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

SHANTÉ A. HASTINGS
SECRETARY

November 26, 2025

Ms. Teresa Scrocca P.E., PTOE
Pennoni Associates, Inc.
121 Continental Drive, Suite 207
Newark, DE 19713

Dear Ms. Scrocca,

The enclosed Traffic Impact Study (TIS) review letter for the **Delmar Business Park** (Tax Parcel: 32-13.00-86.01, 86.03, 86.00, 86.04) industrial and commercial 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,

Annamaria Furmato
TIS Review Engineer

DelDOT

AF:km
Enclosures
cc with enclosures: Travis Martin, Chesapeake Plumbing and Heating, Inc.
Robert Plitko, PLITKO, LLC
Ray Blakeney, PLITKO, LLC
Will Kernodle, PLITKO, LLC
Toni Patton, Pennoni Associates, Inc.
David L. Edgell, Office of State Planning Coordination
Jeff Fleetwood, Town of Delmar
Twain Evanson, Town of Delmar
Jamie Whitehouse, Sussex County Planning & Zoning
Andrew J. Parker, McCormick Taylor, Inc.
Tucker Smith, McCormick Taylor, Inc.
DelDOT Distribution

DelDOT Distribution

Lanie Clymer, Deputy Secretary
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Brad Eaby, Deputy Attorney General, DOTS
Michael Simmons, Chief Project Development South, DOTS
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Wendy Carpenter, Traffic Calming & Subdivision Relations Manager, Traffic, DOTS
Sean Humphrey, Traffic Engineer, Traffic, DOTS
Alistair Probert, South District Engineer, M&O
Matt Schlitter, South District Public Works Engineer, M&O
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Todd Sammons, Assistant Director, Economic Development Coordination
Brian Yates, Process and Quality Control Engineer, Economic Development Coordination
Wendy Polasko, Subdivision Engineer, Economic Development Coordination
John Pietrobono, Acting Sussex Review Coordinator, Economic Development Coordination
Jose Quixtan, Sussex Review Engineer, Economic Development Coordination
Sireen Muhtaseb, TIS Engineer, Economic Development Coordination
Ben Fisher, TIS Review Engineer, Economic Development Coordination
Tijah Jones, TIS Review Engineer, Economic Development Coordination

November 25, 2025

Ms. Sireen Muhtaseb, PE
TIS Engineer
DelDOT Development Coordination
800 Bay Road
Dover, DE 19901

RE: Agreement No. 2139S
Traffic Impact Study Services
Task No. 1A Subtask 12 – Delmar Business Park

Dear Ms. Muhtaseb:

McCormick Taylor has completed its review of the Traffic Impact Study (TIS) for the Delmar Business Park development prepared by Pennoni Associates, Inc., dated September 26, 2025. Pennoni prepared the report in a manner generally consistent with DelDOT's Development Coordination Manual.

The TIS evaluates the impacts of the proposed Delmar Business Park development, proposed to be located on the east side of US Route 13 and the west side of Old Stage Road (Sussex Road 68) in the Town of Delmar, Sussex County, Delaware. The proposed development would consist of 755,500 square feet of business park with various businesses (shops, warehouse, contractor space). Access to the site is proposed along US Route 13 via one right-in/right-out entrance and along Old Stage Road via one full-movement entrance. Construction is anticipated to be completed in 2028.

The subject land is located on an approximately 71.336-acre assemblage of parcels. The land is currently zoned as Highway/Regional Commercial, and the developer does not plan to rezone the land.

Relevant and On-Going Projects and Studies

Currently, DelDOT has two relevant and ongoing projects within the area of study.

The first initiative is DelDOT's *Corridor Capacity Preservation Program (CCPP)*, which is intended to maintain the through capacity of designated highway corridors by managing access, limiting new entrances, and encouraging the use of service roads for local traffic. The purpose of the program is to ensure that principal arterials, such as this segment of US Route 13, continue to operate effectively as regional routes without undue impacts from local development. More details on DelDOT's CCPP are available at the following link: https://deldot.gov/Programs/corr_cap/
The Delmar Business Park developer proposes a right-in/right-out (RI/RO) access along US Route 13. Under the CCPP, direct access to US Route 13 is not permitted if reasonable alternative access is available to a secondary roadway. Direct access may only be considered when no feasible alternative exists or when alternative access would result in safety or operational deficiencies, as demonstrated by traffic engineering analysis.

The Town of Delmar has expressed interest in a connector road (Service Road) between US Route 13 and Old Stage Road to provide shared access for adjacent developments such as the Delmar Business Park and the proposed Intermediate School. This connector would also help reduce turning movements and relieve congestion at the intersection of Delaware Route 54 and Old Stage Road. DelDOT supports access to US Route 13 via a new connector road limited to right-in/right-out movements. This configuration is consistent with the intent of the CCPP and supports long-term corridor safety and mobility.

The second initiative is at the intersection of Old Stage Road and Delaware Route 54. DelDOT intends to install a traffic signal at this intersection. The DelDOT Traffic Engineering Section is currently working on the design, and construction is expected to begin in Financial Year 2027.

Summary of Analysis Results

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:

Intersection	***Existing Traffic Control***	***Situations for which deficiencies occur***
3 – Old Stage Road & Delaware Route 54	Unsignalized	2025 Existing PM (Case 1) 2028 without development AM and PM (Case 2) 2028 with development AM & PM (Case 3)
4 – Delaware Route 54 & US Route 13	Signalized	2028 without development AM and PM (Case 2) 2028 with development AM & PM (Case 3)

3 – Old Stage Road & Delaware Route 54 (See Recommendation 7 & Table 4, Page 21)
This unsignalized intersection experiences LOS deficiencies during the PM peak hour in Cases 1, 2, and 3, and during the AM peak hour in Cases 2 and 3. During the PM peak hour in Case 2 the southbound Old Stage Road approach is expected to operate at LOS F with 132 seconds of delay. In Case 3 during the PM peak hour with the addition of the proposed site trips, the southbound approach is expected to operate at LOS F with 177 seconds of delay. The northbound approach also experiences LOS deficiencies during the AM and PM peak hour in Case 3. DelDOT intends to install a traffic signal at this intersection and DelDOT's Traffic Engineering Section is currently working on the design. With a traffic signal, this intersection is expected to operate at LOS B in both AM and PM peak hours in Case 3. Therefore, it is recommended that the developer make an equitable share contribution to the Traffic Signal Revolving Fund (TSRF).

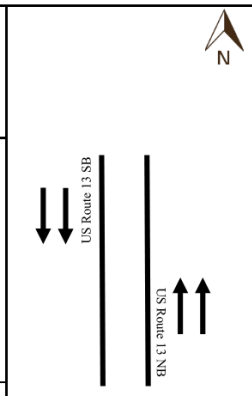
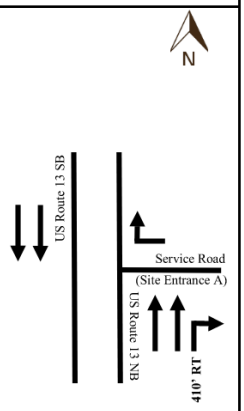
4 - Delaware Route 54 and US Route 13 (See Recommendation 8 & Table 5, Page 22)
This signalized intersection experiences LOS deficiencies during the AM and PM peak hours in Cases 2 and 3. During the AM peak hour in Case 2, the intersection is expected to operate at LOS E with 78 seconds of delay. In Case 3 during the AM peak hour with the addition of the proposed site trips, the intersection is expected to operate at LOS F with 86 seconds of delay. With the construction of dual left-turn lanes on all four approaches, the intersection is expected to operate at LOS D during all peak hours. However, considering the significant effort and cost involved with mitigating the deficiencies, and since the proposed development adds 8 seconds of delay to the existing LOS, the developer is not asked to make any improvements at this intersection. Additionally, this intersection is located on the Maryland-Delaware border, and the signal is owned, operated, and maintained by Maryland SHA. Furthermore, as noted above, the adjacent intersection of Delaware Route 54 at Old Stage Road is expected to be signalized, and with the two adjacent signals along Delaware Route 54, operations are expected to improve at the intersection of US Route 13 and Delaware Route 54.

Development Improvements

Should the Town of Delmar approve the proposed development, the following items should be incorporated into the site design and reflected on the record plan, entrance plans or construction plans 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 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 roads on which they front (US Route 13 and Old Stage Road), within the limits of their frontage. 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" means the length along the state right-of-way of a single property tract where an entrance is proposed or required. If a single property tract has frontage along multiple roadways, any segment of roadway including an entrance shall be improved to meet DelDOT's Functional Classification criteria as found in Section 1.1 of the Development Coordination Manual and elsewhere therein, and/or improvements established in the Traffic Operational Analysis and/or Traffic Impact Study. "Secondary Frontage" means the length along the state right-of-way of a single property tract where no entrance is proposed or required. The segment of roadway may be upgraded by improving the pavement condition of the existing roadway width. The Pavement Management Section and Subdivision Section will determine the requirements to improve the pavement condition.

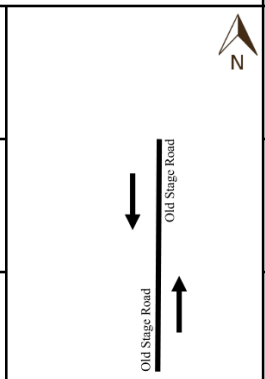
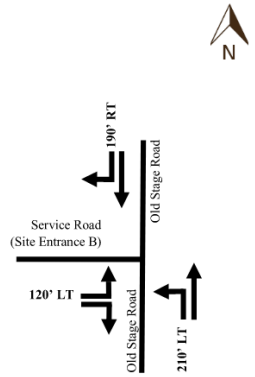
2. The developer should design and construct the right-in/right-out Service Road (Site Entrance A) on US Route 13, approximately 2,450 feet south of Iron Hill Road. The proposed configuration is shown in the table below.

Approach	Current Configuration		Approach	Proposed Configuration	
Eastbound	Approach does not exist.		Eastbound	No change.	
Westbound	Approach does not exist.		Westbound Service Road (Site Entrance A)	One right turn lane. Stop control.	
Northbound US Route 13	Two through lanes.		Northbound US Route 13	Two through lanes and one right turn lane.	
Southbound US Route 13	Two through lanes.		Southbound US Route 13	No change.	

At the proposed Site Entrance A intersection, a separate right-turn lane is warranted on US Route 13 based on DelDOT's *Auxiliary Lane Worksheet.* The initial recommended minimum turn-lane length (excluding tapers) includes a 410-foot right-turn lane on northbound US Route 13. On the westbound Site Entrance A approach, a single right-turn lane is recommended. The developer should coordinate with DelDOT's Development Coordination Section to determine the final location of this intersection on US Route 13, final turn lane lengths, and other design details during the site plan review.

3. The developer should design and construct modifications of the existing median crossover on US Route 13, located approximately 1,350 feet north of the proposed Site Entrance A, to convert the crossover to permit southbound left-turns and U-turns only. The modifications should include the removal of the northbound left-turn lane and prohibition of all northbound U-turn, northbound left-turn, and westbound left-turn movements. The developer should coordinate with DelDOT's Development Coordination and Traffic Sections to determine other design details during the site plan review.

4. The developer should design and construct the full movement Service Road (Site Entrance B) on Old Stage Road, approximately 3,150 ft south of Iron Hill Road. The proposed configuration is shown in the table below.

Approach	Current Configuration		Approach	Proposed Configuration	
Eastbound	Approach does not exist.		Eastbound Service Road (Site Entrance B)	One left-turn lane and one right turn lane. Stop control.	
Westbound	Approach does not exist.		Westbound	No change.	
Northbound Old Stage Road	One through lane.		Northbound Old Stage Road	One left turn lane and one through lane.	
Southbound Old Stage Road	One through lane.		Southbound Old Stage Road	One through lane and one right turn lane.	

At the proposed Site Entrance B intersection, separate turn lanes are warranted on both Old Stage Road approaches based on DelDOT's *Auxiliary Lane Worksheet.* Initial recommended minimum turn-lane lengths (excluding tapers) include a 210-foot left-turn lane on northbound Old Stage Road, and a 190-foot right-turn lane on southbound Old Stage Road. On the eastbound Site Entrance B approach, separate left and right-turn lanes are recommended, with a 120-foot left-turn lane. The developer should coordinate with DelDOT's Development Coordination Section to determine the final location of this intersection on Old Stage Road, final turn lane lengths, and other design details during the site plan review.

5. The developer should design and construct the proposed Service Road between Site Entrance A at US Route 13 and Site Entrance B at Old Stage Road. The Service Road should consist of one 11-foot through lane, a 5-foot shoulder, and a 2-foot gutter with 8-inch curb in each direction and designed for a 35-mph design speed and have a 35-mph posted speed limit. The roadway shall be designed and constructed to state standards for Local roads, dedicated to public use, and be accepted into state maintenance. The entrance into Delmar Business Park and the Intermediate School, from the Service Road, should be aligned to create a four-leg intersection. The number of entrances along the Service Road should be minimized. The Service Road should be located on the south side of the Delmar Business Park property and on the north side of the Intermediate School property. The developer should coordinate with DelDOT's Subdivision Section and the Town of Delmar to determine the design details and maintenance responsibility during the site plan review.

6. The developer should contribute to the Traffic Signal Revolving Fund (TSRF) for a future traffic signal at the intersection of Old Stage Road and Delaware Route 54. The TSRF contribution amount is $22,206.00. The developer should coordinate with DelDOT's Development Coordination Section to determine the terms of the TSRF contribution.

7. The following bicycle and pedestrian 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. A minimum 15-foot-wide permanent easement from the edge of the final determined right-of-way should be dedicated to DelDOT within the site frontages along US Route 13 and Old Stage Road. Along the frontages, a minimum of a 10-foot wide shared-use path 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, the shared-use path should connect to the adjacent property or to the shoulder in accordance with DelDOT's Development Coordination Manual. 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 the boundaries of the property.

   d. ADA compliant curb ramps and crosswalks should be provided at all pedestrian crossings, including all site entrances. Type 3 curb ramps are discouraged.

   e. 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 to the proposed shared-use path along the site frontages.

   f. Construct one new on-demand transit terminal near the middle of the proposed development in collaboration with Delaware Transit Corporation (DTC). The transit terminal should connect to shared use paths and sidewalks. Location, size, and type of bus pad will be determined through coordination with the DTC during the plan review process.

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 and operational issues will be further addressed through DelDOT's site plan review process.

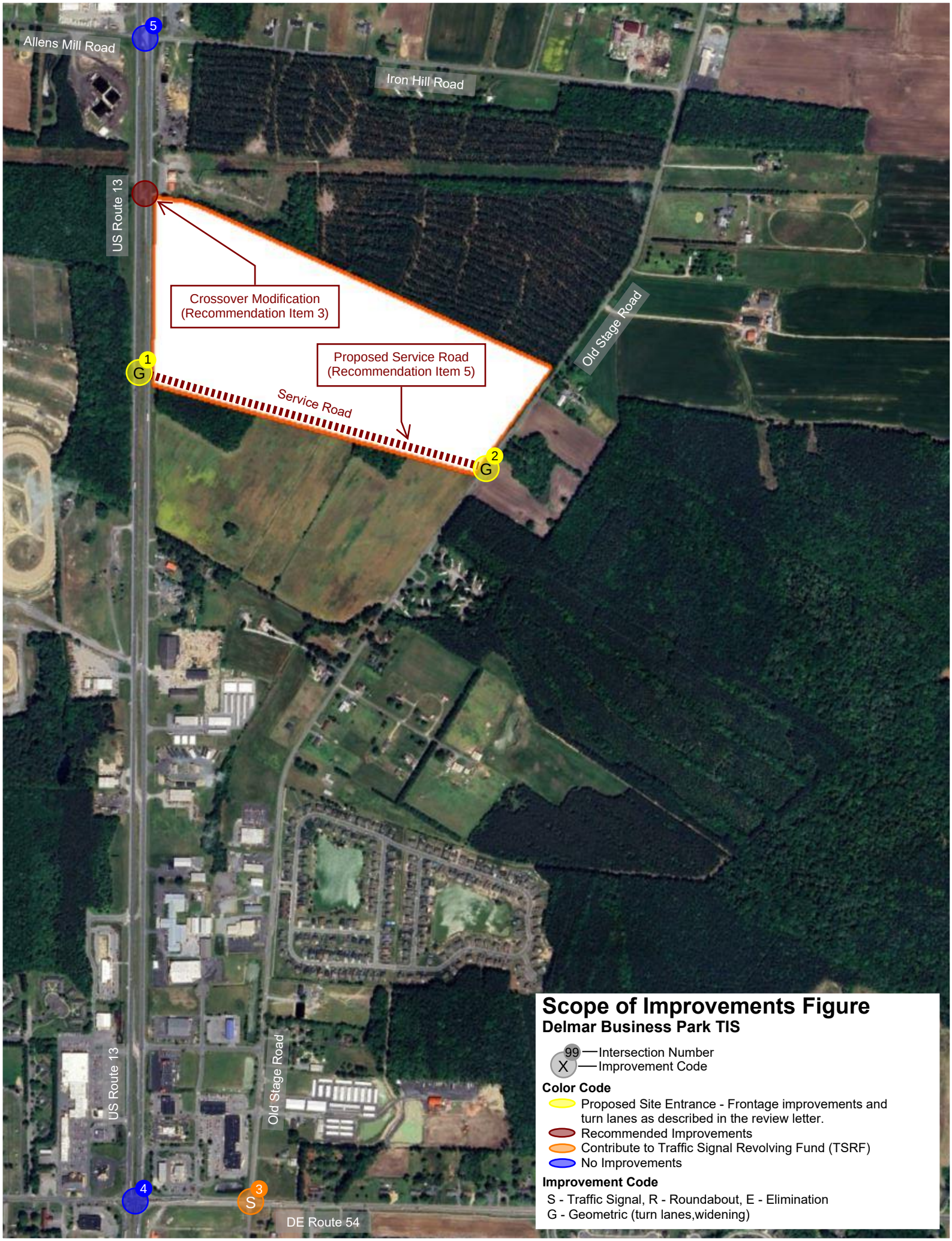
Additional details on our review of this TIS are attached. Please contact me at (302) 738-0203 or through e-mail at TBSmith@mccormicktaylor.com if you have any questions concerning this review.

Sincerely,

McCormick Taylor, Inc.

Tucker B. Smith, PE, PTOE
Senior Traffic Engineer

Enclosure


Allens Mill Road
Iron Hill Road
US Route 13
Crossover Modification
(Recommendation Item 3)
Proposed Service Road
(Recommendation Item 5)
Old Stage Road
Service Road
5
1
G
2
G
US Route 13
Old Stage Road
4
3
S
DE Route 54
Scope of Improvements Figure
Delmar Business Park TIS
99
X
Intersection Number
Improvement Code
Color Code
Proposed Site Entrance - Frontage improvements and turn lanes as described in the review letter.
Recommended Improvements
Contribute to Traffic Signal Revolving Fund (TSRF)
No Improvements
Improvement Code
S - Traffic Signal, R - Roundabout, E - Elimination
G - Geometric (turn lanes,widening)

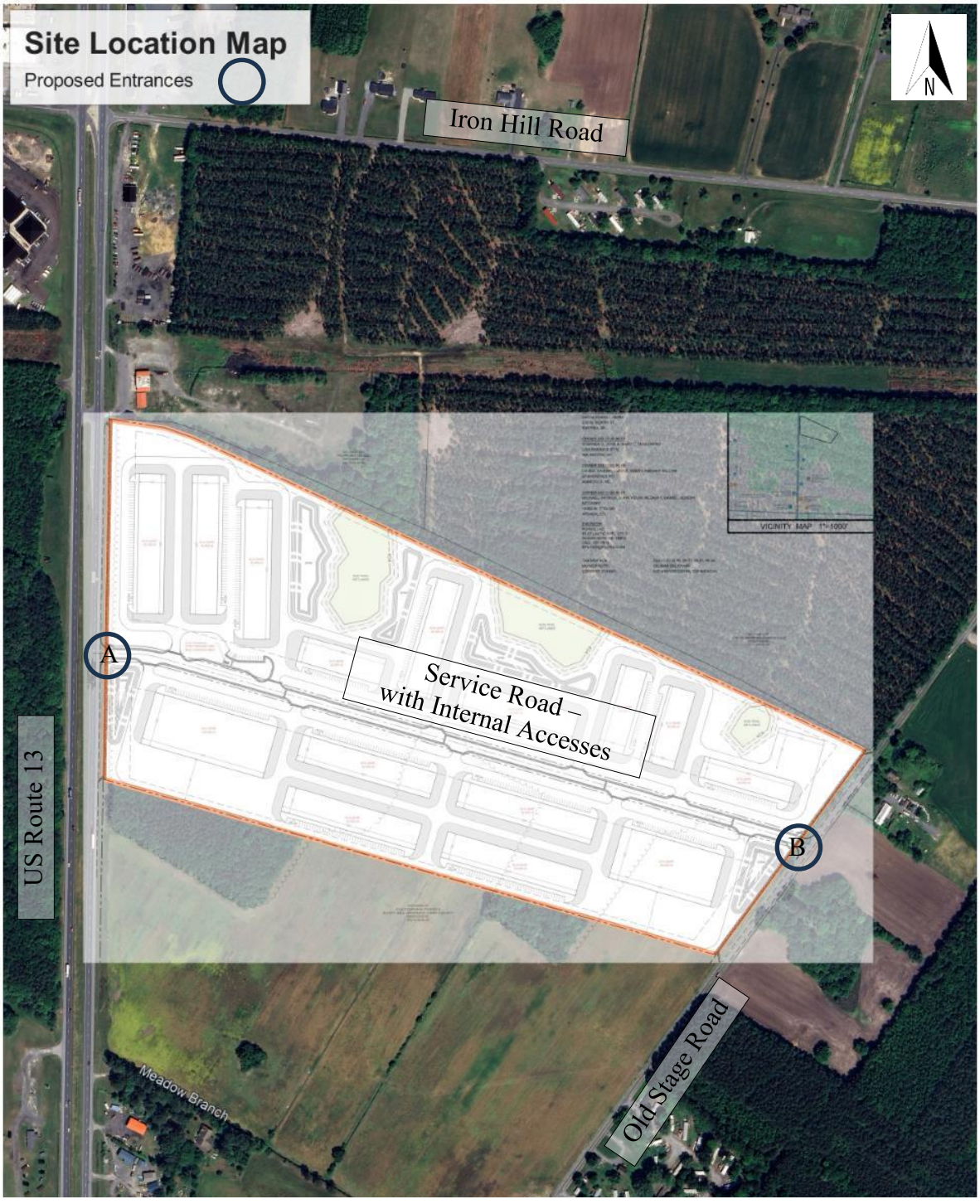
General Information

Report date: September 6, 2025
Prepared by: Pennoni Associates, Inc.
Prepared for: Chesapeake Heating and Plumbing, Inc.
Tax parcel: 532-13.00-86.00, 532-13.00-86.03, 532-13.00-86.04
Generally consistent with DelDOT's Development Coordination Manual: Yes

Project Description and Background

Description: The proposed Delmar Business Park development would consist of 755,500 square foot of business park with various businesses (shops, warehouses, contractor space).
Location: The land is located on the east side of US Route 13 (Sussex Highway) approximately 2,000 feet south of Iron Hill Road in the Town of Delmar in Sussex County, Delaware. A site location map is included on page 10.
Amount of land to be developed: an approximately 71.336-acre assemblage of parcels.
Land use approval(s) needed: Land is currently zoned as Highway/Regional Commercial with no plans to rezone.
Proposed completion year: 2028
Proposed access locations: A service road with a right-in/right-out access onto US Route 13 and a full movement access onto Old Stage Road.
Average Daily Traffic Volumes (per DelDOT Traffic Summary 2024):

- US Route 13: 22,319 vehicles/day
- Old Stage Road: 2,773 vehicles/day



Note: Service Road alignment and Site Entrance locations to be determined during the site plan review process.

2020 Delaware Strategies for State Policies and Spending

Location with respect to the Strategies for State Policies and Spending Map of Delaware: The proposed Delmar Business Park development is located within Investment Levels 2 and 3.

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."

Investment Level 3
Investment Level 3 generally falls into two categories. The first category covers lands that are in the long-term growth plans of counties or municipalities, but where development is not necessary to accommodate expected short-term population growth. The second category includes lands that are adjacent to fast-growing Investment Level 1 and 2 areas but are often impacted by environmentally sensitive features, agricultural-preservation issues, or other infrastructure issues. In these instances, development and growth may be appropriate in the near term, but the resources on the site and in the surrounding area should be carefully considered and accommodated by state agencies and local governments with land-use authority.

Generally, Investment Level 3 areas should not be developed until surrounding Investment Level 1 and 2 areas are substantially built out. From a housing perspective, Investment Level 3 areas are characterized by low density and rural homes. New housing developments in the short term would, in most cases, represent leap-frog development, which is undesirable. Higher density housing in Investment Level 3 areas is more appropriate once Level 2 areas are built out and utilities are available.

Proposed Development's Compatibility with Strategies for State Policies and Spending:
The proposed Delmar Business Park development is situated mostly within Investment Level 2 with a small portion in Investment Level 3. The development will have shops, warehouses and contractor space, and will include a bus terminal and a shared use path along site frontages. Investment Level 2 areas are 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

Sussex County Comprehensive Plan:
(Source: Sussex County Comprehensive Plan, March 2019)

The Sussex County Comprehensive Plan Future Land Use Map indicates that the proposed Delmar Business Park development is proposed on land designated to "Municipalities" per the Future Land Use Map. The Town of Delmar Zoning Map designates the project area as "Highway/Regional Commercial." The purpose of the Highway/Regional Commercial district is to provide for the location of primary economic activities which are to a large extent regional in scope such as regional retailing and service commercial activities.

Proposed Development's Compatibility with Comprehensive Plan:

The development will have shops, warehouses and contractor space on an approximately 71.336-acre assemblage of parcels. The land is designated as "Highway/Regional Commercial." It appears that the proposed Delmar Business Park development fits within the intended land use for this location.

Relevant and On-Going Projects and Studies

Currently, DelDOT has two relevant and ongoing projects within the area of study.

The first initiative is DelDOT's *Corridor Capacity Preservation Program (CCPP)*, a statewide initiative intended to maintain the through capacity of designated highway corridors. The program achieves this objective through strategies such as managing access points, encouraging shared and consolidated entrances, and promoting the use of service roads for local traffic circulation. The overarching goal is to ensure that existing principal arterial roadways, such as this segment of US Route 13, continue to function effectively as regional traffic routes without undue degradation from local development impacts.

The Delmar Business Park developer proposes a right-in/right-out (RI/RO) access along US Route 13. In accordance with the CCPP, direct access to US Route 13 for the Delmar Business Park or the proposed Intermediate School is generally not permitted when reasonable alternative access options are available. According to the Office of State Planning Coordination's Strategies for State Policies and Spending, the subject parcels are located within a Level 2 Investment Area. Within Level 2 Areas, the CCPP policy emphasizes maintaining corridor integrity while supporting

redevelopment and reinvestment. Under these provisions, if reasonable access to a secondary roadway exists, new direct access to US Route 13 shall not be approved.

Direct access may be considered only when no reasonable alternative access is available, either to an existing secondary roadway or through an adjoining property, or when the alternative access would result in a measurable degradation of operational or safety conditions at nearby intersections, as demonstrated by a detailed traffic engineering analysis.

It is noted that the Town of Delmar has expressed interest in establishing a connector road between US Route 13 and Old Stage Road. Such a facility could provide alternative access for multiple developments, including the Delmar Business Park and the proposed Intermediate School, and may reduce traffic demand at the intersection of Delaware Route 54 and Old Stage Road, which currently experiences high volumes. Establishment of a connector or service road is consistent with the intent of the CCPP to manage access and preserve corridor function.

Accordingly, DelDOT supports the concept of providing site access to US Route 13 via a new service road connection, limited to right-in/right-out movements. This approach aligns with CCPP access management objectives and provides a long-term solution that supports both safety and mobility along the corridor.

The second initiative is at the intersection of Old Stage Road and Delaware Route 54. DelDOT intends to install a traffic signal at this intersection. The DelDOT Traffic Engineering Section is currently working on the design, and construction is expected to begin in Financial Year 2027.

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:

- 755,500 square foot Industrial Park (ITE Land Use Code 130)

Table 1: Delmar Business Park Peak Hour Trip Generation

Land Use	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Industrial Park (755,500 sf)	2,687	208	49	257	57	200	257

Overview of TIS

Intersections examined:

1) US Route 13 / Service Road (Site Entrance A)
2) Old Stage Road (Sussex Road 68) / Service Road (Site Entrance B)
3) Old Stage Road (Sussex Road 68) / Delaware Route 54
4) Delaware Route 54 / US Route 13
5) US Route 13 / Allens Mill Road / Iron Hill Road (Sussex Road 454A)

Conditions examined:

1) 2022 Existing (Case 1)
2) 2028 Without Development (Case 2)
3) 2028 With Development (Case 3)

Peak hours evaluated: Weekday morning and evening peak hours.

Committed developments considered:

1) Whitetail Run: 225 single-family detached homes.
2) Dunkin Donuts Shopping Center Delmar: 5,833 square foot retail space and 1,715 square foot coffee/donut shop with drive through.
3) North Delmar Shopping Center: 64,930 square foot retail space with supermarket and a 125-room hotel.
4) Stillwater: 172 single-family detached homes.
5) Delmar Intermediate School: 500 student school

Intersection Descriptions

1) **US Route 13 and Service Road (Site Entrance A)**
   Type of Control: proposed right-in / right-out intersection (T-intersection).
   Westbound Approach: (Site Entrance A) one right turn lane, stop controlled.
   Northbound Approach: (US Route 13) two through lanes and one right-turn lane.
   Southbound Approach: (US Route 13) two through lanes (divided roadway).

2) **Old Stage Road and Service Road (Site Entrance B)**
   Type of Control: proposed one way stop controlled (T-intersection).
   Eastbound Approach: (Site Entrance B) one left-turn lane and one right-turn lane, stop controlled.
   Northbound Approach: (Old Stage Road) one left-turn lane and one through lane.
   Southbound Approach: (Old Stage Road) one through lane and one right-turn lane.

3) **Old Stage Road and Delaware Route 54**
   Type of Control: two-way stop controlled.
   Eastbound Approach: (Delaware Route 54) one left-turn lane and one shared through/right-turn lane.
   Westbound Approach: (Delaware Route 54) one shared left/through/right-turn lane.
   Northbound Approach: (Old Stage Road) one shared left/through/right-turn lane, stop controlled.
   Southbound Approach: (Old Stage Road) one shared left/through lane and one right-turn lane, stop controlled.

4) **Delaware Route 54 and US Route 13**
   Type of Control: signalized intersection.
   Eastbound Approach: (Delaware Route 54) one left-turn lane, one through lane, and one channelized right-turn lane.
   Westbound Approach: (Delaware Route 54) one left-turn lane, one through lane, and one channelized right-turn lane.
   Northbound Approach: (US Route 13) one left-turn lane, two through lanes, and one channelized right-turn lane.
   Southbound Approach: (US Route 13) one left-turn lane, two through lanes, and one channelized right-turn lane.

5) **US Route 13 and Allens Mill Road / Iron Hill Road**
   Type of Control: two-way stop controlled (with channelization).
   Eastbound Approach: (Allens Mill Road) one shared left/right-turn lane, stop controlled.
   Westbound Approach: (Iron Hill Road) one right-turn lane, stop controlled.
   Northbound Approach: (US Route 13) one left-turn lane, two through lanes, and one right-turn lane.
   Southbound Approach: (US Route 13) two through lanes and one right-turn lane.

Safety Evaluation

Crash Data: Delaware Crash Analysis Reporting System (CARS) data was provided in Appendix B of the TIS for the three-year period from April 4, 2022, through April 4, 2025. The crash data indicates that 8 crashes occurred along the site frontages on US Route 13 and Old Stage Road. 5 of the crashes occurred along US Route 13 and 3 of the crashes occurred on Old Stage Road. There were no fatalities within the crash data.

US Route 13: 5 crashes occurred along this section of US Route 13. Of those, 2 (40%) crashes were not a collision between two vehicles and the remaining crashes consisted of a front to rear, front to front, and a sideswipe collision. One (20%) crash resulted in personal injury, and none involved a fatality.

Old Stage Road: Three (3) crashes occurred along this section of Old Stage Road. None of the crashes were collisions between two vehicles. Of the 3 crashes, 2 (67%) involved personal injury and none involved a fatality.

Sight Distance: The proposed site accesses on US Route 13 and Old Stage Road were observed to have an unobstructed view looking from the proposed driveway approach with no apparent 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) currently operates one fixed-route transit bus service in the area of the proposed Delmar Business Park development. Route 212 runs along US Route 13, providing service between Delmar, Seaford, Bridgeville and Georgetown with approximately 11 trips in each direction on weekdays and Saturdays. The nearest stops to the proposed Delmar Business Park are on US Route 13 approximately 0.8 miles south of the proposed Site Entrance A on the west side of US Route 13. Another stop is located just east of the US Route 13 and Delaware Route 54 intersection. There are no routes or stops on Old Stage Road.

Planned transit service: The developer proposes to construct two new on-demand transit terminals internal to the site in collaboration with Delaware Transit Corporation (DTC). This is based on coordination between the developer and DTC which was recorded in a letter dated July 17, 2025, which is included in Appendix A of the TIS.

Existing bicycle and pedestrian facilities: The following study area roadways are identified as "Bicycling Routes" on the *Sussex County Bicycle Map* published by DelDOT:

- US Route 13
    - Connector Bicycle Route with Bikeway
    - Over 5,000 vehicles daily
- Old Stage Road
    - Connector Bicycle Route with and without Bikeway
- Delaware Route 54
    - Connector Bicycle Route with Bikeway
    - Over 5,000 vehicles daily

US Route 13 has shoulders in both directions. Some segments of Old Stage Road, south of the proposed development, have bike lanes and shared use paths or sidewalks.

Planned bicycle and pedestrian facilities: The developer is recommended to construct a 10-foot wide shared use path along their frontage on US Route 13 and Old Stage Road, sidewalks along the proposed Service Road, and sidewalks throughout the development. The developer is also recommended to investigate the potential for pedestrian crossings of the Service Road.

Previous Comments

The initial scoping memorandum between the developer and DelDOT was dated April 14, 2025.

In a review letter dated July 1, 2025, DelDOT commented on the volume balancing between the intersection with US Route 13 and Old Stage Road. The developer was asked to update the committed development distribution for the Proposed Delmar Intermediate School and to apply growth factors to the existing seasonally adjusted volumes. The developer was asked to complete the changes and proceed to the Preliminary TIS.

In a second review letter dated August 4, 2025, DelDOT requested updates to the trip generation for the Dunkin Donuts Shopping Center Delmar. The developer was asked to update figures and resubmit the Preliminary TIS.

In a third review letter dated August 26, 2025, DelDOT requested updates to figures and asked the developer to proceed to the final TIS submission.

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) The TIS and McCormick Taylor used Synchro software, version 12, to complete the traffic analysis.

2) The TIS and McCormick Taylor generally used heavy vehicle percentages (HV%) from turning movement counts for existing and future conditions (as per DelDOT's Development Coordination Manual section 2.2.8.11.6.H). McCormick Taylor and the TIS assumed 3% HV at proposed site entrances in future conditions.

3) The TIS and McCormick Taylor determined overall intersection peak hour factors (PHF) for each intersection based on the turning movement counts. Future PHFs were determined as per the DelDOT Development Coordination Manual section 2.2.8.11.6.F where applicable.

4) For analyses of all intersections, McCormick Taylor and the TIS assumed 0% grade for all movements.

Table 2
Peak Hour Levels of Service (LOS)
Based on Delmar Business Park Traffic Impact Study – September 26, 2025
Prepared by Pennoni

Unsignalized Intersection [1] **Right-In / Right-Out Intersection**	**LOS per TIS**		**LOS per McCormick Taylor**	
1 – US Route 13 & Service Road (Site Entrance A)	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2028 Without Development (Case 2)				
Westbound Site Entrance A	B (13.5)	B (14.8)	B (12.6)	B (14.6)
2028 With Development (Case 3)				
Westbound Site Entrance A	B (13.0)	C (18.0)	B (13.0)	C (18.0)

[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 3
Peak Hour Levels of Service (LOS)
Based on Delmar Business Park Traffic Impact Study – September 26, 2025
Prepared by Pennoni

Unsignalized Intersection [2] **One-Way Stop (T-Intersection)**	**LOS per TIS**		**LOS per McCormick Taylor**	
2 – Old Stage Road & Service Road (Site Entrance B)	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2028 Without Development (Case 2)				
Eastbound Site Entrance B	B (10.7)	B (10.5)	B (10.7)	B (10.5)
Northbound Old Stage Road - Left	A (7.9)	A (8.0)	A (7.9)	A (8.0)
2028 With Development (Case 3)				
Eastbound Site Entrance B	B (11.1)	B (12.1)	B (11.1)	B (12.1)
Northbound Old Stage Road - Left	A (8.0)	A (8.0)	A (8.0)	A (8.0)

[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 4
Peak Hour Levels of Service (LOS)
Based on Delmar Business Park Traffic Impact Study – September 26, 2025
Prepared by Pennoni

Unsignalized Intersection [3] **Two-Way Stop**	**LOS per TIS**		**LOS per McCormick Taylor**	
3 – Old Stage Road & Delaware Route 54	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2025 Existing (Case 1)				
Eastbound Delaware Route 54 – Left	A (8.4)	--	A (8.4)	A (8.4)
Westbound Delaware Route 54 – Left	A (7.9)	A (8.2)	A (7.9)	A (8.2)
Northbound Old Stage Road	C (19.6)	C (20.5)	C (19.6)	C (20.5)
Southbound Old Stage Road	D (30.8)	E (35.9)	D (30.8)	E (35.9)
2028 Without Development (Case 2)				
Eastbound Delaware Route 54 – Left	A (8.9)	--	A (8.9)	A (8.9)
Westbound Delaware Route 54 – Left	A (7.8)	A (8.4)	A (7.8)	A (8.4)
Northbound Old Stage Road	D (33.0)	D (33.1)	D (33.0)	D (33.1)
Southbound Old Stage Road	F (98.0)	F (131.6)	F (98.0)	F (131.6)
2028 Without Development (Case 2) – With Improvement (Signalized) [4]				
Overall	B (12.0)	A (9.3)	B (11.9)	B (10.0)
2028 With Development (Case 3)				
Eastbound Delaware Route 54 – Left	A (9.0)	--	A (9.0)	A (9.0)
Westbound Delaware Route 54 – Left	A (7.8)	A (8.4)	A (7.8)	A (8.4)
Northbound Old Stage Road	E (39.5)	E (39.8)	E (39.5)	E (39.8)
Southbound Old Stage Road	F (132.0)	F (176.5)	F (132.0)	F (176.5)
2028 With Development (Case 3) – With Improvement (Signalized) [4]				
Overall	B (12.4)	B (10.1)	B (13.0)	B (11.8)

[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.
[4] MT modeled the proposed signal with the following lane configuration: Eastbound and westbound approaches have left-turn lanes and shared through/right-turn lanes; the northbound approach has a shared left/through/right lane; and the southbound approach has a shared left/through lane and a right-turn lane.

Table 5
Peak Hour Levels of Service (LOS)
Based on Delmar Business Park Traffic Impact Study – September 26, 2025
Prepared by Pennoni

Signalized Intersection [5]	**LOS per TIS**		**LOS per McCormick Taylor**	
4 – Delaware Route 54 & US Route 13	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2025 Existing (Case 1)				
Overall	E (57.2)	E (57.6)	D (54.4)	D (52.6)
2028 Without Development (Case 2)				
Overall	F (81.2)	F (82.1)	E (77.8)	E (69.2)
2028 Without Development (Case 2) – With Improvement [6]				
Overall	E (72.9)	F (80.5)	D (41.0)	D (44.8)
2028 With Development (Case 3)				
Overall	F (91.7)	F (99.2)	F (86.4)	F (83.3)
2028 With Development (Case 3) – With Improvement [6]				
Overall	E (78.6)	F (91.0)	D (42.3)	D (47.1)

[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.
[6] MT modeled this intersection with potential improvements that mitigate the LOS deficiency which included the addition of second left-turn lanes to all four approaches. The TIS acknowledged that there is an LOS deficiency at this intersection and recommends signal timing improvements but nothing that mitigates the deficiency.

Table 6
Peak Hour Levels of Service (LOS)
Based on Delmar Business Park Traffic Impact Study – September 26, 2025
Prepared by Pennoni

Unsignalized Intersection [7] **Two-Way Stop**	**LOS per TIS**		**LOS per McCormick Taylor** [8]	
5 - US Route 13 & Allens Mill Road / Iron Hill Road	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2025 Existing (Case 1)				
Eastbound Allens Mill Road	D (29.7)	C (23.9)	D (28.2)	C (22.0)
Westbound Iron Hill Road	B (12.6)	B (13.2)	B (12.6)	B (13.2)
Northbound US Route 13 – Left	B (12.5)	B (11.3)	B (12.4)	B (11.3)
2028 Without Development (Case 2)				
Eastbound Allens Mill Road	E (35.1)	D (28.7)	D (32.6)	D (26.0)
Westbound Iron Hill Road	B (14.0)	B (14.5)	B (14.0)	B (14.5)
Northbound US Route 13 – Left	B (13.1)	B (12.0)	B (13.1)	B (12.0)
2028 With Development (Case 3)				
Eastbound Allens Mill Road	E (37.7)	E (36.8)	D (34.0)	D (26.0)
Westbound Iron Hill Road	B (14.1)	B (14.8)	B (14.0)	B (14.8)
Northbound US Route 13 – Left	C (17.5)	C (22.9)	C (17.3)	C (22.8)

[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.
[8] MT Modeled the intersection in Synchro as two nodes to better reflect operations with the unique geometry which includes channelizing islands to prohibit some turning movements and an extended eastbound left-turn acceleration lane.