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

NICOLE MAJESKI
SECRETARY

September 23, 2024

Mr. Joseph Caloggero, Jr., P.E., PTOE, PTP
The Traffic Group, Inc.
9900 Franklin Square Drive, Suite H
Baltimore, Maryland 21236

Dear Mr. Caloggero,

The enclosed Traffic Impact Study (TIS) review letter for the **Pickering Property** (Tax Parcel: 7-00-09500-01-2800-00001) 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 Group Project Engineer

AF:km
Enclosures
cc with enclosures: Terrance Schiff, Schiff Land Development, LLC
Kris Connelly, Kent County Planning and Zoning
Andrew J. Parker, McCormick Taylor, Inc.
Tucker Smith, McCormick Taylor, Inc.
DelDOT Distribution

DelDOT

DelDOT Distribution

Brad Eaby, Deputy Attorney General
Shanté Hastings, Deputy Secretary / Director, Transportation Solutions (DOTS)
Mark Luszcz, Deputy Director, DelDOT Traffic, DOTS
Michael Simmons, Assistant Director, Project Development South, DOTS
Peter Haag, Chief Traffic Engineer, Traffic, DOTS
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Tremica Cherry, Service Development Planner, Delaware Transit Corporation
Pamela Steinebach, Director, Planning
Todd Sammons, Assistant Director, Development Coordination
Wendy Polasko, Subdivision Engineer, Development Coordination
Will Mobley, Acting Kent County Review Coordinator, Development Coordination
Josh Schwartz, Subdivision Reviewer, Development Coordination
Anthony Aglio, Planning Supervisor, Statewide & Regional Planning
Sireen Muhtaseb, TIS Group Manager, Development Coordination
Ben Fisher, TIS Group Engineer, Development Coordination
Steve Bayer, Regional Transportation Planner, Statewide & Regional Planning

September 20, 2024

Ms. Sireen Muhtaseb, PE
TIS Group Manager
DelDOT Division of Planning
P.O. Box 778
Dover, DE 19903

RE: Agreement No. 1946F
Traffic Impact Study Services
Task No. 5A Subtask 13A – Pickering Property

Dear Ms. Muhtaseb:

McCormick Taylor has completed its review of the Traffic Impact Study (TIS) for the Pickering Property development prepared by The Traffic Group, dated July 2024. The Traffic Group prepared the report in a manner generally consistent with DelDOT's Development Coordination Manual.

The TIS evaluates the impacts of the proposed Pickering Property development to be located on the east side of Locust Grove Road (Kent Road 362), and the west side of Cypress Branch Road (Kent Road 363), in Kent County, Delaware. The proposed development would consist of 289 single family detached houses. Access to the site is proposed via a full-movement access serving as the fourth leg of the existing Cypress Branch Road / Abigail Lane intersection (Site Entrance A) as well as a second full-movement access along Cypress Branch Road (Site Entrance B). Construction is anticipated to be complete in 2031.

The subject land is located on an approximately 166.10-acre parcel. The land is currently zoned as AC (Agricultural Conservation), and the developer does not plan to rezone the land.

Relevant and On-Going Projects and Studies

Currently, DelDOT has no relevant or ongoing projects within the area of study. The future Magnolia Transportation Improvement District (TID) is currently under development between DelDOT, Kent County, and the Town of Magnolia. The future Magnolia TID surrounds the proposed development and includes multiple study intersections. A TID is a planning concept that seeks to proactively align transportation infrastructure spending and improvements with land use projections and future development within the designated district. Certain intersection improvements to be identified as part of the future Magnolia TID would typically require contributions from developers within the TID. Presently, DelDOT and the County are still working toward establishing the TID, but when and if that is done, it may be appropriate for the developer to exchange some of the obligations identified in this letter for an obligation to contribute to the TID. The possibility of the Pickering Property having an obligation to contribute to the future Magnolia TID would depend in part on the timing of approval of plans for this development versus the timing of formal establishment of the TID.

Summary of Analysis Results

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

The following intersection exhibits 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*
15 – Delaware Route 10 & Delaware Route 1 SB On Ramp	Unsignalized	2031 without development AM (Case 2) 2031 with development AM (Case 3)

15 – Delaware Route 10 & Delaware Route 1 SB On Ramp (See Recommendation 4 & Table 16, Page 32)
This unsignalized intersection experiences LOS deficiencies during the AM peak in Cases 2 and 3. In Case 2 during the AM peak period the eastbound Delaware Route 10 left-turn movement is expected to operate at LOS F with 64.1 seconds of delay and queues over 205 feet long. In Case 3 during the AM peak period the eastbound Delaware Route 10 left-turn movement is expected to operate at LOS F with 72.8 seconds of delay and queues over 225 feet long. The TIS included a traffic signal warrant analysis that found a signal is warranted with exiting volumes. The warrant analysis does not represent a complete Traffic Signal Justification Study (TSJS). Therefore, the decision of whether and when to install a signal will be made by DelDOT. The developer proposes a traffic signal to control the westbound through and eastbound left-turn movements. With a traffic signal, the intersection is expected to operate at LOS A in both peak periods. As such, the developer should make an equitable share contribution to the Traffic Signal Revolving Fund (TSRF).

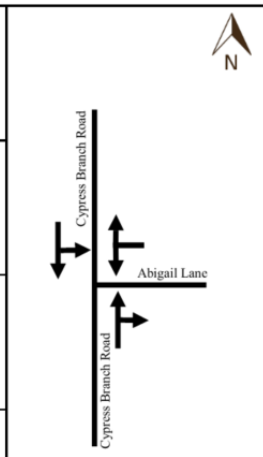
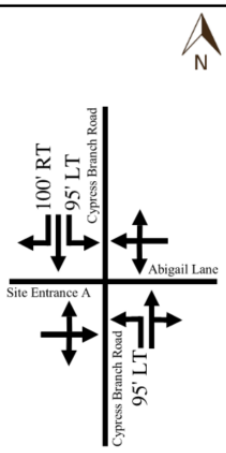
Development Improvements

Should Kent County approve the proposed development, the following items should be incorporated into the site design and reflected on the record plan by note or illustration, unless a Design Deviation is requested and approved by the Department. All applicable agreements (i.e. letter agreements for off-site improvements and traffic signal agreements) should be executed 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 (Cypress Branch Road and Locust Grove 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

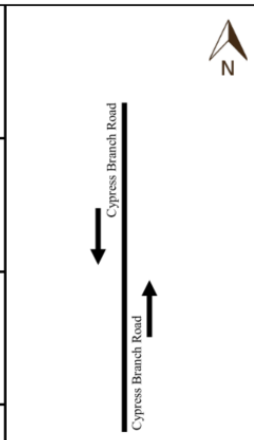
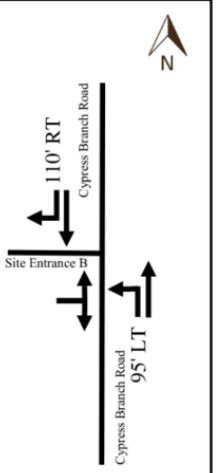
in Section 1.1 of the Development Coordination Manual and elsewhere therein, and/or improvements established in the Traffic Operational Analysis and/or Traffic Impact Study. "Secondary Frontage" means the length along the state right-of-way of a single property tract where no entrance is proposed or 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 construct the full-movement Site Entrance A on Cypress Branch Road directly across from Abigail Lane. The proposed configuration is shown in the table below.

Approach	Current Configuration		Approach	Proposed Configuration	
Eastbound	Approach does not exist.		Eastbound Site Entrance A	One shared left-turn/through/right-turn lane.	
Westbound Abigail Lane	One shared left-turn/right-turn lane.		Westbound Abigail Lane	One shared left-turn/through/right-turn lane.	
Northbound Cypress Branch Road	One shared through/right-turn lane.		Northbound Cypress Branch Road	One left-turn lane and one shared through/right-turn lane.	
Southbound Cypress Branch Road	One shared left-turn/through lane.		Southbound Cypress Branch Road	One left-turn lane, one through lane, and one right-turn lane.	

At the proposed Site Entrance A intersection, separate left-turn and right-turn lanes are warranted on Cypress Branch Road based on DelDOT's Auxiliary Lane Worksheet. Initial recommended minimum turn lane lengths (excluding tapers) include a 95-foot left-turn lane and a 100-foot right-turn lane on southbound Cypress Branch Road and a 95-foot left-turn lane on northbound Cypress Branch 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.

3. The developer should construct the full-movement Site Entrance B on Cypress Branch Road. The proposed configuration is shown in the table below.

Approach	Current Configuration		Approach	Proposed Configuration	
Eastbound	Approach does not exist.		Eastbound Site Entrance B	One shared left-turn/right-turn lane.	
Westbound	Approach does not exist.		Westbound	Approach does not exist.	
Northbound Cypress Branch Road	One through lane.		Northbound Cypress Branch Road	One left-turn lane and one through lane.	
Southbound Cypress Branch Road	One through lane.		Southbound Cypress Branch Road	One through lane and one right-turn lane.	

At the proposed Site Entrance B intersection, separate left-turn and right-turn lanes are warranted on Cypress Branch Road based on DelDOT's Auxiliary Lane Worksheet. Initial recommended minimum turn lane lengths (excluding tapers) include a 110-foot right-turn lane on southbound Cypress Branch Road and a 95-foot left-turn lane on northbound Cypress Branch 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 contribute to the Traffic Signal Revolving Fund (TSRF) for a future traffic signal at the intersection of Delaware Route 10 and Delaware Route 1 SB On Ramp. The Traffic Signal Revolving Fund contribution is $16,409.47. The developer should coordinate with DelDOT's Development Coordination Section to determine the terms of the TSRF contribution.

5. 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. Utility covers should be made flush with the pavement.

d. A minimum 15-foot-wide permanent easement from the edge of the right-of-way should be dedicated to DelDOT within the site frontages along Cypress Branch Road and Locust Grove Road. Within the easement, 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 all boundaries of the property.

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

f. 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.

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.

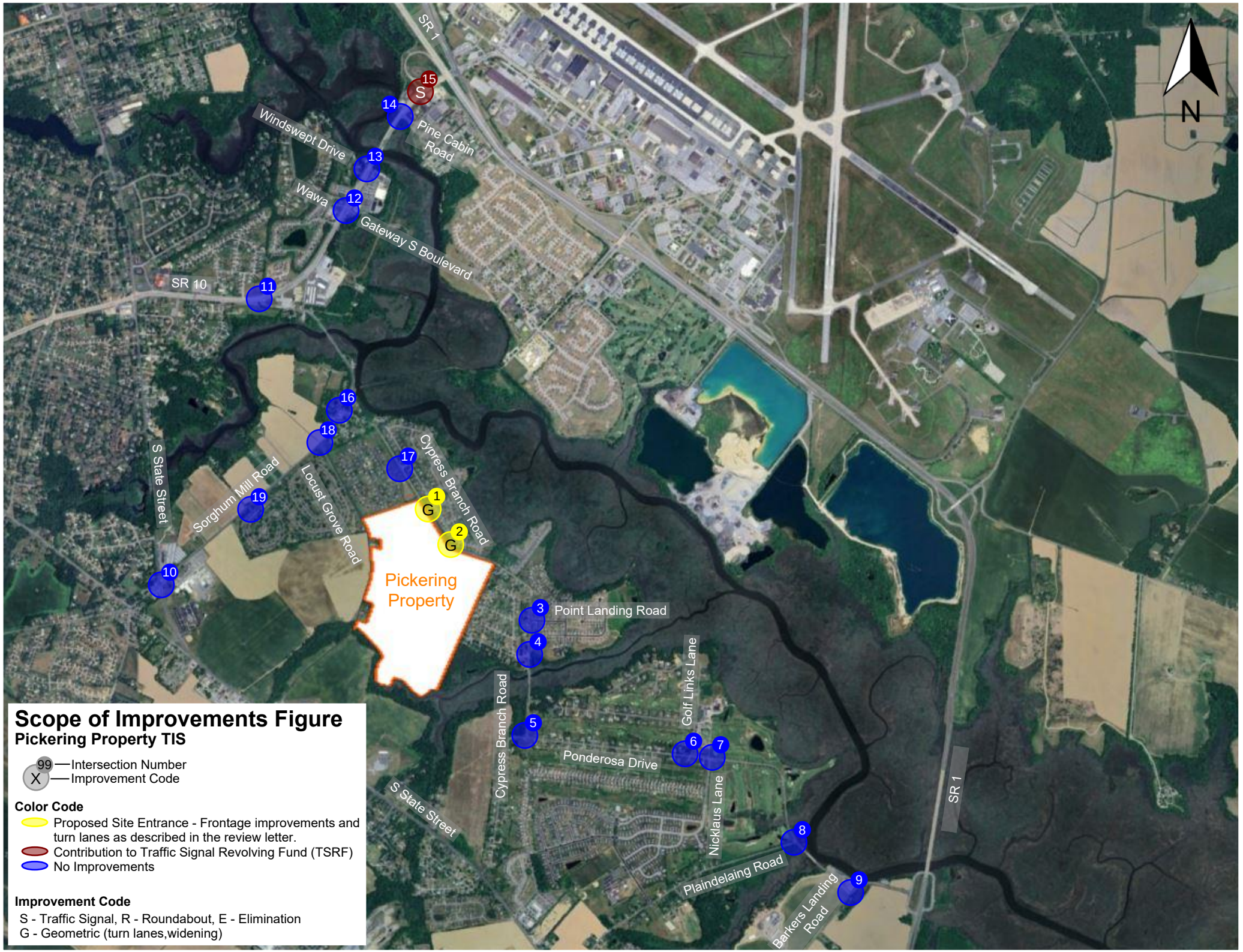
Additional details on our review of this TIS are attached. Please contact me at (610) 640-3500 or through e-mail at ajparker@mccormicktaylor.com if you have any questions concerning this review.

Sincerely,

McCormick Taylor, Inc.

Andrew J. Parker, PE, PTOE
Project Manager

Enclosure



Scope of Improvements Figure

Pickering Property TIS

99 — Intersection Number
X — Improvement Code

Color Code

- Proposed Site Entrance - Frontage improvements and turn lanes as described in the review letter.
- Contribution 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: July 2024
Prepared by: The Traffic Group
Prepared for: Schiff Land Development, LLC
Tax parcels: 7-00-09500-01-2800-00001
Generally consistent with DelDOT's Development Coordination Manual: Yes

Project Description and Background

Description: The Pickering Property development would consist of 289 single family detached houses.
Location: The site is to be located on the east side of Locust Grove Road (Kent Road 362) and the west side of Cypress Branch Road (Kent Road 363). A site location map is included on page 8.
Amount of land to be developed: an approximately 166.10-acre parcel.
Land use approval(s) needed: The land is currently zoned as AC (Agricultural Conservation), and the developer does not plan to rezone the land.
Proposed completion year: 2031
Proposed access locations: Site access is proposed via a full-movement access serving as the fourth leg of the existing Cypress Branch Road / Abigail Lane intersection (Site Entrance A) as well as a second full-movement access along Cypress Branch Road (Site Entrance B).

Average Daily Traffic Volumes (per DelDOT Traffic Summary 2023):

- Cypress Branch Road: 2,310 vehicles/day


Locust Grove Road
LOCUST GROVE ROAD
CYPRESS BRANCH ROAD
Cypress Branch Road
A
B
SWM
SWM
N
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 Pickering Property development is located within Investment Level 2.

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 Pickering Property development would include 289 single family detached houses, in Kent County, within Investment Level 2. As such, the proposed development generally appears to comply with the guidelines for Investment Levels as described in the 2020 "Strategies for State Policies and Spending."

Comprehensive Plan

Kent County Comprehensive Plan:
(Source: Kent County Comprehensive Plan, September 2018)

The Kent County Comprehensive Plan Future Land Use Map indicates that the proposed Pickering Property Subdivision site is within the designated "Growth Zone Overlay" and is planned for "Low Density Residential" land use.

Proposed Development's Compatibility with Comprehensive Plan:
The proposed development appears to comply with the Kent County Comprehensive Plan and is on land designated for residential land use. The land is currently zoned AC (Agricultural

Conservation), and the developer does not plan to rezone the land. The proposed development generally aligns with both the Future Land Use Map and the proposed zoning.

Relevant Projects in the DelDOT Capital Transportation Program

Currently, DelDOT has no relevant or ongoing projects within the area of study. Currently, DelDOT has no relevant or ongoing projects within the area of study. The future Magnolia Transportation Improvement District (TID) is currently under development between DelDOT, Kent County, and the Town of Magnolia. The future Magnolia TID surrounds the proposed development and includes multiple study intersections. A TID is a planning concept that seeks to proactively align transportation infrastructure spending and improvements with land use projections and future development within the designated district. Certain intersection improvements to be identified as part of the future Magnolia TID would typically require contributions from developers within the TID. Presently, DelDOT and the County are still working toward establishing the TID, but when and if that is done, it may be appropriate for the developer to exchange some of the obligations identified in this letter for an obligation to contribute to the TID. The possibility of the Pickering Property having an obligation to contribute to the future Magnolia TID would depend in part on the timing of approval of plans for this development versus the timing of formal establishment of the TID.

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:

- Single Family Detached Housing (Land Use Code 210)

Table 1: Pickering Property Development Trip Generation

Land Use	Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Daily		
		In	Out	Total	In	Out	Total	In	Out	Total
LUC 210	289 units	49	147	196	169	100	269	1339	1340	2679
Total Trips		**49**	**147**	**196**	**169**	**100**	**269**	**1339**	**1340**	**2679**

Overview of TIS

Intersections examined:

1) Site Entrance A / Cypress Branch Road (Kent Road 363) / Abigail Lane
2) Site Entrance B / Cypress Branch Road
3) Cypress Branch Road / Point Landing Lane
4) Cypress Branch Road / Evergreen Road
5) Cypress Branch Road / Ponderosa Drive (Kent Road 364)
6) Ponderosa Drive / Golf Links Lane (East)
7) Ponderosa Drive / Nicklaus Lane
8) Ponderosa Drive / Plaindealing Road (Kent Road 365)
9) Ponderosa Drive / Barkers Landing Road (Kent Road 107)
10) S. State Street / Sorghum Mill Road (Kent Road 26)
11) Delaware Route 10 / Sorghum Mill Road
12) Delaware Route 10 / Wawa Entrance / Gateway South Boulevard
13) Delaware Route 10 / Windswept Drive
14) Delaware Route 10 / Pine Cabin Road (Kent Road 356B)
15) Delaware Route 10 / Delaware Route 1 SB On Ramp
16) Sorghum Mill Road / Cypress Branch Road
17) Cypress Branch Road / Riverside Drive / Quail Landing Circle
18) Sorghum Mill Road / Locust Grove Road
19) Sorghum Mill Road / Carolina Avenue

Conditions examined:

1) 2024 Existing (Case 1)
2) 2031 without development (Case 2)
3) 2031 with development (Case 3)

Peak hours evaluated: Weekday morning and weekday evening peak hours.

Committed developments considered:

1) Beiser Property: 308 single family detached houses
2) Patriots Crest (f.k.a Berkshire): 104 single family detached houses
3) Fifer Farm: 70 single family detached houses (40 built)
4) Magnolia Estates: 185 single family detached houses

Intersection Descriptions

1) **Site Entrance A / Abigail Lane & Cypress Branch Road**
   Type of Control: existing one-way stop, proposed two-way stop
   Eastbound Approach: (Site Entrance A) proposed one shared left-turn / through / right-turn lane. Stop controlled.
   Westbound Approach: (Abigail Lane) one shared left-turn / through / right-turn lane. Stop controlled.
   Northbound Approach: (Cypress Branch Road) one existing shared through / right-turn lane and one proposed left-turn lane.
   Southbound Approach: (Cypress Branch Road) one existing shared left-turn / through lane. Proposed one left-turn lane, one through lane, and one right-turn lane.

2) **Site Entrance B & Cypress Branch Road**
   Type of Control: proposed one-way stop (T-intersection)
   Eastbound Approach: (Site Entrance B) proposed one shared left-turn / right-turn lane. Stop controlled.
   Northbound Approach: (Cypress Branch Road) one proposed left-turn lane and one existing through lane.
   Southbound Approach: (Cypress Branch Road) one existing through lane and one proposed right-turn lane.

3) **Cypress Branch Road & Point Landing Lane**
   Type of Control: one-way stop (T-intersection)
   Westbound Approach: (Point Landing Lane) one shared left-turn / right-turn lane. Stop controlled.
   Northbound Approach: (Cypress Branch Road) one through lane and one right-turn lane.
   Southbound Approach: (Cypress Branch Road) one left-turn lane and one through lane.

4) **Cypress Branch Road & Evergreen Road**
   Type of Control: one-way stop (T-intersection)
   Eastbound Approach: (Evergreen Road) one shared left-turn / right-turn lane. Stop controlled.
   Northbound Approach: (Cypress Branch Road) one shared left-turn / through lane.
   Southbound Approach: (Cypress Branch Road) one shared through / right-turn lane.

5) **Cypress Branch Road & Ponderosa Drive**
   Type of Control: one-way stop (T-intersection)
   Eastbound Approach: (Ponderosa Drive) one shared left-turn / through lane.
   Westbound Approach: (Ponderosa Drive) one shared through / right-turn lane.
   Southbound Approach: (Cypress Branch Road) one shared left-turn / right-turn lane. Stop controlled.

6) **Ponderosa Drive & Golf Links Lane (East)**
Type of Control: one-way stop (T-intersection)
Eastbound Approach: (Ponderosa Drive) one shared left-turn / through lane.
Westbound Approach: (Ponderosa Drive) one shared through / right-turn lane.
Southbound Approach: (Golf Links Lane) one shared left-turn / right-turn lane. Stop controlled.

7) **Ponderosa Drive & Nicklaus Lane**
Type of Control: one-way stop (T-intersection)
Eastbound Approach: (Ponderosa Drive) one shared through / right-turn lane.
Westbound Approach: (Ponderosa Drive) one shared left-turn / through lane**.**
Northbound Approach: (Nicklaus Lane) one shared left-turn / right-turn lane. Stop controlled.

8) **Ponderosa Drive & Plaindealing Road**
Type of Control: one-way stop (T-intersection)
Eastbound Approach: (Ponderosa Drive) one shared through / right-turn lane.
Westbound Approach: (Ponderosa Drive) one shared left-turn / through lane.
Northbound Approach: (Plaindealing Road) one shared left-turn / right-turn lane. Stop controlled.

9) **Ponderosa Drive & Barkers Landing Road**
Type of Control: one-way stop (T-intersection)
Eastbound Approach: (Ponderosa Drive) one shared left-turn / right-turn lane. Stop controlled.
Northbound Approach: (Barkers Landing Road) one shared left-turn / through lane.
Southbound Approach: (Barkers Landing Road) one shared through / right-turn lane

10) **S. State Street & Sorghum Mill Road**
Type of Control: signalized
Eastbound Approach: (Sorghum Mill Road) one left-turn lane and one shared through / right-turn lane.
Westbound Approach: (Sorghum Mill Road) one left-turn lane, one through lane, and one right-turn lane.
Northbound Approach: (S. State Street) one left-turn lane, one through lane, and one right-turn lane
Southbound Approach: (S. State Street) one left-turn lane, one through lane, and one right-turn lane.

11) **Delaware Route 10 & Sorghum Mill Road**
Type of Control: one-way yield
Eastbound Approach: (SR 10) one U-turn lane, two through lanes, and one right-turn lane.
Westbound Approach: (SR 10) one shared U-turn / left-turn lane and two through lanes.
Northbound Approach: (Sorghum Mill Road) one right-turn lane. Yield controlled.

12) Delaware Route 10 & Wawa Entrance / Gateway South Boulevard
Type of Control: signalized
Eastbound Approach: (SR 10) one left-turn lane, two through lanes, and one right-turn lane.
Westbound Approach: (SR 10) one left-turn lane, two through lanes, and one right-turn lane.
Northbound Approach: (Gateway South Boulevard) one shared left-turn / through lane and one right-turn lane.
Southbound Approach: (Wawa Entrance) one shared left-turn / through / right-tun lane.

13) Delaware Route 10 & Windswept Drive
Type of Control: one-way stop
Eastbound Approach: (SR 10) two through lanes.
Westbound Approach: (SR 10) one through lane and one shared through / right-turn lane.
Southbound Approach: (Windswept Drive) one right-turn lane. Stop controlled.

14) Delaware Route 10 & Pine Cabin Road
Type of Control: signalized
Eastbound Approach: (SR 10) one U-turn lane, two through lanes, and one right-turn lane.
Westbound Approach: (SR 10) one left-turn lane and two through lanes.
Northbound Approach: (Pine Cabin Road) one left-turn lane and one right-turn lane

15) Delaware Route 10 & Delaware Route 1 SB On Ramp
Type of Control: one-way stop
Eastbound Approach: (SR 10) one left-turn lane, one through lane, and one shared through / right-turn lane.
Westbound Approach: (SR 10) one left-turn lane and one through lane.
Northbound Approach: (Shopping Center Access) one right-turn lane. Stop controlled.
Southbound Approach: (SR 1 SB On Ramp) one receiving lane.

16) Sorghum Mill Road & Cypress Branch Road
Type of Control: one-way stop (T-intersection)
Westbound Approach: (Cypress Branch Road) one shared left-turn lane / right-turn lane. Stop controlled.
Northbound Approach: (Sorghum Mill Road) one shared through / right-turn lane.
Southbound Approach: (Sorghum Mill Road) one shared left-turn / through lane.

17) Cypress Branch Road & Riverside Drive / Quail Landing Circle
Type of Control: two-way stop
Eastbound Approach: (Quail Landing Circle) one shared left / through / right-turn lane. Stop controlled.
Westbound Approach: (Riverside Drive) one shared left-turn / through / right-turn lane. Stop controlled.
Northbound Approach: (Cypress Branch Road) one shared left / through / right-turn lane.
Southbound Approach: (Cypress Branch Road) one through lane and one right-turn lane.

18) **Sorghum Mill Road & Locust Grove Road**
Type of Control: one-way stop (T-intersection)
Eastbound Approach: (Sorghum Mill Road) one shared through / right-turn lane.
Westbound Approach: (Sorghum Mill Road) one shared left-turn / through lane.
Northbound Approach: (Locust Grove Road) shared left-turn lane / right-turn lane. Stop controlled.

19) **Sorghum Mill Road & Carolina Avenue**
Type of Control: one-way stop (T-intersection)
Eastbound Approach: (Sorghum Mill Road) one shared through / right-turn lane.
Westbound Approach: (Sorghum Mill Road) one shared left-turn / through lane.
Northbound Approach: (Carolina Avenue) one shared left-turn / right-turn lane. Stop controlled.

Safety Evaluation

Crash Data: Delaware Crash Analysis Reporting System (CARS) data was provided in the TIS for the three-year period from June 3, 2021, to June 3, 2024. A total of 158 crashes occurred within the study area during the three-year period. Of those 158 collisions, 26 resulted in personal injury. There were no fatalities. The most common type of collision was front to rear (35 percent). It should be noted that crash data was missing from the study intersection of Cypress Branch Road & Ponderosa Drive (Kent Road 364).

Sight Distance: The study area generally consists of relatively flat roadways and there are few visual obstructions. Sight distance appears adequate throughout the study area. No problematic sight distance issues have been reported or indicated by crash data. As always, the adequacy of available sight distance should be confirmed during the site plan review process for all proposed movements at the site accesses.

Transit, Pedestrian, and Bicycle Facilities

Existing transit service: Based on the current DART Bus Stop Map, the Delaware Transit Corporation (DTC) currently operates fixed-route transit bus service near the proposed Pickering Property development. DART Route 105 (Gateway South / Dover AFB) provides service along Delaware Route 10, Sorghum Mill Road, and S. State Street. DART Route 303 (Intercounty Dover / Georgetown) provides service along Delaware Route 10 and S. State Street.

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

Existing bicycle and pedestrian facilities: According to DelDOT's Kent County Bicycle Map, S. State Street is a Statewide Bicycle Route with Bikeway and traffic volumes over 5,000 vehicles per day. Sorghum Mill Road is a Connector Bicycle Suggestion Routes with Bikeway and traffic volumes over 5,000 vehicles per day between S. State Street and Cypress Branch Road. Between Cypress Branch Road and Delaware Route 10, Sorghum Mill Road is a Connector Bicycle Suggestion Routes with Bikeway. Delaware Route 10 is a Regional Bicycle Route with Bikeway and traffic volumes over 5,000 vehicles per day.

Planned bicycle and pedestrian facilities: A 5-foot wide bicycle lane on Cypress Branch Road at both proposed site entrances. A 10-foot wide shared use path is proposed along Cypress Branch Road within the site frontage and along Locust Grove Road within the site frontage.

Previous Comments

The initial scoping memorandum between the developer and DelDOT was dated March 1, 2024.

In a review letter dated May 2, 2024, DelDOT commented on the traffic counts and seasonally adjusted traffic volumes. The developer was asked to revise some volume figures, balance volumes at one intersection, provide ATR data for Cypress Branch Road, revise the list of study intersections based on changes to the Kent County APFO program, and then resubmit the traffic counts.

In a second review letter dated May 8, 2024, DelDOT commented on the second submission of the traffic counts and seasonally adjusted traffic volumes. DelDOT requested additional volume balancing, provided the developer with growth factors, and directed the developer to proceed with the Preliminary TIS.

In a third review letter dated June 4, 2024, DelDOT commented on the Preliminary TIS. DelDOT requested revisions to several volume figures and that the developer resubmit the Preliminary TIS.

In a fourth review letter dated June 13, 2024, DelDOT acknowledged that the Preliminary TIS was acceptable and then directed the developer to proceed with the Final 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) version 2023 to complete the traffic analyses.

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 Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [1] **Two-Way Stop-Control**	**LOS per TIS**		**LOS per** **McCormick Taylor**	
1 – Site Entrance A / Abigail Lane & Cypress Branch Road	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Westbound Abigail Lane	A (9.5)	A (9.1)	A (9.5)	A (9.1)
Southbound Cypress Branch Road – Left	A (7.7)	A (7.1)	A (7.7)	A (7.5)
2031 No Build (Case 2)				
Westbound Abigail Lane	A (9.6)	A (9.1)	A (9.6)	A (9.1)
Southbound Cypress Branch Road – Left	A (7.7)	A (7.5)	A (7.7)	A (7.5)
2031 Build (Case 3) [2]				
Eastbound Site Entrance A	B (11.9)	B (14.0)	B (11.8)	B (13.4)
Westbound Abigail Lane	B (10.0)	A (9.5)	B (10.0)	A (9.5)
Northbound Cypress Branch Road – Left	A (7.4)	A (8.0)	A (7.4)	A (8.0)
Southbound Cypress Branch Road – Left	A (7.8)	A (7.6)	A (7.9)	A (7.6)

[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] McCormick Taylor modeled this intersection with a proposed dedicated southbound left-turn lane.

Table 3
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [3] **One-Way Stop (T-intersection)**	**LOS per TIS**		**LOS per McCormick Taylor**	
2 - Site Entrance B & **Cypress Branch Road**	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2031 Build (Case 3)				
Eastbound Site Entrance B	B (10.6)	B (11.5)	B (10.6)	B (11.5)
Northbound Cypress Branch Road – Left	A (7.5)	A (7.9)	A (7.5)	A (7.9)

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

Table 4
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [4] One-Way Stop (T-intersection)	**LOS per TIS**		**LOS per McCormick Taylor**	
3 - Cypress Branch Road & Point Landing Lane	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Westbound Point Landing Lane	A (9.2)	A (9.1)	A (9.2)	A (9.1)
Southbound Cypress Branch Road – Left	A (7.4)	A (7.5)	A (7.4)	A (7.5)
2031 No Build (Case 2)				
Westbound Point Landing Lane	A (9.2)	A (9.2)	A (9.2)	A (9.2)
Southbound Cypress Branch Road – Left	A (7.5)	A (7.5)	A (7.5)	A (7.5)
2031 Build (Case 3)				
Westbound Point Landing Lane	A (9.4)	A (9.6)	A (9.4)	A (9.6)
Southbound Cypress Branch Road – Left	A (7.5)	A (7.6)	A (7.5)	A (7.6)

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

Table 5
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [5] One-Way Stop (T-intersection)	**LOS per TIS**		**LOS per McCormick Taylor**	
4 - Cypress Branch Road & Evergreen Road	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Eastbound Evergreen Road	A (9.1)	A (9.3)	A (9.2)	A (9.3)
Northbound Cypress Branch Road – Left	A (7.8)	A (7.5)	A (7.4)	A (7.5)
2031 No Build (Case 2)				
Eastbound Evergreen Road	A (9.2)	A (9.4)	A (9.2)	A (9.4)
Northbound Cypress Branch Road – Left	A (7.8)	A (7.5)	A (7.4)	A (7.5)
2031 Build (Case 3)				
Eastbound Evergreen Road	A (9.6)	A (9.9)	A (9.6)	A (9.9)
Northbound Cypress Branch Road – Left	A (7.9)	A (7.6)	A (7.5)	A (7.6)

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

Table 6
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [6] One-Way Stop (T-intersection)	**LOS per TIS**		**LOS per McCormick Taylor**	
5 - Cypress Branch Road & Ponderosa Drive	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Eastbound Ponderosa Drive – Left	A (7.5)	A (7.4)	A (7.5)	A (7.4)
Southbound Cypress Branch Road	A (9.2)	A (9.4)	A (9.2)	A (9.4)
2031 No Build (Case 2)				
Eastbound Ponderosa Drive – Left	A (7.5)	A (7.5)	A (7.5)	A (7.5)
Southbound Cypress Branch Road	A (9.4)	A (9.6)	A (9.4)	A (9.6)
2031 Build (Case 3)				
Eastbound Ponderosa Drive – Left	A (7.5)	A (7.6)	A (7.5)	A (7.6)
Southbound Cypress Branch Road	A (9.9)	B (10.3)	A (9.9)	B (10.3)

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

Table 7
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [7] **One-Way Stop (T-intersection)**	**LOS per TIS**		**LOS per McCormick Taylor**	
6 - Ponderosa Drive & Golf Links Lane (East)	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Eastbound Ponderosa Drive – Left	A (7.5)	A (7.5)	A (7.4)	A (7.5)
Southbound Golf Links Lane	A (8.9)	A (9.0)	A (8.9)	A (9.0)
2031 No Build (Case 2)				
Eastbound Ponderosa Drive – Left	A (7.5)	A (7.5)	A (7.4)	A (7.5)
Southbound Golf Links Lane	A (9.0)	A (9.2)	A (9.0)	A (9.2)
2031 Build (Case 3)				
Eastbound Ponderosa Drive – Left	A (7.5)	A (7.6)	A (7.5)	A (7.6)
Southbound Golf Links Lane	A (9.2)	A (9.5)	A (9.2)	A (9.5)

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

Table 8
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [8] One-Way Stop (T-intersection)	**LOS per TIS**		**LOS per McCormick Taylor**	
7 - Ponderosa Drive & Nicklaus Drive	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Westbound Ponderosa Drive – Left	A (7.3)	A (7.3)	A (7.3)	A (7.3)
Northbound Nicklaus Lane	A (9.1)	A (9.2)	A (9.1)	A (9.2)
2031 No Build (Case 2)				
Westbound Ponderosa Drive – Left	A (7.4)	A (7.3)	A (7.4)	A (7.3)
Northbound Nicklaus Lane	A (9.2)	A (9.3)	A (9.2)	A (9.3)
2031 Build (Case 3)				
Westbound Ponderosa Drive – Left	A (7.4)	A (7.4)	A (7.4)	A (7.4)
Northbound Nicklaus Lane	A (9.5)	A (9.7)	A (9.5)	A (9.7)

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

Table 9
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [9] One-Way Stop (T-intersection)	**LOS per TIS**		**LOS per McCormick Taylor**	
8 - Ponderosa Drive & Plaindealing Road	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Westbound Ponderosa Drive – Left	A (7.5)	A (7.5)	A (7.4)	A (7.5)
Northbound Plaindealing Road	A (9.2)	A (9.0)	A (9.7)	A (9.0)
2031 No Build (Case 2)				
Westbound Ponderosa Drive – Left	A (7.5)	A (7.5)	A (7.5)	A (7.5)
Northbound Plaindealing Road	A (9.4)	A (9.1)	A (9.4)	A (9.1)
2031 Build (Case 3)				
Westbound Ponderosa Drive – Left	A (7.6)	A (7.6)	A (7.6)	A (7.6)
Northbound Plaindealing Road	A (9.6)	A (9.3)	A (9.6)	A (9.3)

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

Table 10
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [10] One-Way Stop (T-intersection)	**LOS per TIS**		**LOS per McCormick Taylor**	
9 - Ponderosa Drive & Barkers Landing Road	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Eastbound Ponderosa Drive	B (11.1)	B (10.8)	B (11.2)	B (10.8)
Northbound Barkers Landing Road – Left	A (8.4)	A (8.2)	A (7.4)	A (8.0)
2031 No Build (Case 2)				
Eastbound Ponderosa Drive	B (11.5)	B (11.1)	B (11.5)	B (11.1)
Northbound Barkers Landing Road – Left	A (8.5)	A (8.3)	A (7.4)	A (8.1)
2031 Build (Case 3)				
Eastbound Ponderosa Drive	B (12.0)	B (11.5)	B (12.0)	B (11.5)
Northbound Barkers Landing Road – Left	A (8.5)	A (8.4)	A (7.4)	A (8.1)

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

Table 11
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Signalized Intersection [11]	**LOS per TIS**		**LOS per McCormick Taylor**	
10 - S. State Street & Sorghum Mill Road	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Overall	C (25.8)	C (21.5)	C (31.9)	C (24.8)
2031 No Build (Case 2)				
Overall	C (25.0)	C (23.4)	D (40.3)	C (27.8)
2031 Build (Case 3)				
Overall	C (26.1)	C (24.3)	D (44.7)	C (29.7)

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

Table 12
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [12] Yield Controlled (T-intersection)	**LOS per TIS**		**LOS per McCormick Taylor**	
11 - Delaware Route 10 & Sorghum Mill Road	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Eastbound SR 10 – U-turns	C (24.3)	C (15.9)	C (24.3)	C (15.9)
Westbound SR 10 – Left	B (10.2)	B (11.1)	B (10.2)	B (11.1)
Northbound Sorghum Mill Road	C (15.2)	B (12.3)	C (15.2)	B (12.3)
2031 No Build (Case 2)				
Eastbound SR 10 – U-turns	D (27.6)	C (17.3)	D (27.6)	C (17.3)
Westbound SR 10 – Left	B (10.7)	B (12.7)	B (10.8)	B (12.7)
Northbound Sorghum Mill Road	C (18.5)	B (13.5)	C (18.5)	B (13.5)
2031 Build (Case 3)				
Eastbound SR 10 – U-turns	D (29.3)	C (17.7)	D (29.3)	C (17.7)
Westbound SR 10 – Left	B (11.2)	B (14.2)	B (11.0)	B (14.2)
Northbound Sorghum Mill Road	C (22.0)	B (14.3)	C (22.0)	B (14.3)

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

Table 13
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Signalized Intersection [13]	**LOS per TIS**		**LOS per McCormick Taylor**	
12 - Delaware Route 10 & Wawa Entrance / Gateway South Boulevard	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Overall	B (17.7)	C (23.2)	C (26.9)	C (27.1)
2031 No Build (Case 2)				
Overall	C (21.1)	C (23.1)	C (31.7)	C (27.7)
2031 Build (Case 3)				
Overall	C (21.5)	C (23.0)	C (32.3)	C (27.9)

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

Table 14
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [14] **One-Way Stop (T-intersection)**	**LOS per TIS**		**LOS per McCormick Taylor**	
13 - Delaware Route 10 & Windswept Drive	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Southbound Windswept Drive – Right	C (21.8)	B (14.3)	C (20.5)	B (13.5)
2031 No Build (Case 2)				
Southbound Windswept Drive – Right	C (22.1)	C (15.4)	C (22.8)	C (14.6)
2031 Build (Case 3)				
Southbound Windswept Drive – Right	C (22.3)	C (15.9)	C (23.1)	C (15.1)

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

Table 15
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Signalized Intersection [15]	**LOS per TIS**		**LOS per McCormick Taylor**	
14 - Delaware Route 10 & Pine Cabin Road	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Overall	A (4.2)	A (5.0)	B (12.9)	B (10.8)
2031 No Build (Case 2)				
Overall	A (4.3)	A (4.9)	B (15.5)	B (11.1)
2031 Build (Case 3)				
Overall	A (4.3)	A (4.8)	B (16.6)	B (11.3)

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

Table 16
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [16] One-Way Stop (T-intersection)	**LOS per TIS**		**LOS per McCormick Taylor**	
15 - Delaware Route 10 & Delaware Route 1 SB On Ramp	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Eastbound SR 10 – Left	E (37.4)	B (13.7)	E (37.4)	B (13.7)
Westbound SR 10 – Left	A (9.5)	A (8.3)	A (9.5)	A (8.7)
Northbound SR 1 SB On Ramp	B (11.4)	A (9.7)	B (11.4)	B (10.1)
2031 No Build (Case 2)				
Eastbound SR 10 – Left	F (54.4)	C (16.2)	F (64.1)	C (16.2)
Westbound SR 10 – Left	A (9.9)	A (8.6)	A (10.0)	A (8.6)
Northbound SR 1 SB On Ramp	B (11.9)	A (10.0)	B (12.0)	A (10.0)
2031 Build (Case 3)				
Eastbound SR 10 – Left	F (60.5)	C (17.4)	F (72.8)	C (17.4)
Westbound SR 10 – Left	B (10.1)	A (8.7)	B (10.2)	A (8.7)
Northbound SR 1 SB On Ramp	B (12.2)	B (10.1)	B (12.3)	B (10.1)
2031 Build (Case 3) – Signal				
Overall	A (2.2)	A (0.7)	A (7.3)	A (2.9)

[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.

Table 17
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [17] **One-Way Stop (T-intersection)**	**LOS per TIS**		**LOS per McCormick Taylor**	
16 - Sorghum Mill Road & Cypress Branch Road	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Westbound Cypress Branch Road	C (15.3)	B (13.4)	C (15.3)	B (13.4)
Southbound Sorghum Mill Road – Left	A (8.2)	A (7.9)	A (8.2)	A (7.9)
2031 No Build (Case 2)				
Westbound Cypress Branch Road	C (16.5)	C (15.3)	C (18.5)	C (15.3)
Southbound Sorghum Mill Road – Left	A (8.4)	A (8.1)	A (8.5)	A (8.1)
2031 Build (Case 3)				
Westbound Cypress Branch Road	D (27.6)	D (29.4)	D (27.6)	D (29.4)
Southbound Sorghum Mill Road – Left	A (8.5)	A (8.5)	A (8.5)	A (8.5)

[17] 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 18
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [18] Two-Way Stop-Controlled	**LOS per TIS**		**LOS per McCormick Taylor**	
17 - Cypress Branch Road & Riverside Drive / Quail Landing Circle	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Eastbound Quail Landing Circle	B (10.4)	B (10.6)	B (10.3)	B (10.6)
Westbound Riverside Drive	A (9.7)	A (9.2)	A (9.7)	A (9.2)
Northbound Cypress Branch Road – Left	A (7.3)	A (7.5)	A (7.3)	A (7.5)
Southbound Cypress Branch Road – Left	A (7.6)	A (7.4)	A (7.6)	A (7.4)
2031 No Build (Case 2)				
Eastbound Quail Landing Circle	B (10.5)	B (10.7)	B (10.4)	B (10.7)
Westbound Riverside Drive	A (9.8)	A (9.2)	A (9.8)	A (9.2)
Northbound Cypress Branch Road – Left	A (7.3)	A (7.6)	A (7.3)	A (7.6)
Southbound Cypress Branch Road – Left	A (7.7)	A (7.4)	A (7.7)	A (7.4)
2031 Build (Case 3)				
Eastbound Quail Landing Circle	B (11.8)	B (12.7)	B (11.7)	B (12.7)
Westbound Riverside Drive	B (10.8)	A (9.9)	B (10.8)	A (9.9)
Northbound Cypress Branch Road – Left	A (7.4)	A (7.9)	A (7.4)	A (7.9)
Southbound Cypress Branch Road – Left	A (7.9)	A (7.6)	A (7.9)	A (7.6)

[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 19
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [19] **One-Way Stop (T-intersection)**	**LOS per TIS**		**LOS per McCormick Taylor**	
18 - Sorghum Mill Road & **Locust Grove Road**	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Westbound Sorghum Mill Road – Left	A (7.8)	A (7.7)	A (7.8)	A (7.7)
Northbound Locust Grove Road	B (11.4)	B (10.6)	B (11.4)	B (10.6)
2031 No Build (Case 2)				
Westbound Sorghum Mill Road – Left	A (7.9)	A (7.8)	A (7.9)	A (7.8)
Northbound Locust Grove Road	B (12.3)	B (11.2)	B (12.3)	B (11.2)
2031 Build (Case 3)				
Westbound Sorghum Mill Road – Left	A (8.0)	A (7.9)	A (8.0)	A (7.9)
Northbound Locust Grove Road	B (12.7)	B (11.8)	B (12.7)	B (11.8)

[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 20
Peak Hour Levels of Service (LOS)
Based on Pickering Property
Traffic Impact Study – July 2024
Prepared by The Traffic Group

Unsignalized Intersection [20] One-Way Stop (T-intersection)	**LOS per TIS**		**LOS per McCormick Taylor**	
19 - Sorghum Mill Road & Carolina Avenue	Weekday AM	Weekday PM	Weekday AM	Weekday PM
2024 Existing (Case 1)				
Westbound Sorghum Mill Road – Left	A (7.7)	A (7.6)	A (7.7)	A (7.6)
Northbound Carolina Avenue	B (12.0)	B (11.0)	B (12.0)	B (11.0)
2031 No Build (Case 2)				
Westbound Sorghum Mill Road – Left	A (7.7)	A (7.7)	A (7.8)	A (7.7)
Northbound Locust Grove Road	B (12.0)	B (11.5)	B (12.7)	B (11.5)
2031 Build (Case 3)				
Westbound Sorghum Mill Road – Left	A (7.7)	A (7.8)	A (7.9)	A (7.8)
Northbound Locust Grove Road	B (12.7)	B (12.2)	B (13.4)	B (12.2)

[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.