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

SHANTÉ A. HASTINGS
SECRETARY

February 5, 2026

Ms. Carol Ohm, P.E.
Apex Engineering, Inc.
27 West Market Street
Newport, DE 19804

Dear Ms. Ohm,

The enclosed Traffic Impact Study (TIS) review letter for the **Springhouse Preserve a.k.a 3401 Limestone Road** (Tax Parcel: 08-037.00-037, 08-037.00-033) residential 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

AF:lw
Enclosures
cc with enclosures: Stephen G Davies, Apex Engineering, Inc
David L. Edgell, Office of State Planning Coordination
Antoni Sekowski, New Castle County Department of Land Use
Dawn Thompson, New Castle County Department of Land Use
Owen C. Robatino, New Castle County Department of Land Use
Andrew J. Parker, McCormick Taylor, Inc.
Tucker Smith, McCormick Taylor, Inc.
DelDOT Distribution

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Mark Luszcz, Chief Engineer, Transportation Solutions (DOTS)
Brad Eaby, Deputy Attorney General, DOTS
Matthew Vincent, Chief Project Development North, DOTS
Peter Haag, Chief Traffic Engineer, DOTS
Wendy Carpenter, Traffic Calming & Subdivision Relations Manager, Traffic, DOTS
Sean Humphrey, Traffic Engineer, Traffic, DOTS
Brian Schilling, Canal District Engineer, M&O
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Jared Kauffman, Service Development Planner, DTC
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Anthony Aglio, Planning Supervisor, Active Transportation & Community Connections, Planning
Austin Gray, Assistant Director, Statewide & Regional Planning, Planning
Anson Gock, Planner, Statewide & Regional Planning, Planning
Jeff Van Horn, Director, Economic Development Coordination
Todd Sammons, Assistant Director, Economic Development Coordination
Brian Yates, Process and Quality Control Engineer, Economic Development Coordination
Wendy Polasko, Subdivision Engineer, Economic Development Coordination
Randhir Sharma, New Castle Review Coordinator, Economic Development Coordination
John Andrescavage, New Castle 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

February 5, 2026

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 15 – 3401 Limestone Road (aka Springhouse Preserve)

Dear Ms. Muhtaseb:

McCormick Taylor has completed its review of the Traffic Impact Study (TIS) for the 3401 Limestone Road (aka Springhouse Preserve) development prepared by Apex Engineering Inc., dated December 2025. Apex prepared the report in a manner generally consistent with DelDOT's Development Coordination Manual.

The TIS evaluates the impacts of the proposed 3401 Limestone Road (aka Springhouse Preserve) development, proposed to be located on the east side of Limestone Road in New Castle County, Delaware. The proposed development would consist of a 9,000 square-foot Small Office Building, 110 Single-Family Attached Houses, and 14 Low-Rise Multifamily Apartment Units. Three entrances are proposed, one full access entrance on Limestone Road across from Hopkins Drive, one right-in/right-out entrance on Limestone Road via Concord Drive, and one right-in/right-out entrance on Limestone Road approximately 485 feet south of Hopkins Drive. The TIS includes an additional analysis case with development to evaluate the proposed right-in/right-out entrance on Limestone Road south of Hopkins Drive. Construction is anticipated to be completed in 2027.

The subject land is located on an approximately 20.2-acre assembly of two parcels. The land is currently zoned as S (Suburban) and the developer plans to rezone to ST (Suburban Transition).

Relevant and On-Going Projects and Studies

Currently, DelDOT has one relevant and ongoing project near the area of study.

WILMAPCO's Special Committee for Senate Resolution 10 issued recommendations to reduce truck traffic and improve operations and safety along SR 7 (Limestone Road), SR 41, and SR 48, including Recommendation #15 calling for a traffic engineering study to identify potential improvements for corridor intersections operating at LOS E or worse based on WILMAPCO's Congestion Management Program results. This effort included the intersection of Limestone Road and Milltown Road, with capacity-improvement concepts documented in the SR 10 Recommendation #15 Intersection Analysis (December 2020) report. The concepts are recommended for further study and are not included in DelDOT's Capital Transportation Program

(CTP). More information on this study is available at the following link: https://wilmapco.org/SR10/.

Summary of Analysis Results

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

New Castle County Level of Service (LOS) Standards, as stated in Section 40.11.210 of the Unified Development Code (UDC), apply to signalized, all-way stop, and roundabout intersections that New Castle County has scoped for inclusion in the TIS. Based on an evaluation of those intersections, none exhibit LOS deficiencies under the UDC criteria.

Separate from the UDC requirements, DelDOT's LOS evaluation criteria (Development Coordination Manual, Chapter 2) apply to intersections DelDOT required for analysis. Based on this evaluation, one signalized intersection required by DelDOT (Intersection number 7) exhibits an LOS deficiency and will require physical roadway and/or traffic control improvements in accordance with DelDOT criteria.

In addition, five unsignalized intersections (Intersection numbers 1, 2, 5, 6, and 8) exhibit LOS deficiencies. These intersections are not subject to the UDC LOS standards because they are not signalized, all-way stop, or roundabout intersections. However, they are subject to DelDOT standards and are discussed further in the following sections.

The following table summarizes all the study intersections that 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***
1 – Limestone Road & Hopkins Drive / Site Entrance C	Unsignalized	2024 existing AM & PM (Case 1) 2027 without development AM & PM (Case 2) 2027 with development w/o Site Entrance B AM & PM (Case 3a) 2027 with development w/ Site Entrance B AM & PM (Case 3b)
2 – Limestone Road & Ascension Drive	Unsignalized	2027 without development PM (Case 2) 2027 with development PM (Case 3)
5 – Limestone Road & Old Limestone Road / Limestone Presbyterian Church Entrance	Unsignalized	2024 existing PM (Case 1) 2027 without development AM & PM (Case 2) 2027 with development AM & PM (Case 3)

6 – Limestone Road & Pike Creek Sports Medicine Entrance	Unsignalized	2024 existing PM (Case 1) 2027 without development AM & PM (Case 2) 2027 with development AM & PM (Case 3)
7 – Limestone Road & Milltown Road	Signalized	2024 existing AM & PM (Case 1) 2027 without development AM & PM (Case 2) 2027 with development AM & PM (Case 3)
8 – Limestone Road & Old Linden Hill Road	Unsignalized	2024 existing AM & PM (Case 1) 2027 without development AM & PM (Case 2) 2027 with development AM & PM (Case 3)

1 – Limestone Road and Hopkins Drive / Site Entrance C (See Recommendations 4 and 5 & Table 2, Pages 23-24)

This unsignalized stop-controlled intersection experiences LOS deficiencies during the AM and PM peak hour in all cases. During the PM peak hour in Case 1, the eastbound Hopkins Drive minor approach is expected to operate at LOS F with 76 seconds of delay. During the PM peak hour in Case 2, the eastbound Hopkins Drive minor approach is expected to operate at LOS F with 143 seconds of delay, and the southbound Limestone Road U-turn is expected to operate at LOS E with 40 seconds of delay. In Case 3, with the construction of the westbound Site Entrance C approach and the introduction of the proposed site trips, the eastbound Hopkins Drive minor approach is expected to operate at LOS F with 264 seconds of delay, and the westbound Site Entrance C approach is expected to operate at LOS F with 1,996 seconds of delay, during the PM peak hour. The developer proposes to restrict left-turns and through movements from Site Entrance C onto Limestone Road. DelDOT also recommends restricting left turns and through movements from Hopkins Drive opposite Site Entrance C. With these turn restrictions, the left turning vehicles from Hopkins Drive and site entrance C will have to turn right and travel to the nearest intersection to make a U turn rather than waiting for an adequate gap in the traffic on Limestone to make a left turn lane. Delay at the intersection is significantly reduced, however, there is a remaining LOS deficiency on the northbound Limestone Road left-turn approach in the AM peak hour. Without Site Entrance B in the AM peak hour, the northbound left-turn approach is expected to operate at LOS E with 38 seconds of delay. With Site Entrance B in the AM peak hour, the same approach is expected to operate at LOS E with 43 seconds of delay. As such, it is recommended that the developer construct raised concrete channelization to restrict left-turns and through movements from Site Entrance C and Hopkins Drive onto Limestone Road. The design could be similar to the intersection of Limestone Road and Ascension Drive. This revision is recommended for both existing safety reasons and to improve existing and future LOS for this unsignalized intersection.

2 – Limestone Road and Ascension Drive (See Table 3, Page 25)

This unsignalized two-way stop-controlled intersection experiences LOS deficiencies during the PM peak hours in Cases 2 and 3. During the PM peak hour in Case 2, the southbound Limestone Road left-turn is expected to operate at LOS E with 47 seconds of delay. During the PM peak hour in Case 3, the southbound Limestone Road left-turn is expected to operate at LOS E with 48 seconds of delay. If Site Entrance B is not constricted, the delay is expected to increase by 1 second

to 49 seconds of delay on the southbound Limestone Road left-turn. As discussed in the paragraph above, turning movement restrictions are recommended at the intersection of Limestone Road and Hopkins Drive / Site Entrance C. Drivers intending to travel south from Site Entrance C will need to turn right, travel north on Limestone Road, and make a U-turn at Ascension Drive. These additional vehicles are expected to create an LOS deficiency, increasing the delay on the northbound Limestone Road U-turn/left-turn to LOS E with 41 seconds of delay and queues approximately 1 vehicle long. As such, it is recommended that the developer continue with the turning movement restrictions at the Limestone Road and Hopkins Drive / Site Entrance C.

5 – Limestone Road and Old Limestone Road / Limestone Presbyterian Church Entrance (See Table 6, Page 28)

This unsignalized two-way stop-controlled intersection experiences LOS deficiencies in all cases. During the PM peak hour in Case 1, the eastbound Old Limestone Road approach is expected to operate at LOS F with 170 seconds of delay. In Case 2 during the PM Peak hour, the eastbound Old Limestone Road approach is expected to operate at LOS F with 280 seconds of delay. With the addition of the proposed site trips, the eastbound approach is expected to operate at 321 seconds of delay with queues less than one vehicle long. The total approach volume on the eastbound Old Limestone Road approach is less than 10 vehicles per hour during the AM and PM peak hours. The developer is not required to mitigate this LOS deficiency based on section 2.2.8.12.5 of DelDOT's Development Coordination Manual. There is also an LOS deficiency on the northbound Limestone Road left-turn approach in Case 2 and 3 during the AM peak hour which is expected to operate at LOS F with 68 seconds of delay and queues approximately 68 feet long. Mitigation is not recommended in this situation as the existing left turn bay has over 75 feet of storage and vehicles have the option to make a U-turn at a downstream intersection.

6 – Limestone Road and Pike Creek Sports Medicine Entrance (See Table 7, Page 29)

This unsignalized stop-controlled intersection experiences LOS deficiencies in all cases. During the PM peak hour in Case 1, the westbound Pike Creek Sports Medicine Entrance minor approach is expected to operate at LOS F with 305 seconds of delay. In Case 2 during the PM Peak hour, the westbound Pike Creek Sports Medicine Entrance minor approach is expected to operate at LOS F with 889 seconds of delay. It should be noted that a right-in/right-out eastbound approach is added to the intersection as part of the proposed Milltown Square development in Case 2. With the addition of the proposed site trips, the westbound minor approach is expected to operate at LOS F with 995 seconds of delay with queues more than six vehicles long. Turning movement restrictions were considered at this intersection, although they are not recommended. The westbound approach is a private business, and the parking lot is interconnected with the Limestone Presbyterian Church to the north, providing vehicles three alternative access points to turn onto Limestone Road. There is also an LOS deficiency on the northbound Limestone Road left-turn approach in Case 2 and 3 during the AM peak hour which is expected to operate at LOS E with 40 seconds of delay and queues less than one vehicle long. Mitigation is not recommended in this situation as there is sufficient storage in the left-turn bay and vehicles have the option to make a U-turn at a downstream intersection.

7 – Limestone Road and Milltown Road (See Recommendation 6 & Table 8, Page 30)
This signalized intersection is expected to experience LOS deficiencies in all cases. In Case 1 during the AM peak hour, the intersection is expected to operate at a LOS E with 56 seconds of delay. In Case 2 during the AM peak hour, the intersection is expected to operate at LOS E with 80 seconds of delay. With the addition of the proposed site trips, the intersection is expected to operate at LOS F with 83 seconds of delay in the AM peak hour. Because the 3401 Limestone Road (aka Springhouse Preserve) development impact is only 3 additional seconds in the AM peak and 1 second in the PM peak and considering the significant effort and cost with mitigating the deficiencies, we recommend that the developer make an equitable share contribution to the Traffic Signal Revolving Fund (TSRF). Additionally, this intersection was not identified as a study intersection by New Castle County and is therefore not subject to the mitigation requirements of the Unified Development Code (UDC).

8 – Limestone Road and Old Linden Hill Road (See Table 9, Page 31)
This unsignalized stop-controlled intersection experiences LOS deficiencies in all cases. In Case 1 during the AM peak hour, the eastbound Old Linden Hill Road minor approach is expected to operate at LOS F with 70 seconds of delay. In Case 2 during the AM peak hour, the eastbound Old Linden Hill Road minor approach is expected to operate at LOS F with 121 seconds of delay. In Case 3, with the addition of the proposed site trips, the eastbound minor approach is expected to operate at LOS F with 125 seconds of delay in the AM peak hour. The total approach volume on the eastbound Old Linden Hill Road approach is less than 10 vehicles per hour during the AM and PM peak hours. The developer is not required to mitigate this LOS deficiency based on section 2.2.8.12.5 of DelDOT's Development Coordination Manual. There are also LOS deficiencies on the northbound and southbound Limestone Road U-turn/left-turn approaches. The northbound approach is expected to operate at LOS E with 40 seconds of delay and queues less than one vehicle long during the AM peak hour and the southbound approach is expected to operate at LOS E with 41 seconds of delay and queues less than one vehicle long in the PM peak hour. Mitigation is not recommended in this situation as the existing left turn bays have sufficient storage and vehicles have the option to make a U-turn at downstream intersections.

Site Access Evaluation

11 – Limestone Road & Existing Driveway (Site Entrance B) (See Recommendation 3 & Table 12, Page 34)
The intersection of Site Entrance B and Limestone Road is proposed on the east side of Limestone Road at the location of the existing driveway into the site, approximately 485 feet south of Hopkins Drive. The TIS includes an additional analysis case with development to evaluate the proposed entrance. Due to the existing raised median, this entrance is proposed as right-in/right-out. There is sufficient distance between Concord Drive, Site Entrance B, and Site Entrance C to accommodate the recommended turn lanes. Site Entrance B does introduce additional northbound U-turns at the intersection of Limestone Road and Hopkins Drive / Site Entrance C with drivers intending to travel south. These additional vehicles add 5 seconds of delay to the northbound left-turn movement that is expected to operate at LOS E with 38 seconds of delay without Site Entrance

B. DelDOT finds the proposed location of Site Entrance B on Limestone Road to be generally acceptable. Additional coordination will be required during the site plan review.

Site Entrance A on Concord Drive

The developer proposes to construct a full-movement site entrance on the north side of Concord Drive approximately 520 feet east of Limestone Road. Concord Road is a Suburban Road maintained by the State that provides access to the existing Walden development. As such, the intersection of Limestone Road and Concord Drive was scoped and evaluated as Site Entrance A. Intersection 3 – Limestone Road & Concord Drive (Site Entrance A) is noted in Recommendation Item #2 & Table 4, Page 26. DelDOT's Auxiliary Lane Worksheet was completed for the intersection of the Site Entrance and Concord Drive and no turn lane or bypass lanes are recommended. DelDOT finds the proposed location of the Site Entrance on Concord Drive to be generally acceptable. Additional coordination will be required during the site plan review.

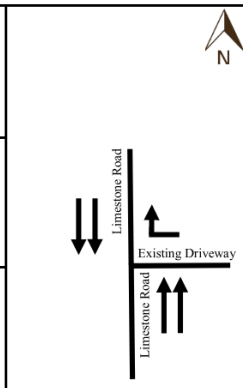
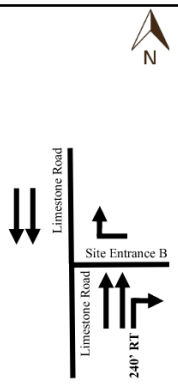
Development Improvements

Should New Castle County 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 road on which they front (Limestone Road), within the limits of their frontage along the divided roadway in the direction of travel closest to their property. "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.

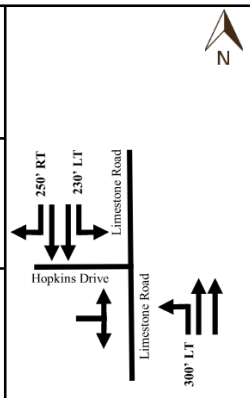
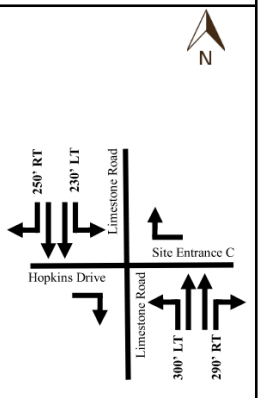
2. The developer should design and construct the full-movement Site Entrance on Concord Drive, north of Limestone Road. At the proposed Site Entrance intersection, no turn lanes or bypass lanes are warranted on Concord Drive based on DelDOT's *Auxiliary Lane Worksheet*. The developer should coordinate with DelDOT's Development Coordination Section to determine other design details during the site plan review.

3. The developer should modify the existing driveway and construct the right-in/right-out Site Entrance B intersection on Limestone Road, approximately 485 feet south of Hopkins Drive at the location of the existing site driveway. The proposed configuration is shown in the table below.

Approach	Current Configuration		Approach	Proposed Configuration	
Eastbound	Approach does not exist.		Eastbound	No Change.	
Westbound Existing Driveway	One right turn lane.		Westbound Site Entrance B	One right-turn lane. Stop control.	
Northbound Limestone Road	Two through lanes.		Northbound Limestone Road	Two through lanes and one right-turn lane.	
Southbound Limestone Road	Two through lanes.		Southbound Limestone Road	Two through lanes.	

At the proposed right-in/right-out Site Entrance B intersection, a right-turn lane is warranted on the northbound Limestone Road approach based on DelDOT's *Auxiliary Lane Worksheet*. Initial recommended minimum turn-lane lengths (excluding tapers) include a 240-foot right-turn lane on the northbound Limestone Road. 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.

4. The developer should design and construct the right-in/right-out/left-in Site Entrance C intersection on Limestone Road, opposite Hopkins Drive. The proposed configuration is shown in the table below.

Approach	Current Configuration		Approach	Proposed Configuration	
Eastbound Hopkins Drive	One shared left/ right-turn lane. Stop control.		Eastbound Hopkins Drive	One right-turn lane. Stop control.	
Westbound	Approach does not exist.		Westbound Site Entrance C	One right-turn lane. Stop control.	
Northbound Limestone Road	One left-turn lane and two through lanes.		Northbound Limestone Road	One left-turn lane, two through lanes, and one right-turn lane.	
Southbound Limestone Road	One U-turn lane, two through lanes and one right-turn lane.		Southbound Limestone Road	One left-turn lane, two through lanes, and one right-turn lane.	

At the proposed Site Entrance C intersection, a right-turn lane is warranted based on DelDOT's *Auxiliary Lane Worksheet*. Initial recommended minimum turn-lane lengths (excluding tapers) include a 290-foot right-turn lane on the northbound Limestone Road. Additional raised concrete channelization should be added to the westbound Site Entrance to physically discourage drivers from making westbound through or left-turn movements. 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.

5. The developer should modify the existing intersection of Limestone Road and Hopkins Drive to add additional physical barriers to prevent drivers from making eastbound left-turn or through movements from Hopkins Drive onto Limestone Road. To accomplish this, the developer should modify the existing median opening at the intersection by designing and constructing a raised curb island in the center of the intersection to channelize vehicles making a northbound or southbound U-turn/left-turn movement. The design should be similar to the intersection of Limestone Road and Ascension Drive. The developer should prepare a concept plan for this improvement, for review by DelDOT's Traffic Section. The developer should coordinate with DelDOT's Traffic and Development Coordination Sections to determine final design details during the site plan review.

6. The developer should contribute to the Traffic Signal Revolving Fund (TSRF) for potential future improvements to the existing traffic signal at the intersection of Limestone Road and Milltown Road. The TSRF contribution amount is $3,650. 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 frontage along Limestone Road. Along the frontage, there is an existing 5-foot-wide sidewalk immediately behind the curb. Additional coordination between the developer and DelDOT's Subdivision Section is required during the site plan review to determine if ADA improvements are needed.

    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 existing sidewalk along the site frontage.

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.

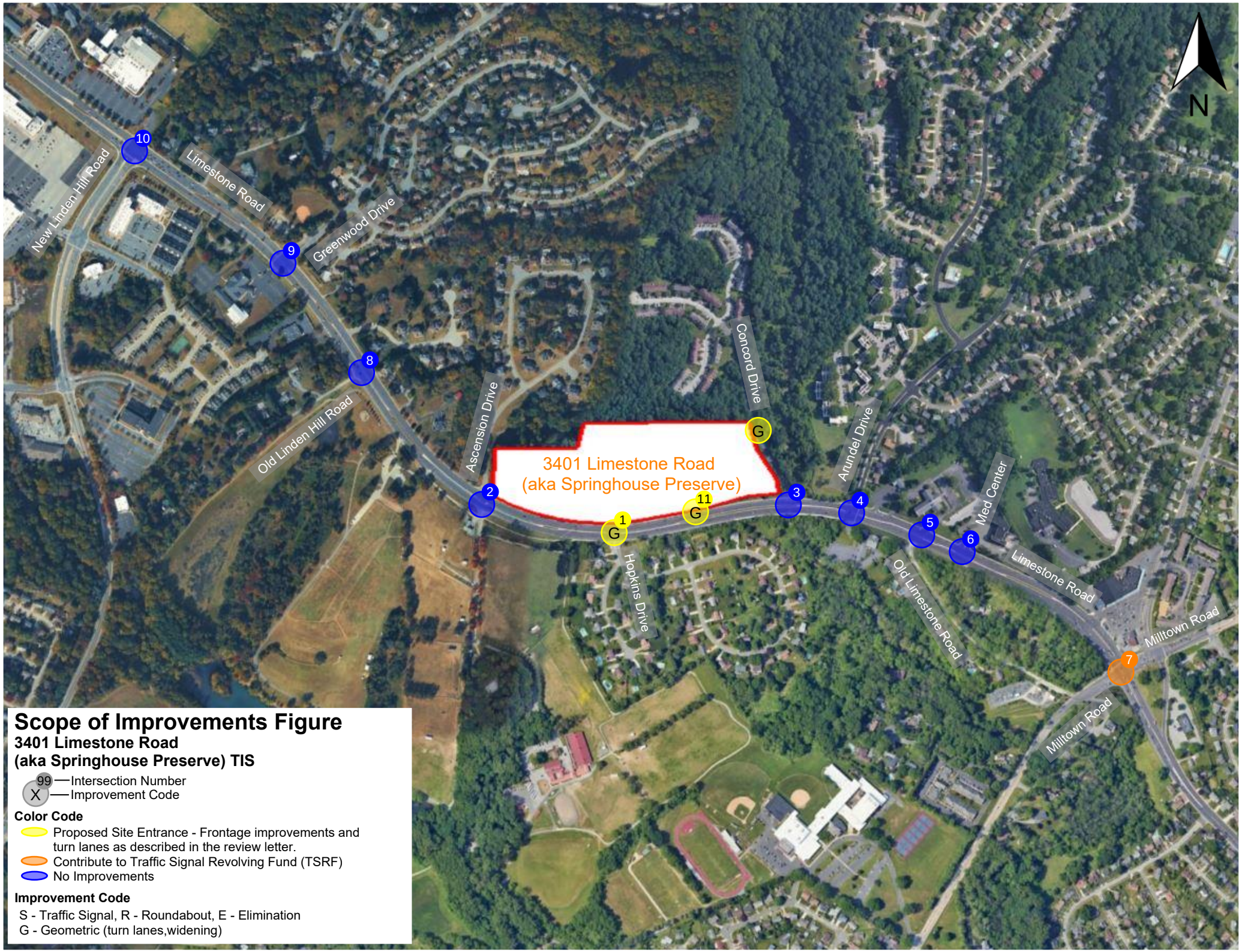
Additional details on our review of this TIS are attached. Please contact me at (302) 738-0203 or through e-mail at TBSmith@mccormicktaylor.com if you have any questions concerning this review.

Sincerely,

McCormick Taylor, Inc.

Tucker B. Smith, PE, PTOE
Senior Traffic Engineer

Enclosure


N
New Linden Hill Road
Limestone Road
Greenwood Drive
Old Linden Hill Road
Ascension Drive
Concord Drive
Arundel Drive
Med Center
Hopkins Drive
Old Limestone Road
Limestone Road
Milltown Road
Milltown Road
3401 Limestone Road
(aka Springhouse Preserve)
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10
11
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G
Scope of Improvements Figure
3401 Limestone Road
(aka Springhouse Preserve) TIS
99 — Intersection Number
X — Improvement Code
Color Code
Proposed Site Entrance - Frontage improvements and turn lanes as described in the review letter.
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: December 2025
Prepared by: Apex Engineering, Inc.
Prepared for: Apex Engineering, Inc.
Tax parcels: 08-0.37.00-037 and 08-037.00-033
Generally consistent with DelDOT's Development Coordination Manual: Yes

Project Description and Background

Description: The proposed 3401 Limestone Road (aka Springhouse Preserve) development would consist of a 9,000 square foot Small Office Building, 110 Single-Family Attached Houses, and 14 Low-Rise Multifamily Apartment Units.
Location: The land is located on the east side of Limestone Road in New Castle County, Delaware. A site location map is included on page 13.
Amount of land to be developed: an approximately 20.2-acre parcel.
Land use approval(s) needed: The land is currently zoned as S (Suburban) and the developer plans to rezone to ST (Suburban Transition).
Proposed completion year: 2027
Proposed access locations: Three entrances are proposed, one full access entrance on Limestone Road across from Hopkins Drive, one right-in/right-out entrance on Limestone Road via Concord Drive, and one right-in/right-out entrance on Limestone Road approximately 485 feet south of Hopkins Drive.
Average Daily Traffic Volumes (per DelDOT Traffic Summary 2024):

- Limestone Road: 31,526 vehicles/day

N
Ascencion Drive
Concord Drive
A
B
C
Limestone Road
Hopkins Drive
Site Location Map
Proposed Entrance

2020 Delaware Strategies for State Policies and Spending

Location with respect to the Strategies for State Policies and Spending Map of Delaware: The proposed 3401 Limestone Road (aka Springhouse Preserve) 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 3401 Limestone Road (aka Springhouse Preserve) development is situated within Investment Level 1 and Investment Level 2, with an approximately even split between the two levels. 3401 Limestone Road (aka Springhouse Preserve) is to be developed with a 9,000 square foot Small Office Building, 110 Single-Family Attached Houses, and 14 Low-Rise Multifamily Apartment Units. The proposed development is generally consistent with the character of Investment Levels 1 and 2. As such, the proposed development appears to comply with the guidelines set forth in the 2020 "Strategies for State Policies and Spending".

Comprehensive Plan

New Castle County Comprehensive Plan:
(Source: New Castle County Comprehensive Plan, July 2022)

The New Castle County Comprehensive Plan Future Land Use Map indicates that the proposed 3401 Limestone Road (aka Springhouse Preserve) site is within an area designated as Low Density Residential development.

Proposed Development's Compatibility with Comprehensive Plan:
The proposed 3401 Limestone Road (aka Springhouse Preserve) development project includes a 9,000 square foot Small Office Building, 110 Single-Family Attached Houses, and 14 Low-Rise Multifamily Apartment Units on an approximately 20.2-acre assemblage of parcels. If the density and other aspects of the proposed development satisfy New Castle County's zoning requirements, it would appear that the proposed 3401 Limestone Road (aka Springhouse Preserve) development fits within the intended land use for this location.

Relevant and On-Going Projects and Studies

Currently, DelDOT has one relevant and ongoing project near the area of study.

WILMAPCO's Special Committee for Senate Resolution 10 (SR 10) issued recommendations to reduce truck traffic and improve operations and safety along SR 7 (Limestone Road), SR 41, and SR 48, including Recommendation #15 calling for a traffic engineering study to identify potential improvements for corridor intersections operating at LOS E or worse based on WILMAPCO's Congestion Management Program results. This effort included the intersection of Limestone Road and Milltown Road, with capacity-improvement concepts documented in the SR 10 Recommendation #15 Intersection Analysis (December 2020) report. The concepts are recommended for further study and are not included in DelDOT's Capital Transportation Program (CTP). More information on this study is available at the following link: https://wilmapco.org/SR10/.

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:

- 110 units of Single-Family Attached Houses (ITE Land Use Code 215)
- 14 units of Low-Rise Multi-Family Units (ITE Land Use Code 220)
- 9,000 square foot Small Office (ITE Land Use Code 712)

Table 1: 3401 Limestone Road (aka Springhouse Preserve) Peak Hour Trip Generation

Land Use	Weekday ADT			Weekday AM Peak Hour			Weekday PM Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
110 units of Single Family Attached Houses (LUC 215)	394	394	788	13	39	52	37	25	62
14 units of Low-Rise Multifamily Units (LUC 220)	47	47	94	1	5	6	4	3	7
9,000 square foot Small Office (LUC 712)	65	65	130	12	3	15	7	12	19
TOTAL TRIPS	**506**	**506**	**1012**	**26**	**47**	**73**	**48**	**40**	**88**

Overview of TIS

Intersections Examined:

1) Limestone Road and Hopkins Drive / Site Entrance C *
2) Limestone Road and Ascension Drive
3) Limestone Road and Concord Drive (Site Entrance A)
4) Limestone Road and Arundel Drive / Doherty Funeral Home Entrance
5) Limestone Road and Old Limestone Road / Limestone Presbyterian Church Entrance
6) Limestone Road and Pike Creek Sports Medicine Entrance
7) Limestone Road and Milltown Road
8) Limestone Road and Old Linden Hill Road
9) Limestone Road and Greenwood Drive / Faith Baptist Church Entrance
10) Limestone Road and New Linden Hill Road / Goldey Beacom College Entrance
11) Limestone Road and Existing Driveway (Site Entrance B) *

Note: Intersections with an asterix (*) were modeled in Case 3a and 3b.

Conditions examined:

1) 2024 Existing (Case 1)
2) 2027 No-Build (Case 2)
3) 2027 Build (Case 3)
    a. Without Site Entrance B
    b. With Site Entrance B

Peak hours evaluated: Weekday morning and evening peak hours

Committed developments considered:

1) **Milltown Square:** 42,000 square foot medical building and 3 single-family detached dwellings.
2) **Pike Creek Daycare:** 8,200 square foot Daycare.
3) **Skyline United Methodist Church:** 1,734 square feet of additions.
4) **Heritage Elementary School:** 5,120 square feet of additions.
5) **Lime Creek Professional Center:** 9,000 square foot office building.
6) **Linden Hill Shoppes and Offices**: 48,000 square foot general office buildings.
7) **Hogan Drive Townhouses**: 14 townhouses.
8) **Pike Creek Sports Plus**: 33,000 square foot indoor recreation center.
9) **Dennison Ridge**: 4 single-family detached dwellings and 8 townhouses.
10) **Malinowski, Andrew and Dorothy**: 2,142 square feet of dental office addition.
11) **3906 Kirkwood Highway**: 10,900 square foot fast food/restaurant/retail building, replacing existing/approved buildings.
12) **3924 and 3926 Kirkwood Highway**: 3,770 square foot shopping center building, replacing existing building.
13) **Kirkwood Plaza**: 7,840 square foot commercial building and drive-thru ATM, replacing existing building.
14) **New Castle County Engineering Building Replacement**: 70,625 square foot office building and EMS building, replacing existing building.
15) **Astro Plaza**: 9,091 square feet of additions to convenience store/gas station and fast food restaurant with drive-thru.
16) **YMCA**: 30,303 square feet of additions.
17) **St. Michael The Archangel Church:** 1,828 square feet of additions.
18) **Delaware Park:** 46,793 square foot clubhouse/grandstand addition.

Intersection Descriptions

1. **Limestone Road and Hopkins Drive / Site Entrance C**
   Type of Control: Existing – one-way stop control (T-intersection). Proposed – two-way stop control.
   Eastbound Approach: (Hopkins Drive) Existing – one shared left-turn/right-turn lane. Proposed – one shared left-turn/through/right-turn lane, stop control.
   Westbound Approach: (Site Entrance C) Proposed – one shared left-turn/through/right-turn lane, stop controlled.
   Northbound Approach: (Limestone Road) Existing – one U/left-turn lane, two through lanes, and one right-turn lane.
   Southbound Approach: (Limestone Road) Existing – one left-turn lane, two through lanes and one right-turn lane.

2. **Limestone Road and Ascension Drive**
   Type of Control: Two-way stop controlled.
   Eastbound Approach: (Carousel Park Entrance) One right-turn lane, stop controlled.
   Westbound Approach: (Ascension Drive) One right-turn lane, stop controlled.
   Northbound Approach: (Limestone Road) One left turn lane, two through lanes, and one right-turn lane.

3. **Limestone Road and Concord Drive (Site Entrance A)**
   Type of Control: One-Way Stop Controlled (right-in/right-out).
   Westbound Approach: (Concord Drive) one right-turn lane, stop controlled.
   Northbound Approach: (Limestone Road) two through lanes, and one right-turn lane.
   Southbound Approach: (Limestone Road) two through lanes.

4. **Limestone Road and Arundel Drive / Doherty Funeral Home Entrance**
   Type of Control: Signalized Intersection.
   Eastbound Approach: (Doherty Funeral Home Entrance) one shared left/through/right-turn lane.
   Westbound Approach: (Arundel Drive) one shared left-turn/through lane and one right-turn lane.
   Northbound Approach: (Limestone Road) one left-turn lane, two through lanes, and one right-turn lane.
   Southbound Approach: (Limestone Road) one left-turn lane, two through lanes, and one right-turn lane.

5. **Limestone Road and Old Limestone Road / Limestone Presbyterian Church Entrance**
   Type of Control: Two-way stop controlled.
   Eastbound Approach: (Old Limestone Road) one shared left/through/right-turn lane, stop controlled.
   Westbound Approach: (Limestone Presbyterian Church Entrance) one shared left/through/right-turn lane, stop controlled.
   Northbound Approach: (Limestone Road) one left-turn lane, two through lanes, and one right-turn lane.
   Southbound Approach: (Limestone Road) one left-turn lane, two through lanes, and one right-turn lane.

6. **Limestone Road and Pike Creek Sports Medicine Entrance**
   Type of Control: One-Way Stop Control (T-Intersection)
   Westbound Approach: (Pike Creek Sports Medicine Entrance) one shared left/through/right-turn lane, stop control.
   Northbound Approach: (Limestone Road) one U-Turn lane, two through lanes, and one right-turn lane.
   Southbound Approach: (Limestone Road) one left-turn lane, and two through lanes.

7. **Limestone Road and Milltown Road**
   Type of Control: Signalized intersection.
   Eastbound Approach: (Milltown Road) two left-turn lanes, two through lanes, and one yield controlled channelized right-turn lane.
   Westbound Approach: (Milltown Road) two left-turn lanes, one through lane, and one right-turn lane.
   Northbound Approach: (Limestone Road) one left-turn lane, two through lanes, and one right-turn lane (separated to McKennan's Church Road intersection).
   Southbound Approach: (Limestone Road) two left-turn lanes, two through lanes, and one yield controlled channelized right-turn lane.

8. **Limestone Road and Old Linden Hill Road**
   Type of Control: One-Way Stop Control (T-Intersection).
   Eastbound Approach: (Old Linden Hill Road) one shared left/right-turn lane, stop controlled.
   Northbound Approach: (Limestone Road) one left-turn lane and two through lanes.
   Southbound Approach: (Limestone Road) one U-Turn lane, two through lanes, and one right-turn lane.

9. **Limestone Road and Greenwood Drive / Faith Baptist Church Entrance**
   Type of Control: Signalized intersection.
   Eastbound Approach: (Faith Baptist Church Entrance) one shared left-turn/through lane and one right-turn lane.
   Westbound Approach: (Greenwood Drive) one shared left-turn/through lane and one right-turn lane.
   Northbound Approach: (Limestone Road) one left-turn lane, two through lanes, and one right-turn lane.
   Southbound Approach: (Limestone Road) one left-turn lane, two through lanes, and one right-turn lane.

10. **Limestone Road and New Linden Hill Road / Goldey Beacom College Entrance**
    Type of Control: Signalized intersection.
    Eastbound Approach: (New Linden Hill Road) one left-turn lane, one shared left-turn/through lane, and one yield controlled channelized right-turn lane.
    Westbound Approach: (Goldey Beacom College Entrance) one left turn lane, and one shared through/right-turn lane.
    Northbound Approach: (Limestone Road) two left-turn lanes, two through lanes, and one right-turn lane.
    Southbound Approach: (Limestone Road) one left-turn lane, two through lanes, and one right-turn lane.

11. **Limestone Road and Existing Driveway (Site Entrance B)**
    Type of Control: Proposed – One-Way Stop Controlled (right-in/right-out).
    Westbound Approach: (Driveway) one right-turn lane, stop controlled.
    Northbound Approach: (Limestone Road) two through lanes and one right-turn lane.
    Southbound Approach: (Limestone Road) two through lanes.

Safety Evaluation

Crash Data: Delaware Crash Analysis Reporting System (CARS) data was provided in Appendix E of the TIS for the three-year period from February 21, 2021, through February 21, 2024. The crash data indicates that 160 crashes occurred within the study area over that timeframe, with 58 (36%) occurring along the northbound section of Limestone Road and 72 (45%) occurring along the southbound section of Limestone Road. The majority of the crashes on southbound Limestone Road were front to rear collisions (25%) and the majority of the crashes on northbound Limestone Road were front to rear collisions (21%). 8% of the total crashes along Limestone Road were angle collisions. There were three fatal crashes during the study period.

Sight Distance: The proposed site access on Limestone Road was 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 3401 Limestone Road (aka Springhouse Preserve) development. Route 018 runs between Naams Road at Cedar Tree Apartments and the Polly Drummond Shopping Center with approximately 20 trips in each direction during the week. The nearest stops to the proposed 3401 Limestone Road (aka Springhouse Preserve) development are on Limestone Road, on both sides of the Arundel Drive intersection, approximately 1,000 feet from the proposed Site Entrance B.

Planned transit service: Based on coordination with DTC representatives, there are no additional transit amenities proposed or required at this time.

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

- Limestone Road (Delaware Route 7)
    - Connector Bicycle Route with Bikeway
    - Over 10,000 vehicles daily and challenging for cyclists

Limestone Road has shoulders in both directions throughout the area as well as marked bike lanes adjacent to right-turn lanes.

Planned bicycle and pedestrian facilities: The developer should provide a pedestrian crossing at the site entrance and provide connections to pedestrian and bicycle facilities within the proposed development.

Previous Comments

The initial scoping memorandum between the developer and DelDOT weas dated January 17, 2024, and revised on January 26, 2024.

In a review letter dated July 29, 2024, DelDOT commented on the traffic counts submitted by the developer. The developer was asked to provide narratives for all traffic count submissions, depict peak hour time period, day and date of count on figures, update seasonally adjusted volume figures and provide a table of seasonal factors used to determine the seasonally adjusted volumes. The developer was asked to address the comments and proceed to the preliminary TIS.

In a second review letter dated June 3, 2025, DelDOT requested updates to the Preliminary TIS. The developer was asked to update the Seasonal Adjustment Factor (Table 1). The developer was also asked to include correspondence from local agencies and previous studies and to remove some committed developments from the study. The developer was asked to update committed development distributions for multiple projects and provide justifications for some committed developments. The developer was asked to address the comments and proceed to the Preliminary TIS.

In a third review letter dated August 12, 2025, DelDOT requested updates to seasonal factors and update volume figures/distributions. The developer was asked to address the comments and proceed to the Preliminary TIS.

In a fourth review letter dated September 15, 2025, DelDOT requested changes to future submissions, updates to trip generation methodology, and updates to figures. The developer was asked to address the comments and resubmit the Preliminary TIS.

In a fifth review letter dated October 24, 2025, DelDOT requested updates to some committed development trip generation and figures. The developer was asked to address the comments and resubmit the Preliminary TIS.

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 Highway Capacity Software (HCS) to complete the traffic analyses. Specific signalized intersections were modeled using Synchro software due to non-standard signal phasing.

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.

Table 2
Peak Hour Levels of Service (LOS)
Based on 3401 Limestone Road (aka Springhouse Preserve) Traffic Impact Study
December 2025
Prepared by Apex Engineering, Inc.

Unsignalized Intersection [1] **One-Way Stop (T-Intersection)**	**LOS per TIS**		**LOS per McCormick Taylor**	
1 – Limestone Road & Hopkins Drive / Site Entrance C	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Eastbound Hopkins Drive	E (36.7)	F (88.1)	E (39.3)	F (76.3)
Northbound Limestone Road - Left	D (31.3)	C (20.1)	D (31.9)	C (20.1)
Southbound Limestone Road – U-Turn	C (16.2)	D (34.3)	C (16.2)	D (34.3)
2027 Future No Build (Case 2)				
Eastbound Hopkins Drive	F (55.0)	F (161.7)	F (69.0)	F (142.8)
Northbound Limestone Road - Left	E (36.4)	C (23.4)	E (37.2)	C (23.3)
Southbound Limestone Road – U-Turn	C (18.4)	E (39.7)	C (18.4)	E (39.7)
2027 Future Build (Case 3a) – w/o Site Entrance B				
Eastbound Hopkins Drive	F (92.1)	F (400.2)	F (115.3)	F (263.7)
Westbound Site Entrance C	F (609.3)	F (1685.2)	F (507.2)	F (1995.8)
Northbound Limestone Road - Left	E (36.6)	C (23.5)	E (37.3)	C (23.5)
Southbound Limestone Road - Left	B (11.0)	C (23.7)	B (11.2)	C (24.0)
2027 Future Build (Case 3a) – w/o Site Entrance B w/ improvements [2]				
Eastbound Hopkins Drive	C (17.1)	C (16.5)	C (17.0)	C (16.0)
Westbound Site Entrance C	B (14.1)	C (19.6)	B (13.7)	C (19.6)
Northbound Limestone Road - Left	E (37.2)	C (23.8)	E (37.8)	C (23.8)
Southbound Limestone Road - Left	B (11.0)	D (25.1)	B (11.2)	D (25.4)

[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.
[2] Recommended improvements at this intersection include the restriction of left turns from eastbound Hopkins Drive and westbound Site Entrance C.

Table 2 (continued)
Peak Hour Levels of Service (LOS)
Based on 3401 Limestone Road (aka Springhouse Preserve) Traffic Impact Study
December 2025
Prepared by Apex Engineering, Inc.

Unsignalized Intersection [3] **One-Way Stop (T-Intersection)**	**LOS per TIS**		**LOS per McCormick Taylor**	
1 – Limestone Road & Hopkins Drive / Site Entrance C	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2027 Future Build (Case 3b) – w/ Site Entrance B				
Eastbound Hopkins Drive	F (107.3)	F (458.1)	F (86.4)	F (302.5)
Westbound Site Entrance C	F (509.7)	F (1286.4)	F (425.4)	F (1660.2)
Northbound Limestone Road - Left	E (40.3)	D (27.8)	E (40.3)	D (27.8)
Southbound Limestone Road - Left	B (11.0)	C (23.6)	B (11.2)	C (23.9)
2027 Future Build (Case 3b) – w/ Site Entrance B w/ improvements [4]				
Eastbound Hopkins Drive	C (17.1)	C (16.5)	C (17.3)	C (16.1)
Westbound Site Entrance C	B (13.8)	C (18.8)	B (13.6)	C (19.2)
Northbound Limestone Road - Left	E (40.9)	D (28.3)	E (43.0)	D (29.2)
Southbound Limestone Road - Left	B (11.0)	C (24.5)	B (11.2)	D (25.1)

[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] Recommended improvements at this intersection include the restriction of left turns from eastbound Hopkins Drive and westbound Site Entrance C.

Table 3
Peak Hour Levels of Service (LOS)
Based on 3401 Limestone Road (aka Springhouse Preserve) Traffic Impact Study
December 2025
Prepared by Apex Engineering, Inc.

Unsignalized Intersection [5] **Two-Way Stop Control**	**LOS per TIS**		**LOS per McCormick Taylor**	
2 – Limestone Road & Ascension Drive	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Eastbound Ascension Drive	C (15.8)	B (14.8)	C (15.4)	B (14.4)
Westbound Ascension Drive	B (13.0)	C (17.1)	B (12.8)	C (16.6)
Northbound Limestone Road - Left	B (13.2)	B (12.3)	B (13.2)	B (12.3)
Southbound Limestone Road - Left	B (13.2)	C (24.4)	B (13.2)	C (24.4)
2027 Future No Build (Case 2)				
Eastbound Ascension Drive	C (16.6)	C (15.9)	C (16.1)	C (15.4)
Westbound Ascension Drive	B (14.0)	C (18.4)	B (13.7)	C (17.7)
Northbound Limestone Road - Left	B (14.0)	B (13.2)	B (13.9)	B (13.2)
Southbound Limestone Road - Left	C (20.0)	E (46.6)	C (19.9)	E (46.5)
2027 Future Build (Case 3)				
Eastbound Ascension Drive	C (16.7)	C (16.1)	C (16.1)	C (15.6)
Westbound Ascension Drive	B (14.1)	C (18.5)	B (13.8)	C (17.8)
Northbound Limestone Road - Left	B (14.0)	B (13.3)	B (13.9)	B (13.3)
Southbound Limestone Road - Left	C (20.4)	E (47.7)	C (20.3)	E (47.7)
2027 Future Build (Case 3a) – w/ adjacent improvements [6]				
Eastbound Ascension Drive	--	--	C (16.1)	C (15.6)
Westbound Ascension Drive	--	--	B (13.8)	C (17.8)
Northbound Limestone Road - Left	--	--	E (41.1)	D (33.5)
Southbound Limestone Road - Left	--	--	C (21.0)	E (49.3)
2027 Future Build (Case 3b) – w/ adjacent improvements [6]				
Eastbound Ascension Drive	--	--	C (16.1)	C (15.6)
Westbound Ascension Drive	--	--	B (13.8)	C (17.8)
Northbound Limestone Road - Left	--	--	E (37.8)	D (31.0)
Southbound Limestone Road - Left	--	--	C (20.0)	E (47.7)

[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] Proposed left turn restrictions at the intersection of Limestone Road & Hopkins Drive / Site Entrance C result in additional U-turn movements at this intersection.

Table 4
Peak Hour Levels of Service (LOS)
Based on 3401 Limestone Road (aka Springhouse Preserve) Traffic Impact Study
December 2025
Prepared by Apex Engineering, Inc.

Unsignalized Intersection [7] **One-Way Stop (T-Intersection)**	**LOS per TIS**		**LOS per McCormick Taylor**	
3 – Limestone Road & Concord Drive (Site Entrance A)	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Westbound Concord Drive	B (13.1)	C (17.9)	B (12.8)	C (17.2)
2027 Future No Build (Case 2)				
Westbound Concord Drive	B (14.0)	C (19.3)	B (13.7)	C (18.5)
2027 Future Build (Case 3)				
Westbound Concord Drive	B (14.3)	C (19.9)	B (13.9)	C (19.1)

[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 5
Peak Hour Levels of Service (LOS)
Based on 3401 Limestone Road (aka Springhouse Preserve) Traffic Impact Study
December 2025
Prepared by Apex Engineering, Inc.

Unsignalized Intersection [8] **Signalized Intersection**	**LOS per TIS**		**LOS per McCormick Taylor**	
4 – Limestone Road & Arundel Drive / Doherty Funeral Home Entrance	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Overall	A (8.5)	A (6.8)	A (9.8)	B (12.6)
2027 Future No Build (Case 2)				
Overall	A (9.3)	A (8.3)	A (9.8)	B (12.9)
2027 Future Build (Case 3)				
Overall	A (9.4)	A (8.6)	B (10.1)	B (13.7)
2027 Future Build (Case 3a & 3b) – w/ adjacent improvements [9]				
Overall	--	--	B (10.3)	B (13.9)

[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.
[9] Proposed left turn restrictions at the intersection of Limestone Road & Hopkins Drive / Site Entrance C result in additional U-turn movements at this intersection.

Table 6
Peak Hour Levels of Service (LOS)
Based on 3401 Limestone Road (aka Springhouse Preserve) Traffic Impact Study
December 2025
Prepared by Apex Engineering, Inc.

Unsignalized Intersection [10] **Two-Way Stop Control**	**LOS per TIS**		**LOS per McCormick Taylor**	
5 – Limestone Road & Old Limestone Road / Limestone Presbyterian Church Entrance	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Eastbound Old Limestone Road	C (18.1)	F (152.5)	C (17.4)	F (169.8)
Westbound Limestone Presbyterian Church	N/A	N/A	N/A	C (16.2)
Northbound Limestone Road - Left	D (26.7)	D (25.1)	D (25.5)	C (24.4)
Southbound Limestone Road - Left	B (10.8)	B (14.3)	B (10.6)	B (14.0)
2027 Future No Build (Case 2)				
Eastbound Old Limestone Road	F (139.5)	F (383.3)	F (92.3)	F (280.3)
Westbound Limestone Presbyterian Church	N/A	N/A	N/A	C (16.9)
Northbound Limestone Road - Left	F (70.8)	E (36.7)	F (63.0)	E (36.6)
Southbound Limestone Road - Left	B (11.5)	B (14.7)	B (11.2)	B (14.7)
2027 Future Build (Case 3)				
Eastbound Old Limestone Road	F (161.8)	F (433.5)	F (181.5)	F (321.1)
Westbound Limestone Presbyterian Church	N/A	N/A	N/A	C (17.4)
Northbound Limestone Road - Left	F (76.8)	E (38.5)	F (68.0)	E (38.5)
Southbound Limestone Road - Left	B (11.6)	C (15.2)	B (16.2)	C (15.2)
2027 Future Build (Case 3) – w/ improvements [11]				
Eastbound Old Limestone Road	C (19.7)	C (16.9)	C (18.8)	C (15.1)
Westbound Pike Creek Sports Medicine Entrance	N/A	N/A	C (16.6)	C (17.4)
Northbound Limestone Road - Left	F (77.4)	E (38.9)	F (73.7)	E (38.8)
Southbound Limestone Road - Left	B (11.6)	C (15.2)	C (16.2)	C (15.2)

[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.
[11] Potential improvements at this intersection include the restriction of left-turns from eastbound Old Limestone Road and westbound Limestone Presbyterian Church Entrance.

Table 7
Peak Hour Levels of Service (LOS)
Based on 3401 Limestone Road (aka Springhouse Preserve) Traffic Impact Study
December 2025
Prepared by Apex Engineering, Inc.

Unsignalized Intersection [12] **One-Way Stop (T-Intersection)**	**LOS per TIS**		**LOS per McCormick Taylor**	
6 – Limestone Road & Pike Creek Sports Medicine Entrance	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Westbound Pike Creek Sports Medicine Entrance	D (31.9)	F (127.1)	D (28.6)	F (304.7)
Northbound Limestone Road – U-Turn	D (32.6)	C (21.5)	D (32.6)	C (21.5)
Southbound Limestone Road – Left	B (10.6)	C (18.4)	B (10.8)	C (18.3)
2027 Future No Build (Case 2)				
Eastbound Milltown Square Driveway	C (18.0)	C (17.4)	C (17.6)	C (17.6)
Westbound Pike Creek Sports Medicine Entrance	F (72.5)	F (552.5)	F (61.3)	F (889.1)
Northbound Limestone Road – U-Turn	E (38.1)	D (31.6)	E (38.0)	D (31.7)
Southbound Limestone Road – Left	B (11.8)	C (20.9)	B (11.8)	C (20.9)
2027 Future Build (Case 3)				
Eastbound Milltown Square Driveway	C (18.3)	C (17.7)	C (17.9)	C (18.0)
Westbound Pike Creek Sports Medicine Entrance	F (77.5)	F (611.3)	F (65.3)	F (995.2)
Northbound Limestone Road – U-Turn	E (39.8)	D (32.8)	E (39.7)	D (32.9)
Southbound Limestone Road – Left	B (12.0)	C (21.5)	B (12.0)	C (21.5)
2027 Future Build (Case 3) w/ improvements [13]				
Eastbound Milltown Square Driveway	C (18.3)	C (17.7)	C (17.9)	C (18.0)
Westbound Pike Creek Sports Medicine Entrance	B (14.1)	C (20.9)	B (13.8)	C (19.9)
Northbound Limestone Road – U-Turn	E (39.8)	D (32.8)	E (39.7)	D (32.9)
Southbound Limestone Road – Left	B (12.0)	C (22.2)	B (12.5)	D (29.9)

[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.
[13] Potential improvements at this intersection include the restriction of left-turns from the proposed eastbound Milltown Square Driveway and westbound Pike Creek Sports Medicine Entrance.

Table 8
Peak Hour Levels of Service (LOS)
Based on 3401 Limestone Road (aka Springhouse Preserve) Traffic Impact Study
December 2025
Prepared by Apex Engineering, Inc.

Signalized Intersection [14, 15]	**LOS per TIS**		**LOS per McCormick Taylor**	
7 – Limestone Road & Milltown Road	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Overall	F (110.9)	D (50.8)	E (55.6)	E (58.1)
2027 Future No Build (Case 2)				
Overall	F (138.8)	E (68.1)	E (79.5)	E (60.4)
2027 Future Build (Case 3)				
Overall	E (57.8)	E (62.8)	F (83.2)	E (61.7)

[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.
[15] The TIS and McCormick Taylor modeled this intersection with Synchro 12 to accommodate the phasing of the signal.

Table 9
Peak Hour Levels of Service (LOS)
Based on 3401 Limestone Road (aka Springhouse Preserve) Traffic Impact Study
December 2025
Prepared by Apex Engineering, Inc.

Unsignalized Intersection [16] **One-Way Stop (T-Intersection)**	**LOS per TIS**		**LOS per McCormick Taylor**	
8 – Limestone Road & Old Linden Hill Road	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Eastbound Old Linden Hill Road	F (89.3)	F (62.9)	F (70.4)	F (54.8)
Northbound Limestone Road – U-turn/Left	D (26.9)	C (18.9)	D (26.9)	C (18.8)
Southbound Limestone Road – U-turn	C (19.0)	D (34.1)	C (19.0)	D (34.1)
2027 Future No Build (Case 2)				
Eastbound Old Linden Hill Road	F (162.0)	F (117.7)	F (121.1)	F (93.9)
Northbound Limestone Road – U-turn/Left	E (39.0)	D (30.7)	E (38.9)	D (30.7)
Southbound Limestone Road – U-turn	C (22.2)	E (39.9)	C (22.2)	E (39.9)
2027 Future Build (Case 3)				
Eastbound Old Linden Hill Road	F (168.0)	F (123.5)	F (125.1)	F (97.9)
Northbound Limestone Road – U-turn/Left	E (39.5)	D (31.5)	E (39.5)	D (31.4)
Southbound Limestone Road – U-turn	C (22.6)	E (40.7)	C (22.6)	E (40.7)
2027 Future Build (Case 3) – w/ improvements [17]				
Eastbound Old Linden Hill Road	C (17.0)	C (15.8)	C (16.4)	C (15.2)
Northbound Limestone Road – U-turn/Left	E (40.1)	D (31.7)	E (40.1)	D (31.6)
Southbound Limestone Road – U-turn	C (22.6)	E (40.7)	C (22.6)	E (40.7)

[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.
[17] Recommended improvements at this intersection include the restriction of left-turns from eastbound Old Linden Hill Road.

Table 10
Peak Hour Levels of Service (LOS)
Based on 3401 Limestone Road (aka Springhouse Preserve) Traffic Impact Study
December 2025
Prepared by Apex Engineering, Inc.

Signalized Intersection [18]	**LOS per TIS**		**LOS per McCormick Taylor**	
9 – Limestone Road & Greenwood Drive / Faith Baptist Church Entrance	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Overall	A (6.7)	A (6.1)	B (13.7)	A (8.7)
2027 Future No Build (Case 2)				
Overall	A (7.1)	A (6.5)	B (14.1)	A (9.2)
2027 Future Build (Case 3)				
Overall	A (7.1)	A (6.6)	B (14.2)	A (9.2)

[18] 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 3401 Limestone Road (aka Springhouse Preserve) Traffic Impact Study
December 2025
Prepared by Apex Engineering, Inc.

Signalized Intersection [19]	**LOS per TIS**		**LOS per McCormick Taylor**	
10 – Limestone Road & New Linden Hill Road / Goldey Beacom College Entrance	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Overall	B (19.7)	C (22.0)	C (20.4)	C (30.0)
2027 Future No Build (Case 2)				
Overall	C (26.4)	C (23.3)	C (24.3)	C (32.3)
2027 Future Build (Case 3)				
Overall	C (26.9)	C (23.3)	C (24.7)	C (32.5)

[19] 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 3401 Limestone Road (aka Springhouse Preserve) Traffic Impact Study
December 2025
Prepared by Apex Engineering, Inc.

Unsignalized Intersection [20] **One-Way Stop (T-Intersection)**	**LOS per TIS**		**LOS per McCormick Taylor**	
11 – Limestone Road & Existing Driveway (Site Entrance B)	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2027 Future Build (Case 3b) – w/ Site Entrance B				
Westbound Site Entrance B	C (15.1)	C (20.1)	B (14.0)	C (18.8)

[20] 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.