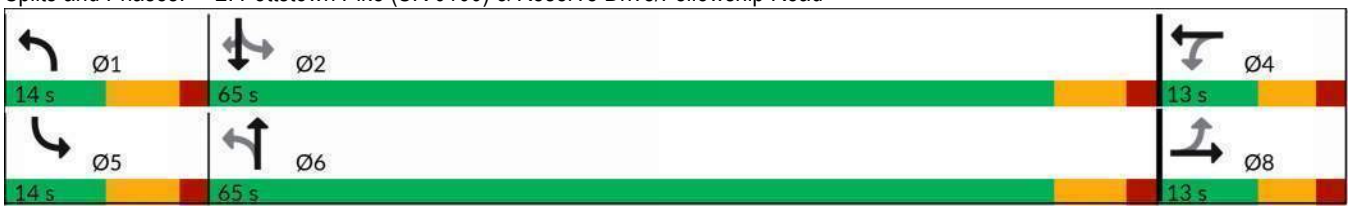


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	5	63	137	10	19	54	1214	184	21	630	5
Future Volume (vph)	3	5	63	137	10	19	54	1214	184	21	630	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	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			0.980				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1596	1570	0	1702	1634	0	1693	3253	0	1710	1765	1530
Flt Permitted	0.737			0.709			0.278			0.110		
Satd. Flow (perm)	1238	1570	0	1270	1634	0	495	3253	0	198	1765	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		68			20			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	
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	1305	198	23	677	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	73	0	147	31	0	58	1503	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: 66.6	
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)	3	5	63	137	10	19	54	1214	184	21	630	5
Future Volume (veh/h)	3	5	63	137	10	19	54	1214	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	1305	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	292	25	188	275	111	111	394	1606	210	257	919	790
Arrive On Green	0.13	0.13	0.12	0.13	0.13	0.12	0.07	0.54	0.53	0.04	0.52	0.52
Sat Flow, veh/h	1337	192	1423	1330	843	843	1693	2955	387	1714	1772	1524
Grp Volume(v), veh/h	3	0	42	147	0	22	58	731	746	23	677	2
Grp Sat Flow(s),veh/h/ln	1337	0	1616	1330	0	1686	1693	1662	1680	1714	1772	1524
Q Serve(g_s), s	0.1	0.0	1.4	6.6	0.0	0.7	0.9	21.6	22.1	0.4	18.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	1.4	7.6	0.0	0.7	0.9	21.6	22.1	0.4	18.0	0.0
Prop In Lane	1.00		0.88	1.00		0.50	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	292	0	214	275	0	223	394	904	913	257	919	790
V/C Ratio(X)	0.01	0.00	0.20	0.54	0.00	0.10	0.15	0.81	0.82	0.09	0.74	0.00
Avail Cap(c_a), veh/h	292	0	214	275	0	223	503	1621	1639	410	1729	1487
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	23.0	0.0	23.8	26.5	0.0	23.3	8.3	11.2	11.4	9.5	11.3	7.0
Incr Delay (d2), s/veh	0.0	0.0	0.4	2.0	0.0	0.2	0.2	1.8	1.9	0.1	1.2	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	3.8	0.0	0.5	0.4	10.6	10.9	0.2	9.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.0	0.0	24.2	28.5	0.0	23.5	8.4	13.0	13.3	9.6	12.5	7.0
LnGrp LOS	C		C	C		C	A	B	B	A	B	A
Approach Vol, veh/h		45			169			1535			702	
Approach Delay, s/veh		24.1			27.9			13.0			12.4	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	37.4		13.0	8.6	38.9		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	20.5		10.1	2.9	24.1		3.4				
Green Ext Time (p_c), s	0.0	2.8		0.0	0.0	7.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay, s/veh		14.0	
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	917	56	10	450	23
Future Volume (vph)	14	1	16	46	2	9	17	917	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	926	57	10	455	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	31	0	0	57	0	17	926	57	10	455	23
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	1	16	46	2	9	17	917	56	10	450	23
Future Vol, veh/h	14	1	16	46	2	9	17	917	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	926	57	10	455	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1469	1492	455	1455	1458	926	478	0	0	983	0	0
Stage 1	475	475	-	960	960	-	-	-	-	-	-	-
Stage 2	994	1017	-	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	101	115	612	107	121	333	822	-	-	543	-	-
Stage 1	611	546	-	323	320	-	-	-	-	-	-	-
Stage 2	298	300	-	614	533	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	94	111	612	100	116	333	822	-	-	543	-	-
Mov Cap-2 Maneuver	94	111	-	100	116	-	-	-	-	-	-	-
Stage 1	598	536	-	316	313	-	-	-	-	-	-	-
Stage 2	282	294	-	586	523	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	31.3	66.1	0.2	0.2
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	822	-	-	168	113	543	-	-
HCM Lane V/C Ratio	0.021	-	-	0.186	0.51	0.019	-	-
HCM Control Delay (s/veh)	9.5	-	-	31.3	66.1	11.8	-	-
HCM Lane LOS	A	-	-	D	F	B	-	-
HCM 95th %tile Q (veh)	0.1	-	-	0.7	2.3	0.1	-	-

2027 Base Conditions



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	271	70	426	689	22
Future Volume (vph)	2	271	70	426	689	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			0.996	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1604	1543	1482	1674	1674	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1604	1543	1482	1674	1674	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	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	11%	7%	4%	5%
Adj. Flow (vph)	2	285	74	448	725	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	285	74	448	748	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

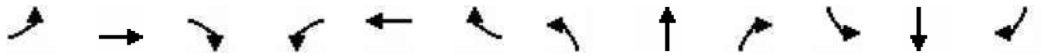
Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	271	70	426	689	22
Future Vol, veh/h	2	271	70	426	689	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	95	95	95	95	95	95
Heavy Vehicles, %	0	3	11	7	4	5
Mvmt Flow	2	285	74	448	725	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1333	737	748	0	-	0
Stage 1	737	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Critical Hdwy	6.2	6.13	4.4	-	-	-
Critical Hdwy Stg 1	5.2	-	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-	-
Follow-up Hdwy	3	3.1	3.1	-	-	-
Pot Cap-1 Maneuver	200	447	631	-	-	-
Stage 1	554	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	177	447	631	-	-	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	489	-	-	-	-	-
Stage 2	644	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	26.2	1.6	0
HCM LOS	D		

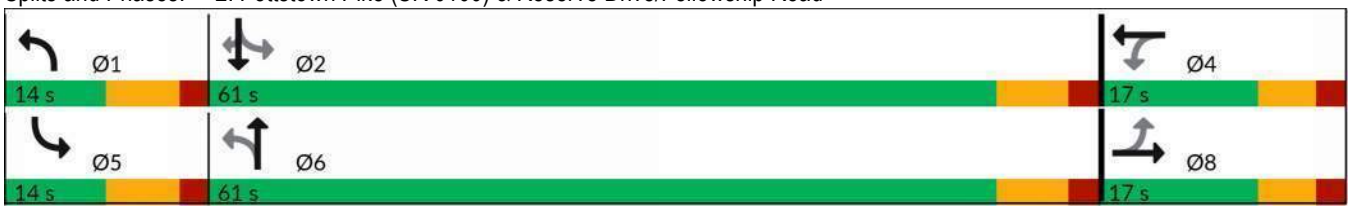
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	631	-	177	447	-	-
HCM Lane V/C Ratio	0.117	-	0.012	0.638	-	-
HCM Control Delay (s/veh)	11.5	-	25.6	26.2	-	-
HCM Lane LOS	B	-	D	D	-	-
HCM 95th %tile Q (veh)	0.4	-	0	4.4	-	-

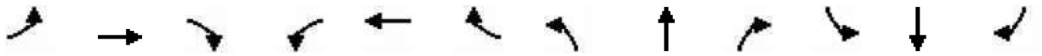


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	78	233	4	39	16	474	84	24	934	1
Future Volume (vph)	2	0	78	233	4	39	16	474	84	24	934	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	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			0.098			0.414		
Satd. Flow (perm)	1221	1520	0	1209	1369	0	175	3096	0	717	1731	1530
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		227			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	1015	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	85	0	253	46	0	17	606	0	26	1015	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: 81	
Natural Cycle: 110	
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	934	1
Future Volume (veh/h)	2	0	78	233	4	39	16	474	84	24	934	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	1015	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	270	0	232	242	33	156	183	1705	241	554	1073	938
Arrive On Green	0.15	0.00	0.13	0.15	0.15	0.13	0.03	0.61	0.60	0.04	0.62	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	1015	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	2.5	10.0	0.0	1.3	0.3	7.2	7.3	0.5	44.0	0.0
Cycle Q Clear(g_c), s	0.9	0.0	2.5	12.0	0.0	1.3	0.3	7.2	7.3	0.5	44.0	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	270	0	232	242	0	189	183	969	977	554	1073	938
V/C Ratio(X)	0.01	0.00	0.24	1.04	0.00	0.12	0.09	0.30	0.30	0.05	0.95	0.00
Avail Cap(c_a), veh/h	270	0	232	242	0	189	294	1069	1077	650	1168	1022
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	30.6	0.0	31.5	37.9	0.0	30.8	17.2	7.7	7.8	5.5	14.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.5	70.1	0.0	0.3	0.2	0.2	0.2	0.0	14.6	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	1.8	14.8	0.0	0.7	0.3	3.8	3.9	0.2	23.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.7	0.0	32.0	108.0	0.0	31.1	17.5	7.9	8.0	5.6	29.2	0.0
LnGrp LOS	C		C	F		C	B	A	A	A	C	
Approach Vol, veh/h		57			276			605			1041	
Approach Delay, s/veh		31.9			101.6			8.2			28.6	
Approach LOS		C			F			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	56.5		17.0	9.2	55.9		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	46.5		14.5	3.0	9.7		4.5				
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	2.2		0.1				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			32.6									
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	410	11	5	771	15
Future Volume (vph)	21	3	14	38	2	9	7	410	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	446	12	5	838	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	53	0	8	446	12	5	838	16
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	21	3	14	38	2	9	7	410	11	5	771	15
Future Vol, veh/h	21	3	14	38	2	9	7	410	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	446	12	5	838	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1323	1322	839	1328	1326	447	854	0	0	458	0	0
Stage 1	848	848	-	462	462	-	-	-	-	-	-	-
Stage 2	475	474	-	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	135	126	376	133	146	640	605	-	-	773	-	-
Stage 1	379	322	-	642	554	-	-	-	-	-	-	-
Stage 2	633	496	-	367	356	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	129	124	376	123	143	639	605	-	-	773	-	-
Mov Cap-2 Maneuver	129	124	-	123	143	-	-	-	-	-	-	-
Stage 1	374	320	-	634	547	-	-	-	-	-	-	-
Stage 2	612	490	-	346	354	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	33.1	43.6	0.2	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	605	-	-	169	145	773	-	-
HCM Lane V/C Ratio	0.013	-	-	0.244	0.367	0.007	-	-
HCM Control Delay (s/veh)	11	-	-	33.1	43.6	9.7	-	-
HCM Lane LOS	B	-	-	D	E	A	-	-
HCM 95th %tile Q (veh)	0	-	-	0.9	1.5	0	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	191	289	1021	503	23
Future Volume (vph)	5	191	289	1021	503	23
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			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1604	1573	1645	1773	1690	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1604	1573	1645	1773	1690	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 (%)	0%	1%	0%	1%	3%	0%
Adj. Flow (vph)	5	203	307	1086	535	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	203	307	1086	559	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

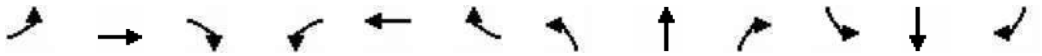
Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	191	289	1021	503	23
Future Vol, veh/h	5	191	289	1021	503	23
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, %	0	1	0	1	3	0
Mvmt Flow	5	203	307	1086	535	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2247	547	559	0	-	0
Stage 1	547	-	-	-	-	-
Stage 2	1700	-	-	-	-	-
Critical Hdwy	6.2	6.11	4.3	-	-	-
Critical Hdwy Stg 1	5.2	-	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-	-
Follow-up Hdwy	3	3.1	3	-	-	-
Pot Cap-1 Maneuver	55	575	770	-	-	-
Stage 1	678	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	33	575	770	-	-	-
Mov Cap-2 Maneuver	33	-	-	-	-	-
Stage 1	407	-	-	-	-	-
Stage 2	193	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	17.6	2.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	770	-	33	575	-	-
HCM Lane V/C Ratio	0.399	-	0.161	0.353	-	-
HCM Control Delay (s/veh)	12.7	-	134	14.6	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q (veh)	1.9	-	0.5	1.6	-	-

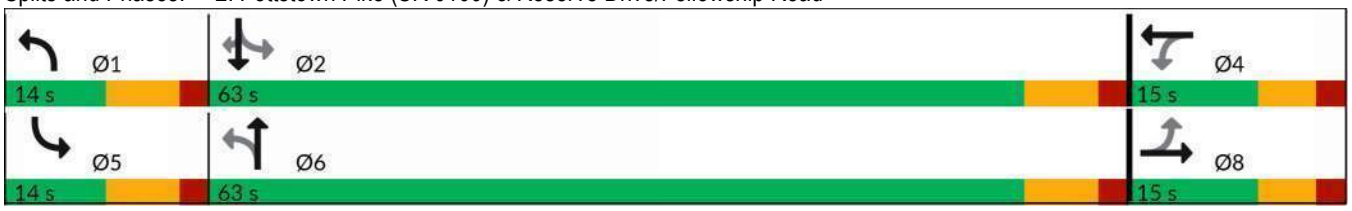


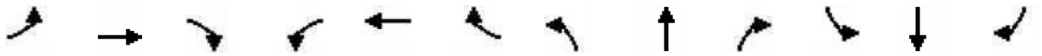
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	5	64	143	10	19	56	1287	191	21	675	7
Future Volume (vph)	4	5	64	143	10	19	56	1287	191	21	675	7
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	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			0.981				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1596	1570	0	1702	1634	0	1693	3256	0	1710	1765	1530
Flt Permitted	0.737			0.709			0.244			0.091		
Satd. Flow (perm)	1238	1570	0	1270	1634	0	435	3256	0	164	1765	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69			20			33				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	1384	205	23	726	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	74	0	154	31	0	60	1589	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)	15.0	15.0		15.0	15.0		14.0	63.0		14.0	63.0	63.0
Total Split (%)	16.3%	16.3%		16.3%	16.3%		15.2%	68.5%		15.2%	68.5%	68.5%
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: 72.2	
Natural Cycle: 75	

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	1287	191	21	675	7
Future Volume (veh/h)	4	5	64	143	10	19	56	1287	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	1384	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	300	28	212	282	125	125	362	1656	212	231	948	815
Arrive On Green	0.15	0.15	0.13	0.15	0.15	0.13	0.06	0.56	0.54	0.04	0.53	0.53
Sat Flow, veh/h	1337	188	1427	1329	843	843	1693	2963	380	1714	1772	1524
Grp Volume(v), veh/h	4	0	43	154	0	22	60	771	792	23	726	5
Grp Sat Flow(s),veh/h/ln	1337	0	1615	1329	0	1686	1693	1662	1681	1714	1772	1524
Q Serve(g_s), s	0.2	0.0	1.6	7.7	0.0	0.8	1.0	25.8	26.5	0.4	21.8	0.1
Cycle Q Clear(g_c), s	0.4	0.0	1.6	8.8	0.0	0.8	1.0	25.8	26.5	0.4	21.8	0.1
Prop In Lane	1.00		0.88	1.00		0.50	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	300	0	239	282	0	250	362	929	940	231	948	815
V/C Ratio(X)	0.01	0.00	0.18	0.55	0.00	0.09	0.17	0.83	0.84	0.10	0.77	0.01
Avail Cap(c_a), veh/h	300	0	239	282	0	250	454	1405	1421	365	1498	1288
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	24.8	0.0	25.5	28.7	0.0	25.0	9.5	12.2	12.5	10.9	12.4	7.3
Incr Delay (d2), s/veh	0.0	0.0	0.4	2.2	0.0	0.2	0.2	2.7	3.0	0.2	1.3	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	1.1	4.4	0.0	0.5	0.5	12.8	13.4	0.2	10.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.8	0.0	25.9	30.9	0.0	25.2	9.7	14.9	15.5	11.1	13.7	7.3
LnGrp LOS	C		C	C		C	A	B	B	B	B	A
Approach Vol, veh/h		47			176			1623			754	
Approach Delay, s/veh		25.8			30.2			15.0			13.6	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	42.1		15.0	8.8	43.7		15.0				
Change Period (Y+Rc), s	7.0	7.0		6.0	7.0	7.0		6.0				
Max Green Setting (Gmax), s	7.0	56.0		9.0	7.0	56.0		9.0				
Max Q Clear Time (g_c+I1), s	3.5	24.3		11.3	2.9	28.5		3.6				
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	8.2		0.0				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			15.8									
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	952	56	10	480	25
Future Volume (vph)	15	1	16	46	2	9	17	952	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	962	57	10	485	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	57	0	17	962	57	10	485	25
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	3.6

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	952	56	10	480	25
Future Vol, veh/h	15	1	16	46	2	9	17	952	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	962	57	10	485	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1535	1558	485	1522	1526	962	510	0	0	1019	0	0
Stage 1	505	505	-	996	996	-	-	-	-	-	-	-
Stage 2	1030	1053	-	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	90	104	588	96	109	317	801	-	-	527	-	-
Stage 1	586	529	-	307	307	-	-	-	-	-	-	-
Stage 2	283	288	-	589	515	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	84	100	588	90	105	317	801	-	-	527	-	-
Mov Cap-2 Maneuver	84	100	-	90	105	-	-	-	-	-	-	-
Stage 1	574	519	-	301	301	-	-	-	-	-	-	-
Stage 2	267	282	-	561	505	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	36	78.6	0.2	0.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	801	-	-	148	102	527	-	-
HCM Lane V/C Ratio	0.021	-	-	0.218	0.564	0.019	-	-
HCM Control Delay (s/veh)	9.6	-	-	36	78.6	12	-	-
HCM Lane LOS	A	-	-	E	F	B	-	-
HCM 95th %tile Q (veh)	0.1	-	-	0.8	2.6	0.1	-	-

2027 Projected Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	6	271	14	3	8	70	426	37	21	689	22
Future Volume (vph)	2	6	271	14	3	8	70	426	37	21	689	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		0.958			0.988			0.996	
Flt Protected		0.988			0.972		0.950				0.999	
Satd. Flow (prot)	0	1643	1543	0	1643	0	1482	1660	0	0	1673	0
Flt Permitted		0.988			0.972		0.950				0.999	
Satd. Flow (perm)	0	1643	1543	0	1643	0	1482	1660	0	0	1673	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	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	2%	3%	2%	2%	2%	11%	7%	2%	2%	4%	5%
Adj. Flow (vph)	2	6	285	15	3	8	74	448	39	22	725	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	285	0	26	0	74	487	0	0	770	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

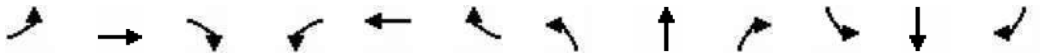
Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	6	271	14	3	8	70	426	37	21	689	22
Future Vol, veh/h	2	6	271	14	3	8	70	426	37	21	689	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	2	2	2	11	7	2	2	4	5
Mvmt Flow	2	6	285	15	3	8	74	448	39	22	725	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1402	1416	737	1400	1408	468	748	0	0	487	0	0
Stage 1	781	781	-	616	616	-	-	-	-	-	-	-
Stage 2	621	635	-	784	792	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.32	6.13	7.12	6.52	6.22	4.4	-	-	4.3	-	-
Critical Hdwy Stg 1	5.9	5.32	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.32	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3	4.018	3.1	3	4.018	3.1	3.1	-	-	3	-	-
Pot Cap-1 Maneuver	138	148	447	128	139	629	631	-	-	816	-	-
Stage 1	454	423	-	538	482	-	-	-	-	-	-	-
Stage 2	556	489	-	431	401	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	117	125	447	39	117	629	631	-	-	816	-	-
Mov Cap-2 Maneuver	117	125	-	39	117	-	-	-	-	-	-	-
Stage 1	401	404	-	475	426	-	-	-	-	-	-	-
Stage 2	481	432	-	146	383	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	26.5	98.2	1.5	0.3
HCM LOS	D	F		

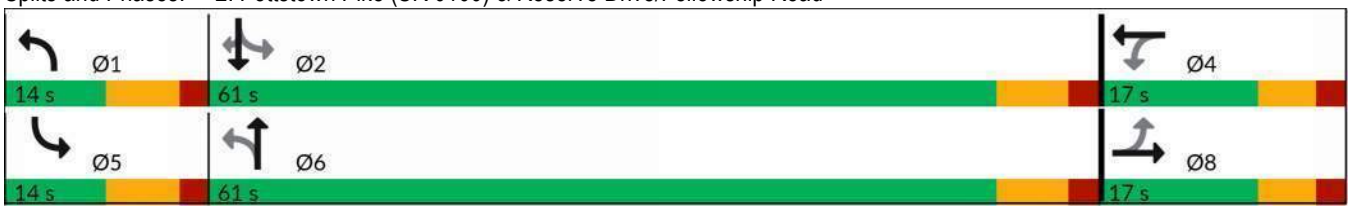
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	631	-	-	123	447	63	816	-	-
HCM Lane V/C Ratio	0.117	-	-	0.068	0.638	0.418	0.027	-	-
HCM Control Delay (s/veh)	11.5	-	-	36.4	26.2	98.2	9.5	0	-
HCM Lane LOS	B	-	-	E	D	F	A	A	-
HCM 95th %tile Q (veh)	0.4	-	-	0.2	4.4	1.6	0.1	-	-



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	508	84	25	947	1
Future Volume (vph)	2	0	78	233	4	42	16	508	84	25	947	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			0.979				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1596	1520	0	1637	1368	0	1693	3102	0	1644	1731	1530
Flt Permitted	0.724			0.702			0.094			0.396		
Satd. Flow (perm)	1216	1520	0	1209	1368	0	168	3102	0	685	1731	1530
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		224			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	552	91	27	1029	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	85	0	253	50	0	17	643	0	27	1029	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: 82.5	
Natural Cycle: 110	
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	508	84	25	947	1
Future Volume (veh/h)	2	0	78	233	4	42	16	508	84	25	947	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	552	73	27	1029	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	262	0	229	238	27	158	178	1734	229	539	1081	946
Arrive On Green	0.14	0.00	0.13	0.14	0.14	0.13	0.03	0.61	0.60	0.04	0.62	0.00
Sat Flow, veh/h	1331	0	1586	1274	190	1094	1693	2834	374	1661	1744	1525
Grp Volume(v), veh/h	2	0	55	253	0	27	17	310	315	27	1029	0
Grp Sat Flow(s),veh/h/ln	1331	0	1586	1274	0	1285	1693	1595	1612	1661	1744	1525
Q Serve(g_s), s	0.1	0.0	2.6	9.9	0.0	1.5	0.3	7.8	7.9	0.5	45.5	0.0
Cycle Q Clear(g_c), s	1.2	0.0	2.6	12.0	0.0	1.5	0.3	7.8	7.9	0.5	45.5	0.0
Prop In Lane	1.00		1.00	1.00		0.85	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	262	0	229	238	0	185	178	976	986	539	1081	946
V/C Ratio(X)	0.01	0.00	0.24	1.06	0.00	0.15	0.10	0.32	0.32	0.05	0.95	0.00
Avail Cap(c_a), veh/h	262	0	229	238	0	185	287	1054	1065	633	1152	1008
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	31.4	0.0	32.0	38.5	0.0	31.5	17.8	7.8	7.9	5.5	14.7	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.5	75.7	0.0	0.4	0.2	0.2	0.2	0.0	15.8	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	1.8	15.3	0.0	0.9	0.3	4.2	4.3	0.2	24.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.4	0.0	32.6	114.2	0.0	31.9	18.1	8.0	8.0	5.6	30.4	0.0
LnGrp LOS	C		C	F		C	B	A	A	A	C	
Approach Vol, veh/h		57			280			642			1056	
Approach Delay, s/veh		32.5			106.3			8.3			29.8	
Approach LOS		C			F			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	57.6		17.0	9.3	56.9		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	48.0		14.5	3.0	10.3		4.6				
Green Ext Time (p_c), s	0.0	2.6		0.0	0.0	2.4		0.1				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			33.6									
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	418	11	5	792	15
Future Volume (vph)	21	3	14	38	2	9	7	418	11	5	792	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	454	12	5	861	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	53	0	8	454	12	5	861	16
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	2.8

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	418	11	5	792	15
Future Vol, veh/h	21	3	14	38	2	9	7	418	11	5	792	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	454	12	5	861	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1354	1353	862	1359	1357	455	877	0	0	466	0	0
Stage 1	871	871	-	470	470	-	-	-	-	-	-	-
Stage 2	483	482	-	889	887	-	-	-	-	-	-	-
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	129	120	364	126	139	633	593	-	-	767	-	-
Stage 1	368	313	-	635	549	-	-	-	-	-	-	-
Stage 2	626	491	-	356	347	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	123	118	364	116	136	632	593	-	-	767	-	-
Mov Cap-2 Maneuver	123	118	-	116	136	-	-	-	-	-	-	-
Stage 1	363	311	-	627	542	-	-	-	-	-	-	-
Stage 2	605	485	-	335	345	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	34.7	47.1	0.2	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	593	-	-	162	137	767	-	-
HCM Lane V/C Ratio	0.013	-	-	0.255	0.389	0.007	-	-
HCM Control Delay (s/veh)	11.2	-	-	34.7	47.1	9.7	-	-
HCM Lane LOS	B	-	-	D	E	A	-	-
HCM 95th %tile Q (veh)	0	-	-	1	1.6	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	4	191	33	6	19	289	1021	22	12	503	23
Future Volume (vph)	5	4	191	33	6	19	289	1021	22	12	503	23
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		0.956			0.997			0.994	
Flt Protected		0.973			0.972		0.950				0.999	
Satd. Flow (prot)	0	1628	1573	0	1640	0	1645	1768	0	0	1688	0
Flt Permitted		0.973			0.972		0.950				0.999	
Satd. Flow (perm)	0	1628	1573	0	1640	0	1645	1768	0	0	1688	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 (%)	0%	2%	1%	2%	2%	2%	0%	1%	2%	2%	3%	0%
Adj. Flow (vph)	5	4	203	35	6	20	307	1086	23	13	535	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	203	0	61	0	307	1109	0	0	572	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	49.3

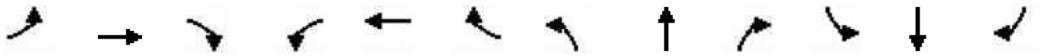
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	4	191	33	6	19	289	1021	22	12	503	23
Future Vol, veh/h	5	4	191	33	6	19	289	1021	22	12	503	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	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, %	0	2	1	2	2	2	0	1	2	2	3	0
Mvmt Flow	5	4	203	35	6	20	307	1086	23	13	535	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2298	2296	547	2287	2297	1098	559	0	0	1109	0	0
Stage 1	573	573	-	1712	1712	-	-	-	-	-	-	-
Stage 2	1725	1723	-	575	585	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.32	6.11	7.12	6.52	6.22	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	5.9	5.32	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.32	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3	4.018	3.1	3	4.018	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	33	44	575	~ 29	39	269	770	-	-	489	-	-
Stage 1	590	520	-	123	146	-	-	-	-	-	-	-
Stage 2	134	158	-	568	498	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	16	25	575	~ 11	23	269	770	-	-	489	-	-
Mov Cap-2 Maneuver	16	25	-	~ 11	23	-	-	-	-	-	-	-
Stage 1	355	500	-	74	88	-	-	-	-	-	-	-
Stage 2	69	95	-	350	479	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	28.3	$ 1642.6	2.8	0.3
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	770	-	-	19	575	17	489	-	-
HCM Lane V/C Ratio	0.399	-	-	0.504	0.353	3.63	0.026	-	-
HCM Control Delay (s/veh)	12.7	-	-	$ 318.3	14.3	$ 1642.6	12.6	0	-
HCM Lane LOS	B	-	-	F	B	F	B	A	-
HCM 95th %tile Q (veh)	1.9	-	-	1.4	1.6	8.4	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

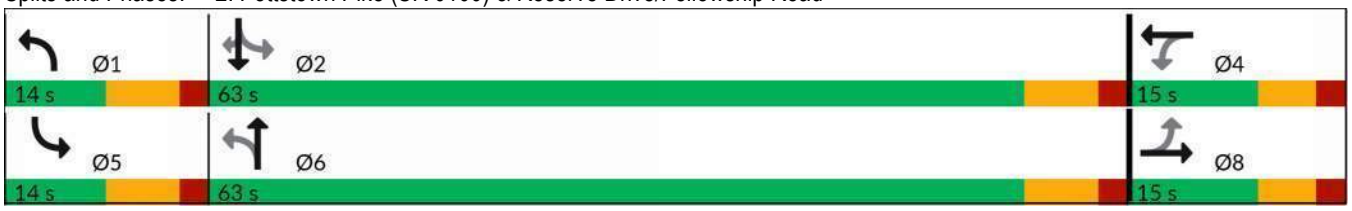


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	5	64	143	10	21	56	1307	191	24	705	7
Future Volume (vph)	4	5	64	143	10	21	56	1307	191	24	705	7
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	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			0.899			0.981				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1596	1570	0	1702	1626	0	1693	3256	0	1710	1765	1530
Flt Permitted	0.735			0.709			0.227			0.088		
Satd. Flow (perm)	1235	1570	0	1270	1626	0	405	3256	0	158	1765	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69			23			33				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	23	60	1405	205	26	758	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	74	0	154	34	0	60	1610	0	26	758	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)	15.0	15.0		15.0	15.0		14.0	63.0		14.0	63.0	63.0
Total Split (%)	16.3%	16.3%		16.3%	16.3%		15.2%	68.5%		15.2%	68.5%	68.5%
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: 73.2	
Natural Cycle: 75	

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	21	56	1307	191	24	705	7
Future Volume (veh/h)	4	5	64	143	10	21	56	1307	191	24	705	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	14	60	1405	179	26	758	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	292	27	208	277	107	136	347	1673	211	232	961	827
Arrive On Green	0.15	0.15	0.13	0.15	0.15	0.13	0.06	0.56	0.55	0.04	0.54	0.54
Sat Flow, veh/h	1334	188	1427	1329	734	935	1693	2969	375	1714	1772	1524
Grp Volume(v), veh/h	4	0	43	154	0	25	60	781	803	26	758	5
Grp Sat Flow(s),veh/h/ln	1334	0	1615	1329	0	1669	1693	1662	1682	1714	1772	1524
Q Serve(g_s), s	0.2	0.0	1.6	7.8	0.0	0.9	1.0	26.6	27.4	0.4	23.5	0.1
Cycle Q Clear(g_c), s	0.6	0.0	1.6	9.0	0.0	0.9	1.0	26.6	27.4	0.4	23.5	0.1
Prop In Lane	1.00		0.88	1.00		0.56	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	292	0	235	277	0	243	347	937	948	232	961	827
V/C Ratio(X)	0.01	0.00	0.18	0.56	0.00	0.10	0.17	0.83	0.85	0.11	0.79	0.01
Avail Cap(c_a), veh/h	292	0	235	277	0	243	436	1381	1397	358	1472	1266
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	25.5	0.0	26.1	29.4	0.0	25.7	9.9	12.3	12.6	11.1	12.6	7.2
Incr Delay (d2), s/veh	0.0	0.0	0.4	2.5	0.0	0.2	0.2	3.0	3.3	0.2	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	1.1	4.6	0.0	0.6	0.5	13.2	13.9	0.2	11.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.5	0.0	26.5	31.9	0.0	25.9	10.2	15.3	16.0	11.4	14.2	7.2
LnGrp LOS	C		C	C		C	B	B	B	B	B	A
Approach Vol, veh/h		47			179			1644			789	
Approach Delay, s/veh		26.4			31.0			15.4			14.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	43.2		15.0	9.0	44.7		15.0				
Change Period (Y+Rc), s	7.0	7.0		6.0	7.0	7.0		6.0				
Max Green Setting (Gmax), s	7.0	56.0		9.0	7.0	56.0		9.0				
Max Q Clear Time (g_c+I1), s	3.5	26.0		11.5	2.9	29.4		3.6				
Green Ext Time (p_c), s	0.0	3.2		0.0	0.0	8.3		0.0				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			16.3									
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	971	56	10	492	25
Future Volume (vph)	15	1	16	46	2	9	17	971	56	10	492	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	981	57	10	497	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	57	0	17	981	57	10	497	25
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	3.9

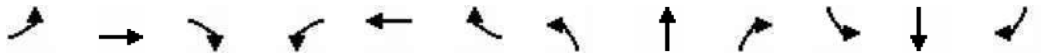
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	1	16	46	2	9	17	971	56	10	492	25
Future Vol, veh/h	15	1	16	46	2	9	17	971	56	10	492	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	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	981	57	10	497	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1566	1589	497	1553	1557	981	522	0	0	1038	0	0
Stage 1	517	517	-	1015	1015	-	-	-	-	-	-	-
Stage 2	1049	1072	-	538	542	-	-	-	-	-	-	-
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	86	100	578	91	104	309	793	-	-	519	-	-
Stage 1	576	522	-	299	301	-	-	-	-	-	-	-
Stage 2	276	282	-	579	508	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	80	96	578	85	100	309	793	-	-	519	-	-
Mov Cap-2 Maneuver	80	96	-	85	100	-	-	-	-	-	-	-
Stage 1	564	512	-	293	295	-	-	-	-	-	-	-
Stage 2	260	276	-	551	498	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	37.7	85.9	0.2	0.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	793	-	-	142	97	519	-	-
HCM Lane V/C Ratio	0.022	-	-	0.228	0.594	0.019	-	-
HCM Control Delay (s/veh)	9.6	-	-	37.7	85.9	12.1	-	-
HCM Lane LOS	A	-	-	E	F	B	-	-
HCM 95th %tile Q (veh)	0.1	-	-	0.8	2.8	0.1	-	-

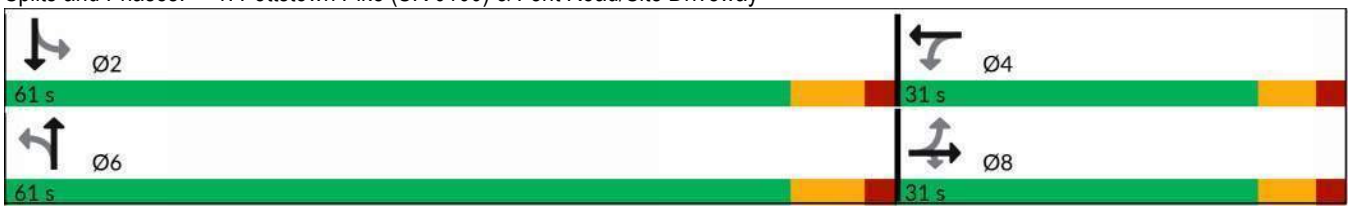
2027 Projected Conditions With Improvements



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	6	271	14	3	8	70	426	37	21	689	22
Future Volume (vph)	2	6	271	14	3	8	70	426	37	21	689	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	0		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		0.958			0.988			0.995	
Flt Protected		0.988			0.972		0.950			0.950		
Satd. Flow (prot)	0	1643	1543	0	1643	0	1482	1660	0	1685	1673	0
Flt Permitted		0.963			0.885		0.265			0.434		
Satd. Flow (perm)	0	1602	1543	0	1496	0	413	1660	0	770	1673	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		380			289			1166			1743	
Travel Time (s)		10.4			7.9			17.7			26.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	2%	3%	2%	2%	2%	11%	7%	2%	2%	4%	5%
Adj. Flow (vph)	2	6	285	15	3	8	74	448	39	22	725	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	285	0	26	0	74	487	0	22	748	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Detector Phase	8	8	8	4	4		6	6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		22.0	22.0		22.0	22.0	
Total Split (s)	31.0	31.0	31.0	31.0	31.0		61.0	61.0		61.0	61.0	
Total Split (%)	33.7%	33.7%	33.7%	33.7%	33.7%		66.3%	66.3%		66.3%	66.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		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	
Total Lost Time (s)		5.0	5.0		5.0		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 92	
Actuated Cycle Length: 87.3	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 1: Pottstown Pike (SR 0100) & Font Road/Site Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	6	271	14	3	8	70	426	37	21	689	22
Future Volume (veh/h)	2	6	271	14	3	8	70	426	37	21	689	22
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	1837	1809	1866	1772	1772	1772	1640	1696	1766	1809	1780	1766
Adj Flow Rate, veh/h	2	6	0	15	3	8	74	448	39	22	725	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	3	2	2	2	11	7	2	2	4	5
Cap, veh/h	84	65		124	8	22	509	1219	106	731	1360	43
Arrive On Green	0.03	0.05	0.00	0.03	0.05	0.03	0.79	0.79	0.78	0.79	0.79	0.78
Sat Flow, veh/h	393	1334	1582	858	172	457	626	1538	134	879	1716	54
Grp Volume(v), veh/h	8	0	0	26	0	0	74	0	487	22	0	748
Grp Sat Flow(s),veh/h/ln	1727	0	1582	1486	0	0	626	0	1672	879	0	1771
Q Serve(g_s), s	0.0	0.0	0.0	0.6	0.0	0.0	3.3	0.0	5.9	0.5	0.0	10.6
Cycle Q Clear(g_c), s	0.3	0.0	0.0	1.1	0.0	0.0	13.3	0.0	5.9	6.0	0.0	10.6
Prop In Lane	0.25		1.00	0.58		0.31	1.00		0.08	1.00		0.03
Lane Grp Cap(c), veh/h	125	0		133	0	0	509	0	1325	731	0	1403
V/C Ratio(X)	0.06	0.00		0.20	0.00	0.00	0.15	0.00	0.37	0.03	0.00	0.53
Avail Cap(c_a), veh/h	668	0		597	0	0	509	0	1325	731	0	1403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.6	0.0	0.0	32.3	0.0	0.0	4.9	0.0	2.1	2.9	0.0	2.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.0	0.6	0.0	0.8	0.1	0.0	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.0	0.0	0.8	0.0	0.0	0.6	0.0	1.1	0.1	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.9	0.0	0.0	33.0	0.0	0.0	5.5	0.0	2.9	3.0	0.0	4.1
LnGrp LOS	C			C			A		A	A		A
Approach Vol, veh/h		8			26			561			770	
Approach Delay, s/veh		31.9			33.0			3.3			4.0	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		61.0		8.4		61.0		8.4				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		54.0		25.0		54.0		25.0				
Max Q Clear Time (g_c+I1), s		12.6		3.1		15.8		2.5				
Green Ext Time (p_c), s		3.4		0.0		2.6		0.0				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			4.4									
HCM 6th LOS			A									

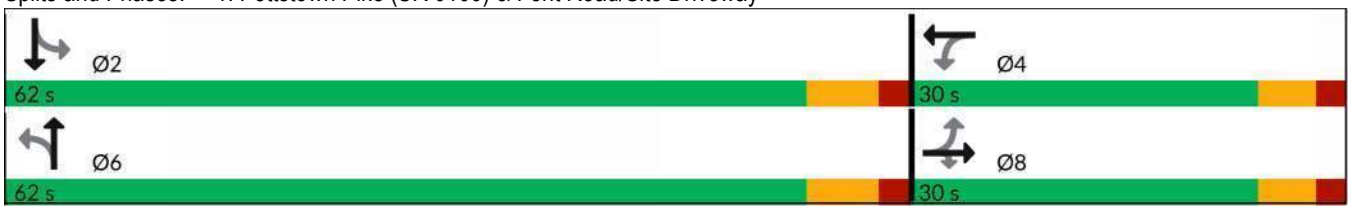
Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	4	191	33	6	19	289	1021	22	12	503	23
Future Volume (vph)	5	4	191	33	6	19	289	1021	22	12	503	23
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	0		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		0.956			0.997			0.994	
Flt Protected		0.973			0.972		0.950			0.950		
Satd. Flow (prot)	0	1628	1573	0	1640	0	1645	1768	0	1685	1690	0
Flt Permitted		0.888			0.845		0.401			0.083		
Satd. Flow (perm)	0	1486	1573	0	1426	0	694	1768	0	147	1690	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		380			235			1166			1743	
Travel Time (s)		10.4			6.4			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 (%)	0%	2%	1%	2%	2%	2%	0%	1%	2%	2%	3%	0%
Adj. Flow (vph)	5	4	203	35	6	20	307	1086	23	13	535	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	203	0	61	0	307	1109	0	13	559	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Detector Phase	8	8	8	4	4		6	6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0		22.0	22.0		22.0	22.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		62.0	62.0		62.0	62.0	
Total Split (%)	32.6%	32.6%	32.6%	32.6%	32.6%		67.4%	67.4%		67.4%	67.4%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		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	
Total Lost Time (s)		5.0	5.0		5.0		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Max	Max		Max	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 92	
Actuated Cycle Length: 84.2	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 1: Pottstown Pike (SR 0100) & Font Road/Site Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	4	191	33	6	19	289	1021	22	12	503	23
Future Volume (veh/h)	5	4	191	33	6	19	289	1021	22	12	503	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1837	1809	1896	1772	1772	1772	1794	1780	1766	1809	1795	1837
Adj Flow Rate, veh/h	5	4	0	35	6	20	307	1086	23	13	535	24
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	1	2	2	2	0	1	2	2	3	0
Cap, veh/h	120	73		135	10	32	660	1354	29	306	1329	60
Arrive On Green	0.05	0.07	0.00	0.05	0.07	0.05	0.78	0.78	0.77	0.78	0.78	0.77
Sat Flow, veh/h	633	1086	1607	839	144	479	816	1737	37	491	1704	76
Grp Volume(v), veh/h	9	0	0	61	0	0	307	0	1109	13	0	559
Grp Sat Flow(s),veh/h/ln	1719	0	1607	1462	0	0	816	0	1774	491	0	1781
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	0.0	13.6	0.0	26.4	1.1	0.0	7.3
Cycle Q Clear(g_c), s	0.3	0.0	0.0	2.9	0.0	0.0	20.4	0.0	26.4	27.0	0.0	7.3
Prop In Lane	0.56		1.00	0.57		0.33	1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	169	0		157	0	0	660	0	1383	306	0	1389
V/C Ratio(X)	0.05	0.00		0.39	0.00	0.00	0.47	0.00	0.80	0.04	0.00	0.40
Avail Cap(c_a), veh/h	595	0		557	0	0	660	0	1383	306	0	1389
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.7	0.0	0.0	33.0	0.0	0.0	5.7	0.0	4.7	12.4	0.0	2.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.6	0.0	0.0	2.4	0.0	5.0	0.3	0.0	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	0.0	2.0	0.0	0.0	3.2	0.0	7.9	0.2	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.8	0.0	0.0	34.6	0.0	0.0	8.0	0.0	9.6	12.7	0.0	3.4
LnGrp LOS	C			C			A		A	B		A
Approach Vol, veh/h		9			61			1416			572	
Approach Delay, s/veh		31.8			34.6			9.3			3.6	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		62.0		9.8		62.0		9.8				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		55.0		24.0		55.0		24.0				
Max Q Clear Time (g_c+I1), s		29.5		4.9		28.4		2.5				
Green Ext Time (p_c), s		2.2		0.1		9.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			8.6									
HCM 6th LOS			A									

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

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	R ①	R ①	G	G	Y ②	R ③	R	R	R	R	R	G	G	Y	R	R	R	R	R	R	Y
2	R	R	R	G	G	Y ③	R ③	R	R	R	R	R	G	G	Y	R	R	R	R	R	R	Y
3	R ④	R ④	R ④	R	R	R	R	G ⑤	G ⑤	Y ②	R ③	R	G	G	Y	R	R	R	R	R	R	Y
4	R	R	R	R	R	R	R	G	G	Y ③	R ③	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	FH ⑤	H ⑥	H ⑤	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	FH ⑤	H ⑥	H ⑤	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

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

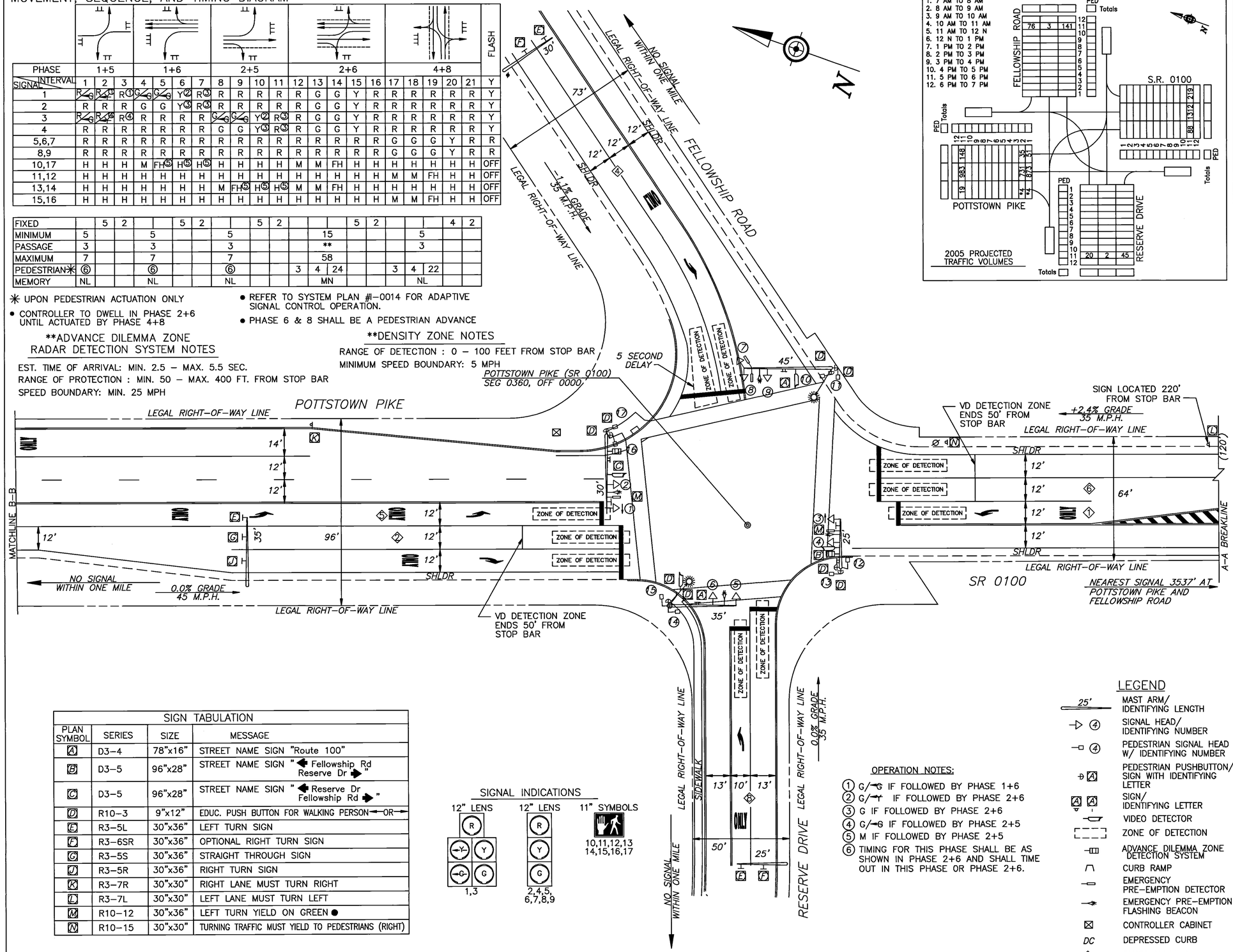
**ADVANCE DILEMMA ZONE RADAR DETECTION SYSTEM NOTES

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

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



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
H	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

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.

LEGEND

- 25' — MAST ARM/ IDENTIFYING LENGTH
- ④ — SIGNAL HEAD/ IDENTIFYING NUMBER
- ④ — 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
- ④ — PHASE NUMBER
- UTILITY POLE
- LUMINAIRE

25' 0' 25' 50'
SCALE IN FEET

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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.

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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

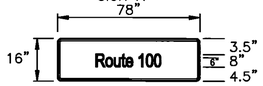
NO	REVISION	DES/ REVW	DATE	REVW	DATE	RECOM	DATE
1	ADD 5 SEC. DELAY TO LOOP IN LTL OF WB FELLOWSHIP	JJS	1/7/04	MLK	1/9/04	LRB	1/15/04
2	ADD PED HEADS, LEFT TURN PHASE NORTHBOUND RECEIVING LANE	LANGAN	5/3/05				
3	REVISED PRE–EMPT NOTES AND TIMINGS PER VERBAL COMMENTS	LANGAN	7/25/05				
4	REVISED PER EMAIL/ 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	LWZ	8/17/17	ABP	8/17/17
7							
8							

SHEET 2 OF 3 PERMIT # 62–3346 FILE # 3346

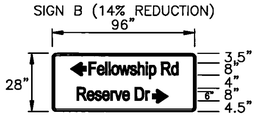
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HELVETICA BOLD
8" UPPER CASE
6" LOWER CASE LETTERS

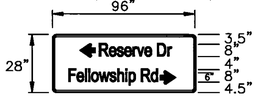
SIGN A
78"

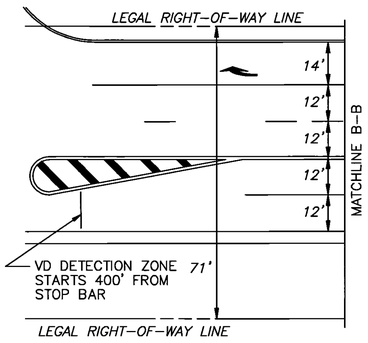


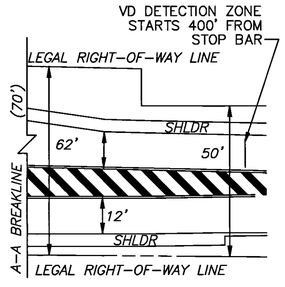
SIGN B (14% REDUCTION)
96"



SIGN C (14% REDUCTION)
96"

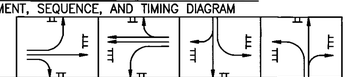






EMERGENCY PRE-EMPTION PHASING

MOVEMENT, SEQUENCE, AND TIMING DIAGRAM



PHASE / INTERVAL / SIGNALS	22	23	24	25	26	27	28	29	30	31	32	33
1	R	R	R	⅔ Y(a) R(b)			R	R	R	R	R	R
2	R	R	R	G	Y(a)	R(b)	R	R	R	R	R	R
3	⅔ Y(a)		R(b)	R	R	R	G	Y	R	R	R	R
4	G	Y(a)	R(b)	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.

(a) G/Y WHEN RETURNING TO NORMAL OPERATION
(b) 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.

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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.

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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	WJL	8/17/17	ABP	8/17/17
7							
8							

SHEET 3 OF 3 | PERMIT # 62-3346 | FILE # 3346

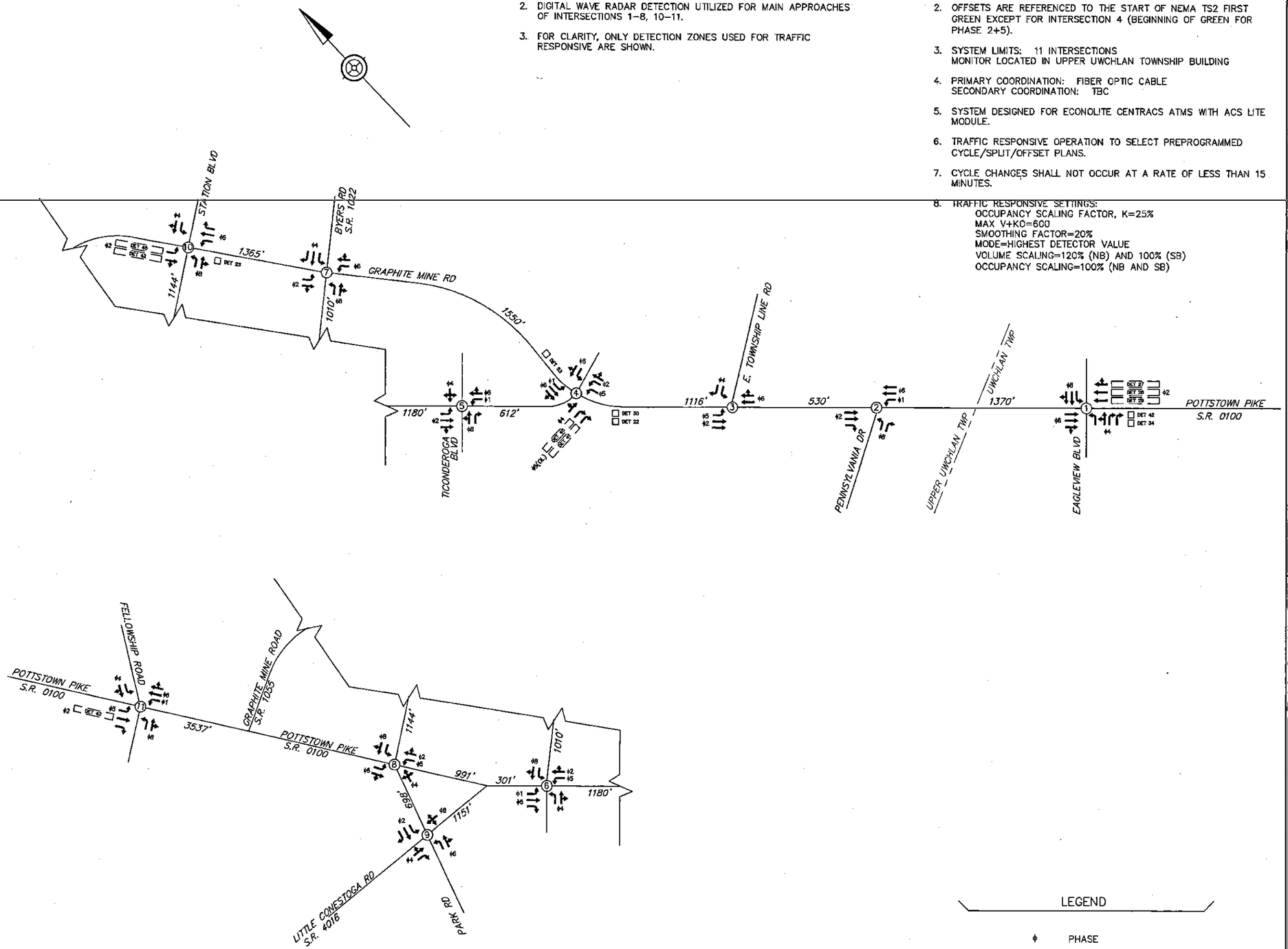
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DETECTOR NOTES

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

GENERAL NOTES

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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.

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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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 primarily 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 vicinity 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 Type	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	70	Through	426	Right-Turn	37	
	PM Peak Hour Traffic Volumes:	Left-Turn	289	Through	1021	Right-Turn	22	
Approach #2	Number of Lanes (Count Shared Lanes as Through):	Left-Turn		Through		Right-Turn		
	AM Peak Hour Traffic Volumes:	Left-Turn	21	Through	689	Right-Turn	22	
	PM Peak Hour Traffic Volumes:	Left-Turn	12	Through	503	Right-Turn	23	

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				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	2	Through	6	Right-Turn	271	
	PM Peak Hour Traffic Volumes:	Left-Turn	5	Through	4	Right-Turn	191	
Approach #2	Number of Lanes (Count Shared Lanes as Through):	Left-Turn		Through		Right-Turn		
	AM Peak Hour Traffic Volumes:	Left-Turn	14	Through	3	Right-Turn	8	
	PM Peak Hour Traffic Volumes:	Left-Turn	33	Through	6	Right-Turn	19	
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 intersection 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	No
All-way Stop-Controlled	Yes	Included as viable option	No
Signalized Control	Yes	Included as viable option	Yes
Roundabout	Yes	Included as viable option but was not advanced due to lack or ROW and lack of physical 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

4/9/2025 - 1:00 PM

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	21	689	22	2
Eastbound	2	6	271	2
Westbound	14	3	8	2
Northbound	70	426	37	2

Opening Year - PM Peak

	Left	Through	Right	Truck %
Southbound	12	503	23	2
Eastbound	5	4	191	2
Westbound	33	6	19	2
Northbound	289	1021	22	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	0.63	0.42	0.63	0.00	0.00	0.00	0.00
2	Roundabout	1.01	0.59	1.01	0.00	0.00	0.00	0.00
3	All-Way Stop Control	1.45	1.07	1.45	0.00	0.00	0.00	0.00
4	Two-Way Stop Control	1.86	0.44	1.86	0.00	0.00	0.00	0.00

1–4 of 4

APPENDIX J:

Traffic Signal Warrant Analysis Worksheets

Scenario 1 – No EBR Volume

Job #: TMAS.00013
Intersection: Pottstown Pike (SR 0100) and Font Road-Site Driveway

Volume Development (2027 Projected Conditions)

2024 Existing Counts:

	Time Period (Weekday)														
Movement	6-7 A.M.	7-8 A.M.	8-9 A.M.	9-10 A.M.	10-11 A.M.	11-12 P.M.	**A.M. Peak**	12-1 P.M.	1-2 P.M.	2-3 P.M.	3-4 P.M.	4-5 P.M.	5-6 P.M.	6-7 P.M.	**P.M. Peak**
EBL	2	1	2	2	9	12	**2**	5	3	4	5	3	4	1	**5**
EBT															
EBR															
WBL															
WBT															
WBR															
NBL	38	56	57	79	88	112	**53**	116	116	139	187	212	256	169	**251**
NBT	214	328	402	402	356	438	**400**	457	504	602	807	921	906	551	**985**
NBR															
SBL															
SBT	657	725	642	445	403	397	**662**	435	393	433	484	441	507	357	**479**
SBR	1	17	13	8	8	7	**19**	5	16	13	12	22	16	11	**17**
Total	**912**	**1127**	**1116**	**936**	**864**	**966**	**1136**	**1018**	**1032**	**1191**	**1495**	**1599**	**1689**	**1089**	**1737**
K-Factor Calculations															
EB K-Factor	1.00	0.50	1.00	1.00	4.50	6.00	---	1.00	0.60	0.80	1.00	0.60	0.80	0.20	---
WB K-Factor	0.90	0.90	0.90	0.90	0.90	0.90	---	0.90	0.90	0.90	0.90	0.90	0.90	0.90	---
NB K-Factor	0.56	0.85	1.01	1.06	0.98	1.21	--	0.46	0.50	0.60	0.80	0.92	0.94	0.58	--
SB K-Factor	0.97	1.09	0.96	0.67	0.60	0.59	---	0.89	0.82	0.90	1.00	0.93	1.05	0.74	---

K-Factor = Hourly Volume

2027 Projected Conditions

	Time Period														
Movement	A.M. Peak	6-7 A.M.	7-8 A.M.	8-9 A.M.	9-10 A.M.	10-11 A.M.	11-12 P.M.	P.M. Peak	12-1 P.M.	1-2 P.M.	2-3 P.M.	3-4 P.M.	4-5 P.M.	5-6 P.M.	6-7 P.M.
EBL	**2**	2	1	2	2	9	12	**5**	5	3	4	5	3	4	1
EBT	**6**	6	3	6	6	27	36	**4**	4	2	3	4	2	3	1
EBR															
WBL	**14**	13	13	13	13	13	13	**33**	30	30	30	30	30	30	30
WBT	**3**	3	3	3	3	3	3	**6**	5	5	5	5	5	5	5
WBR	**8**	7	7	7	7	7	7	**19**	17	17	17	17	17	17	17
NBL	**70**	39	59	71	74	69	85	**289**	134	145	173	232	265	272	168
NBT	**426**	237	361	432	452	418	517	**1021**	473	512	612	821	936	960	595
NBR	**37**	21	31	37	39	36	45	**22**	10	11	13	18	20	21	13
SBL	**21**	20	23	20	14	13	12	**12**	11	10	11	12	11	13	9
SBT	**689**	666	751	663	458	416	409	**503**	446	415	452	503	470	530	373
SBR	**22**	21	24	21	15	13	13	**23**	20	19	21	23	21	24	17
Total	**1298**	**1035**	**1276**	**1275**	**1083**	**1024**	**1152**	**1937**	**1155**	**1169**	**1341**	**1670**	**1780**	**1879**	**1229**

Traffic Signal Warrant Analysis Workbook

STUDY AND ANALYSIS INFORMATION

Municipality:	Upper Uwchlan Twp	**Analysis Date:**	4/8/2025
County:	Chester County	**Conducted By:**	MB
PennDOT Engineering District:	6	**Agency/Company Name:**	TPD

Analysis Information

Data Collection Date:	4/18/2024
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	**Yes**	**No**
Warrant 2, Four-Hour Vehicular Volume	**Yes**	**No**
Warrant 3, Peak Hour	**Yes**	**No**
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**

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	297	707	1004	8	23
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	451	798	1249	4	23
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	540	704	1244	8	23
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	565	487	1052	8	23
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	523	442	965	36	23
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	647	434	1081	48	23
11:15 AM	11:29 AM			0		
11:30 AM	11:44 AM			0		
11:45 AM	11:59 AM			0		
12:00 PM	12:14 PM	617	477	1094	9	52
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	668	444	1112	5	52
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	798	484	1282	7	52
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	1071	538	1609	9	52
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	1221	502	1723	5	52
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	1253	567	1820	7	52
5:15 PM	5:29 PM			0		
5:30 PM	5:44 PM			0		
5:45 PM	5:59 PM			0		
6:00 PM	6:14 PM	776	399	1175	2	52
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:		9427	6983	16410	156	502

MUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes

Combination of Conditions A and B Necessary?*: No

**Only applicable for Warrant 1 if after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. See Section 4C.02 of the 2009 MUTCD for application.*

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or More	1	600	480	420	336	150	120	105	84
2 or More	2 or More	600	480	420	336	200	160	140	112
1	2 or More	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or More	1	900	720	630	504	75	60	53	42
2 or More	2 or More	900	720	630	504	100	80	70	56
1	2 or More	750	600	525	420	100	80	70	56

Condition A Evaluation

Number of Unique Hours Met: 0 **Condition A Satisfied?** No

Condition B Evaluation

Number of Unique Hours Met: 0 **Condition B Satisfied?** No

Combination of Condition A and Condition B Evaluation

Number of Unique Hours Met for Condition A: N/A

Number of Unique Hours Met for Condition B: N/A

Combination of Condition A and Condition B Satisfied? N/A

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	1004	23	
5:30 AM	1004	23	
5:45 AM	1004	23	
6:00 AM	1004	23	
6:15 AM	1249	23	
6:30 AM	1249	23	
6:45 AM	1249	23	
7:00 AM	1249	23	
7:15 AM	1244	23	
7:30 AM	1244	23	
7:45 AM	1244	23	
8:00 AM	1244	23	
8:15 AM	1052	23	
8:30 AM	1052	23	
8:45 AM	1052	23	
9:00 AM	1052	23	
9:15 AM	965	36	
9:30 AM	965	36	
9:45 AM	965	36	
10:00 AM	965	36	
10:15 AM	1081	48	
10:30 AM	1081	48	
10:45 AM	1081	48	
11:00 AM	1081	48	
11:15 AM	1094	52	
11:30 AM	1094	52	
11:45 AM	1094	52	
12:00 PM	1094	52	
12:15 PM	1112	52	
12:30 PM	1112	52	
12:45 PM	1112	52	
1:00 PM	1112	52	
1:15 PM	1282	52	
1:30 PM	1282	52	
1:45 PM	1282	52	
2:00 PM	1282	52	
2:15 PM	1609	52	
2:30 PM	1609	52	
2:45 PM	1609	52	
3:00 PM	1609	52	
3:15 PM	1723	52	
3:30 PM	1723	52	
3:45 PM	1723	52	
4:00 PM	1723	52	
4:15 PM	1820	52	
4:30 PM	1820	52	
4:45 PM	1820	52	
5:00 PM	1820	52	
5:15 PM	1175	52	
5:30 PM	1175	52	
5:45 PM	1175	52	
6:00 PM	1175	52	
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 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
**If applicable, attach all supporting calculations, documentation, and findings.*	
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
**If applicable, attach supporting justification.*	
Total Number of Unique Hours Met for Criterion A:	**0**
Total Number of Unique Hours Met for Criterion B:	**0**

Hourly Vehicular & Pedestrian Volume				
Hour Interval	**Major Street Combined**	**Total of All Pedestrians Crossing Major Street**	**Criterion A: 4-Hour**	**Criterion B: 1-Hour**
Beginning At	**Vehicles Per Hour (VPH)**	**Pedestrians Per Hour (PPH)**	**Hour Met on Figure 4C-6?**	**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	1004			
5:30 AM	1004			
5:45 AM	1004			
6:00 AM	1004	0		
6:15 AM	1249			
6:30 AM	1249			
6:45 AM	1249			
7:00 AM	1249	0		
7:15 AM	1244			
7:30 AM	1244			
7:45 AM	1244			
8:00 AM	1244	0		
8:15 AM	1052			
8:30 AM	1052			
8:45 AM	1052			
9:00 AM	1052	0		
9:15 AM	965			
9:30 AM	965			
9:45 AM	965			
10:00 AM	965	0		
10:15 AM	1081			
10:30 AM	1081			
10:45 AM	1081			
11:00 AM	1081	0		
11:15 AM	1094			
11:30 AM	1094			
11:45 AM	1094			
12:00 PM	1094	0		
12:15 PM	1112			
12:30 PM	1112			
12:45 PM	1112			
1:00 PM	1112	0		
1:15 PM	1282			
1:30 PM	1282			
1:45 PM	1282			
2:00 PM	1282	0		
2:15 PM	1609			
2:30 PM	1609			
2:45 PM	1609			
3:00 PM	1609	0		
3:15 PM	1723			
3:30 PM	1723			
3:45 PM	1723			
4:00 PM	1723	0		
4:15 PM	1820			
4:30 PM	1820			
4:45 PM	1820			
5:00 PM	1820	0		
5:15 PM	1175			
5:30 PM	1175			
5:45 PM	1175			
6:00 PM	1175	0		
6:15 PM	0			
6:30 PM	0			
6:45 PM	0			
7:00 PM	0			
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 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. **Yes**

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.*

Scenario 2 – With EBR Volumes Included

Job #: TMAS.00013
Intersection: Pottstown Pike (SR 0100) and Font Road-Site Driveway

Volume Development (2027 Projected Conditions)

2024 Existing Counts:

							Time Period (Weekday)								
Movement	6-7 A.M.	7-8 A.M.	8-9 A.M.	9-10 A.M.	10-11 A.M.	11-12 P.M.	**A.M. Peak**	12-1 P.M.	1-2 P.M.	2-3 P.M.	3-4 P.M.	4-5 P.M.	5-6 P.M.	6-7 P.M.	**P.M. Peak**
EBL	2	1	2	2	9	12	**2**	5	3	4	5	3	4	1	**5**
EBT															
EBR	124	226	221	163	123	130	**242**	100	129	124	135	155	151	139	**168**
WBL															
WBT															
WBR															
NBL	38	56	57	79	88	112	**53**	116	116	139	187	212	256	169	**251**
NBT	214	328	402	402	356	438	**400**	457	504	602	807	921	906	551	**985**
NBR															
SBL															
SBT	657	725	642	445	403	397	**662**	435	393	433	484	441	507	357	**479**
SBR	1	17	13	8	8	7	**19**	5	16	13	12	22	16	11	**17**
Total	**1036**	**1353**	**1337**	**1099**	**987**	**1096**	**1378**	**1118**	**1161**	**1315**	**1630**	**1754**	**1840**	**1228**	**1905**
K-Factor Calculations															
EB K-Factor	0.52	0.93	0.91	0.68	0.54	0.58	---	0.61	0.76	0.74	0.81	0.91	0.90	0.81	---
WB K-Factor	0.90	0.90	0.90	0.90	0.90	0.90	---	0.90	0.90	0.90	0.90	0.90	0.90	0.90	---
NB K-Factor	0.56	0.85	1.01	1.06	0.98	1.21	--	0.46	0.50	0.60	0.80	0.92	0.94	0.58	--
SB K-Factor	0.97	1.09	0.96	0.67	0.60	0.59	---	0.89	0.82	0.90	1.00	0.93	1.05	0.74	---

K-Factor = Hourly Volume

2027 Projected Conditions

								Time Period							
Movement	A.M. Peak	6-7 A.M.	7-8 A.M.	8-9 A.M.	9-10 A.M.	10-11 A.M.	11-12 P.M.	P.M. Peak	12-1 P.M.	1-2 P.M.	2-3 P.M.	3-4 P.M.	4-5 P.M.	5-6 P.M.	6-7 P.M.
EBL	**2**	1	2	2	1	1	1	**5**	3	4	4	4	5	4	4
EBT	**6**	3	6	5	4	3	3	**4**	2	3	3	3	4	4	3
EBR	**271**	140	252	248	183	147	158	**191**	116	146	141	155	174	171	155
WBL	**14**	13	13	13	13	13	13	**33**	30	30	30	30	30	30	30
WBT	**3**	3	3	3	3	3	3	**6**	5	5	5	5	5	5	5
WBR	**8**	7	7	7	7	7	7	**19**	17	17	17	17	17	17	17
NBL	**70**	39	59	71	74	69	85	**289**	134	145	173	232	265	272	168
NBT	**426**	237	361	432	452	418	517	**1021**	473	512	612	821	936	960	595
NBR	**37**	21	31	37	39	36	45	**22**	10	11	13	18	20	21	13
SBL	**21**	20	23	20	14	13	12	**12**	11	10	11	12	11	13	9
SBT	**689**	666	751	663	458	416	409	**503**	446	415	452	503	470	530	373
SBR	**22**	21	24	21	15	13	13	**23**	20	19	21	23	21	24	17
Total	**1569**	**1171**	**1532**	**1522**	**1263**	**1139**	**1266**	**2128**	**1267**	**1317**	**1482**	**1823**	**1958**	**2051**	**1389**

Traffic Signal Warrant Analysis Workbook

STUDY AND ANALYSIS INFORMATION

Municipality:	Upper Uwchlan Twp	**Analysis Date:**	4/8/2025
County:	Chester County	**Conducted By:**	MB
PennDOT Engineering District:	6	**Agency/Company Name:**	TPD

Analysis Information

Data Collection Date:	4/18/2024
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:	2	**LANE(S)**

TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	**Yes**	**Yes**
Warrant 2, Four-Hour Vehicular Volume	**Yes**	**Yes**
Warrant 3, Peak Hour	**Yes**	**No**
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**

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	297	707	1004	144	23
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	451	798	1249	260	23
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	540	704	1244	255	23
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	565	487	1052	188	23
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	523	442	965	151	23
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	647	434	1081	162	23
11:15 AM	11:29 AM			0		
11:30 AM	11:44 AM			0		
11:45 AM	11:59 AM			0		
12:00 PM	12:14 PM	617	477	1094	121	52
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	668	444	1112	153	52
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	798	484	1282	148	52
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	1071	538	1609	162	52
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	1221	502	1723	183	52
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	1253	567	1820	179	52
5:15 PM	5:29 PM			0		
5:30 PM	5:44 PM			0		
5:45 PM	5:59 PM			0		
6:00 PM	6:14 PM	776	399	1175	162	52
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:		9427	6983	16410	2268	502

MUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	2 or More Lanes

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes

Combination of Conditions A and B Necessary?*: No

**Only applicable for Warrant 1 if after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. See Section 4C.02 of the 2009 MUTCD for application.*

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	**Minor Street**	**100%**	**80%**	**70%**	**56%**	**100%**	**80%**	**70%**	**56%**
1	**1**	500	400	350	280	150	120	105	84
2 or More	**1**	600	480	420	336	150	120	105	84
2 or More	**2 or More**	600	480	420	336	200	160	140	112
1	**2 or More**	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	**Minor Street**	**100%**	**80%**	**70%**	**56%**	**100%**	**80%**	**70%**	**56%**
1	**1**	750	600	525	420	75	60	53	42
2 or More	**1**	900	720	630	504	75	60	53	42
2 or More	**2 or More**	900	720	630	504	100	80	70	56
1	**2 or More**	750	600	525	420	100	80	70	56

Condition A Evaluation

Number of Unique Hours Met: **12** **Condition A Satisfied?** **Yes**

Condition B Evaluation

Number of Unique Hours Met: **13** **Condition B Satisfied?** **Yes**

Combination of Condition A and Condition B Evaluation

Number of Unique Hours Met for Condition A: **N/A**

Number of Unique Hours Met for Condition B: **N/A**

Combination of Condition A and Condition B Satisfied? **N/A**

MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	2 or More Lanes

Total Number of Unique Hours Met On Figure 4C-2
13

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	1004	144	Met
5:30 AM	1004	144	Met
5:45 AM	1004	144	Met
6:00 AM	1004	144	Met
6:15 AM	1249	260	Met
6:30 AM	1249	260	Met
6:45 AM	1249	260	Met
7:00 AM	1249	260	Met
7:15 AM	1244	255	Met
7:30 AM	1244	255	Met
7:45 AM	1244	255	Met
8:00 AM	1244	255	Met
8:15 AM	1052	188	Met
8:30 AM	1052	188	Met
8:45 AM	1052	188	Met
9:00 AM	1052	188	Met
9:15 AM	965	151	Met
9:30 AM	965	151	Met
9:45 AM	965	151	Met
10:00 AM	965	151	Met
10:15 AM	1081	162	Met
10:30 AM	1081	162	Met
10:45 AM	1081	162	Met
11:00 AM	1081	162	Met
11:15 AM	1094	121	Met
11:30 AM	1094	121	Met
11:45 AM	1094	121	Met
12:00 PM	1094	121	Met
12:15 PM	1112	153	Met
12:30 PM	1112	153	Met
12:45 PM	1112	153	Met
1:00 PM	1112	153	Met
1:15 PM	1282	148	Met
1:30 PM	1282	148	Met
1:45 PM	1282	148	Met
2:00 PM	1282	148	Met
2:15 PM	1609	162	Met
2:30 PM	1609	162	Met
2:45 PM	1609	162	Met
3:00 PM	1609	162	Met
3:15 PM	1723	183	Met
3:30 PM	1723	183	Met
3:45 PM	1723	183	Met
4:00 PM	1723	183	Met
4:15 PM	1820	179	Met
4:30 PM	1820	179	Met
4:45 PM	1820	179	Met
5:00 PM	1820	179	Met
5:15 PM	1175	162	Met
5:30 PM	1175	162	Met
5:45 PM	1175	162	Met
6:00 PM	1175	162	Met
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	

Scenario 3 – With NBL Volume as Minor Street

Traffic Signal Warrant Analysis Workbook

STUDY AND ANALYSIS INFORMATION

Municipality:	Upper Uwchlan Twp	**Analysis Date:**	4/8/2025
County:	Chester County	**Conducted By:**	MB
PennDOT Engineering District:	6	**Agency/Company Name:**	TPD

Analysis Information

Data Collection Date:	4/18/2024
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) - SBT + SBR
Major Street Approach #1 Direction:	
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:	Pottstown Pike (SR 0100) - NBL
Minor Street Approach #1 Direction:	N-Bound
Minor Street Approach #2 Direction:	

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	**Yes**	**Yes**
Warrant 2, Four-Hour Vehicular Volume	**Yes**	**Yes**
Warrant 3, Peak Hour	**Yes**	**No**
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**

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH						
Time Interval		Major Street Approach #1 ()	Major Street Approach #2 (S-Bound)	Major Street Combined	Minor Street Approach #1 (N-Bound)	Minor Street Approach #2 ()
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		707	707	39	
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		798	798	59	
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		704	704	71	
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		487	487	74	
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		442	442	69	
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		434	434	85	
11:15 AM	11:29 AM			0		
11:30 AM	11:44 AM			0		
11:45 AM	11:59 AM			0		
12:00 PM	12:14 PM		477	477	134	
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		444	444	145	
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		484	484	173	
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		538	538	232	
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		502	502	265	
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		567	567	272	
5:15 PM	5:29 PM			0		
5:30 PM	5:44 PM			0		
5:45 PM	5:59 PM			0		
6:00 PM	6:14 PM		399	399	168	
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:		0	6983	6983	1786	0

MUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes

Combination of Conditions A and B Necessary?*: Yes

**Only applicable for Warrant 1 if after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. See Section 4C.02 of the 2009 MUTCD for application.*

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or More	1	600	480	420	336	150	120	105	84
2 or More	2 or More	600	480	420	336	200	160	140	112
1	2 or More	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or More	1	900	720	630	504	75	60	53	42
2 or More	2 or More	900	720	630	504	100	80	70	56
1	2 or More	750	600	525	420	100	80	70	56

Condition A Evaluation

Number of Unique Hours Met: N/A **Condition A Satisfied?** N/A

Condition B Evaluation

Number of Unique Hours Met: N/A **Condition B Satisfied?** N/A

Combination of Condition A and Condition B Evaluation

Number of Unique Hours Met for Condition A: 8

Number of Unique Hours Met for Condition B: 11

Combination of Condition A and Condition B Satisfied? Yes

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
8

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	707	39	
5:30 AM	707	39	
5:45 AM	707	39	
6:00 AM	707	39	
6:15 AM	798	59	
6:30 AM	798	59	
6:45 AM	798	59	
7:00 AM	798	59	
7:15 AM	704	71	Met
7:30 AM	704	71	Met
7:45 AM	704	71	Met
8:00 AM	704	71	Met
8:15 AM	487	74	
8:30 AM	487	74	
8:45 AM	487	74	
9:00 AM	487	74	
9:15 AM	442	69	
9:30 AM	442	69	
9:45 AM	442	69	
10:00 AM	442	69	
10:15 AM	434	85	
10:30 AM	434	85	
10:45 AM	434	85	
11:00 AM	434	85	
11:15 AM	477	134	Met
11:30 AM	477	134	Met
11:45 AM	477	134	Met
12:00 PM	477	134	Met
12:15 PM	444	145	Met
12:30 PM	444	145	Met
12:45 PM	444	145	Met
1:00 PM	444	145	Met
1:15 PM	484	173	Met
1:30 PM	484	173	Met
1:45 PM	484	173	Met
2:00 PM	484	173	Met
2:15 PM	538	232	Met
2:30 PM	538	232	Met
2:45 PM	538	232	Met
3:00 PM	538	232	Met
3:15 PM	502	265	Met
3:30 PM	502	265	Met
3:45 PM	502	265	Met
4:00 PM	502	265	Met
4:15 PM	567	272	Met
4:30 PM	567	272	Met
4:45 PM	567	272	Met
5:00 PM	567	272	Met
5:15 PM	399	168	Met
5:30 PM	399	168	Met
5:45 PM	399	168	Met
6:00 PM	399	168	Met
6:15 PM	0	0	
6:30 PM	0	0	
6:45 PM	0	0	
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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	

APPENDIX K:

Auxiliary Turn Lane Warrant Analysis

Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Upper Uwchlan Township	**Analysis Date:**	3/27/2025
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	21	2.0%	22
	Through	-	689	4.0%	703
	Right	Yes	22	5.0%	23
Opposing	Left	Yes	70	11.0%	74
	Through	-	426	7.0%	441
	Right	Yes	37	2.0%	38

Advancing Volume:	748
Opposing Volume:	553
Left Turn Volume:	22
% Left Turns in Advancing Volume:	2.94%

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	70	11.0%	N/A
	Through	-	426	7.0%	N/A
	Right	-	37	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:	22
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

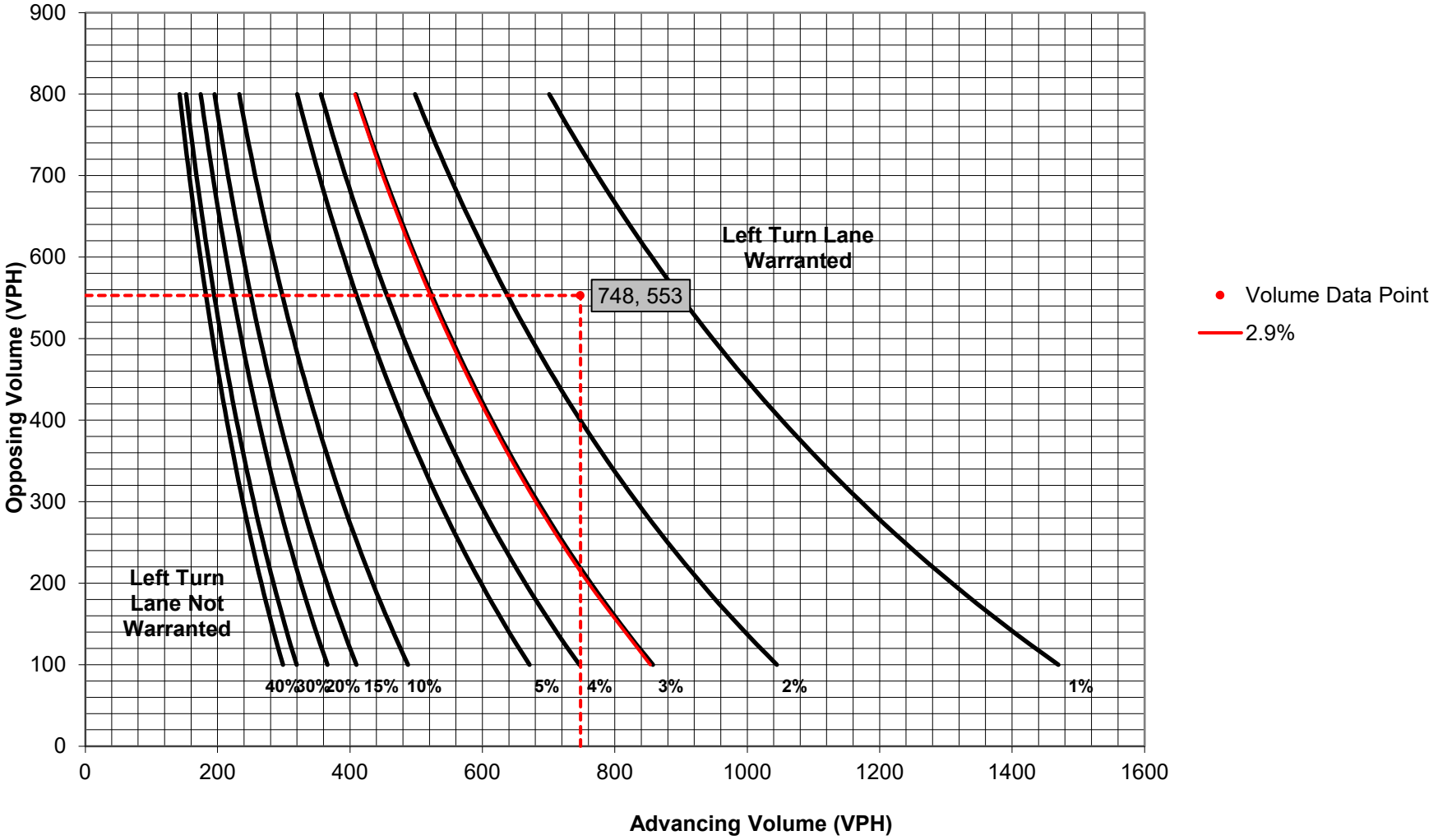
Additional Findings:

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:**	3/27/2025
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	21	2.0%	N/A
	Through	-	689	4.0%	N/A
	Right	Yes	22	5.0%	N/A
Opposing	Left	Yes	70	11.0%	N/A
	Through	-	426	7.0%	N/A
	Right	Yes	37	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	70	11.0%	74
	Through	-	426	7.0%	441
	Right	-	37	2.0%	38

Advancing Volume:	553
Right Turn Volume:	38

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:	38
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

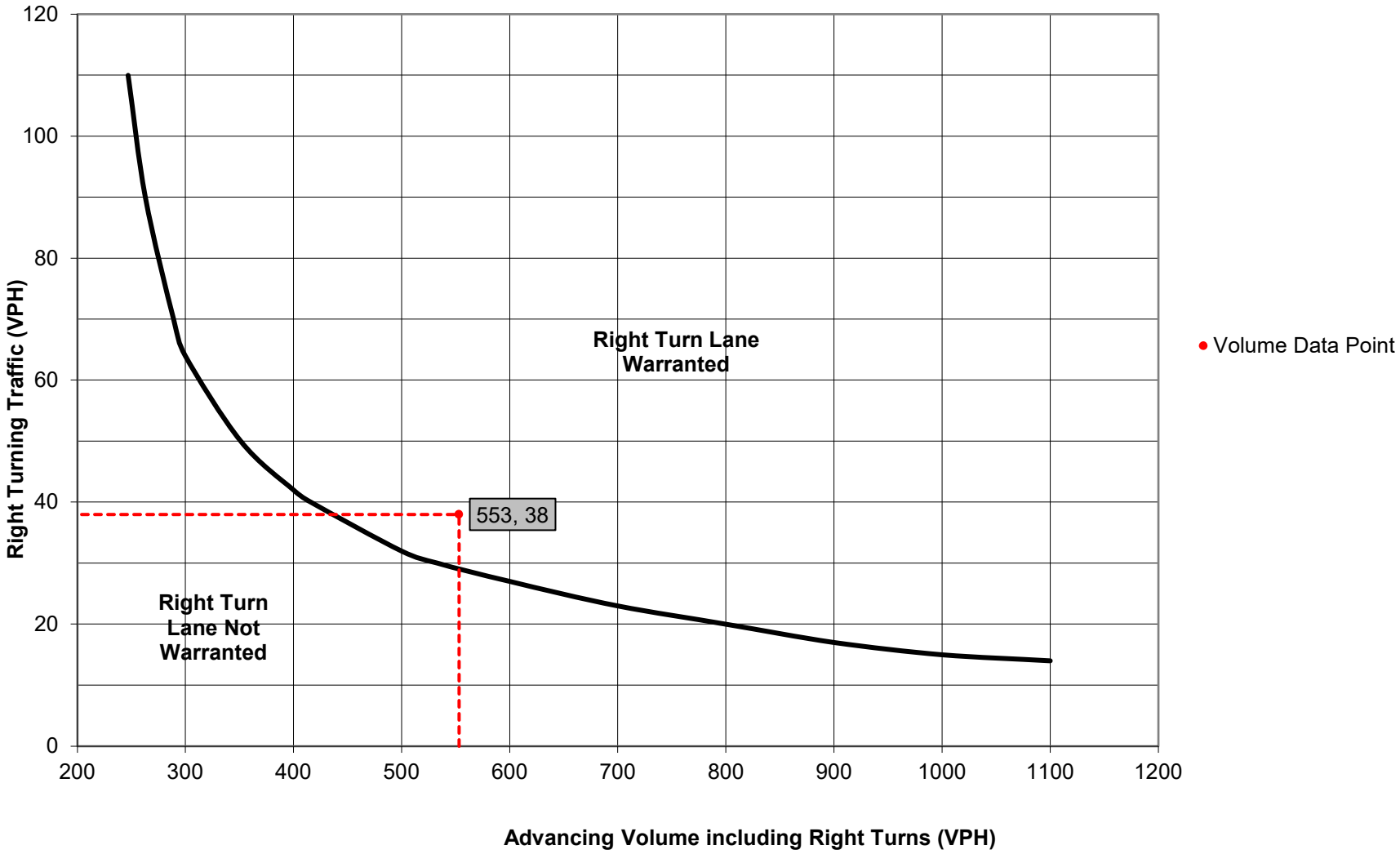
Right Turn Lane Storage Length, Condition A:	N/A	Feet
Condition B:	125	Feet
Condition C:	N/A	Feet
Required Right Turn Lane Storage Length:	125	Feet

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)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Upper Uwchlan Township	**Analysis Date:**	3/27/2025
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	12	2.0%	13
	Through	-	503	3.0%	511
	Right	Yes	23	0.0%	23
Opposing	Left	Yes	289	0.0%	289
	Through	-	1021	1.0%	1027
	Right	Yes	22	2.0%	23

Advancing Volume:	547
Opposing Volume:	1339
Left Turn Volume:	13
% Left Turns in Advancing Volume:	2.38%

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	289	0.0%	N/A
	Through	-	1021	1.0%	N/A
	Right	-	22	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:	13
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

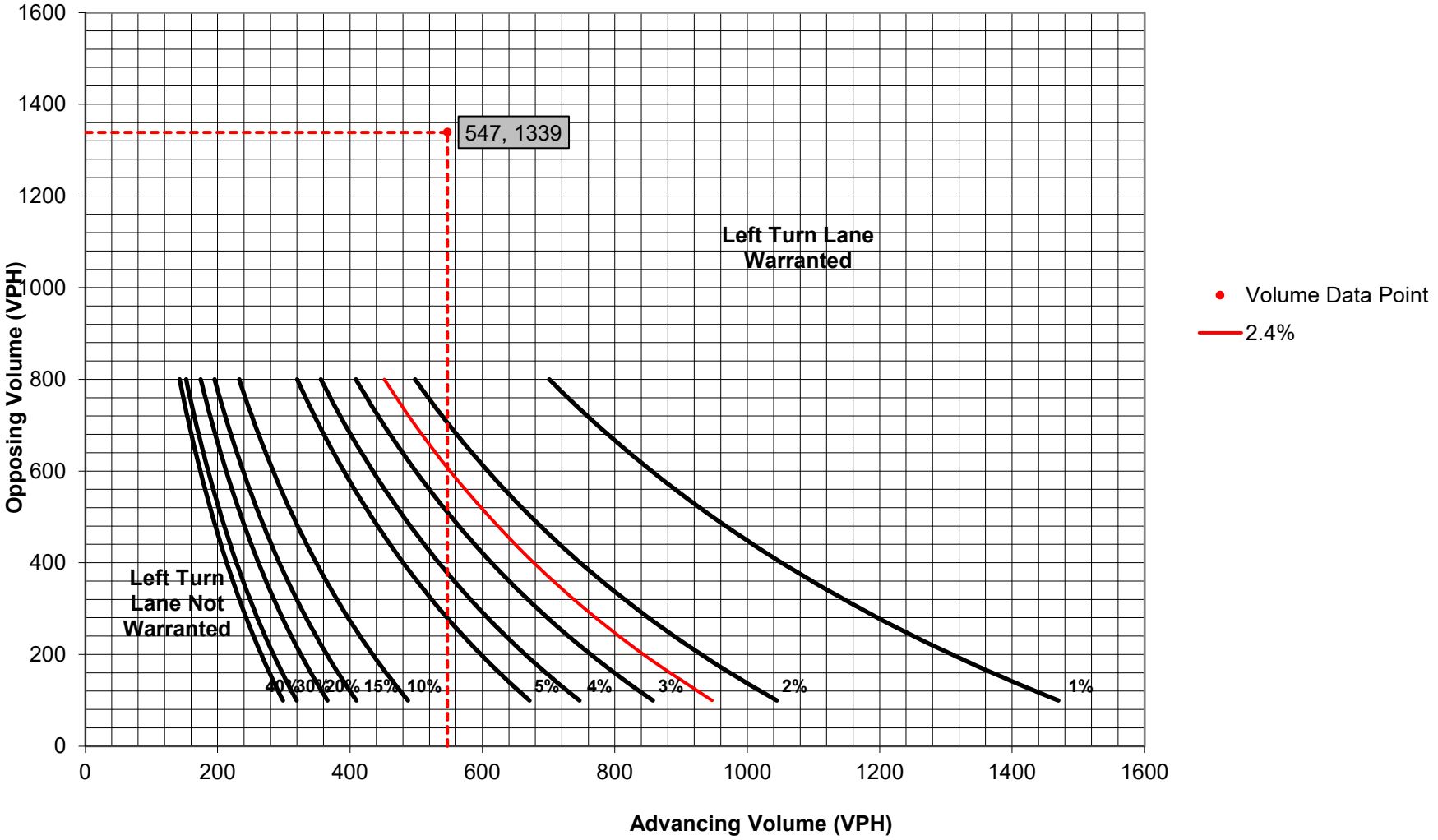
Left Turn Lane Storage Length, Condition A:	N/A	Feet
Condition B:	125	Feet
Condition C:	N/A	Feet
Required Left Turn Lane Storage Length:	125	Feet

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:**	3/27/2025
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	12	2.0%	N/A
	Through	-	503	3.0%	N/A
	Right	Yes	23	0.0%	N/A
Opposing	Left	Yes	289	0.0%	N/A
	Through	-	1021	1.0%	N/A
	Right	Yes	22	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	289	0.0%	289
	Through	-	1021	1.0%	1027
	Right	-	22	2.0%	23

Advancing Volume:	1339
Right Turn Volume:	23

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:	23
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

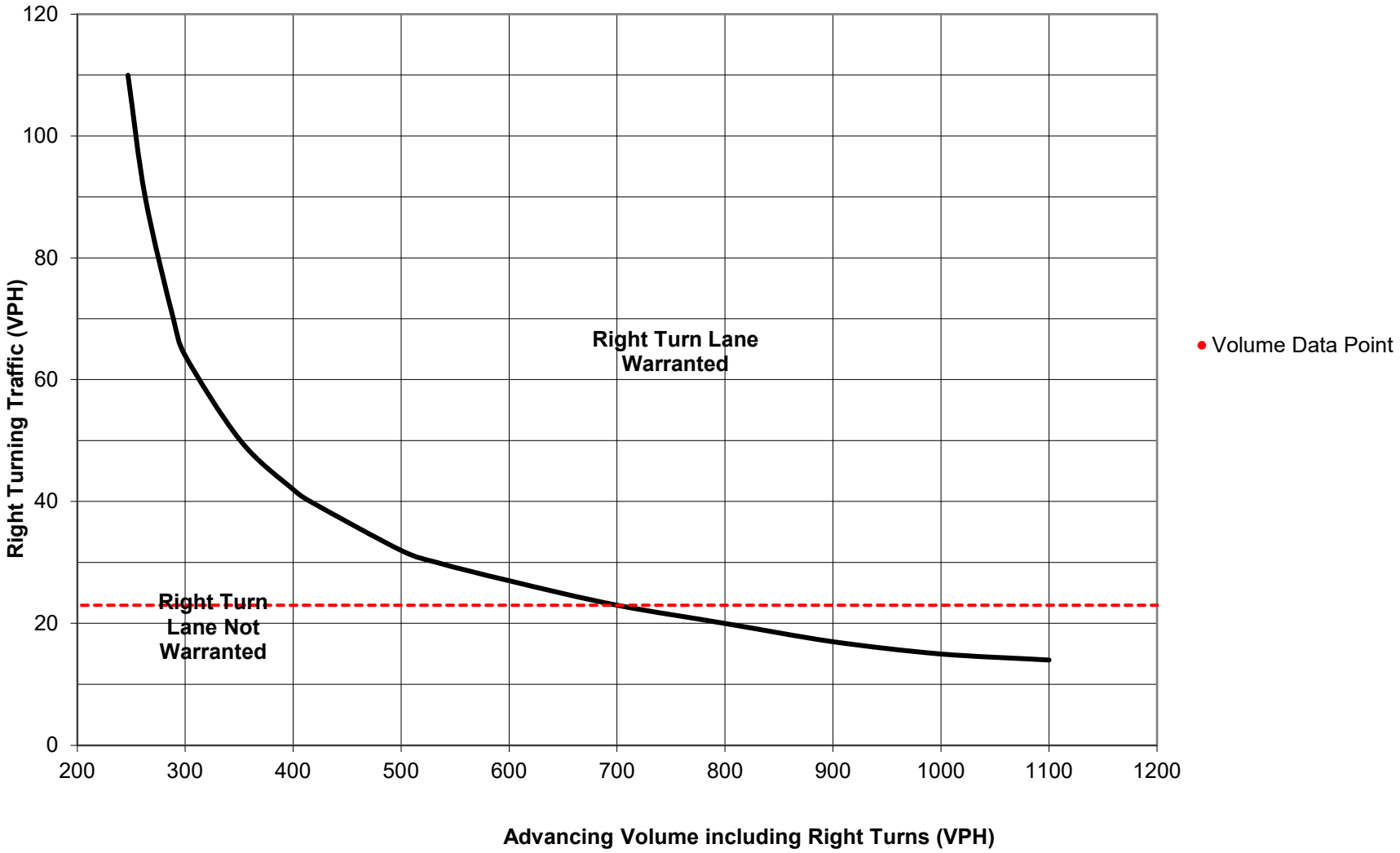
Right Turn Lane Storage Length, Condition A:	N/A	Feet
Condition B:	125	Feet
Condition C:	N/A	Feet
Required Right Turn Lane Storage Length:	125	Feet

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)



architecture
interiors
planning

Historic Resources Impact Statement

Application of Rockhill Real Estate Enterprises XVII, LP
500 Pottstown Pike

April 10, 2025

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

Mr. Scheivert,

On behalf of Rockhill Real Estate Enterprises XVII, LP, this Historic Impact Statement is submitted in connection with the proposed development of 500 Pottstown Pike ("Property"), pursuant to Section 162-9.H(5) of the Upper Uwchlan Township Subdivision and Land Development Ordinance. The Chester Springs Service Center project on the Property is proposed to be completed in a single phase, which includes the construction of a ±45,774-sf vehicular service center with associated parking areas, a trash enclosure, battery burnout shelter, and new driveway connection to Pottstown Pike. Pedestrian walkway elements, stormwater management improvements, and utility connections are also proposed as part of the development.

The viewshed from the street will include landscaping, a parking area, and the front façade of the proposed building.

There are no Upper Uwchlan Township ("Township") Historic Resources located on the Property. One Township Historic Resource, a Class II Historic Resource known as the John Keely House, identified as Township Historic Resource #30, is within 250 feet of the proposed development and is across Pottstown Pike from the Property at 210 Font Road. The John Keely House has been adaptively reused and is currently occupied by a WSFS bank branch.

The Landscape Plan included as part of the Preliminary Land Development Plan provides for retention of "as much of the existing mature and healthy vegetation along the northwestern corner of the Property as is feasible and sensible given the health of the vegetation" pursuant to Condition 4 of the Conditional Use Decision and Order dated July 15, 2024 for the proposed development. Regarding the line of sight from the John Keely House, this existing dense vegetative buffer is proposed to remain in accordance with Condition 4. Additional trees and vegetation, if necessary, will also be included as required by Condition 4. It is intended that the line of sight from the John Keeley House remains largely unchanged as result of the proposed development. With a dense vegetative buffer, it is anticipated that there is no impact to the architectural integrity, historic setting or landscape.

Additionally, the proposed building will sit roughly 100' behind the front building setback line and between 6' and 7' below street level to further reduce sightline impact to the John Keely House.

There is more than 200-feet horizontally between the proposed building and parking area and the John Keeley House. At that distance, sound decibels generated are almost halved from their source. Additionally, 500 Pottstown Pike is an active arterial roadway and due to its operation and distance to the John Keeley House, generates noise far beyond what is anticipated from the proposed Service Center.

The proposed Service Center operations are reserved for higher-end luxury vehicles and traffic generated by the new development is anticipated to generate significantly lower volume than other by-right uses in the underlying zoning district.

Mitigation measures proposed as part of this project include maintaining the existing vegetative buffer between properties, additional landscaping in the front yard of 500 Pottstown Pike, and lowering of the first floor elevation of the building to the extent practicable to further mitigate impact of the viewshed from the John Keeley House.

Thank you,



Kevin Dowell AIA, LEED AP BD+C
Kd2 architects, inc.



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

April 10, 2025

Mr. Tony Scheivert, Township Manager

Upper Uwchlan Township
140 Pottstown Pike
Chester Springs, PA 19425

RE: Upper Uwchlan Township – TIS Review
Automotive Service Center Development
Upper Uwchlan Township, Chester County, PA
TPD No. 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 November 11, 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.

VIII. TOWNSHIP TRAFFIC CONSULTANT COMMENTS – BOWMAN

1. *Conditional Use Order 2 – This condition requires the applicant to address all outstanding comments from the Township consultants during the conditional use review. The current land development submission does not include a revised traffic study, and therefore, those comments remain outstanding.*

   Response: The Traffic Impact Study has been revised and included in the resubmission package.

2. *Conditional Use Order 6 – The applicant shall install a traffic signal at the site access intersection with Pottstown Pike/Font Road. If PennDOT does not approve a traffic signal, the applicant shall install other intersection improvements to improve intersection levels of service, or restrict turning movements at the access intersection. We are not aware of any progress by the applicant to pursue signalization of the intersection. The applicant must coordinate with the Township and copy the Township on all correspondence with PennDOT.*

   Response: Per the meeting held on March 7th, 2025 between the Applicant, PennDOT and the Township a traffic signal is now being proposed at the intersection of Route 100 & Font Road/Proposed access.

3. *Conditional Use Order 7 – As required by this condition, the land development plans show a 125-*

foot southbound Pottstown Pike left-turn lane for traffic entering the site. This must also be reflected on the PennDOT Highway Occupancy Permit (HOP) and within the updated traffic study for further review.

Response: So noted. The warranted left turn lane will be included in the Land Development plans, as well as the future PennDOT HOP Plans.

4. *Conditional Use Order 8 – Subject to PennDOT approval, the plans shall be revised to show a northbound Pottstown Pike right-turn deceleration lane or taper. As detailed in this condition, the Township prefers the deceleration lane. This must be explored in more detail by the applicant, and in coordination with PennDOT as part of the HOP process. The applicant must coordinate with the Township and copy the Township on all correspondence with PennDOT. The land development plans should be revised to reflect the final access improvements subject to further evaluation and coordination with the Township and PennDOT.*

   Response: Based on the meeting held on March 7th, 2025 between the Applicant, PennDOT and the Township, it was discussed that the Traffic Study would be updated to reflect the items discussed and based on the revised analysis, the Township and the Department would review the results to determine if the proposed deceleration taper would be sufficient to serve the proposed driveway in lieu of the warranted 125' deceleration lane.

5. *Conditional Use Order 10 – As required by this condition, the land development plans should be revised to show a shared use path along the site frontage. If the applicant has any questions regarding this requirement, we recommend the applicant schedule a meeting with the Township.*

   Response: T&M to respond.

6. *Conditional Use Order 11 – As required by this condition, the applicant shall coordinate with the Township to provide a public trail on the property that would provide a connection to Fellowship Fields. If the applicant has any questions regarding this requirement, we recommend the applicant schedule a meeting with the Township.*

   Response: T&M to respond.

7. *Conditional Use Order 12 – The proposed development is located in the Township's Act 209 Transportation Service Area, and as such, this development is subject to the Township's Transportation Impact Fee of $2,334 per weekday afternoon peak hour trip.*

   Response: So noted.

TRANSPORTATION IMPACT STUDY

A revised traffic study was not provided as part of the current land development plan submission. As such, the following comments are largely carried over from the conditional use review, and modified as

appropriate based on the land development plans.

8. *ZO Section 200-75.H(3) – 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.*

   Response: A traffic signal is now being proposed in relation to the intersection of Route 100 & Font Road/Proposed access. Therefore, egress can now be made during green time provided by the signal.

9. *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.*

   Response: As requested, updated traffic counts were conducted at the intersection of Route 100 & Font Road/Proposed access on Thursday, April 18th, 2024, while schools were confirmed to be in session. The new counts were used to balance the volumes at the other two (2) study area intersections.

10. *SALDO Section 169-9.H(1)(a) – The conditional use application and the previously submitted traffic study was based on a 36,380 square-foot building; however, the land development plans show a 45,774 square-foot building. In addition, we are aware that PennDOT previously had comments regarding the trip generation calculation. The traffic study should be updated to reflect the current square footage of the building and address PennDOT's trip generation comment.*

    Response: Based on the March 7th, 2025 meeting held with PennDOT and Upper Uwchlan Township representatives, it is TPD's understanding that all parties were agreeable to trip generation methodology utilized in the TIS, specifically since the Proposed Site will service the local Porsche Dealership and not open to the public. However, the trip generation was updated to match the proposed building size depicted on the latest Land Development plans. It is TPD's opinion that the trip generation is conservative for the anticipated use.

11. *SALDO Section 169-9.H(1)(a) – The crash evaluation should be updated to include non-reportable crash data for the Pottstown Pike/Font Road intersection.*

    Response: Since Pottstown Pike (S.R. 0100) is a state-maintained roadway, TPD utilized PennDOT reportable crash data for the signal warrant evaluation, which showed zero (0) crashes during the analyzed time period. However, it should be noted that other volume-related signal warrants were satisfied at the intersection.

12. *SALDO Section 169-9.H(1)(a) – 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).*

   Response: Will comply. 12 hour traffic counts were completed, and the traffic signal warrant analyses were updated accordingly.

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.*

   Response: So noted. The TIS has been revised to show multiple volume scenarios, with and without the EB Right turn volume included, as discussed during the March 7th, 2025 meeting.

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.*

   Response: Will comply.

d. *Evaluate Warrant 7 (Crash Experience) using the non-reportable crash data.*

   Response: Since Pottstown Pike (S.R. 0100) is a state-maintained roadway, TPD utilized PennDOT reportable crash data for the signal warrant evaluation, which showed zero (0) crashes during the analyzed time period. However, it should be noted that other volume-related signal warrants were satisfied at the intersection.

e. *Evaluate Warrant PA-1 (ADT Warrant).*

   Response: It is TPD's experience that PennDOT no longer accepts this warrant to justify signalization.

13. *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 operate with delay (LOS F) during both peak hours. The traffic study also includes a gap study evaluation for this intersection. The gap study shows there are some available gaps to accommodate side street traffic, but not an excessive number of gaps. Furthermore, the gap study should be updated using the new traffic counts. However, there is no need for an updated gap study*

if a traffic signal is approved for this intersection as part of this project.

Response: This comment is no longer applicable, as a traffic signal is now being proposed at the intersection of Route 100 & Font Road/Proposed access.

14. *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.*

    Response: So noted. Will comply. A meeting was held between the Applicant, PennDOT and the Township was held on March 7th, 2025 to discuss the intersection control to be provided as part of the proposed project. During that meeting, the roundabout option was determined to be no longer viable, however, it was agreed that pending the results of the traffic signal warrant analysis, a traffic signal would be installed at the intersection of Route 100 & Font Road/Proposed access. The Traffic Study has been updated to include signalization at this intersection to be installed by the Applicant.

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

Sincerely,
TPD



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

Mhammond@TPDinc.com

Attachment: 11/11/2024 Township (Gilmore) Review

cc: Upper Uwchlan Township
PennDOT District 6-0
Project Team (via Email)
TPD File

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

November 11, 2024

File No. 23-01103

VIA E-MAIL ONLY

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

Reference: 500 Pottstown Pike – Chester Springs Service Center
Preliminary Land Development Plan
Upper Uwchlan Township, Chester County, PA

Dear Tony:

Gilmore & Associates, Inc. (G&A) is in receipt of the following documents prepared by T&M Associates, unless otherwise stated:

- "Preliminary Land Development Plans Chester Springs Service Center," consisting of thirty-five (35) sheets dated August 1, 2024.
- Waiver Request Letter dated October 3, 2024.
- Stormwater Management Report titled "Chester Springs Service Center" dated September 25, 2024.
- Letter from Riley Riper Hollin & Colagreco (RRHC) to Upper Uwchlan Township dated October 3, 2024, outlining submitted items.
- Subdivision / Land Development Application for a Preliminary Submittal.
- Act 247 County Referral form.

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

Please note that comments with a **(V)** or **(RW)** require relief from the Township Ordinances. A **(V)** denotes a variance is required, **(RW)** denotes a requested waiver, and a **(W)** denotes a waiver that may be required.

184 W. Main Street | Suite 300 | Trappe, PA 19426
Phone: 610-489-4949 | Fax: 610-489-8447
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I. OVERVIEW

The application proposes the construction of a Service Center building (±45,774 SF) with associated parking and a stormwater management basin on a 13.79-acre parcel (TMP# 32-1-34.1C). The property, currently vacant, is located at 500 Pottstown Pike in the C-3 Highway Commercial District.

II. TOWNSHIP ZONING OFFICER COMMENTS

Please provide additional information regarding the proposed "Burn Out Building".

III. CONDITIONAL USE ORDER REVIEW

1. The July 15, 2024 Conditional Use Order allows two principal uses on the property, allowing the development of a vehicular sales establishment being the storage of vehicle inventory from the sales facility located in Newton Square, and allows a vehicular service establishment. The Zoning Data table on Sheet 6 lists the proposed uses as Vehicular Service Establishment and Vehicular Sales. Per Conditions of Approval #3, "Vehicular Sales Establishment" shall be revised to include "the storage of vehicle inventory for off premises vehicular sales." The full Conditional Use Order, the date of the Order, and the Conditions of Approval shall be listed (verbatim) on a Record Plan.

2. Per Conditions of Approval #4, the landscaping plan shall retain as much of the existing mature and healthy vegetation along the northwestern corner of the Property as is feasible and sensible given the health of the vegetation. If necessary to provide an effective buffer of the development from Pottstown Pike and the John Keely House, the landscaping plan shall add additional trees and vegetation to this area so that there is a landscape buffer along Pottstown Pike in this location. We note that disturbance is proposed at the northwestern front of the site in an area that is indicated as "Wooded Areas to Remain and be Protected" (Sheet 5). Plans shall be revised to demonstrate compliance with this condition of the approval.

3. Conditions of Approval #10 requires a shared use path or sidewalk along the property's Pottstown Pike frontage, and Conditions of Approval #11 requires that an attempt be made to provide a location for a public trail to provide a connection to the trails at the Township's Park at Fellowship Road. Nothing is shown on the plans per these requirements.

4. Conditional Use Condition of Approval #13 requires an entrance feature consistent with other entrance features in the vicinity of the property. Currently no site signage is shown; the plans shall be revised to be in accordance with this Condition of Approval.

IV. TOWNSHIP ENGINEER'S COMMENTS – ZONING ORDINANCE GILMORE & ASSOCIATES

1. Add "Record Plan Sheet __ of __" to all sheets to be recorded.

2. Section 200-34.C – Show the required front, side and rear yard setbacks with dimensions (i.e., show the building envelope). Show the full extents of the tract on the Record Plan (Sheet 6). We note yard setbacks lines are shown on the Grading Plan (Sheet 7) with "Exception – 20" noted on all; this shall be clarified.

3. Section 200-41.A – Public sewer and water are required for any use permitted in this district, if available. Add a note to the Zoning Data table stating that the site will be served by public sewer and water.

4. Section 200-73.B(2)(a) – Access areas shall be clearly delineated by signs and pavement markings noting use restrictions. Clarify how the Loading Area meets this requirement.

5. Section 200-73.B(3) – Pedestrian paths shall be provided from the parking areas to the entrances of buildings and adjacent street sidewalks. Pedestrian walks crossing any parking and driveway aisles shall be delineated by either stripes or a different paving material.

6. Section 200-73.C(1) – Parking spaces for each vehicle shall be at least nine feet by 18 feet in size. Provide a typical parking space dimension.

7. Section 200-73.C(3) – The aisle width shall be 25-feet; verify that the entrance aisle meets this requirement (at narrowest point near the 11'R curb).

8. Section 200-73.D(4) – Parking spaces shall be clearly delineated by suitable markings. Special use spaces such as short-term visitor parking, and pick-up/drop-off zones shall be differentiated from long-term parking by suitable signing and markings. Clarify how this requirement is met.

9. Section 200-73.D(5)(a) – Based on the number of proposed parking spaces (358), eight (8) accessible spaces are required. The plan shows 5 accessible parking spaces. The Zoning Officer should confirm how many spaces are required for these uses.

10. Section 200-73.H(1) – There shall be sufficient parking spaces provided for each use by the application of the appropriate formula for each use as listed in this subsection. In the case of mixed uses, the total number of required parking spaces shall be the sum of the required spaces for the various uses computed separately. The Parking/Loading Requirements table correctly indicates that 114 parking spaces are required for the vehicle service use. The table also lists that zero (0) spaces are required for vehicle sales use. A total of 358 spaces are provided (244 "extra"). We have no objection to the applicant providing more parking spaces than required.

11. Sections 200-107.B(1) and 200-107.C(1) – The Steep Slopes shall be shown on the plan. Currently none are shown / indicated / highlighted / hatched / included in any Legend. Note that General Notes #7 on Sheet 4 references a sheet presumably not part of the submitted set. Any grading associated with the current application shall be shown only on the submitted plan set. Remove General Notes #7 on Sheet 4. Once Steep Slopes have been shown, further comments may be forthcoming.

12. Section 200-107.C.(2) – Although conditional use was granted to allow the disturbance of steep slopes, they still need to be indicated on the plans. Currently, they are not delineated. Please revise the plans to indicate steep slope locations as shown on the conditional use plan.

13. Section 200-107.D.(2) – The application proposes disturbance of prohibitive steep slope areas which requires a variance from the Zoning Hearing Board. This variance was granted on October 11, 2024; the Order should be listed (verbatim) on the Record Plan.

14. 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.

V. TOWNSHIP ENGINEER'S COMMENTS – SUBDIVISION & LAND DEVELOPMENT ORDINANCE GILMORE & ASSOCIATES

1. Sections 162-9.B(1)(b) and 162-9.B(2)(b)[7] – Dimensions shall be set and curves shall be described as outlined in this section, shall be prepared and certified by a registered professional land surveyor, and shall be shown on a Record Plan.

2. Section 162-9.B(1)(d) – Provide Legends on each plan sheet and verify that all features are included with matching line types / symbols. The Standard Legend on Sheet 2 should be expanded.

3. Section 162-9.B(2)(b)[9] – The names of all owners and deed book reference of all adjacent lands and the locations and dimensions of any streets or right-of-way easements shall be provided on a Record Plan. Currently this information is only provided on the Existing Conditions Plan (Sheet 3) and the Conservation Plan (Sheet 4).

4. Section 162-9.B(2)(b)[10] – Significant features within 100 feet of any part of the property proposed to be developed or subdivided should be shown on the plans. This may be addressed by adding an aerial photograph of the subject property and surrounding area with sufficient clarity to see existing features to the plan set.

5. Section 162-9.B(2)(b)[12] – Any proposed improvements requiring a permit from the U.S. Army Corps of Engineers or the Pennsylvania Department of Environmental Protection shall be so indicated.

6. Section 162-9.B(2)(c)[18] – Building setback lines along each street, minimum side and rear yard shall be shown. Verify that this information is shown on the Site Plan (Sheet 5).

7. Sections 162-9.D(1)(d) and (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. Appendix H of the stormwater report contains a Waters and Wetland Assessment Parcel 32-1-34.1C 500 Pottstown Pike, prepared by T&M Associates and dated

September 2023, Revised June 2024 & July 2024. General Notes #10 (Sheet 4) states that watercourses and wetlands shown are under review by the US Army Corps (PJD Application NAP-2009-01363-100). This note shall be on a Record Plan, updated cite required information on the Assessment, and shall include the date of the JD (when obtained). Wetlands shall be clearly indicated on all plan view sheets, with Legends defining all wetland flag / data point symbols. We recommend that General Notes #1 regarding wetlands on Sheet 8 be removed.

8. Sections 162-9.E(1)(b), (c), (e), (f) and (g) – The Conservation Plan (Sheet 4) shall show all applicable items from these sections.

9. Section 162-9.G – The applicant shall provide a "will serve" letter from Aqua.

10. **(RW)** Section 162-9.H(5) – An historic resources impact statement is required when land development plans which will lead to the new construction of buildings, structures, roads, driveways, parking area, etc. is proposed within 250 feet of an historic resource. The site is within 250 feet of the "John Keeley House"; the applicant is requesting a waiver from providing a Historic Resource Impact Study.

11. Section 162-9.H.(4) – The Fiscal Impact Study shall be revised per comments in the CU review letter dated April 8, 2024.

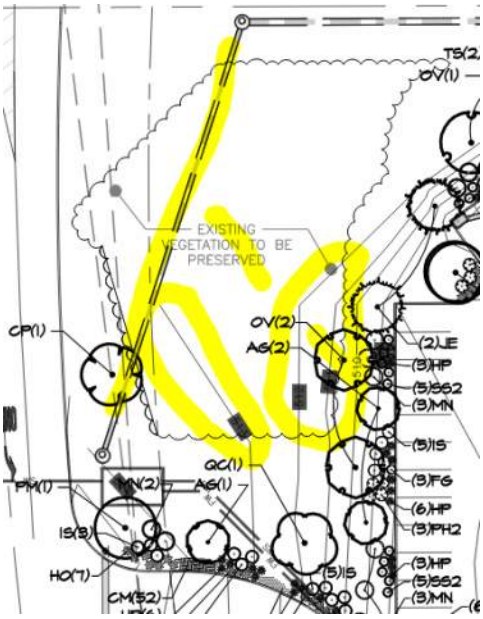
12. Section 162-47.A(1) – Permanent stone or concrete monuments shall be accurately placed at the intersection of all lines forming angles and at changes in directions of lines in the boundary (perimeter) of the property being subdivided. Currently rebar is proposed.

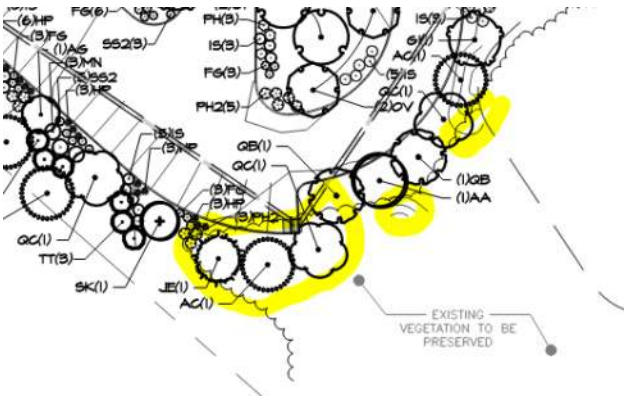
13. Section 162-47.A(4) – All streets shall be monumented on the right-of-way line at the following locations: at each intersection and at each end of each curved street line. Currently rebar is proposed at each right-of-way intersection with property lines.

14. Section 162-52 – Upon completion of other 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. A note shall be added to the plans stating same.

15. **(RW)** Section 162-55.B(3)(a) – Woodland and hedgerow disturbance in excess of 10,000 square feet of existing area of woodland or hedgerow for each principal use permitted on any lot or tract shall require woodland replacement in accordance with Subsections B(6) through B(9). The plans show that 39,462 SF of existing woodland is proposed for disturbance. A waiver is being requested from Section 162-55.B to the extent required to provide a fee in lieu of required plantings. We note that the Landscape Requirements Table SALDO on Sheet 18 states "replacement requirements listed below", but there does not appear to be a quantity provided. The number of required replacement trees shall be provided. Finally, the table does not indicate a Waiver is being requested from this section, which shall be verified. The waiver request from Section 162-55.B should be revised to indicate specific subsections.

16. Section 162-55.B(5)(a) – Revise the Landscape Plan (Sheet 10) to include tree protection fencing. The Tree Protection and Pruning detail as well as the Orange Construction Fence / Tree Protection Fence (TPF) detail shall be added to the Landscaping notes and details sheet. The Tree Protection and Pruning detail indicates that the TPF is to be installed 15-feet from the tree trunk or 2-feet beyond the dripline of the tree. Tree Protection Notes #4 (Sheet 19) states that feeder roots of trees to be preserved shall not be cut closer than 25-feet from tree trunks. Therefore, we recommend that if accurate driplines are not shown, the TPF be shown a minimum of 25-feet from all trees to remain (conversely, show a minimum 25-foot separation between disturbance and TPF /vegetation to remain). Trees are shown to remain / be protected in the NW front/side of the site where stormwater features and grading are shown; on the southern side of the parking lot grading and plantings are shown in an area of existing vegetation to be preserved. These areas (see snippets below) shall be revised accordingly. Finally, note that if the woodland / hedgerow disturbance area increases, all replacement tree quantities should be increased.





17. **(RW)** Section 162-55.B(6) – Where woodland or hedgerow disturbance involves more than the maximum area permitted, one tree and two shrubs shall be planted for each 300 square feet of woodland or hedgerow disturbance area, in excess of the maximum permitted area of disturbance. A waiver is being requested from Section 162-55.B to the extent required to provide a fee in lieu of required plantings. The Landscape Requirements Table SALDO on Sheet 18 indicates "Yes" to Waiver, and that 99 trees and 197 shrubs are required.

18. **(RW)** Section 162-55.B(7) – In addition to the vegetation replacement standards established in B(6), for each tree greater than six inches dbh removed, replacement trees shall be planted based on the requirements in this section. A waiver is being requested from Section 162-55.B to the extent required to provide a fee in lieu of required plantings; the Landscape Requirements Table on Sheet 18 indicates "Yes" to a waiver from this section. Per Section 162-9.E(1)(c), specimen trees and individual freestanding trees over six inches dbh should be shown on the plans. However, no sizes of existing trees are noted on the plans; verify whether any trees greater than six inches dbh exist.

19. Section 162-55.B(12) – In lieu of actual tree replacement, the Township may, at its sole discretion, require the applicant to place the equivalent cash value, as agreed upon by the Township and the applicant, of some or all of the required replacement trees into a special fund established for that purpose. Such funds shall be utilized for the purchase and installation of trees elsewhere in the Township at the discretion of the Township, especially if the site in question cannot accommodate the replacement trees required pursuant to this chapter.

20. Section 162-55.C(1) – No wetlands or watercourses shall be regraded, filled, piped, diverted, channeled, built upon, or otherwise altered or disturbed except where all applicable state or federal permits have been obtained. General Notes #9 (Sheet 4) indicates ephemeral watercourses on site are proposed to be filled and a Chapter 105 Waiver will be sought. The Township should be copied on all correspondence and the waiver, when obtained, should be noted on the Record Plan.

21. Section 162-55.C(4) – All applicants shall specify the long-term management provisions that will be established for any wetlands or watercourse area, developed to minimize future land disturbance to the wetlands or watercourse area and improve the area's ecological functions and values as needed. Such management provisions shall be indicated in narrative and/or graphic form of sufficient detail to satisfy the Township that the issues in this section are adequately addressed.

22. Section 162-55.D(1)(d) and 162-55.D(2) – No structures shall be placed within any riparian buffer area, and no land disturbance shall be permitted within any riparian buffer area except for regulated activities permitted by applicable state or federal regulations, and, as applicable, in accordance with Subsection **C** of this section. A waiver from Chapter 105 is being sought to permit the proposed filling of wetlands; however, the plans show other wetlands as well as what appears to be Waters of the Commonwealth, i.e., shows with "WC#" symbols which should be clarified. Riparian buffer area is defined as any area within 75 feet of the bank of any stream, any wetlands and any area within 25 feet of any wetland; and any area of hydric soil. The plans shall be revised to show all applicable

riparian buffers; no structures or land disturbance (including plant-related disturbance) is permitted within this buffer.

23. Section 162-57.A(2) – The entire perimeter of any tract subject to land development approval shall include a minimum 20-foot-wide perimeter buffer planting strip which will act as an effective separation between uses. The width of the proposed buffer along the northern property line appears to be less than required with only shrubs proposed along the property line. We note that the Landscape Requirements Table SALDO on Sheet 18 indicates "Yes" to Waiver; however, this section is not listed in the Waiver Request Letter.

24. **(RW)** Section 162-57.D(1) – All required landscaping shall meet the minimum planting requirements outlined herein. A waiver is being requested to permit providing less than the required number of plantings and we note that the Landscape Requirements table indicates that 198 deciduous trees, 180 evergreen trees and 896 shrubs are required, and that 99 deciduous trees, 54 evergreen trees and 728 shrubs are proposed.

25. Section 162-58.C(1) Illumination levels. The concrete area at the southwest corner of the proposed service center building does not appear to be adequately illuminated for pedestrian circulation around the building/entrance. The plan shall be revised.

26. Section 162-58.C(2)(h) – Requires that LED light sources have a color temperature that does not exceed 3000K in commercial and industrial districts. It is noted that proposed lighting has a color temperature of 4000K. The plan shall be revised.

27. Section 162-58.C(3)(d) – Requires lighting for commercial, industrial, public recreational and institutional applications to be controlled by automatic switching devices to extinguish outdoor lighting fixtures during the hours of 11:00 p.m. and dawn, or to only have lighting on when motion is detected. It is noted the Lighting Plan does not provide any information regarding hours of illumination. Additional information shall be provided.

28. Section 162-58.C(4)(b) – Requires that poles for lighting fixtures for parking areas be located a minimum of five feet outside paved area or on concrete pedestals at least 30 inches high above the pavement, or suitably protected from potential vehicular impact. The Light Base detail provided on Sheet 20 Lighting Details specifies a height of only 2'-0" for lights within 5' of vehicular traffic. The detail shall be revised.

29. Section 162-58.D(1)(a) – Requires the lighting plan to show vegetation that might interfere with lighting. It is noted that the proposed vegetation is not shown on Sheet 11 Lighting Plan, however in comparison to Sheet 10 Landscape Plan, it appears there may be multiple conflicts between proposed vegetation and lighting. The plan shall demonstrate that landscape and lighting have been coordinated.

30. Section 162-58.D(1)(c) – Requires that fixture catalog cut sheets be provided. It appears that the fixture cut sheets provided on Sheet 20 Lighting Details do not coordinate with the catalog numbers of the fixtures listed in the Luminaire Schedule on Sheet 11 Lighting Plan. Cut sheets for all proposed fixtures shall be provided.

31. Section 162-58.D(4) – Requires that the following note be placed on the lighting plan: "Post approval alterations to lighting plan or intended substitutions for approved lighting equipment shall be submitted to the Township for review and approval prior to installation."

VI. TOWNSHIP ENGINEER'S COMMENTS – STORMWATER MANAGEMENT ORDINANCE GILMORE & ASSOCIATES

1. Section 152-301.H – Drainage facilities located on the site shall be designed to safely convey flows from outside of the site through the site. Currently the plans show an existing 24-inch CIP ("silted") and a 15-inch CCP discharging onto the site; these pipes are proposed to connect into the [bypass] site collection system (via proposed storm MHs A9 and A10). However, no upstream structures draining to the 15-inch CCP are shown (whereas two inlets are shown that drain through the 24-inch CIP). Note that there are multiple existing inlets that drain to these discharge points that should be shown on the plans. Also, there are existing inlets farther south on Pottstown Pike that may also discharge to the site; this shall be verified. The full DA to these structures shall be shown on the DA maps. Finally, we note that while "ex-struc1" and "ex-struct2" are shown in the Node Summary (Appendix E in stormwater report), it appears that no flow was modeled to MH A10 but flow is indicated to MH A9; these shall be verified. A view from the Township's MS4 Map showing existing inlets in this area is below (for reference).



2. Section 152-301.M – Existing wetlands, either on the site or on an adjacent property, shall not be used to meet the minimum design requirements for stormwater management or stormwater runoff

quality treatment. Stormwater discharges to existing wetlands shall not degrade the quality or hydrologic integrity of the wetland. DP-001 is located offsite, within an area of existing wetlands. Clarify why DP-001 is not located along the LOD (possibly HW A).

3. Section 152-301.N(3) and (11) – Specific structural or pollution prevention practices may be required, as determined to be necessary by the municipality, to pretreat runoff from hotspots prior to infiltration. Proposed possible hotspots include vehicle service and maintenance facilities and facilities that generate or store hazardous materials (battery burnout structure). Verify how neither will contribute to runoff pollution. Water quality inserts appear to be proposed in some inlets; clarify whether proposed in all (if not, provide in all). Verify that these inserts deal with expected pollutants. Provide a detail of the burnout structure.

4. Section 152-301.O – Where BMPs may contribute to the migration of contaminants in groundwater, the water quality and runoff volume, stream channel protection, and peak rate control standards shall be met; however, at the municipality's discretion, the minimum infiltration requirement may be reduced or eliminated commensurate with the contaminated area and the required water quality and runoff control measures may be increased to mitigate the reduced infiltration requirement for the contaminated area. The stormwater report's Environment Conditions notes that a previously completed Phase I indicates that soils contaminated with petroleum remain on the site, i.e., an Historically Recognized Environmental Condition exists on the site. Please provide a copy of the Phase I study for review.

5. **(RW)** Section 152-301.T – Disturbance of existing ground cover during construction of the proposed regulated activity is prohibited within 75 feet of top-of-bank of all perennial and intermittent waterways, water bodies (lakes, ponds, etc.) and wetlands, except for activities otherwise approved by state or local agencies (e.g. stream restoration projects, road crossings, subsurface utility projects, etc. The plans show disturbance less than 75-feet from wetlands, and also shows areas of wetlands to be removed/filled. The applicant is seeking a waiver from this requirement. Per Section 152-111.C, the Board of Supervisors cannot grant a waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one acre unless that action is approved in advance by PADEP or the Chester County Conservation District. Please provide approval from PADEP or the Chester County Conservation District for the Boards consideration.

6. Sections 152-302.A and C – Permits for all regulated activities subject to permit or regulatory requirements by PADEP under regulations at Title 25 Pennsylvania Code Chapter 102 and any BMP or conveyance that would be located in or adjacent to surface waters of the commonwealth, including wetlands, subject to permit by PADEP under Title 25 Pennsylvania Code Chapter 105 are required prior to construction.

7. Section 152-303.A(1) – A "letter of adequacy" from the Conservation District and an NPDES permit are required for the project. Copies of all correspondence shall be provided to the Township.

8. Section 152-305.A – The post-construction total runoff volume shall not exceed the predevelopment total runoff volume for all storms equal to or less than the two-year, twenty-four-hour duration

precipitation (design storm). Infiltration is not proposed, as the testing showed the site does not infiltrate. Please provide verification the required volume will be managed by the MRC Basin.

9. **(W)** Section 152-306.D – Only if a minimum infiltration of the first ½ inch of runoff volume cannot be physically accomplished on the site, shall a waiver from Section 152-306 be considered by the municipality in accordance with Section 152-111 (the Board of Supervisors cannot grant a waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one acre unless that action is approved in advance by PADEP or the Chester County Conservation District). Infiltration testing indicates the site does not infiltrate. Please provide approval from PADEP or the Chester County Conservation District for the Boards' consideration.

10. Section 152-306.D(1)(b) – For regulated activities involving new development the applicant shall utilize the ground cover assumptions for all other areas than woods (including all impervious surfaces), predevelopment calculations shall assume ground cover of "meadow" for all predevelopment peak flow rate calculations. The stormwater report uses "paved parking" CN value for the DIST watershed which shall be revised accordingly.

11. Section 152-311.G(6) – At all inlets or manholes, the maximum allowable headwater depth shall be one foot below the top of the inlet grate of the manhole cover. Once the upstream drainage area has been verified, compliance can be determined.

12. **(W)** Section 152-311.H(1) – The maximum depth of water in a detention or retention basin shall be two feet as a result of a 2-year, twenty-four-hour storm event and five feet as a result of a 100-year, twenty-four-hour storm event. The plans and report indicate there will be a permanent water depth in the basin of five feet, with a total depth of 6.65-feet during the 2-yr. storm event and a total depth of 8.48-feet during the 100-yr. storm event. Therefore, the water depth maximums have been exceeded and a waiver will need to be sought. In accordance with Section 152-111, the Board of Supervisors cannot grant a waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one acre unless that action is approved in advance by PADEP or the Chester County Conservation District. Please provide approval from PADEP or the Chester County Conservation District for the Boards' consideration.

13. Section 152-311.H(3) – Emergency spillways for facilities which may attenuate more than three feet of water, shall be paved with concrete monoslab pavers which shall run off the sides and down each side of the berm. Revise the spillway detail accordingly.

14. Section 152-311.H(5) – The maximum slope of earthen detention basin embankments shall be three to one. Provide a typical slope label on the Grading Plan.

15. Section 152-311.H(6) – The minimum top width of detention basin berms which may attenuate greater than three feet of water, shall be 10 feet. Berms shall be constructed of clay and shall have a key cut into virgin soil. Provide dimensions and / or details as needed to verify compliance.

16. Section 152-311.I(7) – Fencing shall be required around all basins where water may attenuate greater than three feet. All fencing shall be at least 3½ feet in height. Show the fencing on the plans and provide a detail.

17. Section 152-402.A(2) – The PCSM plan shall include a listing of all regulatory approvals required for the proposed project and the status of the review and approval process for each. Final approval or adequacy letters must be submitted to the municipality prior to (or as a condition of) the municipality's issuing final approval of the SWM site plan. Proof of application or documentation of required permit(s) or approvals for the programs listed below shall be part of the SWM site plan, if applicable.

18. Sections 152-402.A(3) to A(5) – The statements / signature blocks in these sections are currently located on Sheet 1 and shall be relocated to the PCSM plan (Sheet 28).

19. Section 152-402.B(8)(j) – The Areas classified by the municipality as steep slopes shall be shown on the PCSM plan.

20. Section 152-402.B(8)(q) – Boundaries of a seventy-five-foot construction non-disturbance buffer to protect streams (intermittent and perennial), wetlands and other water bodies during construction of the proposed regulated activity shall be shown on the PCSM plan. We note the applicant is requesting a waiver from this requirement in Section 152-301.T.

21. Sections 152-402.B(12), 152-402.B(18)(b) and 152-702.A(5) – The total extent of the upstream area draining through the site shall be shown. Delineation of the land area, structures, impervious surfaces, and conveyances draining to and from the BMP or conveyance shall be shown. Flow onto the site needs to be verified as existing inlets that discharge onto the site are not included.

22. Section 152-402.B(13) – Complete delineation of the flow paths used for calculating the time of concentration for the predevelopment and post-construction conditions shall be included. Verify that the Tc path is shown correctly on the Proposed Drainage Area Map, as it appears incorrect.

23. Sections 152-402.B(18)(c), 152-702.A(10), 152-704.A and 152-704.B – Verify that all proposed easement information is shown. We recommend that a blanket easement be provided, which should be noted on the Record Plan as well as the PCSM Plan.

24. Section 152-402.F – The documents outlined in this section shall be prepared and submitted to the municipality for review and approval as part of the SWM site plan for each BMP and conveyance included in the SWM site plan. Verify that all applicable items are provided.

25. Section 152-404.H – All of the final approved SWM site plans shall be recorded (as "recorded plans") per the instructions of the municipality. For clarity we recommend a notation be added to the plans stating which SWM plans are to be recorded.

26. Sections 152-701.D, 152-701.E, 152-701.F and 152-703 – All agreements and plans (i.e., O&M agreement, O&M plan, deed restrictions, right of entry, covenants, etc.) shall be provided for approval and recorded as outlined in these sections.

27. Sections 152-702.B(4), 152-702.C , 152-702.D, and 152-702.E – The statements in these sections shall be provided on the PCSM Plan (Sheet 18).

28. Section 152-705.B – 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. Add a note to the PCSM plan (Sheet 18) stating same.

29. Sections 152-804.A and 152-804.B – The statements in these sections shall be added as notes to the PCSM plan (Sheet 18).

30. On the Inlet DA Map, verify “DA I-1.15 OFF” and “I-1.16 OFF” as they appear incorrect (exclude upstream DA). On the Proposed DA map, verify OFFSITE BASIN 1 as it appears incorrect.

31. The existing pipes’ INV IN shall be added to the MH A9 and A10 labels on the Grading Plan (Sheet 8).

32. Verify that the existing pipes and structures to MH A9 and MH A10 are shown on the PCSM Plan (Sheet 28).

33. The DA “UNM” appears to be missing the area between the EW and the upstream MH, which shall be revised.

34. Revise the Inlet DA map to show the DA label for I-1.15 (currently “under” other text).

35. The UNDIST1 BASIN1 area shall be revised to reflect the actual tree clearing required.

36. Verify which inlets are proposed to have water quality inserts; PCSM Plan (Sheet 28) indicates some inlets with a “B” designation, whereas the PCSM Legend shows a symbol for these inserts which is shown on every proposed inlet.

37. We recommend the Basin be routed a one BMP, i.e., without separately routing the Forebay.

38. Provide details for the Basin 1 Forebay spillway.

39. Provide dimensions and elevations on the Grading and PCSM plans for the Basin 1 Forebay spillway and provide dimensions on the Basin 1 Constructed Wetland Basin spillway.

40. Clarify modeling the pipe from EW A1 into OS A2 as an outlet device.

41. Provide “T” in the Spillway detail (Sheet 29).

42. Clarify where the dimensions for the grate opening (top) on the Constructed Wetlands Basin Outlet Structure are shown (Pond 7P Basin 1 CW indicates a 24”x48” grate / TG).

43. Provide additional proposed contour elevations in the Basin 1 Forebay on the Grading Plan (Sheet 7) and verify the grading matches the PCSM plan.

44. Revise the alignment of HW A1 to be in line with the pipe or revise the alignment of the pipe to be in line with HW A1.

45. Revise BMP Specifications (Sheet 30) to provide the actual proposed plantings on the plans.

46. Verify the contours vs. the “dark lines” between the labeled 489- and 491-contours in the Forebay on the Constructed Wetland Basin Plan View (Sheet 31). Also note that the labeled 491-contour is also a “dark line.”

47. Clarify whether the Summary for Pond 5P: CW Below SW includes the permanent water in the Forebay.

48. Verify the “Spillway” from OCS A2 to HW A1 on the Constructed Wetland Basin Cross Section (Sheet 31) as it does appear correct.

VII. TOWNSHIP ENGINEER’S COMMENTS – GENERAL GILMORE & ASSOCIATES

1. Trees are planted less than 4-feet from retaining walls in numerous locations, located less than 10-feet from utilities (storm, sanitary, etc.) in several locations, and are on the UGE utility line between Pottstown Pike and the parking, all of which should be revised.

2. The Demolition Plan (Sheet 5) shows disturbance (removal of an existing 6-inc DIP) beyond the wetland protection fence, which shall be verified / revised.

3. The retaining wall is over 4-feet in height; engineered design drawings and details are required. General Notes #2 (Sheet 8) states the contractor to refer to retaining wall plans by others for storm conveyance penetration details; this note shall be on the Record Plan and shall reference the retaining wall plans and calculations (i.e., by title / preparer and note latest approved [revision] date).

4. Based on proposed stormwater structure depths (i.e., MH A9 and MH A8 less than 3-feet from property line), it appears that grading may occur on the northern adjacent property; this shall be verified.

5. We recommend that the Landscape Notes & Details sheet and the Lighting Details sheet be located sequentially with the Landscape Plan and Lighting Plan.

6. There are General Notes included on many plan sheets; these Notes should be organized and on appropriate sheets. Examples are as follows:

   a. Site Data & Notes (Sheet 2) should be located on a Record Plan;

   b. Grading Notes #25 (Sheet 2) and General Demolition Notes #16 (Sheet 5) state "Refer to Site / Record Plan for additional notes"; however, there are no notes on the Site Plan (Sheet 6);

   c. Title Exceptions (Sheet 3) should be on a Record Plan;

   d. General Notes (Sheet 4) shall be on a Record Plan;

   e. General Notes #6 (Sheet 4) should be removed as alterations to existing site should be shown on the submitted plans;

   f. General Notes #8 (Sheet 4) should be removed as erosion and sedimentation compliance should be shown on the submitted plans.

VIII. TOWNSHIP TRAFFIC ENGINEER'S COMMENTS BOWMAN

Conditional Use Order

1. Conditional Use Order 2 – This condition requires the applicant to address all outstanding comments from the Township consultants during the conditional use review. The current land development submission does not include a revised traffic study, and therefore, those comments remain outstanding.

2. Conditional Use Order 6 – The applicant shall install a traffic signal at the site access intersection with Pottstown Pike/Font Road. If PennDOT does not approve a traffic signal, the applicant shall install other intersection improvements to improve intersection levels of service, or restrict turning movements at the access intersection. We are not aware of any progress by the applicant to pursue signalization of the intersection. The applicant must coordinate with the Township and copy the Township on all correspondence with PennDOT.

3. Conditional Use Order 7 – As required by this condition, the land development plans show a 125-foot southbound Pottstown Pike left-turn lane for traffic entering the site. This must also be reflected on the PennDOT Highway Occupancy Permit (HOP) and within the updated traffic study for further review.

4. Conditional Use Order 8 – Subject to PennDOT approval, the plans shall be revised to show a northbound Pottstown Pike right-turn deceleration lane or taper. As detailed in this condition, the Township prefers the deceleration lane. This must be explored in more detail by the applicant, and in coordination with PennDOT as part of the HOP process. The applicant must coordinate with the Township and copy the Township on all correspondence with PennDOT. The land development plans should be revised to reflect the final access improvements subject to further evaluation and coordination with the Township and PennDOT.

5. Conditional Use Order 10 – As required by this condition, the land development plans should be revised to show a shared use path along the site frontage. If the applicant has any questions regarding this requirement, we recommend the applicant schedule a meeting with the Township.

6. Conditional Use Order 11 – As required by this condition, the applicant shall coordinate with the Township to provide a public trail on the property that would provide a connection to Fellowship Fields. If the applicant has any questions regarding this requirement, we recommend the applicant schedule a meeting with the Township.

7. Conditional Use Order 12 – The proposed development is located in the Township's Act 209 Transportation Service Area, and as such, this development is subject to the Township's Transportation Impact Fee of $2,334 per weekday afternoon peak hour trip.

Transportation Impact Study

A revised traffic study was not provided as part of the current land development plan submission. As such, the following comments are largely carried over from the conditional use review, and modified as appropriate based on the land development plans.

8. ZO Section 200-75.H(3) – 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.

9. 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.

10. SALDO Section 169-9.H(1)(a) – The conditional use application and the previously submitted traffic study was based on a 36,380 square-foot building; however, the land development plans show a 45,774 square-foot building. In addition, we are aware that PennDOT previously had comments regarding the trip generation calculation. The traffic study should be updated to reflect the current square footage of the building and address PennDOT's trip generation comment.

11. SALDO Section 169-9.H(1)(a) – The crash evaluation should be updated to include non-reportable crash data for the Pottstown Pike/Font Road intersection.

12. SALDO Section 169-9.H(1)(a) – 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).

13. 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 operate with delay (LOS F) during both peak hours. The traffic study also includes a gap study evaluation for this intersection. The gap study shows there are some available gaps to accommodate side street traffic, but not an excessive number of gaps. Furthermore, the gap study should be updated using the new traffic counts. However, there is no need for an updated gap study if a traffic signal is approved for this intersection as part of this project.

14. 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.

Land Development Plans

15. ZO Section 200-75.H(3) – The limits of the plan information along Pottstown Pike should be expanded to show the full extent of the labeled sight distances. As currently shown, we are unable to verify whether the sight distance lines are shown correctly. In addition, the plans should dimension and label the sight distances for left-turn vehicles entering the proposed driveway looking ahead and behind. Furthermore, 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."

16. SALDO Section 162-28.A – The plans should clearly label and dimension the existing legal right-of-way along the Pottstown Pike site frontage.

17. The Township's Active Transportation Plan 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 part of the other trail and path comments as described in the conditional use decision.

18. Detailed curb ramp designs for all proposed curb ramps located within public right-of-way or for public use 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.

19. ZO Section 200-73.H and 200-73.K – According to the parking/loading requirements table on sheet 6, the site requires 114 parking spaces, including 52 spaces for stored vehicles. By comparison, the plans show 358 parking spaces, which exceeds the parking supply requirement by 244 parking spaces. The plans also show there are 87 triple stacked parking spaces, which if used for storage, would indicate it is proposed to store more than 52 vehicles on the site at one time. However, we understand from the conditional use hearing that the applicant has future plans for a phase 2 development, which is not the subject of the current land development application; however, this phase 2 development will also include car sales for which additional parking will be needed, and is the reason for the excess parking supply provided on the current land development plans.

20. Since retaining walls are shown throughout the site, we question whether fence is needed in areas of anticipated pedestrian activity, if any. Also, we question whether a railing is needed for the stairs near the northeast corner of the building. Our office will defer to the Township Engineer on this matter.

IX. TOWNSHIP PLANNER COMMENTS BRANDYWINE CONSERVANCY COMMENTS

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 has requested several waivers to various Township ordinances. These are:

   a. Chapter 152, Stormwater Management, Section 152-301.T – General Requirements.
   The Brandywine Conservancy suggests the Township seeks advice from its engineer and/or a qualified wetland specialist to determine if the claims of the applicant, that the wetlands are manmade and of poor quality, are accurate and to then base their waiver decision on information obtained from the appropriate professional consultant.

   b. Chapter 162, Subdivision and Land Development, Section 162-9.H(5) – Historic Impact Statement.

   The Brandywine is comfortable with the waiver request, assuming the applicant conforms to the conditions set during the Conditional Use Approval to provide an effective buffer between the John Keely House and the proposed development.

   c. Chapter 162, Subdivision and Land Development, Section 162-55.B – Woodland Replacement

   The Brandywine conservancy recognizes that the proposed use, development, and layout of the site makes conforming to this Section of the Subdivision and Land Development Ordinance difficult. If the Township moves to grant this Waiver, the Brandywine Conservancy strongly encourages the Township to seek a full, fee-in-lieu of the required plantings to support additional tree planting elsewhere in the township.

   Related to this item, the Brandywine Conservancy suggest the applicant check their table on sheet 18 to ensure the "Yes" statements associated with Waivers are in the correct line of the table. The Conservancy does not believe the applicant is requesting a waiver for perimeter buffer requirements (line 1 in the table) but is seeking a waiver for Woodland and Hedgerow Disturbance (line 2 in the table).

d. Chapter 162, Subdivision and Land Development, Section 162.57.D(1) – Minimum Planting Standards

Like the previous Waiver, the Brandywine Conservancy recognizes that the proposed use, development, and layout of the site makes conforming to this Section difficult. The Conservancy suggests the applicant examine whether additional plantings can be made within the constructed stormwater wetland to increase the number of plantings and reach closer to the goal.

Related to this item, the Conservancy notes that two grass species (totaling 199 plants) have been included within the shrub table on sheet 18. Without these grasses (which don't meet the definition of a shrub), the shrub total would be lower still.

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 Preliminary Land Development 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 mixes will greatly enhance pollinator habitat and enhance infiltration at the site over a traditional grass basin. However, the Brandywine Conservancy suggests that either the wetland meadow mix, an alternative seed mix, or appropriate plugs be shown to vegetate the areas shown as low and high wedge marshes on sheet 31. Currently, no ground cover or seed mix is shown for these areas.

5. The proposed plant material still contains several non-native species. The Conservancy encourages the applicant to seek alternative native plants for those non-native species currently included in the plan.

6. The applicant should reorder the plan sheet set to have all the landscape related sheets adjacent to one another (the notes are currently 8+ sheets away from the landscape plan).

7. While a minor point, and having already been granted, we do suggest the applicant make note of the approved Variance associated with the manmade steep slopes on the property somewhere on the Plan set.

X. TOWNSHIP SEWER AUTHORITY ENGINEER COMMENTS
ARRO

1. The plans propose the construction of a 45,774 square foot (SF) service center, with a lot for vehicular sales and service uses of 358 spaces 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:

   a. 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.

   b. The Authority Engineer shall be notified 48 hours prior to the beginning of sanitary sewer construction.

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

   d. 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.

   e. 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. Currently, there is no sewer main within the Pottsville Pike's (SR 0100) right-of way to connect this site to public sanitary sewer.

5. The appropriate Standard Authority Sanitary Sewer Details shall be added to the plans.

6. An appropriately sized oil grease interceptor shall be provided for service center.

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

XI. TOWNSHIP FIRE MARSHAL COMMENTS

1. Please advise where hydrant(s) are located.

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

3. Advise what types of fuel and oil will be stored on the property, the quantities, type of containers, and location(s).

4. Advise the number of vehicles that will be stored on the property, inside and outside.

5. Advise the number of electric vehicles that will be stored on the property, inside and outside.

6. Advise if all or part of the building will be sprinklered.

7. It appears that there is adequate turning radius and maneuverability for a 40’ tower truck.

8. The property address needs to be clearly posted and visible when traveling in both directions of Pottstown Pike / Route 100.

9. Landscaping/trees along the driveway need to be of a variety that will not impede fire apparatus.

XII. HISTORICAL COMMISSION COMMENTS

Comments will be provided under separate cover.

This concludes our review of the above referenced final minor subdivision 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 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. Cameron Wolfson, Esq. – RRHC

UPPER UWCHLAN TOWNSHIP
Planning Commission
April 10, 2025
6:00 p.m.
Meeting Minutes
Draft

LOCATION: Virtual Meeting via Zoom

Attendees:
Sally Winterton, Chair; Chad Adams, David Colajezzi, Jim Dewees, Jeff Smith, Jessica Wilhide, Taylor Young

Anthony Campbell, Zoning Officer
Gwen Jonik, Planning Commission Secretary

Absent: Stephen Fean, Joe Stoyack

6:00 Meeting
Sally Winterton called the Meeting to order at 6:06 p.m. There was no citizens in attendance.

Sign Ordinance Amendments
Review and discussion of sign ordinance amendments revised March 18, 2025 which incorporate the comments from the Commission's March 13 Workshop.

Discussion included:
allowing commercial / business vehicles to be parked in residential driveways as long as resident owns or is an employee of the business;
concurred with the 30-day timeframe to remove the sign identifying a business that is no longer operating;
election signs – can we establish a timeframe for removal after election – check case law;
portable signs -- are allowable for commercial uses;
Commercial motor vehicle parking restriction – this is a new regulation - move to the Traffic and Vehicles Chapter in the Codes.
We can't address every situation.

Jim Dewees moved, seconded by Chad Adams, to recommend adoption of the sign ordinance amendments incorporating tonight's discussion points above. The motion carried unanimously.

Meeting Updates:
Environmental Advisory Council (EAC). Jessica Wilhide advised @ 125 cars dropped off items at the recent e-waste and shredding event at the Public Works facility; the Earth Day Celebration hosted by the EAC will be held April 26 at Upland Farm Park; a litter cleanup event will be held May 17.

Historical Commission (HC). David advised the last HC meeting included a debriefing on the Windsor Baptist Church parsonage demolition permit approval; discussing future Lecture Series topics; participating in the County's "Life & Times of Struble Trail" May 3; and the museum events are going well.

Planned Industrial / Office Zoning District Uses Subcommittee (PI/O). Jessica noted that they will provide recommendations for amendments once we're allowed to resume working on zoning ordinances, hopefully in April or May.

Sally Winterton commented that she attended the Joint Boards & Commissions Workshop earlier this week and there are many fun activities and events hosted by the various Boards and Commissions.

She also noted that a for sale sign was recently posted on the property that P.J. Reilly was going to develop for their headquarters.

Approval of Minutes
Taylor Young moved, seconded by David Colajezzi, to approve as presented the minutes of the March 13, 2025 Planning Commission Meeting. The motion carried unanimously.

Sally Winterton announced the next meeting is scheduled for May 8, 2025, 7:00 p.m. Holding a Workshop will be determined.

Open Session
Jessica Wilhide commented that she learned at the Joint Boards & Commissions Workshop that Eagle Animal Hospital is going to continue operating on Senn Drive and not re-build on Byers Road.

Happy Easter wishes were exchanged

Adjournment
Sally Winterton moved to adjourn the Meeting at 7:00 p.m. All were in favor.

Respectfully submitted,

Gwen A. Jonik
Planning Commission Secretary