



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

NICOLE MAJESKI
SECRETARY

October 11, 2023

Mr. Christopher Duke, P.E.
Becker Morgan Group, Inc.
100 Discovery Boulevard, Suite 102
Newark, Delaware 19713

Dear Mr. Christopher Duke:

The enclosed Traffic Impact Study (TIS) review letter for the **Milford Corporate Center** (Tax Parcel: 5-16-17300-01-0100-00001) industrial development has been completed under the responsible charge of a registered professional engineer whose firm is authorized to work in the State of Delaware. They have found the TIS to conform to DelDOT's Development Coordination Manual and other accepted practices and procedures for such studies. DelDOT accepts this letter and concurs with the recommendations. If you have any questions concerning this letter or the enclosed review letter, please contact me at Annamaria.Furmato@delaware.gov.

Sincerely,

A handwritten signature in cursive script, appearing to read "Annamaria Furmato".

Annamaria Furmato
TIS Group Project Engineer

AF:km

Enclosures

cc with enclosures: Mark Whitfield, City of Milford
Johnathan Falkowski, Becker Morgan Group, Inc.
Mike Riemann, Becker Morgan Group, Inc.
Johnathan Richard, Becker Morgan Group, Inc.
Chad Carter, Becker Morgan Group, Inc.
Rob Pierce, Planning and Economic Activities Coordinator, City of Milford
Andrew J. Parker, McCormick Taylor, Inc.
Tucker Smith, McCormick Taylor, Inc.
DelDOT Distribution

DelDOT Distribution

Brad Eaby, Deputy Attorney General

Shanté Hastings, Deputy Secretary / Director, Transportation Solutions (DOTS)

Mark Luszcz, Deputy Director, DelDOT Traffic, DOTS

Michael Simmons, Assistant Director, Project Development South, DOTS

Peter Haag, Chief Traffic Engineer, Traffic, DOTS

Wendy Carpenter, Traffic Calming & Subdivision Relations Manager, DelDOT Traffic, DOTS

Sean Humphrey, Traffic Engineer, DelDOT Traffic, DOTS

Matthew Lichtenstein, Central District Engineer, Central District

Steve McCabe, Central District Public Works Manager, Central District

Jared Kauffman, Service Development Planner, Delaware Transit Corporation

Tremica Cherry, Service Development Planner, Delaware Transit Corporation

Pamela Steinebach, Director, Planning

Todd Sammons, Assistant Director, Development Coordination

Wendy Polasko, Subdivision Engineer, Development Coordination

Susanne Laws, Expedited Review Coordinator, Development Coordination

Ryan Schroder, Expedited Subdivision Reviewer, Development Coordination

Anthony Aglio, Planning Supervisor, Statewide & Regional Planning

Sireen Muhtaseb, TIS Group Manager, Development Coordination



October 9, 2023

Ms. Annamaria Furmato
Project Engineer
DelDOT Division of Planning
P.O. Box 778
Dover, DE 19903

RE: Agreement No. 1946F
Traffic Impact Study Services
Task No. 4A Subtask 16A – Milford Corporate Center

Dear Ms. Furmato:

McCormick Taylor has completed its review of the Traffic Impact Study (TIS) for the Milford Corporate Center development prepared by Becker Morgan Group, Inc. dated April 2023. Becker Morgan Group prepared the report in a manner generally consistent with DelDOT's Development Coordination Manual.

The TIS evaluates the impacts of the proposed Milford Corporate Center development, proposed to be located on the northwest corner of the intersection of Delaware Route 14 and Delaware Route 15 / Holly Hill Road (Kent Road 447) and south of Church Hill Road (Kent Road 404), in the City of Milford, Kent County, Delaware. The proposed development would consist of approximately 1,635,000 square feet of industrial park space. Two full-access driveways are proposed; one on Delaware Route 15 opposite Airport Road and one on Delaware Route 14. Construction is expected to be complete by 2024.

The subject land is located on an approximately 182.24-acre parcel. The land is currently split-zoned as BP (Business Park) and I-1 (Limited Industrial) in the City of Milford, and the developer does not plan to rezone the land.

Currently, there is one active DelDOT capital project within the area of study: *HEP KC, US 113 and SR 14 Intersection Improvements* (State Project No. T201904201). This project involves the signalized intersection of US Route 113 (Dupont Boulevard) and Delaware Route 14. Currently, there is a single left turn lane, a shared through-left turn lane, a dedicated through lane, and a channelized right turn lane on the eastbound Milford Harrington Highway approach. There is a single left turn lane, a shared through-left turn lane, and a channelized right turn lane on the westbound N. Front Street approach. Dupont Boulevard features dual left turn lanes, two through lanes, and a channelized right-turn lane. The project will add a dedicated through lane on the westbound N. Front Street approach via road widening, concrete islands at all corners of the intersection, pedestrian crosswalks, a westbound bicycle lane, and updated traffic signal equipment. Construction of this project began in late 2022 and is anticipated to be completed by the end of 2023.



Based on our review, we have the following comments and recommendations:

The following intersections exhibit level of service (LOS) deficiencies without the implementation of physical roadway and/or traffic control improvements:

<i>Intersection</i>	<i>Existing Traffic Control</i>	<i>Situations for which deficiencies occur</i>
Delaware Route 15 and Airport Road / Site Access A	Unsignalized (stop controlled)	2022 existing PM (Case 1) 2024 without development PM (Case 2) 2024 with development AM and PM (Cases 3a and 3b)
Delaware Route 14 and Williamsville Road	Unsignalized (stop controlled)	2024 without development AM and PM (Case 2) 2024 with development AM and PM (Cases 3a and 3b)
Delaware Route 15 and Church Hill Road	Unsignalized (stop controlled)	2024 without development PM (Case 2) 2024 with development AM and PM (Cases 3a and 3b)
US Route 113 and Delaware Route 14	Signalized	2022 existing PM (Case 1) 2024 without development PM (Case 2) 2024 with development PM (Cases 3a and 3b)

Delaware Route 15 and Airport Road / Site Access A

The unsignalized intersection of Delaware Route 15 and Airport Road exhibits LOS deficiencies during the PM peak hour under existing conditions and future conditions without the proposed development. If the proposed Site Access A is added as a fourth leg to the existing three-leg intersection and if it remains as two-way stop controlled, for both the AM and PM peak hours under future with development conditions the side streets would both operate at Level of Service (LOS) F. The 95th percentile queue length on the westbound Airport Road approach would be greater than 500 feet long. To mitigate these deficiencies, we recommend converting the intersection to a four-leg single-lane roundabout as described below in Item No. 2.

Delaware Route 14 and Delaware Route 15 / Holly Hill Road

The signalized intersection of Delaware Route 14 and Delaware Route 15 / Holly Hill Road would not experience LOS deficiencies under any of the conditions evaluated in the TIS, so it doesn't appear in the table above. However, the analysis shows there would be lengthy queues in the future with development conditions that will extend beyond the storage of the existing turn lanes at this intersection. As stated in the TIS, there are turn lanes than should be extended at this intersection to better accommodate future queues. Based on the analysis, we recommend extending the westbound Delaware Route 14 right-turn lane and the southbound Delaware Route 15 left-turn lane as described below in Item No. 4.

Delaware Route 14 and Williamsville Road

The unsignalized intersection of Delaware Route 14 and Williamsville Road experiences LOS deficiencies on the northbound Williamsville Road approach during the AM and PM peak hours under future conditions. Because this intersection already has separate turn lanes on each approach, thus ruling out relatively simple geometric modifications to alleviate the deficiency, we recommend that a traffic signal be constructed at this intersection when warranted. It is noted the

developer provided a Preliminary Traffic Signal Justification Study (TSJS) as part of the TIS, which concludes that a signal would be warranted under future with development conditions. In addition, a signal was previously identified as an improvement for this intersection. To that end, the developer should enter into a traffic signal agreement with DelDOT for this intersection. A contribution to DelDOT's Traffic Signal Revolving Fund (TSRF) is an option in that regard, in which case the amount of the contribution would be \$26,393 as determined by DelDOT's Development Coordination Section.

Delaware Route 15 and Church Hill Road

The all-way stop controlled intersection experiences LOS deficiencies during the PM peak hour under future without development conditions and during both the AM and PM peak hours under future with development conditions. The deficiencies include LOS F on the southbound Delaware Route 15 approach during the AM peak hour with a 95th percentile queue length of approximately 350 feet, and LOS F on the northbound Delaware Route 15 approach during the PM peak hour with a 95th percentile queue length greater than 500 feet. While the developer recommends implementing a traffic signal here in the future when DelDOT deems it necessary (and they suggested entering into a traffic signal agreement), they also presented a concept for a roundabout at this intersection. It is noted the developer provided a Preliminary Traffic Signal Justification Study (TSJS) as part of the TIS, which concludes that a signal would be warranted under future with development conditions. However, it appears the TSJS analysis didn't reflect geometric improvements that DelDOT would require if the intersection were to be signalized, such as multi-lane approaches instead of single approach lanes. In conjunction with the geometric improvements that would come with a signal, the TSJS analysis would need to apply NCHRP 457 methodology as part of the multi-lane approach scenario to potentially eliminate or reduce the right-turn volumes from the warrant evaluation. Considering both options (signal and roundabout) and noting that additional geometric improvements would be needed if a signal were to be installed, for this location DelDOT's preference is to convert the intersection to a single-lane roundabout. The roundabout alternative was found to mitigate the LOS deficiencies and result in acceptable queue lengths, it is appropriate for the area, and is the preferred intersection design in terms of safety. As such, we recommend converting the intersection to a four-leg single-lane roundabout as described below in Item No. 6.

US Route 113 and Delaware Route 14

The signalized intersection of US Route 113 and Delaware Route 14 experiences LOS deficiencies during the PM peak hour under existing, future without development, and future with development conditions. It is noted that this intersection is being improved by DelDOT's *HEP KC, US 113 and SR 14 Intersection Improvements* project, which will help to alleviate the LOS deficiencies. As described above, the DelDOT project is currently under construction and is anticipated to be complete by end of 2023. As such, no contribution is required from this developer.

Should the City of Milford choose to approve the proposed development, the following items should be incorporated into the site design and reflected on the record plan by note or illustration, unless a Design Deviation is requested and approved by the Department. All applicable agreements (i.e. letter agreements for off-site improvements, and traffic signal agreements) should be executed and Design Deviations approved prior to entrance plan approval for the proposed development. The following items should be implemented at the same time as site construction once all agency approvals and permits are secured and completed in accordance with DelDOT's Standards and Specifications.

1. The developer shall improve the State-maintained road(s) on which they front (Delaware Route 14, Delaware Route 15 and Church Hill Road), within the limits of their frontage, to meet DelDOT's standards for their Functional Classification as found in Section 1.1 of the Development Coordination Manual and elsewhere therein. The improvements shall include both directions of travel, regardless of whether the developer's lands are on one or both sides of the road. Frontage is defined in Section 1 of the Development Coordination Manual, which states "This length includes the length of roadway perpendicular to lines created by the projection of the outside parcel corners to the roadway." Questions on or appeals of this requirement should be directed to the DelDOT Subdivision Review Coordinator in whose area the development is located.
2. The developer should construct the full-movement Site Access A on Delaware Route 15 opposite Airport Road. Site Access A will be a fourth leg added to the existing three-leg intersection, and the intersection should be converted to a single-lane roundabout. As such, the developer should enter into an agreement with DelDOT to design and construct a single-lane roundabout at the intersection of Delaware Route 15 and Airport Road / Site Access A. Each approach to the roundabout should consist of one shared lane. The developer should coordinate with DelDOT's Subdivision Section to determine details regarding design, schedule and construction of the roundabout.

- The developer should construct the full-movement Site Access B on Delaware Route 14. The proposed configuration is shown in the table below.

Approach	Current Configuration	Approach	Proposed Configuration
Eastbound Delaware Route 14	One through lane	Eastbound Delaware Route 14	One left-turn lane and one through lane
Westbound Delaware Route 14	One through lane	Westbound Delaware Route 14	One through lane and one right-turn lane
Northbound	Approach does not exist	Northbound	No Change
Southbound	Approach does not exist	Southbound Site Access B	One left-turn lane and one right-turn lane. Stop Control.

At the proposed Site Access B intersection, separate turn lanes are warranted on both Delaware Route 14 approaches based on DelDOT’s *Auxiliary Lane Worksheet*. Initial recommended minimum turn-lane lengths (excluding tapers) include a 210-foot left-turn lane on eastbound Delaware Route 14 and a 350-foot right-turn lane on westbound Delaware Route 14, although westbound turn lane length may be limited due to proximity of adjacent upstream residential property and driveway. A separate right-turn lane is also recommended on the southbound Site Access B driveway, with a minimum length based on queuing analysis of 75 feet (excluding taper). The developer should coordinate with DelDOT’s Development Coordination Section to determine final turn lane lengths and other design details during the site plan review.

- The developer should improve the intersection of Delaware Route 14 and Delaware Route 15 / Holly Hill Road by extending the westbound Delaware Route 14 right-turn lane from 150 feet to 175 feet (excluding taper) and extending the southbound Delaware Route 15 left-turn lane from 285 feet to 320 feet (excluding taper).
- The developer should enter into a traffic signal agreement with DelDOT for the intersection of Delaware Route 14 and Williamsville Road. A signal may be constructed there when warranted as determined by DelDOT. The agreement should include pedestrian signals, crosswalks, interconnection, and ITS equipment such as CCTV cameras at DelDOT’s discretion. A contribution to DelDOT’s Traffic Signal Revolving Fund (TSRF) is also an option. If the TSRF is utilized, the amount of the contribution should not exceed \$26,393. The developer should coordinate with DelDOT’s Subdivision Section to execute the traffic signal agreement or the TSRF agreement and pay the TSRF amount.

6. The developer should enter into an agreement with DelDOT to design and construct a single-lane roundabout at the intersection of Delaware Route 15 and Church Hill Road. The developer should coordinate with DelDOT's Subdivision Section to determine details regarding design, schedule and construction of the roundabout.
7. The following bicycle, pedestrian, and transit improvements should be included:
 - a. Per the DelDOT Development Coordination Manual section 5.2.9.2, bicycle lanes are required where right turn lanes are being installed.
 - b. Appropriate bicycle symbols, directional arrows, pavement markings, and signing should be included along bicycle facilities and turn lanes within the project limits.
 - c. Utility covers should be made flush with the pavement.
 - d. A minimum 15-foot wide permanent easement from the edge of the right-of-way should be dedicated to DelDOT within the site frontages along Delaware Route 14, Delaware Route 15 and Church Hill Road.
 - e. Within the easements along the Delaware Route 14, Delaware Route 15 and Church Hill Road site frontages, a minimum of a ten-foot wide shared-use path that meets current AASHTO and ADA standards should be constructed. The shared-use path should meet AASHTO and ADA standards and should have a minimum of a five-foot buffer from the roadway. At the property boundaries, shared-use paths should connect to the adjacent property or to the shoulder in accordance with DelDOT's *Shared-Use Path and/or Sidewalk Termination Reference Guide* dated August 1, 2018. The developer shall coordinate with DelDOT's Development Coordination Section through the plan review process to determine the details of the shared-use path design and connections/terminations at or before all boundaries of the property on all three roads.
 - f. ADA compliant curb ramps and crosswalks should be provided at all pedestrian crossings, including all site entrances. Type 3 curb ramps are discouraged.
 - g. Internal sidewalks for pedestrian safety and to promote walking as a viable transportation alternative should be constructed within the development. These sidewalks should each be a minimum of five-feet wide (with a minimum of a five-foot buffer from the roadway) and should meet current AASHTO and ADA standards. Internal sidewalks in the development should connect via accessways to the proposed shared-use paths along Delaware Route 14, Delaware Route 15 and Church Hill Road.
 - h. Where internal sidewalks are located alongside of parking spaces, a buffer should be added to prevent vehicular overhang onto the sidewalk.



- i. The developer should add a pedestrian crossing of Delaware Route 15 to facilitate access for a potential future DART bus stop to the south of the proposed Delaware Route 15 and Airport Road roundabout. The location and design of the crossing should be determined through coordination with DelDOT's Development Coordination Section, DelDOT's Traffic Section, and DTC. The developer will need to conduct an analysis to determine the type of crossing treatment that would be appropriate and should assume that the minimum pedestrian crossing volume threshold is met. The analysis should be based on guidance and worksheets found in NCHRP Report 562.

Improvements in this TIS may be considered "significant" under DelDOT's *Work Zone Safety and Mobility Procedures and Guidelines*. These guidelines are available on DelDOT's website at http://deldot.gov/Publications/manuals/de_mutcd/index.shtml.

Please note that this review generally focuses on capacity and level of service issues; additional safety, operational and constructability issues will be further addressed through DelDOT's Plan Review process.

Additional details on our review of this TIS are attached. Please contact me at (610) 640-3500 or through e-mail at ajparker@mccormicktaylor.com if you have any questions concerning this review.

Sincerely,

McCormick Taylor, Inc.

A handwritten signature in black ink, appearing to read "Andrew J. Parker".

Andrew J. Parker, PE, PTOE
Project Manager

Enclosure



General Information

Report date: April 2023

Prepared by: Becker Morgan Group, Inc.

Prepared for: City of Milford

Tax parcel: 5-16-17300-01-0100-00001

Generally consistent with DelDOT's Development Coordination Manual: Yes

Project Description and Background

Description: The proposed Milford Corporate Center development consists of approximately 1,635,000 square feet of industrial park space.

Location: The land is located on the northwest corner of the intersection of Delaware Route 14 and Delaware Route 15 / Holly Hill Road (Kent Road 447) and south of Church Hill Road (Kent Road 404), in the City of Milford, Kent County, Delaware. A site location map is included on page 10.

Amount of land to be developed: approximately 182.24-acre parcel

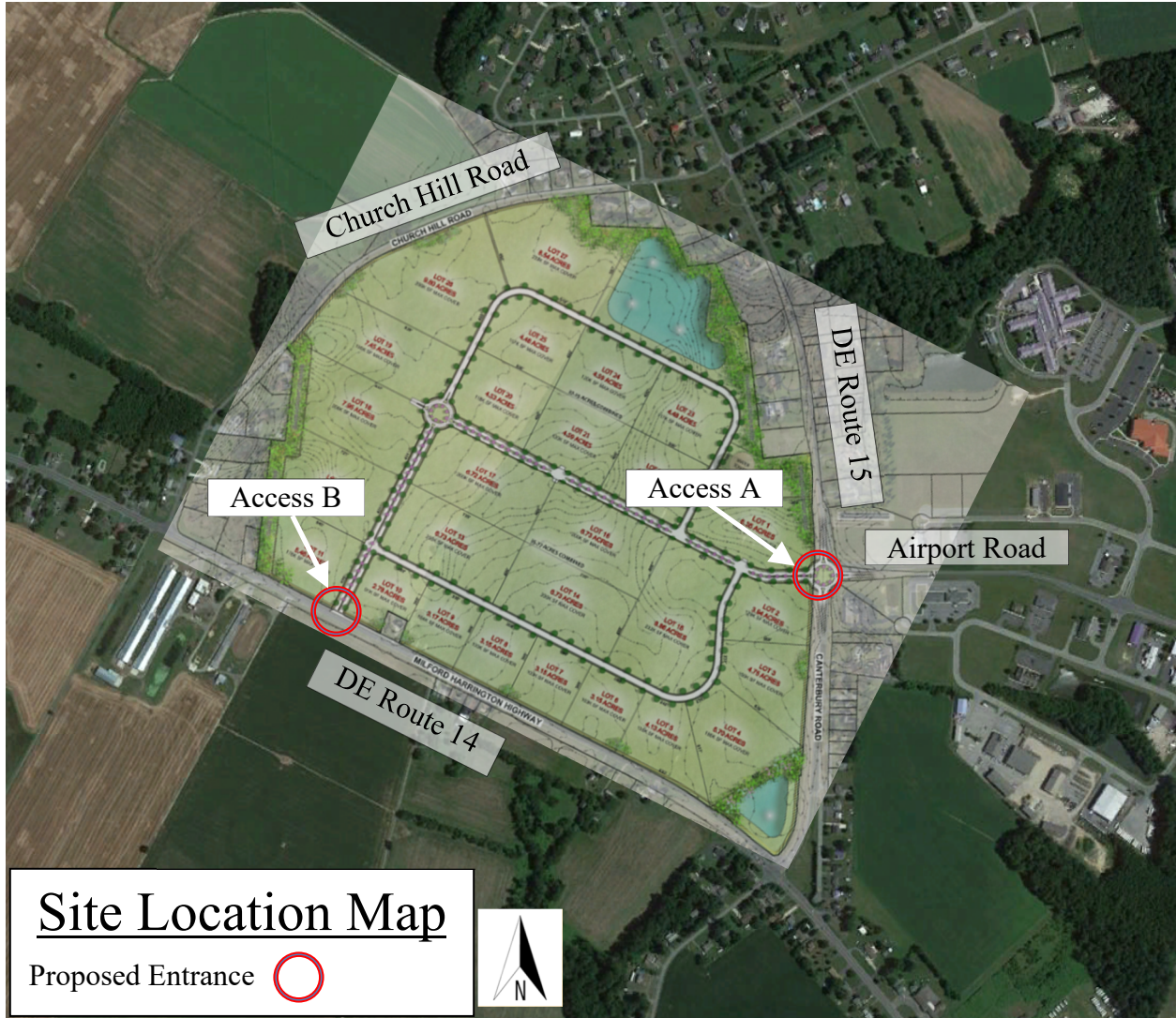
Land use approval(s) needed: Subdivision approval. The land is currently split-zoned as BP (Business Park) and I-1 (Limited Industrial) in the City of Milford, and the developer does not plan to rezone the land.

Proposed completion year: 2024

Proposed access locations: Two full-access driveways are proposed; one on Delaware Route 15 opposite Airport Road and one on Delaware Route 14.

Daily Traffic Volumes (per DelDOT Traffic Summary 2022):

- 2022 Average Annual Daily Traffic on Delaware Route 15: 7,149 vehicles/day
- 2022 Average Annual Daily Traffic on Delaware Route 14: 10,900 vehicles/day



2020 Delaware Strategies for State Policies and Spending

Location with respect to the Strategies for State Policies and Spending Map of Delaware:

The proposed Milford Corporate Center development is located within Investment Levels 1 and 2.

Investment Level 1

Investment Level 1 Areas are often municipalities, towns, or urban/urbanizing places in counties. Density is generally higher than in the surrounding areas. There are a variety of transportation opportunities available. Buildings may have mixed uses, such as a business on the first floor and apartments above.

In Investment Level 1 Areas, state investments and policies should support and encourage a wide range of uses and densities, promote a variety of transportation options, foster efficient use of existing public and private investments, and enhance community identity and integrity. Overall, it is the State's intent to use its spending and management tools to maintain and enhance community character, to promote well-designed and efficient new growth, and to facilitate redevelopment in Investment Level 1 Areas. These areas would be a prime location for designating "pre-permitted areas" to help steer development where the local government and citizens are most prepared to accept it.

Investment Level 2

This investment level has many diverse characteristics. These areas can be composed of less developed areas within municipalities, rapidly growing areas in the counties that have or will have public water and wastewater services and utilities, areas that are generally adjacent to or near Investment Level 1 Areas, smaller towns and rural villages that should grow consistently with their historic character, and suburban areas with public water, wastewater, and utility services. These areas have been shown to be the most active portion of Delaware's developed landscape. They serve as transition areas between Level 1 and the more open, less populated areas. They generally contain a limited variety of housing types, predominantly detached single-family dwellings.

In Investment Level 2, state investments and policies should support and encourage a wide range of uses and densities, promote other transportation options, foster efficient use of existing public and private investments, and enhance community identity and integrity.

Investments should encourage departure from the typical single-family-dwelling developments and promote a broader mix of housing types and commercial sites encouraging compact, mixed-use development where applicable. Overall, the State's intent is to use spending and management tools to promote well-designed development in these areas. Such development provides for a variety of housing types, user-friendly transportation systems, and provides essential open spaces and recreational facilities, other public facilities, and services to promote a sense of community. Investment Level 2 areas are prime locations for designating "pre-permitted areas."

Proposed Development’s Compatibility with Strategies for State Policies and Spending:

The proposed Milford Corporate Center project consists of approximately 1,635,000 square feet of industrial park space in an Investment Level 1 and 2 area. Investment Levels 1 and 2 are areas where growth is anticipated by local, county, and State plans in the near-term future. As such, the proposed development appears to comply with the guidelines set forth in the 2020 “Strategies for State Policies and Spending”.

Comprehensive Plan

Kent County Comprehensive Plan:

(Source: Kent County Comprehensive Plan Update, June 2008)

The Kent County Comprehensive Plan Future Land Use Map indicates that the proposed Milford Corporate Center development is in the City of Milford, a municipality. Kent County strongly favors directing development to municipalities that desire it. The specific permitted uses and densities governing new construction within an incorporated municipality will continue to be governed by that municipality’s zoning ordinance, its public water and sewer capacities, and its comprehensive planning policies.

City of Milford Comprehensive Plan:

(Source: City of Milford Comprehensive Plan, 2018 Update, Certified May 2018)

The City of Milford’s Comprehensive Plan Future Land Use Map indicates that the proposed Milford Corporate Center site is planned for Industrial and Commercial land use.

Proposed Development’s Compatibility with Comprehensive Plan:

The proposed Milford Corporate Center development project includes approximately 1,635,000 square feet of industrial park space on an approximately 182.24-acre parcel. The land is currently split-zoned as BP (Business Park) and I-1 (Limited Industrial) in the City of Milford per the 2018 update to the 2008 City of Milford Comprehensive Plan. Per the Comprehensive Plan, the purpose of both a Business Park District and a I-1 Limited Industrial District shall be to provide locations for the development of light to moderate industrial manufacturing, warehousing, wholesale and limited research establishments which, because of their type and nature, would be compatible with or adjacent to residential areas. It would appear that the proposed Milford Corporate Center development fits within the intended land uses for this location.

Relevant Projects in the DelDOT Capital Transportation Program

Currently, there is one active DelDOT capital project within the area of study: *HEP KC, US 113 and SR 14 Intersection Improvements* (State Project No. T201904201). This project involves the signalized intersection of US Route 113 (Dupont Boulevard) and Delaware Route 14. Currently, there is a single left turn lane, a shared through-left turn lane, a dedicated through lane, and a channelized right turn lane on the eastbound Milford Harrington Highway approach. There is a single left turn lane, a shared through-left turn lane, and a channelized right turn lane on the westbound N. Front Street approach. Dupont Boulevard features dual left turn lanes, two through

lanes, and a channelized right-turn lane. The project will add a dedicated through lane on the westbound N. Front Street approach via road widening, concrete islands at all corners of the intersection, pedestrian crosswalks, a westbound bicycle lane, and updated traffic signal equipment. Construction of this project began in late 2022 and is anticipated to be completed by the end of 2023.

Trip Generation

Trip generation for the proposed development was computed using comparable land uses and equations contained in Trip Generation, Eleventh Edition, published by the Institute of Transportation Engineers (ITE). The following land use was utilized to estimate the amount of new traffic generated for this development:

- 1,635,000 square feet of industrial park space (ITE Land Use Code 130)

Table 1
MILFORD CORPORATE CENTER PEAK HOUR TRIP GENERATION

Land Use	Weekday AM Peak Hour			Weekday PM Peak Hour		
	In	Out	Total	In	Out	Total
LUC 130: 1,635,000 sf industrial park	450	106	556	122	434	556
TOTAL TRIPS	450	106	556	122	434	556

Overview of TIS

Intersections examined:

- 1) Delaware Route 15 and Airport Road / Site Access A
- 2) Delaware Route 14 and Site Access B
- 3) Delaware Route 14 and Delaware Route 15 / Holly Hill Road
- 4) Delaware Route 14 and Williamsville Road (Kent Road 443)
- 5) US Route 113 and Delaware Route 14
- 6) Delaware Route 14 and Church Hill Road (Kent Road 404)
- 7) Delaware Route 14 and Sandbox Road (Kent Road 398)
- 8) Delaware Route 14 and Bloomfield Drive (Kent Road 396)
- 9) Delaware Route 15 and Church Hill Road
- 10) Delaware Route 15 and Crickett Hollow Lane (Kent Road 400)
- 11) Delaware Route 15 and Ward Branch Lane (Kent Road 399)
- 12) Church Hill Road and Goldfinch Drive
- 13) Church Hill Road and Bowman Road (Kent Road 401)
- 14) Church Hill Road and Tub Mill Pond Road (Kent Road 119)

Conditions examined:

- 1) 2022 Existing (Case 1)
- 2) 2024 No-Build (Case 2)
- 3) 2024 Build with one full access on Delaware Route 15 (Case 3a)
- 4) 2024 Build with one full access on Delaware Route 15 and one full access on Delaware Route 14 (Case 3b)

Peak hours evaluated: Weekday morning and evening peak hours

Committed developments considered:

- 1) Hickory Glen (159 townhouse units and 240 multi-family units)
- 2) Dogwood Meadows (124 single-family detached houses)
- 3) Southfield (87 single-family detached houses)
- 4) Westwood Subdivision (a.k.a. Draper Farm) (182 single-family detached houses and 158 low-rise multi-family housing units)

Intersection Descriptions

1) Delaware Route 15 and Airport Road / Site Access A

Type of Control: existing one-way stop (T-intersection), proposed four-leg single-lane roundabout

Northbound Approach: (DE Route 15) existing one shared through/right-turn lane; proposed one shared left/through/right lane approach to roundabout

Southbound Approach: (DE Route 15) existing one left-turn lane and one through lane; proposed one shared left/through/right lane approach to roundabout

Eastbound Approach: (Site Access A) proposed one shared left/through/right lane approach to roundabout

Westbound Approach: (Airport Road) existing one left-turn lane and one right-turn lane, stop controlled; proposed one shared left/through/right lane approach to roundabout

2) Delaware Route 14 and Site Access B

Type of Control: proposed one-way stop (T-intersection)

Southbound Approach: (Site Access B) one left-turn lane and one right-turn lane, stop controlled

Eastbound Approach: (DE Route 14) one left-turn lane and one through lane

Westbound Approach: (DE Route 14) one through lane and one right-turn lane

- 3) Delaware Route 14 and Delaware Route 15 / Holly Hill Road**
Type of Control: 4-leg signalized intersection
Northbound Approach: (Holly Hill Road) one left turn lane and one shared through/right-turn lane
Southbound Approach: (DE Route 15) one left turn lane, one through lane, one right-turn lane
Eastbound Approach: (DE Route 14) one left-turn lane, one shared through/right-turn lane, one bicycle lane
Westbound Approach: (DE Route 14) one left-turn lane, one through lane, one right-turn lane
- 4) Delaware Route 14 and Williamsville Road**
Type of Control: one-way stop (T-intersection)
Northbound Approach: (Williamsville Road) one left-turn lane and one right turn lane, stop controlled
Eastbound Approach: (DE Route 14) one through lane and one right turn lane
Westbound Approach: (DE Route 14) one left-turn lane and one through lane
- 5) US Route 113 and Delaware Route 14**
Type of Control: 4-leg signalized intersection
Northbound Approach: (US 113) two left-turn lanes, two through lanes, and one channelized right-turn lane.
Southbound Approach: (US 113) two left-turn lanes, two through lanes, and one channelized right-turn lane.
Eastbound Approach: (DE Route 14) one left-turn lane, one shared left-turn/through lane, one through lane, and one channelized right-turn lane
Westbound Approach: (DE Route 14) one left-turn lane, one shared left-turn/through lane, and one channelized right-turn lane
- 6) Delaware Route 14 and Church Hill Road**
Type of Control: one-way stop (T-intersection)
Southbound Approach: (Church Hill Road) one shared left/right-turn lane, stop controlled
Eastbound Approach: (DE Route 14) one shared left-turn/through lane and one bypass lane
Westbound Approach: (DE Route 14) one through lane and one right-turn lane
- 7) Delaware Route 14 and Sandbox Road**
Type of Control: one-way stop (T-intersection)
Southbound Approach: (Sandbox Road) one shared left/right-turn lane, stop controlled
Eastbound Approach: (DE Route 14) one shared left-turn/through lane and one bypass lane
Westbound Approach: (DE Route 14) one through lane and one right-turn lane

8) Delaware Route 14 and Bloomfield Drive

Type of Control: one-way stop (T-intersection)

Southbound Approach: (Bloomfield Drive) one shared left/right-turn lane, stop controlled

Eastbound Approach: (DE Route 14) one shared left-turn/through lane and one bypass lane

Westbound Approach: (DE Route 14) one through lane and one right-turn lane

9) Delaware Route 15 and Church Hill Road

Type of Control: all-way stop-controlled intersection

Northbound Approach: (DE Route 15) one shared left/through/right-turn lane, stop controlled

Southbound Approach: (DE Route 15) one shared left/through/right-turn lane, stop controlled

Eastbound Approach: (Church Hill Road) one shared left/through/right-turn lane, stop controlled

Westbound Approach: (Church Hill Road) one shared left/through/right-turn lane, stop controlled

10) Delaware Route 15 and Crickett Hollow Lane

Type of Control: one-way stop (T-intersection)

Northbound Approach: (DE Route 15) one shared through/right-turn lane

Southbound Approach: (DE Route 15) one shared left-turn/through lane

Westbound Approach: (Crickett Hollow Lane) one shared left/right-turn lane, stop controlled

11) Delaware Route 15 and Ward Branch Lane

Type of Control: one-way stop (T-intersection)

Northbound Approach: (DE Route 15) one shared left-turn/through lane

Southbound Approach: (DE Route 15) one shared through/right-turn lane

Eastbound Approach: (Ward Branch Lane) one left-turn lane and one right-turn lane, stop controlled

12) Church Hill Road and Goldfinch Drive

Type of Control: one-way stop (T-intersection)

Southbound Approach: (Goldfinch Drive) one shared left/right-turn lane, stop controlled

Eastbound Approach: (Church Hill Road) one shared left-turn/through lane

Westbound Approach: (Church Hill Road) one shared through/right-turn lane

13) Church Hill Road and Bowman Road

Type of Control: two-way stop controlled

Northbound Approach: (Bowman Road) one shared left/through/right-turn lane

Southbound Approach: (Bowman Road) one shared left/through/right-turn lane

Eastbound Approach: (Church Hill Road) one shared left/through/right-turn lane, stop controlled

Westbound Approach: (Church Hill Road) one shared left/through/right-turn lane, stop controlled

14) Church Hill Road and Tub Mill Pond Road

Type of Control: two-way stop controlled

Northbound Approach: (Tub Mill Pond Road) one shared left/through/right-turn lane, stop controlled

Southbound Approach: (Tub Mill Pond Road) one shared left/through/right-turn lane, stop controlled

Eastbound Approach: (Church Hill Road) one shared left/through/right-turn lane

Westbound Approach: (Church Hill Road) one shared left-turn/through lane and one right-turn lane

Safety Evaluation

Crash Data: Delaware Crash Analysis Reporting System (CARS) data was provided in Appendix F of the TIS for the period from January 9, 2020 through January 9, 2023. The crash data shows that a significant number of crashes (15 or more during this three-year period) occurred at the following intersections:

- Delaware Route 15 and Airport Road: 17 crashes occurred, including 6 with injuries
- Delaware Route 14 and Delaware Route 15 / Holly Hill Road: 36 crashes occurred, including 13 with injuries
- US Route 113 and Delaware Route 14: 90 crashes occurred, including 20 with injuries
- Delaware Route 15 and Church Hill Road: 21 crashes occurred, including 9 with injuries
- Church Hill Road and Bowman Road: 15 crashes occurred, including 1 with injuries

There were no fatalities within the study area during this three-year period. It is noted that the DelDOT Project “*HEP KC, US 113 & SR 14 Intersection Improvements*” is set to make improvements at the intersection of US Route 113 and Delaware Route 14.

Sight Distance: The proposed site accesses on Delaware Route 14 and Delaware Route 15 each have an unobstructed view looking from the proposed driveway approach with no visual obstructions in either direction. As always adequacy of available sight distance must be confirmed during the site plan review process for all proposed movements at the site access.

Transit, Pedestrian, and Bicycle Facilities

Existing transit service: Based on the current DART Bus Stop Map, the Delaware Transit Corporation (DTC) does not operate and bus routes in the immediate vicinity of the site or at any of the study area intersections. There is one bus route that operates near the study area (Bus Route 210, Milford Circulator), which serves the Boys and Girls Club off Airport Road and runs along a portion of US Route 113.

Planned transit service: Based on coordination with DTC representatives, DTC is still evaluating the need for service in this area. In order for DTC to construct stops that service the proposed Milford Corporate Center site and the surrounding area when DTC deems it necessary, the following infrastructure are needed: shared-use pathways along Delaware Route 14 Delaware Route 15; a crosswalk across Delaware Route 14 at the site access to allow for the construction of a companion stop, and pedestrian accessways leading to the site's internal pedestrian network.

Existing bicycle and pedestrian facilities: There are no existing pedestrian facilities throughout most of the study intersections, only limited sidewalks at the northwest and southeast quadrants of the intersection of US Route 113 and Delaware Route 14. Bicycles are permitted to utilize the shoulder along Delaware Route 14, as there are bicycle markings on the shoulders. There are no bicycle markings on Delaware Route 15 or Church Hill Road. On the *Kent County Bicycle Map* published by DelDOT, Delaware Route 14 is designated as a Regional Bicycle Route with high traffic volumes. Delaware Route 15, Airport Road, and Williamsville Road are each designated as a Connector Bicycle Routes.

Planned bicycle and pedestrian facilities: Additional pedestrian and bicycle facilities are being proposed at the intersection of US Route 113 and Delaware Route 14 via DelDOT's "*HEP KC, US 113 & SR 14 Intersection Improvements*" project. The proposed Milford Corporate Center development should construct 10' shared-use paths along their site frontages of Delaware Route 15, Delaware Route 14 and Church Hill Road. Also a bike lane should be installed between the through lane and the proposed right-turn lane on westbound Delaware Route 14 at proposed Site Access B.

Previous Comments

In a review letter dated March 21, 2023, DelDOT indicated that the Preliminary TIS was acceptable as submitted.

It appears that all substantive comments from DelDOT's TIS Scoping Memorandum, Traffic Count Review, Preliminary TIS Review, and other correspondence were addressed in the Final TIS submission.

General HCS Analysis Comments

(see table footnotes on the following pages for specific comments)

- 1) For two-way stop control intersections, the TIS and McCormick Taylor applied heavy vehicle factors (HV) by movement using existing data. For signalized, all-way stop and roundabout intersections, the TIS and McCormick Taylor applied HV by lane group using existing data. The TIS and McCormick Taylor generally assumed future HV to be the same as existing HV or 3%, whichever was greater.
- 2) For existing conditions, the TIS and McCormick Taylor determined overall intersection peak hour factors (PHF) for each intersection based on the turning movement counts that were available. Future PHFs were determined as per the DelDOT Development Coordination Manual section 2.2.8.11.6.F where applicable.
- 3) For analyses of signalized intersections, Becker Morgan and McCormick Taylor used a base saturation flow rate of 1,750 pc/hr/ln per DelDOT's Development Coordination Manual.
- 4) For analyses of all intersections, McCormick Taylor and the TIS assumed 0% grade for all movements.
- 5) The TIS and McCormick Taylor used different signal timings when analyzing the signalized intersections in some cases.

Table 2
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ¹ Two-Way Stop	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
DE Route 15 & Airport Road / Site Access A				
2022 Existing (Case 1)				
Southbound DE Route 15 – Left	A (8.6)	A (8.7)	A (8.6)	A (8.7)
Westbound Airport Road	C (21.3)	E (37.0)	C (21.3)	E (37.0)
2024 Without Development (Case 2)				
Southbound DE Route 15 – Left	A (8.8)	A (9.1)	A (8.8)	A (9.1)
Westbound Airport Road	C (24.4)	F (78.9)	C (24.4)	F (78.9)
2024 With Development (Case 3a)				
Northbound DE Route 15 – Left	A (9.5)	A (8.1)	A (9.5)	A (8.1)
Southbound DE Route 15 – Left	A (8.8)	A (9.1)	A (8.8)	A (9.1)
Eastbound Site Access A	F (error)	F (344)	F (error)	F (146.6)
Westbound Airport Road	F (409.1)	F (1603)	F (593.3)	F (1603)
2024 With Development (Case 3b)				
Northbound DE Route 15 – Left	A (8.7)	A (8.0)	A (8.7)	A (8.0)
Southbound DE Route 15 – Left	A (8.8)	A (9.1)	A (8.8)	A (9.1)
Eastbound Site Access A	F (77.3)	F (388.4)	F (85.4)	F (130.8)
Westbound Airport Road	F (86.4)	F (655.8)	F (120.6)	F (541.9)

¹ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 2 (continued)
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ² Roundabout	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
DE Route 15 & Airport Road / Site Access A				
2024 With Development (Case 3a)				
Northbound DE Route 15	B (13.5)	C (15.8)	B (13.5)	C (15.8)
Southbound DE Route 15	C (22.7)	B (10.1)	C (22.7)	B (10.1)
Eastbound Site Access A	A (7.0)	C (24.4)	A (7.0)	C (24.4)
Westbound Airport Road	A (9.5)	C (16.1)	A (9.5)	C (16.1)
Overall Intersection	C (15.9)	C (15.8)	C (15.9)	C (15.8)
2024 With Development (Case 3b)				
Northbound DE Route 15	A (9.4)	B (13.9)	A (9.4)	B (13.9)
Southbound DE Route 15	B (13.6)	A (9.3)	B (13.6)	A (9.3)
Eastbound Site Access A	A (6.3)	B (12.2)	A (6.3)	B (12.2)
Westbound Airport Road	A (7.4)	B (14.5)	A (7.4)	B (14.5)
Overall Intersection	B (10.7)	B (12.6)	B (10.7)	B (12.6)

² For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 3
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ³ Two-Way Stop	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
DE Route 14 & Site Access B				
2024 With Development (Case 3b)				
Southbound Site Access B	C (16.8)	D (29.8)	C (16.8)	D (29.8)
Eastbound DE Route 14 – Left	A (8.4)	A (9.2)	A (8.4)	A (9.2)

³ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 4
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Signalized Intersection ⁴	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
DE Route 14 & DE Route 15 / Holly Hill Road				
2022 Existing (Case 1)	B (19.0)	C (21.8)	B (17.9)	C (20.2)
2024 Without Development (Case 2)	C (24.1)	C (27.3)	C (22.4)	C (24.8)
2024 With Development (Case 3a)	C (26.9)	D (35.9)	C (24.4)	C (33.9)
2024 With Development (Case 3b)	C (25.2)	C (31.4)	C (23.8)	C (31.8)

⁴ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 5
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ⁵ One-Way Stop (T-Intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
DE Route 14 & Williamsville Road				
2022 Existing (Case 1)				
Northbound Williamsville Road	C (17.6)	C (21.6)	C (17.6)	C (21.6)
Westbound DE Route 14 – Lefts	A (9.1)	A (9.7)	A (9.1)	A (9.7)
2024 Without Development (Case 2)				
Northbound Williamsville Road	E (37.0)	F (145.8)	E (37.0)	F (145.8)
Westbound DE Route 14 – Lefts	B (10.1)	B (11.5)	B (10.1)	B (11.5)
2024 With Development (Cases 3a and 3b)				
Northbound Williamsville Road	E (49.5)	F (260.2)	E (49.5)	F (260.2)
Westbound DE Route 14 – Lefts	B (10.3)	B (13.0)	B (10.3)	B (13.0)
Signalized Intersection ⁵	LOS per TIS		LOS per McCormick Taylor	
DE Route 14 & Williamsville Road	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 With Development (Cases 3a and 3b)	C (23.8)	B (18.5)	C (23.9)	C (20.5)

⁵ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 6
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Signalized Intersection ⁶	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
US Route 113 & DE Route 14				
2022 Existing (Case 1)	C (32.6)	E (69.3)	C (34.5)	E (58.7)
2024 Without Development (Case 2)	D (38.8)	F (103.5)	D (40.4)	F (86.5)
2024 With Development (Cases 3a and 3b)	D (44.6)	F (114.7)	D (52.8)	F (92.6)
2024 With Development (Cases 3a and 3b) w/ DelDOT Project Improvements	D (39.0)	F (85.0)	D (49.9)	E (66.6)

⁶ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 7
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ⁷ One-Way Stop (T-Intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
DE Route 14 & Church Hill Road				
2022 Existing (Case 1)				
Southbound Church Hill Road	B (10.8)	C (15.2)	B (10.8)	C (15.2)
Eastbound DE Route 14 – Lefts	A (8.2)	A (8.9)	A (8.2)	A (8.9)
2024 Without Development (Case 2)				
Southbound Church Hill Road	B (11.4)	C (16.3)	B (11.4)	C (16.3)
Eastbound DE Route 14 – Lefts	A (8.3)	A (9.1)	A (8.3)	A (9.1)
2024 With Development (Cases 3a and 3b)				
Southbound Church Hill Road	B (11.5)	C (18.4)	B (11.5)	C (18.4)
Eastbound DE Route 14 – Lefts	A (8.4)	A (9.5)	A (8.4)	A (9.5)

⁷ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 8
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ⁸ One-Way Stop (T-Intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
DE Route 14 & Sandbox Road				
2022 Existing (Case 1)				
Southbound Sandbox Road	C (16.9)	C (20.3)	C (16.9)	C (20.3)
Eastbound DE Route 14 – Lefts	A (7.9)	A (9.0)	A (7.9)	A (9.0)
2024 Without Development (Case 2)				
Southbound Sandbox Road	C (18.8)	C (23.2)	C (18.8)	C (23.2)
Eastbound DE Route 14 – Lefts	A (8.1)	A (9.3)	A (8.1)	A (9.3)
2024 With Development (Cases 3a and 3b)				
Southbound Sandbox Road	C (23.3)	D (27.2)	C (23.3)	D (27.2)
Eastbound DE Route 14 – Lefts	A (8.1)	A (9.6)	A (8.1)	A (9.6)

⁸ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 9
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ⁹ One-Way Stop (T-Intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
DE Route 14 & Bloomfield Drive				
2022 Existing (Case 1)				
Southbound Bloomfield Drive	C (19.3)	C (23.8)	C (19.3)	C (23.8)
Eastbound DE Route 14 – Lefts	A (7.9)	A (8.8)	A (7.9)	A (8.8)
2024 Without Development (Case 2)				
Southbound Bloomfield Drive	C (22.2)	D (28.6)	C (22.2)	D (28.6)
Eastbound DE Route 14 – Lefts	A (8.1)	A (9.1)	A (8.1)	A (9.1)
2024 With Development (Cases 3a and 3b)				
Southbound Bloomfield Drive	D (25.2)	D (32.6)	D (25.2)	D (32.6)
Eastbound DE Route 14 – Lefts	A (8.1)	A (9.3)	A (8.1)	A (9.3)

⁹ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 10
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ¹⁰ All-Way Stop	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
DE Route 15 & Church Hill Road				
2022 Existing (Case 1)				
Northbound DE Route 15	B (12.1)	C (21.3)	B (12.1)	C (21.3)
Southbound DE Route 15	C (20.4)	C (15.4)	C (20.4)	C (15.4)
Eastbound Church Hill Road	B (11.5)	B (10.5)	B (11.5)	B (10.5)
Westbound Church Hill Road	B (10.6)	B (13.2)	B (10.6)	B (13.2)
Overall Intersection	C (15.9)	C (17.2)	C (15.9)	C (17.2)
2024 Without Development (Case 2)				
Northbound DE Route 15	C (15.2)	E (46.4)	C (15.2)	E (46.4)
Southbound DE Route 15	D (26.5)	C (21.1)	D (26.5)	C (21.1)
Eastbound Church Hill Road	B (12.5)	B (11.8)	B (12.5)	B (11.8)
Westbound Church Hill Road	B (12.7)	C (17.7)	B (12.7)	C (17.7)
Overall Intersection	C (19.5)	D (31.1)	C (19.5)	D (31.1)
2024 With Development (Cases 3a and 3b)				
Northbound DE Route 15	C (21.1)	F (113.7)	C (21.1)	F (113.7)
Southbound DE Route 15	F (57.9)	C (23.4)	F (57.9)	C (23.4)
Eastbound Church Hill Road	B (14.5)	B (12.1)	B (14.5)	B (12.1)
Westbound Church Hill Road	C (17.4)	C (19.2)	C (17.4)	C (19.2)
Overall Intersection	E (35.5)	F (65.3)	E (35.5)	F (65.3)

¹⁰ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 10 (continued)
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ¹¹ Roundabout	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
DE Route 15 & Church Hill Road				
2024 With Development (Cases 3a and 3b)				
Northbound DE Route 15	A (7.0)	A (9.7)	A (7.0)	A (9.7)
Southbound DE Route 15	A (9.7)	A (7.9)	A (9.7)	A (7.9)
Eastbound Church Hill Road	A (9.0)	A (5.4)	A (9.0)	A (5.4)
Westbound Church Hill Road	A (5.8)	A (9.5)	A (5.8)	A (9.5)
Overall Intersection	A (8.2)	A (9.0)	A (8.2)	A (9.0)

Signalized Intersection ¹¹	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
DE Route 15 & Church Hill Road				
2024 With Development (Cases 3a and 3b)	B (12.7)	B (15.2)	B (12.4)	B (19.7)

¹¹ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 11
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ¹² One-Way Stop (T-Intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
DE Route 15 & Crickett Hollow Lane				
2022 Existing (Case 1)				
Southbound DE Route 15 – Lefts	A (7.7)	A (8.3)	A (7.7)	A (8.3)
Westbound Crickett Hollow Lane	B (12.5)	B (13.1)	B (12.5)	B (13.1)
2024 Without Development (Case 2)				
Southbound DE Route 15 – Lefts	A (7.8)	A (8.4)	A (7.8)	A (8.4)
Westbound Crickett Hollow Lane	B (12.9)	B (13.7)	B (12.9)	B (13.7)
2024 With Development (Cases 3a and 3b)				
Southbound DE Route 15 – Lefts	A (7.9)	A (8.6)	A (7.9)	A (8.6)
Westbound Crickett Hollow Lane	B (13.6)	B (14.5)	B (13.6)	B (14.5)

¹² For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 12
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ¹³ One-Way Stop (T-Intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
DE Route 15 & Ward Branch Lane				
2022 Existing (Case 1)				
Northbound DE Route 15 – Lefts	A (9.1)	A (7.9)	A (9.1)	A (7.9)
Eastbound Ward Branch Lane	B (14.1)	B (12.8)	B (14.1)	B (12.8)
2024 Without Development (Case 2)				
Northbound DE Route 15 – Lefts	A (9.1)	A (8.0)	A (9.1)	A (8.0)
Eastbound Ward Branch Lane	B (14.6)	B (13.3)	B (14.6)	B (13.3)
2024 With Development (Cases 3a and 3b)				
Northbound DE Route 15 – Lefts	A (9.4)	A (8.1)	A (9.4)	A (8.1)
Eastbound Ward Branch Lane	C (15.6)	B (14.0)	C (15.6)	B (14.0)

¹³ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 13
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ¹⁴ One-Way Stop (T-Intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Church Hill Road & Goldfinch Drive				
2022 Existing (Case 1)				
Southbound Goldfinch Drive	B (10.6)	B (10.8)	B (10.6)	B (10.8)
Eastbound Church Hill Road – Lefts	A (7.5)	A (7.8)	A (7.5)	A (7.8)
2024 Without Development (Case 2)				
Southbound Goldfinch Drive	B (11.6)	B (11.9)	B (11.6)	B (11.9)
Eastbound Church Hill Road – Lefts	A (7.6)	A (8.0)	A (7.6)	A (8.0)
2024 With Development (Cases 3a and 3b)				
Southbound Goldfinch Drive	B (12.7)	B (12.2)	B (12.7)	B (12.2)
Eastbound Church Hill Road – Lefts	A (7.8)	A (8.0)	A (7.8)	A (8.0)

¹⁴ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 14
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ¹⁵ Two-Way Stop	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Church Hill Road & Bowman Road				
2022 Existing (Case 1)				
Northbound Bowman Road – Lefts	A (7.2)	A (7.4)	A (7.2)	A (7.4)
Southbound Bowman Road – Lefts	A (7.2)	A (7.4)	A (7.2)	A (7.4)
Eastbound Church Hill Road	B (11.4)	B (12.1)	B (11.4)	B (12.1)
Westbound Church Hill Road	B (10.9)	B (14.3)	B (10.9)	B (14.3)
2024 Without Development (Case 2)				
Northbound Bowman Road – Lefts	A (7.3)	A (7.4)	A (7.3)	A (7.4)
Southbound Bowman Road – Lefts	A (7.3)	A (7.4)	A (7.3)	A (7.4)
Eastbound Church Hill Road	B (12.0)	B (13.7)	B (12.0)	B (13.7)
Westbound Church Hill Road	B (11.3)	C (16.7)	B (11.3)	C (16.7)
2024 With Development (Cases 3a and 3b)				
Northbound Bowman Road – Lefts	A (7.3)	A (7.4)	A (7.3)	A (7.4)
Southbound Bowman Road – Lefts	A (7.3)	A (7.4)	A (7.3)	A (7.4)
Eastbound Church Hill Road	B (12.4)	C (16.4)	B (12.4)	C (16.4)
Westbound Church Hill Road	B (12.0)	C (18.2)	B (12.0)	C (18.2)

¹⁵ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 15
Peak Hour Levels of Service (LOS)
Based on Milford Corporate Center Traffic Impact Study – April 2023
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection ¹⁶ Two-Way Stop	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Church Hill Road & Tub Mill Pond Road				
2022 Existing (Case 1)				
Northbound Tub Mill Pond Road	B (10.7)	B (10.7)	B (10.7)	B (10.7)
Southbound Tub Mill Pond Road	B (11.3)	B (10.8)	B (11.3)	B (10.8)
Eastbound Church Hill Road – Lefts	A (7.4)	A (7.7)	A (7.4)	A (7.7)
Westbound Church Hill Road – Lefts	A (7.7)	A (7.5)	A (7.7)	A (7.5)
2024 Without Development (Case 2)				
Northbound Tub Mill Pond Road	B (11.2)	B (11.4)	B (11.2)	B (11.4)
Southbound Tub Mill Pond Road	B (12.0)	B (11.5)	B (12.0)	B (11.5)
Eastbound Church Hill Road – Lefts	A (7.4)	A (7.8)	A (7.4)	A (7.8)
Westbound Church Hill Road – Lefts	A (7.9)	A (7.6)	A (7.9)	A (7.6)
2024 With Development (Cases 3a and 3b)				
Northbound Tub Mill Pond Road	B (11.7)	B (12.0)	B (11.7)	B (12.0)
Southbound Tub Mill Pond Road	B (12.9)	B (11.9)	B (12.9)	B (11.9)
Eastbound Church Hill Road – Lefts	A (7.6)	A (7.9)	A (7.6)	A (7.9)
Westbound Church Hill Road – Lefts	A (7.9)	A (7.7)	A (7.9)	A (7.7)

¹⁶ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.