



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

NICOLE MAJESKI  
SECRETARY

May 23, 2022

Ms. Nicole Kline-Elsier, PE, PTOE  
McMahon Associates, Inc.  
835 Springdale Drive, Suite 200  
Exton, PA 19341

Dear Ms. Kline-Elsier,

The enclosed Traffic Impact Study (TIS) review letter for the **Admiral's Landing (f.k.a. Shipbuilders Village)** (Tax Parcels: 135-14.00-44.01, 47.01 and 50.00) 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 (302) 760-2124.

Sincerely,

Claudy Joinville  
Project Engineer

CJ:km

Enclosures

cc with enclosures: Mr. Mike Irons, KHovnanian Delaware Operations, LLC  
Mr. Doug J. Liberman, Larson Engineering, Inc.  
Ms. Jocelyn Huff, Town of Georgetown  
Mr. Mir Wahed, Johnson, Mirmiran & Thompson, Inc.  
Ms. Joanne Arellano, Johnson, Mirmiran & Thompson, Inc.  
DelDOT Distribution

## DelDOT Distribution

Brad Eaby, Deputy Attorney General  
Shanté Hastings, Deputy Secretary / Director of Transportation Solutions (DOTS)  
Pamela Steinebach, Director, Planning  
Mark Luszcz, Deputy Director, Traffic, DOTS  
Peter Haag, Chief Traffic Engineer, Traffic, DOTS  
Michael Simmons, Assistant Director, Project Development South, DOTS  
Wendy Carpenter, Traffic Calming & Subdivision Relations Manager, DelDOT Traffic  
Todd Sammons, Assistant Director, Development Coordination  
Wendy Polasko, Subdivision Engineer, Development Coordination  
T. William Brockenbrough, Jr., County Coordinator, Development Coordination  
Alistair Probert, South District Engineer, South District  
Matthew Schlitter, South District Public Works Engineer, South District  
Mark Galipo, Traffic Engineer, Traffic, DOTS  
Jared Kauffman, Service Development Planner, Delaware Transit Corporation  
Tremica Cherry, Service Development Planner, Delaware Transit Corporation  
Anthony Aglio, Planning Supervisor, Statewide & Regional Planning  
Steve McCabe, Sussex Review Coordinator, Development Coordination  
Derek Sapp, Subdivision Manager, Development Coordination  
John Andrescavage, Subdivision Manager, Development Coordination  
Mark Galipo, Traffic Engineer, Traffic, DOTS  
Annamaria Furfato, Project Engineer, Development Coordination



May 20, 2022

Mr. Claudy Joinville  
Project Engineer  
Delaware Department of Transportation  
Development Coordination, Division of Planning  
800 Bay Road  
Dover, DE 19901

RE: Agreement No. 1945F  
Project Number T202069012  
Traffic Impact Study Services  
Task 3-10A – Admiral’s Landing (f.k.a. Shipbuilder’s Village)

Dear Mr. Joinville:

Johnson, Mirmiran, and Thompson (JMT) has completed a review of the Traffic Impact Study (TIS) for the Admiral’s Landing Residential Development (f.k.a. Shipbuilder’s Village), which was prepared by McMahan Associates, Inc. dated November 4, 2021. This review was assigned as Task Number 3-10A. The report is prepared in a manner generally consistent with DelDOT’s *Development Coordination Manual*.

The TIS evaluates the impacts of a proposed residential development in the Town of Georgetown in Sussex County, Delaware. The development would be comprised of 158 units of low-rise multi-family housing (townhouses). The site is located on the west side of Vaughn Road, directly across from the intersection with Ennis Road. The subject property is on an approximately 50.95-acre assemblage of parcels. The land is currently zoned as MR-2 (Townhouse Residential) and the developer does not plan to rezone the land.

Two access points are proposed on Vaughn Road. One full access is proposed directly opposite Ennis Road forming a four-legged intersection. This entrance would provide access to 135 units of low-rise multi-family housing. A second full access is proposed along Vaughn Road, approximately 650 feet south of Ennis Road. This entrance would provide access to 23 units of low-rise multi-family housing. No interconnection is proposed between the two sections of housing. Per the DelDOT Scoping Meeting Memorandum dated August 26, 2021, the TIS only evaluated the site entrance along Vaughn Road directly opposite Ennis Road. Construction for the development is anticipated to be completed in 2025.

DelDOT has a relevant project within the study area. As a part of the ongoing *Traffic Engineering Design Services FY22-FY24: Hot Spot Curve Study Project* (DelDOT Contract No. T202270301), Vaughn Road was evaluated for horizontal curve safety improvements. A design was approved by DelDOT in October of 2021 to implement signing improvements along the corridor, which includes installing new chevrons assemblies to increase motorist awareness of curves. Among the locations this project addressed are the horizontal curve along Vaughn Road approximately 200 ft



south of Ennis Road, along with the curve approximately 300 ft south of the development's southern entrance.

At the Vaughn Road intersection with Ennis Road and the site entrance, the posted speed limit along Vaughn Road is 40 miles per hour along the southbound approach and 50 miles per hour along the northbound approach. The developer may pursue a speed study for evaluating the posted speed limits.

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

None of the study intersections exhibit level of service (LOS) deficiencies without the implementation of physical roadway and/or traffic control improvements.

Should the Town of Georgetown approve the proposed development, the following items should be incorporated into the site design and reflected on the record plan. 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.

1. The developer shall improve Vaughn Road within the limits of their frontage to meet DeIDOT's standards for Functional Classification as found in Section 1.1 of the *Development Coordination Manual* and elsewhere therein. The improvements shall include both directions of travel, regardless of whether the developer's lands are on one or both sides of the road. Frontage is defined in Section 1 of the *Development Coordination Manual*, which states "This length includes the length of roadway perpendicular to lines created by the projection of the outside parcel corners to the roadway." Questions on or appeals of this requirement should be directed to the DeIDOT Subdivision Review Coordinator in whose area the development is located.
2. The developer should construct a site entrance on Vaughn Road, directly across from Ennis Road. The Vaughn Road intersection with Ennis Road and the site entrance should be consistent with the lane configurations shown in the table below.



<b>Approach</b>	<b>Current Configuration</b>	<b>Proposed Configuration</b>
Eastbound Site Entrance	Approach does not exist	One shared left turn/through/right turn lane
Westbound Ennis Road	One shared left turn/right turn lane	One shared left turn/through/right turn lane
Northbound Vaughn Road	One shared through/right turn lane	One shared left turn/through/ right turn lane
Southbound Vaughn Road	One shared left turn/through lane	One shared left turn/through lane and one right turn lane

Based on DelDOT’s *Development Coordination Manual*, the recommended minimum storage length (excluding taper) of the separate southbound right turn lane along Vaughn Road is 110 feet. The calculated queue lengths from the HCS analysis can be accommodated within the recommended storage length. Lighting at the intersection should also be evaluated per DelDOT’s lighting guidelines. The developer should submit a plan to DelDOT’s Development Coordination Section depicting the design. The final design should be determined during the Entrance Plan review process.

3. Based on the June 29, 2021 Record Plan, several lots located on the southwest corner of the Vaughn Road intersection with Ennis Road and the site entrance may obstruct sight lines and should be relocated to be outside of the sight triangle. The adequacy of available sight distance should be confirmed during the Entrance Plan review process.
4. The following bicycle, pedestrian, and transit improvements should be included:
  - a. A minimum of fifteen-foot wide permanent easement from the edge of the right-of-way should be dedicated to DelDOT along the Vaughn Road site frontage. Within the easement, the developer should construct a ten-foot wide shared-use path (SUP). The SUP should be designed to meet current AASHTO and ADA standards. A minimum five-foot setback should be maintained from the edge of the pavement to the SUP. If feasible, the SUP should be placed behind utility poles and street trees should be provided within the buffer area. The developer should coordinate with DelDOT’s Development Coordination Section during the plan review process to identify the exact location of the SUP.
  - a. Utility covers should be moved outside of any designated bicycle lanes and any proposed sidewalks/SUP or should be flush with the pavement.
5. Due to the proximity of the proposed development to the Delaware Coastal Airport, we recommend that deed restrictions be required similar to the attached Avigation Nuisance Easement and Non-Suit Covenant (pages 16 and 17). The applicant should contact Mr.



Steve Bayer at (302) 760-4834 at DelDOT's Statewide and Regional Planning Section to determine whether the proposed development is within the Runway Protection Zone. If so, restrictions may apply.

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 Plan Review process.

Improvements in this TIS may be considered "significant" under DelDOT's *Work Zone Safety and Mobility Procedures and Guidelines*. These guidelines are available on DelDOT's website at [https://www.deldot.gov/Publications/manuals/de\\_mutcd/index.shtml](https://www.deldot.gov/Publications/manuals/de_mutcd/index.shtml). For any additional information regarding the work zone impact and mitigation procedures during construction, please contact Mr. Jeff VanHorn, Assistant Director for Traffic Operations and Management. Mr. VanHorn can be reached at (302) 659-4606 or by email at [Jeffrey.VanHorn@delaware.gov](mailto:Jeffrey.VanHorn@delaware.gov).

Additional details on our review of the TIS are attached. Please contact me at (302) 266-9600 if you have any questions concerning this review.

Sincerely,  
Johnson, Mirmiran, and Thompson, Inc.

A handwritten signature in black ink, appearing to read 'Joanne M. Arellano', is written over a light blue horizontal line.

Joanne M. Arellano, P.E., PTOE

cc: Mir Wahed, P.E., PTOE  
Janna Brown, E.I.T.

Enclosure

## **General Information**

**Report date:** November 4, 2021

**Prepared by:** McMahon Associates, Inc.

**Prepared for:** KHovnanian Delaware Operations, LLC

**Tax Parcels:** 135-14.00-44.01, 47.01, and 50.00

**Generally consistent with DelDOT's *Development Coordination Manual (DCM)*:** Yes

## **Project Description and Background**

**Description:** The TIS evaluates the impacts of a proposed residential development comprised of 158 units of low-rise multi-family housing (townhouses).

**Location:** The subject site is located on the west side of Vaughn Road (Sussex Road 520), directly across from the intersection with Ennis Road in the Town of Georgetown, Sussex County.

**Amount of Land to be developed:** An approximately 50.95-acre assemblage of parcels.

**Land Use approval(s) needed:** Entrance Plan.

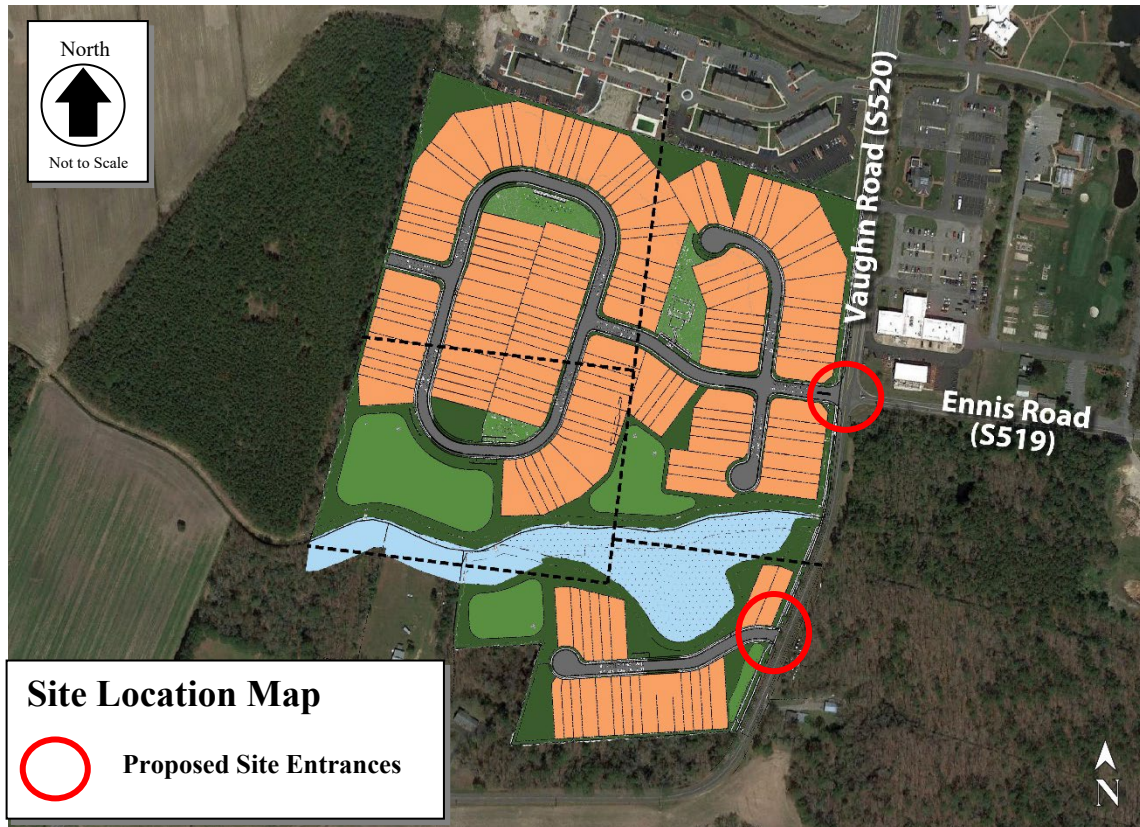
**Proposed completion date:** 2025.

**Proposed access locations:** Two access points are proposed on Vaughn Road. One full access is proposed directly opposite Ennis Road forming a four-leg intersection. This entrance would provide access to 135 units of low-rise multi-family housing. A second full access is proposed along Vaughn Road, south of Ennis Road. This entrance would provide access to 23 units of low-rise multi-family housing. Per the DelDOT Scoping Meeting Memorandum dated August 26, 2021, the TIS only evaluated the site entrance along Vaughn Road directly opposite Ennis Road.

### **Daily Traffic Volumes:**

- 2019 Average Annual Daily Traffic on Vaughn Road (Sussex Road 520): 1,698
- 2019 Average Annual Daily Traffic on Ennis Road: 1,300

## Site Map



\*Graphic is an approximation based on the Record Plan prepared by Larson Engineering Group, Inc. last revised June 29, 2021.

## Relevant and On-going Projects

DelDOT has a relevant project within the study area. As a part of the ongoing *Traffic Engineering Design Services FY22-FY24: Hot Spot Curve Study Project* (DelDOT Contract No. T202270301), Vaughn Road was evaluated for horizontal curve safety improvements. A design was approved by DelDOT in October of 2021 to implement signing improvements along the corridor, which includes installing new chevrons assemblies to increase motorist awareness of curves. Among the locations this project addressed are the horizontal curve along Vaughn Road approximately 200 ft south of Ennis Road, along with the curve approximately 300 ft south of the development's southern entrance.

## Livable Delaware

(Source: *Delaware Strategies for State Policies and Spending, 2020*)

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

The proposed development is located within the Investment Level 2 and Level 3. The majority of the site exists in Level 2. It should be noted that some of the edges of the proposed site's footprint fall into Out of Play areas, however no development is proposed within these minuet locations.



### *Investment Level 2*

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. They serve as transition areas between Level 1 and the state's more open, less populated areas. They generally contain a limited variety of housing types, predominantly detached single-family dwellings.

In Investment Level 2 Areas, like Investment Level 1 Areas, 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 its 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, essential open spaces and recreational facilities, other public facilities, and services to promote a sense of community.

Level 2 Areas share similar priorities as with the Level 1 Areas where the aim remains to: make context sensitive transportation system capacity enhancements, preserve existing facilities, make safety enhancements, make transportation system capacity improvements, create transit system enhancements, ensure ADA accessibility, and close gaps in the pedestrian system, including the Safe Routes to School projects. Investment Level 2 Areas are ideal locations for Transportation Improvement Districts and Complete Community Enterprise Districts. Other priorities for Level 2 Areas include: Corridor Capacity Preservation, off-alignment multi-use paths, interconnectivity of neighborhoods and public facilities, and signal-system enhancements.

### *Investment Level 3*

Investment Level 3 Areas generally fall into two categories. The first category covers lands that are in the long-term growth plans of counties or municipalities where development is not necessary to accommodate expected population growth during a five-year planning period (or longer). In these instances, development in Investment Level 3 may be least appropriate for new growth and development in the near term. The second category includes lands that are adjacent to or intermingled with fast-growing areas within counties or municipalities that are otherwise categorized as Investment Levels 1 or 2. Environmentally sensitive features, agricultural-preservation issues, or other infrastructure issues most often impact these lands. In these instances, development and growth may be appropriate in the near term, but the resources on the site and in the surrounding area should be carefully considered and accommodated by state agencies and local government with land-use authority. Investment Level 3 is further characterized by areas with new development separated from existing development by a substantial amount of vacant land that is not contiguous with existing infrastructure, areas that are experiencing some development

pressure, areas with existing but disconnected development, and possible lack of adequate infrastructure.

The state will consider investing in infrastructure within Investment Level 3 Areas once the Investment Level 1 and 2 Areas are substantially built out, or when the infrastructure or facilities are logical extensions of existing systems and deemed appropriate to serve a particular area. The priorities in the Level 3 Areas are for DelDOT to focus on regional movements between towns and other population centers. DelDOT also supports the development and implementation of Transportation Improvement Districts in Investment Level 3 areas. Local roadway improvements will be made by developers and property owners as development occurs. Lower priority is given to transportation system–capacity improvements and transit-system enhancements.

**Proposed Development’s Compatibility with Livable Delaware:**

The majority of the proposed site would be located in Investment Level 2. Investment Level 2 encompasses a wide variety of usages and densities and encourages diversified housing beyond single family detached homes. Investment Level 3 can encompass lands that are adjacent to fast-growing areas within municipalities that have environmentally sensitive features. The Layton-Vaughn Deep Creek traverses through the proposed development. Current plans for the site include multi-family houses which are strategically placed to avoid the creek bed’s footprint. As such, the site is generally consistent with Livable Delaware.

**Comprehensive Plan**

*(Source: Town of Georgetown 2021 Comprehensive Plan)*

**Georgetown Comprehensive Plan:**

Per the *Town of Georgetown Comprehensive Plan Town Zoning Map* adopted July 14, 2021, the subject land is currently zoned as MR-2 (Townhouse Residential) and the developer does not plan to rezone the land. Per the *Future Land Use Map* the proposed development is in an area designated Multi-Family Residential.

**Proposed Development’s Compatibility with the Georgetown Comprehensive Plan:**

Per the *Town of Georgetown Comprehensive Plan*, the site is zoned for multi-family residential use and the proposed development consists of 158 low-rise multi-family homes. Therefore, the proposed development is generally consistent with the *Town of Georgetown Comprehensive Plan*.

**Trip Generation**

The trip generation for the proposed development was determined by using the comparable land use and rates/equations contained in the *Trip Generation, 10<sup>th</sup> Edition: An ITE Informational Report*, published by the Institute of Transportation Engineers (ITE) for ITE Land Use Code 220 (Low-Rise Multi-Family Houses).

**Table 1**  
Admiral's Landing Trip Generation

Land Use	ADT	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
NORTH 135 Low-Rise Multi-Family Houses (ITE Code 220)	980	14	49	63	48	29	77
SOUTH 23 Low-Rise Multi-Family Houses (ITE Code 220)	133	3	9	12	10	6	16
<b>Total Trips</b>	<b>1,113</b>	<b>17</b>	<b>58</b>	<b>75</b>	<b>58</b>	<b>35</b>	<b>93</b>

### Overview of TIS

#### **Intersections examined:**

1. Vaughn Road (Sussex Road 520) / Ennis Road/ Site Entrance

#### **Conditions examined:**

1. Case 1 – Existing (2021)
2. Case 2 – 2025 without development
3. Case 3 – 2025 with development

#### **Committed Developments considered:**

1. Shops of College Park (80,000 square feet of medical-dental office space)
2. Village of College Park (121 single-family detached houses and 288 units of mid-rise multifamily housing)

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

### Intersection Descriptions

#### **1. Vaughn Road (Sussex Road 520) and Ennis Road/Site Entrance**

**Type of Control:** Existing two-way stop controlled intersection (T-intersection)  
Proposed two-way stop controlled intersection (four-legged).

**Eastbound Approach:** (Site Entrance) Proposed one shared left turn/through/right turn lane, stop controlled.

**Westbound Approach:** (Ennis Road) Existing one shared left turn/right turn lane, stop controlled; proposed one shared left turn/through/right turn lane, stop controlled.

**Northbound Approach:** (Vaughn Road) Existing one shared through/right turn lane; proposed one shared left turn/through/right turn lane.

**Southbound Approach:** (Vaughn Road) Existing one shared left turn/through lane, proposed one shared left turn/through lane and one right turn lane.

### **Transit, Pedestrian, and Bicycle Facilities**

**Existing transit service:** Per DelDOT Gateway, Delaware Transit Corporation (DTC) does not currently provide existing services through the study area. However, service is currently provided north of the study area via DART Route 212. DART Route 212 travels along Vaughn Road, north of the study intersection. Dart Route 212 provides 12 round trips from 5:13 AM to 11:29 PM on weekdays, and 7 round trips from 10:10 AM to 10:55 PM on Saturdays.

**Planned transit service:** Per email correspondence on November 18, 2021, with Mr. Jared Kauffman, Fixed-Route Planner for DART, there are no transit improvements recommendations at this time.

**Existing bicycle and pedestrian facilities:** According to DelDOT's Sussex County Bicycle Map, Vaughn Road is a Connector Bicycle Route along the site frontage, including at the intersection with Ennis Road. Additionally, no pedestrian facilities are provided along Vaughn Road within the site frontage.

**Planned bicycle and pedestrian facilities:** Per email correspondence dated December 2, 2021, from Mr. John Fiori, DelDOT's Bicycle Coordinator and Ms. Linda Osiecki, DelDOT's Pedestrian Coordinator, the following improvements were recommended:

- A non-motorized facility is required unless a physical impossibility exist.
- Per the Development Coordination Manual (DCM) the site shall dedicate right-of-way per the roadway classification and establish a 15' wide permanent easement along the property frontage.
- Perform a pedestrian study for crossing Vaughn Road at the entrance/Ennis Road intersection, and make improvements per that study.
- All entrance, roadway and/or intersection improvements required shall incorporate bicycle and pedestrian facilities. Per the DCM, if the right turn lane is warranted, then a separate bike lane shall be incorporated along the right turn lane; if a left turn lane is required any roadway improvements shall include a shoulder matching the roadway functional classification or existing conditions (minimum 5-feet).

**Bicycle Level of Traffic Stress in Delaware:** Researchers with the Mineta Transportation Institute developed a framework to measure low-stress connectivity, which can be used to evaluate and guide bicycle network planning. Bicycle LTS analysis uses factors such as the speed of traffic, volume of traffic, and the number of lanes to rate each roadway segment on a scale of 1 to 4, where 1 is a low-stress place to ride and 4 is a high-stress place to ride. It analyzes the total connectivity

of a network to evaluate how many destinations can be accessed using low-stress routes. Developed by planners at the Delaware Department of Transportation (DelDOT), the bicycle Level of Traffic Stress (LTS) model will be applied to bicycle system planning and evaluation throughout the state. The Bicycle LTS for the roadways under existing conditions along the site frontage are summarized below. The Bicycle LTS was determined utilizing the map on the DelDOT Gateway.

- Vaughn Road LTS: 4
- Ennis Road LTS: 1

### **Sight Distance Evaluation**

JMT performed a qualitative sight distance evaluation for the proposed Site Entrance and Ennis Road approaches to Vaughn Road. The proposed Site Entrance approach to Vaughn Road across from Ennis Road has limited sight distance to the south due to roadway geometry and vegetation. The Ennis Road approach to Vaughn Road has limited sight distance from the existing stop bar. However, this limitation is not present from the edge of traveled way. The adequacy of available sight distance should be confirmed during the Entrance Plan review process.

### **NCHRP 562 Pedestrian Crossing Analysis**

JMT performed a pedestrian crossing analysis for the intersection of Vaughn Road and Ennis Road/Site Entrance utilizing the NCHRP 562 methodology. Per the evaluation, an active or enhanced pedestrian treatment is recommended for pedestrians crossing Vaughn Road at the Ennis Road/Site Entrance intersection. Enhanced treatments include warning signs, markings, or beacons that are present at the crossing location at all times. Active treatments include devices designed to display a warning only when pedestrians are present or crossing the street.

### **Signal Warrant Evaluation**

The TIS conducted a signal warrant evaluation for the proposed Vaughn Road/Ennis Road/Site Entrance intersection. The evaluation was conducted using traffic volume data and geometric conditions in accordance with the Delaware Manual on Uniform Traffic Control Devices (DEMUTCD). Based on the evaluation, none of the traffic warrants are met.

### **Crash Evaluation**

Per the crash data provided in the TIS from September 7, 2018 to September 7, 2021 and provided by the Delaware Crash Analysis Reporting System, a total of two crashes occurred at or within the study intersection. No injuries or fatalities were reported. Of the two crashes one was a rear-end crash and the other not a collision between two vehicles.

### **Previous Comments**

All comments made during the Preliminary TIS (PTIS) were addressed in the Final TIS (FTIS).

**General HCS Analysis Comments**

*(See table footnotes on the following pages for specific comments)*

1. JMT utilized version 7.9.5 of HCS7, whereas the TIS utilized version 7.6.
2. Per DelDOT's *Development Coordination Manual*, JMT used a heavy vehicle percentage of 3% for each movement greater than 100 vph in the Case 2 and Case 3 future scenario analysis, unless the existing heavy vehicle percentage was greater than 3% and there was no significant increase of vehicles along that movement, in which case the existing heavy vehicle percentage was used for the analysis of future scenarios, whereas the TIS utilized existing heavy vehicle percentages for all scenarios.
3. Per DelDOT's *Development Coordination Manual* and coordination with DelDOT Planning, JMT used a heavy vehicle percentage of 5% for each movement less than 100 vph along roadways, whereas the TIS utilized existing heavy vehicle percentages. Additionally, the TIS and JMT utilized a heavy vehicle percentage of 3% for movements entering and exiting the proposed site.
4. Per DelDOT's *Development Coordination Manual*, JMT and the TIS utilized the existing PHF for the Case 1 scenario and a future PHF for Cases 2 and 3 scenarios of 0.80 for roadways with less than 500 vph, 0.88 for roadways between 500 and 1,000 vph, and 0.92 for roadways with more than 1,000 vph or the existing PHF, whichever was higher.

Table 2  
Peak Hour Levels Of Service (LOS)  
Based on Final Traffic Impact Study for Admiral's Landing  
Report Dated: November 4, 2021  
Prepared by: McMahon Associates, Inc.

Unsignalized Intersection Two-Way Stop Control <sup>1</sup>	LOS per TIS		LOS per JMT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
<b>Vaughn Road (Sussex Road 520)/Ennis Road/Site Entrance</b>				
Existing (Case 1)				
Westbound Ennis Road Approach	A (9.3)	A (9.2)	A (9.3)	A (9.2)
Southbound Vaughn Road Left Turn	A (7.6)	A (7.4)	A (7.6)	A (7.4)
2025 without Development (Case 2)				
Westbound Ennis Road Approach	A (9.4)	A (9.3)	A (9.3)	A (9.3)
Southbound Vaughn Road Left Turn	A (7.6)	A (7.5)	A (7.6)	A (7.4)
2025 with Development (Case 3) <sup>2</sup>				
Eastbound Site Entrance Approach	-	-	B (11.3)	B (11.2)
Westbound Ennis Road Approach	-	-	A (9.8)	B (10.3)
Northbound Vaughn Road Left Turn	-	-	A (7.4)	A (7.5)
Southbound Vaughn Road Left Turn	-	-	A (7.7)	A (7.5)

<sup>1</sup> For signalized and unsignalized analysis, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

<sup>2</sup> JMT analyzed the intersection with the proposed site entrance and one shared left turn/through/right turn lane along each approach.

Table 2 (continued)  
Peak Hour Levels Of Service (LOS)  
Based on Final Traffic Impact Study for Admiral's Landing  
Report Dated: November 4, 2021  
Prepared by: McMahon Associates, Inc.

Unsignalized Intersection Two-Way Stop Control <sup>1</sup>	LOS per TIS		LOS per JMT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
<b>Vaughn Road (Sussex Road 520)/Ennis Road/Site Entrance</b>				
<i>2025 with Development (Case 3) with southbound right turn lane <sup>3</sup></i>				
Eastbound Site Entrance Approach	B (11.3)	B (11.1)	B (11.3)	B (11.1)
Westbound Ennis Road Approach	A (9.8)	B (10.3)	A (9.8)	B (10.3)
Northbound Vaughn Road Left Turn	A (7.4)	A (7.5)	A (7.4)	A (7.5)
Southbound Vaughn Road Left Turn	A (7.6)	A (7.5)	A (7.7)	A (7.5)
<i>2025 with Development (Case 3) with auxiliary lanes <sup>4</sup></i>				
Eastbound Site Entrance Approach	-	-	B (11.2)	B (11.1)
Westbound Ennis Road Approach	-	-	A (9.7)	B (10.3)
Northbound Vaughn Road Left Turn	-	-	A (7.4)	A (7.5)
Southbound Vaughn Road Left Turn	-	-	A (7.7)	A (7.5)

<sup>3</sup> JMT and the TIS analyzed the intersection with the proposed eastbound site entrance modeled as a shared left turn/through/right turn lane, and a separate right turn lane along the southbound Vaughn Road approach.

<sup>4</sup> JMT analyzed the intersection with the proposed eastbound site entrance modeled as a shared left turn/through/right turn lane. The southbound Vaughn Road approach was modeled with separate right turn, through, and left turn lanes and the northbound Vaughn Road approach was modeled with a separate right turn lane.



Table 2 (continued)  
Peak Hour Levels Of Service (LOS)  
Based on Final Traffic Impact Study for Admiral's Landing  
Report Dated: November 4, 2021  
Prepared by: McMahon Associates, Inc.

Roundabout <sup>1</sup>	LOS per TIS		LOS per JMT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
<b>Vaughn Road (Sussex Road 520)/Ennis Road/Site Entrance</b>				
2025 with Development (Case 3) <sup>5</sup>				
Eastbound Site Entrance Approach	-	-	A (3.4)	A (3.5)
Westbound Ennis Road Approach	-	-	A (3.6)	A (3.7)
Northbound Vaughn Road Approach	-	-	A (4.1)	A (3.5)
Southbound Vaughn Road Approach	-	-	A (3.5)	A (4.0)
Overall	-	-	A (3.8)	A (3.8)

<sup>5</sup> JMT performed an additional analysis of the intersection as a single lane roundabout.

# Avigation Nuisance Easement & Non-Suit Covenant

This indenture made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between \_\_\_\_\_, hereinafter referred to as Grantor, and \_\_\_\_\_ hereinafter referred to as Grantee, witnesseth:

WHEREAS the Grantor is the owner in fee of a certain parcel of land (“the Property”) in the County of \_\_\_\_\_, State of Delaware; and

WHEREAS said parcel of land is near or adjacent to \_\_\_\_\_, an operating airport (“Airport”); and

WHEREAS the Grantee is the owner of said airport; and

WHEREAS the Grantor proposes to make a use of said Property and to develop thereon the following:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

, which use and development require approval by Municipal and County authorities subject to the applicable provisions of law; and

WHEREAS the Grantor has been advised that the subject Property is located adjacent to the Airport; that the present and future impacts of Airport operations might be considered annoying to users of the Property for its stated purpose and might interfere with the unrestricted use and enjoyment of the Property in its intended use; that these Airport impacts might change over time, for example and not by way of limitation by an increase in the number of aircraft using the Airport, louder aircraft, seasonal variations, and time-of-day variations; that changes in Airport, air traffic control operating procedures or in Airport layout could result in increased noise impacts; and that the Grantor’s and users’ own personal perceptions of the noise exposure could change and that his or her sensitivity to aircraft noise could increase;

NOW, THEREFORE, for and in consideration of the mutual covenants, agreements and conditions contained herein, the parties hereto agree as follows:

Grantor does hereby grant a permanent nuisance and avigation easement (“Easement”) to Grantee over all of the following described real estate:

By virtue of this agreement, the Grantor, for and on behalf of himself and all successors in interest to any and all of the real property above described, waives as to Grantee or any successor agency legally authorized to operate said airport, any and all claims for damage of any kind whatsoever incurred as a result of aircraft using the Easement granted herein regardless of any future changes in volume or character of aircraft overflights, or changes in airport design and operating policies, or changes in air traffic control procedures.

The Grantor, for and on behalf of himself and all successors in interest to any and all of the real property above described, does further hereby covenant and agree with the Grantee, its successors and assigns, that it will not, from and after the effective date hereof, sue, prosecute, molest, or trouble the Grantee, its successors and assigns, in

These covenants and agreements shall run with the land of the Grantor, as hereinabove described, for the benefit of the Grantee, and its successors and assigns in the ownership, use and operation of the aforesaid Airport.

Grantee, its successors and assigns, shall have and hold said Easement and all rights appertaining thereto until said Airport shall be abandoned and shall cease to be used for airport purposes.

If any provision of this Easement or any amendments hereto, or the application thereof to any person, thing or circumstances is held invalid, such invalidity shall not affect the provisions or application of this Easement or such amendments that can be given effect without the invalid provisions or application, and to this end the provisions of this Easement and such amendments are declared to be severable.

IN WITNESS WHEREOF, the Grantor has hereunto set its hand and seal the day and year first above written.

\_\_\_\_\_(SEAL)

\_\_\_\_\_(SEAL)

## NOTARY ACKNOWLEDGEMENT

STATE OF DELAWARE

ss.

COUNTY OF KENT

**BE IT REMEMBERED** that on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ personally, came before me, the subscriber, a Notary Public for the State and County aforesaid, \_\_\_\_\_, party(ies) to this Indenture, known to me personally to be such, and acknowledged this Indenture, to his/her (their) act or deed.

**GIVEN** under my Hand and Seal of office the day and year first above written.

\_\_\_\_\_  
Notary Public, State of Delaware

My Commission Expires \_\_\_\_\_