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

JENNIFER COHAN
SECRETARY

May 9, 2018

Mr. Michael Kaszyski
Duffield Associates, Inc.
5400 Limestone Road
Wilmington, DE 19808

Dear Mr. Kaszyski:

The enclosed Traffic Impact Study (TIS) review letter for the **Dutch Inn** (Tax Parcels 10-024.00-032, 033 & 060) redevelopment 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 review letter and concurs with the recommendations. If you have any questions concerning this letter or the enclosed review letter, please contact me at (302) 760-2167.

Sincerely,

Troy Brestel

Troy Brestel
Project Engineer

TEB:km
Enclosures
cc with enclosures: Mr. Fred Wittig, Diamond State Management, Inc.
Ms. Constance C. Holland, Office of State Planning Coordination
Mr. George Haggerty, New Castle Department of Land Use
Mr. Antoni Sekowski, New Castle Department of Land Use
Mr. Owen Robatino, New Castle Department of Land Use
Mr. Mir Wahed, Johnson, Mirmiran & Thompson, Inc.
Ms. Joanne Arellano, Johnson, Mirmiran & Thompson, Inc.
DelDOT Distribution

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Annie Cordo, Deputy Attorney General
Robert McCleary, Director, Transportation Solutions (DOTS)
Drew Boyce, Director, Planning
Mark Luszcz, Chief Traffic Engineer, Traffic, DOTS
Mark Tudor, Assistant Director, Project Development North, DOTS
J. Marc Coté, Assistant Director, Development Coordination
T. William Brockenbrough, Jr., County Coordinator, Development Coordination
Peter Haag, Traffic Studies Manager, Traffic, DOTS
Kevin Canning, Canal District Engineer, North District
Matthew Lichtenstein, Canal District Public Works Engineer, Canal District
David Dooley, Service Development Planner, Delaware Transit Corporation
Erin Osborne, New Castle Subdivision Review Coordinator, Development Coordination
Pao Lin, New Castle Subdivision Manager, Development Coordination
Mark Galipo, Traffic Engineer, Traffic, DOTS
Anthony Aglio, Planning Supervisor, Statewide & Regional Planning
Claudy Joinville, Project Engineer, Development Coordination
Will Mobley, Subdivision Manager, Development Coordination

Engineering A Brighter Future®

May 8, 2018

Mr. Troy Brestel
Project Engineer
Development Coordination
DelDOT Division of Planning
P O Box 778
Dover, DE 19903

RE: Agreement No. 1774
Project Number T201769002
Traffic Impact Study Services
Task 9A-Dutch Inn – 111 S. DuPont Highway

Dear Mr. Brestel:

Johnson, Mirmiran and Thompson (JMT) has completed the review of the Traffic Impact Study (TIS) for the 111 S. DuPont Highway restaurant and retail development, prepared by Duffield Associates, Inc. This task was assigned Task Number 9A. Duffield Associates, Inc. prepared the report in a manner generally consistent with DelDOT's *Development Coordination Manual*.

The TIS evaluates the impacts of a restaurant and retail development proposed in New Castle County, on the southwest corner of the intersection of US Route 13 and Delaware Route 273. Per the TIS, the development consists of a 4,969 square-foot Chick-Fil-A with drive-thru, a 2,500 square-foot Starbucks with drive-thru, and a 12,000 square-foot specialty retail center. The subject property is on an approximately 4.15-acre assemblage of parcels currently zoned CR (Commercial Regional) and no rezoning is necessary to permit the proposed land use.

Four existing entrances are proposed in the TIS to provide access to the development: one right-in/right-out access on US Route 13 (Site Entrance A), one right-in/right-out/left-in access along US Route 13 via the interconnection with the Wawa/Lone Star Steakhouse entrance (Site Entrance B), one right-in/right-out access along Delaware Route 273 via Valley Road (Site Entrance D), and one right-in/right-out access along Delaware Route 273 approximately 230 feet east of Valley Road (Site Entrance C).

However, in a Site Plan received on April 13, 2018, the proposed right-in/right-out access along Delaware Route 273 (Site Entrance C) has been removed and therefore any recommendations regarding this entrance as a result of the TIS analysis has been omitted from this letter. Construction of the site is expected to be completed in 2019.

DelDOT currently has one relevant ongoing project within the study area, *the US 13, US 40 to Memorial Drive Pedestrian Improvements* project (Contract # T201601102). In addition, none of the study area intersections were selected for DelDOT's Hazard Elimination Program (HEP) within the last five years.

The *US 13, US 40 to Memorial Drive Pedestrian Improvements* project provides for the installation of sidewalk facilities. Specifically, pedestrian sidewalks are proposed to be installed along both sides of US Route 13, from US Route 40 to Memorial Drive. Crosswalks and ADA compliant ramps will also be installed at the intersections. This project is in the early stages of design and the associated timelines are being established. The project looks to address the pedestrian safety studies/audits conducted by DelDOT along the US Route 13 corridor. The pedestrian studies include the *US 13/DuPont Highway Pedestrian Safety Study* which was an evaluation done by DelDOT to review the existing pedestrian accommodations and develop short-term, mid-term, and long-term recommendations to improve pedestrian safety. Note, some of the short-term and mid-term recommendations included in the studies/audits have already been completed by DelDOT via other projects. However, the *US 13, US 40 to Memorial Drive Pedestrian Improvements* project looks to implement the remaining recommendations. Additional information regarding the pedestrian safety studies can be found on the DelDOT website at: http://deldot.gov/Programs/DSHSP/index.shtml?dc=pedestrian_safety.

In addition, DelDOT has two future pavement rehabilitation and resurfacing projects within the vicinity of the project area. The first project is along Delaware Route 273, from US Route 13 to Delaware Route 1. The second project is also along Delaware Route 273 but from Chapman Road to Harmony Road. The scope of these projects involves milling, patching, overlays, and ADA upgrades. Contract numbers have not been assigned to these projects and construction is expected to start Fall 2018.

Based on our review of the traffic impact study, we have the following comments and recommendations:

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

Intersection	***Situations for which deficiencies occur***
Site Entrance A/US Route 13	2019 Weekday PM With Development (Case 3)
Site Entrance B/Lone Star Steakhouse Entrance /Wawa Entrance/US Route 13	2017 Existing Weekday PM (Case 1) 2019 Weekday PM and Saturday without Development (Case 2) 2019 Weekday PM and Saturday with Development (Case 3)
Delaware Route 273/Westbound U-turn	2017 Existing Weekday AM (Case 1) 2019 Weekday PM and Saturday without Development (Case 2) 2019 Weekday PM and Saturday with Development (Case 3)

Intersection	*Situations for which deficiencies occur*
US Route 13/Delaware Route 273	2017 Existing Weekday AM, PM and Saturday (Case 1) 2019 Weekday AM, PM, and Saturday without Development (Case 2) 2019 Weekday AM, PM, and Saturday with Development (Case 3)
Delaware Route 273/Churchmans Road (Delaware Route 58)	2017 Existing Weekday PM (Case 1) 2019 Weekday PM and Saturday without Development (Case 2) 2019 Weekday PM and Saturday with Development (Case 3)

The unsignalized intersection of Site Entrance A/US Route 13 exhibits LOS deficiencies during the 2019 weekday PM peak hour with the full buildout of the site. The deficiencies take place along the eastbound Site Entrance A approach to the intersection which is projected to operate at LOS E (46.1 seconds of delay) with a 95th percentile queue length of approximately 73 feet. The anticipated queue length is minimal, and could be accommodated on-site. As such, no additional improvements are recommended at this intersection.

The unsignalized intersection of Site Entrance B/Lone Star Steakhouse Entrance/Wawa Entrance/US Route 13 exhibits LOS deficiencies during the 2017 and 2019 weekday PM peak hour with or without the full buildout of the site (Cases 1, 2, and 3), as well as during the 2019 Saturday peak hour with or without the proposed development (Cases 2 and 3). The deficiencies take place along the eastbound Site Entrance B approach and the northbound US Route 13 left turn lane. During the PM peak hour under Case 3 conditions, the eastbound Site Entrance B approach is projected to operate at LOS E (47.3 seconds of delay) with a 95th percentile queue length of approximately 80 feet. The northbound US Route 13 left turn lane during the PM peak hour is projected to operate at LOS F (2,953.5 seconds of delay) with a 95th percentile queue length of approximately 748 feet. Restricting the northbound left-in movement and having vehicles U-turn at the US Route 13/Delaware Route 273 intersection to access the site would alleviate the delays. However, it is acknowledged that restricting the movement would not be feasible as that entrance provides access to the adjacent existing Wawa and 113 S. DuPont Highway properties. The installation of a traffic signal at this intersection would also alleviate the delays, however, the vehicle progression along the corridor would be impacted. Furthermore, with long delays along the northbound left turn lane, vehicles looking to avoid the delays are expected to U-turn at the US Route 13/Delaware Route 273 intersection to access the site. As such, no additional improvements aside from increasing the storage length are recommended at this intersection.

The unsignalized intersection of the Delaware Route 273/Westbound U-turn exhibits LOS deficiencies during the existing 2017 weekday AM peak hour (Case 1). The deficiencies take place along the eastbound Delaware Route 273 U-turn with a projected delay of 42.1 seconds and a queue length of less than one vehicle. However, these deficiencies would be eliminated during the AM peak hour due to the future intersection improvement proposed as part of the New Castle Town Center development. As part of the New Castle Town Center development, the eastbound Delaware Route 273 U-turn will be removed and a site entrance for the Town Center will be added to form the northerly leg and create a T-intersection.

With the Delaware Route 273/Westbound U-turn intersection improvement mentioned above, LOS deficiencies would still occur during the 2019 weekday PM and Saturday peak hours with or without the full buildout of the site (Cases 2 and 3). Specifically, the westbound Delaware Route 273 U-turn movement would experience capacity constraints (LOS F with 183.8 seconds of delay and a projected 95th percentile queue length of approximately 190 feet during the Saturday peak hour). Restricting the westbound U-turn movement and having vehicles U-turn at the Delaware Route 273/Churchmans Road intersection would alleviate the delays. However, it is acknowledged that restricting the movement would not be feasible as the U-turn movement is utilized by adjacent businesses. The installation of a traffic signal at this intersection would also alleviate the delays, however, the vehicle progression along the corridor would be impacted. As such, no additional improvements are recommended at this intersection. Furthermore, with long delays along the westbound approach, vehicles looking to avoid the delays are expected to U-turn at the Delaware Route 273/Churchmans Road intersection. As this intersection will serve as a site access for the New Castle Town Center development, it is recommended the developer not be responsible to contribute an equitable portion of the improvements.

The signalized intersection of US Route 13/Delaware Route 273 exhibits LOS deficiencies under the 2017 existing and 2019 future conditions with or without the development (Cases 1, 2, and 3) during the weekday AM, PM, and Saturday peak periods. Due to the geometric limitations of the intersection, a more innovative intersection design, such as converting some approaches to be grade separated may help to alleviate the capacity constraints. However, the cost of providing a more unconventional design would be unreasonable to impose upon the developer and is beyond the scope of this TIS. Therefore, it is recommended that no additional improvements be conducted by the developer at this intersection.

The signalized intersection of Delaware Route 273/Churchmans Road exhibits LOS deficiencies during the 2017 and 2019 weekday PM peak hour with or without the full buildout of the site (Cases 1, 2, and 3) and during the 2019 Saturday peak hour with or without the full buildout of the site (Cases 2 and 3). Delays of 198.0 seconds are calculated at the intersection during the Saturday peak period under Case 3 conditions. However, with the improvements proposed at the intersection as part of the New Castle Town Center development, which includes the provision of two exclusive left turn lanes along the southbound approach, the intersection would improve to LOS D and the delay during the Saturday peak period would improve to 51.4 seconds. Per DelDOT, the implementation of these improvements by the New Castle Town Center development may not take place. Therefore, as it would be unreasonable to impose upon the developer to construct the improvements since the projected site traffic would be approximately 2% of the peak hour traffic at this intersection, it is recommended that no additional improvements be conducted by the developer at this intersection.

In addition, to help improve interconnectivity as well as operations at the site and minimize conflict points along Delaware Route 273, Site Entrance C/Delaware Route 273 intersection should be eliminated. The Site Plan received from Duffield Associates on April 13, 2018, depicts that Site Entrance C has been removed. With the traffic redirected from Site Entrance C, the Site Entrance

D/Valley Road/Delaware Route 273 intersection would operate at LOS E. However, the delay is projected to be approximately 40.5 seconds with a 95th percentile queue length of approximately 150 feet which could be accommodated within Valley Road and have minimal conflicts with on-site operation.

Should New Castle County approve the proposed development, the following items should be incorporated into the site design and reflected on the record plan. The recommendations below incorporate the removal of Site Entrance C which has been reflected in the Site Plan received on April 13, 2018. 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 should provide a bituminous concrete overlay of the existing southbound US Route 13 right turn lane at Site Entrance A, at DelDOT's discretion. DelDOT should analyze the existing lane's pavement section and recommend an overlay thickness to the developer's engineer if necessary.

2. The developer should maintain the existing Site Entrance A/US Route 13 intersection. It is recommended that a storage length of 100 feet with a 50 feet taper be provided for the southbound US Route 13 right turn lane. The calculated queue lengths from the HCS analysis can be accommodated within the recommended storage length.

3. The developer should maintain the Site Entrance B/Lone Star Steakhouse Entrance/Wawa Entrance/US Route 13 intersection. The location of this intersection may be slightly shifted due to the proposed site layout. The developer should coordinate with DelDOT's Development Coordination section during the plan review process to identify the exact location. It is recommended that a storage length of 420 feet with a 100 feet taper be provided along the northbound US Route 13 left turn lane at this intersection.

4. The developer should maintain the Site Entrance D/Valley Road/Delaware Route 273 intersection. It is recommended that the existing storage length of approximately 400 feet with a 50 feet taper be maintained for the eastbound Delaware Route 273 right turn lane. The calculated queue lengths from the HCS analysis can be accommodated within the recommended storage length.

5. The developer should enter into an agreement with DelDOT to fund an equitable portion of the pedestrian improvements planned as part of the future *US 13, US 40 to Memorial Drive Pedestrian Improvements* (Contract #T201601102) project. The developer should

coordinate with DelDOT on the implementation and equitable cost sharing of the improvements during the plan review process.

6. The following bicycle, pedestrian, and transit improvements should be included:

    a. A minimum fifteen-foot wide permanent easement from the edge of the right-of-way should be dedicated to the State of Delaware along the US Route 13 and Delaware Route 273 site frontages. Within this easement, the developer should construct a five-foot wide sidewalk that meets current AASHTO and ADA standards. If feasible, the sidewalk should be placed behind utility poles and street trees should be provided within the buffer area. A minimum five-foot setback should be maintained from the edge of the pavement to the sidewalk. However, for locations behind utility poles and street trees, a minimum 10-foot setback is sufficient.

    b. Where internal sidewalks are located alongside of perpendicular or angular parking spaces, a buffer, physical barrier, or signage should be added to eliminate vehicular overhang onto the sidewalk.

    c. ADA compliant curb ramps and marked crosswalks should be provided at the site entrances. The use of diagonal curb ramps is discouraged.

    d. Bicycle parking racks should be provided near the building entrances for commercial uses. Where the building architecture provides for an awning or other overhang, the bicycle parking should be covered.

    e. Utility covers should be moved outside of any designated bicycle lanes and sidewalks or should be flush with the pavement.

    f. Bus stops with ADA compliant 5 feet by 8 feet concrete pads along the Delaware Route 273 frontage should be provided. The developer should coordinate with DART during the plan review process to determine the bus stop locations and designs.

7. Due to the proximity of the proposed development to the New Castle Airport, we recommend that deed restrictions be required similar to the attached Avigation Nuisance Easement and Non-Suit Covenant (pages 26 and 27). The applicant should contact Mr. Nate Attard at (302) 760-2174 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. For any additional information regarding the work zone impact and mitigation procedures during construction please contact Mr. Mark Buckalew of DelDOT's Traffic Section. Mr. Buckalew can be reached at (302) 894-6353 or by email at Mark.Buckalew@state.de.us.

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.

Mir Ale Wahed,
Mir Wahed, P.E., PTOE

cc: Joanne Arellano, P.E., PTOE

Enclosure

General Information

Report date: July 2017
Prepared by: Duffield Associates, Inc.
Prepared for: Dutch Inn, LLC.
Tax Parcel: 10-024.00-032, 10-024.00-033 and 10-024.00-060
Generally consistent with DelDOT's *Development Coordination Manual*: Yes.

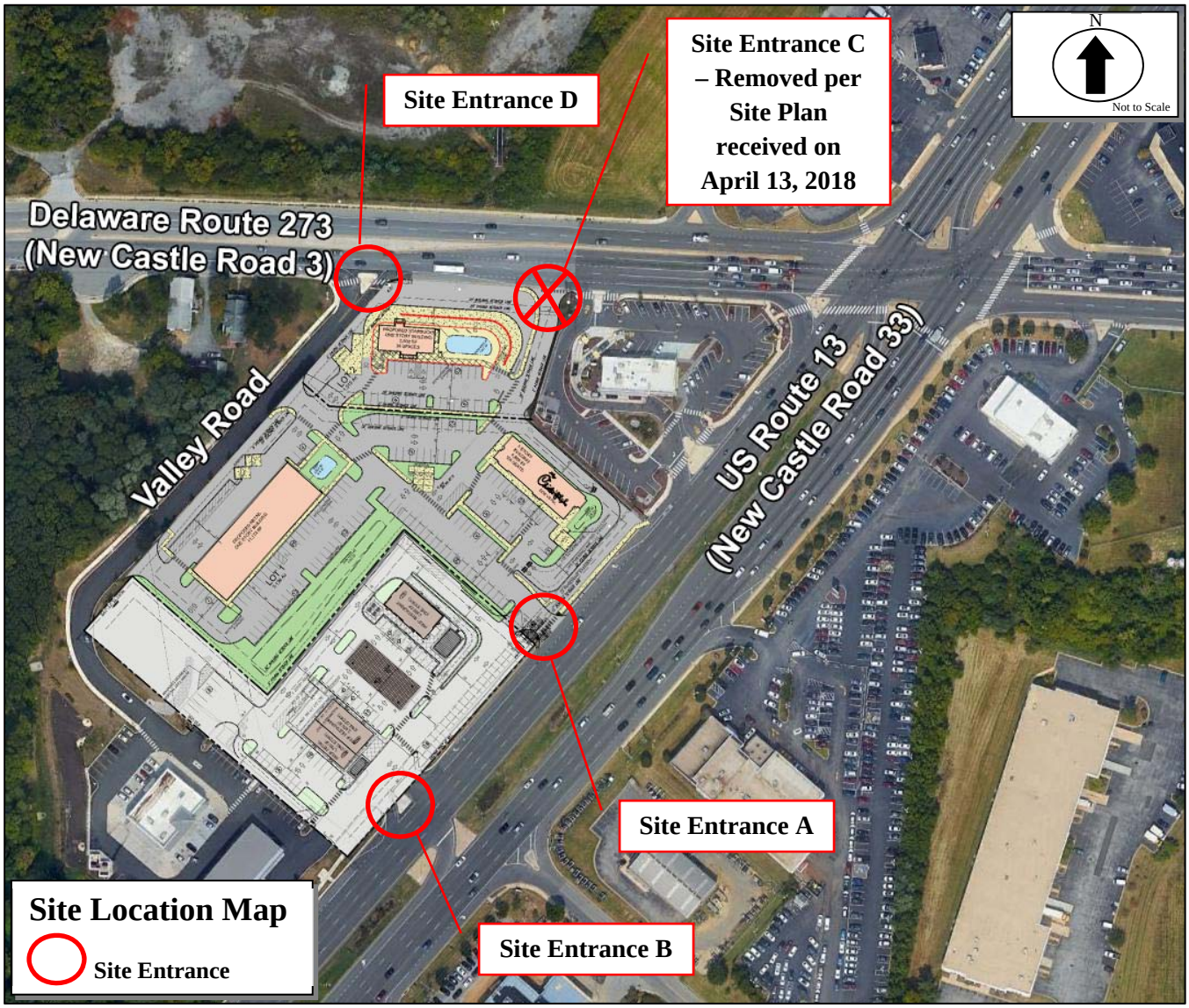
Project Description and Background

Description: The development will consist of a 4,969-square-foot Chick-Fil-A with drive-thru, a 2,500-square-foot Starbucks with drive-thru, and a 11,174 square-foot specialty retail center.
Location: The project site is located on the southwest corner of the intersection of US Route 13 and Delaware Route 273 in New Castle County.
Amount of Land to be developed: The subject property is on an approximately 4.15-acre assemblage of parcels.
Land Use approval(s) needed: Entrance Plan approval.
Proposed completion date: 2019
Proposed access locations: Four existing entrance are proposed to provide access to the development: one right-in/right out along US Route 13; one right-in/right-out/left in along US Route 13 via the interconnection with the Wawa/Lone Star Steakhouse entrance; one right-in/right-out along Delaware Route 273 via Valley Road, and on one right-in/right-out access along Delaware Route 273 approximately 230 feet east of Valley Road. However, in a Site Plan received on April 13, 2018, the proposed right-in/right-out access along Delaware Route 273 (Site Entrance C) has been removed.

Daily Traffic Volumes:

- 2016 Average Annual Daily Traffic on US Route 13: 77,064 vehicles per day.
- 2016 Average Annual Daily Traffic on Delaware Route 273: 30,325 vehicles per day.

Site Map



**Graphic is an approximation based on the Conceptual Site Plan prepared by Duffield Associates, Inc. dated March 24,2017.*

Relevant and On-going Projects

The *US 13, US 40 to Memorial Drive Pedestrian Improvements* project provides for the installation of sidewalk facilities. Specifically, pedestrian sidewalks are proposed to be installed along both sides of US Route 13, from US Route 40 to Memorial Drive. Crosswalks and ADA compliant ramps will also be installed at the intersections. This project is in the early stages of design and the associated timelines are being established. The project looks to address the pedestrian safety studies/audits conducted by DelDOT along the US Route 13 corridor. The pedestrian studies include the *US 13/DuPont Highway Pedestrian Safety Study* which was an evaluation done by DelDOT to review the existing pedestrian accommodations and develop short-term, mid-term, and long-term recommendations to improve pedestrian safety. Note, some of the short-term and mid-term recommendations included in the studies/audits have already been completed by DelDOT via other projects. However, the *US 13, US 40 to Memorial Drive Pedestrian Improvements* project looks to implement the remaining recommendations. Additional information regarding the pedestrian safety studies can be found on the DelDOT website at: http://deldot.gov/Programs/DSHSP/index.shtml?dc=pedestrian_safety.

In addition, DelDOT has two future pavement rehabilitation and resurfacing projects within the vicinity of the project area. The first project is along Delaware Route 273, from US Route 13 to Delaware Route 1. The second project is also along Delaware Route 273 but from Chapman Road to Harmony Road. The scope of these projects involves milling, patching, overlays, and ADA upgrades. Contract numbers have not been assigned to these projects and construction is expected to start Fall 2018.

Livable Delaware

(Source: Delaware Strategies for State Policies and Spending, 2015)

Location with respect to the Strategies for State Policies and Spending Map of Delaware:
The proposed development is located within the Investment Level 1 area.

Investment Level 1

These areas are often municipalities, towns, or urban/urbanizing places in counties where density is generally higher than in surrounding areas. In 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. 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.

In Level 1 Areas the state's first priority will be for preserving existing facilities and making safety improvements. Level 1 areas will also be the highest priority for context sensitive transportation system capacity enhancements, transit-system enhancements, ADA accessibility, and for closing gaps in the pedestrian system, including the Safe Routes to School projects. Further, Level 1 areas are the first priority for planning projects and studies, bicycle facilities, signal-system

enhancements, and the promotion of interconnectivity between neighborhoods and public facilities.

Proposed Development's Compatibility with Livable Delaware:

The proposed development is located in the Investment Level 1 area. According to Livable Delaware, Level 1 focuses on new or expansion of economic development projects located in these areas. Therefore, the proposed development is generally consistent with the 2015 update of the Livable Delaware "Strategies for State Policies and Spending."

Comprehensive Plans
(Source: New Castle County, Comprehensive Plan Update, April 24, 2012)

New Castle County Comprehensive Plan:

The subject property is currently zoned as CR (Commercial Regional) in New Castle County, and no rezoning is necessary to permit the proposed land use. Furthermore, the future land use will be an office/commercial/industrial development area (OCI). As such, the development is generally compatible with the *New Castle County, 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, 9th Edition: An ITE Informational Report*, published by the Institute of Transportation Engineers (ITE) for the following land uses:

- ITE Land Use Code 826 – Specialty Retail Center
- ITE Land Use Code 934 – Fast Food Restaurant with Drive-Through Window
- ITE Land Use Code 937 – Coffee/Donut Shop with Drive-Through Window

The peak period trip generation utilized in the TIS for the proposed development is included in Table 1.

Table 1
Dutch Inn – 111 S. DuPont Highway Trip Generation

Land Use	**ADT**	**AM Peak Hour**			**PM Peak Hour**			**SAT Peak Hour**		
		In	Out	Total	In	Out	Total	In	Out	Total
12,000 SF Specialty Retail Center (ITE Code 826)	532	-	-	-	15	18	33	27	25	52
Pass-By Trips		-	-	-	-	-	-	-	-	
Net New Trips		-	-	-	15	18	33	27	25	52
4,969 SF Fast Food with Drive Thru (ITE Code 934)	2,465	116	110	226	85	77	162	150	143	293
Pass-By Trips		57	54	111	42	39	81	75	72	147
Net New Trips		59	56	115	43	38	81	75	71	146
2,500 SF Coffee Shop with Drive Thru (ITE Code 937)	2,046	128	123	251	53	54	107	106	106	212
Pass-By Trips		63	60	123	27	27	54	53	53	106
Net New Trips		65	63	128	26	27	53	53	53	106
Total Net New Trips	**5,043**	**124**	**119**	**243**	**84**	**83**	**167**	**155**	**149**	**304**

Overview of TIS

Intersections examined:

1. Site Entrance A / US Route 13
2. Site Entrance B / Lone Star Steakhouse Entrance / US Route 13
3. Site Entrance C / Delaware Route 273
4. Site Entrance D / Valley Road / Delaware Route 273
5. Delaware Route 273 / Westbound U-turn (approximately 400 feet west of Valley Road)
6. US Route 13 / Delaware Route 273
7. Delaware Route 273 / Churchmans Road (Delaware Route 58)

Note, a Site Plan received on April 13, 2018 depicts that the proposed right-in/right-out access along Delaware Route 273 (Site Entrance C) has been removed. However, to maintain consistency with the TIS report, the analysis results from Site Entrance C is depicted in this letter.

Conditions examined:

1. Case 1 – Existing (2017)
2. Case 2 – 2019 without development
3. Case 3 – 2019 with development

Peak hours evaluated: Weekday morning, weekday evening, and Saturday midday peak hours.

Committed Developments considered:

1. 113 S. DuPont Highway (2,600 square foot fast-food restaurant with drive-through window, 2,450 square foot fast-food restaurant without drive-through window, and a 1,750 square foot specialty retail building, collectively replacing Lone Star Steakhouse)
2. New Castle Town Center (476,248 square foot shopping center)
3. Parkway Industrial Park (21,600 square feet of warehouse space)
4. Hertrich of New Castle (4,827 square feet additions [under construction] to an existing building, 15,760 square feet building, 6,685 square feet building)
5. Entrepreneurs Park (125,000 square feet of light industrial space)

Intersection Descriptions

1. **Site Entrance A / US Route 13**
   Type of Control: existing two-way stop controlled intersection (T-intersection)
   Eastbound Approach: (Site Entrance A) existing one right turn lane, stop controlled
   Northbound Approach: (US Route 13) existing four through lanes
   Southbound Approach: (US Route 13) existing four through lanes and one right turn lane

2. **Site Entrance B / Lone Star Steakhouse Entrance / US Route 13**
   Type of Control: existing two-way stop controlled intersection (T-intersection)
   Eastbound Approach: (Site Entrance B) existing one right turn lane, stop controlled
   Northbound Approach: (US Route 13) existing one left turn and four through lanes
   Southbound Approach: (US Route 13): existing four through lanes and one right turn lane

3. **Site Entrance C / Delaware Route 273**
   Type of Control: existing two-way stop controlled intersection (T-intersection)
   Eastbound Approach: (Delaware Route 273) existing two left turn lanes for the US Route 13 intersection, two through lanes, and one right turn lane
   Westbound Approach: (Delaware Route 273) existing two through lanes
   Northbound Approach: (Site Entrance C) existing one right turn lane, stop controlled

4. **Site Entrance D / Valley Road / Delaware Route 273**
   Type of Control: existing two-way stop controlled intersection (T-intersection)
   Eastbound Approach: (Delaware Route 273) existing two through lanes and one right turn lane
   Westbound Approach: (Delaware Route 273) existing two through lanes
   Northbound Approach: (Valley Road) existing one right turn lane, stop controlled

5. **Delaware Route 273 / Westbound U-Turn (approximately 400 feet west of Valley Road)**
   Type of Control: existing unsignalized intersection
   Eastbound Approach: existing two through lanes and one U-turn lane
   Westbound Approach: existing two through lanes and one U-turn lane

6. **US Route 13 / Delaware Route 273**
   Type of Control: existing signal controlled intersection
   Eastbound Approach: (Delaware Route 273) existing two left turn lanes, two through lanes, and one channelized right turn lane
   Westbound Approach: (Delaware Route 273) existing two left turn lanes, two through lanes, and one channelized right turn lane
   Northbound Approach: (US Route 13) existing two left turn lanes, four through lanes, and one right turn lane
   Southbound Approach: (US Route 13) existing two left turn lanes, four through lanes, and one channelized right turn lane

7. **Delaware Route 273 / Churchmans Road (Delaware Route 58)**
   Type of Control: existing signal controlled intersection
   Eastbound Approach: (Delaware Route 273) existing one left turn lane, two through lanes, and one channelized right turn lane
   Westbound Approach: (Delaware Route 273) existing one left turn lane, two through lanes, and one channelized right turn lane
   Northbound Approach: (Churchmans Road) existing one shared through/left turn lane, and one channelized right turn lane
   Southbound Approach: (Churchmans Road) existing one left turn lane, one shared through/left turn lane, and one channelized right turn lane

Transit, Pedestrian, and Bicycle Facilities

Existing transit service: Delaware Transit Corporation (DTC) currently provides existing services via DART Routes 22 and 25 within the study area. Designated bus stops for DART Route 22 exist within the study area, and are located at the southeast corner of the Delaware Route 273 intersection with Churchmans Road and at the Delaware Route 273 intersection with US Route 13. DART Route 22 provides 28 round trips on weekdays from 4:29 a.m. to 10:40 p.m., 13 round trips on Saturday from 7:43 a.m. to 8:13 p.m. and 7 round trips on Sunday from 10:13 a.m. to 7:47 p.m. A designated bus stop for DART Route 25 exists within the study area and is located along US Route 13 approximately 1,000 feet south of the Delaware Route 273 intersection, adjacent to the existing Wawa. DART Route 25 provide 30 round trips on weekdays from 4:45 a.m. to 11:35 p.m. and 11 round trips on Saturday from 9:40 a.m. to 8:25 p.m. Route 25 does not provide any bus service on Sundays.

Planned transit service: JMT contacted Mr. Dooley, Senior Planner at the DTC. Per email correspondence on September 9, 2017 from Mr. Dooley, the following improvements were recommended:

- Continuous sidewalk along the US Route 13 site frontage, to access the bus stop located adjacent to the Wawa.
- Additional bus stops, one adjacent to the proposed Starbucks location along the Delaware Route 273 frontage and one on the opposite side of Delaware Route 273 should be planned. A 5'x8' bus pad should be provided at each bus stop with sidewalks connecting them to the adjacent McDonalds and Wawa sites.
- Install a pedestrian crosswalk along the north side crossing of US Route 13 at the Delaware Route 273 intersection.

Existing bicycle and pedestrian facilities: According to DelDOT's *New Castle County Bicycle Map,* the East Coast Greenway Route as well as, regional and connector bicycle routes exist within the study area. The East Coast Greenway bicycle route and Regional Bicycle Route NC-4 exist along Delaware Route 273 and traverses through five of the study intersections. The connector bicycle route exists along US Route 13 and traverses through two of the study intersections. Within the study area, sidewalks exist along both sides of Delaware Route 273, and along portions of US Route 13. Pedestrian crosswalks are provided at the Delaware Route 273 intersections with Churchmans Road, Valley Road, and US Route 13.

Planned bicycle and pedestrian facilities: JMT contacted Ms. Maria Andaya, a Planner at DelDOT. Per email correspondence on September 8, 2017 from Ms. Andaya, the following improvements were recommended:

- Maintain a minimum 5' wide bike lane along US Route 13 and Delaware Route 273
- At least 5' sidewalks along the US Route 13 and Delaware Route 273 site frontages

Bicycle Level of Service and Bicycle Compatibility Index: According to the League of Illinois Bicyclists (LIB), Bicycle Level of Service (BLOS) is an emerging national standard for quantifying the bike-friendliness of a roadway by measuring on-road bicyclist comfort levels for specific roadway geometries and traffic conditions. Utilizing the 10-year projected AADT along the US Route 13 and Delaware Route 273 site frontages with 50 miles per hour and 45 miles per hour speed limits, respectively, and the provision of 5-foot bike lane, the BLOS with the full build out construction of the proposed development are summarized below. The BLOS was determined utilizing the calculators published on the LIB website:
http://rideillinois.org/blos/blosform.htm

- US Route 13– BLOS: C (2.51-3.50)
- Delaware Route 273– BLOS: E (4.51-5.50)

Crash Summary

One fatal crash was reported within the study area. The crash involved an angle incident where a vehicle executing a U-turn movement failed to yield to right-of way. This crash occurred at the U-turn located along US Route 13 approximately 50 feet north of the intersection with Delaware Route 273. The crash took place during daylight with dry roadway conditions.

Previous Comments

The comments from the Preliminary TIS have been addressed in the TIS.

General HCS Analysis Comments

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

1. For the intersection analyses, the TIS used HSC7 version 7.2.1 whereas JMT used HCS 2010, version 6.90.

2. JMT utilized a PHF consistent with the existing turning movement counts at each intersection, whereas the TIS assumed a PHF of 0.92 for each intersection.

3. JMT used heavy vehicle percentages consistent with the existing turning movement counts at each intersection while the TIS utilized arbitrary percentages.

4. Per DelDOT's *Development Coordination Manual*, JMT used a heavy vehicle percentage of 3% for each movement in a 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 analysis of future scenarios. The TIS maintained the heavy vehicle percentages utilized in their existing cases throughout the future cases.

5. Per DelDOT's *Development Coordination Manual*, JMT utilized the future PHF 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, whereas the TIS assumed 0.92.

6. JMT utilized updated Cases 2 and 3 volumes. As discussed with DelDOT, the updated volumes were created to address some volume development inconsistencies identified in the TIS report.

Table 2
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Dutch Inn, LLC
Report Dated: July 2017
Prepared by Duffield Associates, Inc.

Unsignalized Intersection Two-Way Stop Control [1]	**LOS per TIS**			**LOS per JMT**		
Site Entrance A/US Route 13 [2, 3]	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2017 Existing (Case 1)						
Eastbound Site Entrance A Approach	B (11.6)	D (29.0)	B (14.8)	B (11.2)	D (25.8)	B (13.5)
2019 Without development (Case 2) [4]						
Eastbound Site Entrance A Approach	B (12.0)	D (32.3)	C (16.4)	B (11.6)	D (28.0)	C (15.5)
2019 With development (Case 3) [4]						
Eastbound Site Entrance A Approach	B (13.0)	F (50.0)	C (21.5)	B (14.1)	E (46.1)	C (21.8)
2019 With development (Case 3) *and RIRO Access* [4, 5]						
Eastbound Site Entrance A Approach	-	-	-	B (13.6)	F (53.4)	D (25.1)

[1] For signalized and unsignalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.
[2] JMT considered the median type as undivided, while the TIS considered the median type with left only storage.
[3] JMT considered two through lanes with 50% of the traffic utilizing the lanes. The TIS considered two through lanes with 55% percent of the traffic utilizing the lanes.
[4] Due to the significant increase of traffic along the eastbound site entrance, JMT reduced the heavy vehicle percentage from 13% to 3%.
[5]The RIRO access scenario incorporates the modification of the Site Entrance B/Lone Star Steakhouse Entrance/Wawa Entrance/US Route 13 intersection to be right-in/right-out resulting in the left-in traffic to reroute and execute a U-turn movement at the US Route 13/Delaware Route 273 intersection.

Table 3
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Dutch Inn, LLC
Report Dated: July 2017
Prepared by Duffield Associates, Inc.

Unsignalized Intersection Two-Way Stop Control [1]	**LOS per TIS**			**LOS per JMT**		
Site Entrance B/Lone Star Steakhouse Entrance/US Route 13 [6]	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2017 Existing (Case 1)						
Eastbound Site Entrance B Approach	B (11.4)	D (27.5)	B (14.3)	B (12.7)	C (23.6)	B (13.3)
Northbound US Route 13 Left Turn	B (10.8)	F (75.0)	C (16.5)	B (11.6)	F (454.4)	C (22.0)
2019 Without development (Case 2)						
Eastbound Site Entrance B Approach	B (11.8)	D (34.2)	C (16.9)	B (13.1)	D (29.8)	C (15.3)
Northbound US Route 13 Left Turn	B (11.5)	F (168.1)	C (22.2)	B (12.8)	F (1447.1)	F (55.5)
2019 With development (Case 3)						
Eastbound Site Entrance B Approach	B (12.8)	E (47.1)	C (21.3)	B (12.9)	E (47.3)	C (20.2)
Northbound US Route 13 Left Turn	B (12.6)	F (263.0)	D (33.8)	B (14.3)	F (2953.5)	F (207.0)
2019 With development (Case 3) *and RIRO Access* [5]						
Eastbound Site Entrance B Approach	-	-	-	B (13.0)	F (52.3)	C (21.1)

[6] JMT considered two through lanes with 50% of the traffic utilizing the lanes. The TIS considered two through lanes with 55% of the traffic utilizing the lanes.

Table 3 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Dutch Inn, LLC
Report Dated: July 2017
Prepared by Duffield Associates, Inc.

Signalized Intersection[1]	**LOS per TIS**			**LOS per JMT**		
Site Entrance B/Lone Star Steakhouse Entrance/US Route 13	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2019 With development (Case 3) *and Signalization* [7]	-	-	-	B (10.2)	B (10.6)	B (14.2)

[7] Signalization scenario accounts for providing a signal for the left turn movement from US Route 13 to Site Entrance B. Signal cycle lengths of 180 seconds were utilized for the AM and PM peak periods, and 150 seconds for the Saturday peak period consistent with the signal cycle lengths at the US Route 13/Delaware Route 273 intersection.

Table 4
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Dutch Inn, LLC
Report Dated: July 2017
Prepared by Duffield Associates, Inc.

Unsignalized Intersection Two-Way Stop Control [1]	**LOS per TIS**			**LOS per JMT**		
Site Entrance C/ Delaware Route 273 [8]	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2019 With development (Case 3)						
Northbound Site Entrance C Approach	B (13.8)	C (19.8)	C (19.4)	B (14.9)	C (22.6)	D (25.1)

[8] JMT considered the median type as undivided whereas the TIS considered the median type with left only storage.

Table 5
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Dutch Inn, LLC
Report Dated: July 2017
Prepared by Duffield Associates, Inc.

Unsignalized Intersection Two-Way Stop Control [1]	**LOS per TIS**			**LOS per JMT**		
Site Entrance D/Valley Road/Delaware Route 273	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2017 Existing (Case 1)						
Northbound Valley Road Approach	B (13.0)	C (16.3)	B (14.6)	B (13.4)	C (16.0)	B (13.7)
2019 Without development (Case 2)						
Northbound Valley Road Approach	B (13.4)	C (19.9)	C (19.3)	B (13.7)	C (20.6)	C (19.7)
2019 With development (Case 3)						
Northbound Valley Road Approach	B (14.4)	C (21.8)	C (22.8)	C (15.5)	C (24.1)	D (26.1)
2019 With development (Case 3) *and Site Entrance C Closure* [9]						
Northbound Valley Road Approach	-	-	-	C (17.6)	D (29.9)	E (40.5)

[9] Site Entrance C Closure accounts for closing the right-in/right-out site entrance along Delaware Route 273.

Table 6
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Dutch Inn, LLC
Report Dated: July 2017
Prepared by Duffield Associates, Inc.

Unsignalized Intersection Two-Way Stop Control [1]	**LOS per TIS**			**LOS per JMT**		
Delaware Route 273/Westbound U-Turn	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2017 Existing (Case 1) [10]						
Eastbound Delaware Route 273 U-Turn	-	-	-	E (42.1)	C (23.3)	C (19.3)
Westbound Delaware Route 273 U-Turn	C (17.5)	E (38.2)	C (24.3)	C (17.9)	D (32.6)	C (23.1)
2019 Without development (Case 2) [11]						
Westbound Delaware Route 273 U-Turn	C (19.2)	F (71.7)	F (53.3)	C (19.4)	F (64.9)	F (59.5)
Southbound New Castle Town Center Development Right				C (19.4)	C (20.0)	C (20.3)
2019 With development (Case 3) [11]						
Westbound Delaware Route 273 U-Turn	C (23.2)	F (118.6)	F (118.4)	D (25.5)	F (119.8)	F (183.2)
Southbound New Castle Town Center Development Right				C (19.9)	C (20.5)	C (21.5)
2019 With development (Case 3) *and with Improvements*[12]						
Southbound New Castle Town Center Development Right				C (20.9)	C (22.0)	C (24.7)

[10] JMT included the existing eastbound U-Turn movement on Delaware Route 273, whereas the TIS did not.
[11] JMT included improvements for the New Castle Town Center in the 2019 conditions, which include the removal of the eastbound U-turn, an addition of a westbound right-turn lane, and a southbound leg with one right-turn lane.
[12] The Improvements scenario incorporates the removal of the westbound U-turn with the U-turns added to the U-turn movements at the Delaware Route 273/Churchmans Road intersection.

Table 6 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Dutch Inn, LLC
Report Dated: July 2017
Prepared by Duffield Associates, Inc.

Signalized Intersection[1]	**LOS per TIS**			**LOS per JMT**		
Delaware Route 273/Westbound U-Turn	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2019 With development (Case 3) *and Signalization* [13]	-	-	-	A (5.1)	A (5.2)	A (6.7)

[13] The signalization scenario accounts for adding a signal for the westbound U-Turn movement at the Delaware Route 273 intersection. Signal cycle lengths of 180 seconds were utilized during the AM and PM peak periods and 150 seconds for the Saturday peak period consistent with the signal cycle lengths at the US Route 13/Delaware Route 273 intersection.

Table 7
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Dutch Inn, LLC
Report Dated: July 2017
Prepared by Duffield Associates, Inc.

Signalized Intersection[1]	**LOS per TIS**			**LOS per JMT**		
US Route 13/ Delaware Route 273 [14, 15, 16]	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2017 Existing (Case 1)	F (77.3)	F (86.4)	E (75.2)	F (89.0)	F (103.7)	E (71.9)
2019 Without development (Case 2)	F (90.5)	F (161.3)	F (107.3)	F (100.7)	F (165.7)	F (116.0)
2019 Without development (Case 2) *and with Improvements*	-	-	-	D (54.5)	F (111.4)	E (75.9)
2019 With development (Case 3)	F (106.6)	F (143.5)	F (121.4)	F (109.6)	F (181.4)	F (137.6)
2019 With development (Case 3) *and with Improvements* [17]	-	-	-	E (56.6)	F (122.1)	F (90.7)
2019 With development (Case 3) *and RIRO access* [18]	-	-	-	F (84.8)	F (196.3)	F (153.2)

[14] The southbound US Route 13 and westbound Delaware Route 273 right turn movements were omitted from the analysis due to the provision of acceleration lanes under existing conditions.
[15] JMT utilized Arrival Type 4 at each approach to the intersection to account for progression along the coordinated networks.
[16] JMT utilized signal timing splits consistent with DelDOT Timing Plans whereas the TIS did not.
[17] The Improvements scenario includes modifications to the signal timing splits as well as adding a through lane to US Route 13 northbound and southbound and a shared left/through lane to Delaware Route 273 eastbound and westbound.
[18] The RIRO access scenario incorporated the modification of the Site Entrance B/Lone Star Steakhouse Entrance/US Route 13 intersection to be right-in/right-out resulting in the left-in traffic to reroute and execute a U-turn movement at the US Route 13/Delaware Route 273 intersection. Signal timing split modifications are also incorporated in the scenario.

Table 8
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Dutch Inn, LLC
Report Dated: July 2017
Prepared by Duffield Associates, Inc.

Signalized Intersection[1]	**LOS per TIS**			**LOS per JMT**		
Delaware Route 273/Churchmans Road (Delaware Route 58) [19, 20, 21]	Weekday AM	Weekday PM	Saturday Midday	Weekday AM	Weekday PM	Saturday Midday
2017 Existing (Case 1)	C (20.3)	E (55.5)	C (32.4)	D (36.1)	E (65.3)	D (36.5)
2019 Without development (Case 2)	C (23.4)	F (109.9)	F (101.1)	D (50.5)	F (157.1)	F (194.6)
2019 Without development (Case 2) and *with the New Castle Town Center Improvement* [22, 23]	-	-	-	C (28.4)	D (49.8)	D (44.2)
2019 With development (Case 3)	C (24.5)	F (113.1)	F (104.8)	D (52.9)	F (159.7)	F (198.0)
2019 With development (Case 3) a*nd with the New Castle Town Center Improvement* [22, 23]	C (18.9)	D (46.1)	D (38.9)	C (31.7)	D (53.1)	D (51.4)

[19] The southbound Churchmans Road and the westbound Delaware Route 273 right turn movements were omitted from the analysis due to the provision of acceleration lanes under existing conditions.
[20] JMT utilized Arrival Type 4 along the Delaware Route 273 approaches to account for progression along the coordinated network.
[21] JMT utilized signal timing splits consistent with the DelDOT Timing Plans whereas the TIS did not.
[22] New Castle Town Center Improvement scenario includes modifications to the signal timing splits and adding a second left turn lane to Churchmans Road southbound and reconfiguring the shared left/through lane to an exclusive through lane.
[23] JMT incorporated improvements consistent with the New Castle Town Center Record Plan to modify the northbound approach to a separate left, through and right turn lane.

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 _____