

PLANNING & ZONING COMMISSION

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KIM HOEY STEVENSON, VICE-CHAIRMAN
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HOLLY J. WINGATE



Sussex County

DELAWARE
sussexcountyde.gov
302-855-7878 T
302-854-5079 F
JAMIE WHITEHOUSE, MRTPI, AICP
DIRECTOR OF PLANNING & ZONING

PLANNING AND ZONING AND COUNTY COUNCIL INFORMATION SHEET

Planning Commission Public Hearing Date: January 21st, 2021

Application: CZ 1892 Chappell Farm, LLC

Applicant: Becker Morgan Group, Inc.
309 South Governors Ave
Dove, DE 19904

Owner: Chappell Farm, LLC
30045 Eagles Crest Road Unit 2
Milton, DE 19968

Site Location: 30511 Cave Neck Road, Milton. The property is on the southwest corner of Cave Neck Road (S.C.R 88) and Coastal Hwy (Route 1)

Current Zoning: AR-1 - Agricultural Residential Zoning District

Proposed Zoning: C-3 – Heavy Commercial Zoning District

Comprehensive Land Use Plan Reference: Coastal Area

Councilmanic District: Mr. Schaeffer

School District: Cape Henlopen School District

Fire District: Lewes Fire Department

Sewer: Septic

Water: Private

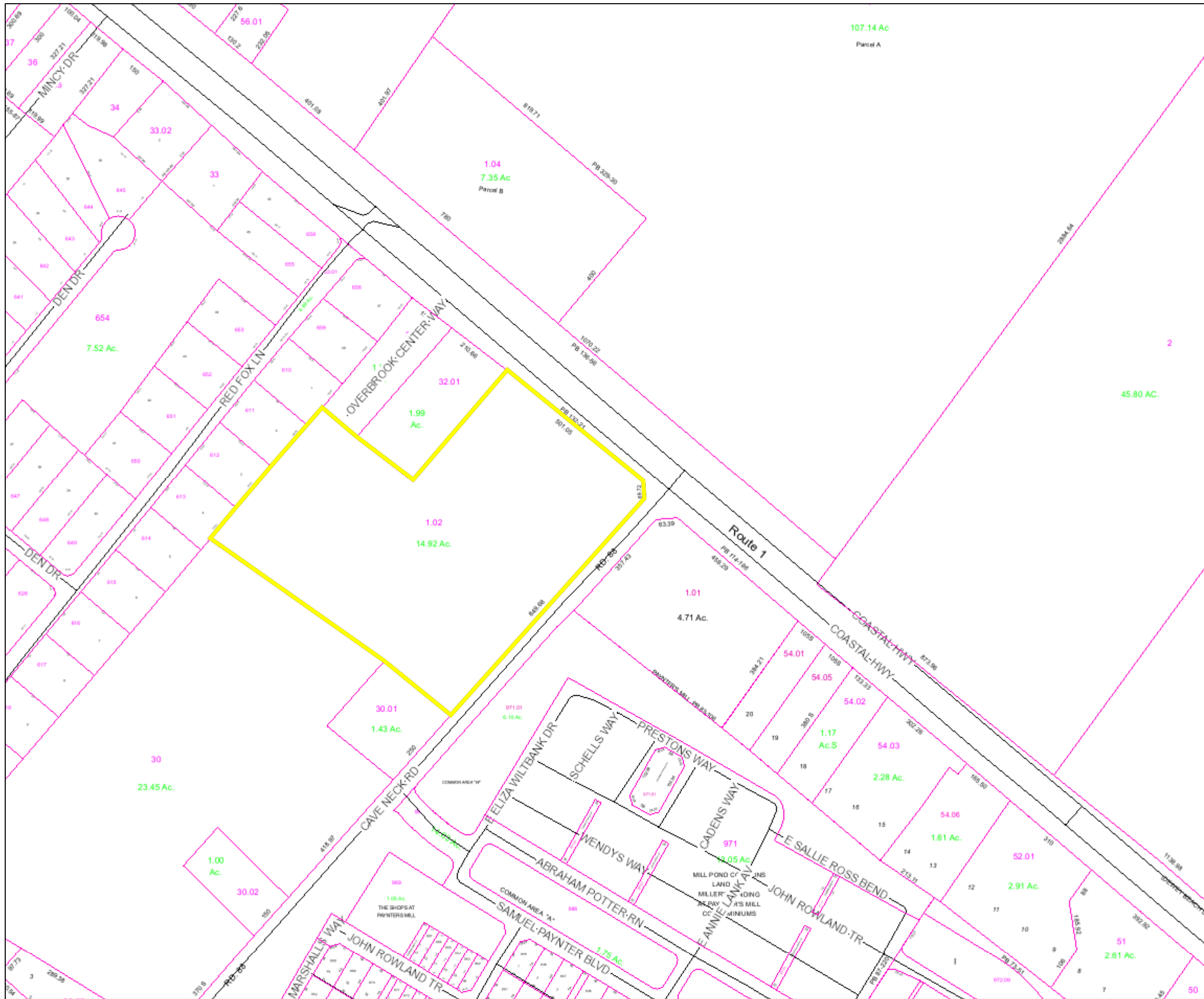
Site Area: 8.53 acres +/-

Tax Map ID.: 235-23.00-1.02





Sussex County



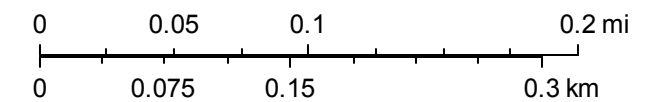
PIN:	235-23.00-1.02
Owner Name	CHAPPELL FARM LLC
Book	3971
Mailing Address	30045 EAGLES CREST RD
City	MILTON
State	DE
Description	SW/INTER COASTAL HWY
Description 2	CAVE NECK RD
Description 3	N/A
Land Code	

- polygonLayer**

 - Override 1
- polygonLayer**

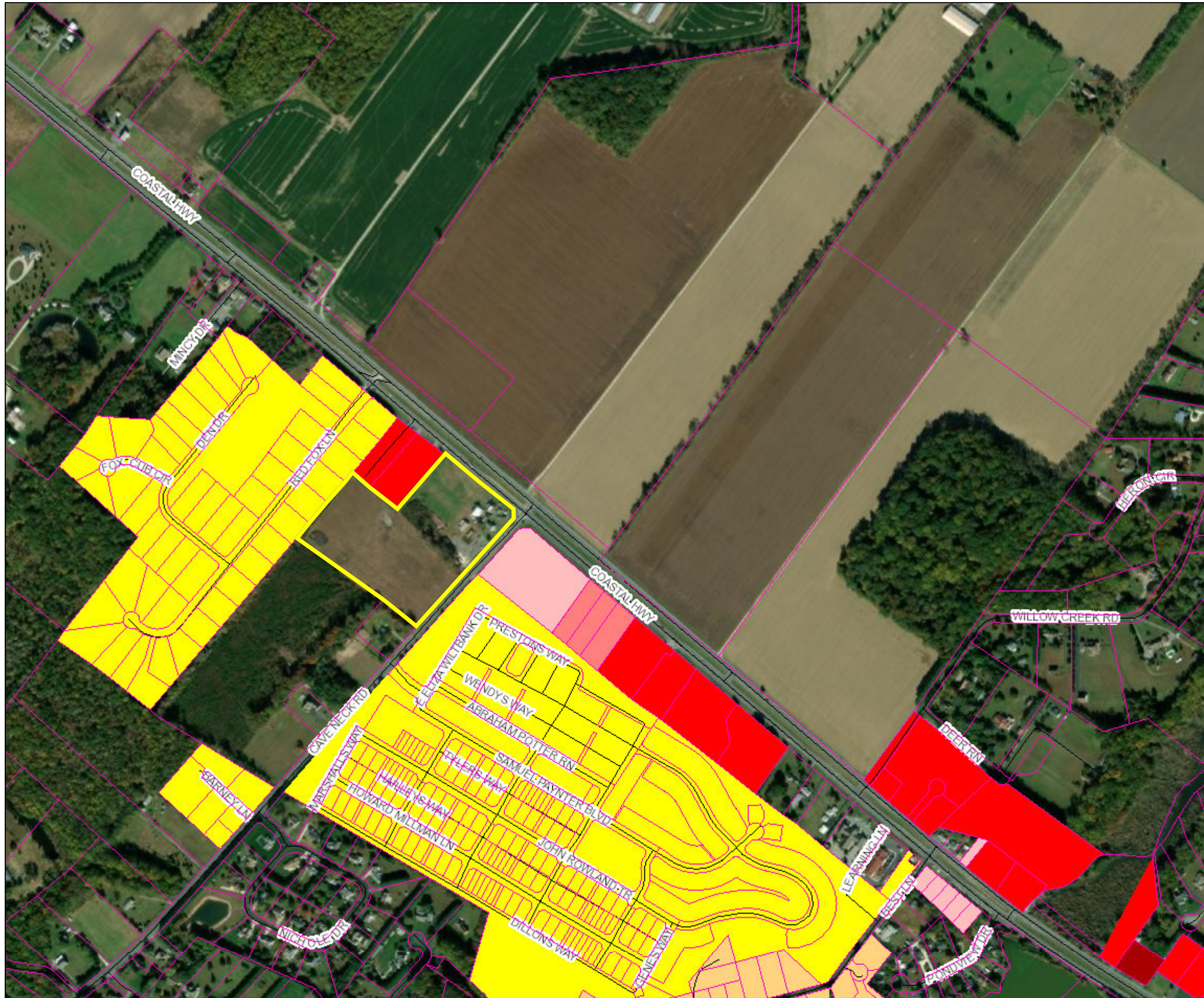
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- Tax Parcels
- Streets
- County Boundaries
- Municipal Boundaries
- TID

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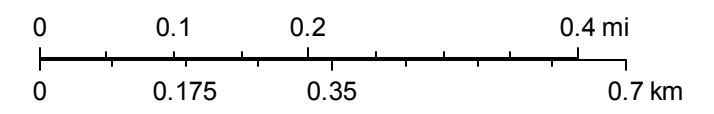
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- Tax Parcels
- Streets

1:9,028





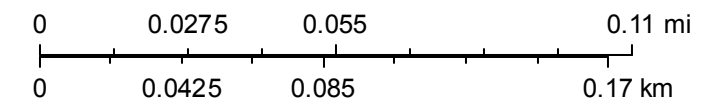
Sussex County



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Book	3971
Mailing Address	30045 EAGLES CREST RD
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Description 3	N/A
Land Code	

- polygonLayer**
 - Override 1
- polygonLayer**
 - Override 1
- Tax Parcels
- 911 Address
- Streets
- County Boundaries
- Municipal Boundaries
- TID

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JAMIE WHITEHOUSE, AICP MRTPI
PLANNING & ZONING DIRECTOR
(302) 855-7878 T
(302) 854-5079 F
jamie.whitehouse@sussexcountyde.gov



Sussex County

DELAWARE
sussexcountyde.gov

Memorandum

To: Sussex County Planning Commission Members
From: Christin Scott, Planner I
CC: Vince Robertson, Assistant County Attorney and applicant
Date: January 4, 2021
RE: Staff Analysis for CZ 1892 Chappell Farm, LLC

This memo is to provide background and analysis for the Planning Commission to consider as a part of application CZ 1892 Chappell Farm, LLC to be reviewed during the January 21, 2021 Planning Commission Meeting. This analysis should be included in the record of this application and is subject to comments and information that may be presented during the public hearing.

The request is for a Change of Zone for Tax Parcel 235-23.00-1.02 (portion of) to allow for a change of zone from an Agricultural Residential (AR-1) Zoning District to a Heavy Commercial (C-3) Zoning District. The parcel is located on the northwest corner of Coastal Highway (Route 1) and Cave Neck Road (Route 88). The portion of the parcel to be rezoned contains 8.53 acres +/-.

The 2018 Sussex County Comprehensive Plan Update (Comprehensive Plan) provides a framework of how land is to be developed. As part of the Comprehensive Plan, a Future Land Use Map is included to help determine how land should be zoned to ensure responsible development. The Future Land Use map in the plan indicates that the subject property has a land use designation of "Coastal Area". The properties to the north have the land use designation of "Existing Development Area", the properties to the south have the land use designation of "Coastal Area" and the properties to the east and west have the land use designation of "Low Density Area".

The Coastal Area is designated to encourage growth and development provided that environmental concerns are addressed. The Coastal Area may include various types of housing, small-scale retail and office, light commercial, and institutional land uses. Sussex County's base density of two (2) units per acre is standard. Medium and higher densities (4-12 units per acre) may be appropriate in select locations.

The 2018 Sussex County Comprehensive Plan outlines Zoning Districts by their applicability to each Future Land Use category. Under Table 4.5-2 "Zoning Districts Applicable to Future Land Use Categories", the Heavy Commercial (C-3) Zoning District is listed as an applicable zoning district in the "Coastal Area."

Additionally, the subject property is zoned Agricultural Residential (AR-1). The properties to the west as well as the properties on the opposite (western) side of Coastal Highway (Route 1) are zoned Agricultural Residential (AR-1). The properties to the north are zoned General Commercial (C-1) and Medium Residential (MR). The properties to the south are zoned Medium Residential (MR), Neighborhood Business (B-1) and General Commercial (C-2).



Since 2011, there has been two (2) Change of Zone applications within a 1-mile radius of the application site. Change of Zone No. 1770 to allow for a change of zone from AR-1 to CR-1. The application was denied by the Sussex County Council on April 12, 2016. Change of Zone No. 1916 for a change of zone from AR-1 to C-2. The application was approved by the Sussex County Council on July 28, 2020 and adopted through Ordinance No. 2727.

File #: CZ1892
201907218

Planning & Zoning Commission Application Sussex County, Delaware

Sussex County Planning & Zoning Department
2 The Circle (P.O. Box 417) Georgetown, DE 19947
302-855-7878 ph. 302-854-5079 fax

Type of Application: (please check applicable)

Conditional Use

Zoning Map Amendment

Site Address of Conditional Use/Zoning Map Amendment

30511 Cave Neck Road, Milton, DE 19968

Type of Conditional Use Requested:

MR Medium - Density Residential District: Multifamily dwelling structures

Tax Map #: 235-23.00-1.02 **Size of Parcel(s):** 14.9269 +/- Acres

Current Zoning: AR-1 **Proposed Zoning:** C-3 **Size of Building:** N/A

Land Use Classification: Cultivated Farm Field/Woods/Commercial & Retail

Water Provider: On - Site **Sewer Provider:** On - Site

Applicant Information

Applicant Name: Becker Morgan Group, Inc.

Applicant Address: 309 South Governors Avenue

City: Dover State: DE Zip Code: 19904

Phone #: (302) 734-7950 E-mail: jpennington@beckermorgan.com

Owner Information

Owner Name: Chappell Farm, LLC

Owner Address: 30045 Eagles Crest Road, Unit 2

City: Milton State: DE Zip Code: 19968

Phone #: (302) 542-1422 E-mail: christian@hudmgt.com

Agent/Attorney/Engineer Information

Agent/Attorney/Engineer Name: J. Michael Riemann

Agent/Attorney/Engineer Address: 309 South Governors Avenue

City: Dover State: DE Zip Code: 19904

Phone #: (302) 734-7950 E-mail: mriemann@beckermorgan.com



Check List for Sussex County Planning & Zoning Applications

The following shall be submitted with the application

- Completed Application**
- Provide eight (8) copies of the Site Plan or Survey of the property**
 - Survey shall show the location of existing or proposed building(s), building setbacks, parking area, proposed entrance location, etc.
 - Provide a PDF of Plans (may be e-mailed to a staff member)
 - Deed or Legal description
- Provide Fee \$500.00**
- Optional - Additional information for the Commission/Council to consider** (ex. architectural elevations, photos, exhibit books, etc.) If provided submit 8 copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.
- Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.**
- DelDOT Service Level Evaluation Request Response**
- PLUS Response Letter** (if required)

The undersigned hereby certifies that the forms, exhibits, and statements contained in any papers or plans submitted as a part of this application are true and correct.

I also certify that I or an agent on my behalf shall attend all public hearing before the Planning and Zoning Commission and the Sussex County Council and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future needs, the health, safety, morals, convenience, order, prosperity, and general welfare of the inhabitants of Sussex County, Delaware.

Signature of Applicant/Agent/Attorney



Date: 6/20/19

Signature of Owner



Date: 6/20/19

For office use only:

Date Submitted: 6/21/19

Fee: \$500.00 Check #: 270

Staff accepting application: SPB

Application & Case #: _____

Location of property: _____

Subdivision: _____

Date of PC Hearing: _____

Recommendation of PC Commission: _____

Date of CC Hearing: _____

Decision of CC: _____



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

JENNIFER COHAN
SECRETARY

April 10, 2019

Ms. Janelle Cornwell, Director
Sussex County Planning & Zoning
P.O. Box 417
Georgetown, DE 19947

Dear Ms. Cornwell:

The Department has completed its review of a Service Level Evaluation Request for the **Becker Morgan Group, Inc.** rezoning application, which we received on March 14, 2019. This application is for a 14.92-acre parcel (Tax Parcel: 235-23.00-1.02). The subject land is located on the northwest corner of the intersection of Delaware Route 1 and Cave Neck Road (Sussex Road 88), southeast of Milton. The subject land is currently zoned AR-1 (Agricultural Residential) and the applicant is seeking to rezone the land to C-3 (Heavy Commercial) and MR (Medium-Density Residential) to build a mixed-use development consisting of approximately 41,733 square feet of commercial space and 158 apartments.

Per the 2017 Delaware Vehicle Volume Summary, the annual average and summer average daily traffic volumes along the segment of Delaware Route 1 where the subject land is located, which is from US Route 9 to Delaware Route 16, are 31,327 and 40,318 vehicles per day, respectively. As the subject land also has frontage along Cave Neck Road, the annual average and summer average daily traffic volumes along that road segment are 4,555 and 5,862 vehicles per day, respectively.

Based on our review, we estimate that the proposed land use would generate more than 50 vehicle trips in any hour or 500 vehicle trips per day, and would be considered to have a Major impact to the local area roadways. In this instance, the Department considers a Major impact to be when a proposed land use would generate more than 200 vehicle trips in any hour of the week and / or 2,000 vehicle trips per day. According to the Institute of Transportation Engineers (ITE) Trip Generation Manual, a mixed-use development consisting of 41,733 square feet of commercial space and 158 apartments would generate

Ms. Janelle M. Cornwell
Page 2 of 3
April 10, 2019

4,472 vehicle trips per day, 247 vehicle trips during the morning peak hour, and 374 vehicle trips during the afternoon peak hour. Because of this impact, we recommend that the applicant be required to perform a Traffic Impact Study (TIS) for the subject application.

The site is located along Delaware Route 1, thereby is subject to the policies of the Corridor Capacity Preservation Program. The Program's primary goal is to manage and preserve the traffic capacity and safety of the existing highway. The Program was established in accordance with the provisions of Title 17, Section 145 of the Delaware Code. The strategy for Delaware Route 1 is to convert the corridor to a limited access highway. This can be accomplished by proactively coordinating necessary road improvements to offset the increased vehicular traffic due to new developments.

Per Program policy, in Level 3 Investment Areas, the Department will only issue entrance permits for direct access to the corridor for proposed land uses that generate 200 vehicular trips per day or less per parcel, as determined by the latest edition of the Institute of Transportation Engineer's Trip Generation Manual. However, larger developments can be built if they access secondary roads and the necessary roadway improvements are constructed by the developer(s).

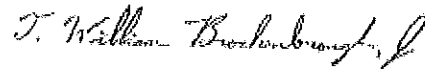
In this case, DelDOT is proposing to build an interchange at the intersection of Delaware Route 1 and Cave Neck Road. Site access would be granted to Delaware Route 1 by way of the secondary roads and service roads leading into the interchange. The geometric design of the interchange has yet to be determined, and the developer may be responsible to fund a portion of the project. For more information regarding the Corridor Capacity Preservation Program, an electronic manual detailing the Program can be viewed on the Department's website at www.deldot.gov.

A review of TIS and Traffic Operational Analysis (TOA) completed in the last five years found that the Overbrook Town Center TIS included the intersection of Delaware Route 1 and Cave Neck Road and twelve other intersections in the vicinity of the proposed development. We are providing a copy of the TIS review letter; please find it enclosed with this letter.

Ms. Janelle M. Cornwell
Page 3 of 3
April 10, 2019

Please contact Mr. Claudy Joinville, at (302) 760-2124, if you have questions concerning this correspondence or Mr. Thomas Felice, at (302) 760-2338, if you have questions concerning the Corridor Capacity Preservation Program.

Sincerely,



T. William Brockenbrough, Jr.
County Coordinator
Development Coordination

TWB:cjm
Enclosure

cc: Constance C. Holland, Coordinator, Cabinet Committee on State Planning Issues
Becker Morgan Group, Inc., Applicant
J. Marc Coté, Assistant Director, Development Coordination
Thomas Felice, Corridor Capacity Preservation Program Manager, Development
Coordination
Gemez Norwood, South District Public Works Manager, Maintenance & Operations
Susanne K. Laws, Sussex County Review Coordinator, Development Coordination
Derek Sapp, Subdivision Manager, Development Coordination
Brian Yates, Subdivision Manager, Development Coordination
John Andrescavage, Subdivision Manager, Development Coordination
Kevin Hickman, Subdivision Manager, Development Coordination
Troy Brestel, Project Engineer, Development Coordination
Claudy Joinville, Project Engineer, Development Coordination

SUSSEX COUNTY ENGINEERING DEPARTMENT
UTILITY PLANNING DIVISION
C/U & C/Z COMMENTS

TO: **Jamie Whitehouse**

REVIEWER: **Chris Calio**

DATE: **1/8/2021**

APPLICATION: **CZ 1892 Chappell Farm LLC**

APPLICANT: **Becker Morgan Group, Inc**

FILE NO: **NCPA-5.03**

TAX MAP &
PARCEL(S): **235-23.00-1.02**

LOCATION: **Located on the southwest corner of Cave Neck Road (SCR 88)
& Coastal Highway (Route 1)**

NO. OF UNITS: **Upzone from AR-1 to C-3**

GROSS
ACREAGE: **8.53**

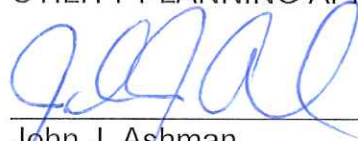
SYSTEM DESIGN ASSUMPTION, MAXIMUM NO. OF UNITS/ACRE: **2**

SEWER:

- (1). Is the project in a County operated and maintained sanitary sewer and/or water district?
Yes No
- a. If yes, see question (2).
b. If no, see question (7).
- (2). Which County Tier Area is project in? **Tier 3**
- (3). Is wastewater capacity available for the project? **Yes** If not, what capacity is available? **N/A**.
- (4). Is a Construction Agreement required? **Yes** If yes, contact Utility Engineering at (302) 855-7717.
- (5). Are there any System Connection Charge (SCC) credits for the project? **No** If yes, how many? **N/A**. Is it likely that additional SCCs will be required? **Yes** If yes, the current System Connection Charge Rate is **Unified \$6,360.00** per EDU. Please contact **Christine Fletcher** at **302-855-7719** for additional information on charges.

- (6). Is the project capable of being annexed into a Sussex County sanitary sewer district? **Yes**
- Attached is a copy of the Policy for Extending District Boundaries in a Sussex County Water and/or Sanitary Sewer District.
- (7). Is project adjacent to the Unified Sewer District? **Yes**
- (8). Comments: **The proposed Change of Zone is contiguous to the existing Sussex County Unified Sanitary Sewer District boundary. It can be annexed into the district after zoning approval. The property is currently served with a lateral from the sewer district.**
- (9). Is a Sewer System Concept Evaluation required? **Yes, Contact Utility Planning at 302-855-1299 to apply**
- (10). Is a Use of Existing Infrastructure Agreement Required? **Yes**

UTILITY PLANNING APPROVAL:



John J. Ashman
Director of Utility Planning

Xc: Hans M. Medlarz, P.E.
Lisa Walls
Christine Fletcher

Policy for Extending District Boundaries

1. Property owner (developer) and/or his representative shall make a request to the Utility Planning Division for a Sewer System Concept Evaluation.
2. Property owner (developer) and/or his representative shall meet with the applicable planning and zoning agency to determine if zoning is appropriate for the development being planned.
3. With appropriate zoning, property owner (developer) and/or his representative shall send a letter (with appropriate application fee as listed below) requesting the Sussex County Council to consider extending the water and/or sanitary sewer district boundaries. (Sussex County Code)

Application Fees	
Less than 2 acres	\$500.00
2.1 - 9.99 acres	\$750.00
10 - 150.00 acres	\$1,500.00
Greater than 150.00 acres	\$2,500.00

4. The Sussex County Engineering Department shall present, for Sussex County Council's consideration, posting of notices for the proposed extension of the district boundaries.
5. The Sussex County Council approves posting notices for the proposed extension of the boundaries. (If approval to post the notices is not given, the appropriate fee is refunded.)
6. Within ninety days of the posting of the notices, the Sussex County Council approves/disapproves extending the boundaries.
7. The Sussex County Council approves/disapproves of the extension of the water and/or sanitary sewer pipelines under the appropriate Sussex County Ordinance.

PLANNING & ZONING COMMISSION

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JAMIE WHITEHOUSE, MRTPI, AICP
DIRECTOR OF PLANNING & ZONING

PLANNING AND ZONING AND COUNTY COUNCIL INFORMATION SHEET

Planning Commission Public Hearing Date: January 21st, 2021

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School District: Cape Henlopen School District

Fire District: Lewes Fire Department

Sewer: Septic

Water: Private

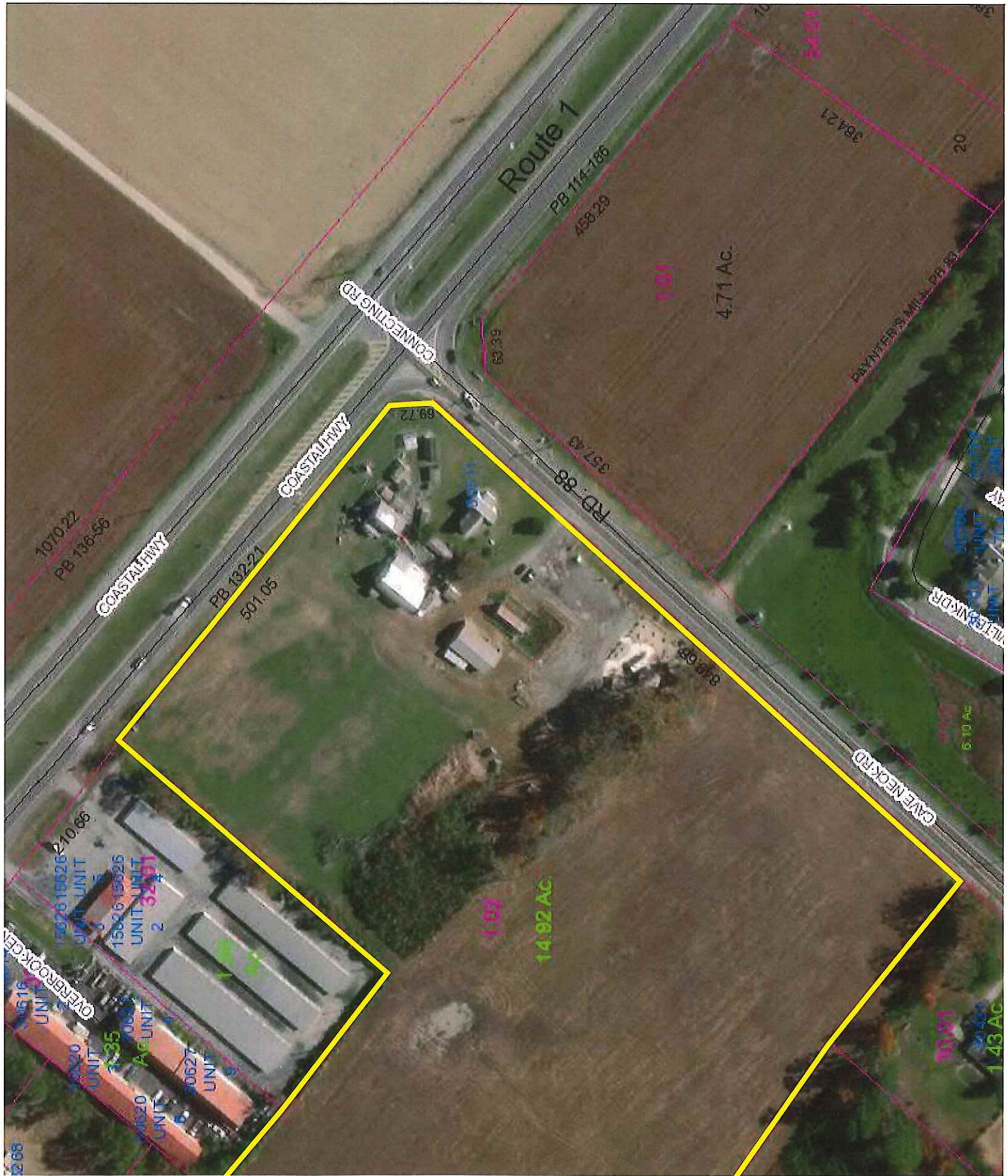
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Tax Map ID.: 235-23.00-1.02



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City
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Description
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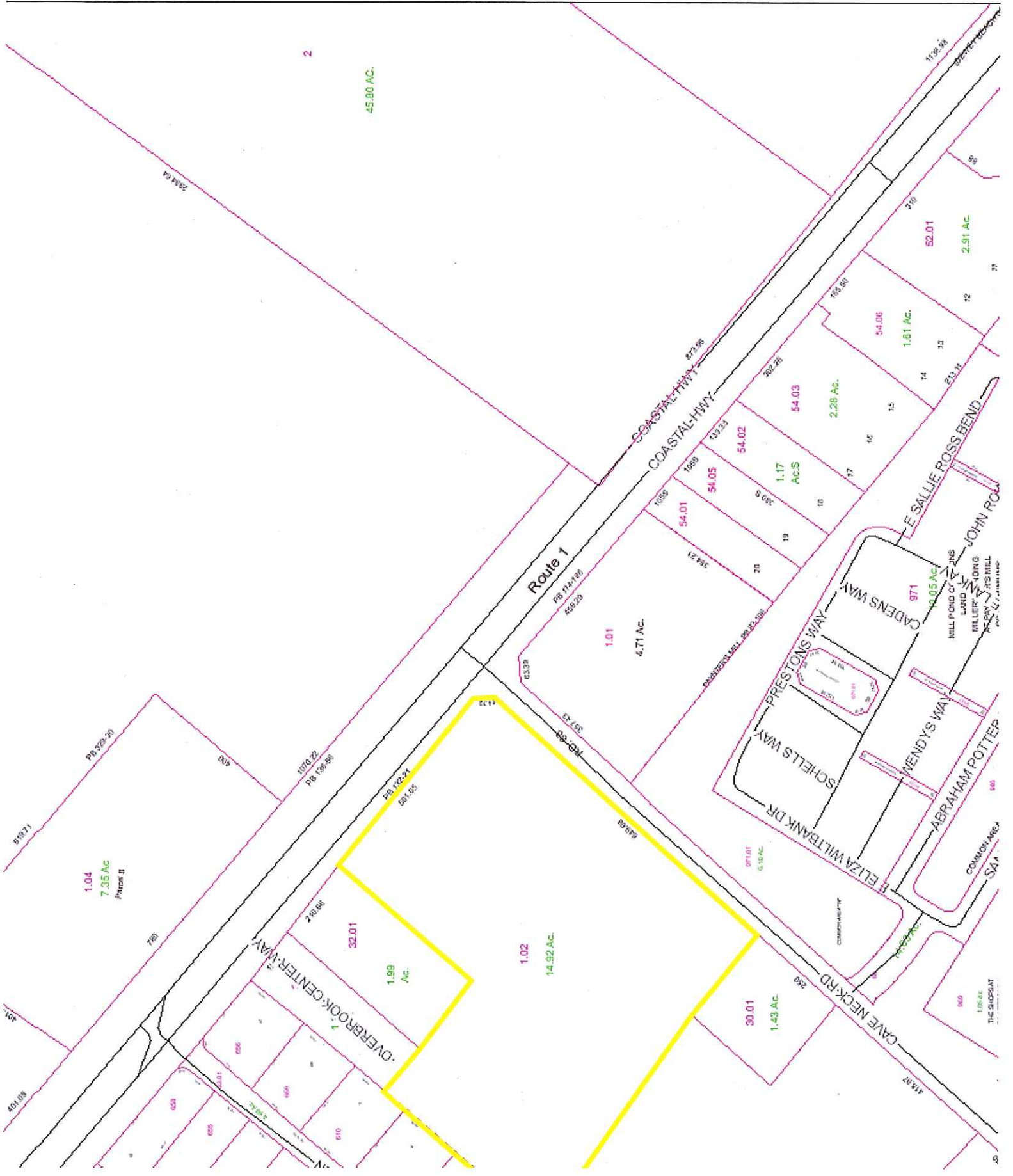
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Streets

County E

Municipa

TID



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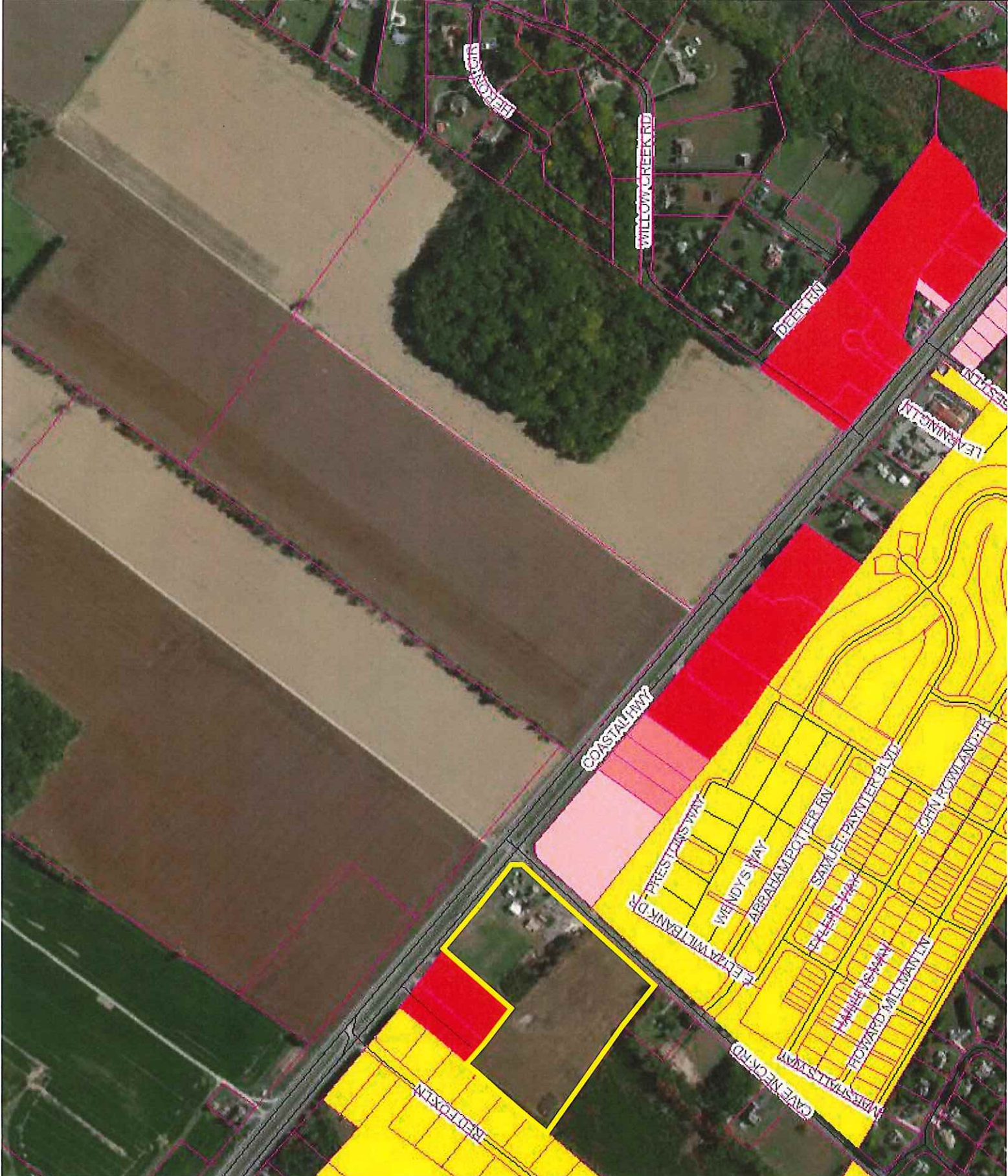
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STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

December 7, 2020

Mr. Christopher Duke
Becker Morgan Group, Inc.
The Tower at STAR Campus
100 Discovery Boulevard
Suite 102
Newark, Delaware 19713

Dear Mr. Duke:

The enclosed Traffic Impact Study (TIS) review letter for the **Chappell Farm** (Tax Parcel 235-23.00-1.02) 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) 760-2167.

Sincerely,

Troy Brestel
Project Engineer

TEB:km

Enclosures

cc with enclosures: Mr. Michael Riemann, Becker Morgan Group, Inc.
Ms. Constance C. Holland, Office of State Planning Coordination
Mr. Jamie Whitehouse, Sussex County Planning and Zoning
Mr. Mir Wahed, Johnson, Mirmiran & Thompson, Inc.
Ms. Joanne Arellano, Johnson, Mirmiran & Thompson, Inc.
DelDOT Distribution

DelDOT Distribution

Brad Eaby, Deputy Attorney General
J. Marc Coté, Director, Planning
Shanté Hastings, Director, Transportation Solutions (DOTS)
Mark Luszczyk, Deputy Director, Traffic, DOTS
Michael Simmons, Assistant Director, Project Development South, DOTS
Todd Sammons, Assistant Director, Development Coordination
T. William Brockenbrough, Jr., County Coordinator, Development Coordination
Peter Haag, Chief Traffic Engineer, Traffic, DOTS
Chris Sylvester, Traffic Studies Manager, Traffic, DOTS
Kerry Yost, Traffic Calming and Subdivision Relations Manager, Traffic, DOTS
Alistair Probert, South District Engineer, South District
Gemez Norwood, South District Public Works Manager, South District
John Gaines, Group Engineer, Project Development South, DOTS
Jared Kauffman, Service Development Planner, Delaware Transit Corporation
Tremica Cherry, Service Development Planner, Delaware Transit Corporation
Anthony Aglio, Planning Supervisor, Statewide & Regional Planning
Wendy Polasko, Subdivision Engineer, Development Coordination
Susanne Laws, Sussex Review Coordinator, Development Coordination
Mark Galipo, Traffic Engineer, Traffic, DOTS
Derek Sapp, Subdivision Manager, Development Coordination
Claudy Joinville, Project Engineer, Development Coordination



December 3, 2020

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

RE: Agreement No. 1945F
Project Number T202069012
Traffic Impact Study Services
Task 9A-Chappell Farm TIS

Dear Mr. Brestel:

Johnson, Mirmiran and Thompson (JMT) has completed the review of the Traffic Impact Study (TIS) for Chappell Farm, prepared by Becker Morgan Group, Inc. dated February 2020. This task was assigned as Task Number 9A. The report is prepared in a manner generally consistent with DelDOT's *Development Coordination Manual*.

The TIS evaluates the impacts of a proposed mixed-use development in Sussex County, Delaware. The development would be comprised of 94 apartment units, 37,000 square feet of commercial space, and a 5,068 square-foot convenience store with gas pumps. Construction is anticipated to be complete in 2023.

The site is located on the northwest corner of the intersection of Delaware Route 1 and Cave Neck Road (Sussex Road 88). Three access points are proposed: one full access along Cave Neck Road approximately 475 feet west of Delaware Route 1, one full access along Cave Neck Road approximately 900 feet west of Delaware Route 1, and a rights-in only access along southbound Delaware Route 1 approximately 600 feet north of Cave Neck Road.

The subject property is an approximately 14.9-acre parcel that is zoned as AR-1 (Agricultural Residential) and the developer plans to rezone the land to C-3 (Heavy Commercial) and MR (Medium-Density Residential).

Per the May 3, 2019 DelDOT Scoping Meeting Memorandum, additional build with development scenarios were requested that incorporate the proposed Delaware Route 1/Cave Neck Road grade-separated interchange with and without the proposed rights-in access along Delaware Route 1. However, based on a January 3, 2020 DelDOT correspondence contained within the TIS, DelDOT has allowed the TIS to be submitted without these additional cases because planned alternatives for the interchange were not finalized prior to the completion of the TIS report. Therefore, this review does not include an evaluation with the future Delaware Route 1/Cave Neck Road grade-separated interchange.



Per coordination with DelDOT, JMT included three additional scenarios incorporating only partial construction of the development. Specifically, the scenarios include the following:

- Case 4a - 2023 with development of convenience store with gas only, without rights-in access along Delaware Route 1, and with a Connector Road built between Cave Neck Road and Red Fox Lane
- Case 4b – 2023 with development of convenience store with gas only, with rights-in access along Delaware Route 1, and without a Connector Road built between Cave Neck Road and Red Fox Lane
- Case 4c – 2023 with development of convenience store and 94 apartment units, without rights-in access along Delaware Route 1, and with a Connector Road built between Cave Neck Road and Red Fox Lane

DelDOT has several relevant and ongoing improvement projects within the study area including the *Corridor Capacity Preservation Program (CCPP)*, which aims to maintain the regional importance and preserve the intended function and capacity of existing designated transportation routes within the Program. The main objectives of the program are listed below:

- Prevent the need to build an entirely new road
- Minimize the transportation impacts of increased economic growth
- Maintain an existing road's ability to handle traffic efficiently and safely
- Preserve the ability to make future improvements
- Sort local and through traffic

Delaware Route 1 is one of the highways included in the CCPP. More information regarding the CCPP can be found at: https://deldot.gov/Publications/manuals/corr_cap/index.shtml.

DelDOT is proposing to build a grade-separated interchange at the intersection of Delaware Route 1 and Cave Neck Road (DelDOT Contract No. T201912201). The selected alternative proposes Cave Neck Road to be elevated over Delaware Route 1. A new connector road would be constructed between Fox Run Lane and Cave Neck Road. This connector road would intersect Cave Neck Road at a roundabout. The southerly leg of this roundabout would provide a rights-in/rights-out access to southbound Delaware Route 1. Additionally, the Fox Run Lane and Delaware Route 1 intersection would be eliminated. A roundabout would also be added along Cave Neck Road on the easterly side of Delaware Route 1 and the southerly leg of this roundabout would provide a rights-in/rights-out access to northbound Delaware Route 1. A new frontage road would be constructed on the westerly side of Delaware Route 1 between Fox Run Lane and Pondview Drive as well as on the easterly side of Delaware Route 1 between Willow Creek Road and Cave Neck Road. Design is underway and construction is expected to start in 2025. More information regarding the *SR 1 and Cave Neck Road Grade Separated Intersection* project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201912201>.



The second project within the study area is the *SR 1, Minos Conaway Road Grade Separated Intersection* project (DelDOT Contract No. T201612501), which will provide a grade separated intersection to separate through movements along Delaware Route 1 and turning movements to and from Minos Conaway Road, Nassau Road and Old Mill Road. Per the preferred alternative concept plan, shared-use paths would also be constructed along Minos Conaway Road, Nassau Road, Janice Road, and along southbound Delaware Route 1 south of Janice Road to accommodate pedestrians and bicyclists. This project intends to maintain capacity of the Delaware Route 1 corridor and improve safety at the unsignalized intersection of Delaware Route 1 and Minos Conaway Road, while improving mobility and access for local traffic. The project is expected to begin construction in 2023 and be completed in 2025. More information regarding the Delaware Route 1 and Minos Conaway Grade Separated Intersection project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201612501>.

The third project within the study area is at the intersection of Delaware Route 1 and Hudson Road (Sussex Road 258)/Steamboat Landing Road (DelDOT Contract No. T201904303). As part of the project, left turns and through movements along Hudson Road and Steamboat Landing Road would be prohibited. Northbound and southbound left turning movements along Delaware Route 1 would be permitted. Design is underway with construction anticipated to start in the fall of 2020 or the spring of 2021. More information regarding *SR 1 & S258 Intersection Improvements* project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201904303#project-details1>.

The fourth project within the study area is at the intersection of Delaware Route 1 and Oyster Rocks Road (Sussex Road 264) (DelDOT Contract No. T201904302). As part of the project, acceleration lanes along northbound and southbound Delaware Route 1 would be provided for the left turning movements from Eagle Crest Road and Oyster Rocks Road. Through movements between Eagle Crest Road and Oyster Rocks Road would be prohibited. Northbound and southbound left turning movements from Delaware Route 1 would also be prohibited. Design is underway with construction anticipated to start in the fall of 2020 or the spring of 2021. More information regarding the *SR 1 & S264 Intersection Improvements* project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201904302>.

DelDOT's 2016 Hazard Elimination Program (HEP) identified Site H which is within the project area. Site H is a 0.30-mile corridor along Cave Neck Road from 0.29 mile west of Delaware Route 1 to the Delaware Route 1 intersection. The Site H Task I report included a crash summary and recommended to evaluate improvement options to reduce angle crashes and median confusion as part of the unsignalized crossover studies along Delaware Route 1. This area was further reviewed under Task II to evaluate several median channelization options at the Delaware Route 1 and Cave Neck Road intersection. Recommendations included accommodating northbound left-turns only and installing a partial signal at the intersection of Delaware Route 1 and Cave Neck Road to act as an interim improvement, before constructing a grade separated interchange as part of the previously mentioned CCPP Project. Also, providing a flashing red arrow phase may be considered during the off-peak hours as part of the design of these improvements. Field visits confirm that



southbound Delaware Route 1 left turning movements and eastbound Cave Neck Road left turning movements have been prohibited at the intersection.

The DelDOT *FY21-FY 26 Capital Transportation Program (CTP)* includes a future improvement project at the Cave Neck Road, Hudson Road, and Sweetbriar Road intersection. Based on the CTP, the design is scheduled to start in Fiscal Year 2025.

Additionally, DelDOT is proposing to add lighting to the Delaware Route 1 and Cave Neck Road intersection. Design has been completed and implementation is expected in the fall of 2020.

Based on our review of the TIS, 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	LOS Deficiencies Occur			Year	Case
	AM	PM	Saturday		
Site Entrance A/Cave Neck Road (Sussex Road 88)	X	X		2023	3a
	X	X		2023	3b
Delaware Route 1/Red Fox Lane			X	2019	1
	X	X	X	2023	2
	X	X	X	2023	3
	X	X	X	2023	4a
	X	X	X	2023	4b
	X	X	X	2023	4c
Delaware Route 1/Cave Neck Road*	X	X	X	2019	1
		X	X	2023	2
		X	X	2023	3a
		X	X	2023	3b
		X	X	2023	4a
		X	X	2023	4b
		X	X	2023	4c

*The 2023 scenarios at the Delaware Route 1/Cave Neck Road intersection incorporate the restriction of left turns along the eastbound Cave Neck Road approach and the restriction of U-turns/left turns along southbound Delaware Route 1.

Note: In the table above, Cases 3, 3a, and 3b are with the full build out of the site, Cases 4a and 4b are with only the construction of the 5,068 square-foot convenience store with gas, and Case 4c is with only the construction of the 5,068 square-foot convenience store with gas and the apartment units.



Intersection	LOS Deficiencies Occur			Year	Case
	AM	PM	Saturday		
Delaware Route 1/Minos Conaway Road (Sussex Road 265)	X	X	X	2019	1
	X	X	X	2023	2
	X	X	X	2023	3
	X	X	X	2023	4a/4b
	X	X	X	2023	4c
Delaware Route 1/Nassau Road (Sussex Road 266)		X	X	2019	1
	X	X	X	2023	2
	X	X	X	2023	3
	X	X	X	2023	4a/4b
	X	X	X	2023	4c
Delaware Route 1/Eagles Crest Road/Oyster Rocks Road (Sussex Road 264)		X	X	2019	1
		X	X	2023	2
		X	X	2023	3
		X	X	2023	4a/4b
		X	X	2023	4c
Delaware Route 1/Hudson Road/Steamboat Landing Road (Sussex Road 258)	X	X	X	2019	1
	X	X	X	2023	2
	X	X	X	2023	3
	X	X	X	2023	4a/4b
	X	X	X	2023	4c
Cave Neck Road/Sweetbriar Road (Sussex Road 261)	X			2023	2
	X	X		2023	3
	X			2023	4a/4b
	X			2023	4c
Cave Neck Road/Hudson Road	X	X	X	2023	2
	X	X	X	2023	3
	X	X	X	2023	4a/4b
	X	X	X	2023	4c

Note: In the table above, Cases 3, 3a, and 3b are with the full build out of the site, Cases 4a and 4b are with only the construction of the 5,068 square-foot convenience store with gas, and Case 4c is with only the construction of the 5,068 square-foot convenience store with gas and the apartment units.



As shown in the above table, nine study intersections are identified to exhibit LOS deficiencies. It is acknowledged that some intersections projected to experience capacity constraints with the construction of the Chappell Farm site would be mitigated with the improvements proposed as part of the *SR 1 and Cave Neck Road Grade Separated Intersection* project. Therefore, it is recommended that the construction of the Chappell Farm site be split into two phases to minimize the impacts of the site traffic to intersections that are already operating with or projected to operate with capacity constraints prior to the construction of the grade separated intersection.

The first phase would include the construction of the 5,068 square-foot convenience store with gas pumps and 94 apartment units (Case 4c). The second phase would include the construction of an additional 15,635 square feet of commercial space east of the proposed connector road, as well as approximately 21,365 square feet of commercial space to the west of the proposed connector road. The second phase of the site should be constructed after the completion of the *SR 1 and Cave Neck Road Grade Separated Intersection* project.

The following section of this letter separates the analysis results based on the first phase of the site and the full build out condition.

First Phase: 5,068 square-foot convenience store with gas pumps and apartment units.

The following intersections would experience capacity constraints with the construction of only the 5,068 square-foot convenience store with gas and apartment units:

- Red Fox Lane intersection with Delaware Route 1
- Cave Neck Road intersection with Delaware Route 1
- Minos Conaway Road intersection with Delaware Route 1
- Nassau Road intersection with Delaware Route 1
- Eagles Crest Road/Oyster Rocks Road
- Hudson Road/Steamboat Landing Road intersection with Delaware Route 1
- Sweetbriar Road intersection with Cave Neck Road
- Hudson Road intersection with Cave Neck Road

The unsignalized Red Fox Lane intersection with Delaware Route 1 exhibits LOS deficiencies during the Saturday peak hour under existing conditions and during the AM, PM, and Saturday peak hours under future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the eastbound Red Fox Lane approach, northbound Delaware Route 1 left turn, and southbound Delaware Route 1 U-turn. Delays of up to 35.1 and 69.5 seconds per vehicle are expected along the eastbound Red Fox Lane approach and southbound Delaware Route 1 U-turn, respectively, and delays of over 1,000 seconds per vehicle are expected along the northbound Delaware Route 1 left turn.

As part of the proposed Delaware Route 1/Cave Neck Road grade-separated interchange project, the intersection of Red Fox Lane and Delaware Route 1 would be eliminated. Therefore, we do not recommend that the developer implement any improvements at this intersection. However, it is recommended that the developer coordinate with DelDOT on the implementation and equitable



cost sharing of the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201).

The unsignalized Cave Neck Road intersection with Delaware Route 1 exhibits LOS deficiencies during all peak hours under existing conditions and during the PM and Saturday peak hours under future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the eastbound Cave Neck Road left turn, northbound Delaware Route 1 left turn, and southbound Delaware Route 1 U-turn.

Since the collection of the traffic counts used for Case 1, DelDOT has implemented the restriction of eastbound Cave Neck Road left turns and southbound Delaware Route 1 U-turns. With these improvements, deficiencies would still occur along the northbound Delaware Route 1 left turn during the PM and Saturday peak hours under future conditions. Delays of up to 527.2 seconds per vehicle are expected along the northbound Delaware Route 1 left turn during the Saturday peak hour under future conditions with the proposed development. However, the improvements proposed as part of the Delaware Route 1/Cave Neck Road grade-separated interchange project would eliminate this intersection. Therefore, we do not recommend that the developer implement any improvements at this intersection. However, as stated above, it is recommended that the developer coordinate with DelDOT on the implementation and equitable cost sharing of the *SR 1 and Cave Neck Road Grade Separated Intersection* project.

The unsignalized Minos Conaway Road intersection with Delaware Route 1 exhibits LOS deficiencies during all peak hours under existing conditions and future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the eastbound Minos Conaway Road approach, northbound Delaware Route 1 left turn, and southbound Delaware Route 1 U-turn. Delays of over 1,000 second per vehicle are expected along the eastbound Minos Conaway Road approach and northbound Delaware Route 1 left turn, and up to 106.7 seconds per vehicle along the southbound Delaware Route 1 U-turn during the Saturday peak hour under future conditions.

The unsignalized Nassau Road intersection with Delaware Route 1 exhibits LOS deficiencies during the PM and Saturday peak hours under existing conditions and during all peak hours under future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the westbound Nassau Road approach, northbound Delaware Route 1 U-turn, and southbound Delaware Route 1 left turn. Delays of over 1,000 seconds per vehicle are expected along the westbound Nassau Road and southbound Delaware Route 1 left turn, and delays of up to 161.8 seconds per vehicle are expected along the northbound Delaware Route 1 U-turn.

The *Delaware Route 1 and Minos Conaway Road Grade Separated Intersection* project (DelDOT Contract No. T201612501), would eliminate the Delaware Route 1/Minos Conaway Road intersection as well as eliminate the stop-controlled operation at the Delaware Route 1/Nassau Road intersection. Therefore, we do not recommend that the developer implement any improvements at the Delaware Route 1 intersections with Minos Conaway Road and Nassau Road.



However, it is recommended that the developer coordinate with DelDOT on the implementation and equitable cost sharing of the *Delaware Route 1 and Minos Conaway Road Grade Separated Intersection* project.

The unsignalized Eagles Crest Road/Oyster Rocks Road intersection with Delaware Route 1 exhibits LOS deficiencies during the PM and Saturday peak hours under existing and future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the eastbound Eagles Crest Road approach and westbound Oyster Rocks Road approach with delays of up to 169.6 and 225.6 seconds per vehicle, respectively, during the Saturday peak hour under future conditions.

The *SR 1 & S264 Intersection Improvements* project (DelDOT Contract No. T201904302) includes the restriction of northbound and southbound Delaware Route 1 left turns at the intersection of Eagles Crest Road/Oyster Rocks Road. Additionally, the project will prohibit eastbound Eagles Crest Road and westbound Oyster Road through movements and provide an acceleration lane for the left turns along both approaches. With these improvements, deficiencies would still occur along the eastbound and westbound approaches during the PM and Saturday peak hours under future conditions, with or without the proposed development. However, the delays along the eastbound Eagles Crest Road approach and westbound Oyster Rocks Road approach would be reduced to 91.5 and 68.9 seconds of delay per vehicles, respectively, during the Saturday peak hour. Additionally, the improvements proposed as part of the Delaware Route 1/Cave Neck Road grade-separated interchange project may impact traffic operations at this intersection. Therefore, we do not recommend that the developer implement any improvements at this intersection. However, it is recommended that the developer coordinate with DelDOT on the implementation and equitable cost sharing of the *SR 1 & S264 Intersection Improvements* project.

The unsignalized Hudson Road/Steamboat Landing Road intersection with Delaware Route 1 exhibits LOS deficiencies during all peak hours under existing and future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the eastbound Hudson Road approach, westbound Steamboat Landing Road approach, and northbound Delaware Route 1 left turn with delays of over 1,000 seconds per vehicle and up to 242.6 and 37.9 seconds per vehicle, respectively, during the Saturday peak hour under future conditions.

The *SR 1 & S258 Intersection Improvements* project (DelDOT Contract No. T201904303) includes the restriction of eastbound Hudson Road and westbound Steamboat Landing Road left turn and through movements. With these improvements, deficiencies would still occur along the eastbound Hudson Road approach and northbound Delaware Route 1 left turn during the Saturday peak hour under future conditions, with or without the proposed development. However, the delays along the eastbound approach and northbound left turn will be reduced to 324.0 and 38.5 seconds of delay per vehicle, respectively, during the Saturday peak hour under future conditions with the proposed development. Additionally, the improvements proposed as part of the Delaware Route 1/Cave Neck Road grade-separated interchange may impact traffic operations at this intersection. Therefore, we do not recommend that the developer implement any improvements at this



intersection. However, it is recommended that the developer coordinate with DelDOT on the implementation and equitable cost sharing of *SR 1 & S258 Intersection Improvements* project. It is expected that the Compass Point development will contribute to the improvements at this intersection as well.

The unsignalized Sweetbriar Road intersection with Cave Neck Road exhibits LOS deficiencies during the AM peak hour under future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the northbound Sweetbriar Road approach with delays up to 41.5 seconds per vehicle during the AM peak hour under future conditions. Sweetbriar Road intersects Cave Neck Road at a skewed angle. Furthermore, this intersection is only approximately 230 feet west of the Cave Neck Road and Hudson Road intersection.

The unsignalized Hudson Road intersection with Cave Neck Road exhibits LOS deficiencies during all peak hours under future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the southbound Hudson Road approach with delays of up to 248.4 seconds per vehicle under future conditions.

The DelDOT *FY21-FY 26 Capital Transportation Program (CTP)* includes a future improvement project at the Cave Neck Road, Hudson Road, and Sweetbriar Road intersection. Based on the CTP, the design is scheduled to start in Fiscal Year 2025. The developer should coordinate with DelDOT on the implementation and equitable cost sharing of this future CTP project.

Per coordination with DelDOT, JMT conducted the additional Case 4a and 4b scenarios with only the development of the proposed convenience store with gas use, with or without a rights-in access along Delaware Route 1, and with or without a Connector Road built between Cave Neck Road and Red Fox Lane. JMT also conducted a Case 4c scenario with only the development of the proposed convenience store with gas use and apartment units, without a rights-in access along Delaware Route 1, and with a Connector Road built between Cave Neck Road and Red Fox Lane. Based on the results of the analyses and the proposed improvements as part of the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201), it is recommended that the rights-in access along Delaware Route 1 not be provided prior to the completion of the DelDOT project as the provision of this access would be in close proximity to the existing southbound Delaware Route 1 right turn lane onto Cave Neck Road. The existing right turn lane would be eliminated per the design of the grade separated intersection which would impact the location of the rights-in access.

Additionally, it is recommended that the developer construct the Connector Road between Cave Neck Road and Red Fox Lane at a location consistent with the DelDOT project. Furthermore, as the proposed Site Entrance along Cave Neck Road would operate without any capacity constraints, it is recommended that the developer construct the site access as a temporary unsignalized T-intersection until the roundabout is constructed as part of the DelDOT project.



Full Build Out of Site

The following intersections, which would experience capacity constraints with the construction of only the 5,068 square-foot convenience store with gas, would continue to experience capacity constraints with the full build out of the site and no additional improvements/contributions aside from those mentioned in the First Phase section are recommended:

- Red Fox Lane intersection with Delaware Route 1
- Cave Neck Road intersection with Delaware Route 1
- Minos Conaway Road intersection with Delaware Route 1
- Nassau Road intersection with Delaware Route 1
- Eagles Crest Road/Oyster Rocks Road
- Hudson Road/Steamboat Landing Road intersection with Delaware Route 1
- Sweetbriar Road intersection with Cave Neck Road
- Hudson Road intersection with Cave Neck Road

The unsignalized Site Entrance A intersection with Cave Neck Road is proposed approximately 475 feet west of Delaware Route 1 and exhibits LOS deficiencies during the AM and PM peak hours under future conditions with the proposed development. These deficiencies occur along the southbound Site Entrance A approach and can be mitigated by the provision of a roundabout. Per the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201) preferred alternative layout, a roundabout is recommended along the Cave Neck Road site frontage. As a roundabout will be constructed as part of the DelDOT project, we do not recommend that the developer implement any improvements at this intersection. However, it is recommended that the developer coordinate with DelDOT on the implementation and equitable cost sharing of the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201).

Per the May 3, 2019 DelDOT Scoping Meeting Memorandum, two build scenarios were evaluated: one with a rights-in along southbound Delaware Route 1 and one without a rights-in along southbound Delaware Route 1. Per the *SR 1 and Cave Neck Road Grade Separated Intersection* project preferred alternative plan, a frontage road is proposed to be constructed to the west of southbound Delaware Route 1 between the Red Fox Lane and Pondview Drive intersections. The rights-in for the Chappell Farm site would be constructed along this frontage road. As such, it is recommended that the rights-in access be constructed along the frontage road after the *SR 1 and Cave Neck Road Grade Separated Intersection* project is completed.

Should Sussex County 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. The items have been split into two phases as the second phase of the site should be constructed when the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201) is completed.



First Phase of Site Construction – 5,068 square-foot convenience store with gas pumps and 94 apartment units

1. The developer should provide a bituminous concrete overlay to the existing travel lanes along the Cave Neck Road site frontage in the area affected by entrance plan construction at proposed Site Entrance A, including any auxiliary lanes, at DelDOT’s discretion. DelDOT should analyze the existing lanes’ pavement section and recommend an overlay thickness to the developer’s engineer, if necessary.

This requirement may be eliminated upon the selection and review of the pavement core data that can occur during the plan review process.

2. The developer should construct a full access site entrance (Site Entrance A) for the proposed Chappell Farm development on Cave Neck Road, approximately 400 feet west of Delaware Route 1 to be consistent with the lane configurations shown in the table below:

Approach	Current Configuration	Proposed Configuration
Eastbound Cave Neck Road	One through lane	One left turn lane and one through lane
Westbound Cave Neck Road	One through lane	One through lane and one right turn lane
Southbound Site Entrance A	Approach does not exist	One shared left turn/right turn lane

Based on DelDOT’s *Development Coordination Manual*, the recommended minimum storage length is 350 feet (excluding taper) for the westbound Cave Neck Road right turn lane and 210 feet (excluding taper) for the eastbound Cave Neck Road left turn lane. The calculated queue lengths from the HCS analysis can be accommodated within the recommended storage lengths. The developer should submit a plan to DelDOT’s Development Coordination section depicting the design along the site frontage. The final design of the site entrance should be determined during the Entrance Plan review process.

3. The developer should construct a Connector Road between Cave Neck Road and Fox Run Lane. The southerly leg of the Connector Road would transition to the Site Entrance A intersection with Cave Neck Road. The exact location and design of the connector road should be coordinated with DelDOT for consistency with the proposed improvements as part of the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201). The Chappell Farm entrance onto the new Connector Road should be located along an area without horizontal curvature. If the Connector Road is to be dedicated to public use, the appropriate right-of-way/permanent easements should be



dedicated to DelDOT as it will be State maintained and should be designed/constructed to State standards. The value of the construction of the Connector Road and the right-of-way that would be dedicated in this regard can be counted towards the contribution for the *SR 1 and Cave Neck Road Grade Separated Intersection* project per the discussion in Item number 8 below.

4. The *DelDOT FY21-FY26 Capital Transportation Program (CTP)* includes a future improvement project at the Cave Neck Road, Hudson Road, and Sweetbriar Road intersection. Based on the CTP, design is scheduled to start in Fiscal Year 2025. The developer should coordinate with DelDOT on the implementation and equitable cost sharing of this future CTP project.
5. The developer should enter into an agreement with DelDOT to fund an equitable portion of improvements to the intersections of Delaware Route 1 with Minos Conaway Road and Nassau Road as part of the *Delaware Route 1 and Minos Conaway Road Grade Separated Intersection* project (DelDOT Contract No. T201612501). The developer should coordinate with DelDOT on the implementation and equitable cost sharing of the improvements. The cost contribution should consider the full buildout of the Chappell Farm site.
6. The developer should enter into an agreement with DelDOT to fund an equitable portion of improvements to the intersection of Delaware Route 1 with Eagles Crest Road/Oyster Rocks Road as part of the *SR 1 & S264 Intersection Improvements* project (DelDOT Contract No. T201904302). The developer should coordinate with DelDOT on the implementation and equitable cost sharing of the improvements. The cost contribution should consider the full buildout of the Chappell Farm site.
7. The developer should enter into an agreement with DelDOT to fund an equitable portion of improvements to the intersection of Delaware Route 1 with Hudson Road/Steamboat Landing Road as part of the *SR 1 & S258 Intersection Improvements* project (DelDOT Contract No. T201904303). The developer should coordinate with DelDOT on the implementation and equitable cost sharing of the improvements. The cost contribution should consider the full buildout of the Chappell Farm site. It is expected that the Compass Point development will contribute to the improvements at this intersection as well.
8. The developer should enter into an agreement with DelDOT to fund an equitable portion of improvements to the intersections of Delaware Route 1 with Red Fox Lane and Cave Neck Road as part of the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201). The developer should coordinate with DelDOT on



the implementation and equitable cost sharing of these improvements. The cost contribution should consider the full buildout of the Chappell Farm site.

9. 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 DelDOT along the Cave Neck Road site frontage (west of the new Connector Road). 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. The developer should coordinate with DelDOT's Development Coordination section during the plan review process to identify the exact location of the SUP.
 - b. An access-way should be provided from the SUP into the site.
 - c. Where internal sidewalks are located alongside of parking spaces, a buffer, physical barrier or signage should be added to eliminate vehicular overhang onto the sidewalk.
 - d. Internal bicycle racks should be provided for the commercial use and the apartment units.
 - e. ADA compliant curb ramps and marked crosswalks should be provided along the Site Entrance A approach to Cave Neck Road. The use of diagonal curb ramps is discouraged.
 - f. Minimum five-foot wide bicycle lanes should be incorporated in the right turn lanes and shoulder along the Cave Neck Road approaches to Site Entrance A.
 - g. Utility covers should be moved outside of any designated bicycle lanes and any proposed sidewalks/shared-use paths or should be flush with the pavement.

Second Phase of Site Construction – The remaining approximately 15,635 square feet of commercial space and approximately 21,365 square feet of commercial space

It is assumed the Site Entrance A/Cave Neck Road intersection will be converted to a roundabout by DelDOT as part of the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201). As such, no additional improvements to be completed by the developer are listed for the intersection with the second phase of the site.



1. The developer should provide a bituminous concrete overlay to the existing travel lanes along the Cave Neck Road site frontage in the area affected by entrance plan construction, at proposed Site Entrance B including any auxiliary lanes, at DelDOT’s discretion. DelDOT should analyze the existing lanes’ pavement section and recommend an overlay thickness to the developer’s engineer, if necessary.
2. The developer should provide a bituminous concrete overlay to the existing travel lanes along the southbound Delaware Route 1 frontage road site frontage in the area affected by entrance plan construction, including any auxiliary lanes, at DelDOT’s discretion. DelDOT should analyze the existing lanes’ pavement section and recommend an overlay thickness to the developer’s engineer, if necessary.
3. The developer should construct a full access site entrance (Site Entrance B) for the proposed Chappell Farm development on Cave Neck Road, approximately 900 feet west of Delaware Route 1 to be consistent with the lane configurations shown in the table below:

Approach	Current Configuration	Proposed Configuration
Eastbound Cave Neck Road	One through lane	One left turn lane and one through lane
Westbound Cave Neck Road	One through lane	One through lane and one right turn lane
Southbound Site Entrance B	Approach does not exist	One shared left turn/right turn lane

Based on DelDOT’s *Development Coordination Manual*, the recommended minimum storage length is 350 feet (excluding taper) for the westbound Cave Neck Road right turn lane and 210 feet (excluding taper) for the eastbound Cave Neck Road left turn lane. However, the left turn lane storage length can be reduced to a minimum of 130 feet (excluding taper) due to the proximity of the Samuel Paynter Boulevard intersection with Cave Neck Road. The calculated queue lengths from the HCS analysis can be accommodated within the recommended storage lengths. The developer should submit a plan to DelDOT’s Development Coordination section depicting the design along the site frontage. The final design of the site entrance should be determined during the Entrance Plan review process.

4. The developer should construct a rights-in only site entrance for the proposed Chappell Farm development on the southbound Delaware Route 1 Frontage Road that would be constructed west of Delaware Route 1 as part of the *SR 1 and Cave Neck Road Grade Separated Intersection* project. The rights-in only site entrance should be constructed approximately 300 feet north of Cave Neck Road to be consistent with the lane configurations shown in the table below:



Approach	Current Configuration	Proposed Configuration
Southbound Delaware Route 1 Frontage Road	Approach does not exist	One through lane and one right turn lane

Based on Table 10-5 from Chapter 10 of AASHTO, *A Policy on Geometric Design of Highways & Streets*, 6th Edition, the recommended minimum deceleration length (excluding taper) for the right turn lane is 405 feet. The developer should submit a plan to DelDOT’s Development Coordination section depicting the design along the site frontage. The final design of the site entrance should be determined during the Entrance Plan review process.

5. 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 DelDOT along the southbound Delaware Route 1 Frontage Road and Cave Neck Road (west of the Connector Road) site frontages. Within the easement, the developer should construct a ten-foot wide shared-use path (SUP). The developer should coordinate with DelDOT’s Development Coordination section during the plan review process to identify the exact location of the SUP.
 - b. An access-way should be provided from the SUP into the site.
 - c. A SUP is required on both sides of the Connector Road between the commercial and residential uses.
 - d. An internal connection should be provided between the uses on the easterly and westerly sides of the Connector Road.
 - e. Where internal sidewalks are located alongside of parking spaces, a buffer, physical barrier or signage should be added to eliminate vehicular overhang onto the sidewalk.
 - f. Internal bicycle racks should be provided for the commercial use.
 - g. ADA compliant curb ramps and marked crosswalks should be provided along the Site Entrance B approaches to Cave Neck Road and the Site Entrance C approach to the southbound Delaware Route 1 Frontage Road. The use of diagonal curb ramps is discouraged.



- h. Utility covers should be moved outside of any proposed sidewalks/shared-use paths or should be flush with the pavement.

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. Don Weber, Assistant Director for Traffic Operations and Management. Mr. Weber can be reached at (302) 659-4651 or by email at Don.Weber@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 in a cursive style.

Joanne M. Arellano, P.E., PTOE

cc: Mir Wahed, P.E., PTOE
Enclosure

General Information

Report date: February 2020

Prepared by: Becker Morgan Group, Inc.

Prepared for: Hudson Management, LLC

Tax Parcel: 235-23.00-1.02

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

Project Description and Background

Description: The developer seeks to develop 94 apartment units, a 37,000 square foot shopping center, and a 5,068 square foot super convenience store with gas pumps.

Location: The subject site is located on the northwest corner of the intersection of Delaware Route 1 and Cave Neck Road (Sussex Road 88) in Sussex County, Delaware.

Amount of Land to be developed: An approximately 14.9-acre parcel.

Land Use approval(s) needed: Rezoning and Entrance Plan.

Proposed completion date: 2023

Proposed access location: Two full access points are proposed: one along Cave Neck Road (Site Access A), approximately 475 feet west of Delaware Route 1 and the other along Cave Neck Road (Site Access B), approximately 900 feet west of Delaware Route 1. One rights-in only access is proposed along southbound Delaware Route 1 (Site Access C), approximately 600 feet north of Cave Neck Road.

Daily Traffic Volumes:

- 2019 Average Annual Daily Traffic on SR 1: 41,783 vehicles per day (non-Summer)
- 2019 Average Annual Daily Traffic on Cave Neck Road: 7,339 vehicles per day (non-Summer)

Site Map



**Graphic is an approximation based on the Conceptual Site Plan prepared by Becker Morgan Group dated March 5, 2019.*

Relevant and On-going Projects

DelDOT has several relevant and ongoing improvement projects within the study area including the *Corridor Capacity Preservation Program (CCPP)*, which aims to maintain the regional importance and preserve the intended function and capacity of existing designated transportation routes within the Program. The main objectives of the program are listed below:

- Prevent the need to build an entirely new road
- Minimize the transportation impacts of increased economic growth
- Maintain an existing road's ability to handle traffic efficiently and safely
- Preserve the ability to make future improvements
- Sort local and through traffic

Delaware Route 1 is one of the highways included in the CCPP. More information regarding the CCPP can be found at: https://deldot.gov/Publications/manuals/corr_cap/index.shtml.

DelDOT is proposing to build a grade-separated interchange at the intersection of Delaware Route 1 and Cave Neck Road (DelDOT Contract No. T201912201). The selected alternative proposes Cave Neck Road to be elevated over Delaware Route 1. A new connector road would be constructed between Fox Run Lane and Cave Neck Road. This connector road would intersect Cave Neck Road at a roundabout. The southerly leg of this roundabout would provide a rights-

in/rights-out access to southbound Delaware Route 1. Additionally, the Fox Run Lane and Delaware Route 1 intersection would be eliminated. A roundabout would also be added along Cave Neck Road on the easterly side of Delaware Route 1 and the southerly leg of this roundabout would provide a rights-in/rights-out access to northbound Delaware Route 1. A new frontage road would be constructed on the westerly side of Delaware Route 1 between Fox Run Lane and Pondview Drive as well as on the easterly side of Delaware Route 1 between Willow Creek Road and Cave Neck Road. Design is underway and construction is expected to start in 2025. More information regarding the *SR 1 and Cave Neck Road Grade Separated Intersection* project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201912201>.

The second project within the study area is the *SR 1, Minos Conaway Road Grade Separated Intersection* project (DelDOT Contract No. T201612501), which will provide a grade separated intersection to separate through movements along Delaware Route 1 and turning movements to and from Minos Conaway Road, Nassau Road and Old Mill Road. Per the preferred alternative concept plan, shared-use paths would also be constructed along Minos Conaway Road, Nassau Road, Janice Road, and along southbound Delaware Route 1 south of Janice Road to accommodate pedestrians and bicyclists. This project intends to maintain capacity of the Delaware Route 1 corridor and improve safety at the unsignalized intersection of Delaware Route 1 and Minos Conaway Road, while improving mobility and access for local traffic. The project is expected to begin construction in 2023 and be completed in 2025. More information regarding the Delaware Route 1 and Minos Conaway Grade Separated Intersection project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201612501>.

The third project within the study area is at the intersection of Delaware Route 1 and Hudson Road (Sussex Road 258)/Steamboat Landing Road (DelDOT Contract No. T201904303). As part of the project, left turns and through movements along Hudson Road and Steamboat Landing Road would be prohibited. Northbound and southbound left turning movements along Delaware Route 1 would be permitted. Design is underway with construction anticipated to start in the fall of 2020 or the spring of 2021. More information regarding *SR 1 & S258 Intersection Improvements* project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201904303#project-details1>.

The fourth project within the study area is at the intersection of Delaware Route 1 and Oyster Rocks Road (Sussex Road 264) (DelDOT Contract No. T201904302). As part of the project, acceleration lanes along northbound and southbound Delaware Route 1 would be provided for the left turning movements from Eagle Crest Road and Oyster Rocks Road. Through movements between Eagle Crest Road and Oyster Rocks Road would be prohibited. Northbound and southbound left turning movements from Delaware Route 1 would also be prohibited. Design is underway with construction anticipated to start in the fall of 2020 or the spring of 2021. More information regarding the *SR 1 & S264 Intersection Improvements* project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201904302>.

DelDOT's 2016 Hazard Elimination Program (HEP) identified Site H which is within the project area. Site H is a 0.30-mile corridor along Cave Neck Road from 0.29 mile west of Delaware Route 1 to the Delaware Route 1 intersection. The Site H Task I report included a crash summary and

recommended to evaluate improvement options to reduce angle crashes and median confusion as part of the unsignalized crossover studies along Delaware Route 1. This area was further reviewed under Task II to evaluate several median channelization options at the Delaware Route 1 and Cave Neck Road intersection. Recommendations included accommodating northbound left-turns only and installing a partial signal at the intersection of Delaware Route 1 and Cave Neck Road to act as an interim improvement, before constructing a grade separated interchange as part of the previously mentioned CCPP Project. Also, providing a flashing red arrow phase may be considered during the off-peak hours as part of the design of these improvements. Field visits confirm that southbound Delaware Route 1 left turning movements and eastbound Cave Neck Road left turning movements have been prohibited at the intersection.

The DelDOT *FY21-FY 26 Capital Transportation Program (CTP)* includes a future improvement project at the Cave Neck Road, Hudson Road, and Sweetbriar Road intersection. Based on the CTP, the design is scheduled to start in Fiscal Year 2025.

Additionally, DelDOT is proposing to add lighting to the Delaware Route 1 and Cave Neck Road intersection. Design has been completed and implementation is expected in the fall of 2020.

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 Investment Level 3 and Investment Level 4 areas.

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). 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. 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. 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.

Investment Level 4

Delaware's Investment Level 4 Areas are rural in nature and are where the bulk of the state's open space/natural areas and agricultural industry is located. These areas contain agribusiness activities, farm complexes, and small settlements. They typically include historic crossroads or points of trade, often with rich cultural ties. Delaware's Investment Level 4 Areas are also the location of scattered residential uses, featuring almost entirely single-family detached residential structures. Delaware's Investment Level 4 Areas also include many unincorporated communities, typically with their own distinctive character and identity. Investment Level 4 Areas depend on a transportation system primarily of secondary roads linked to roadways used as regional thoroughfares for commuting and trucking.

It is the state's intent to discourage additional urban and suburban development in Investment Level 4 Areas unrelated to agriculture and to the areas' needs. In Investment Level 4 Areas, the state's investments and policies should retain the rural landscape and preserve open spaces and farmlands, support farmland-related industries, and establish defined edges to more concentrated development. The focus for the Level 4 Areas will be to preserve and maintain existing facilities in safe working order, corridor-capacity preservation, and the enhancement of transportation facilities to support agricultural business.

Proposed Development's Compatibility with Livable Delaware:

A portion of the site (a section of the proposed convenience store with gas) would be in the Investment Level 3 area and the rest of the site would be in the Investment Level 4 area. According to Livable Delaware, the state's investments and policies should retain the rural landscape and preserve open spaces and farmlands within Level 4 areas. In addition, construction of new homes is discouraged in Level 4 areas. Therefore, the proposed development is generally not consistent with the 2015 update of the Livable Delaware "Strategies for State Policies and Spending."

Comprehensive Plans

(Source: Sussex County March 2019 Comprehensive Plan)

Sussex County Comprehensive Plan:

Per the *Sussex County Comprehensive Plan Future Land Use Map*, the proposed development is in an area designated as Low Density.

Proposed Development's Compatibility with the Sussex County Comprehensive Plan:

Per the *Sussex County Comprehensive Plan*, Sussex County hopes to retain the rural environment of Low Density areas. Therefore, the proposed development is generally not consistent with the *Sussex County March 2019 Comprehensive Plan*. However, the developer is proposing to rezone the land to heavy commercial.

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, 10th Edition: An ITE Informational Report*, published by the Institute of Transportation Engineers (ITE) for ITE Land Use Code 220 (multi-family low rise), Land Use Code 820 (Shopping Center), and Land Use Code 960 (super

convenience market with gas station). The trip generation was approved by DelDOT during the PTIS review.

Table 1
Chappell Farm Trip Generation

Land Use	ADT	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
94 Multi-family Housing, Low Rise (ITE Code 220)	670	10	35	45	35	21	56	34	34	68
37,000 SF Shopping Center (ITE Code 820)	3,058	105	65	170	125	135	260	147	135	282
5,068 SF Super Convenience Market w/ Gas Station (ITE Code 960)	4,247	216	216	432	175	176	351	163	164	327
Total Trips	7,975	331	316	647	335	332	667	344	333	677
Internal Capture	-	0	0	0	-25	-25	-50	-30	-30	-60
Pass-By Trips	-	-164	-164	-328	-170	-171	-341	-155	-151	-306
Net New Trips	-	167	152	319	140	136	276	159	152	311

Overview of TIS

Intersections examined:

1. Site Access A/Cave Neck Road (Sussex Road 88)
2. Site Access B/Cave Neck Road
3. Site Access C/Delaware Route 1
4. Delaware Route 1/Red Fox Lane
5. Delaware Route 1/Cave Neck Road
6. Delaware Route 1/Minos Conaway Road (Sussex Road 265)
7. Delaware Route 1/Nassau Road (Sussex Road 266)
8. Delaware Route 1/Eagles Crest Rd/Oyster Rocks Road (Sussex Road 264)
9. Delaware Route 1/Hudson Road/Steamboat Landing Road (Sussex Road 258)
10. Cave Neck Road/Samuel Paynter Boulevard
11. Cave Neck Road/E. Mill Run Road
12. Cave Neck Road/Old Grist Run
13. Cave Neck Road/Beulah Boulevard
14. Cave Neck Road/Sweetbriar Road (Sussex Road 261)
15. Cave Neck Road/Hudson Road
16. Hudson Road/Walker Road (Sussex Road 260)

Conditions examined:

1. Case 1 – 2019 Existing Condition
2. Case 2 – 2023 without development
3. Case 3a– 2023 with development and without rights-in access along Delaware Route 1
4. Case 3b – 2023 with development and with rights-in access along Delaware Route 1

Note: The Scoping Meeting Memorandum also identified additional cases to be evaluated considering the Delaware Route 1/Cave Neck Road grade separated interchange configuration with and without a rights-in access on Delaware Route 1. The preferred alternative was not selected prior to the completion of the Final TIS report. As such, DelDOT agreed to eliminate the required analysis of an interchange at Delaware Route 1/Cave Neck Road.

Committed Developments considered:

1. Overbrook Meadows Phases 1 and 2 (175 single family detached houses to be considered in Case 3)
2. Compass Point (f.k.a. Sweetbriar Road Development) (293 single-family detached houses)
3. Red Mill Pond North (343 single-family detached houses)
4. Red Mill Pond South (117 townhouses)
5. Cool Spring Farm (f.k.a. Log Cabin Hill Road) (425 single-family detached houses)
6. Sussex Consortium School (415 student elementary school)
7. Vincent Overlook (54 single-family detached houses)
8. Windstone (360 single-family detached houses)

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

Intersection Descriptions

1. Site Entrance A/Cave Neck Road (Sussex Road 88)

Type of Control: Proposed two-way stop-controlled intersection (T intersection)

Eastbound Approach: (Cave Neck Road) Existing one through lane and proposed one left-turn lane

Westbound Approach: (Cave Neck Road) Existing one through lane and proposed one right turn lane

Southbound Approach: (Site Entrance A) Proposed one left-turn lane and one right turn lane, stop-controlled

2. Site Entrance B/Cave Neck Road

Type of Control: Proposed two-way stop-controlled intersection (T intersection)

Eastbound Approach: (Cave Neck Road) Existing one through lane and proposed one left turn lane

Westbound Approach: (Cave Neck Road) Existing one through lane and proposed one right turn lane

Southbound Approach: (Site Entrance B) Proposed one shared left turn/right turn lane, stop-controlled

3. Site Entrance C/Delaware Route 1

Type of Control: Proposed rights-in only access driveway

Southbound Approach: (Delaware Route 1) Proposed two through lanes and one rights-in-only lane

4. Delaware Route 1/Red Fox Lane

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Red Fox Lane) Existing one right turn lane, stop-controlled

Northbound Approach: (Delaware Route 1) Existing one left turn lane and two through lanes

Southbound Approach: (Delaware Route 1) Existing one left turn lane, two through lanes, and one right-turn lane

5. Delaware Route 1/Cave Neck Road

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Cave Neck Road) Existing one right turn lane (stop-controlled)

Northbound Approach: (Delaware Route 1) Existing one left turn lane and two through lanes

Southbound Approach: (Delaware Route 1) Existing two through lanes and one right turn lane

6. Delaware Route 1/Minos Conaway Road (Sussex Road 265)

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Minos Conaway Road) Existing one left turn lane and one right turn lane, stop controlled

Northbound Approach: (Delaware Route 1) Existing one left turn lane and two through lanes

Southbound Approach: (Delaware Route 1) Existing one left turn lane two through lanes and one channelized right turn lane

7. Delaware Route 1/Nassau Road (Sussex Road 266)

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Westbound Approach: (Nassau Road) Existing one shared left turn/right turn lane, stop-controlled

Northbound Approach: (Delaware Route 1) Existing one left-turn lane, two through lanes and one right-turn lane

Southbound Approach: (Delaware Route 1) Existing one left turn lane and two through lanes

8. Delaware Route 1/Eagles Crest Road/Oyster Rocks Road (Sussex Road 264)

Type of Control: Existing two-way stop-controlled intersection (four-legged)

Eastbound Approach: (Eagles Crest Road) Existing one shared left turn/through/right turn lane, stop-controlled

Westbound Approach: (Oyster Rocks Road) Existing one shared left turn/through/right turn lane, stop controlled

Northbound Approach: (Delaware Route 1) Existing one left turn lane, two through lanes, and one right turn lane

Southbound Approach: (Delaware Route 1) Existing one left turn lane, two through lanes, and one right turn lane

9. Delaware Route 1/Hudson Road/Steamboat Landing Road (Sussex Road 258)

Type of Control: Existing two-way stop-controlled intersection (four-legged)

Eastbound Approach: (Hudson Road) Existing one shared left turn/through/right turn lane, stop-controlled

Westbound Approach: (Steamboat Landing Road) Existing one shared left turn/through/right turn lane, stop controlled

Northbound Approach: (Delaware Route 1) Existing one left turn lane, two through lanes, and one right turn lane

Southbound Approach: (Delaware Route 1) Existing one left turn lane, two through lanes, and one right turn lane

10. Cave Neck Road/Samuel Paynter Boulevard

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Cave Neck Road) Existing one through lane and one right turn lane

Westbound Approach: (Cave Neck Road) Existing one left turn lane and one through lane

Northbound Approach: (Samuel Paynter Boulevard) Existing one left turn lane and one right turn lane, stop-controlled

11. Cave Neck Road/E. Mill Run Road

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Cave Neck Road) Existing one through lane and one right turn lane

Westbound Approach: (Cave Neck Road) Existing one shared left turn/through lane

Northbound Approach: (E. Mill Run Road) Existing one shared left turn/right turn lane, stop-controlled

12. Cave Neck Road/Ole Grist Run/Brookstone Drive

Type of Control: Existing two-way stop-controlled intersection (four-legged)

Eastbound Approach: (Cave Neck Road) Existing one left turn lane, one through lane and one right turn lane

Westbound Approach: (Cave Neck Road) Existing one left turn lane, one through lane and one right turn lane

Northbound Approach: (Ole Grist Run) Existing one shared left turn/through/right turn lane, stop-controlled

Southbound Approach: (Brookstone Drive) Existing one shared left turn/through/right turn lane, stop-controlled

13. Cave Neck Road/Beulah Boulevard

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Cave Neck Road) Existing one through lane and one right turn lane

Westbound Approach: (Cave Neck Road) Existing one left turn lane and one through lane

Northbound Approach: (Beulah Boulevard) Existing one shared left turn/right turn lane, stop-controlled

14. Cave Neck Road/Sweetbriar Road (Sussex Road 261)

Type of Control: Existing two-way stop-controlled intersection (four-legged)

Eastbound Approach: (Cave Neck Road) Existing one shared left turn/through/right turn lane

Westbound Approach: (Cave Neck Road) Existing one left turn lane and one shared through/right turn lane

Northbound Approach: (Sweetbriar Road) Existing one shared left turn/through/right turn lane, stop-controlled

Note: The northerly leg of the intersection is one-way northbound.

15. Cave Neck Road/Hudson Road

Type of Control: Existing two-way stop-controlled intersection (four-legged)

Eastbound Approach: (Cave Neck Road) Existing one shared left turn/through/right turn lane

Westbound Approach: (Cave Neck Road) Existing one shared left turn/through/right turn lane

Northbound Approach: (Hudson Road) Existing one shared left turn/through/right turn lane, stop-controlled

Southbound Approach: (Hudson Road) Existing one shared left turn/through/right turn lane, stop-controlled

16. Hudson Road/Walker Road (Sussex Road 260)

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Walker Road) Existing one shared left turn/right turn lane, stop-controlled

Northbound Approach: (Hudson Road) Existing one shared left turn/through lane

Southbound Approach: (Hudson Road) Existing one shared through/right turn lane

Transit, Pedestrian, and Bicycle Facilities

Existing transit service: Per DelDOT Gateway, Delaware Transit Corporation (DTC) currently does not provide transit stops within the study area.

Planned transit service: Per email correspondence on April 15, 2020 with Mr. Jared Kauffman, Fixed-Route Planner at the DTC, a shared-use path (SUP) should be placed along Cave Neck Road to give DTC the option of creating bus stops in the future, if deemed necessary.

Existing bicycle and pedestrian facilities: According to DelDOT's *Sussex County Bicycle Map*, one Connector Bicycle Route and one Regional Bicycle Route exist within the study area. The Connector Bicycle Route travels along Hudson Road, traversing through two study intersections (Cave Neck Road and Walker Road). The Regional Bicycle Route exists along Sweetbriar Road and traverses through two study intersections (Cave Neck Road and Hudson Road) before continuing northwest along Cave Neck Road. There are no pedestrian facilities within the study area.

Planned bicycle and pedestrian facilities: Per email correspondence on April 15, 2020 from Mr. John Fiori, DelDOT's Bicycle Coordinator, the following improvements were recommended:

- Construct a 10-foot wide shared-use path (SUP) along both property frontages.
- An internal connection is required from the SUP along Cave Neck Road and Delaware Route 1 into the proposed site.
- A SUP will be required on both sides of the service road between the commercial and residential use.
- An internal connection will be required between the commercial and residential use.
- Internal bicycle racks for the commercial use along Delaware Route 1 and bike racks for the apartment units.
- Per the Development Coordination Manual (DCM) the site shall dedicate right-of-way per the roadway classification and establish a 15-foot wide permanent easement along the property frontages.

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.

- Delaware Route 1 – LTS: 3 and 4
- Cave Neck Road – LTS: 3 and 4

Crash Evaluation

Per the crash data included in the TIS from May 14, 2016 to May 14, 2019 and provided by the Delaware Crash Analysis Reporting System, a total of 147 crashes were reported within the study area. Of the 147 crashes reported:

- 44 crashes occurred between the two unsignalized intersections of Cave Neck Road and Sweetbriar Road and Cave Neck Road and Hudson Road, which are approximately 300 feet apart from each other.
 - Of the 44 crashes at these two intersections, 34 were angle incidents. 12 of these angle crashes resulted in injuries.
- 28 crashes occurred at the unsignalized intersection of Delaware Route 1 and Hudson Road/Steamboat Landing Road.
 - Of those 28 crashes, 10 were angle incidents. 6 out of the 10 angle crashes resulted in injuries.
 - Of those 28 crashes, 7 were rear-end incidents. 4 out of the 7 rear-end crashes resulted in injuries.
- 25 crashes occurred at the unsignalized intersection of Delaware Route 1 and Minos Conaway Road.
 - Of those 25 crashes, 10 were angle incidents. 4 out of the 10 angle crashes resulted in injuries.
- 20 crashes occurred at the unsignalized intersection of Delaware Route 1 and Nassua Road.
 - Of those 20 crashes, 7 were rear-end incidents. 2 out of the 7 rear-end crashes resulted in injuries.
- No fatalities were reported within the study area during the 3-year study period.

Previous Comments

Comments provided by DeIDOT during the Preliminary TIS review have been addressed in the Final TIS.

General HCS Analysis Comments

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

1. Per DelDOT's *Development Coordination Manual*, JMT and TIS used a heavy vehicle percentage of 3% for each movement greater than 100 vph in the Case 2 and Case 3 future scenario analyses, 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.
2. 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 did not.
3. Per DelDOT's *Development Coordination Manual*, JMT and 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.
4. The TIS analyzed the intersections along Delaware Route 1 using Synchro software. However, per direction from DelDOT, JMT analyzed the intersections along Delaware Route 1 using HCS7 software.
5. Per coordination with DelDOT, JMT conducted the following additional scenarios:
 - a. Case 4a - 2023 with development of convenience store with gas only, without rights-in access along Delaware Route 1, and with a Connector Road built between Cave Neck Road and Red Fox Lane
 - b. Case 4b – 2023 with development of convenience store with gas only, with rights-in access along Delaware Route 1, and without a Connector Road built between Cave Neck Road and Red Fox Lane
 - c. Case 4c – 2023 with development of convenience store and 94 apartment units without rights-in access along Delaware Route 1, and with a Connector Road built between Cave Neck Road and Red Fox Lane

Table 2
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Site Entrance A/Cave Neck Road (Sussex Road 88)						
2023 with development and without rights-in access (Case 3a)						
Eastbound Cave Neck Road Left Turn	A (8.4)	A (9.4)	A (8.8)	A (8.4)	A (9.4)	A (8.8)
Southbound Site Entrance A Approach	E (48.0)	F (55.2)	D (32.9)	E (48.0)	F (55.2)	D (32.9)
2023 with development and with rights-in access (Case 3b)						
Eastbound Cave Neck Road Left Turn	A (8.1)	A (9.0)	A (8.5)	A (8.1)	A (9.0)	A (8.5)
Southbound Site Entrance A Approach	E (47.2)	F (54.2)	D (32.4)	E (47.2)	F (54.2)	D (32.4)
2023 with Convenience Store with Gas only, without rights-in access, and with a Connector Road (Case 4a)						
Eastbound Cave Neck Road Left Turn	-	-	-	A (8.1)	A (8.8)	A (8.3)
Southbound Site Entrance A Approach	-	-	-	D (26.0)	C (24.4)	C (18.5)
2023 with Convenience Store with Gas only, with rights-in access, and without a Connector Road (Case 4b)						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.9)	A (8.7)	A (8.2)
Southbound Site Entrance A Approach	-	-	-	D (25.9)	C (24.4)	C (18.5)

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

Table 2 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Site Entrance A/Cave Neck Road (Sussex Road 88)						
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)						
Eastbound Cave Neck Road Left Turn	-	-	-	A (8.1)	A (8.9)	A (8.3)
Southbound Site Entrance A Approach	-	-	-	D (28.8)	D (25.0)	C (18.7)

Table 2 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Signalized Intersection ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Site Entrance A/Cave Neck Road (Sussex Road 88) ²						
2023 with development and without rights-in access (Case 3a)	-	-	-	B (11.4)	B (10.6)	B (10.9)
2023 with development and with rights-in access (Case 3b)	-	-	-	B (11.7)	B (11.2)	B (10.9)

² JMT analyzed the intersection as an uncoordinated signalized intersection with a 60 second cycle length and permitted left turns along the eastbound Cave Neck Road approach.

Table 2 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Roundabout ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Site Entrance A/Cave Neck Road (Sussex Road 88) ³						
2023 with development and without rights-in access (Case 3a)						
Eastbound Cave Neck Road Approach	-	-	-	B (12.3)	A (7.6)	A (8.0)
Westbound Cave Neck Road Approach	-	-	-	A (6.2)	A (9.4)	A (7.3)
Southbound Site Entrance A Approach	-	-	-	A (5.9)	A (8.7)	A (6.8)
Overall	-	-	-	A (9.0)	A (8.7)	A (7.4)
2023 with development and with rights-in access (Case 3b)						
Eastbound Cave Neck Road Approach	-	-	-	B (12.3)	A (7.6)	A (8.0)
Westbound Cave Neck Road Approach	-	-	-	A (5.3)	A (8.0)	A (6.3)
Southbound Site Entrance A Approach	-	-	-	A (5.9)	A (8.7)	A (6.8)
Overall	-	-	-	A (9.0)	A (8.0)	A (7.1)

³ JMT analyzed the intersection as a single-lane roundabout.

Table 2 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Roundabout ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Site Entrance A/Cave Neck Road (Sussex Road 88) ³						
2023 with Convenience Store with Gas only, without rights-in access, and with a Connector Road (Case 4a)						
Eastbound Cave Neck Road Approach	-	-	-	B (10.1)	A (6.2)	A (6.7)
Westbound Cave Neck Road Approach	-	-	-	A (5.1)	A (7.5)	A (6.0)
Southbound Site Entrance A Approach	-	-	-	A (5.1)	A (6.8)	A (5.6)
Overall	-	-	-	A (7.7)	A (7.0)	A (6.2)
2023 with Convenience Store with Gas only, with rights-in access, and without a Connector Road (Case 4b)						
Eastbound Cave Neck Road Approach	-	-	-	B (10.1)	A (6.2)	A (6.7)
Westbound Cave Neck Road Approach	-	-	-	A (4.6)	A (6.9)	A (5.6)
Southbound Site Entrance A Approach	-	-	-	A (5.1)	A (6.8)	A (5.6)
Overall	-	-	-	A (7.7)	A (6.7)	A (6.0)
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)						
Eastbound Cave Neck Road Approach	-	-	-	B (10.6)	A (6.3)	A (6.8)
Westbound Cave Neck Road Approach	-	-	-	A (5.2)	A (7.6)	A (6.0)
Southbound Site Entrance A Approach	-	-	-	A (5.4)	A (6.7)	A (5.6)
Overall	-	-	-	A (7.9)	A (7.0)	A (6.3)

Table 3
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Site Entrance B/Cave Neck Road						
2023 with development (Case 3)						
Eastbound Cave Neck Road Left Turn	A (7.8)	A (8.6)	A (8.2)	A (7.9)	A (8.7)	A (8.2)
Southbound Site Entrance B Approach	B (14.3)	C (15.7)	B (14.1)	B (14.8)	C (16.4)	B (14.5)

Table 4
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Red Fox Lane ⁵						
2019 Existing (Case 1)						
Eastbound Red Fox Lane Approach	B (14.0)	C (15.0)	D (29.3)	B (14.3)	B (14.6)	D (30.5)
Northbound Delaware Route 1 Left Turn	B (13.8)	B (12.2)	D (26.5)	C (20.3)	D (29.4)	F (201.9)
Southbound Delaware Route 1 U-Turn	-	-	-	B (12.5)	D (29.8)	F (54.7)
2023 without development (Case 2) ⁶						
Eastbound Red Fox Lane Approach	B (14.9)	C (16.2)	D (34.5)	C (15.1)	C (15.7)	E (35.2)
Northbound Delaware Route 1 Left Turn	B (14.7)	B (13.5)	D (32.2)	E (45.4)	F (68.5)	F (*)
Southbound Delaware Route 1 U-Turn	-	-	-	B (13.6)	E (35.2)	F (68.4)
2023 with development (Case 3) ⁶						
Eastbound Red Fox Lane Approach	C (15.3)	C (16.5)	E (35.5)	C (15.4)	C (16.0)	E (36.1)
Northbound Delaware Route 1 Left Turn	C (15.1)	B (13.7)	D (33.2)	F (50.3)	F (76.5)	F (*)
Southbound Delaware Route 1 U-Turn	-	-	-	B (14.0)	E (36.8)	F (72.1)

*HCS software reported delays longer than 1,000 seconds per vehicle.

⁴ The TIS analyzed the intersections along Delaware Route 1 utilizing Synchro software. However, per direction from DelDOT, JMT analyzed the intersections along Delaware Route 1 utilizing HCS7 software.

⁵ The TIS did not report results for the southbound Delaware Route 1 U-turn.

⁶ The adjacent Delaware Route 1/Cave Neck Road intersection was recently reconfigured to restrict eastbound left turning movements. As such, JMT has assumed that left turning movements would also be restricted along the future westerly leg. Therefore, any volumes executing westbound left turning movements at the Cave Neck Road intersection would instead execute a right turning movement and U-turn at the Red Fox Lane intersection.

Table 4 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
2023 with Convenience Store with Gas only, without rights-in access, and with a Connector Road (Case 4a) ⁶						
Eastbound Red Fox Lane Approach	-	-	-	C (15.0)	C (15.7)	E (35.1)
Northbound Delaware Route 1 Left Turn	-	-	-	E (44.9)	F (67.9)	F (*)
Southbound Delaware Route 1 U-Turn	-	-	-	B (13.7)	E (35.7)	F (69.4)
2023 with Convenience Store with Gas only, with rights-in access, and without a Connector Road (Case 4b) ⁶						
Eastbound Red Fox Lane Approach	-	-	-	C (15.2)	C (15.8)	E (35.4)
Northbound Delaware Route 1 Left Turn	-	-	-	E (46.9)	F (70.9)	F (*)
Southbound Delaware Route 1 U-Turn	-	-	-	B (13.7)	E (35.7)	F (69.4)
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c) ⁶						
Eastbound Red Fox Lane Approach	-	-	-	C (15.0)	C (15.7)	E (35.1)
Northbound Delaware Route 1 Left Turn	-	-	-	E (45.2)	F (68.3)	F (*)
Southbound Delaware Route 1 U-Turn	-	-	-	B (13.8)	E (35.6)	F (69.5)

*HCS software reported delays longer than 1,000 seconds per vehicle.

Table 5
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Cave Neck Road ⁵						
2019 Existing (Case 1) ⁷						
Eastbound Cave Neck Road Left Turn	F (75.6)	D (26.2)	F (362.5)	E (36.5)	F (57.4)	F (253.2)
Northbound Delaware Route 1 Left Turn	B (13.7)	C (17.5)	F (62.3)	B (14.1)	C (17.3)	F (65.2)
Southbound Delaware Route 1 U-Turn	-	-	-	B (12.4)	D (29.8)	F (58.3)
2023 without development (Case 2) ^{8,9,10}						
Northbound Delaware Route 1 Left Turn	-	-	-	C (17.3)	E (36.5)	F (356.4)

⁷ The eastbound Cave Neck Road right turning movements were not reported as it is yield-controlled with a channelizing island and its own acceleration lane of approximately 400 feet.

⁸ For future cases, JMT incorporated the restriction of left turns along the eastbound Cave Neck Road approach. Left turning volumes along the eastbound Cave Neck Road approach were assumed to turn right at the intersection, travel southbound along Delaware Route 1, and then U-turn at the adjacent Red Mill Inn entrance. Additionally, JMT assumed that left turns would be restricted along the proposed westbound Overbrook Meadows Entrance approach. Left turning volumes along the westbound Overbrook Meadows Entrance approach were assumed to turn right at the intersection, travel northbound along Delaware Route 1, and then U-turn at the adjacent Red Fox Lane intersection.

⁹ For future cases, JMT incorporated the restriction of southbound Delaware Route 1 U-turn/left turns. JMT assumed the U-turns/left-turns would be executed at the adjacent Red Mill Inn entrance. Additionally, it was assumed the westbound Overbrook Meadows Entrance approach would be designed similar to the Cave Neck Road approach and provide a long acceleration lane onto northbound Delaware Route 1. As such, the westbound approach right turning movements were not reported.

¹⁰ The TIS did not include results for Cases 2, 3a, and 3b.

Table 5 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Cave Neck Road						
2023 with development and without rights-in access (Case 3a) ^{8, 9, 10}						
Northbound Delaware Route 1 Left Turn	-	-	-	C (22.3)	F (61.4)	F (668.2)
2023 with development and with rights-in access (Case 3b) ^{8, 9, 10}						
Northbound Delaware Route 1 Left Turn	-	-	-	C (22.3)	F (61.4)	F (668.2)
2023 with Convenience Store with Gas only, without rights-in access, and with a Connector Road (Case 4a) ^{8, 9}						
Northbound Delaware Route 1 Left Turn	-	-	-	C (20.0)	E (47.1)	F (524.0)
2023 with Convenience Store with Gas only, with rights-in access, and without a Connector Road (Case 4b) ^{8, 9}						
Northbound Delaware Route 1 Left Turn	-	-	-	C (20.0)	E (47.1)	F (524.0)
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c) ^{8, 9}						
Northbound Delaware Route 1 Left Turn	-	-	-	C (20.2)	E (48.1)	F (527.2)

Table 6
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Minos Conaway Road (Sussex Road 265) ¹¹						
2019 Existing (Case 1)						
Eastbound Minos Conaway Road Left Turn	D (30.4)	D (29.4)	F (176.4)	F (54.7)	F (80.8)	F (*)
Eastbound Minos Conaway Road Right Turn	D (30.4)	D (29.4)	F (176.4)	C (23.8)	C (20.4)	F (149.7)
Eastbound Minos Conaway Road Approach	-	-	-	D (31.6)	D (33.9)	F (*)
Northbound Delaware Route 1 Left Turn	B (14.1)	C (16.3)	E (41.6)	B (14.4)	C (18.3)	F (*)
Southbound Delaware Route 1 U-Turn	-	-	-	B (13.3)	E (47.6)	F (66.8)
2023 without development (Case 2)						
Eastbound Minos Conaway Road Left Turn	E (48.7)	E (40.8)	F (336.1)	F (96.6)	F (146.7)	F (*)
Eastbound Minos Conaway Road Right Turn	E (48.7)	E (40.8)	F (336.1)	D (34.8)	C (24.7)	F (277.4)
Eastbound Minos Conaway Road Approach	-	-	-	F (50.4)	F (51.4)	F (*)
Northbound Delaware Route 1 Left Turn	C (16.9)	C (20.8)	F (64.0)	C (17.3)	C (23.5)	F (*)
Southbound Delaware Route 1 U-Turn	-	-	-	B (14.8)	F (80.9)	F (102.4)

*HCS software reported delays longer than 1,000 seconds per vehicle.

¹¹ The TIS did not provide eastbound Minos Conaway Road approach and southbound Delaware Route 1 U-turn results.

Table 6 (Continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Minos Conaway Road (Sussex Road 265) ¹¹						
2023 with development (Case 3)						
Eastbound Minos Conaway Road Left Turn	F (61.3)	F (56.3)	F (841.8)	F (133.2)	F (214.4)	F (*)
Eastbound Minos Conaway Road Right Turn	F (61.3)	F (56.3)	F (841.8)	E (36.4)	D (25.4)	F (293.2)
Eastbound Minos Conaway Road Approach	-	-	-	F (64.9)	F (78.8)	F (*)
Northbound Delaware Route 1 Left Turn	C (17.3)	C (21.5)	F (67.1)	C (17.7)	C (24.5)	F (*)
Southbound Delaware Route 1 U-Turn	-	-	-	C (15.4)	F (85.7)	F (108.2)
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b)						
Eastbound Minos Conaway Road Left Turn	-	-	-	F (105.2)	F (164.0)	F (*)
Eastbound Minos Conaway Road Right Turn	-	-	-	E (35.3)	C (24.9)	F (281.3)
Eastbound Minos Conaway Road Approach	-	-	-	F (53.7)	F (58.2)	F (*)
Northbound Delaware Route 1 Left Turn	-	-	-	C (17.4)	C (23.8)	F (*)
Southbound Delaware Route 1 U-Turn	-	-	-	B (15.0)	F (82.3)	F (103.8)

*HCS software reported delays longer than 1,000 seconds per vehicle.

Table 6 (Continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Minos Conaway Road (Sussex Road 265) ¹¹						
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)						
Eastbound Minos Conaway Road Left Turn	-	-	-	F (118.4)	F (163.5)	F (*)
Eastbound Minos Conaway Road Right Turn	-	-	-	E (35.7)	C (24.9)	F (281.8)
Eastbound Minos Conaway Road Approach	-	-	-	F (57.8)	F (58.9)	F (*)
Northbound Delaware Route 1 Left Turn	-	-	-	C (17.5)	C (23.8)	F (*)
Southbound Delaware Route 1 U-Turn	-	-	-	C (15.3)	F (81.0)	F (106.7)

*HCS software reported delays longer than 1,000 seconds per vehicle.

Table 7
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Nassau Road (Sussex Road 266) ¹²						
2019 Existing (Case 1)						
Westbound Nassau Road Approach	B (13.8)	F (60.0)	D (32.9)	B (13.7)	F (60.9)	F (*)
Northbound Delaware Route 1 U-Turn	-	-	-	D (32.2)	D (26.4)	F (106.2)
Southbound Delaware Route 1 Left Turn	B (10.8)	C (19.7)	F (113.1)	B (10.8)	D (28.4)	F (165.3)
2023 without development (Case 2)						
Westbound Nassau Road Approach	C (15.3)	F (135.9)	F (50.2)	C (15.1)	F (*)	F (*)
Northbound Delaware Route 1 U-Turn	-	-	-	E (46.8)	D (34.5)	F (160.3)
Southbound Delaware Route 1 Left Turn	B (11.7)	D (31.5)	F (286.9)	B (11.8)	F (*)	F (416.7)
2023 with development and without rights-in access (Case 3)						
Westbound Nassau Road Approach	C (15.9)	F (156.9)	F (58.4)	C (15.7)	F (*)	F (*)
Northbound Delaware Route 1 U-Turn	-	-	-	E (48.2)	E (35.4)	F (165.3)
Southbound Delaware Route 1 Left Turn	B (12.1)	D (34.4)	F (318.8)	B (12.1)	F (*)	F (487.2)
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b)						
Westbound Nassau Road Approach	-	-	-	C (15.3)	F (*)	F (*)
Northbound Delaware Route 1 U-Turn	-	-	-	E (47.3)	D (34.8)	F (161.5)
Southbound Delaware Route 1 Left Turn	-	-	-	B (11.9)	F (*)	F (433.7)

*HCS software reported delays longer than 1,000 seconds per vehicle.

¹² The TIS did not provide northbound Delaware Route 1 results.

Table 7 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Nassau Road (Sussex Road 266)						
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)						
Westbound Nassau Road Approach	-	-	-	C (15.4)	F (*)	F (*)
Northbound Delaware Route 1 U-Turn	-	-	-	E (47.7)	D (34.7)	F (161.8)
Southbound Delaware Route 1 Left Turn	-	-	-	B (11.9)	F (*)	F (434.7)

*HCS software reported delays longer than 1,000 seconds per vehicle

Table 8
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Eagles Crest Road/Oyster Rocks Road (Sussex Road 264)						
2019 Existing (Case 1)						
Eastbound Eagles Crest Road Approach	C (20.3)	D (30.3)	F (101.3)	C (20.4)	D (31.6)	F (110.2)
Westbound Oyster Rocks Road Approach	C (22.8)	F (53.9)	F (126.5)	C (22.5)	F (57.2)	F (139.2)
Northbound Delaware Route 1 Left Turn	B (11.6)	B (12.6)	C (24.5)	B (12.0)	B (13.1)	D (26.2)
Southbound Delaware Route 1 Left Turn	A (9.0)	B (13.2)	C (16.9)	A (9.2)	B (13.7)	C (17.8)
2023 without development (Case 2)						
Eastbound Eagles Crest Road Approach	C (22.6)	E (37.4)	F (159.3)	C (22.4)	E (37.9)	F (166.0)
Westbound Oyster Rocks Road Approach	D (26.3)	F (71.8)	F (212.9)	D (25.7)	F (73.9)	F (220.2)
Northbound Delaware Route 1 Left Turn	B (12.5)	B (14.0)	D (29.9)	B (12.6)	B (14.3)	D (30.8)
Southbound Delaware Route 1 Left Turn	A (9.4)	B (14.5)	C (19.4)	A (9.5)	B (14.7)	C (19.8)

Table 8 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Eagles Crest Road/Oyster Rocks Road (Sussex Road 264)						
2023 without development (Case 2) with <i>DelDOT Improvement Project</i> ¹³						
Eastbound Eagles Crest Road Approach	-	-	-	C (17.5)	C (20.7)	F (90.0)
Westbound Oyster Rocks Road Approach	-	-	-	B (15.0)	E (36.5)	F (67.7)
2023 with development (Case 3)						
Eastbound Eagles Crest Road Approach	C (23.3)	E (39.0)	F (171.0)	C (23.1)	E (39.6)	F (178.5)
Westbound Oyster Rocks Road Approach	D (27.8)	F (77.5)	F (238.1)	D (27.2)	F (79.9)	F (246.4)
Northbound Delaware Route 1 Left Turn	B (12.7)	B (14.4)	D (30.8)	B (12.9)	B (14.6)	D (31.8)
Southbound Delaware Route 1 Left Turn	A (9.6)	B (14.8)	C (19.9)	A (9.6)	C (15.0)	C (20.3)
2023 with development (Case 3) with <i>DelDOT Improvement Project</i> ¹³						
Eastbound Eagles Crest Road Approach	-	-	-	C (19.1)	C (21.3)	F (95.4)
Westbound Oyster Rocks Road Approach	-	-	-	C (15.5)	E (38.2)	F (72.1)

¹³ JMT modeled the intersection to reflect the improvements planned as part of the *Delaware Route 1 and Oyster Rocks Road (Sussex Road 264)* project (DelDOT Contract No. T201904302). These improvements include the restriction of northbound and southbound Delaware Route 1 left turns at the intersection of Eagles Crest Road/Oyster Rocks Road. Additionally, the project will prohibit eastbound Eagles Crest Road and westbound Oyster Road through movements and provide an acceleration lane for the left turns. The left turning volumes along the northbound and southbound approaches were assumed to travel through the intersection, U-turn at the adjacent Delaware Route 1 median opening, and then turn right at the opposite approach to the intersection. The through volumes along the eastbound and westbound approaches were assumed to turn right at the intersection, U-turn at the adjacent Delaware Route 1 median opening, and then turn right at the Delaware Route 1 approach to the intersection.

Table 8 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Eagles Crest Road/Oyster Rocks Road (Sussex Road 264)						
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b)						
Eastbound Eagles Crest Road Approach	-	-	-	C (22.5)	E (38.4)	F (169.2)
Westbound Oyster Rocks Road Approach	-	-	-	D (26.2)	F (75.3)	F (225.0)
Northbound Delaware Route 1 Left Turn	-	-	-	B (12.7)	B (14.3)	D (31.0)
Southbound Delaware Route 1 Left Turn	-	-	-	A (9.5)	B (14.8)	C (20.0)
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b) <i>with DelDOT Improvement Project</i> ¹³						
Eastbound Eagles Crest Road Approach	-	-	-	C (18.7)	C (21.2)	F (91.4)
Westbound Oyster Rocks Road Approach	-	-	-	C (15.2)	E (37.0)	F (68.8)

Table 8 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Eagles Crest Road/Oyster Rocks Road (Sussex Road 264)						
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)						
Eastbound Eagles Crest Road Approach	-	-	-	C (22.6)	E (38.5)	F (169.6)
Westbound Oyster Rocks Road Approach	-	-	-	D (26.4)	F (75.3)	F (225.6)
Northbound Delaware Route 1 Left Turn	-	-	-	B (12.7)	B (14.4)	D (31.0)
Southbound Delaware Route 1 Left Turn	-	-	-	A (9.6)	B (14.8)	C (20.0)
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c) <i>with DelDOT Improvement Project</i> ¹³						
Eastbound Eagles Crest Road Approach	-	-	-	C (18.9)	C (21.2)	F (91.5)
Westbound Oyster Rocks Road Approach	-	-	-	C (15.3)	E (36.9)	F (68.9)

Table 9
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Hudson Road/ Steamboat Landing Road (Sussex Road 258)						
2019 Existing (Case 1)						
Eastbound Hudson Road Approach	F (122.6)	F (244.6)	F (*)	F (120.8)	F (238.6)	F (*)
Westbound Steamboat Landing Road Approach	C (20.5)	E (36.5)	F (127.2)	C (21.1)	E (38.4)	F (141.0)
Northbound Delaware Route 1 Left Turn	B (12.0)	B (13.6)	D (27.5)	B (12.3)	B (13.7)	D (29.5)
Southbound Delaware Route 1 Left Turn	A (9.1)	B (12.8)	C (17.9)	A (9.2)	B (13.2)	C (18.9)
2023 without development (Case 2)						
Eastbound Hudson Road Approach	F (572.6)	F (744.5)	F (*)	F (569.9)	F (737.0)	F (*)
Westbound Steamboat Landing Road Approach	C (23.4)	E (46.3)	F (212.5)	C (23.7)	E (47.7)	F (224.9)
Northbound Delaware Route 1 Left Turn	B (13.2)	C (16.1)	E (36.4)	B (13.3)	C (16.3)	E (37.6)
Southbound Delaware Route 1 Left Turn	A (9.5)	B (13.9)	C (20.6)	A (9.6)	B (14.1)	C (21.2)

*HCS software reported delays longer than 1,000 seconds per vehicle.

Table 9 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Hudson Road/ Steamboat Landing Road (Sussex Road 258)						
2023 without development (Case 2) with <i>DelDOT Improvement Project</i> ¹⁴						
Eastbound Hudson Road Approach	-	-	-	D (30.6)	D (31.6)	F (318.9)
Westbound Steamboat Landing Road Approach	-	-	-	B (12.7)	C (18.9)	D (30.6)
Northbound Delaware Route 1 Left Turn	-	-	-	B (13.4)	C (16.4)	E (38.2)
Southbound Delaware Route 1 Left Turn	-	-	-	B (10.7)	C (16.0)	C (24.2)
2023 with development (Case 3)						
Eastbound Hudson Road Approach	F (619.2)	F (788.7)	F (*)	F (616.2)	F (780.8)	F (*)
Westbound Steamboat Landing Road Approach	D (25.0)	F (51.4)	F (266.7)	D (25.2)	F (53.2)	F (284.0)
Northbound Delaware Route 1 Left Turn	B (13.4)	C (16.4)	E (37.3)	B (13.6)	C (16.6)	E (38.6)
Southbound Delaware Route 1 Left Turn	A (9.6)	B (14.2)	C (21.1)	A (9.7)	B (14.4)	C (21.7)

*HCS software reported delays longer than 1,000 seconds per vehicle.

¹⁴ JMT modeled the intersection to reflect the improvements planned as part of the *Delaware Route 1 and Oyster Rocks Road (Sussex Road 264)* project (DelDOT Contract No. T201904302). These improvements include the restriction of eastbound Hudson Road and westbound Steamboat Landing left turn and through movements. These volumes were assumed to turn right at the intersection, u-turn at the adjacent Delaware Route 1 median opening, and then travel through or turn right at the opposite approach to the intersection.

Table 9 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Hudson Road/ Steamboat Landing Road (Sussex Road 258)						
2023 with development (Case 3) with DelDOT Improvement Project ¹⁴						
Eastbound Hudson Road Approach	-	-	-	D (33.7)	D (32.0)	F (337.2)
Westbound Steamboat Landing Road Approach	-	-	-	B (12.9)	C (19.3)	D (31.9)
Northbound Delaware Route 1 Left Turn	-	-	-	B (13.7)	C (16.7)	E (39.3)
Southbound Delaware Route 1 Left Turn	-	-	-	B (10.9)	C (16.3)	C (24.8)
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b)						
Eastbound Hudson Road Approach	-	-	-	F (583.7)	F (749.3)	F (*)
Westbound Steamboat Landing Road Approach	-	-	-	C (24.2)	E (49.9)	F (242.0)
Northbound Delaware Route 1 Left Turn	-	-	-	B (13.4)	C (16.4)	E (37.9)
Southbound Delaware Route 1 Left Turn	-	-	-	A (9.6)	B (14.2)	C (21.3)
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b) with DelDOT Improvement Project ¹⁴						
Eastbound Hudson Road Approach	-	-	-	D (32.4)	D (31.1)	F (323.4)
Westbound Steamboat Landing Road Approach	-	-	-	B (12.7)	C (19.0)	D (30.9)
Northbound Delaware Route 1 Left Turn	-	-	-	B (13.5)	C (16.5)	E (38.5)
Southbound Delaware Route 1 Left Turn	-	-	-	B (10.8)	C (16.1)	C (24.3)

*HCS software reported delays longer than 1,000 seconds per vehicle.

Table 9 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control ¹	LOS per TIS ⁴			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Delaware Route 1/Hudson Road/ Steamboat Landing Road (Sussex Road 258)						
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)						
Eastbound Hudson Road Approach	-	-	-	F (587.6)	F (751.8)	F (*)
Westbound Steamboat Landing Road Approach	-	-	-	C (24.3)	E (49.9)	F (242.6)
Northbound Delaware Route 1 Left Turn	-	-	-	B (13.4)	C (16.4)	E (37.9)
Southbound Delaware Route 1 Left Turn	-	-	-	A (9.7)	B (14.2)	C (21.3)
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c) <i>with DelDOT Improvement Project</i> ¹⁴						
Eastbound Hudson Road Approach	-	-	-	D (32.5)	D (31.1)	F (324.0)
Westbound Steamboat Landing Road Approach	-	-	-	B (12.8)	C (19.0)	D (31.0)
Northbound Delaware Route 1 Left Turn	-	-	-	B (13.5)	C (16.5)	E (38.5)
Southbound Delaware Route 1 Left Turn	-	-	-	B (10.8)	C (16.1)	C (24.4)

*HCS software reported delays longer than 1,000 seconds per vehicle.

Table 10
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/Samuel Paynter Boulevard ¹⁵						
2019 Existing (Case 1)						
Westbound Cave Neck Road Left Turn	A (8.2)	A (7.8)	A (7.8)	A (8.2)	A (7.8)	A (7.9)
Northbound Samuel Paynter Boulevard Approach	B (11.3)	B (10.7)	B (10.2)	B (11.3)	B (10.5)	B (10.2)
2023 without development (Case 2)						
Westbound Cave Neck Road Left Turn	A (8.6)	A (8.0)	A (8.1)	A (8.6)	A (8.1)	A (8.1)
Northbound Samuel Paynter Boulevard Approach	B (12.8)	B (12.2)	B (11.3)	B (12.7)	B (11.7)	B (11.2)
2023 with development (Case 3)						
Westbound Cave Neck Road Left Turn	A (8.9)	A (8.3)	A (8.3)	A (8.9)	A (8.3)	A (8.3)
Northbound Samuel Paynter Boulevard Approach	B (14.1)	B (13.5)	B (12.4)	B (13.9)	B (12.8)	B (12.2)
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b)						
Westbound Cave Neck Road Left Turn	-	-	-	A (8.7)	A (8.1)	A (8.2)
Northbound Samuel Paynter Boulevard Approach	-	-	-	B (13.0)	B (12.0)	B (11.4)

¹⁵ The TIS modeled the northbound Samuel Paynter Boulevard approach as one shared left-turn/right-turn lane whereas JMT modeled as a separate left-turn and right-turn lane consistent with field conditions.

Table 10 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/Samuel Paynter Boulevard ¹⁵						
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)						
Westbound Cave Neck Road Left Turn	-	-	-	A (8.8)	A (8.1)	A (8.2)
Northbound Samuel Paynter Boulevard Approach	-	-	-	B (13.1)	B (12.0)	B (11.4)

Table 11
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/E. Mill Run Road ¹⁶						
2019 Existing (Case 1)						
Westbound Cave Neck Road Left Turn	A (8.5)	A (7.7)	A (7.7)	A (8.2)	A (7.7)	A (7.7)
Northbound E. Mill Run Road Approach	B (11.3)	A (9.8)	B (10.0)	A (9.3)	A (8.6)	A (8.3)
2023 without development (Case 2)						
Westbound Cave Neck Road Left Turn	A (8.9)	A (7.9)	A (7.9)	A (8.6)	A (7.9)	A (8.0)
Northbound E. Mill Run Road Approach	B (12.8)	B (10.8)	B (11.1)	B (10.2)	A (9.1)	A (8.7)
2023 with development (Case 3)						
Westbound Cave Neck Road Left Turn	A (9.3)	A (8.1)	A (8.2)	A (8.9)	A (8.1)	A (8.2)
Northbound E. Mill Run Road Approach	B (14.3)	B (11.6)	B (12.2)	B (10.9)	A (9.5)	A (9.2)
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b)						
Westbound Cave Neck Road Left Turn	-	-	-	A (8.7)	A (8.0)	A (8.0)
Northbound E. Mill Run Road Approach	-	-	-	B (10.4)	A (9.2)	A (8.8)

¹⁶ JMT configured the northbound E. Mill Run Road approach as a flared minor-street approach consistent with existing condition whereas the TIS did not.

Table 11 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/E. Mill Run Road ¹⁶						
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)						
Westbound Cave Neck Road Left Turn	-	-	-	A (8.7)	A (8.0)	A (8.0)
Northbound E. Mill Run Road Approach	-	-	-	B (10.4)	A (9.2)	A (8.9)

Table 12
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/Old Grist Run						
2019 Existing (Case 1)						
Eastbound Cave Neck Road Left Turn	A (7.5)	A (7.7)	A (7.5)	A (7.5)	A (7.8)	A (7.6)
Westbound Cave Neck Road Left Turn	A (8.4)	A (7.7)	A (7.6)	A (8.1)	A (7.7)	A (7.7)
Northbound Old Grist Run Approach	B (11.4)	B (11.8)	B (10.6)	B (11.5)	B (11.8)	B (10.7)
Southbound Old Grist Run Approach	B (13.1)	B (11.3)	B (11.1)	B (13.0)	B (11.4)	B (11.2)
2023 without development (Case 2)						
Eastbound Cave Neck Road Left Turn	A (7.6)	A (8.3)	A (7.9)	A (7.6)	A (8.3)	A (7.9)
Westbound Cave Neck Road Left Turn	A (8.6)	A (7.8)	A (7.8)	A (8.3)	A (7.8)	A (7.8)
Northbound Old Grist Run Approach	B (12.9)	C (16.1)	B (13.0)	B (12.9)	C (16.1)	B (13.1)
Southbound Old Grist Run Approach	C (15.4)	C (15.1)	B (13.9)	C (15.3)	C (15.2)	B (14.0)
2023 with development (Case 3)						
Eastbound Cave Neck Road Left Turn	A (7.8)	A (8.5)	A (8.1)	A (7.8)	A (8.5)	A (8.1)
Westbound Cave Neck Road Left Turn	A (8.9)	A (8.0)	A (8.0)	A (8.6)	A (8.0)	A (8.0)
Northbound Old Grist Run Approach	B (14.7)	C (19.1)	C (15.2)	C (14.8)	C (19.0)	C (15.4)
Southbound Old Grist Run Approach	C (19.8)	C (17.9)	C (16.9)	C (19.6)	C (18.0)	C (17.0)

Table 12 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/Old Grist Run						
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b)						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.7)	A (8.3)	A (8.0)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.4)	A (7.9)	A (7.9)
Northbound Old Grist Run Approach	-	-	-	B (13.5)	C (16.9)	B (13.6)
Southbound Old Grist Run Approach	-	-	-	C (16.5)	C (16.0)	B (14.6)
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.8)	A (8.3)	A (8.0)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.4)	A (7.9)	A (7.9)
Northbound Old Grist Run Approach	-	-	-	B (13.7)	C (17.0)	B (13.6)
Southbound Old Grist Run Approach	-	-	-	C (17.1)	C (16.1)	B (14.7)

Table 13
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Beulah Boulevard						
2019 Existing (Case 1)						
Westbound Cave Neck Road Left Turn	A (8.4)	A (7.7)	A (7.6)	A (8.1)	A (7.8)	A (7.7)
Northbound Beulah Boulevard Approach	B (11.4)	B (10.3)	B (10.1)	B (11.5)	B (10.4)	B (10.3)
2023 without development (Case 2)						
Westbound Cave Neck Road Left Turn	A (8.6)	A (8.2)	A (8.0)	A (8.3)	A (8.2)	A (8.0)
Northbound Beulah Boulevard Approach	B (13.7)	B (13.2)	B (12.2)	B (13.8)	B (13.3)	B (12.3)
2023 with development and without rights-in access (Case 3)						
Westbound Cave Neck Road Left Turn	A (8.9)	A (8.4)	A (8.2)	A (8.6)	A (8.4)	A (8.3)
Northbound Beulah Boulevard Approach	C (16.1)	B (14.9)	B (13.9)	C (16.2)	C (15.0)	B (14.1)
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b)						
Westbound Cave Neck Road Left Turn	-	-	-	A (8.4)	A (8.3)	A (8.1)
Northbound Beulah Boulevard Approach	-	-	-	B (14.4)	B (13.8)	B (12.7)
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)						
Westbound Cave Neck Road Left Turn	-	-	-	A (8.4)	A (8.3)	A (8.1)
Northbound Beulah Boulevard Approach	-	-	-	B (14.7)	B (13.8)	B (12.8)

Table 14
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Sweetbriar Road (Sussex Road 261) ¹⁷						
2019 Existing (Case 1)						
Eastbound Cave Neck Road Left Turn	A (7.4)	A (7.7)	A (7.4)	A (7.4)	A (7.7)	A (7.5)
Westbound Cave Neck Road Left Turn	A (8.2)	A (8.0)	A (7.9)	A (8.2)	A (8.0)	A (8.0)
Northbound Sweetbriar Road Approach	C (16.6)	C (15.1)	B (12.8)	C (17.1)	C (15.7)	B (13.3)
2023 without development (Case 2)						
Eastbound Cave Neck Road Left Turn	A (7.7)	A (8.7)	A (7.6)	A (7.6)	A (7.8)	A (7.6)
Westbound Cave Neck Road Left Turn	A (8.6)	A (8.5)	A (8.3)	A (8.6)	A (8.5)	A (8.3)
Northbound Sweetbriar Road Approach	E (35.2)	D (27.6)	C (18.3)	E (38.2)	D (30.4)	C (19.4)
2023 without development (Case 2) with Improvement Option I ¹⁸						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.6)	A (7.8)	A (7.6)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.6)	A (8.5)	A (8.3)
Northbound Sweetbriar Road Approach	-	-	-	D (30.6)	C (24.5)	C (16.6)

¹⁷ The TIS configured westbound Cave Neck Road approach with a short left turn pocket with storage for nine vehicles and a shared through/right turn lane whereas the JMT modeled with a left turn lane and a shared through/right turn lane to be consistent with existing conditions.

¹⁸ Improvement Option I provides a shared left turn/through lane and a right turn lane along the eastbound Cave Neck Road.

Table 14 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Sweetbriar Road (Sussex Road 261) ¹⁷						
2023 without development (Case 2) with Improvement Option II ¹⁹						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.6)	A (7.8)	A (7.6)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.6)	A (8.5)	A (8.3)
Northbound Sweetbriar Road Left Turn/Through	-	-	-	D (33.7)	D (30.5)	C (19.2)
Northbound Sweetbriar Road Right Turn	-	-	-	B (11.6)	B (11.0)	B (10.5)
Northbound Sweetbriar Road Approach	-	-	-	D (28.3)	D (25.6)	C (16.9)
2023 without development (Case 2) with Improvement Option III ²⁰						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.6)	A (7.8)	A (7.6)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.6)	A (8.5)	A (8.3)
Northbound Sweetbriar Road Left turn	-	-	-	C (18.7)	C (20.6)	C (15.7)
Northbound Sweetbriar Road Through/Right Turn	-	-	-	B (14.0)	B (12.0)	B (11.3)
Northbound Sweetbriar Road Approach	-	-	-	C (15.7)	B (14.7)	B (12.7)

¹⁹ Improvement Option II provides a shared left turn/through lane and a right turn lane along the northbound Sweetbriar Road approach.

²⁰ Improvement Option III provides a left turn lane and a shared through/right turn lane along the northbound Sweetbriar Road approach.

Table 14 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Sweetbriar Road (Sussex Road 261) ¹⁷						
2023 with development (Case 3)						
Eastbound Cave Neck Road Left Turn	A (7.8)	A (8.0)	A (7.7)	A (7.7)	A (7.9)	A (7.8)
Westbound Cave Neck Road Left Turn	A (8.7)	A (8.7)	A (8.5)	A (8.8)	A (8.7)	A (8.6)
Northbound Sweetbriar Road Approach	F (52.1)	E (39.6)	C (23.8)	F (58.4)	E (46.4)	D (26.0)
2023 with development (Case 3) with Improvement Option I ¹⁸						
Eastbound Cave Neck Road Left Turn	A (7.8)	A (8.0)	A (7.7)	A (7.7)	A (7.7)	A (7.8)
Westbound Cave Neck Road Left Turn	A (8.7)	A (8.2)	A (8.0)	A (8.8)	A (8.7)	A (8.6)
Northbound Sweetbriar Road Approach	E (40.8)	D (31.1)	C (19.6)	E (44.7)	D (34.4)	C (21.2)
2023 with development (Case 3) with Improvement Option II ¹⁹						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.7)	A (7.9)	A (7.8)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.8)	A (8.7)	A (8.6)
Northbound Sweetbriar Road Left Turn/Through	-	-	-	E (48.4)	E (44.8)	D (25.7)
Northbound Sweetbriar Road Right Turn	-	-	-	B (12.3)	B (11.6)	B (11.1)
Northbound Sweetbriar Road Approach	-	-	-	E (37.8)	D (34.9)	C (20.9)

Table 14 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Sweetbriar Road (Sussex Road 261) ¹⁷						
2023 with development (Case 3) with Improvement Option III ²⁰						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.7)	A (7.9)	A (7.8)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.8)	A (8.7)	A (8.6)
Northbound Sweetbriar Road Left Turn	-	-	-	C (22.2)	D (25.4)	C (19.1)
Northbound Sweetbriar Road Through/Right Turn	-	-	-	C (15.0)	B (12.9)	B (12.1)
Northbound Sweetbriar Road Approach	-	-	-	C (16.6)	C (16.6)	B (14.1)
2023 without development (Case 2) with Improvement Option IV ²¹						
Westbound Cave Neck Road Left Turn	-	-	-	A (8.6)	A (8.5)	A (8.3)
Northbound Sweetbriar Road Approach	-	-	-	D (30.3)	D (25.4)	C (17.4)
2023 without development (Case 2) with Improvement Option V ²²						
Westbound Cave Neck Road Left Turn	-	-	-	A (8.2)	A (8.0)	A (7.8)
Northbound Sweetbriar Road Left Turn	-	-	-	C (22.8)	C (20.9)	C (15.2)
Northbound Sweetbriar Road Right Turn	-	-	-	B (11.0)	B (10.3)	A (9.8)
Northbound Sweetbriar Road Approach	-	-	-	C (19.9)	C (18.3)	B (13.7)

²¹ Improvement Option IV scenario includes the closure of the northerly leg of the intersection and the realignment of northbound Sweetbriar Road approximately 350 feet east of the existing location with a shared left turn/right turn lane along northbound Sweetbriar Road, a shared right turn/through lane along eastbound Cave Neck Road, and a left turn lane and a through lane along westbound Cave Neck Road.

²² Improvement Option V includes the closure of the northerly leg of the intersection and the realignment of Sweetbriar Road approximately 350 feet east of the existing location. The improvement provides a channelized right turn lane and a through lane along eastbound Cave Neck Road and a left turn lane and a channelized right turn lane along northbound Sweetbriar Road.

Table 14 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Sweetbriar Road (Sussex Road 261) ¹⁷						
2023 with development (Case 3) with Improvement Option IV ²¹						
Westbound Cave Neck Road Left Turn	-	-	-	A (8.8)	A (8.7)	A (8.6)
Northbound Sweetbriar Road Approach	-	-	-	E (43.6)	E (35.9)	C (22.5)
2023 with development (Case 3) with Improvement Option V ²²						
Westbound Cave Neck Road Left Turn	-	-	-	A (8.8)	A (8.2)	A (8.0)
Northbound Sweetbriar Road Left Turn	-	-	-	D (29.8)	D (27.0)	C (18.7)
Northbound Sweetbriar Road Right Turn	-	-	-	B (11.6)	B (10.8)	B (10.3)
Northbound Sweetbriar Road Approach	-	-	-	C (24.4)	C (22.2)	C (16.0)
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b)						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.6)	A (7.9)	A (7.7)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.6)	A (8.6)	A (8.4)
Northbound Sweetbriar Road Approach	-	-	-	E (37.8)	D (34.3)	C (20.7)

Table 14 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Sweetbriar Road (Sussex Road 261) ¹⁷						
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b) with Improvement Option III ²⁰						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.6)	A (7.9)	A (7.7)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.6)	A (8.6)	A (8.4)
Northbound Sweetbriar Road Left Turn	-	-	-	C (19.0)	C (21.9)	C (16.5)
Northbound Sweetbriar Road Through/Right Turn	-	-	-	B (13.9)	B (12.3)	B (11.5)
Northbound Sweetbriar Road Approach	-	-	-	C (15.1)	C (15.2)	B (13.0)
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.7)	A (7.9)	A (7.7)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.6)	A (8.6)	A (8.4)
Northbound Sweetbriar Road Approach	-	-	-	E (41.5)	D (34.7)	C (20.9)
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c) with Improvement Option III ²⁰						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.7)	A (7.9)	A (7.7)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.6)	A (8.6)	A (8.4)
Northbound Sweetbriar Road Left Turn	-	-	-	C (19.8)	C (22.0)	C (16.5)
Northbound Sweetbriar Road Through/Right Turn	-	-	-	D (26.0)	C (22.0)	C (16.4)
Northbound Sweetbriar Road Approach	-	-	-	C (24.5)	C (22.0)	C (16.5)

Table 15
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Hudson Road						
2019 Existing (Case 1)						
Eastbound Cave Neck Road Left Turn	A (7.5)	A (7.8)	A (7.5)	A (7.5)	A (7.7)	A (7.5)
Westbound Cave Neck Road Left Turn	A (8.1)	A (7.7)	A (7.7)	A (8.0)	A (7.7)	A (7.8)
Northbound Hudson Road Approach	B (14.7)	B (14.1)	B (12.6)	B (14.8)	B (14.2)	B (12.6)
Southbound Hudson Road Approach	C (20.2)	C (21.4)	C (15.9)	C (19.6)	C (21.9)	C (16.4)
2023 without development (Case 2) ²³						
Eastbound Cave Neck Road Left Turn	A (7.6)	A (7.7)	A (7.6)	A (7.6)	A (7.8)	A (7.6)
Westbound Cave Neck Road Left Turn	A (8.3)	A (7.9)	A (7.9)	A (8.2)	A (8.0)	A (8.0)
Northbound Hudson Road Approach	D (33.5)	C (22.2)	C (18.7)	D (33.5)	D (27.1)	C (18.8)
Southbound Hudson Road Approach	F (91.2)	F (128.1)	F (54.2)	F (82.7)	F (205.1)	F (54.4)
2023 with development (Case 3)						
Eastbound Cave Neck Road Left Turn	A (7.6)	A (8.0)	A (7.6)	A (7.6)	A (7.9)	A (7.6)
Westbound Cave Neck Road Left Turn	A (8.4)	A (8.0)	A (8.1)	A (8.3)	A (8.0)	A (8.1)
Northbound Hudson Road Approach	E (42.1)	E (37.9)	C (22.7)	E (41.2)	E (37.4)	C (22.8)
Southbound Hudson Road Approach	F (165.6)	F (364.7)	F (124.8)	F (147.3)	F (362.8)	F (125.0)

²³ During the PM peak hour, the TIS utilized AM peak hour volumes along the westbound Cave Neck Road approach whereas JMT utilized PM peak hour volumes consistent with the volume diagrams.

Table 15 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Hudson Road						
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b)						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.6)	A (7.8)	A (7.6)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.2)	A (8.0)	A (8.0)
Northbound Hudson Road Approach	-	-	-	D (31.6)	D (29.6)	C (19.6)
Southbound Hudson Road Approach	-	-	-	F (77.1)	F (248.2)	F (66.0)
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.6)	A (7.8)	A (7.6)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.3)	A (8.0)	A (8.0)
Northbound Hudson Road Approach	-	-	-	D (33.8)	D (29.5)	C (19.7)
Southbound Hudson Road Approach	-	-	-	F (89.1)	F (248.4)	F (67.7)

Table 15 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection All-Way Stop Control ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Hudson Road ²⁴						
2023 without development (Case 2)	-	-	-	C (15.9)	C (18.0)	B (12.4)
2023 with development (Case 3)	C (22.9)	C (23.1)	B (14.1)	C (16.4)	C (23.1)	B (14.1)
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b)	-	-	-	C (14.6)	C (19.2)	B (12.7)
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)	-	-	-	B (14.9)	C (19.2)	B (12.8)

Table 15 (continued)
Peak Hour Levels Of Service (LOS)

Roundabout ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Hudson Road ²⁵						
2023 without development (Case 2)	-	-	-	A (6.6)	A (7.0)	A (6.0)
2023 with development (Case 3)	A (7.2)	A (7.5)	A (6.4)	A (6.9)	A (7.5)	A (6.4)

²⁴ Improvement scenario provides an all-way stop control while maintaining existing lane configurations.

²⁵ Improvement scenario provides a single lane roundabout.

Table 15 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Hudson Road						
<i>2023 without development (Case 2) with Improvement Option IV or V ^{21, 22}</i>						
Eastbound Cave Neck Road Left Turn	-	-	-	A (7.9)	A (8.1)	A (7.8)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.2)	A (8.0)	A (8.0)
Northbound Hudson Road Approach	-	-	-	E (42.0)	E (35.5)	C (21.9)
Southbound Hudson Road Approach	-	-	-	F (104.8)	F (286.9)	F (76.7)
<i>2023 with development (Case 3) with Improvement Option IV or V ^{21, 22}</i>						
Eastbound Cave Neck Road Left Turn	-	-	-	A (8.0)	A (8.2)	A (7.9)
Westbound Cave Neck Road Left Turn	-	-	-	A (8.3)	A (8.0)	A (8.1)
Northbound Hudson Road Approach	-	-	-	F (71.2)	F (55.7)	D (27.9)
Southbound Hudson Road Approach	-	-	-	F (288.6)	F (493.5)	F (184.3)

Table 15 (continued)
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection All-Way Stop Control ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Hudson Road ²⁴						
2023 without development (Case 2) with Improvement Option IV or V ^{21, 22}	-	-	-	C (17.9)	D (26.9)	B (14.0)
2023 with development (Case 3) with Improvement Option IV or V ^{21, 22}	-	-	-	D (25.6)	E (42.2)	C (17.2)

Table 15 (continued)
Peak Hour Levels Of Service (LOS)

Roundabout ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Cave Neck Road/ Hudson Road ²⁵						
2023 without development (Case 2) with Improvement Option IV or V ^{21, 22}	-	-	-	A (6.7)	A (7.4)	A (6.2)
2023 with development (Case 3) with Improvement Option IV or V ^{21, 22}	-	-	-	A (7.4)	A (7.9)	A (6.7)

Table 16
Peak Hour Levels Of Service (LOS)
Based on Traffic Impact Study for Chappell Farm
Report Dated: February 2020
Prepared By: Becker Morgan Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-intersection) ¹	LOS per TIS			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Hudson Road/Walker Road (Sussex Road 260)						
2019 Existing (Case 1)						
Eastbound Walker Road Approach	A (9.6)	A (9.8)	A (9.5)	A (9.6)	A (9.8)	A (9.6)
Northbound Hudson Road Left Turn	A (7.5)	A (7.6)	A (7.4)	A (7.6)	A (7.6)	A (7.5)
2023 without development (Case 2)						
Eastbound Walker Road Approach	B (10.9)	B (11.2)	B (11.1)	B (10.9)	B (11.2)	B (11.2)
Northbound Hudson Road Left Turn	A (7.9)	A (7.9)	A (7.8)	A (7.9)	A (8.0)	A (7.9)
2023 with development (Case 3)						
Eastbound Walker Road Approach	B (11.6)	B (11.8)	B (11.5)	B (11.6)	B (11.8)	B (11.5)
Northbound Hudson Road Left Turn	A (8.0)	A (8.0)	A (7.9)	A (8.0)	A (8.0)	A (7.9)
2023 with Convenience Store with Gas only, with/without rights-in access, and with/without a Connector Road (Cases 4a and 4b)						
Eastbound Walker Road Approach	-	-	-	B (11.2)	B (11.4)	B (11.0)
Northbound Hudson Road Left Turn	-	-	-	A (7.9)	A (8.0)	A (7.8)
2023 with Convenience Store with Gas and Residential, without rights-in access, and with a Connector Road (Case 4c)						
Eastbound Walker Road Approach	-	-	-	B (11.2)	B (11.4)	B (11.0)
Northbound Hudson Road Left Turn	-	-	-	A (8.0)	A (8.0)	A (7.8)



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

JENNIFER COHAN
 SECRETARY

August 12, 2019

Mr. Christopher Duke
 Becker Morgan Group, Inc.
 250 South Main Street, Suite 109
 Newark, DE 19711

Dear Mr. Duke:

We have reviewed the revised traffic counts that we received on August 5, 2019, for the **Chappell Farm** (Protocol Tax Parcel #235-23.00-1.02) Traffic Impact Study (TIS). Upon our review, the revised counts are acceptable as submitted.

Considering background growth factors, please apply the following growth factors to the seasonally adjusted traffic volumes in developing future traffic:

<u>Road</u>	<u>Growth Factor</u>	<u>Total Growth from 2019 to 2023</u>
Delaware Route 1	1.015	1.061
Cave Neck Road (Sussex Road 84)	1.005	1.020
Eagles Crest Road (Sussex Road 264)	1.005	1.020
Oyster Rocks Road (Sussex Road 264)	1.005	1.020
Hudson Road (Sussex Road 258)	1.005	1.020
Steamboat Landing Road (Sussex Road 258)	1.005	1.020
Sweetbriar Road (Sussex Road 261)	1.005	1.020
Dairy Farm Road (Sussex Road 261)	1.005	1.020
Minos Conaway Road (Sussex Road 265)	1.005	1.020
Nassau Road (Sussex Road 266)	1.005	1.020
Walker Road (Sussex Road 260)	1.005	1.020
All Other Roads	1.000	1.000



Mr. Christopher Duke
August 12, 2019
Page 2 of 2

You may contact Mr. Troy Brestel at (302) 760-2167 if you have any questions concerning this correspondence.

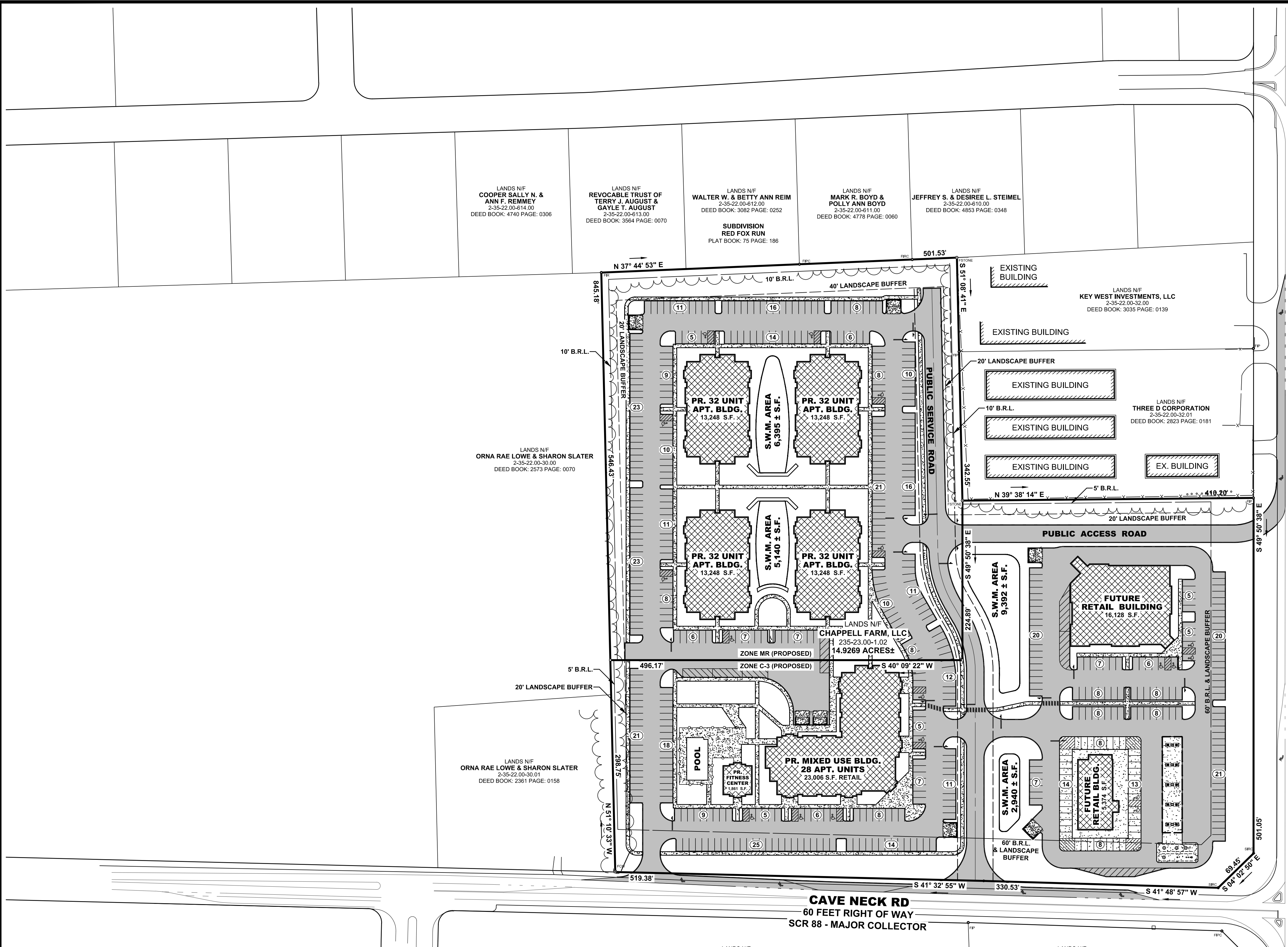
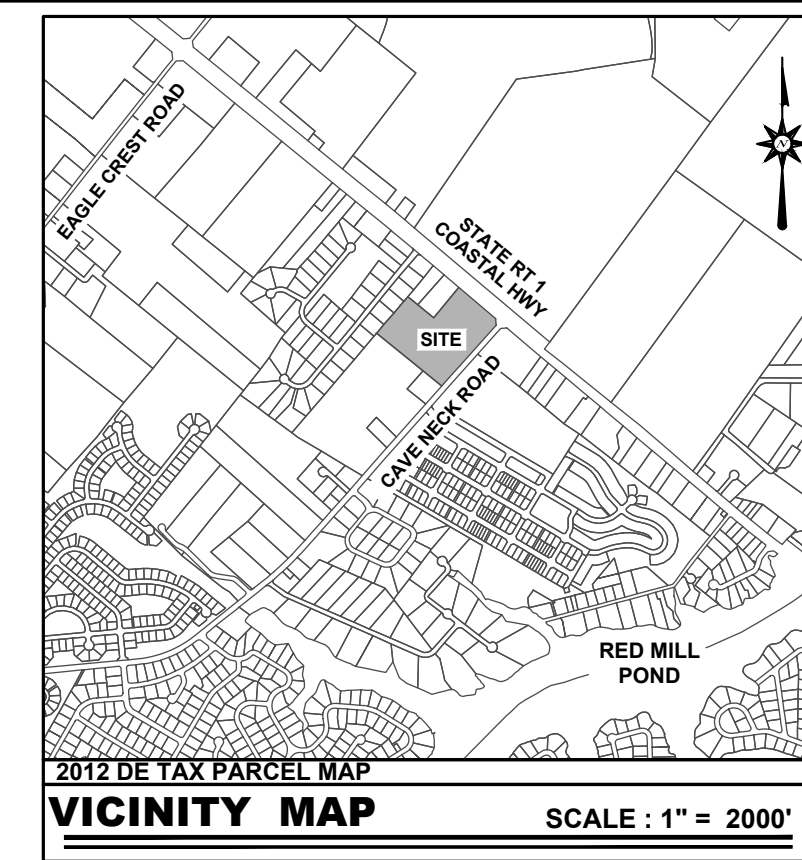
Sincerely,

A handwritten signature in cursive script, reading "T. William Brockenbrough, Jr.", enclosed in a rectangular box.

T. William Brockenbrough, Jr.
County Coordinator

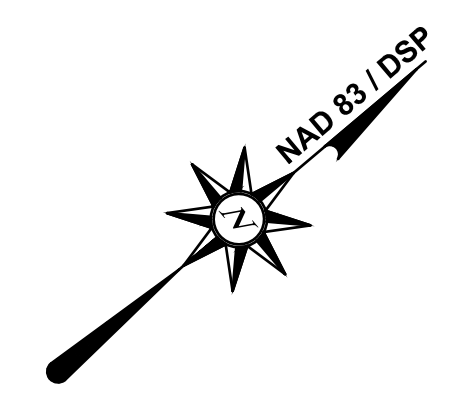
TWB:tbm

cc: Janelle Cornwall, Sussex County Planning and Zoning
J. Marc Coté, Assistant Director, Development Coordination
Troy Brestel, Project Engineer, Development Coordination
Claudy Joinville, Project Engineer, Development Coordination



SITE DATA

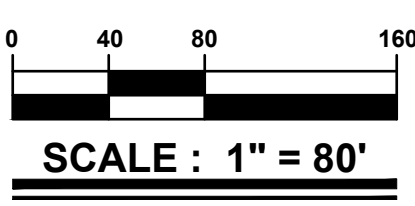
- OWNERS OF RECORD: CHAPPELL FARM, LLC
30045 EAGLES CREST RD, UNIT 2
MILTON, DE 19966
302-542-1422
CHRISTIAN@HUDMGT.COM
- PROPERTY ADDRESS: 30511 CAVE NECK ROAD
MILTON, DE 19968
- ENGINEER / SURVEYOR: BECKER MORGAN GROUP, INC.
309 SOUTH GOVERNORS AVE.
DOVER, DELAWARE 19904
302-734-7950
MRIEMANN@BECKERMORGAN.COM
- TAX PARCEL NUMBER: 235-23.00-1.02
- DEED REFERENCE: D 3971 94
- PLAT REFERENCE: 35-347
- PARCEL AREA: 14.9269 ACRES±
- PRESENT USE: COMMERCIAL / RETAIL
- PROPOSED USE: COMMERCIAL / RETAIL / RESIDENTIAL
- EXISTING ZONING: AR-1 AGRICULTURAL RESIDENTIAL
- PROPOSED ZONING: MR MEDIUM - DENSITY RESIDENTIAL DISTRICT
C-3 HEAVY COMMERCIAL DISTRICT
- SETBACKS: MR MEDIUM - DENSITY RESIDENTIAL DISTRICT
FRONT YARD: 40 FEET
SIDE YARD: 10 FEET
REAR YARD: 10 FEET
C-3 HEAVY COMMERCIAL DISTRICT
FRONT YARD: 60 FEET
SIDE YARD: 5 FEET
REAR YARD: 5 FEET
- UNIT COUNTS: MR MEDIUM - DENSITY RESIDENTIAL DISTRICT
RESIDENTIAL: 128 APARTMENTS
C-3 HEAVY COMMERCIAL DISTRICT
RESIDENTIAL: 28 APARTMENTS
COMMERCIAL/RETAIL: 44,508 SF ±
- DENSITY: MAX DENSITY: 12 DU/AC
PROPOSED DENSITY: 10.45 DU/AC
- PARKING CALCULATIONS: MR MEDIUM - DENSITY RESIDENTIAL DISTRICT
MULTIFAMILY DWELLINGS: 2 SPACES PER DWELLING UNIT
REQUIRED: 128 UNITS x 2 SPACES = 256 SPACES
REQUIRED: 256 SPACES x 15% = 38.4 = 38 SPACES
REQUIRED: 256 SPACES - 38 SPACES = 218 SPACES
PROVIDED: 240 SPACES
C-3 HEAVY COMMERCIAL DISTRICT
MULTIFAMILY DWELLINGS: 2 SPACES PER DWELLING UNIT
REQUIRED: 28 UNITS x 2 SPACES = 56 SPACES
COMMERCIAL/RETAIL: 1 SPACE PER 200 S.F.
REQUIRED: 44,508 S.F. / 200 S.F. = 222.54 = 223 SPACES
TOTAL REQUIRED: 56 + 223 = 279 SPACES
PROVIDED: 315 SPACES
TOTAL PARKING PROVIDED: 555 SPACES
VAN ACCESSIBLE PARKING SPACES: 18 SPACES
LOADING AREAS: 7
- RECREATION: PERIMETER WALKING PATHS: 1.0 MILE ± TOTAL
- ROAD CLASSIFICATIONS: COASTAL HIGHWAY (SR 1) - MAINTENANCE RD # 14
- PRINCIPAL ARTERIAL (55 M.P.H.)
CAVE NECK ROAD - MAINTENANCE RD # 88
- MAJOR COLLECTOR (50 M.P.H.)
- SURVEY DATUM: NGS MONUMENTS
VERTICAL: NAVD 88 - H29
HORIZONTAL: NAD 83 (2011) - CORS
- MONUMENTATION: 8 FOUND / 2 SET
- SURVEY UNIT: LINEAR: US SURVEY FOOT
ANGULAR: DEGREES MINUTES SECONDS (DMS)
COORDINATE: GROUND
- UTILITIES: WATER: ARTESIAN
SEWER: SUSSEX COUNTY - PENDING APPROVAL
ELECTRIC: DELAWARE ELECTRIC COOP



PROJECT TITLE
**LANDS OF
CHAPPELL
FARM, LLC**

CAVE NECK ROAD
BROADKILL HUNDRED
SUSSEX COUNTY, DE

SHEET TITLE
COVER SHEET



GENERAL NOTES:

- THE BOUNDARY & TOPOGRAPHIC DATA SHOWN HEREON WAS COMPILED FROM A FIELD SURVEY PERFORMED BY BECKER MORGAN GROUP, INC., DOVER, DE, IN JUNE 2018. PROJECT VERTICAL DATUM IS BASED ON NAVD 88 AND PROJECT HORIZONTAL DATUM IS BASED ON DELAWARE STATE PLANE (NAD83), GPS DERIVED FROM N.G.S. CONTROL MONUMENTS.
- THE BOUNDARY LINES PORTRAYED HEREON HAVE BEEN ESTABLISHED BASED SOLELY ON PHYSICAL EVIDENCE DISCOVERED IN THE FIELD IN CONJUNCTION WITH DETERMINATIONS DERIVED FROM SOURCE OF TITLE AND ADJACENT DEED RECORD INFORMATION.
- PROPERTY SHOWN HEREON IS SUBJECT TO ANY RIGHT-OF-WAY, EASEMENTS, RESTRICTIONS, ETC. AS MAY BE SHOWN OR NOTED IN ANY RECORD, PUBLIC OR OTHERWISE, OR ANY REQUIREMENT OR REGULATION OF ANY PUBLIC AGENCY.
- ALL UTILITY LOCATIONS AND SIZES SHOWN HEREON ARE EITHER MARKED LOCATIONS IN THE FIELD, VISIBLE AND FIELD LOCATED STRUCTURES OR TAKEN FROM UTILITY MAPS PROVIDED BY UTILITY PROVIDER. THE CONTRACTOR SHALL CONTACT MISS UTILITY OF DELMARVA (1-800-282-8555) TO VERIFY THEIR EXACT LOCATION PRIOR TO THE START OF ANY CONSTRUCTION. ANY DAMAGE INCURRED TO ANY UTILITIES SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. IF THE CONTRACTOR RELIES ON THE UTILITY LOCATIONS SHOWN HEREON, HE DOES SO AT HIS OWN RISK AND WILL NOT BE ENTITLED TO ADDITIONAL COMPENSATION DUE TO TIME DELAYS FROM SAID RELIANCE.
- SITE IS WITHIN ZONE "X", AREA OF MINIMAL FLOOD HAZARD, PER FEMA PANELS 10005C0188K & 1005C0189K, EFFECTIVE DATE 3/16/2015.
- BECKER MORGAN GROUP CERTIFIES THAT THERE ARE NO FRESH WATER WETLANDS LOCATED WITHIN THE IMPROVED AREA.
- ALL ROADS, PARKING AND OTHER PAVED AREAS WILL BE PRIVATELY OWNED AND MAINTAINED AND ARE NOT INTENDED FOR DEDICATION.
- DELAWARE REGULATIONS PROHIBIT THE BURIAL OF CONSTRUCTION DEMOLITION DEBRIS, INCLUDING TREES AND STUMPS ON CONSTRUCTION SITES. ANY SOLID WASTE FOUND DURING EXCAVATION MUST BE REMOVED AND PROPERLY DISCARDED.
- ALL HANDICAPPED PARKING DEMARCATION, STALLS, AND BUILDING ACCESSIBLE ROUTES SHALL COMPLY WITH THE "AMERICAN WITH DISABILITIES ACT".
- THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENT FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERETO APPURTENANT.
- BEFORE THE CONTRACTOR CAN BEGIN CONSTRUCTION HE MUST OBTAIN THE PROPER PERMITS AND/OR APPROVALS FROM SUSSEX CONSERVATION DISTRICT (S.C.D.), DELAWARE DEPARTMENT OF TRANSPORTATION (DELDOT), SUSSEX COUNTY DEPARTMENT OF PUBLIC WORKS AND APPROPRIATE STATE AND COUNTY AGENCIES.
- ALL CONSTRUCTION METHODS AND MATERIALS SHALL BE ACCORDING TO SUSSEX COUNTY AND THE STATE OF DELAWARE STANDARDS, SUSSEX COUNTY DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION SPECIFICATIONS.

LEGEND					
ITEM	EXISTING	PROPOSED	ITEM	EXISTING	PROPOSED
CONCRETE CURB & GUTTER	[Symbol]	[Symbol]	SANITARY GRAVITY SEWER LINE, SIZE & FLOW DIRECTION	[Symbol]	[Symbol]
CONCRETE SIDEWALK, SLAB / PAVING	[Symbol]	[Symbol]	SANITARY SEWER FORCE MAIN, SIZE & FLOW DIRECTION	[Symbol]	[Symbol]
IMPERVIOUS SURFACED ROAD, DRIVE OR PARKING LOT	[Symbol]	[Symbol]	SANITARY SEWER MANHOLE (S.M.H.)	[Symbol]	[Symbol]
INDIVIDUAL TREE OR BUSH	[Symbol]	[Symbol]	SANITARY SEWER CLEANOUT	[Symbol]	[Symbol]
WIRE FENCE	[Symbol]	[Symbol]	WATER MAIN & SIZE	[Symbol]	[Symbol]
CHAINLINK FENCE	[Symbol]	[Symbol]	FIRE HYDRANT	[Symbol]	[Symbol]
STOCKADE FENCE	[Symbol]	[Symbol]	WATER VALVE (W.V.) OR METER (W.M.)	[Symbol]	[Symbol]
STRUCTURE (CONCRETE, WOOD, METAL, ETC.)	[Symbol]	[Symbol]	STORM DRAIN MANHOLE (S.D.M.H.)	[Symbol]	[Symbol]
DRAINAGE DITCH OR SWALE	[Symbol]	[Symbol]	STORM DRAIN LINE (CMP OR RCP)	[Symbol]	[Symbol]
EMBANKMENT SIDESLOPES (DOWN)	[Symbol]	[Symbol]	CATCH BASIN	[Symbol]	[Symbol]
CONTOUR	[Symbol]	[Symbol]	UTILITY POLE W/ OVERHEAD SERVICE (TELEPHONE OR ELECTRIC OR BOTH)	[Symbol]	[Symbol]
ELEVATION SPOT SHOT	[Symbol]	[Symbol]	UNDERGROUND ELECTRIC	[Symbol]	[Symbol]
BENCH MARK	[Symbol]	[Symbol]	UNDERGROUND TELEPHONE	[Symbol]	[Symbol]
PROPERTY OR RIGHT-OF-WAY LINE	[Symbol]	[Symbol]	UNDERGROUND GAS MAIN	[Symbol]	[Symbol]
CENTRLINE	[Symbol]	[Symbol]	PAVEMENT TO BE REMOVED	[Symbol]	[Symbol]
LIGHT POLE	[Symbol]	[Symbol]			

SURVEY LEGEND		
ITEM	EXISTING	PROPOSED
UNMARKED POINT	[Symbol]	[Symbol]
CONCRETE MONUMENT	[Symbol]	[Symbol]
IRON PIPE	[Symbol]	[Symbol]
IRON PIPE W/ CAP	[Symbol]	[Symbol]
IRON ROD	[Symbol]	[Symbol]
IRON ROD W/ CAP	[Symbol]	[Symbol]
DRILL HOLE	[Symbol]	[Symbol]
STONE	[Symbol]	[Symbol]
AXLE	[Symbol]	[Symbol]

OWNERS CERTIFICATION

WE, CHAPPELL FARM, LLC, HEREBY CERTIFY THAT WE ARE THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BEST KNOWLEDGE AND BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

SIGNATURE: _____ DATE: _____

ENGINEERS CERTIFICATION

I, J. MICHAEL RIEMANN, HEREBY CERTIFY THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BEST KNOWLEDGE AND BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

J. MICHAEL RIEMANN P.E. NO. 13772 DATE: _____

SHEET INDEX

PRELIMINARY SITE PLANS
C-001 COVER SHEET
C-101 EXISTING CONDITIONS / BOUNDARY & TOPOGRAPHIC SURVEY PLAN
C-201 PRELIMINARY SITE PLAN

ISSUE BLOCK

MARK	DATE	DESCRIPTION

PROJECT NO.: 2018053.00

DATE: 04/15/2019

SCALE: 1" = 80'

DRAWN BY: J.M.P. / PROJ. MGR.: J.M.R.
SHEET
C-001
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LANDS N/F
COOPER SALLY N. &
ANN F. REMMEY
2-35-22-00-414.00
DEED BOOK: 4740 PAGE: 0306

LANDS N/F
REVOCABLE TRUST OF
TERRY J. AUGUST & GAYLE T. AUGUST
2-35-22-00-613.00
DEED BOOK: 3564 PAGE: 0070

LANDS N/F
WALTER W. & BETTY ANN REIM
2-35-22-00-612.00
DEED BOOK: 3082 PAGE: 0252

LANDS N/F
MARK R. BOYD & POLLY ANN BOYD
2-35-22-00-611.00
DEED BOOK: 4778 PAGE: 0060

LANDS N/F
JEFFREY S. & DESIREE L. STEIMEL
2-35-22-00-410.00
DEED BOOK: 4853 PAGE: 0348

SUBDIVISION
RED FOX RUN
PLAT BOOK: 75 PAGE: 106

LANDS N/F
ORNA RAE LOWE & SHARON SLATER
2-35-22-00-30.00
DEED BOOK: 2573 PAGE: 0070

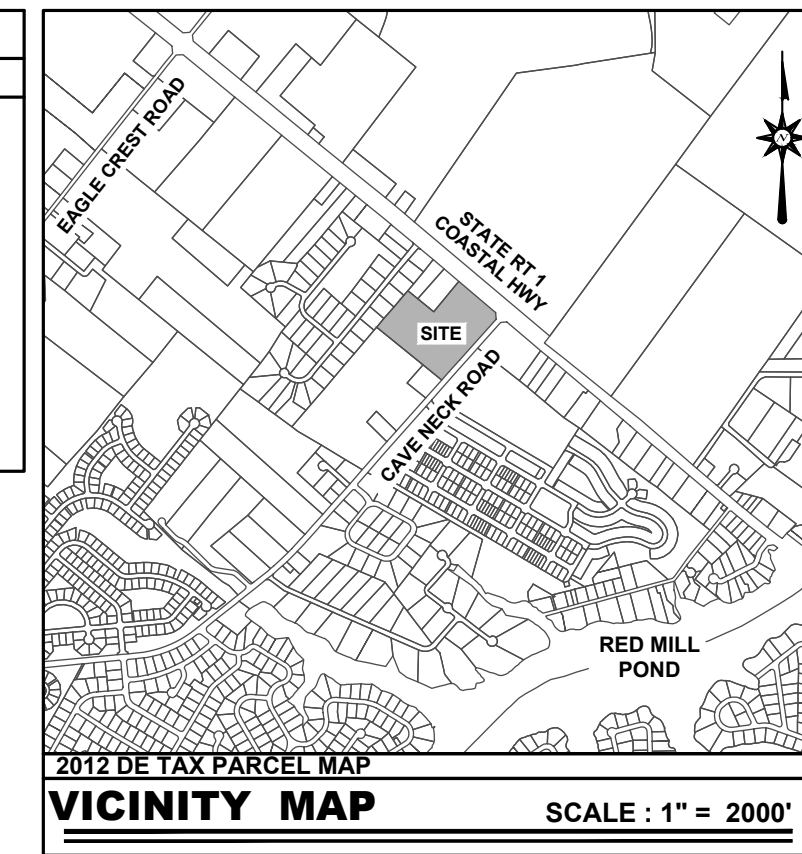
LANDS N/F
ORNA RAE LOWE & SHARON SLATER
2-35-22-00-30.01
DEED BOOK: 2361 PAGE: 0158

LANDS N/F
OCEAN ATLANTIC ASSOCIATES V. LLC
2-35-22-00-971.00
DEED BOOK: 2543 PAGE: 0299

CAVE NECK RD
60 FEET RIGHT OF WAY
SCR 88 - MAJOR COLLECTOR

LANDS N/F
OVERBROOK ACRES LLC
2-35-23-00-1.01
DEED BOOK: 3788 PAGE: 0108

SURVEY LEGEND		
ITEM	EXISTING	PROPOSED
UNMARKED POINT	○	○
CONCRETE MONUMENT	◻	◻
IRON PIPE	⊙	⊙
IRON PIPE W/ CAP	⊕	⊕
IRON ROD	⊙	⊙
IRON ROD W/ CAP	⊕	⊕
DRILL HOLE	⊙	⊙
STONE	⊙	⊙
AXLE	⊕	⊕
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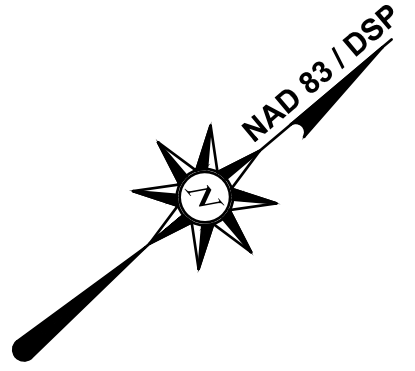
ARCHITECTURE
ENGINEERING

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Dover, DE 19904
Ph. 302.734.7950
Fax 302.734.7965

Salisbury, MD
312 West Main Street, Suite 300
Salisbury, MD 21801
Ph. 410.546.9100
Fax 410.546.5824

Wilmington, NC
3333 Jaeckle Drive, Suite 120
Wilmington, NC 28403
Ph. 910.341.7600
Fax 910.341.7506

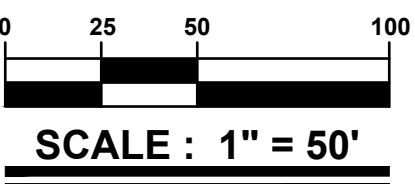
www.beckermorgan.com



PROJECT TITLE
**LANDS OF
CHAPPELL
FARM, LLC**

CAVE NECK ROAD
BROADKILL HUNDRED
SUSSEX COUNTY, DE

SHEET TITLE
**EXISTING
CONDITIONS /
BOUNDARY &
TOPOGRAPHIC
SURVEY PLAN**

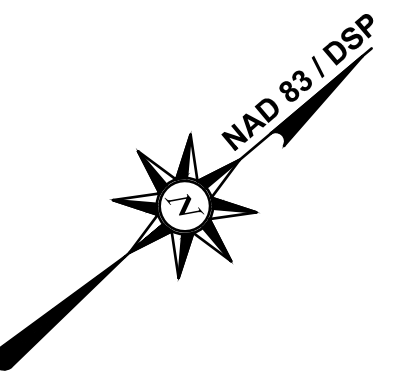


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DATE: 04/15/2019
SCALE: 1" = 50'
DRAWN BY: J.M.P. / PROJ. MGR.: J.M.R.

SHEET
C-101

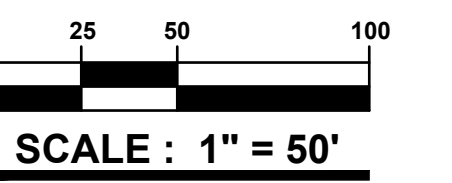
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PROJECT TITLE
**LANDS OF
CHAPPELL
FARM, LLC**

CAVE NECK ROAD
BROADKILL HUNDRED
SUSSEX COUNTY, DE

SHEET TITLE
**PRELIMINARY
SITE PLAN**

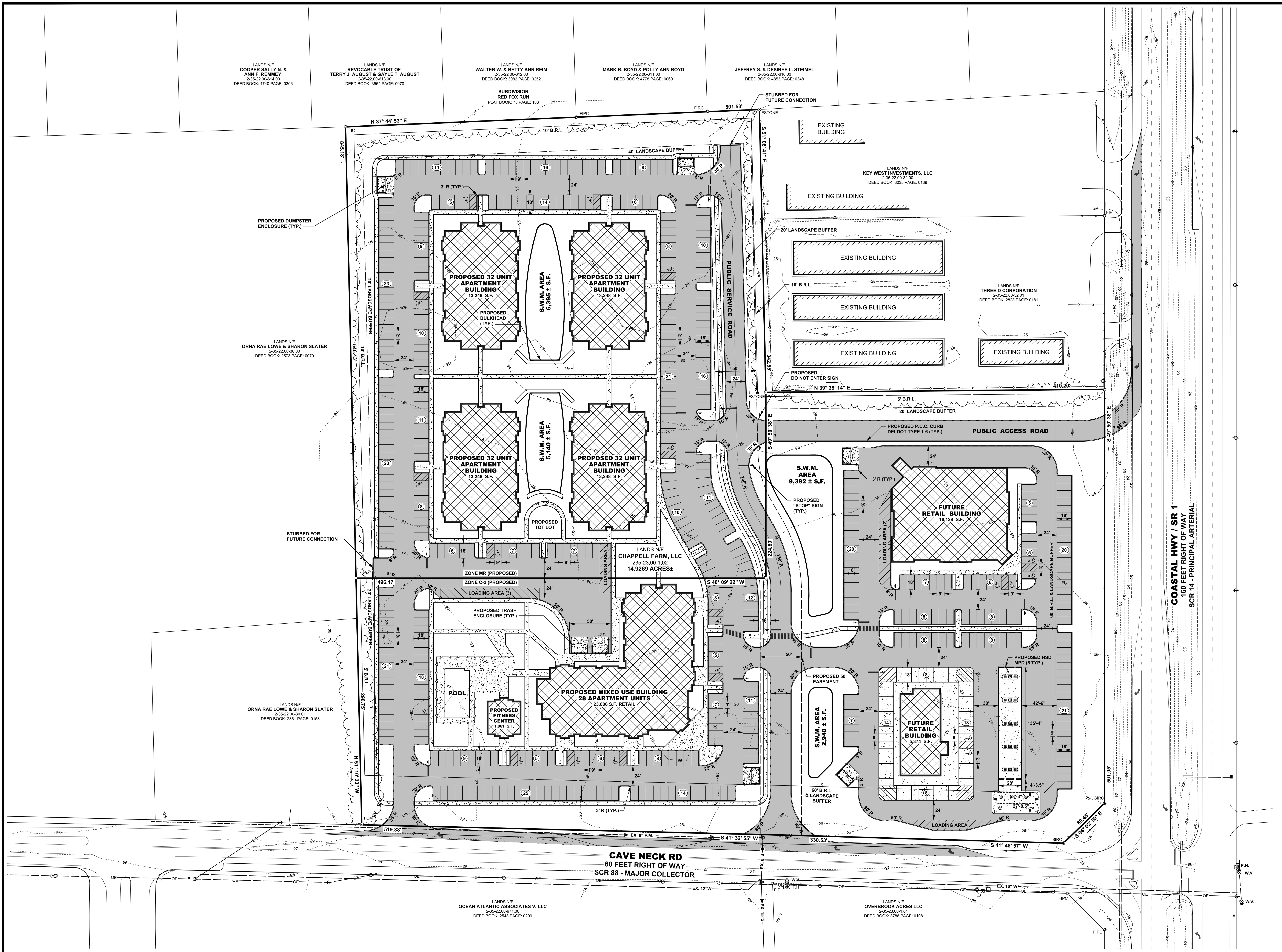


MARK	DATE	DESCRIPTION

PROJECT NO.: 2018053.00
DATE: 04/15/2019
SCALE: 1" = 50'
DRAWN BY: J.M.P. / PROJ. MGR.: J.M.R.

C-201

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COOPER SALLY N. &
ANN F. REMMEY
2-35-22.00-614.00
DEED BOOK: 4740 PAGE: 0306

LANDS N/F
REVOCABLE TRUST OF
TERRY J. AUGUST & GAYLE T. AUGUST
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JEFFREY S. & DESIREE L. STEIMEL
2-35-22.00-610.00
DEED BOOK: 4853 PAGE: 0348

SUBDIVISION
RED FOX RUN
PLAT BOOK: 75 PAGE: 186

LANDS N/F
KEY WEST INVESTMENTS, LLC
2-35-22.00-52.00
DEED BOOK: 3038 PAGE: 0139

LANDS N/F
THREE D CORPORATION
2-35-22.00-32.01
DEED BOOK: 2623 PAGE: 0181

LANDS N/F
ORNA RAE LOWE & SHARON SLATER
2-35-22.00-30.00
DEED BOOK: 2573 PAGE: 0070

LANDS N/F
CHAPPELL FARM, LLC
235-23.00-1.02
14.9269 ACRES±

LANDS N/F
ORNA RAE LOWE & SHARON SLATER
2-35-22.00-30.01
DEED BOOK: 2361 PAGE: 0158

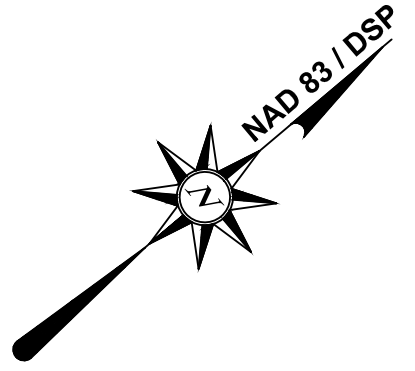
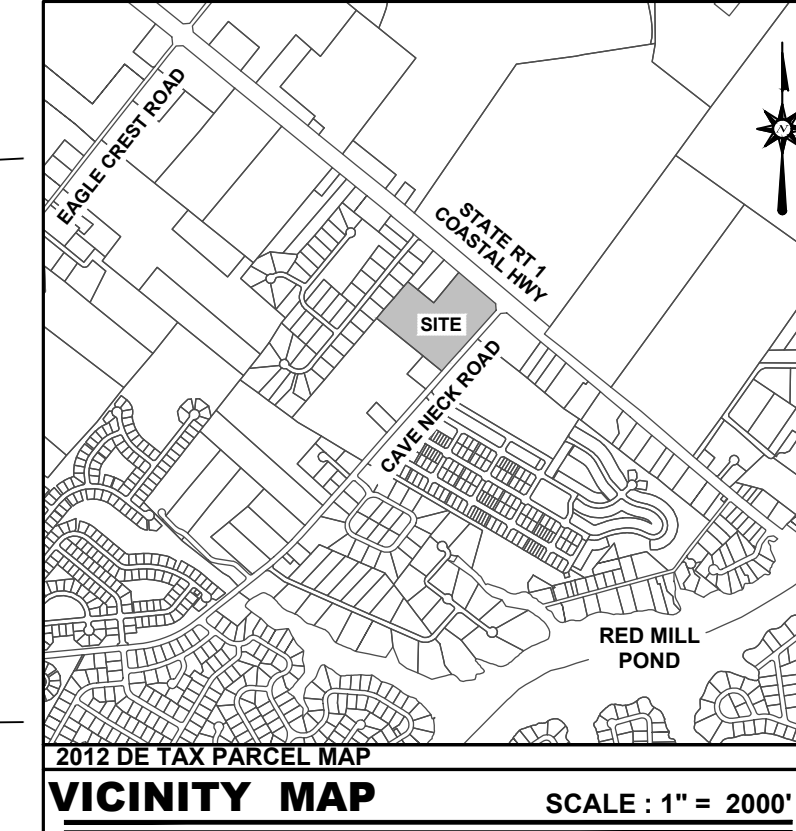
LANDS N/F
OCEAN ATLANTIC ASSOCIATES V. LLC
2-35-23.00-1.01
DEED BOOK: 2543 PAGE: 0299

LANDS N/F
OVERBROOK ACRES LLC
2-35-23.00-1.01
DEED BOOK: 3788 PAGE: 0108

COASTAL HWY / SR 1
160 FEET RIGHT OF WAY
SCR 14 - PRINCIPAL ARTERIAL

CAVE NECK RD
60 FEET RIGHT OF WAY
SCR 88 - MAJOR COLLECTOR

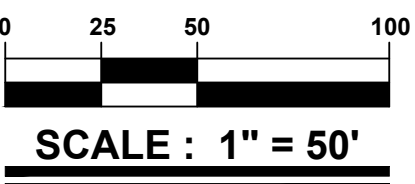
F.H.
w.v.
S.W.



PROJECT TITLE
LANDS OF CHAPPELL FARM, LLC

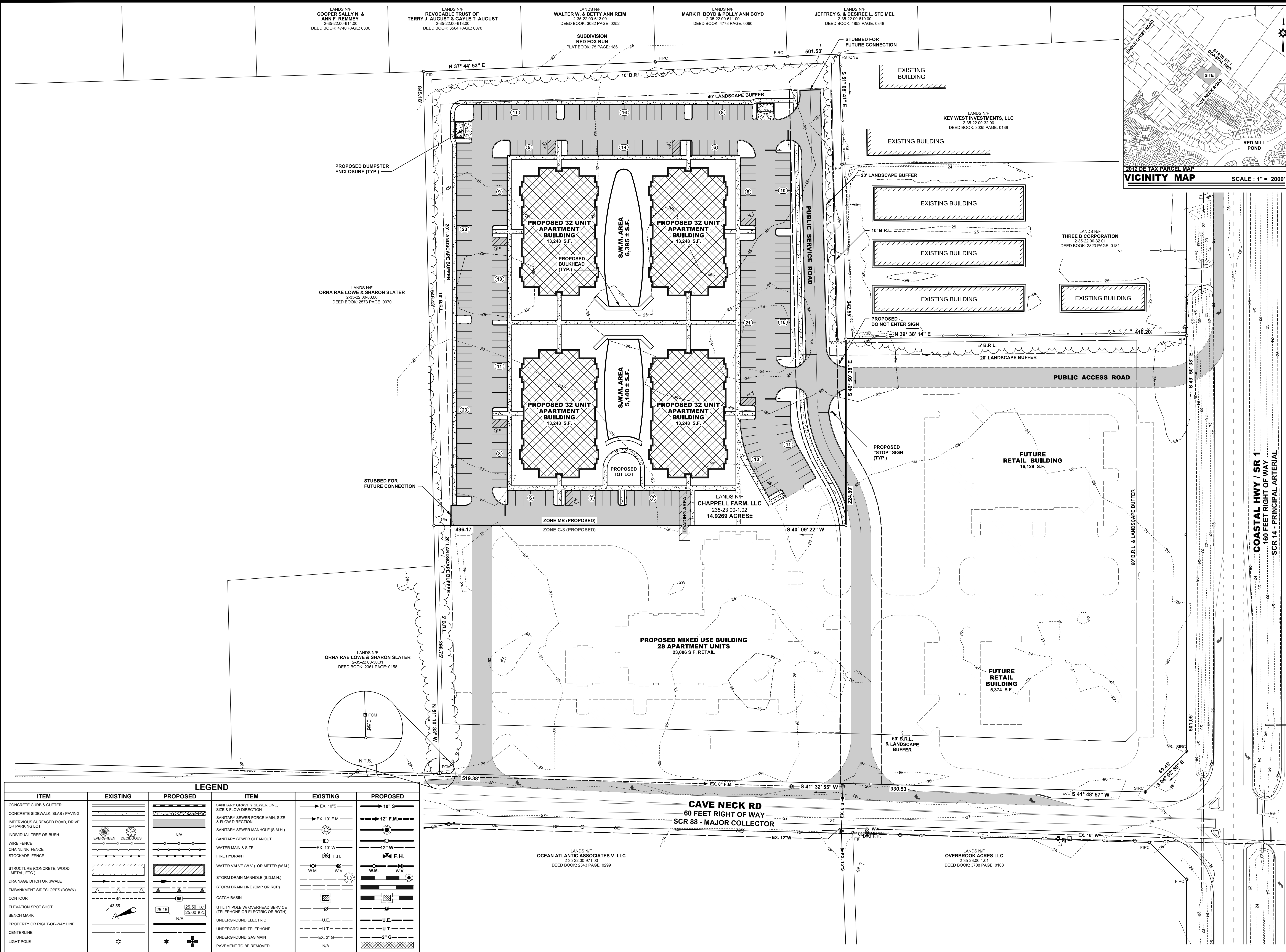
CAVE NECK ROAD
BROADKILL HUNDRED
SUSSEX COUNTY, DE

SHEET TITLE
REZONING & CONDITIONAL USE SITE PLAN



ISSUE BLOCK

MARK	DATE	DESCRIPTION
		LAYER STATE: REZONING & CONDITIONAL USE SITE PLAN
		PROJECT NO.: 2018053.00
		DATE: 04/15/2019
		SCALE: 1" = 50'
		DRAWN BY: J.M.P. PROJ. MGR.: J.M.R.



LEGEND					
ITEM	EXISTING	PROPOSED	ITEM	EXISTING	PROPOSED
CONCRETE CURB & GUTTER			SANITARY GRAVITY SEWER LINE, SIZE & FLOW DIRECTION		
CONCRETE SIDEWALK, SLAB / PAVING			SANITARY SEWER FORCE MAIN, SIZE & FLOW DIRECTION		
PERVIOUS SURFACED ROAD, DRIVE OR PARKING LOT			SANITARY SEWER MANHOLE (S.M.H.)		
INDIVIDUAL TREE OR BUSH			SANITARY SEWER CLEANOUT		
WIRE FENCE			WATER MAIN & SIZE		
CHARLINK FENCE			FIRE HYDRANT		
STOCKADE FENCE			WATER VALVE (W.V.) OR METER (W.M.)		
STRUCTURE (CONCRETE, WOOD, METAL, ETC.)			STORM DRAIN MANHOLE (S.D.M.H.)		
DRAINAGE DITCH OR SWALE			STORM DRAIN LINE (CMP OR RCP)		
EMBANKMENT SIDESLOPES (DOWN)			CATCH BASIN		
CONTOUR			UTILITY POLE W/ OVERHEAD SERVICE (TELEPHONE OR ELECTRIC OR BOTH)		
ELEVATION SPOT SHOT			UNDERGROUND ELECTRIC		
BENCHMARK			UNDERGROUND TELEPHONE		
PROPERTY OR RIGHT-OF-WAY LINE			UNDERGROUND GAS MAIN		
CENTERLINE			PAVEMENT TO BE REMOVED		
LIGHT POLE					

**APPLICATION FOR REZONING & CONDITIONAL USE
C/Z 1891 C/U 2193
CHAPPELL FARM, LLC**

January 2021



PREPARED BY:

**BECKER MORGAN GROUP, INC.
309 S. GOVERNORS AVE.
DOVER, DE 19904**

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1.0 Project Overview – (Rezoning / CU – Chappell Farm, LLC)

1.1 Executive Summary

The subject property is located on State Route 1 – Coastal Highway on the northwest corner of the intersection of Cave Neck Road in Sussex County Delaware. The existing zoning is AR-1, the proposed zoning is C-3 (Heavy Commercial) and MR (Medium Density Residential) per Sussex County Ordinance No. 2550. The site is located within the Investment Level 3 & 4 areas, per the 2015 Delaware Strategies for State Policies and Spending. The 14.926 acre site is located within a Coastal Area according to the Sussex County Comprehensive Plan for 2019 Future Land Use. This area has been designated as a growth zone. The proposed zoning will allow a wide range of opportunity to develop the site, while maintaining the existing character of the area.

The site fronts on Cave Neck Road to the south, and on Coastal Highway – S.R. 1 to the east. The site currently operates as a farmer’s market with produce, flowers, antiques, and sheds. The southern portion of the property adjoins lands currently owned by Orna Rae Lowe & Sharon L. Slater, currently undeveloped woodlands, and residential building. The western portion of the property adjoins lands currently owned by Terry J. August & Gayle T. August, currently a residential building, Walter W. & Betty Ann Reim, currently a residential building, Mark R. Boyd & Polly Ann Boyd, currently a residential building, Jeffrey S. & Desiree L. Steimel currently a residential building and Key West Investments LLC, currently self-storage units. Adjoining properties are zoned AR-1, MR and C-1. In the vicinity of the property to the north, east, south and west are a mix of single lot residential homes, multifamily dwellings, agriculture lands, woodlands subdivisions, and retail commercial. The site itself is currently a farmer’s market and cultivated farmlands.

The site can be served by Artesian Resources for water and the Sussex County Sewer District is adjacent to the site for sewer. Fire protection service can be also be provided by Artesian. Sussex County Public Works has plans to construct sanitary sewer infrastructure within the area of the subject property. The sanitary sewer connection will be connected via Cave Neck Road. The facility would be owned by Sussex County Public Works.

The proposed uses will be a mixture of commercial and residential, with convenience store of 5,374 with fuel sales, and pharmacy/retail of 16,128 square feet being located along the SR-1 frontage, and a mixed-use commercial/residential building located along the Cave Neck Road frontage. Four apartment buildings housing 32 units each totaling an area of 13,248 square foot. Another 28 apartment units with commercial space on the first floor totaling 23,006 square feet with a community pool and fitness building. All residential units will be apartments.

The applicant intends to continue working with DelDOT as they implement the grade separated interchange at the Cave Neck Road and SR-1 intersection. The new DelDOT interchange will incorporate a roundabout at the entrance of the subject property, and a

service road to serve the existing Red Fox Run subdivision. The existing right in – right out access on SR-1 for Red Fox Run will be eliminated in lieu of a cul-de-sac.

In summary, the proposed site has the opportunity to become an anchor to serve both residential and commercial areas that surround the site. With superior land planning this site will provide close proximity to the towns of Milton Lewes and the Route 1 corridor featuring excellent architectural design, providing additional options, resources and access.

The applicant has done considerable community outreach on the proposed uses. Through a series of townhall style meetings, the applicant has consistently presented design concepts and solicited feedback from the neighboring property owners, local businesses, and other stakeholders in the community. The applicant has consistently refined the proposed plan from the feedback given throughout the community outreach process. The application and its proposed uses and site plan are the result of this community outreach work over the past 3 years.

1.2 Project Team – (Rezoning / CU – Chappell Farm, LLC)

Applicant / Developer:

Chappell Farm, LLC

Contact: Christian Hudson
Jamin Hudson
30045 Eagle Crest Road
Unit 2
Milton, DE 19968
Telephone: (302) 645-9464
e-mail: christian@hudmgt.com
e-mail: jaminhudson@hudmgt.com

Attorney:

Baird, Mandalas, Brockstedt LLC

Contact: John W. Paradee, Esq.
6 South State Street
Dover, DE 19901
Telephone: (302) 677-0061
Fax: (302) 677-0065
e-mail: john@bmbde.com

Architect /
Civil Engineer /
Surveyor:

Becker Morgan Group

Contact: J. Michael Riemann, P.E.
309 South Governors Avenue
Dover, DE 19904
J. Michael Riemann, P.E.
Telephone: (302) 734-7950
Fax: (302) 734-7965
e-mail: mriemann@beckermogan.com

1.3 Project Data – (Rezoning / CU – Chappell Farm, LLC)

Total Site Area: 14.9269 +/- Acres
Current Zoning District: AR-1 (Agricultural)
Proposed Zoning: MR (Medium – Density Residential)
C-3 (Heavy Commercial)
Proposed Use: Commercial / Retail / Residential
Tax Parcel: 235-23.00-1.02

Woodlands: Existing: 0.867 +/- Acres
To Remain: 0.00 +/- Acres

Setbacks: **MR – Medium Residential**

Front: 40 ft
Side: 10 ft
Rear: 10 ft

C-3 – Heavy Commercial

Front: 60 ft
Side: 5 ft
Rear: 5ft

Unit Areas: **MR – Medium Residential**

Apartments: 128 Units
13,248 SF per Apartment Building

C-3 – Heavy Commercial

Commercial: 44,508 SF
Apartments: 28 Units

Parking: **MR – Medium Residential**

Multifamily Dwellings: 2 Spaces per Dwelling Unit
Required: 128 Units x 2 Spaces = 256 Spaces
Required: 256 Spaces x 15% = 38.4 = 38 Spaces
Required 256 Spaces – 38 Spaces = 218 Spaces

C-3 – Heavy Commercial

Multifamily Dwellings: 2 spaces per dwelling unit
Required: 28 Units x 2 Spaces = 56 Spaces

Commercial/Retail: 1 Space per 200 S.F.
Required: 44508 S.F. / 200 S.F. = 222.54 = 223 Spaces
Total Required: 56 + 223 = 279 Spaces
Provided: 315 Spaces

Total Parking Provided: 555 Spaces
Van Accessible Parking Spaces: 18 Spaces
Loading Areas: 7

Maximum Density: 12 DU / Acre
Proposed Density: 10.5 DU/Acre

Maximum Building Height: MR 42 ft
C-3 42 ft

Utilities:

Sewer: Sussex County (Pending Approval)
Water: Artesian
Electric: Delaware Electric Coop
Telephone: Verizon

Access roads: Coastal Hwy – State Route 1 – (Other Principal Arterials)
Cave Neck Road – (Major Collector)

Floodplain: Zone X (100 year floodplain) are within the subject site.

1.4 Existing Conditions – (Rezoning / CU – Chappell Farm, LLC)

Boundary Survey:

A boundary survey of the proposed site (Tax Map 235-23.00-1.02) was surveyed by Becker Morgan Group per plan dated July 3, 2018. The total area of the site is 14.9269 acres.

A copy of the boundary and topographic survey is provided.

Overview of Current Site Conditions:

The subject property currently consists existing buildings with sheds, gravel driveways, and barns, with the remaining area cultivated farmlands and woodlands associated with the existing commercial use. An existing conditional use exists for the property which allows the property to be used for commercial sales of sheds, lawn furniture, BBQ, and farmer's market. A copy of the aerial photograph taken from Delaware DEMAC 2017 has been provided. See attached Conditional Use #2158 (Letter: 3.1)

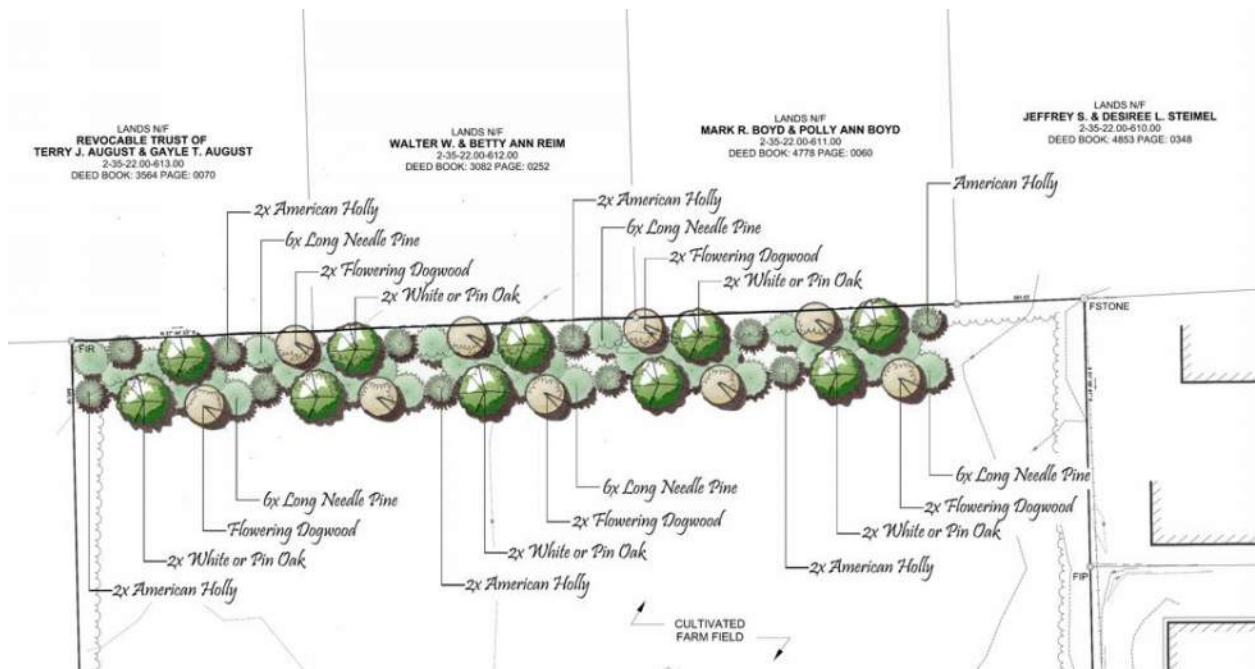
The existing topography indicates that the site is relatively level. Overall existing drainage of the site indicates that the majority of the runoff flows towards a low spot in the northern portion of the site with the remaining runoff towards a drainage swale that drains north along Coastal Highway (State Route 1) and then discharges to Fisher Creek. The greatest overall elevation change on the site is about 5 feet.

The USDA Soil Survey of Sussex County, Delaware shows the site to be (42.4%) of Hammonton Loamy Sand - 2 to 5 percent slopes, (42.0%) Runclint Loamy Sand – 0 to 2 percent slopes, (15.5%) Ingleside Loamy Sand – 0 to 2 percent slopes and (0.1%) Greenwich Loam – 0 to 2 percent slopes. A copy of the USDA soil survey has been provided.

1.5 Landscaping and Screening (Rezoning / CU – Chappell Farm, LLC)

Landscaping will be provided throughout the site as required by the Sussex County code. Various shade trees will be provided throughout the site to provide shade as is required by the Sussex County code. These trees shall be 1 ½” caliper, 5’-0” height with shrubs at 5 gallon minimum in accordance with County requirements. Trees and shrubs should be 3’ minimum from back of curb.

Through discussions with neighboring property owners within Red Fox Run subdivision, an expanded vegetative buffer is being provided along the associated property line. This vegetative buffer will be 40’ in depth, with varying native landscape stock. The landscaping will be a mixture of evergreen, canopy, and flowering trees. Additionally, the applicant will provide a privacy fence along this property line to further enhance the screening between properties.



1.6 Stormwater Management Regulations– (Rezoning / CU – Chappell Farm, LLC)

A detailed plan review is required through Sussex Conservation District and will include review of stormwater management, drainage, and erosion and sediment control.

The site currently drains towards the north along open drainage following SR-1. The drainage crosses SR-1 into Fisher Creek to the east and discharged into Old Mill Creek to Broadkill River which is part of Red Mill Creek Watershed within the Delaware Bay.

This project will meet the current stormwater rules and regulations regarding stormwater management. We intend to utilize structural facilities such as bio-retention, gravel wetlands, and other best management practices to manage stormwater management prior to discharge off-site.

1.7 Coastal Area Report

2a: Proposed drainage design and the effect on stormwater quality and quantity leaving the site, including methods for reducing the amount of phosphorous and nitrogen

Response: *All drainage will be treated on site in accordance with DNREC rules and regulations. Based on existing conditions, we anticipate a combination of surface stormwater management features consisting of we ponds, bi-retention facilities and submerged gravel wetlands. Infiltration stormwater management practices remove 100% of the nitrogen and phosphorous loads according to current DNREC specifications.*

2b: Proposed method of providing potable and, where appropriate, irrigation water and the effect on public or private water systems and groundwater, including an estimate of average and peak demands.

Response: *Artesian Resources will be used to services subject site via public water connection.*

2c: Proposed means of wastewater treatment and disposal with an analysis of the effect on the quality of groundwater and surface waters, including alternative locations for on-site septic systems.

Response: *Sussex County Unified Sanitary Sewer District will used to service the subject site for offsite discharge of sanitary sewer system.*

2d: Analysis of the increase in traffic and the effect on the surrounding roadway system.

Response: *The proposed development at Chappell Farm will add traffic to the surrounding roadway network. The project was subject to a Traffic Impact Study (TIS) that was reviewed and approved by DelDOT in December 2020. In their review, DelDOT recommended that, in addition to constructing appropriate access improvements to the site, that the project should make monetary contributions to several DelDOT capital program improvement projects aimed at addressing traffic operational issues in the immediate area. A proposed grade separated interchange will help mitigate those issues.*

2e: The presence of any endangered or threatened species listed on federal or state registers and proposed habitat protection areas.

Response: *The site is currently utilized as agricultural lands with limited commercial retail and there is no known presence of endangered or threatened species.*

2f: The preservation and protection from loss of any tidal or nontidal wetlands on the site.

Response: *No wetlands are within subject site.*

2g: Provisions for open space.

Response: *There will be open areas to include buffers and stormwater.*

2h: A description of provisions for public and private infrastructure.

Response: *Infrastructure required to serve the project such as water, sewer, and entrance improvements will be privately funded. Public funding is not anticipated for this project.*

2i: Economic, recreational, or other benefits.

Response: *Commercial businesses including the retail pad sites and boutique style shops within the mixed use buildings will provide employment opportunities for local residents. This project will also provide job opportunities for local construction workers.*

2j: The presence of any historic or cultural resources that are listed on the National Register of Historic Places.

Response: *No known resources are located on the property.*

2k: An affirmation that the proposed application and proposed mitigation measures are in conformance with the current Sussex County Comprehensive Plan.

Response: *Subject parcel will conform with current Sussex County regulations.*

2l: Actions to be taken by the applicant to mitigate the detrimental impacts identified relevant to Subsection B(2)(a) through (k) above and the manner by which they are consistent with the Comprehensive Plan.

Response: *The proposed project is in conformance with the Sussex County Comprehensive Plan. As indicated above, this project will privately fund any and all infrastructure improvements necessary to serve the project as well as meet all Sussex County and state regulations required. In addition, this project will*

contribute to numerous DelDOT projects intended to mitigate traffic in the surrounding area in accordance with the approved traffic study. Lastly, we have worked closely with the community to mitigate their concerns

1.8 Rezoning of the Subject Site – (Rezoning / CU – Chappell Farm, LLC)

The intent of this application is to amend the Sussex County Comprehensive Zoning Map from AR-1 Agricultural Residential District to a MR Medium Residential & C-3 Heavy Commercial District for the subject property containing 14.93 acres. It will also be the intent of the developer to provide an aesthetically pleasing site with amenities for its users, while keeping it environmentally friendly and preserving as much of the natural land as possible. The developer intends to not only comply with state and county standards but exceed these standards with excellent planning and design.

The properties surrounding the subject property are consistent with the proposed zoning. The existing properties are zoned a mixture of C-1 & B-2 along SR-1, consistent with the Comprehensive Plan of commercial use along the SR-1 frontage. The majority of the remaining surrounding properties are zoned MR – Medium Residential, consistent with the proposed zoning.

Per the 2018 Comprehensive Plan, the subject property is within the Coast Area, defined as a growth zone. This region is among the most desirable locations in Sussex County for new housing, as is reflected in new construction data and real estate prices. Coastal Areas are areas that can accommodate development provided special environmental concerns are addressed. A range of housing types should be permitted in Coastal Areas, including single-family homes, townhouses, and multi-family units. Appropriate mixed-use development should also be allowed. In doing so, careful mixtures of homes with light commercial, office and institutional uses can be appropriate to provide for convenient services and to allow people to work close to home. This application proposes rezoning to MR & C-3, both of which are applicable zoning districts within the Coastal Area. Additionally, the proposed commercial, mixed-use, and residential uses match the goals and objectives of the Comp Plan.

1.9 Proposed Finding of Facts – (Rezoning / CU – Chappell Farm, LLC)

1. This is an application to amend the comprehensive zoning map from AR-1 (Agricultural Residential) to C-3 (Heavy Commercial) with an area of 8.54 acres and MR (Medium Density Residential) with an area of 6.39 totaling for 14.93 acres, more or less, in Broadkill Hundred located at the northwest corner of Delaware Route 1 (Coastal Highway) and Sussex County Road 88 (Cave Neck Road).
2. The subject property is a parcel owned by Chappell Farm, LLC. The applicant is Chappell Farm, LLC, a Delaware limited liability company.
3. The subject property is located on Route 1 which is classified by DelDOT as a major arterial road. Based upon its review, DelDOT has approved a TIS. A copy of the TIS approval letter has been attached to this booklet. The applicant will comply with the provisions of the TIS.
4. The proposed site for the Chappell Farm project is located in an area of existing communities that have formed from surrounding subdivisions. The site currently operates as a farmer's market.
5. In the 2018 Sussex County Comprehensive Plan, the area for the proposed commercial project is identified for the purposes for future land use as Coastal Area.
6. In the 2018 Plan, the area is designated as a Coastal Area and C-3 Heavy Commercial and MR Medium Density Residential are applicable districts for future land use.
7. The State Strategies for Policies and Spending identify the area as Investment Levels 3 & 4. Level 3 Areas are in longer-term growth plans, and/or areas within growth areas that have some environmental constraints. Although growth is planned here, infrastructure and other investments may be made further into the future. Level 4 areas are predominantly agricultural. However, with the planned grade separated interchange this area is an appropriate location for certain uses not appropriate for other Level 4 locations.
8. The applicant proposes to use the site for a mixed-use commercial and residential development. The proposed project consistent with the character of the area.
9. The application specifically meets the purpose of the C-3 Heavy Commercial District by providing a site for commercial and service activities along a major arterial highway.
10. This proposed commercial area lessens congestion on roads and streets by providing commercial activities at the Coastal Highway – Cave Neck Road interchange so that residents and visitors to the area may have their commercial needs met without the necessity of deviating from their travel plans.

11. The proposed commercial project will be served with central water by Artesian Resources, Inc., the holder for the Certificate of Public Convenience and Necessity for the area.
12. The present site plan provides for wastewater treatment to be provided the Sussex County Unified Sanitary Sewer District, operated and maintained by the Sussex County Engineering Department.
13. The proposed commercial use meets the general purpose of the Zoning Ordinance by promoting the orderly growth, convenience, order, prosperity, and welfare of the County.

1.10 Proposed Conditions – (Rezoning / CU – Chappell Farm, LLC)

1. The final site plan shall be subject to review and approval by the Sussex County Planning and Zoning Commission.
2. All highway and entrance improvements as required by DelDOT, shall be completed by the applicant.
3. Fuel and petroleum products shall be stored and dispensed as required by DNREC and the Office of the State Fire Marshal.
4. All security lighting shall be screened away from Neighboring properties and county Roads.
5. The applicant shall comply with all other statutes, laws ordinance, rules or regulations of any federal, state, county or other governmental entity having subject matter jurisdiction over the proposed use of the premises.

Planning & Zoning Commission Application

Sussex County, Delaware

Sussex County Planning & Zoning Department
2 The Circle (P.O. Box 417) Georgetown, DE 19947
302-855-7878 ph. 302-854-5079 fax

Type of Application: (please check applicable)Conditional Use Zoning Map Amendment **Site Address of Conditional Use/Zoning Map Amendment**

30511 Cave Neck Road, Milton, DE 19968

Type of Conditional Use Requested:

MR Medium - Density Residential District: Multifamily dwelling structures

Tax Map #: 235-23.00-1.02 **Size of Parcel(s):** 14.9269 +/- Acres

Current Zoning: AR-1 **Proposed Zoning:** MR/C-3 **Size of Building:** N/A

Land Use Classification: Cultivated Farm Field/Woods/Commercial & Retail

Water Provider: On - Site **Sewer Provider:** On - Site

Applicant InformationApplicant Name: Becker Morgan Group, Inc.Applicant Address: 309 South Governors AvenueCity: Dover State: DE Zip Code: 19904Phone #: (302) 734-7950 E-mail: jpennington@beckermorgan.com**Owner Information**Owner Name: Chappell Farm, LLCOwner Address: 30045 Eagles Crest Road, Unit 2City: Milton State: DE Zip Code: 19968Phone #: (302) 542-1422 E-mail: christian@hudmgt.com**Agent/Attorney/Engineer Information**Agent/Attorney/Engineer Name: J. Michael RiemannAgent/Attorney/Engineer Address: 309 South Governors AvenueCity: Dover State: DE Zip Code: 19904Phone #: (302) 734-7950 E-mail: mriemann@beckermorgan.com

Check List for Sussex County Planning & Zoning Applications

The following shall be submitted with the application

Completed Application

Provide eight (8) copies of the Site Plan or Survey of the property

- Survey shall show the location of existing or proposed building(s), building setbacks, parking area, proposed entrance location, etc.
- Provide a PDF of Plans (may be e-mailed to a staff member)
- Deed or Legal description

Provide Fee \$500.00

Optional - Additional information for the Commission/Council to consider (ex. architectural elevations, photos, exhibit books, etc.) If provided submit 8 copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.

Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.

DeIDOT Service Level Evaluation Request Response

PLUS Response Letter (if required)

The undersigned hereby certifies that the forms, exhibits, and statements contained in any papers or plans submitted as a part of this application are true and correct.

I also certify that I or an agent on my behalf shall attend all public hearing before the Planning and Zoning Commission and the Sussex County Council and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future needs, the health, safety, morals, convenience, order, prosperity, and general welfare of the inhabitants of Sussex County, Delaware.

Signature of Applicant/Agent/Attorney

Date: 6/18/19

Signature of Owner

Date: 6/18/19

For office use only:

Date Submitted: _____

Fee: \$500.00 Check #: _____

Staff accepting application: _____

Application & Case #: _____

Location of property: _____

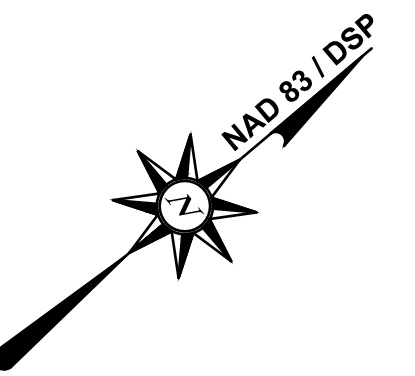
Subdivision: _____

Date of PC Hearing: _____

Recommendation of PC Commission: _____

Date of CC Hearing: _____

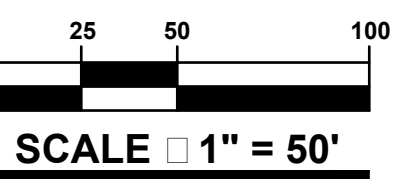
Decision of CC: _____



PROJECT TITLE
**LANDS OF
CHAPPELL
FARM, LLC**

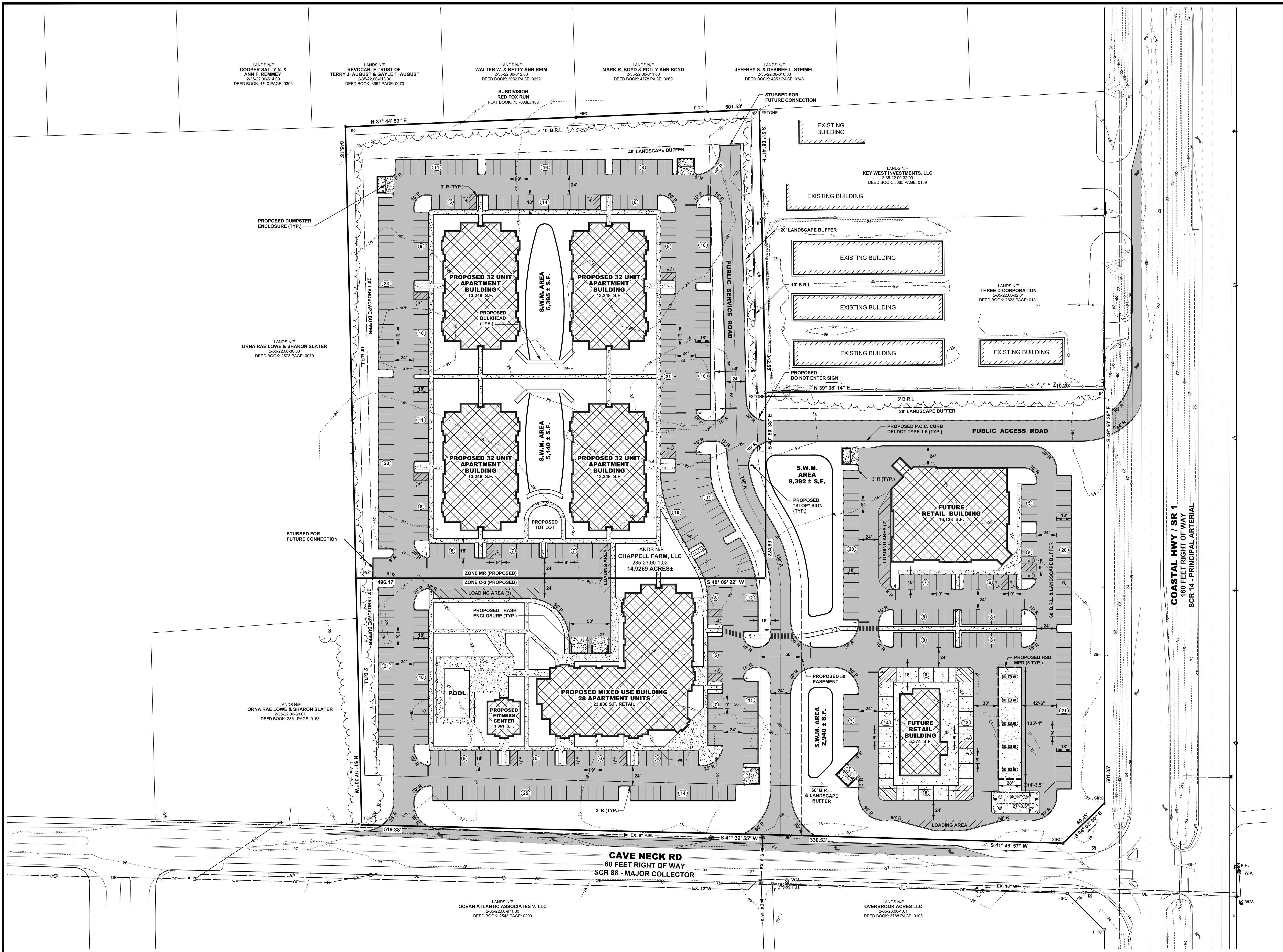
CAVE NECK ROAD
BROADKILL HUNDRED
SUSSEX COUNTY, DE

SHEET TITLE
 RELIMINARY
 SITE LAN



MARK	DATE	DESCRIPTION
RO <td>ECT NO.</td> <td>2018053.00</td>	ECT NO.	2018053.00
DATE		0 / 15 / 201
SCALE		1" = 50'
DRAWN BY:	M.M.	PROJ. MGR.: M.R.
SHEET		

C-201
COPYRIGHT 2018



LANDS N/F
COOPER SALLY N. &
ANN F. REMMEY
2-35-22.00-614.00
DEED BOOK: 4740 PAGE: 0306

LANDS N/F
REVOCABLE TRUST OF
TERRY J. AUGUST & GAYLE T. AUGUST
2-35-22.00-613.00
DEED BOOK: 3564 PAGE: 0070

LANDS N/F
WALTER W. & BETTY ANN REIM
2-35-22.00-612.00
DEED BOOK: 3082 PAGE: 0252

LANDS N/F
MARK R. BOYD & POLLY ANN BOYD
2-35-22.00-611.00
DEED BOOK: 4778 PAGE: 0060

LANDS N/F
JEFFREY S. & DESIREE L. STEIMEL
2-35-22.00-610.00
DEED BOOK: 4853 PAGE: 0348

SUBDIVISION
RED FOX RUN
PLAT BOOK: 75 PAGE: 186

LANDS N/F
KEY WEST INVESTMENTS, LLC
2-35-22.00-52.00
DEED BOOK: 3038 PAGE: 0139

LANDS N/F
THREE D CORPORATION
2-35-22.00-32.01
DEED BOOK: 2623 PAGE: 0181

LANDS N/F
ORNA RAE LOWE & SHARON SLATER
2-35-22.00-30.00
DEED BOOK: 2573 PAGE: 0070

LANDS N/F
ORNA RAE LOWE & SHARON SLATER
2-35-22.00-30.01
DEED BOOK: 2361 PAGE: 0158

LANDS N/F
CHAPPELL FARM, LLC
235-23.00-1.02
14.9269 ACRES±

LANDS N/F
OCEAN ATLANTIC ASSOCIATES V. LLC
2-35-23.00-1.01
DEED BOOK: 2543 PAGE: 0299

LANDS N/F
OVERBROOK ACRES LLC
2-35-23.00-1.01
DEED BOOK: 3788 PAGE: 0108

DELDOT SITE PLAN



New Roundabout

New Connector Road

Cul-de-sac

Extend Cave Neck Road Over SR1



LAYER STATE: 2.3 AERIAL-MAP-500

AERIAL MA - SITE LOCATION
CHAPPELL FARM
CONCEPT

RT 1 / CAVE NECK ROAD
SUSSEX COUNTY / DELAWARE

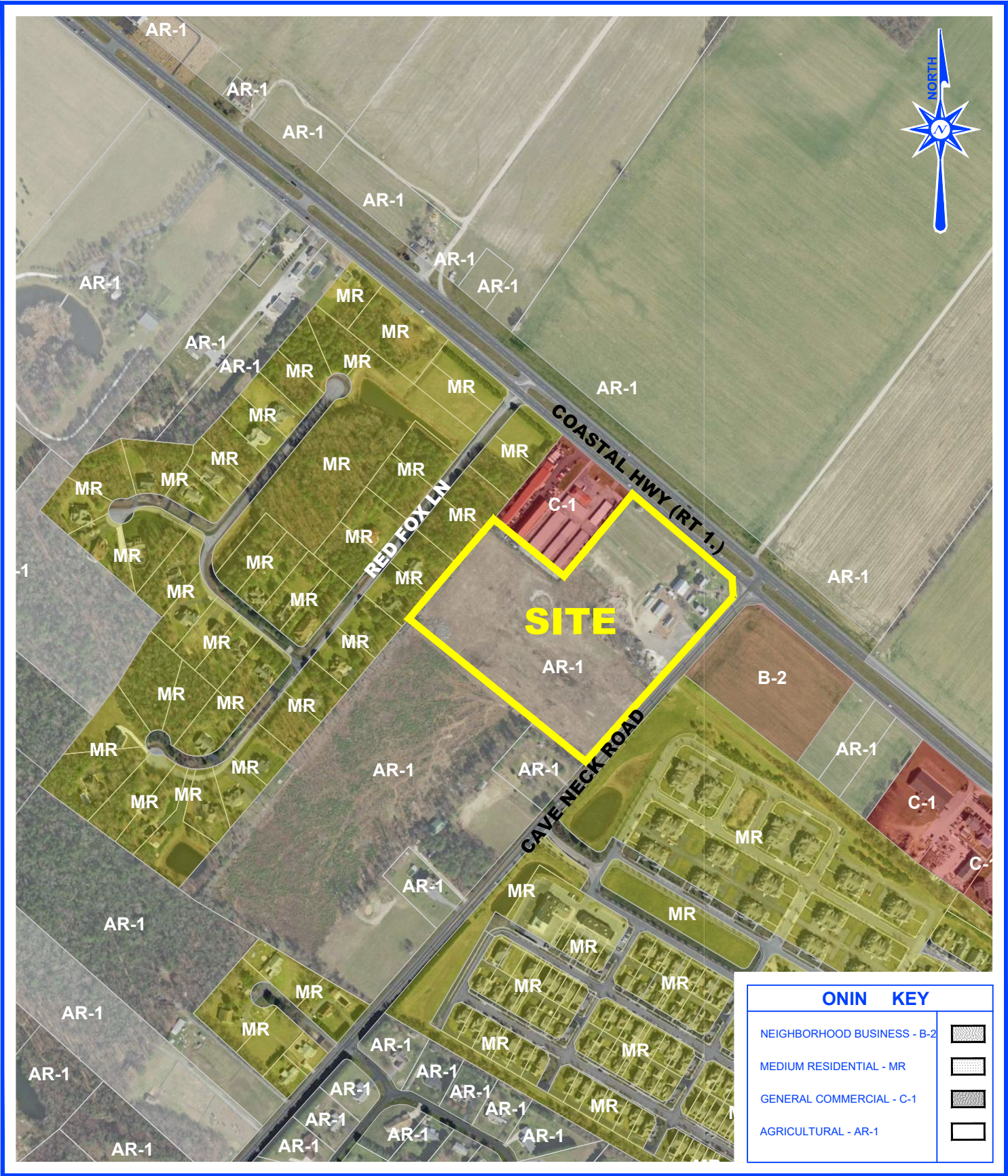
BECKER
MORGAN
GROUP

ARCHITECTURE
ENGINEERING
Dover, DE

309 S. Governors Ave.
Dover, DE 19904
Ph. 302.734.7950
Fax 302.734.7965

BMG: 2018053.00
SCALE: 1" = 500'
DATE: 03.23.2020
DRAWN BY: A.C.F

AERIAL



ONIN KEY	
NEIGHBORHOOD BUSINESS - B-2	
MEDIUM RESIDENTIAL - MR	
GENERAL COMMERCIAL - C-1	
AGRICULTURAL - AR-1	

LAYER STATE: 2.4 ONING-MAP-500

SUSSEX COUNTY ONIN - SITE LOCATION
CHAPPELL FARM CONCEPT
 RT 1 / CAVE NECK ROAD
 SUSSEX COUNTY / DELAWARE

BECKER MORGAN GROUP

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 ENGINEERING
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 Dover, DE 19904
 Ph. 302.734.7950
 Fax 302.734.7965

BMG: **2018053.00**
 SCALE: **1" = 500'**
 DATE: **03.23.2020**
 DRAWN BY: **A.C.F**
ONIN



EXISTIN LAND USE KEY	
COMMERCIAL USE	
SINGLE FAMILY DWELLINGS	
AGRICULTURAL & UNDEVELOPED LANDS	

LAYER STATE: 2.5 E ISTING LAND USE-500

EXISTIN LAND USE - SITE LOCATION
CHAPPELL FARM
CONCEPT
 RT 1 / CAVE NECK ROAD
 SUSSEX COUNTY / DELAWARE

BECKER
MORGAN
 GROUP

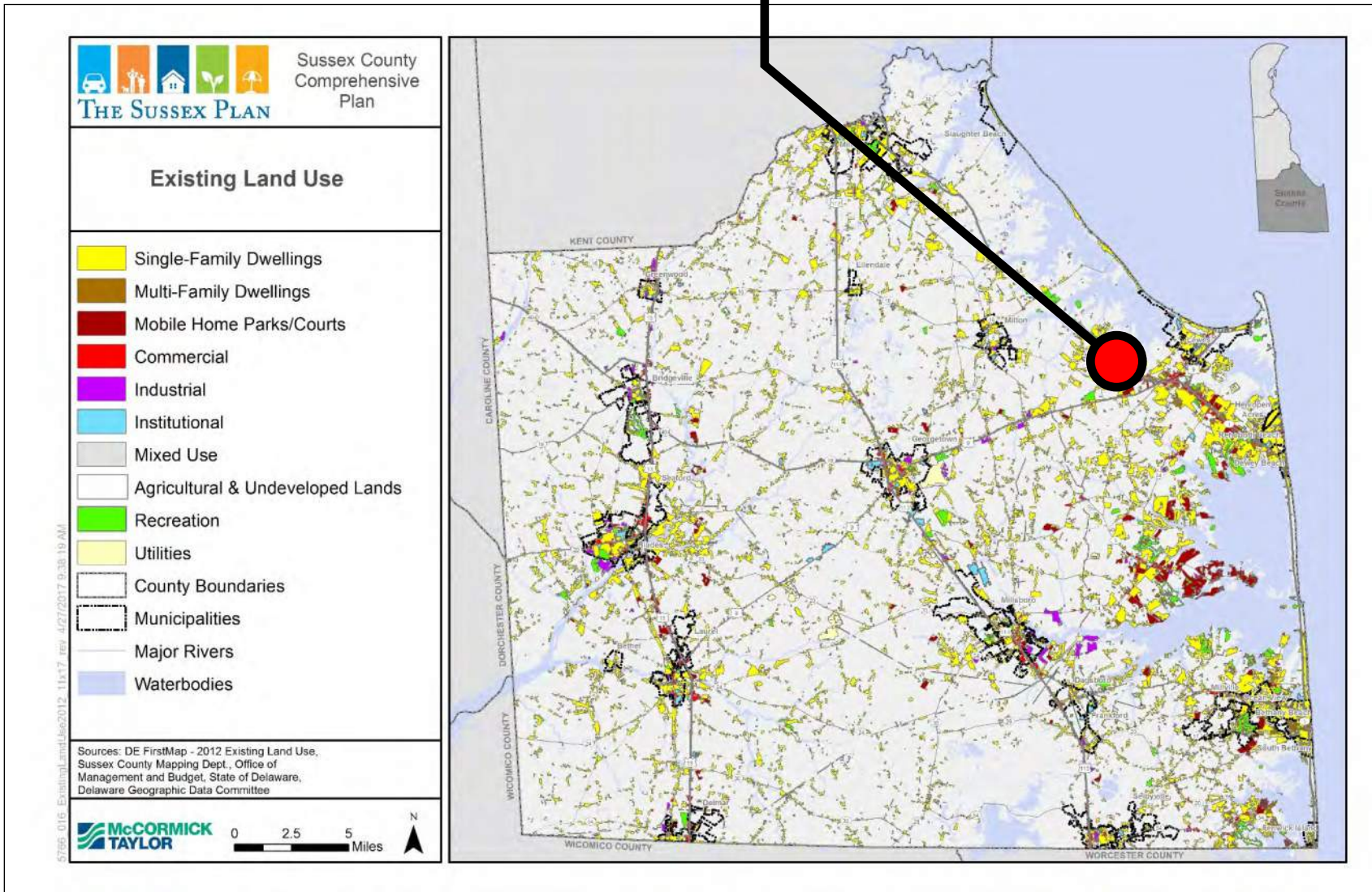
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 309 S. Governors Ave.
 Dover, DE 19904
 Ph. 302.734.7950
 Fax 302.734.7965

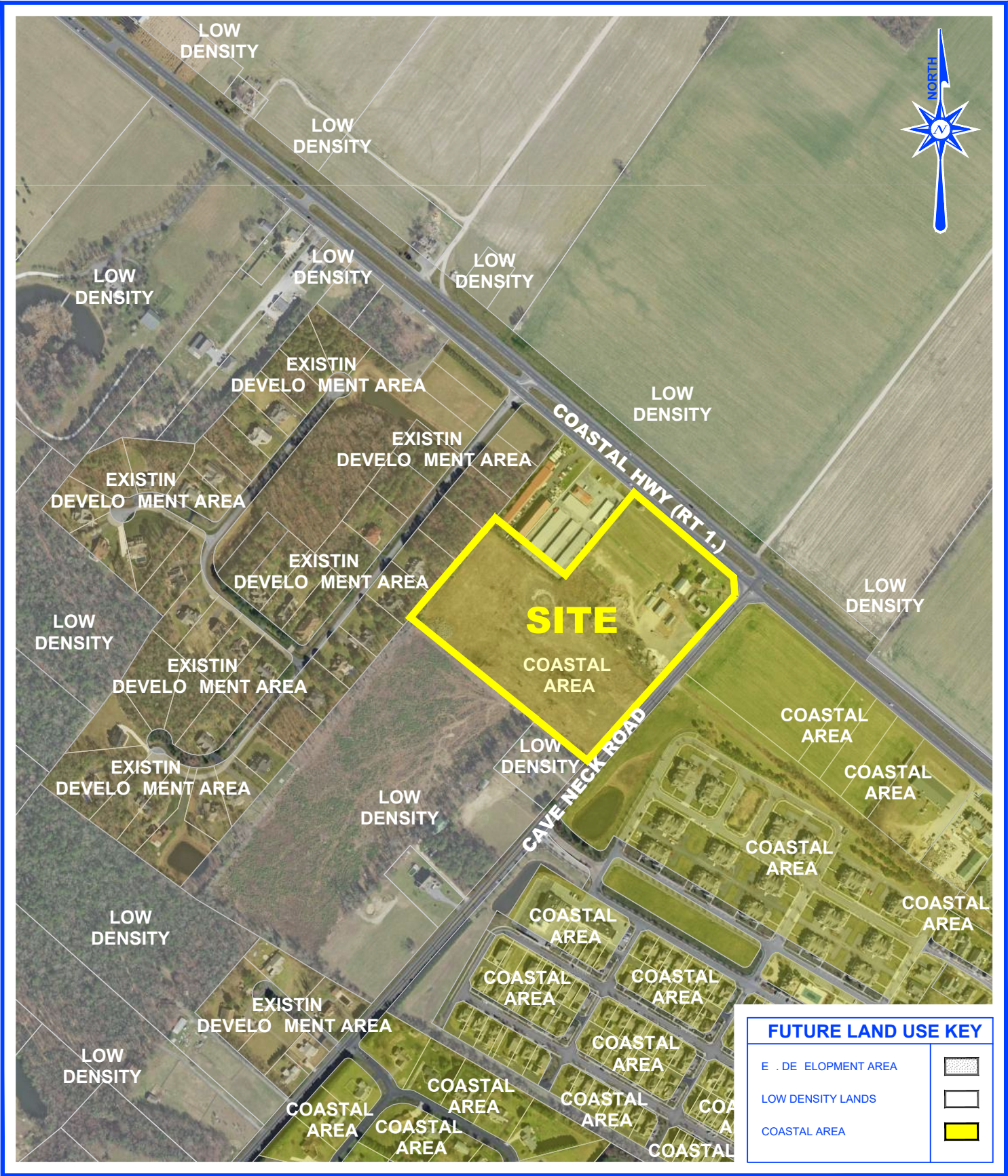
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 SCALE: **1" = 500'**
 DATE: **03/23/2020**
 DRAWN BY: **A.C.F**
EXISTIN

**PROPOSED SITE LOCATION
(COMMERCIAL,
AGRICULTURAL &
UNDEVELOPED LANDS)**



Figure 4.2-1 Existing Land Use





FUTURE LAND USE KEY	
EXISTIN DEVELOPMENT AREA	
LOW DENSITY LANDS	
COASTAL AREA	

LAYER STATE: 2 FUTURE LAND USE-500

FUTURE LAND USE - SITE LOCATION
CHAPPELL FARM
CONCEPT
 RT 1 / CAVE NECK ROAD
 SUSSEX COUNTY / DELAWARE

BECKER
MORGAN
 GROUP

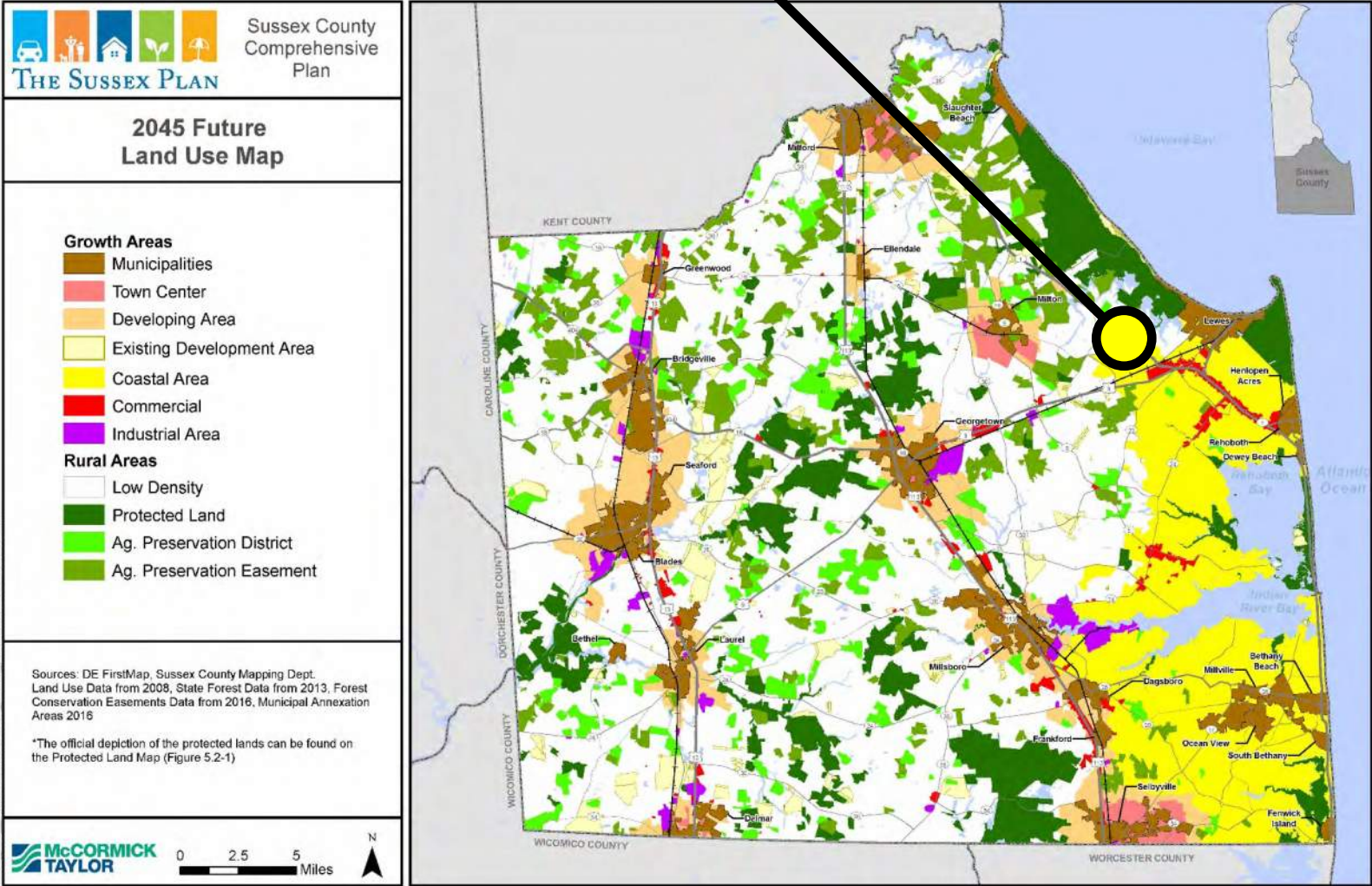
ARCHITECTURE
 ENGINEERING
Dover, DE
 309 S. Governors Ave.
 Dover, DE 19904
 Ph. 302.734.7950
 Fax 302.734.7965

BMG: 2018053.00
 SCALE: 1" = 500'
 DATE: 03/23/2020
 DRAWN BY: A.C.F
FUTURE

**PROPOSED SITE LOCATION
(COASTAL AREA)**



Figure 4.5-1 Sussex County 2045 Future Land Use





LANDS KEY	
DEVELOPED LANDS	

LAYER STATE: 2 DEVELOPED LANDS-500

DEVELOPED PROTECTED LANDS- SITE LOCATION
CHAPPELL FARM
CONCEPT
 RT 1 / CAVE NECK ROAD
 SUSSEX COUNTY / DELAWARE

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MORGAN
 GROUP

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 309 S. Governors Ave.
 Dover, DE 19904
 Ph. 302.734.7950
 Fax 302.734.7965

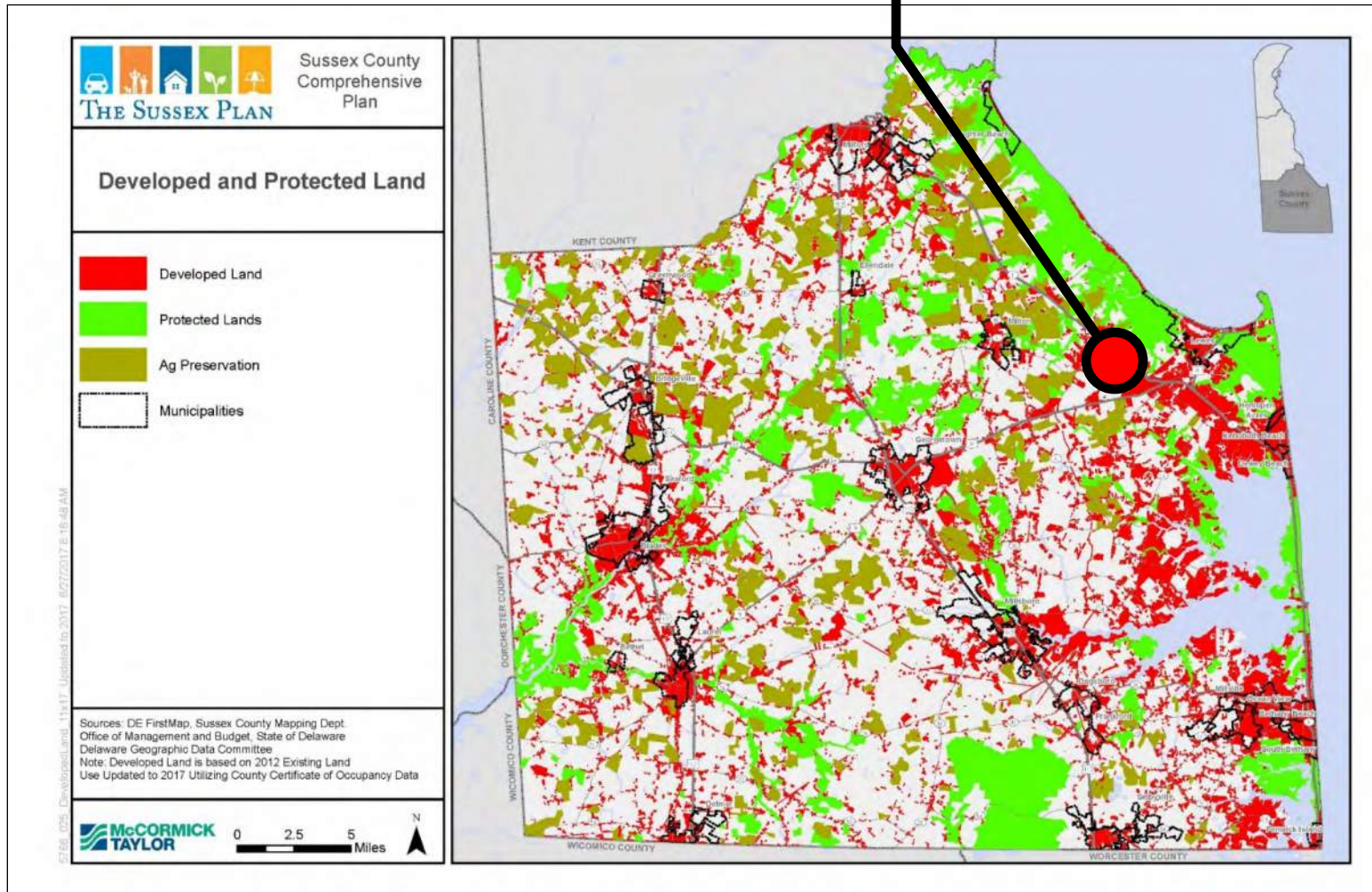
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 SCALE: 1" = 500'
 DATE: 03/23/2020
 DRAWN BY: A.C.F.

D L

**PROPOSED SITE LOCATION
(DEVELOPED AREA)**



Figure 4.2-2 Developed and Protected Land *



* Parcels enrolled in the State's Agricultural Lands Preservation Program change frequently and that the Delaware Department of Agriculture can be contacted for latest update.



STRATEGIES LEVEL KEY	
LE EL 2	
LE EL 3	
LE EL 4	

LAYER STATE: 2.8 STRATEGIES-500

STRATEGIES FOR STATE POLICIES & SPENDING - SITE LOCATION
CHAPPELL FARM CONCEPT
 RT 1 / CAVE NECK ROAD
 SUSSEX COUNTY / DELAWARE

BECKER MORGAN GROUP

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 Fax 302.734.7965

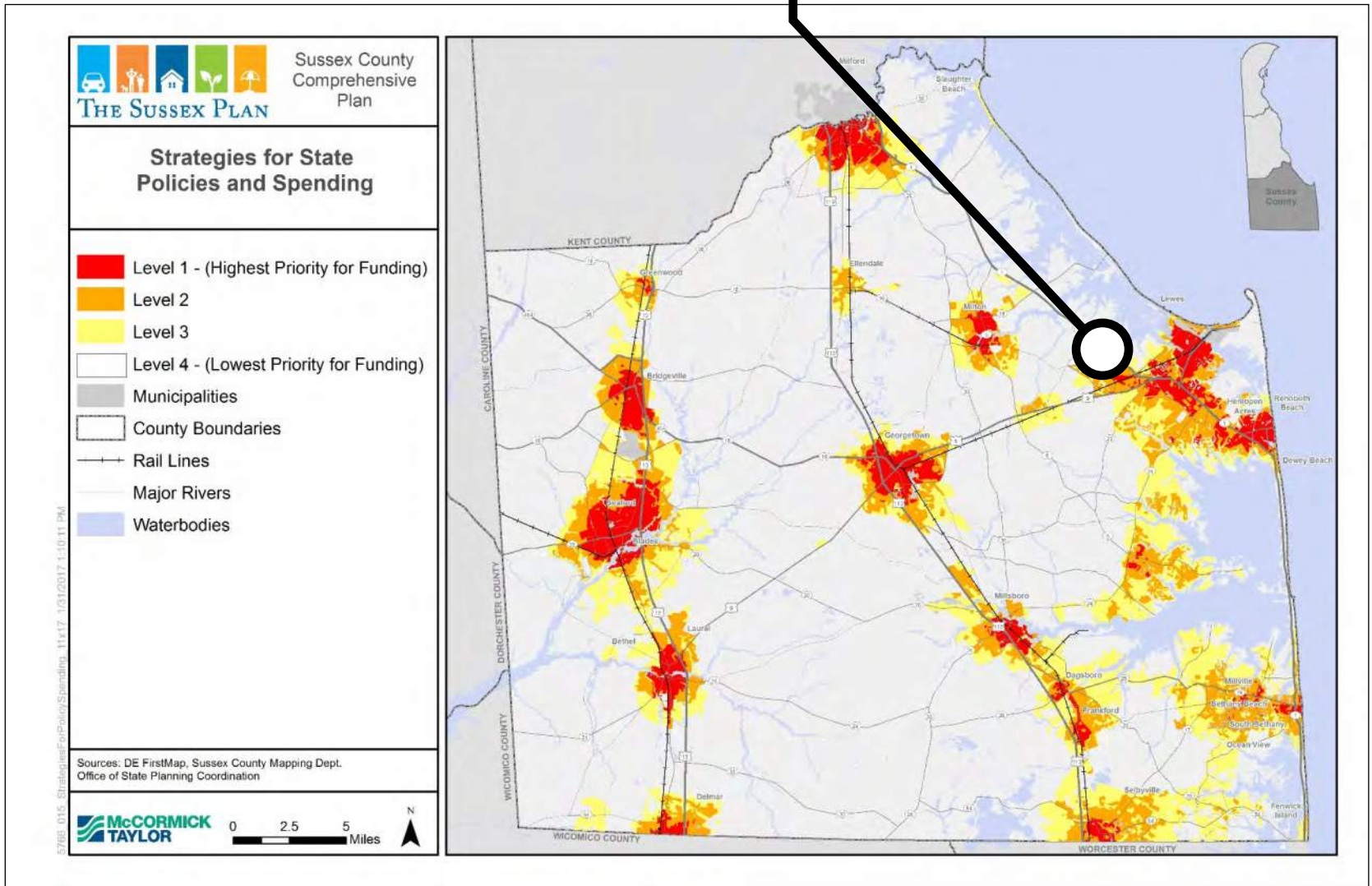
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 SCALE: **1" = 500'**
 DATE: **03/23/2020**
 DRAWN BY: **A.C.F**

STRATEGIES

**PROPOSED SITE LOCATION
(LEVEL 3 & 4)**



Figure 4.4-1 Strategies for State Policies and Spending





CANARY CREEK
BROADKILL RIVER

CANARY CREEK
BROADKILL RIVER

COASTAL HWY (RT 1)

SITE

CAVE NECK ROAD

CANARY CREEK
BROADKILL RIVER

CANARY CREEK
BROADKILL RIVER

WATERWAYS KEY

BLUE LINE STREAM



LAYER STATE: 2.9 WATERSHED-500

**WATERSHED & WATERWAYS - SITE LOCATION
CHAPPELL FARM
CONCEPT**

RT 1 / CAVE NECK ROAD
SUSSEX COUNTY / DELAWARE

**BECKER
MORGAN**
GROUP

ARCHITECTURE
ENGINEERING
Dover, DE

309 S. Governors Ave.
Dover, DE 19904
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Fax 302.734.7965

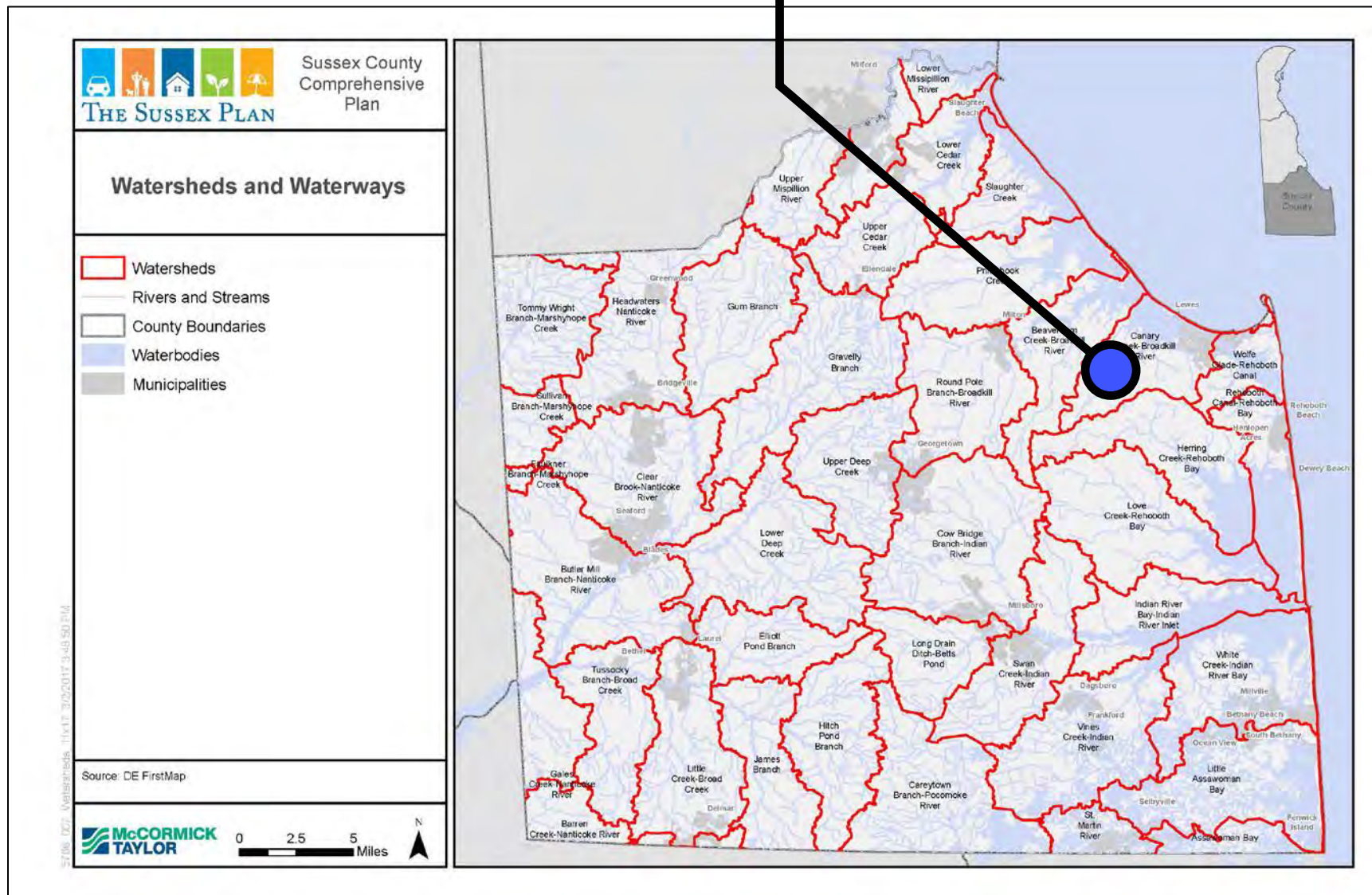
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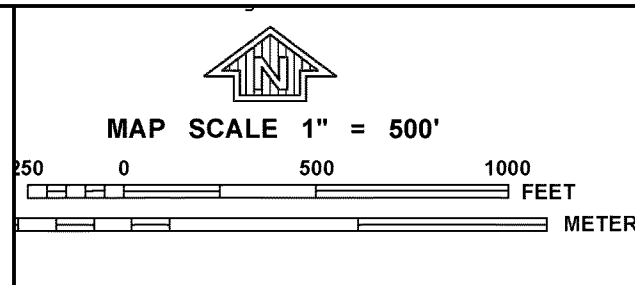
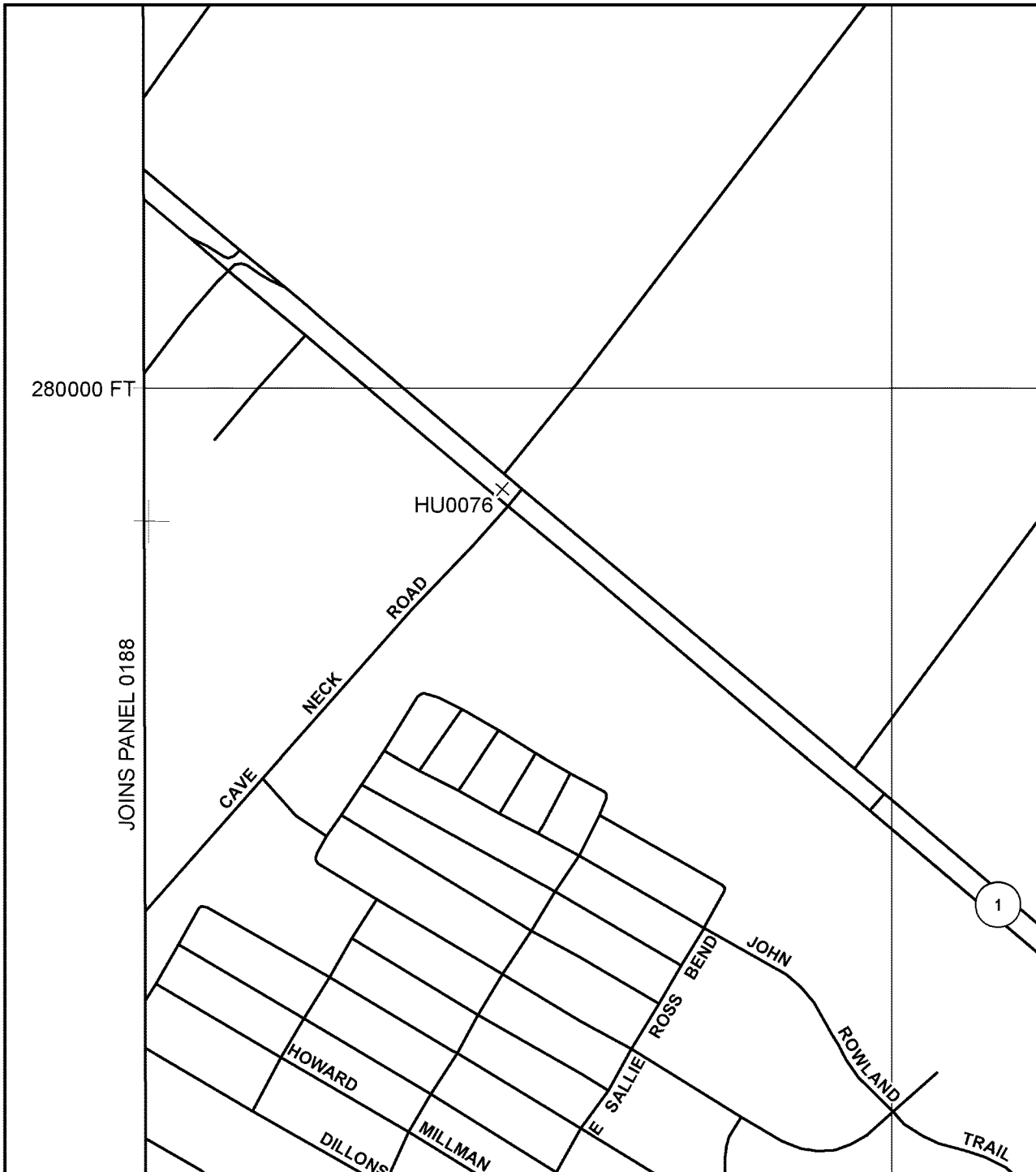
WATERSHED

**PROPOSED SITE LOCATION
(CANARY CREEK BROADKILL RIVER)**



Figure 5.2-3 Watersheds and Waterways





NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0189K

FIRM
FLOOD INSURANCE RATE MAP
SUSSEX COUNTY,
DELAWARE
AND INCORPORATED AREAS

PANEL 189 OF 660

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SUSSEX COUNTY	100029	0189	K

- NOTE -
 THIS MAP INCLUDES BOUNDARIES OF THE COASTAL BARRIER RESOURCES SYSTEM ESTABLISHED UNDER THE COASTAL BARRIER RESOURCES ACT OF 1982 AND/OR SUBSEQUENT ENABLING LEGISLATION.

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
10005C0189K

MAP REVISED
MARCH 16, 2015

Federal Emergency Management Agency

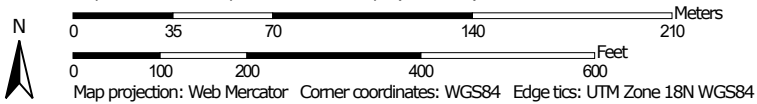
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Soil Map—Sussex County, Delaware
(2018053 - CHAPPELL FARM LLC)



Soil Map may not be valid at this scale.

Map Scale: 1:2,650 if printed on A landscape (11" x 8.5") sheet.




MAP LEGEND




















Area of Interest (AOI)







Area of Interest (AOI)

Soils


-  Soil Map Unit Polygons
-  Soil Map Unit Lines
-  Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

-  Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sussex County, Delaware
Survey Area Data: Version 21, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 21, 2018—Mar 12, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GrA	Greenwich loam, 0 to 2 percent slopes	0.0	0.1%
HmA	Hammonton loamy sand, 0 to 2 percent slopes	6.3	42.4%
IeA	Ingleside loamy sand, 0 to 2 percent slopes	2.3	15.5%
RuA	Runclint loamy sand, 0 to 2 percent slopes	6.3	42.0%
Totals for Area of Interest		14.9	100.0%

APARTMENT VIEW



FITNESS CENTER VIEW



DRIVE ISLE VIEW



COMMERCIAL AERIAL VIEW



LANDSCAPE BUFFER VIEW



ORDINANCE NO. 2158

AN ORDINANCE TO GRANT A CONDITIONAL USE OF LAND IN AN AR-1 AGRICULTURAL RESIDENTIAL DISTRICT FOR A COUNTRY MARKET WITH BBQ, ICE CREAM, AMISH MEATS/CHEESE/BAKED GOODS AND THE SALE OF PRODUCE, NURSERY STOCK, FLOWERS, AND ITEMS ASSOCIATED WITH GARDENING TO BE LOCATED ON A CERTAIN PARCEL OF LAND LYING AND BEING IN BROADKILL HUNDRED, SUSSEX COUNTY, CONTAINING 3.32 ACRES, MORE OR LESS OF A 14.92 ACRE TRACT

WHEREAS, on the 26th day of March 2010, a conditional use application, denominated Conditional Use No. 1864 was filed on behalf of Dawn's Country Market; and

WHEREAS, on the 14th day of October 2010, a public hearing was held, after notice, before the Planning and Zoning Commission of Sussex County and on the 28th day of October 2010, said Planning and Zoning Commission recommended that Conditional Use No. 1864 be approved; and

WHEREAS, on the 9th day of November 2010, a public hearing was held, after notice, before the County Council of Sussex County and the County Council of Sussex County determined, based on the findings of facts, that said conditional use is in accordance with the Comprehensive Development Plan and promotes the health, safety, morals, convenience, order, prosperity and welfare of the present and future inhabitants of Sussex County, and that the conditional use is for the general convenience and welfare of the inhabitants of Sussex County.

NOW, THEREFORE,

THE COUNTY OF SUSSEX HEREBY ORDAINS:

Section 1. That Chapter 115, Article IV, Subsection 115-22, Code of Sussex County, be amended by adding the designation of Conditional Use No. 1864 as it applies to the property hereinafter described.

Section 2. The subject property is described as follows:

ALL that certain tract, piece or parcel of land, lying and being situate in Broadkill Hundred, Sussex County, Delaware, and lying at the northwest corner of Cave Neck Road (Route 88) and Route One and being more particularly described as follows:

BEGINNING at a point on the southwesterly right-of-way of Route One at the northerly corner of the corner cut with Route 88; thence south 04°00'17" east 69.72 feet along the corner cut of the intersection of Route One and Route 88 to a point; thence south 41°47'47" west 360.88 feet along the northwesterly right-of-way of Route 88 to a point; thence north 49°41'22" west 354.44 feet across lands of Hebron Road, LLC to a point; thence north 40°11'39" east 410.00 feet across lands of Hebron Road LLC to a point on the southwesterly right-of-way of Route One; thence south 49°48'21" east 315.93 feet along the southwesterly right-of-way of Route One to the point and place of beginning and containing 3.32 acres, more or less, of a 14.92 acre tract.

This Ordinance shall take effect immediately upon its adoption by majority vote of all members of the County Council of Sussex County, Delaware.

This Ordinance was adopted subject to the following conditions:

- 1. Sales shall only occur during daylight hours.**
- 2. The use shall be limited to a country market with barbeque, ice cream, Amish meats/cheese/baked goods, produce, nursery stock, flowers and other items generally associated with farm markets, produce sales and gardening.**
- 3. The use shall not become a general retail store or convenience store and it shall maintain its agricultural appearance and theme at all times.**
- 4. Unless required by DelDOT, there shall not be any entrance to the property from Route One.**
- 5. The Applicant's shall comply with all DelDOT requirements, including Entrance Permits.**
- 6. The Final Site Plan shall show all parking required by the Sussex County Zoning Code.**
- 7. The project shall comply with all County Engineering, DNREC, State Board of Health, and other applicable requirements regarding bathroom and sewer facilities.**
- 8. The Final Site Plan shall show the location of all proposed uses on the property.**
- 9. There shall not be any structures, parking, produce, products or displays of any kind within the front or side yard setbacks.**

10. Any dumpsters shall be screened from view of neighboring properties and roadways.
11. Any security lighting shall be screened from view so that it does not shine on neighboring properties or roadways.
12. One lighted sign, not to exceed 32 square feet per side, shall be permitted.
13. This Conditional Use shall become null and void unless substantially underway within three (3) years of the date of approval by the County Council.
14. Final Site Plan approval shall be subject to the review and approval of the Sussex County Planning and Zoning Commission.

I DO HEREBY CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT COPY OF ORDINANCE NO. 2158 ADOPTED BY THE SUSSEX COUNTY COUNCIL ON THE 9TH DAY OF NOVEMBER 2010.


ROBIN A. GRIFFITH
CLERK OF THE COUNCIL

The Council found that the Conditional Use was appropriate legislative action based on the following Findings of Fact:

1. This is an application to consider a Conditional Use of land in an AR-1 Agricultural Residential District for a country market with BBQ, ice cream, Amish meats/cheese/baked goods and the sale of produce, nursery stock, flowers and items associated with gardening to be located on a certain parcel of land lying and being in Broadkill Hundred, Sussex County, Delaware, containing 3.32 acres, more or less, of a 14.92 acre tract, lying at the northwest corner of Cave Neck Road (Route 88) and Route One.
2. DeIDOT commented that a Traffic Impact Study was not recommended and that the existing Level of Service "D" of Coastal Highway (Route One) and the existing Level of Service "C" of Cave Neck Road (Route 88) will not change as a result of this application.

3. The County Engineering Department, Utility Planning Division, commented that the site is located in the West Rehoboth Expansion Planning Area; that wastewater capacity is available for the proposed market; that a project exceeding 13.2 EDU may require downstream upgrades; that use of an on-site septic system is proposed; that a central sewer gravity connection point is available in Cave Neck Road; that a Concept Plan is required to be submitted for review and approval prior to requesting annexation to the District; that all costs associated with extending sewer service will be the sole responsibility of the developer; and that one-time system connection charges will apply.
4. The Applicant was present and stated that they want to expand their current operation; that they want to have an outside area for vendors; that they want to have picnic tables in that area; that they promote agriculture by using local produce; and that they promote farm values.
5. The use is of a public or semi-public character and is desirable for the general convenience, health, safety, prosperity, morals and welfare of the residents of Sussex County.
6. The use will not adversely affect traffic or area roadways.
7. Based on the record and recommendation of the Planning & Zoning Commission, which were adopted by Council, and the record created before Council, the Conditional Use was approved subject to fourteen (14) conditions, which will serve to minimize any potential impacts on the surrounding area and adjoining properties.

Tax Parcel: 2-35 23.00 1.02

BK = 3971 PG = 94

Prepared by and Return to:

Matthew C. Jones, Esquire
 Duane Morris LLP
 30 South 17th Street
 Philadelphia, PA 19103

NO LIEN OR TITLE SEARCH MADE OR REQUESTED

THIS DEED, executed the 13th day of December 2011 and effective as of the 31st day of December, 2011, BETWEEN:

HEBRON ROAD, L.L.C., a Delaware limited liability company, 30045 Eagles Crest Road, Unit 2, Milton, Delaware 19968, party of the first part, hereinafter referred to as the "Grantor",

AND

CHAPPELL FARM, LLC, a Delaware limited liability company, 30045 Eagles Crest Road, Unit 2, Milton, Delaware 19968, party of the second part, hereinafter referred to as the "Grantee",

WITNESSETH:

That the Grantor, for and in consideration of the sum of ONE DOLLAR (\$1.00), current lawful money of the United States of America, and other good and valuable consideration, the receipt whereof is hereby acknowledged, hereby grants and conveys unto the Grantee:

ALL that certain tract, piece and parcel of land situate, lying and being in Broadkilm Hundred, Sussex County and State of Delaware, lying on the Southwesterly side of Delaware Route One and the Northwesterly side of County Road No. 88 and being more particularly described as follows, to wit:

BEGINNING at a concrete monument found along the Northwesterly right-of-way line of County Road No. 88 (60' R.O.W.), a corner for these lands and lands now or formerly of Orna Rae Lowe & Sharon Slater; thence from said point of beginning and running along and with the line of lands of Lowe & Slater, North 51 degrees 09 minutes 48 seconds West 843.80 feet to an iron rod found, a corner for these lands, lands now or formerly of Lowe & Slater and in line of Lot 4 of the Red Fox Run Subdivision; thence turning and running with lands of the Red Fox Run Subdivision, North 37 degrees 45 minutes 07 seconds East 501.41 feet to a stone found, a corner for these lands and lands of Key West Investments, LLC; thence turning and running with the line of lands now or formerly of Key West Investments, LLC and then with lands now or formerly of Three D

Corporation, South 51 degrees 06 minutes 08 seconds East 342.23 feet to a stone found; thence turning and running with the line of lands now or formerly of Three D Corporation, North 39 degrees 40 minutes 47 seconds East 410.66 feet to a 3/4" iron pipe found along the Southwesterly right-of-way line of Delaware Route One (160' R.O.W.); thence turning and running with the line of Delaware Route One, South 49 degrees 48 minutes 21 seconds East 501.05 feet to a point; thence turning and running South 04 degrees 00 minutes 17 seconds East 69.72 feet to a point along the Northwesterly right-of-way line of County Road No. 88; thence turning and running with the line of County Road No. 88, South 41 degrees 47 minutes 47 seconds West 569.89 feet to a point; thence South 41 degrees 30 minutes 00 seconds West 165.39 feet to a point; thence South 41 degrees 56 minutes 15 seconds West 114.40 feet to the point and place of beginning, said to contain 14.92 acres of land, be the same more or less, together with all of the improvements located thereon, as surveyed by Compass Point Associates, Vernon M. Walch, Professional Land Surveyor, May 8, 2009, a copy of said survey being filed for record in the Office of the Recorder of Deeds, in and for Sussex County at Georgetown, Delaware, in Plot Book 132, Page 21.

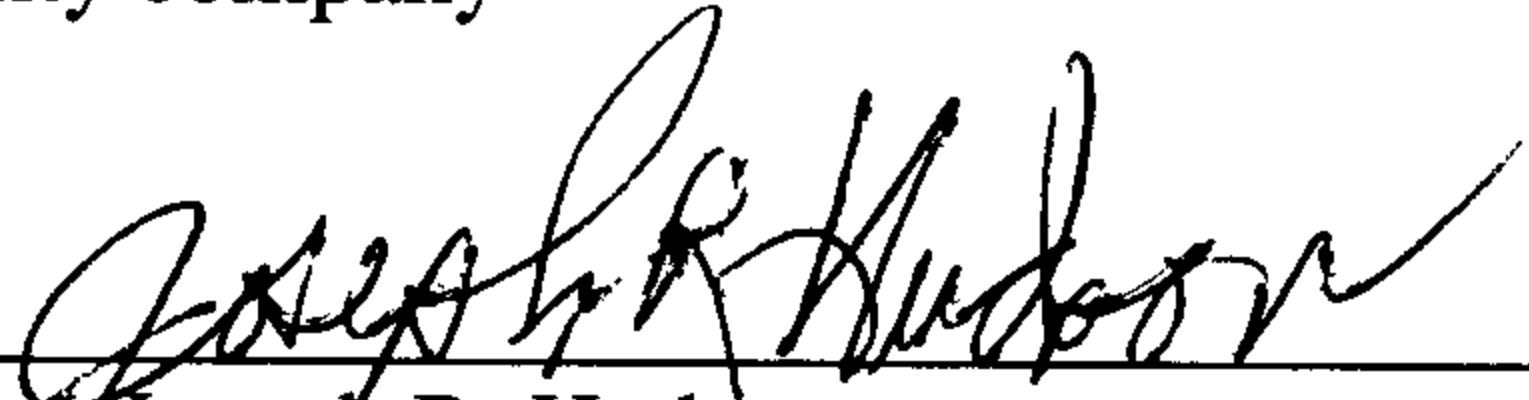
BEING the same land conveyed unto Hebron Road, L.L.C. by a Deed of Overbrook Acres, LLC dated June 5, 2009 and filed for record in the Office of the Recorder of Deeds, in and for Sussex County, Delaware in Deed Book 3682, page 191.


(SIGNATURE PAGE FOLLOWS)

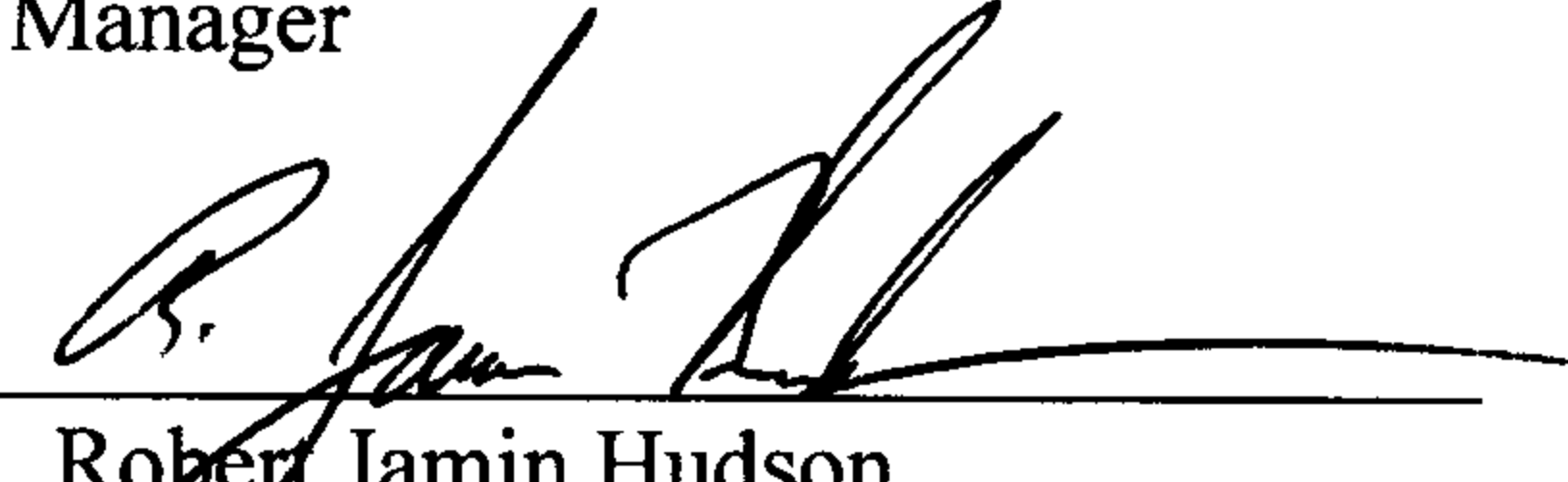
IN WITNESS WHEREOF, the Grantor has caused these presents to be duly executed, the day and year aforesaid.

HEBRON ROAD, L.L.C., a Delaware limited liability company

Witness: Daniel R. Oates
As to all

By: 
Name: Joseph R. Hudson
Title: Manager

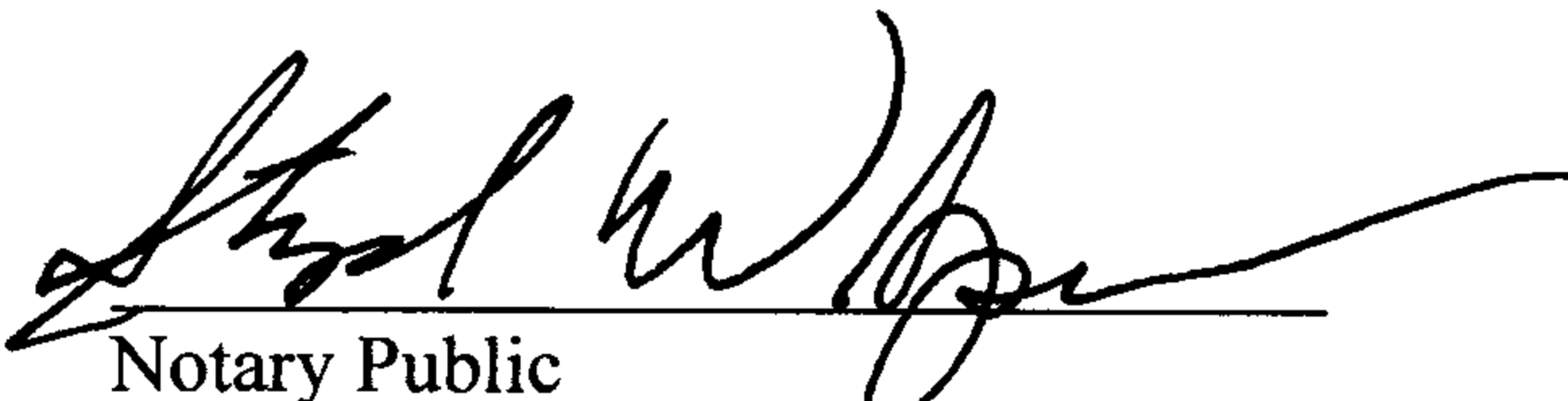
By: 
Name: Robert Christian Hudson
Title: Manager

By: 
Name: Robert Jamin Hudson
Title: Manager

STATE OF DELAWARE)
) : ss.
COUNTY OF Sussex)

BE IT REMEMBERED, that on this 13 day of December, 2011, personally appeared before me, the Subscriber, a Notary Public for the State and County aforesaid, **Joseph R. Hudson**, who acknowledged himself to be a Manager of **HEBRON ROAD, L.L.C.**, a Delaware limited liability company, and that he as such Manager, being authorized to do so, executed the foregoing instrument on behalf of such limited liability company for the purposes therein contained by signing his name as Manager.

GIVEN under my Hand and Seal of Office, the day and year aforesaid.


Notary Public

STEPHEN W. SPENCE
Attorney at Law - State of Delaware
Notarial Officer Pursuant to
29 Del.C. § 4323(a)(3)
My Commission Has No Expiration

STATE OF DELAWARE)
)
) : SS.
COUNTY OF Sussex)

BE IT REMEMBERED, that on this 13 day of December, 2011, personally appeared before me, the Subscriber, a Notary Public for the State and County aforesaid, **Robert Christian Hudson**, who acknowledged himself to be a Manager of **HEBRON ROAD, L.L.C.**, a Delaware limited liability company, and that he as such Manager, being authorized to do so, executed the foregoing instrument on behalf of such limited liability company for the purposes therein contained by signing his name as Manager.

GIVEN under my Hand and Seal of Office, the day and year aforesaid.



Notary Public

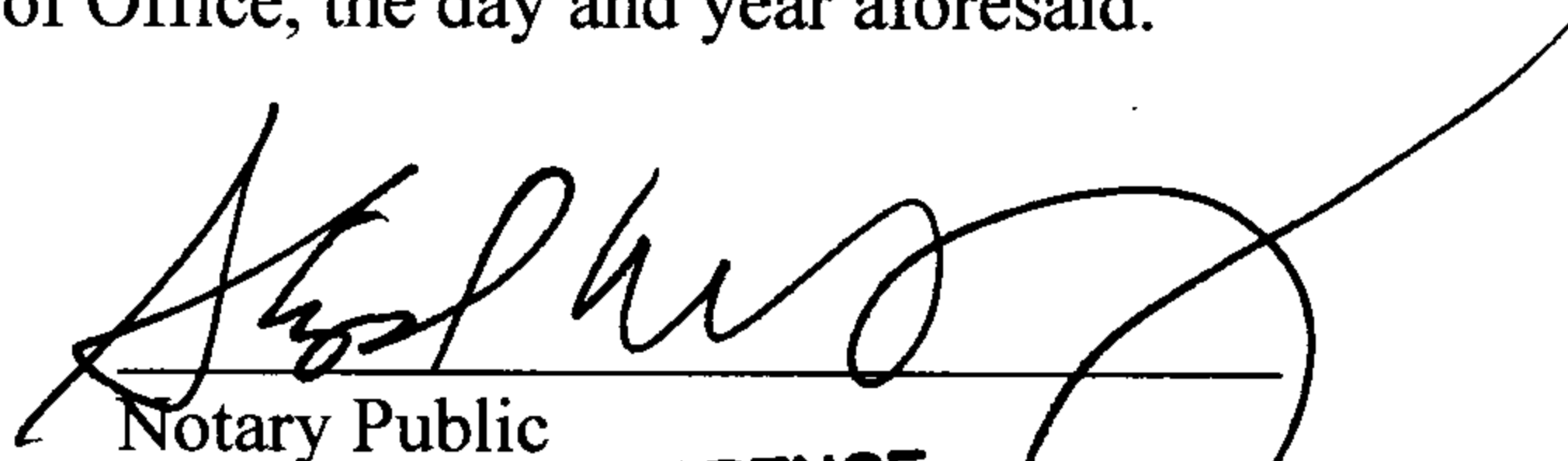
STEPHEN W. SPENCE
Attorney at Law - State of Delaware
Notarial Officer Pursuant to
29 Del.C. § 4323(a)(3)
My Commission Has No Expiration

STATE OF DELAWARE)
)
) : SS.
COUNTY OF Sussex)

Recorder of Deeds
Scott Dailey
Feb 15, 2012 12:43P
Sussex County
Doc. Surcharge Paid

BE IT REMEMBERED, that on this 13 day of December, 2011, personally appeared before me, the Subscriber, a Notary Public for the State and County aforesaid, **Robert Jamin Hudson**, who acknowledged himself to be a Manager of **HEBRON ROAD, L.L.C.**, a Delaware limited liability company, and that he as such Manager, being authorized to do so, executed the foregoing instrument on behalf of such limited liability company for the purposes therein contained by signing his name as Manager.

GIVEN under my Hand and Seal of Office, the day and year aforesaid.



Notary Public

STEPHEN W. SPENCE
Attorney at Law - State of Delaware
Notarial Officer Pursuant to
29 Del.C. § 4323(a)(3)
My Commission Has No Expiration

RECEIVED

FEB 15 2012

ASSESSMENT DIVISION
OF SUSSEX COUNTY

Consideration: .00

4

County .00
State .00
Town Total .00
Received: Madilyn R Feb 15, 2012



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

December 7, 2020

Mr. Christopher Duke
Becker Morgan Group, Inc.
The Tower at STAR Campus
100 Discovery Boulevard
Suite 102
Newark, Delaware 19713

Dear Mr. Duke:

The enclosed Traffic Impact Study (TIS) review letter for the **Chappell Farm** (Tax Parcel 235-23.00-1.02) 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) 760-2167.

Sincerely,

Troy Brestel
Project Engineer

TEB:km

Enclosures

cc with enclosures: Mr. Michael Riemann, Becker Morgan Group, Inc.
Ms. Constance C. Holland, Office of State Planning Coordination
Mr. Jamie Whitehouse, Sussex County Planning and Zoning
Mr. Mir Wahed, Johnson, Mirmiran & Thompson, Inc.
Ms. Joanne Arellano, Johnson, Mirmiran & Thompson, Inc.
DelDOT Distribution

DelDOT Distribution

Brad Eaby, Deputy Attorney General
J. Marc Coté, Director, Planning
Shanté Hastings, Director, Transportation Solutions (DOTS)
Mark Luszcz, Deputy Director, Traffic, DOTS
Michael Simmons, Assistant Director, Project Development South, DOTS
Todd Sammons, Assistant Director, Development Coordination
T. William Brockenbrough, Jr., County Coordinator, Development Coordination
Peter Haag, Chief Traffic Engineer, Traffic, DOTS
Chris Sylvester, Traffic Studies Manager, Traffic, DOTS
Kerry Yost, Traffic Calming and Subdivision Relations Manager, Traffic, DOTS
Alistair Probert, South District Engineer, South District
Gemez Norwood, South District Public Works Manager, South District
John Gaines, Group Engineer, Project Development South, DOTS
Jared Kauffman, Service Development Planner, Delaware Transit Corporation
Tremica Cherry, Service Development Planner, Delaware Transit Corporation
Anthony Aglio, Planning Supervisor, Statewide & Regional Planning
Wendy Polasko, Subdivision Engineer, Development Coordination
Susanne Laws, Sussex Review Coordinator, Development Coordination
Mark Galipo, Traffic Engineer, Traffic, DOTS
Derek Sapp, Subdivision Manager, Development Coordination
Claudy Joinville, Project Engineer, Development Coordination



December 3, 2020

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

RE: Agreement No. 1945F
Project Number T202069012
Traffic Impact Study Services
Task 9A-Chappell Farm TIS

Dear Mr. Brestel:

Johnson, Mirmiran and Thompson (JMT) has completed the review of the Traffic Impact Study (TIS) for Chappell Farm, prepared by Becker Morgan Group, Inc. dated February 2020. This task was assigned as Task Number 9A. The report is prepared in a manner generally consistent with DelDOT's *Development Coordination Manual*.

The TIS evaluates the impacts of a proposed mixed-use development in Sussex County, Delaware. The development would be comprised of 94 apartment units, 37,000 square feet of commercial space, and a 5,068 square-foot convenience store with gas pumps. Construction is anticipated to be complete in 2023.

The site is located on the northwest corner of the intersection of Delaware Route 1 and Cave Neck Road (Sussex Road 88). Three access points are proposed: one full access along Cave Neck Road approximately 475 feet west of Delaware Route 1, one full access along Cave Neck Road approximately 900 feet west of Delaware Route 1, and a rights-in only access along southbound Delaware Route 1 approximately 600 feet north of Cave Neck Road.

The subject property is an approximately 14.9-acre parcel that is zoned as AR-1 (Agricultural Residential) and the developer plans to rezone the land to C-3 (Heavy Commercial) and MR (Medium-Density Residential).

Per the May 3, 2019 DelDOT Scoping Meeting Memorandum, additional build with development scenarios were requested that incorporate the proposed Delaware Route 1/Cave Neck Road grade-separated interchange with and without the proposed rights-in access along Delaware Route 1. However, based on a January 3, 2020 DelDOT correspondence contained within the TIS, DelDOT has allowed the TIS to be submitted without these additional cases because planned alternatives for the interchange were not finalized prior to the completion of the TIS report. Therefore, this review does not include an evaluation with the future Delaware Route 1/Cave Neck Road grade-separated interchange.



Per coordination with DelDOT, JMT included three additional scenarios incorporating only partial construction of the development. Specifically, the scenarios include the following:

- Case 4a - 2023 with development of convenience store with gas only, without rights-in access along Delaware Route 1, and with a Connector Road built between Cave Neck Road and Red Fox Lane
- Case 4b – 2023 with development of convenience store with gas only, with rights-in access along Delaware Route 1, and without a Connector Road built between Cave Neck Road and Red Fox Lane
- Case 4c – 2023 with development of convenience store and 94 apartment units, without rights-in access along Delaware Route 1, and with a Connector Road built between Cave Neck Road and Red Fox Lane

DelDOT has several relevant and ongoing improvement projects within the study area including the *Corridor Capacity Preservation Program (CCPP)*, which aims to maintain the regional importance and preserve the intended function and capacity of existing designated transportation routes within the Program. The main objectives of the program are listed below:

- Prevent the need to build an entirely new road
- Minimize the transportation impacts of increased economic growth
- Maintain an existing road's ability to handle traffic efficiently and safely
- Preserve the ability to make future improvements
- Sort local and through traffic

Delaware Route 1 is one of the highways included in the CCPP. More information regarding the CCPP can be found at: https://deldot.gov/Publications/manuals/corr_cap/index.shtml.

DelDOT is proposing to build a grade-separated interchange at the intersection of Delaware Route 1 and Cave Neck Road (DelDOT Contract No. T201912201). The selected alternative proposes Cave Neck Road to be elevated over Delaware Route 1. A new connector road would be constructed between Fox Run Lane and Cave Neck Road. This connector road would intersect Cave Neck Road at a roundabout. The southerly leg of this roundabout would provide a rights-in/rights-out access to southbound Delaware Route 1. Additionally, the Fox Run Lane and Delaware Route 1 intersection would be eliminated. A roundabout would also be added along Cave Neck Road on the easterly side of Delaware Route 1 and the southerly leg of this roundabout would provide a rights-in/rights-out access to northbound Delaware Route 1. A new frontage road would be constructed on the westerly side of Delaware Route 1 between Fox Run Lane and Pondview Drive as well as on the easterly side of Delaware Route 1 between Willow Creek Road and Cave Neck Road. Design is underway and construction is expected to start in 2025. More information regarding the *SR 1 and Cave Neck Road Grade Separated Intersection* project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201912201>.



The second project within the study area is the *SR 1, Minos Conaway Road Grade Separated Intersection* project (DelDOT Contract No. T201612501), which will provide a grade separated intersection to separate through movements along Delaware Route 1 and turning movements to and from Minos Conaway Road, Nassau Road and Old Mill Road. Per the preferred alternative concept plan, shared-use paths would also be constructed along Minos Conaway Road, Nassau Road, Janice Road, and along southbound Delaware Route 1 south of Janice Road to accommodate pedestrians and bicyclists. This project intends to maintain capacity of the Delaware Route 1 corridor and improve safety at the unsignalized intersection of Delaware Route 1 and Minos Conaway Road, while improving mobility and access for local traffic. The project is expected to begin construction in 2023 and be completed in 2025. More information regarding the Delaware Route 1 and Minos Conaway Grade Separated Intersection project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201612501>.

The third project within the study area is at the intersection of Delaware Route 1 and Hudson Road (Sussex Road 258)/Steamboat Landing Road (DelDOT Contract No. T201904303). As part of the project, left turns and through movements along Hudson Road and Steamboat Landing Road would be prohibited. Northbound and southbound left turning movements along Delaware Route 1 would be permitted. Design is underway with construction anticipated to start in the fall of 2020 or the spring of 2021. More information regarding *SR 1 & S258 Intersection Improvements* project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201904303#project-details1>.

The fourth project within the study area is at the intersection of Delaware Route 1 and Oyster Rocks Road (Sussex Road 264) (DelDOT Contract No. T201904302). As part of the project, acceleration lanes along northbound and southbound Delaware Route 1 would be provided for the left turning movements from Eagle Crest Road and Oyster Rocks Road. Through movements between Eagle Crest Road and Oyster Rocks Road would be prohibited. Northbound and southbound left turning movements from Delaware Route 1 would also be prohibited. Design is underway with construction anticipated to start in the fall of 2020 or the spring of 2021. More information regarding the *SR 1 & S264 Intersection Improvements* project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201904302>.

DelDOT's 2016 Hazard Elimination Program (HEP) identified Site H which is within the project area. Site H is a 0.30-mile corridor along Cave Neck Road from 0.29 mile west of Delaware Route 1 to the Delaware Route 1 intersection. The Site H Task I report included a crash summary and recommended to evaluate improvement options to reduce angle crashes and median confusion as part of the unsignalized crossover studies along Delaware Route 1. This area was further reviewed under Task II to evaluate several median channelization options at the Delaware Route 1 and Cave Neck Road intersection. Recommendations included accommodating northbound left-turns only and installing a partial signal at the intersection of Delaware Route 1 and Cave Neck Road to act as an interim improvement, before constructing a grade separated interchange as part of the previously mentioned CCPP Project. Also, providing a flashing red arrow phase may be considered during the off-peak hours as part of the design of these improvements. Field visits confirm that



southbound Delaware Route 1 left turning movements and eastbound Cave Neck Road left turning movements have been prohibited at the intersection.

The DelDOT *FY21-FY 26 Capital Transportation Program (CTP)* includes a future improvement project at the Cave Neck Road, Hudson Road, and Sweetbriar Road intersection. Based on the CTP, the design is scheduled to start in Fiscal Year 2025.

Additionally, DelDOT is proposing to add lighting to the Delaware Route 1 and Cave Neck Road intersection. Design has been completed and implementation is expected in the fall of 2020.

Based on our review of the TIS, 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	LOS Deficiencies Occur			Year	Case
	AM	PM	Saturday		
Site Entrance A/Cave Neck Road (Sussex Road 88)	X	X		2023	3a
	X	X		2023	3b
Delaware Route 1/Red Fox Lane			X	2019	1
	X	X	X	2023	2
	X	X	X	2023	3
	X	X	X	2023	4a
	X	X	X	2023	4b
	X	X	X	2023	4c
Delaware Route 1/Cave Neck Road*	X	X	X	2019	1
		X	X	2023	2
		X	X	2023	3a
		X	X	2023	3b
		X	X	2023	4a
		X	X	2023	4b
		X	X	2023	4c

*The 2023 scenarios at the Delaware Route 1/Cave Neck Road intersection incorporate the restriction of left turns along the eastbound Cave Neck Road approach and the restriction of U-turns/left turns along southbound Delaware Route 1.

Note: In the table above, Cases 3, 3a, and 3b are with the full build out of the site, Cases 4a and 4b are with only the construction of the 5,068 square-foot convenience store with gas, and Case 4c is with only the construction of the 5,068 square-foot convenience store with gas and the apartment units.



Intersection	LOS Deficiencies Occur			Year	Case
	AM	PM	Saturday		
Delaware Route 1/Minos Conaway Road (Sussex Road 265)	X	X	X	2019	1
	X	X	X	2023	2
	X	X	X	2023	3
	X	X	X	2023	4a/4b
	X	X	X	2023	4c
Delaware Route 1/Nassau Road (Sussex Road 266)		X	X	2019	1
	X	X	X	2023	2
	X	X	X	2023	3
	X	X	X	2023	4a/4b
	X	X	X	2023	4c
Delaware Route 1/Eagles Crest Road/Oyster Rocks Road (Sussex Road 264)		X	X	2019	1
		X	X	2023	2
		X	X	2023	3
		X	X	2023	4a/4b
		X	X	2023	4c
Delaware Route 1/Hudson Road/Steamboat Landing Road (Sussex Road 258)	X	X	X	2019	1
	X	X	X	2023	2
	X	X	X	2023	3
	X	X	X	2023	4a/4b
	X	X	X	2023	4c
Cave Neck Road/Sweetbriar Road (Sussex Road 261)	X			2023	2
	X	X		2023	3
	X			2023	4a/4b
	X			2023	4c
Cave Neck Road/Hudson Road	X	X	X	2023	2
	X	X	X	2023	3
	X	X	X	2023	4a/4b
	X	X	X	2023	4c

Note: In the table above, Cases 3, 3a, and 3b are with the full build out of the site, Cases 4a and 4b are with only the construction of the 5,068 square-foot convenience store with gas, and Case 4c is with only the construction of the 5,068 square-foot convenience store with gas and the apartment units.



As shown in the above table, nine study intersections are identified to exhibit LOS deficiencies. It is acknowledged that some intersections projected to experience capacity constraints with the construction of the Chappell Farm site would be mitigated with the improvements proposed as part of the *SR 1 and Cave Neck Road Grade Separated Intersection* project. Therefore, it is recommended that the construction of the Chappell Farm site be split into two phases to minimize the impacts of the site traffic to intersections that are already operating with or projected to operate with capacity constraints prior to the construction of the grade separated intersection.

The first phase would include the construction of the 5,068 square-foot convenience store with gas pumps and 94 apartment units (Case 4c). The second phase would include the construction of an additional 15,635 square feet of commercial space east of the proposed connector road, as well as approximately 21,365 square feet of commercial space to the west of the proposed connector road. The second phase of the site should be constructed after the completion of the *SR 1 and Cave Neck Road Grade Separated Intersection* project.

The following section of this letter separates the analysis results based on the first phase of the site and the full build out condition.

First Phase: 5,068 square-foot convenience store with gas pumps and apartment units.

The following intersections would experience capacity constraints with the construction of only the 5,068 square-foot convenience store with gas and apartment units:

- Red Fox Lane intersection with Delaware Route 1
- Cave Neck Road intersection with Delaware Route 1
- Minos Conaway Road intersection with Delaware Route 1
- Nassau Road intersection with Delaware Route 1
- Eagles Crest Road/Oyster Rocks Road
- Hudson Road/Steamboat Landing Road intersection with Delaware Route 1
- Sweetbriar Road intersection with Cave Neck Road
- Hudson Road intersection with Cave Neck Road

The unsignalized Red Fox Lane intersection with Delaware Route 1 exhibits LOS deficiencies during the Saturday peak hour under existing conditions and during the AM, PM, and Saturday peak hours under future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the eastbound Red Fox Lane approach, northbound Delaware Route 1 left turn, and southbound Delaware Route 1 U-turn. Delays of up to 35.1 and 69.5 seconds per vehicle are expected along the eastbound Red Fox Lane approach and southbound Delaware Route 1 U-turn, respectively, and delays of over 1,000 seconds per vehicle are expected along the northbound Delaware Route 1 left turn.

As part of the proposed Delaware Route 1/Cave Neck Road grade-separated interchange project, the intersection of Red Fox Lane and Delaware Route 1 would be eliminated. Therefore, we do not recommend that the developer implement any improvements at this intersection. However, it is recommended that the developer coordinate with DelDOT on the implementation and equitable



cost sharing of the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201).

The unsignalized Cave Neck Road intersection with Delaware Route 1 exhibits LOS deficiencies during all peak hours under existing conditions and during the PM and Saturday peak hours under future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the eastbound Cave Neck Road left turn, northbound Delaware Route 1 left turn, and southbound Delaware Route 1 U-turn.

Since the collection of the traffic counts used for Case 1, DelDOT has implemented the restriction of eastbound Cave Neck Road left turns and southbound Delaware Route 1 U-turns. With these improvements, deficiencies would still occur along the northbound Delaware Route 1 left turn during the PM and Saturday peak hours under future conditions. Delays of up to 527.2 seconds per vehicle are expected along the northbound Delaware Route 1 left turn during the Saturday peak hour under future conditions with the proposed development. However, the improvements proposed as part of the Delaware Route 1/Cave Neck Road grade-separated interchange project would eliminate this intersection. Therefore, we do not recommend that the developer implement any improvements at this intersection. However, as stated above, it is recommended that the developer coordinate with DelDOT on the implementation and equitable cost sharing of the *SR 1 and Cave Neck Road Grade Separated Intersection* project.

The unsignalized Minos Conaway Road intersection with Delaware Route 1 exhibits LOS deficiencies during all peak hours under existing conditions and future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the eastbound Minos Conaway Road approach, northbound Delaware Route 1 left turn, and southbound Delaware Route 1 U-turn. Delays of over 1,000 second per vehicle are expected along the eastbound Minos Conaway Road approach and northbound Delaware Route 1 left turn, and up to 106.7 seconds per vehicle along the southbound Delaware Route 1 U-turn during the Saturday peak hour under future conditions.

The unsignalized Nassau Road intersection with Delaware Route 1 exhibits LOS deficiencies during the PM and Saturday peak hours under existing conditions and during all peak hours under future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the westbound Nassau Road approach, northbound Delaware Route 1 U-turn, and southbound Delaware Route 1 left turn. Delays of over 1,000 seconds per vehicle are expected along the westbound Nassau Road and southbound Delaware Route 1 left turn, and delays of up to 161.8 seconds per vehicle are expected along the northbound Delaware Route 1 U-turn.

The *Delaware Route 1 and Minos Conaway Road Grade Separated Intersection* project (DelDOT Contract No. T201612501), would eliminate the Delaware Route 1/Minos Conaway Road intersection as well as eliminate the stop-controlled operation at the Delaware Route 1/Nassau Road intersection. Therefore, we do not recommend that the developer implement any improvements at the Delaware Route 1 intersections with Minos Conaway Road and Nassau Road.



However, it is recommended that the developer coordinate with DelDOT on the implementation and equitable cost sharing of the *Delaware Route 1 and Minos Conaway Road Grade Separated Intersection* project.

The unsignalized Eagles Crest Road/Oyster Rocks Road intersection with Delaware Route 1 exhibits LOS deficiencies during the PM and Saturday peak hours under existing and future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the eastbound Eagles Crest Road approach and westbound Oyster Rocks Road approach with delays of up to 169.6 and 225.6 seconds per vehicle, respectively, during the Saturday peak hour under future conditions.

The *SR 1 & S264 Intersection Improvements* project (DelDOT Contract No. T201904302) includes the restriction of northbound and southbound Delaware Route 1 left turns at the intersection of Eagles Crest Road/Oyster Rocks Road. Additionally, the project will prohibit eastbound Eagles Crest Road and westbound Oyster Road through movements and provide an acceleration lane for the left turns along both approaches. With these improvements, deficiencies would still occur along the eastbound and westbound approaches during the PM and Saturday peak hours under future conditions, with or without the proposed development. However, the delays along the eastbound Eagles Crest Road approach and westbound Oyster Rocks Road approach would be reduced to 91.5 and 68.9 seconds of delay per vehicles, respectively, during the Saturday peak hour. Additionally, the improvements proposed as part of the Delaware Route 1/Cave Neck Road grade-separated interchange project may impact traffic operations at this intersection. Therefore, we do not recommend that the developer implement any improvements at this intersection. However, it is recommended that the developer coordinate with DelDOT on the implementation and equitable cost sharing of the *SR 1 & S264 Intersection Improvements* project.

The unsignalized Hudson Road/Steamboat Landing Road intersection with Delaware Route 1 exhibits LOS deficiencies during all peak hours under existing and future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the eastbound Hudson Road approach, westbound Steamboat Landing Road approach, and northbound Delaware Route 1 left turn with delays of over 1,000 seconds per vehicle and up to 242.6 and 37.9 seconds per vehicle, respectively, during the Saturday peak hour under future conditions.

The *SR 1 & S258 Intersection Improvements* project (DelDOT Contract No. T201904303) includes the restriction of eastbound Hudson Road and westbound Steamboat Landing Road left turn and through movements. With these improvements, deficiencies would still occur along the eastbound Hudson Road approach and northbound Delaware Route 1 left turn during the Saturday peak hour under future conditions, with or without the proposed development. However, the delays along the eastbound approach and northbound left turn will be reduced to 324.0 and 38.5 seconds of delay per vehicle, respectively, during the Saturday peak hour under future conditions with the proposed development. Additionally, the improvements proposed as part of the Delaware Route 1/Cave Neck Road grade-separated interchange may impact traffic operations at this intersection. Therefore, we do not recommend that the developer implement any improvements at this



intersection. However, it is recommended that the developer coordinate with DelDOT on the implementation and equitable cost sharing of *SR 1 & S258 Intersection Improvements* project. It is expected that the Compass Point development will contribute to the improvements at this intersection as well.

The unsignalized Sweetbriar Road intersection with Cave Neck Road exhibits LOS deficiencies during the AM peak hour under future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the northbound Sweetbriar Road approach with delays up to 41.5 seconds per vehicle during the AM peak hour under future conditions. Sweetbriar Road intersects Cave Neck Road at a skewed angle. Furthermore, this intersection is only approximately 230 feet west of the Cave Neck Road and Hudson Road intersection.

The unsignalized Hudson Road intersection with Cave Neck Road exhibits LOS deficiencies during all peak hours under future conditions, with or without the construction of the 5,068 square-foot convenience store with gas pumps and apartment units. The deficiencies occur along the southbound Hudson Road approach with delays of up to 248.4 seconds per vehicle under future conditions.

The DelDOT *FY21-FY 26 Capital Transportation Program (CTP)* includes a future improvement project at the Cave Neck Road, Hudson Road, and Sweetbriar Road intersection. Based on the CTP, the design is scheduled to start in Fiscal Year 2025. The developer should coordinate with DelDOT on the implementation and equitable cost sharing of this future CTP project.

Per coordination with DelDOT, JMT conducted the additional Case 4a and 4b scenarios with only the development of the proposed convenience store with gas use, with or without a rights-in access along Delaware Route 1, and with or without a Connector Road built between Cave Neck Road and Red Fox Lane. JMT also conducted a Case 4c scenario with only the development of the proposed convenience store with gas use and apartment units, without a rights-in access along Delaware Route 1, and with a Connector Road built between Cave Neck Road and Red Fox Lane. Based on the results of the analyses and the proposed improvements as part of the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201), it is recommended that the rights-in access along Delaware Route 1 not be provided prior to the completion of the DelDOT project as the provision of this access would be in close proximity to the existing southbound Delaware Route 1 right turn lane onto Cave Neck Road. The existing right turn lane would be eliminated per the design of the grade separated intersection which would impact the location of the rights-in access.

Additionally, it is recommended that the developer construct the Connector Road between Cave Neck Road and Red Fox Lane at a location consistent with the DelDOT project. Furthermore, as the proposed Site Entrance along Cave Neck Road would operate without any capacity constraints, it is recommended that the developer construct the site access as a temporary unsignalized T-intersection until the roundabout is constructed as part of the DelDOT project.



Full Build Out of Site

The following intersections, which would experience capacity constraints with the construction of only the 5,068 square-foot convenience store with gas, would continue to experience capacity constraints with the full build out of the site and no additional improvements/contributions aside from those mentioned in the First Phase section are recommended:

- Red Fox Lane intersection with Delaware Route 1
- Cave Neck Road intersection with Delaware Route 1
- Minos Conaway Road intersection with Delaware Route 1
- Nassau Road intersection with Delaware Route 1
- Eagles Crest Road/Oyster Rocks Road
- Hudson Road/Steamboat Landing Road intersection with Delaware Route 1
- Sweetbriar Road intersection with Cave Neck Road
- Hudson Road intersection with Cave Neck Road

The unsignalized Site Entrance A intersection with Cave Neck Road is proposed approximately 475 feet west of Delaware Route 1 and exhibits LOS deficiencies during the AM and PM peak hours under future conditions with the proposed development. These deficiencies occur along the southbound Site Entrance A approach and can be mitigated by the provision of a roundabout. Per the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201) preferred alternative layout, a roundabout is recommended along the Cave Neck Road site frontage. As a roundabout will be constructed as part of the DelDOT project, we do not recommend that the developer implement any improvements at this intersection. However, it is recommended that the developer coordinate with DelDOT on the implementation and equitable cost sharing of the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201).

Per the May 3, 2019 DelDOT Scoping Meeting Memorandum, two build scenarios were evaluated: one with a rights-in along southbound Delaware Route 1 and one without a rights-in along southbound Delaware Route 1. Per the *SR 1 and Cave Neck Road Grade Separated Intersection* project preferred alternative plan, a frontage road is proposed to be constructed to the west of southbound Delaware Route 1 between the Red Fox Lane and Pondview Drive intersections. The rights-in for the Chappell Farm site would be constructed along this frontage road. As such, it is recommended that the rights-in access be constructed along the frontage road after the *SR 1 and Cave Neck Road Grade Separated Intersection* project is completed.

Should Sussex County 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. The items have been split into two phases as the second phase of the site should be constructed when the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201) is completed.



First Phase of Site Construction – 5,068 square-foot convenience store with gas pumps and 94 apartment units

1. The developer should provide a bituminous concrete overlay to the existing travel lanes along the Cave Neck Road site frontage in the area affected by entrance plan construction at proposed Site Entrance A, including any auxiliary lanes, at DelDOT’s discretion. DelDOT should analyze the existing lanes’ pavement section and recommend an overlay thickness to the developer’s engineer, if necessary.

This requirement may be eliminated upon the selection and review of the pavement core data that can occur during the plan review process.

2. The developer should construct a full access site entrance (Site Entrance A) for the proposed Chappell Farm development on Cave Neck Road, approximately 400 feet west of Delaware Route 1 to be consistent with the lane configurations shown in the table below:

Approach	Current Configuration	Proposed Configuration
Eastbound Cave Neck Road	One through lane	One left turn lane and one through lane
Westbound Cave Neck Road	One through lane	One through lane and one right turn lane
Southbound Site Entrance A	Approach does not exist	One shared left turn/right turn lane

Based on DelDOT’s *Development Coordination Manual*, the recommended minimum storage length is 350 feet (excluding taper) for the westbound Cave Neck Road right turn lane and 210 feet (excluding taper) for the eastbound Cave Neck Road left turn lane. The calculated queue lengths from the HCS analysis can be accommodated within the recommended storage lengths. The developer should submit a plan to DelDOT’s Development Coordination section depicting the design along the site frontage. The final design of the site entrance should be determined during the Entrance Plan review process.

3. The developer should construct a Connector Road between Cave Neck Road and Fox Run Lane. The southerly leg of the Connector Road would transition to the Site Entrance A intersection with Cave Neck Road. The exact location and design of the connector road should be coordinated with DelDOT for consistency with the proposed improvements as part of the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201). The Chappell Farm entrance onto the new Connector Road should be located along an area without horizontal curvature. If the Connector Road is to be dedicated to public use, the appropriate right-of-way/permanent easements should be



dedicated to DelDOT as it will be State maintained and should be designed/constructed to State standards. The value of the construction of the Connector Road and the right-of-way that would be dedicated in this regard can be counted towards the contribution for the *SR 1 and Cave Neck Road Grade Separated Intersection* project per the discussion in Item number 8 below.

4. The *DelDOT FY21-FY26 Capital Transportation Program (CTP)* includes a future improvement project at the Cave Neck Road, Hudson Road, and Sweetbriar Road intersection. Based on the CTP, design is scheduled to start in Fiscal Year 2025. The developer should coordinate with DelDOT on the implementation and equitable cost sharing of this future CTP project.
5. The developer should enter into an agreement with DelDOT to fund an equitable portion of improvements to the intersections of Delaware Route 1 with Minos Conaway Road and Nassau Road as part of the *Delaware Route 1 and Minos Conaway Road Grade Separated Intersection* project (DelDOT Contract No. T201612501). The developer should coordinate with DelDOT on the implementation and equitable cost sharing of the improvements. The cost contribution should consider the full buildout of the Chappell Farm site.
6. The developer should enter into an agreement with DelDOT to fund an equitable portion of improvements to the intersection of Delaware Route 1 with Eagles Crest Road/Oyster Rocks Road as part of the *SR 1 & S264 Intersection Improvements* project (DelDOT Contract No. T201904302). The developer should coordinate with DelDOT on the implementation and equitable cost sharing of the improvements. The cost contribution should consider the full buildout of the Chappell Farm site.
7. The developer should enter into an agreement with DelDOT to fund an equitable portion of improvements to the intersection of Delaware Route 1 with Hudson Road/Steamboat Landing Road as part of the *SR 1 & S258 Intersection Improvements* project (DelDOT Contract No. T201904303). The developer should coordinate with DelDOT on the implementation and equitable cost sharing of the improvements. The cost contribution should consider the full buildout of the Chappell Farm site. It is expected that the Compass Point development will contribute to the improvements at this intersection as well.
8. The developer should enter into an agreement with DelDOT to fund an equitable portion of improvements to the intersections of Delaware Route 1 with Red Fox Lane and Cave Neck Road as part of the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201). The developer should coordinate with DelDOT on



the implementation and equitable cost sharing of these improvements. The cost contribution should consider the full buildout of the Chappell Farm site.

9. 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 DelDOT along the Cave Neck Road site frontage (west of the new Connector Road). 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. The developer should coordinate with DelDOT's Development Coordination section during the plan review process to identify the exact location of the SUP.
 - b. An access-way should be provided from the SUP into the site.
 - c. Where internal sidewalks are located alongside of parking spaces, a buffer, physical barrier or signage should be added to eliminate vehicular overhang onto the sidewalk.
 - d. Internal bicycle racks should be provided for the commercial use and the apartment units.
 - e. ADA compliant curb ramps and marked crosswalks should be provided along the Site Entrance A approach to Cave Neck Road. The use of diagonal curb ramps is discouraged.
 - f. Minimum five-foot wide bicycle lanes should be incorporated in the right turn lanes and shoulder along the Cave Neck Road approaches to Site Entrance A.
 - g. Utility covers should be moved outside of any designated bicycle lanes and any proposed sidewalks/shared-use paths or should be flush with the pavement.

Second Phase of Site Construction – The remaining approximately 15,635 square feet of commercial space and approximately 21,365 square feet of commercial space

It is assumed the Site Entrance A/Cave Neck Road intersection will be converted to a roundabout by DelDOT as part of the *SR 1 and Cave Neck Road Grade Separated Intersection* project (DelDOT Contract No. T201912201). As such, no additional improvements to be completed by the developer are listed for the intersection with the second phase of the site.



1. The developer should provide a bituminous concrete overlay to the existing travel lanes along the Cave Neck Road site frontage in the area affected by entrance plan construction, at proposed Site Entrance B including any auxiliary lanes, at DelDOT’s discretion. DelDOT should analyze the existing lanes’ pavement section and recommend an overlay thickness to the developer’s engineer, if necessary.
2. The developer should provide a bituminous concrete overlay to the existing travel lanes along the southbound Delaware Route 1 frontage road site frontage in the area affected by entrance plan construction, including any auxiliary lanes, at DelDOT’s discretion. DelDOT should analyze the existing lanes’ pavement section and recommend an overlay thickness to the developer’s engineer, if necessary.
3. The developer should construct a full access site entrance (Site Entrance B) for the proposed Chappell Farm development on Cave Neck Road, approximately 900 feet west of Delaware Route 1 to be consistent with the lane configurations shown in the table below:

Approach	Current Configuration	Proposed Configuration
Eastbound Cave Neck Road	One through lane	One left turn lane and one through lane
Westbound Cave Neck Road	One through lane	One through lane and one right turn lane
Southbound Site Entrance B	Approach does not exist	One shared left turn/right turn lane

Based on DelDOT’s *Development Coordination Manual*, the recommended minimum storage length is 350 feet (excluding taper) for the westbound Cave Neck Road right turn lane and 210 feet (excluding taper) for the eastbound Cave Neck Road left turn lane. However, the left turn lane storage length can be reduced to a minimum of 130 feet (excluding taper) due to the proximity of the Samuel Paynter Boulevard intersection with Cave Neck Road. The calculated queue lengths from the HCS analysis can be accommodated within the recommended storage lengths. The developer should submit a plan to DelDOT’s Development Coordination section depicting the design along the site frontage. The final design of the site entrance should be determined during the Entrance Plan review process.

4. The developer should construct a rights-in only site entrance for the proposed Chappell Farm development on the southbound Delaware Route 1 Frontage Road that would be constructed west of Delaware Route 1 as part of the *SR 1 and Cave Neck Road Grade Separated Intersection* project. The rights-in only site entrance should be constructed approximately 300 feet north of Cave Neck Road to be consistent with the lane configurations shown in the table below:



Approach	Current Configuration	Proposed Configuration
Southbound Delaware Route 1 Frontage Road	Approach does not exist	One through lane and one right turn lane

Based on Table 10-5 from Chapter 10 of AASHTO, *A Policy on Geometric Design of Highways & Streets*, 6th Edition, the recommended minimum deceleration length (excluding taper) for the right turn lane is 405 feet. The developer should submit a plan to DelDOT’s Development Coordination section depicting the design along the site frontage. The final design of the site entrance should be determined during the Entrance Plan review process.

5. 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 DelDOT along the southbound Delaware Route 1 Frontage Road and Cave Neck Road (west of the Connector Road) site frontages. Within the easement, the developer should construct a ten-foot wide shared-use path (SUP). The developer should coordinate with DelDOT’s Development Coordination section during the plan review process to identify the exact location of the SUP.
 - b. An access-way should be provided from the SUP into the site.
 - c. A SUP is required on both sides of the Connector Road between the commercial and residential uses.
 - d. An internal connection should be provided between the uses on the easterly and westerly sides of the Connector Road.
 - e. Where internal sidewalks are located alongside of parking spaces, a buffer, physical barrier or signage should be added to eliminate vehicular overhang onto the sidewalk.
 - f. Internal bicycle racks should be provided for the commercial use.
 - g. ADA compliant curb ramps and marked crosswalks should be provided along the Site Entrance B approaches to Cave Neck Road and the Site Entrance C approach to the southbound Delaware Route 1 Frontage Road. The use of diagonal curb ramps is discouraged.



- h. Utility covers should be moved outside of any proposed sidewalks/shared-use paths or should be flush with the pavement.

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. Don Weber, Assistant Director for Traffic Operations and Management. Mr. Weber can be reached at (302) 659-4651 or by email at Don.Weber@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 in a cursive style.

Joanne M. Arellano, P.E., PTOE

cc: Mir Wahed, P.E., PTOE
Enclosure

General Information

Report date: February 2020

Prepared by: Becker Morgan Group, Inc.

Prepared for: Hudson Management, LLC

Tax Parcel: 235-23.00-1.02

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

Project Description and Background

Description: The developer seeks to develop 94 apartment units, a 37,000 square foot shopping center, and a 5,068 square foot super convenience store with gas pumps.

Location: The subject site is located on the northwest corner of the intersection of Delaware Route 1 and Cave Neck Road (Sussex Road 88) in Sussex County, Delaware.

Amount of Land to be developed: An approximately 14.9-acre parcel.

Land Use approval(s) needed: Rezoning and Entrance Plan.

Proposed completion date: 2023

Proposed access location: Two full access points are proposed: one along Cave Neck Road (Site Access A), approximately 475 feet west of Delaware Route 1 and the other along Cave Neck Road (Site Access B), approximately 900 feet west of Delaware Route 1. One rights-in only access is proposed along southbound Delaware Route 1 (Site Access C), approximately 600 feet north of Cave Neck Road.

Daily Traffic Volumes:

- 2019 Average Annual Daily Traffic on SR 1: 41,783 vehicles per day (non-Summer)
- 2019 Average Annual Daily Traffic on Cave Neck Road: 7,339 vehicles per day (non-Summer)

Site Map



**Graphic is an approximation based on the Conceptual Site Plan prepared by Becker Morgan Group dated March 5, 2019.*

Relevant and On-going Projects

DelDOT has several relevant and ongoing improvement projects within the study area including the *Corridor Capacity Preservation Program (CCPP)*, which aims to maintain the regional importance and preserve the intended function and capacity of existing designated transportation routes within the Program. The main objectives of the program are listed below:

- Prevent the need to build an entirely new road
- Minimize the transportation impacts of increased economic growth
- Maintain an existing road's ability to handle traffic efficiently and safely
- Preserve the ability to make future improvements
- Sort local and through traffic

Delaware Route 1 is one of the highways included in the CCPP. More information regarding the CCPP can be found at: https://deldot.gov/Publications/manuals/corr_cap/index.shtml.

DelDOT is proposing to build a grade-separated interchange at the intersection of Delaware Route 1 and Cave Neck Road (DelDOT Contract No. T201912201). The selected alternative proposes Cave Neck Road to be elevated over Delaware Route 1. A new connector road would be constructed between Fox Run Lane and Cave Neck Road. This connector road would intersect Cave Neck Road at a roundabout. The southerly leg of this roundabout would provide a rights-

in/rights-out access to southbound Delaware Route 1. Additionally, the Fox Run Lane and Delaware Route 1 intersection would be eliminated. A roundabout would also be added along Cave Neck Road on the easterly side of Delaware Route 1 and the southerly leg of this roundabout would provide a rights-in/rights-out access to northbound Delaware Route 1. A new frontage road would be constructed on the westerly side of Delaware Route 1 between Fox Run Lane and Pondview Drive as well as on the easterly side of Delaware Route 1 between Willow Creek Road and Cave Neck Road. Design is underway and construction is expected to start in 2025. More information regarding the *SR 1 and Cave Neck Road Grade Separated Intersection* project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201912201>.

The second project within the study area is the *SR 1, Minos Conaway Road Grade Separated Intersection* project (DelDOT Contract No. T201612501), which will provide a grade separated intersection to separate through movements along Delaware Route 1 and turning movements to and from Minos Conaway Road, Nassau Road and Old Mill Road. Per the preferred alternative concept plan, shared-use paths would also be constructed along Minos Conaway Road, Nassau Road, Janice Road, and along southbound Delaware Route 1 south of Janice Road to accommodate pedestrians and bicyclists. This project intends to maintain capacity of the Delaware Route 1 corridor and improve safety at the unsignalized intersection of Delaware Route 1 and Minos Conaway Road, while improving mobility and access for local traffic. The project is expected to begin construction in 2023 and be completed in 2025. More information regarding the Delaware Route 1 and Minos Conaway Grade Separated Intersection project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201612501>.

The third project within the study area is at the intersection of Delaware Route 1 and Hudson Road (Sussex Road 258)/Steamboat Landing Road (DelDOT Contract No. T201904303). As part of the project, left turns and through movements along Hudson Road and Steamboat Landing Road would be prohibited. Northbound and southbound left turning movements along Delaware Route 1 would be permitted. Design is underway with construction anticipated to start in the fall of 2020 or the spring of 2021. More information regarding *SR 1 & S258 Intersection Improvements* project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201904303#project-details1>.

The fourth project within the study area is at the intersection of Delaware Route 1 and Oyster Rocks Road (Sussex Road 264) (DelDOT Contract No. T201904302). As part of the project, acceleration lanes along northbound and southbound Delaware Route 1 would be provided for the left turning movements from Eagle Crest Road and Oyster Rocks Road. Through movements between Eagle Crest Road and Oyster Rocks Road would be prohibited. Northbound and southbound left turning movements from Delaware Route 1 would also be prohibited. Design is underway with construction anticipated to start in the fall of 2020 or the spring of 2021. More information regarding the *SR 1 & S264 Intersection Improvements* project can be found at: <https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T201904302>.

DelDOT's 2016 Hazard Elimination Program (HEP) identified Site H which is within the project area. Site H is a 0.30-mile corridor along Cave Neck Road from 0.29 mile west of Delaware Route 1 to the Delaware Route 1 intersection. The Site H Task I report included a crash summary and

recommended to evaluate improvement options to reduce angle crashes and median confusion as part of the unsignalized crossover studies along Delaware Route 1. This area was further reviewed under Task II to evaluate several median channelization options at the Delaware Route 1 and Cave Neck Road intersection. Recommendations included accommodating northbound left-turns only and installing a partial signal at the intersection of Delaware Route 1 and Cave Neck Road to act as an interim improvement, before constructing a grade separated interchange as part of the previously mentioned CCPP Project. Also, providing a flashing red arrow phase may be considered during the off-peak hours as part of the design of these improvements. Field visits confirm that southbound Delaware Route 1 left turning movements and eastbound Cave Neck Road left turning movements have been prohibited at the intersection.

The DelDOT *FY21-FY 26 Capital Transportation Program (CTP)* includes a future improvement project at the Cave Neck Road, Hudson Road, and Sweetbriar Road intersection. Based on the CTP, the design is scheduled to start in Fiscal Year 2025.

Additionally, DelDOT is proposing to add lighting to the Delaware Route 1 and Cave Neck Road intersection. Design has been completed and implementation is expected in the fall of 2020.

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 Investment Level 3 and Investment Level 4 areas.

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). 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. 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. 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.

Investment Level 4

Delaware's Investment Level 4 Areas are rural in nature and are where the bulk of the state's open space/natural areas and agricultural industry is located. These areas contain agribusiness activities, farm complexes, and small settlements. They typically include historic crossroads or points of trade, often with rich cultural ties. Delaware's Investment Level 4 Areas are also the location of scattered residential uses, featuring almost entirely single-family detached residential structures. Delaware's Investment Level 4 Areas also include many unincorporated communities, typically with their own distinctive character and identity. Investment Level 4 Areas depend on a transportation system primarily of secondary roads linked to roadways used as regional thoroughfares for commuting and trucking.

It is the state's intent to discourage additional urban and suburban development in Investment Level 4 Areas unrelated to agriculture and to the areas' needs. In Investment Level 4 Areas, the state's investments and policies should retain the rural landscape and preserve open spaces and farmlands, support farmland-related industries, and establish defined edges to more concentrated development. The focus for the Level 4 Areas will be to preserve and maintain existing facilities in safe working order, corridor-capacity preservation, and the enhancement of transportation facilities to support agricultural business.

Proposed Development's Compatibility with Livable Delaware:

A portion of the site (a section of the proposed convenience store with gas) would be in the Investment Level 3 area and the rest of the site would be in the Investment Level 4 area. According to Livable Delaware, the state's investments and policies should retain the rural landscape and preserve open spaces and farmlands within Level 4 areas. In addition, construction of new homes is discouraged in Level 4 areas. Therefore, the proposed development is generally not consistent with the 2015 update of the Livable Delaware "Strategies for State Policies and Spending."

Comprehensive Plans

(Source: Sussex County March 2019 Comprehensive Plan)

Sussex County Comprehensive Plan:

Per the *Sussex County Comprehensive Plan Future Land Use Map*, the proposed development is in an area designated as Low Density.

Proposed Development's Compatibility with the Sussex County Comprehensive Plan:

Per the *Sussex County Comprehensive Plan*, Sussex County hopes to retain the rural environment of Low Density areas. Therefore, the proposed development is generally not consistent with the *Sussex County March 2019 Comprehensive Plan*. However, the developer is proposing to rezone the land to heavy commercial.

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, 10th Edition: An ITE Informational Report*, published by the Institute of Transportation Engineers (ITE) for ITE Land Use Code 220 (multi-family low rise), Land Use Code 820 (Shopping Center), and Land Use Code 960 (super

convenience market with gas station). The trip generation was approved by DelDOT during the PTIS review.

Table 1
Chappell Farm Trip Generation

Land Use	ADT	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
94 Multi-family Housing, Low Rise (ITE Code 220)	670	10	35	45	35	21	56	34	34	68
37,000 SF Shopping Center (ITE Code 820)	3,058	105	65	170	125	135	260	147	135	282
5,068 SF Super Convenience Market w/ Gas Station (ITE Code 960)	4,247	216	216	432	175	176	351	163	164	327
Total Trips	7,975	331	316	647	335	332	667	344	333	677
Internal Capture	-	0	0	0	-25	-25	-50	-30	-30	-60
Pass-By Trips	-	-164	-164	-328	-170	-171	-341	-155	-151	-306
Net New Trips	-	167	152	319	140	136	276	159	152	311

Overview of TIS

Intersections examined:

1. Site Access A/Cave Neck Road (Sussex Road 88)
2. Site Access B/Cave Neck Road
3. Site Access C/Delaware Route 1
4. Delaware Route 1/Red Fox Lane
5. Delaware Route 1/Cave Neck Road
6. Delaware Route 1/Minos Conaway Road (Sussex Road 265)
7. Delaware Route 1/Nassau Road (Sussex Road 266)
8. Delaware Route 1/Eagles Crest Rd/Oyster Rocks Road (Sussex Road 264)
9. Delaware Route 1/Hudson Road/Steamboat Landing Road (Sussex Road 258)
10. Cave Neck Road/Samuel Paynter Boulevard
11. Cave Neck Road/E. Mill Run Road
12. Cave Neck Road/Old Grist Run
13. Cave Neck Road/Beulah Boulevard
14. Cave Neck Road/Sweetbriar Road (Sussex Road 261)
15. Cave Neck Road/Hudson Road
16. Hudson Road/Walker Road (Sussex Road 260)

Conditions examined:

1. Case 1 – 2019 Existing Condition
2. Case 2 – 2023 without development
3. Case 3a– 2023 with development and without rights-in access along Delaware Route 1
4. Case 3b – 2023 with development and with rights-in access along Delaware Route 1

Note: The Scoping Meeting Memorandum also identified additional cases to be evaluated considering the Delaware Route 1/Cave Neck Road grade separated interchange configuration with and without a rights-in access on Delaware Route 1. The preferred alternative was not selected prior to the completion of the Final TIS report. As such, DelDOT agreed to eliminate the required analysis of an interchange at Delaware Route 1/Cave Neck Road.

Committed Developments considered:

1. Overbrook Meadows Phases 1 and 2 (175 single family detached houses to be considered in Case 3)
2. Compass Point (f.k.a. Sweetbriar Road Development) (293 single-family detached houses)
3. Red Mill Pond North (343 single-family detached houses)
4. Red Mill Pond South (117 townhouses)
5. Cool Spring Farm (f.k.a. Log Cabin Hill Road) (425 single-family detached houses)
6. Sussex Consortium School (415 student elementary school)
7. Vincent Overlook (54 single-family detached houses)
8. Windstone (360 single-family detached houses)

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

Intersection Descriptions

1. Site Entrance A/Cave Neck Road (Sussex Road 88)

Type of Control: Proposed two-way stop-controlled intersection (T intersection)

Eastbound Approach: (Cave Neck Road) Existing one through lane and proposed one left-turn lane

Westbound Approach: (Cave Neck Road) Existing one through lane and proposed one right turn lane

Southbound Approach: (Site Entrance A) Proposed one left-turn lane and one right turn lane, stop-controlled

2. Site Entrance B/Cave Neck Road

Type of Control: Proposed two-way stop-controlled intersection (T intersection)

Eastbound Approach: (Cave Neck Road) Existing one through lane and proposed one left turn lane

Westbound Approach: (Cave Neck Road) Existing one through lane and proposed one right turn lane

Southbound Approach: (Site Entrance B) Proposed one shared left turn/right turn lane, stop-controlled

3. Site Entrance C/Delaware Route 1

Type of Control: Proposed rights-in only access driveway

Southbound Approach: (Delaware Route 1) Proposed two through lanes and one rights-in-only lane

4. Delaware Route 1/Red Fox Lane

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Red Fox Lane) Existing one right turn lane, stop-controlled

Northbound Approach: (Delaware Route 1) Existing one left turn lane and two through lanes

Southbound Approach: (Delaware Route 1) Existing one left turn lane, two through lanes, and one right-turn lane

5. Delaware Route 1/Cave Neck Road

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Cave Neck Road) Existing one right turn lane (stop-controlled)

Northbound Approach: (Delaware Route 1) Existing one left turn lane and two through lanes

Southbound Approach: (Delaware Route 1) Existing two through lanes and one right turn lane

6. Delaware Route 1/Minos Conaway Road (Sussex Road 265)

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Minos Conaway Road) Existing one left turn lane and one right turn lane, stop controlled

Northbound Approach: (Delaware Route 1) Existing one left turn lane and two through lanes

Southbound Approach: (Delaware Route 1) Existing one left turn lane two through lanes and one channelized right turn lane

7. Delaware Route 1/Nassau Road (Sussex Road 266)

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Westbound Approach: (Nassau Road) Existing one shared left turn/right turn lane, stop-controlled

Northbound Approach: (Delaware Route 1) Existing one left-turn lane, two through lanes and one right-turn lane

Southbound Approach: (Delaware Route 1) Existing one left turn lane and two through lanes

8. Delaware Route 1/Eagles Crest Road/Oyster Rocks Road (Sussex Road 264)

Type of Control: Existing two-way stop-controlled intersection (four-legged)

Eastbound Approach: (Eagles Crest Road) Existing one shared left turn/through/right turn lane, stop-controlled

Westbound Approach: (Oyster Rocks Road) Existing one shared left turn/through/right turn lane, stop controlled

Northbound Approach: (Delaware Route 1) Existing one left turn lane, two through lanes, and one right turn lane

Southbound Approach: (Delaware Route 1) Existing one left turn lane, two through lanes, and one right turn lane

9. Delaware Route 1/Hudson Road/Steamboat Landing Road (Sussex Road 258)

Type of Control: Existing two-way stop-controlled intersection (four-legged)

Eastbound Approach: (Hudson Road) Existing one shared left turn/through/right turn lane, stop-controlled

Westbound Approach: (Steamboat Landing Road) Existing one shared left turn/through/right turn lane, stop controlled

Northbound Approach: (Delaware Route 1) Existing one left turn lane, two through lanes, and one right turn lane

Southbound Approach: (Delaware Route 1) Existing one left turn lane, two through lanes, and one right turn lane

10. Cave Neck Road/Samuel Paynter Boulevard

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Cave Neck Road) Existing one through lane and one right turn lane

Westbound Approach: (Cave Neck Road) Existing one left turn lane and one through lane

Northbound Approach: (Samuel Paynter Boulevard) Existing one left turn lane and one right turn lane, stop-controlled

11. Cave Neck Road/E. Mill Run Road

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Cave Neck Road) Existing one through lane and one right turn lane

Westbound Approach: (Cave Neck Road) Existing one shared left turn/through lane

Northbound Approach: (E. Mill Run Road) Existing one shared left turn/right turn lane, stop-controlled

12. Cave Neck Road/Ole Grist Run/Brookstone Drive

Type of Control: Existing two-way stop-controlled intersection (four-legged)

Eastbound Approach: (Cave Neck Road) Existing one left turn lane, one through lane and one right turn lane

Westbound Approach: (Cave Neck Road) Existing one left turn lane, one through lane and one right turn lane

Northbound Approach: (Ole Grist Run) Existing one shared left turn/through/right turn lane, stop-controlled

Southbound Approach: (Brookstone Drive) Existing one shared left turn/through/right turn lane, stop-controlled

13. Cave Neck Road/Beulah Boulevard

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Cave Neck Road) Existing one through lane and one right turn lane

Westbound Approach: (Cave Neck Road) Existing one left turn lane and one through lane

Northbound Approach: (Beulah Boulevard) Existing one shared left turn/right turn lane, stop-controlled

14. Cave Neck Road/Sweetbriar Road (Sussex Road 261)

Type of Control: Existing two-way stop-controlled intersection (four-legged)

Eastbound Approach: (Cave Neck Road) Existing one shared left turn/through/right turn lane

Westbound Approach: (Cave Neck Road) Existing one left turn lane and one shared through/right turn lane

Northbound Approach: (Sweetbriar Road) Existing one shared left turn/through/right turn lane, stop-controlled

Note: The northerly leg of the intersection is one-way northbound.

15. Cave Neck Road/Hudson Road

Type of Control: Existing two-way stop-controlled intersection (four-legged)

Eastbound Approach: (Cave Neck Road) Existing one shared left turn/through/right turn lane

Westbound Approach: (Cave Neck Road) Existing one shared left turn/through/right turn lane

Northbound Approach: (Hudson Road) Existing one shared left turn/through/right turn lane, stop-controlled

Southbound Approach: (Hudson Road) Existing one shared left turn/through/right turn lane, stop-controlled

16. Hudson Road/Walker Road (Sussex Road 260)

Type of Control: Existing two-way stop-controlled intersection (T-intersection)

Eastbound Approach: (Walker Road) Existing one shared left turn/right turn lane, stop-controlled

Northbound Approach: (Hudson Road) Existing one shared left turn/through lane

Southbound Approach: (Hudson Road) Existing one shared through/right turn lane

Transit, Pedestrian, and Bicycle Facilities

Existing transit service: Per DelDOT Gateway, Delaware Transit Corporation (DTC) currently does not provide transit stops within the study area.

Planned transit service: Per email correspondence on April 15, 2020 with Mr. Jared Kauffman, Fixed-Route Planner at the DTC, a shared-use path (SUP) should be placed along Cave Neck Road to give DTC the option of creating bus stops in the future, if deemed necessary.

Existing bicycle and pedestrian facilities: According to DelDOT's *Sussex County Bicycle Map*, one Connector Bicycle Route and one Regional Bicycle Route exist within the study area. The Connector Bicycle Route travels along Hudson Road, traversing through two study intersections (Cave Neck Road and Walker Road). The Regional Bicycle Route exists along Sweetbriar Road and traverses through two study intersections (Cave Neck Road and Hudson Road) before continuing northwest along Cave Neck Road. There are no pedestrian facilities within the study area.

Planned bicycle and pedestrian facilities: Per email correspondence on April 15, 2020 from Mr. John Fiori, DelDOT's Bicycle Coordinator, the following improvements were recommended:

- Construct a 10-foot wide shared-use path (SUP) along both property frontages.
- An internal connection is required from the SUP along Cave Neck Road and Delaware Route 1 into the proposed site.
- A SUP will be required on both sides of the service road between the commercial and residential use.
- An internal connection will be required between the commercial and residential use.
- Internal bicycle racks for the commercial use along Delaware Route 1 and bike racks for the apartment units.
- Per the Development Coordination Manual (DCM) the site shall dedicate right-of-way per the roadway classification and establish a 15-foot wide permanent easement along the property frontages.

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.

- Delaware Route 1 – LTS: 3 and 4
- Cave Neck Road – LTS: 3 and 4

Crash Evaluation

Per the crash data included in the TIS from May 14, 2016 to May 14, 2019 and provided by the Delaware Crash Analysis Reporting System, a total of 147 crashes were reported within the study area. Of the 147 crashes reported:

- 44 crashes occurred between the two unsignalized intersections of Cave Neck Road and Sweetbriar Road and Cave Neck Road and Hudson Road, which are approximately 300 feet apart from each other.
 - Of the 44 crashes at these two intersections, 34 were angle incidents. 12 of these angle crashes resulted in injuries.
- 28 crashes occurred at the unsignalized intersection of Delaware Route 1 and Hudson Road/Steamboat Landing Road.
 - Of those 28 crashes, 10 were angle incidents. 6 out of the 10 angle crashes resulted in injuries.
 - Of those 28 crashes, 7 were rear-end incidents. 4 out of the 7 rear-end crashes resulted in injuries.
- 25 crashes occurred at the unsignalized intersection of Delaware Route 1 and Minos Conaway Road.
 - Of those 25 crashes, 10 were angle incidents. 4 out of the 10 angle crashes resulted in injuries.
- 20 crashes occurred at the unsignalized intersection of Delaware Route 1 and Nassua Road.
 - Of those 20 crashes, 7 were rear-end incidents. 2 out of the 7 rear-end crashes resulted in injuries.
- No fatalities were reported within the study area during the 3-year study period.

Previous Comments

Comments provided by DeIDOT during the Preliminary TIS review have been addressed in the Final TIS.

General HCS Analysis Comments

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

1. Per DelDOT's *Development Coordination Manual*, JMT and TIS used a heavy vehicle percentage of 3% for each movement greater than 100 vph in the Case 2 and Case 3 future scenario analyses, 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.
2. 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 did not.
3. Per DelDOT's *Development Coordination Manual*, JMT and 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.
4. The TIS analyzed the intersections along Delaware Route 1 using Synchro software. However, per direction from DelDOT, JMT analyzed the intersections along Delaware Route 1 using HCS7 software.
5. Per coordination with DelDOT, JMT conducted the following additional scenarios:
 - a. Case 4a - 2023 with development of convenience store with gas only, without rights-in access along Delaware Route 1, and with a Connector Road built between Cave Neck Road and Red Fox Lane
 - b. Case 4b – 2023 with development of convenience store with gas only, with rights-in access along Delaware Route 1, and without a Connector Road built between Cave Neck Road and Red Fox Lane
 - c. Case 4c – 2023 with development of convenience store and 94 apartment units without rights-in access along Delaware Route 1, and with a Connector Road built between Cave Neck Road and Red Fox Lane



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Artesian Water Maryland ▲ Artesian Wastewater Maryland ▲ Artesian Consulting Engineers

August 3, 2020

Chad D. Carter – Associate
Landscape Architect, RLA, ASLA
BECKER MORGAN GROUP, INC.
Delaware | Maryland | North Carolina

RE: Ability to Serve Letter for Tax Parcel 235-23.00-1.02, Chappell Farm

To whom it may concern:

With reference to your request concerning water and wastewater service to the Chappell Farm project located at the intersection of Route 1 and Cave Neck Road, Milton, DE, please be advised as follows:

The proposed project consisting of Elderly Living Facilities, Apartments and Mixed-Use Buildings retail buildings is within Artesian Water Company's service territory. A Certificate of Public Convenience and Necessity (CPCN) for water has been granted to Artesian by the Delaware Public Service Commission for this property. The developer and Artesian Water Company, Inc. shall enter into a Water Service Agreement that addresses the financial terms of the provision of water service in accordance with Artesian's tariff as approved by the Delaware Public Service Commission.

The proposed project is not within Artesian Wastewater Management Inc's service territory. A Certificate of Public Convenience and Necessity (CPCN) for wastewater must be granted to Artesian by the Delaware Public Service Commission for this property. The developer and Artesian Wastewater Management Inc. shall enter into a Wastewater Service Agreement that addresses the financial terms of the provision of wastewater service in accordance with Artesian's tariff as approved by the Delaware Public Service Commission.

Based on current conditions and projections of growth within the Company's service area, Artesian is willing and able to provide the required water and wastewater service to this project. An anticipated construction schedule is required in order for Artesian to assess the impact of service requests upon its ability to meet projected water and wastewater demands.

This letter shall expire if a water and wastewater service agreements are not executed within one year of the date of this letter.

If you have any questions, please do not hesitate to contact us.

Yours very truly,

A handwritten signature in black ink, appearing to read "Adam Gould".

Adam Gould
Manager, Systems Planning & Design



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FAX 302.734.7965

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PORT EXCHANGE
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WILMINGTON, NORTH CAROLINA 28403
910.341.7600
FAX 910.341.7506

www.beckermorgan.com

March 11, 2019

John Ashman
Sussex County Utility Planning
2 The Circle, P.O. Box 589
Georgetown, DE 19947

RE: **Sussex County Sewer District Extension**
Chappell Farm LLC – Mixed Use Development
Milton, Delaware – RT 1 & Cave Neck Road
2018053.00

Dear Mr. Ashman:

We are hereby formally requesting the expansion of the Sussex County Unified Sewer District to include the proposed Chappell Farm Mixed Used Development located on the Northwest corner of Route 1 (Coastal Highway) & RD 88 (Cave Neck Road), on parcel 235-23.00-1.02

The proposed property is currently adjacent to the Paynters Mill residential sub development, & Overbrook Acres LLC located on parcel 235.23.00-1.01, which are both currently in the Sussex County Unified Sewer District, and currently being served by Sussex County. It is our understanding that Sussex County Sewer exists along Cave Neck Road, and it would be our intention to connect to the Sewer District through this service.

The anticipated EDU demand for the proposed site is 170 EDUs at this time.

Please contact me should you have any questions.

Sincerely,

BECKER MORGAN GROUP, INC.

J. Michael Riemann, P.E.
Vice President

CDC/rlh

Cc: Chappell Farm LLC

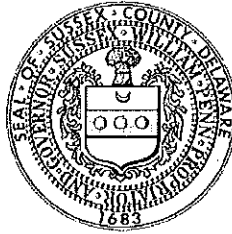
Hans Medlarz – Sussex County Engineering

201805300ag-SewerExpansionLetter

PLANNING & ZONING

JANELLE M. CORNWELL, AICP
DIRECTOR

(302) 855-7878 T
(302) 854-5079 F



Sussex County

DELAWARE
susssexcountyde.gov

Service Level Evaluation Request Form

This form **shall** be submitted to the Planning and Zoning Office and a response **shall** be received back from DeDOT prior to the applicant being able to submit an application to the Planning and Zoning Office.

Date: 3/11/19

Site Information:

Site Address/Location: N/W intersection of Coastal Hwy & Cave Neck Road

Tax Parcel Number: 235-23.00-1.02

Current Zoning: AR-1

Proposed Zoning: C3 / MR

Land Use Classification: _____

Proposed Use(s): Mixed use development featuring
Commercial & Residential Apartments

Square footage of any proposed buildings or number of units: 41,733 SF Commercial / 158 Apartments

Applicant Information:

Applicant's Name: Becker Morgan Group, Inc

Applicant's Address: 309 S. Governors Ave

City: Dover State: DE Zip Code: 19904

Applicant's Phone Number: (302) 734-7950

Applicant's e-mail address: mriemann@beckermorgan.com



COUNTY ADMINISTRATIVE OFFICES
2 THE CIRCLE | PO BOX 417
GEORGETOWN, DELAWARE 19947

SENT E MAIL
4/11/19
9:13 AM

Last updated 7-27-18



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

JENNIFER COHAN
SECRETARY

April 10, 2019

Ms. Janelle Cornwell, Director
Sussex County Planning & Zoning
P.O. Box 417
Georgetown, DE 19947

Dear Ms. Cornwell:

The Department has completed its review of a Service Level Evaluation Request for the **Becker Morgan Group, Inc.** rezoning application, which we received on March 14, 2019. This application is for a 14.92-acre parcel (Tax Parcel: 235-23.00-1.02). The subject land is located on the northwest corner of the intersection of Delaware Route 1 and Cave Neck Road (Sussex Road 88), southeast of Milton. The subject land is currently zoned AR-1 (Agricultural Residential) and the applicant is seeking to rezone the land to C-3 (Heavy Commercial) and MR (Medium-Density Residential) to build a mixed-use development consisting of approximately 41,733 square feet of commercial space and 158 apartments.

Per the 2017 Delaware Vehicle Volume Summary, the annual average and summer average daily traffic volumes along the segment of Delaware Route 1 where the subject land is located, which is from US Route 9 to Delaware Route 16, are 31,327 and 40,318 vehicles per day, respectively. As the subject land also has frontage along Cave Neck Road, the annual average and summer average daily traffic volumes along that road segment are 4,555 and 5,862 vehicles per day, respectively.

Based on our review, we estimate that the proposed land use would generate more than 50 vehicle trips in any hour or 500 vehicle trips per day, and would be considered to have a Major impact to the local area roadways. In this instance, the Department considers a Major impact to be when a proposed land use would generate more than 200 vehicle trips in any hour of the week and / or 2,000 vehicle trips per day. According to the Institute of Transportation Engineers (ITE) Trip Generation Manual, a mixed-use development consisting of 41,733 square feet of commercial space and 158 apartments would generate



Ms. Janelle M. Cornwell
Page 2 of 3
April 10, 2019

4,472 vehicle trips per day, 247 vehicle trips during the morning peak hour, and 374 vehicle trips during the afternoon peak hour. Because of this impact, we recommend that the applicant be required to perform a Traffic Impact Study (TIS) for the subject application.

The site is located along Delaware Route 1, thereby is subject to the policies of the Corridor Capacity Preservation Program. The Program's primary goal is to manage and preserve the traffic capacity and safety of the existing highway. The Program was established in accordance with the provisions of Title 17, Section 145 of the Delaware Code. The strategy for Delaware Route 1 is to convert the corridor to a limited access highway. This can be accomplished by proactively coordinating necessary road improvements to offset the increased vehicular traffic due to new developments.

Per Program policy, in Level 3 Investment Areas, the Department will only issue entrance permits for direct access to the corridor for proposed land uses that generate 200 vehicular trips per day or less per parcel, as determined by the latest edition of the Institute of Transportation Engineer's Trip Generation Manual. However, larger developments can be built if they access secondary roads and the necessary roadway improvements are constructed by the developer(s).

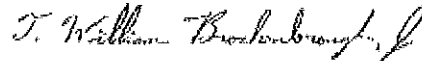
In this case, DelDOT is proposing to build an interchange at the intersection of Delaware Route 1 and Cave Neck Road. Site access would be granted to Delaware Route 1 by way of the secondary roads and service roads leading into the interchange. The geometric design of the interchange has yet to be determined, and the developer may be responsible to fund a portion of the project. For more information regarding the Corridor Capacity Preservation Program, an electronic manual detailing the Program can be viewed on the Department's website at www.deldot.gov.

A review of TIS and Traffic Operational Analysis (TOA) completed in the last five years found that the Overbrook Town Center TIS included the intersection of Delaware Route 1 and Cave Neck Road and twelve other intersections in the vicinity of the proposed development. We are providing a copy of the TIS review letter; please find it enclosed with this letter.

Ms. Janelle M. Cornwell
Page 3 of 3
April 10, 2019

Please contact Mr. Claudy Joinville, at (302) 760-2124, if you have questions concerning this correspondence or Mr. Thomas Felice, at (302) 760-2338, if you have questions concerning the Corridor Capacity Preservation Program.

Sincerely,



T. William Brockenbrough, Jr.
County Coordinator
Development Coordination

TWB:cjm
Enclosure

cc: Constance C. Holland, Coordinator, Cabinet Committee on State Planning Issues
Becker Morgan Group, Inc., Applicant
J. Marc Coté, Assistant Director, Development Coordination
Thomas Felice, Corridor Capacity Preservation Program Manager, Development
Coordination
Gemez Norwood, South District Public Works Manager, Maintenance & Operations
Susanne K. Laws, Sussex County Review Coordinator, Development Coordination
Derek Sapp, Subdivision Manager, Development Coordination
Brian Yates, Subdivision Manager, Development Coordination
John Andrescavage, Subdivision Manager, Development Coordination
Kevin Hickman, Subdivision Manager, Development Coordination
Troy Brestel, Project Engineer, Development Coordination
Claudy Joinville, Project Engineer, Development Coordination



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January 8, 2021

Ms. Constance C. Holland
Director, Office of State Planning Coordination
122 S. Martin Luther King Blvd
Dover, DE 19901

RE: **PLUS review 2018-10-15**
Chappell Farm
Sussex County, Delaware
2018053.00

Dear Connie:

Please find below our point by point response to your comments received December 3, 2018. For ease of review, please find our responses below in a different font.

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. **The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as Sussex County is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.**

***Response:** Understood, the developers intend to comply with all applicable regulations regarding the development of this property. The developer will comply with any and all regulations and/or restrictions set forth by Sussex County.*

Strategies for State Policies and Spending

This project represents land development that will result in 156 residential units and 45,000 square feet of commercial space in an Investment Level 4 area according to the *2015 Strategies for State Policies and Spending*. Investment Level 4 indicates where State investments will support agricultural preservation, natural resource protection, and the continuation of the rural nature of these areas. New development activities and suburban development are not supported in Investment Level 4 areas. These areas are comprised of prime agricultural lands and environmentally sensitive wetlands and wildlife habitats, which should be, and in many cases have been preserved.

From a fiscal responsibility perspective, development of this site is likewise inappropriate. The cost of providing services to development in rural areas is an inefficient and wasteful use of the State's fiscal resources. The project as proposed will bring new residents to an area where the State has no plans to invest in infrastructure upgrades or additional services. These residents will need access to such services and infrastructure as schools, police, and transportation. To provide some examples, the State government funds 100% of road maintenance and drainage improvements for the transportation system, 100% of school transportation and paratransit services, up to 80% of school construction costs, and 100% of the cost of police protection in the unincorporated portion of Sussex County where this development is proposed. Over the longer term, the unseen negative ramifications of

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this development will become even more evident as the community matures and the cost of maintaining infrastructure and providing services increases.

During the meeting, you mentioned that this area would be within a growth zone in the newest draft of the Sussex County Comprehensive plan. The Office of State Planning Coordination has not received that draft at that time and can use only the information in their currently certified plan, In addition, you questioned the update to the Strategies for State Policies and Spending. Should the update to Sussex County's plan reflect changes in this area they will be reflected in the 2019/2020 State Strategies update. Therefore, because the development is inconsistent with the 2015 *Strategies for State Policies and Spending* at this time, the State is cannot support the proposed development.

With that said, the comments in this letter are technical, and are not intended to suggest that the State supports this development proposal. This letter does not in any way suggest or imply that you may receive or may be entitled to permits or other approvals necessary to build on this property, construct the development you indicate, or any subdivision thereof on these lands.

Response: This project proceeded through PLUS prior DelDOT finalizing the preferred alternative for the Grade Separated interchange and prior to the final adoption of the final Sussex County Comprehensive Plan. As a result, the property is within the County Growth zone known as the Coastal Area and a portion of the property will serve the planned grade separated interchange. As a result, we believe that the State Strategies is in conflict with the Sussex Comprehensive plan given there is clear intent to invest in infrastructure at this location and physically on the subject parcel. In addition, a small portion of the property is within Investment Level 3. As such the response from the Office of State planning is inaccurate. Artesian has already acknowledged that they can serve the property and wastewater infrastructure exists along Cave Neck Road directly adjacent to the subject parcel. Lastly, there exists both medium density and commercially zoned property to the north and to the south of the subject parcel. This would seem to contradict the statement that this is a rural area. We believe that the project is consistent with the comprehensive plan and the surrounding area.

Code Requirements/Agency Permitting Requirements

Department of Transportation – Contact Bill Brockenbrough 760-2109

- The subject property fronts on Delaware Route 1, between Dover Air Force Base and Nassau, and is therefore subject to DelDOT's Corridor Capacity Preservation Program. The Program was established in accordance with the provisions of Title 17, Section 145 of the Delaware Code. The main goal of the Program is to manage and preserve the traffic capacity and safety of the existing highway. The strategy for SR-1 is to convert the corridor to a limited access highway. This can be accomplished by proactively coordinating necessary road improvements to offset the increase in vehicular traffic due to new developments.

Per Program policy, DelDOT will not permit direct access to Delaware Route 1 for large developments. However, large developments can be built if the

necessary roadway improvements are constructed by the developer(s). In this case, DelDOT would require developing a grade-separated interchange at the existing intersection of Route 1 and Cave Neck Road. DelDOT would grant access to Route 1 by way of ramps and service roads leading to the interchange.

DelDOT is presently in discussions with the owner of the land across Route 1 from the subject development about a Public-Private Partnership to build the grade-separated interchange. If that partnership moves forward, DelDOT would require the applicant to participate in it. If it does not, DelDOT plans to design and build the interchange as a State project, which it would expect to complete in Fiscal Year 2025. In that event, DelDOT would anticipate requiring the applicant to contribute toward the project. Regardless, development approvals would be phased to completion of the highway construction.

For more information regarding the Corridor Capacity Preservation Program, an electronic manual detailing the Program can be viewed on the Department's website at https://www.deldot.gov/Publications/manuals/corr_cap/index.shtml.

Response: *The applicant has been in discussions with DelDOT, and will continue to do so during planning and engineering phases.*

- The site access on Cave Neck Road must be designed in accordance with DelDOT's Development Coordination Manual, which is available at <http://www.deldot.gov/Business/subdivisions/index.shtml?dc=changes>.

The Concept Plan accompanying the PLUS application shows Red Fox Lane being closed with a cul-de-sac at Delaware Route 1 and access to the Red Fox Run subdivision being provided by a north-south street from Red Fox Lane to Cave Neck Road. DelDOT's acceptance of this arrangement, as a developer improvement, would be contingent upon the concurrence of the Red Fox Run homeowners and the creation of the north-south street as a subdivision street designed and built in accordance with DelDOT's Development Coordination Manual and in a right-of-way dedicated to public use. DelDOT presently finds the proposed right-in/right-out access proposed on Route 1 unacceptable. DelDOT anticipates requiring that the developer provide for future access through their development to the two commercial parcels fronting on Route 1 immediately south of Red Fox Run.

Response: *The proposed development provides for an access road which would connect to Red Fox Run subdivision with the anticipation that the existing entrance to the subdivision off SR-1 would be abandoned.*

- Pursuant to Section P.3 of the Manual, a Pre-Submittal Meeting is required before plans are submitted for review.

Response: *Understood. The applicant intends to meet with DelDOT prior to submitting plans for review.*

- Section P.5 of the Manual addresses fees that are assessed for the review of development proposals. DelDOT anticipates collecting the Initial Stage Fee when the record plan is submitted for review and the Construction Stage Fee when construction plans are submitted for review.

Response: *Acknowledged.*

- Per Section 2.2.2.1 of the Development Coordination Manual, Traffic Impact Studies (TIS) are warranted for developments generating more than 500 vehicle trip ends per day or 50 vehicle trip ends per hour in any hour of the day.

The PLUS application states that the proposed development would generate 8,509 vehicle trip ends per day. Therefore a TIS is warranted and DelDOT will require it.

Response: *Acknowledged, at the time of this response a TIS has been completed and accepted by DelDOT.*

- Section 3.2.4.1 of the Manual addresses the placement of right-of-way monuments (markers) along subdivision streets. DelDOT anticipates requiring that monuments be furnished and placed along the proposed north-south street in accordance with this section and would recommend that they be furnished and placed along any private subdivision streets.

Response: *Understood.*

- Section 3.2.4.2 of the Manual addresses the placement of right-of-way monuments (markers) along the roads on which a property fronts, in this case Delaware Route 1 and Cave Neck Road. Monuments sufficient to re-establish the permanent rights-of-way after the dedication discussed below should be shown on the plan and provided in the field in accordance with this section.

Response: *Acknowledged.*

- As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Manual, DelDOT will require dedication of right-of-way along the site's frontage on Delaware Route 1 and Cave Neck Road to meet DelDOT's standards for arterial and collector roads, respectively. By this regulation, this dedication is to provide a minimum of 30 feet of right-of-way from the outermost edge of the through lanes on Route 1 and 40 feet from the physical centerline of Cave Neck Road. The following right-of-way dedication note is required, "**An X-foot wide right-of-way is hereby dedicated to the State of Delaware, as per this plat.**"

While additional right-of-way may be required along both roads for the grade-separated interchange, DelDOT would compensate the applicant for acquisition of lands required beyond the above dedications.

Response: *Acknowledged, the applicant agrees to continue working with DelDOT.*

- In accordance with Section 3.2.5.1.1 of the Manual, if this development is proposing a neighborhood sign/structure, then a permanent easement shall be established at the site entrance. The easement shall be located outside of any existing and/or proposed right-of-way. It will also need to be verified that the sign/structure does not pose a sight distance and/or safety hazard.

Response: *Acknowledged*

- In accordance with Section 3.2.5.1.2 of the Manual, DelDOT will require the establishment of 15-foot wide permanent easements across the property frontage on Delaware Route 1 and Cave Neck Road. The location of the easements shall be outside the limits of the ultimate right-of-way. The easement area can be used as part of the open space calculation for the site. The following note is required, “**A 15-foot wide permanent easement is hereby established for the State of Delaware, as per this plat.**”

Response: *Acknowledged, we plan to continue working with DelDOT to ensure that all required frontage improvements are provided.*

- In accordance with Section 3.4 of the Manual, a record plan shall be prepared prior to issuing “Letter of No Objection”. The record plan submittal shall include the items listed on the Critical Items for Acceptance: Record Plan document available on the DelDOT website at <https://www.deldot.gov/Business/subdivisions/pdfs/Critical-Items-Record-Subdivision.pdf?09222017>.

Response: *Acknowledged*

- Referring to Section 3.4.2.1 of the Manual, the following items, among other things, are required on the Record Plan:
 - A Traffic Generation Diagram. See Figure 3.4.2-a for the required format and content.
 - Depiction of all existing entrances within 600 feet of the proposed entrance on Cave Neck Road.
 - Notes identifying the type of any off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.

Response: *Acknowledged*

- Section 3.5 of the Manual provides DelDOT’s requirements with regard to connectivity. The requirements in Sections 3.5.1 through 3.5.3 shall be followed for all development projects having access to state roads or proposing DelDOT-maintained public streets for subdivisions. Private or municipal streets should follow the County’s requirements for connectivity.

Response: *Understood.*

- Section 3.5.4.2 of the Manual addresses requirements for shared-use paths and sidewalks. Referring to Section 3.5.4.2.A of the Manual, in Level 4 Investment Areas, the requirement for installation of a sidewalk or Shared Use Path along the development's road frontage is at DeIDOT's discretion. Due to the rapidly developing nature of the area, DeIDOT anticipates requiring a Shared Use Path along the development frontage on Cave Neck Road.

Response: *Acknowledged, we plan to continue working with DeIDOT to ensure that all required frontage improvements are provided.*

- Referring to Section 3.5.5 of the Manual, existing and proposed transit stops and associated facilities as required by the Delaware Transit Corporation (DTC) or DeIDOT shall be shown on the Record Plan.

Response: *Acknowledged, we plan to coordinate with DeIDOT and DART for any required transit stops.*

- In accordance with Section 3.8 of the Manual, storm water facilities, excluding filter strips and bioswales, shall be located a minimum of 20 feet from the ultimate State rights-of-way.

Response: *Acknowledged.*

- Referring to Section 4.3 of the Manual, an entrance plan shall be prepared prior to issuing entrance approval. The entrance plan submittal shall include the items listed on the Critical Items for Acceptance:

Entrance/Construction/Subdivision Set Plan document available on the DeIDOT website at

https://www.deldot.gov/Business/subdivisions/pdfs/Critical-Items_Entrance_Construction_Subdivision.pdf?09222017.

- In accordance with Section 5.2.5.6 of the Manual, a separate turning template plan shall be provided to verify vehicles can safely enter and exit the site entrance. As per Section 5.2.3 of the Manual, the entrance shall be designed for the largest vehicle using the entrance.
- In accordance with Section 5.2.9 of the Manual, the Auxiliary Lane Worksheet should be used to determine whether auxiliary lanes are warranted at the site entrance and how long those lanes should be. The worksheet can be found at <http://www.deldot.gov/Business/subdivisions/index.shtml>.
- In accordance with Section 5.4 of the Manual, sight distance triangles are required and shall be established in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards. A spreadsheet has been developed to assist with this task. It can be found at <http://www.deldot.gov/Business/subdivisions/index.shtml>.
- In accordance with Section 5.14 of the Manual, all existing utilities must be shown on the plan and a utility relocation plan will be required for any utilities that need to be relocated.

- If the proposed development does not have State-maintained streets, Section 6.4.3 of the Manual, which pertains to the inspection and acceptance of commercial entrances, would apply. Construction inspection responsibilities would be in accordance with Figure 6.4.3-a. DeLDOT's preliminary reading of this figure is that the project requires Level II inspection and that a construction inspection agreement would be needed.
- Section 7.7.2 of the Manual addresses the need to provide 20-foot wide drainage easements for all storm drainage systems, open or closed, that fall outside the existing right-of-way or the drainage/utility easement. In accordance with this section, metes and bounds and total areas need to be shown for any drainage easements. The easements should be shown and noted on the record plan.

Response: *Acknowledged, we plan to continue working with DeLDOT to ensure that all required plans are prepared per the Manual. The applicant will continue working with DeLDOT to ensure all entrance plans are in accordance with DeLDOT standards and requirements. Since the PLUS hearing, the applicant has worked close with DeLDOT to complete a Traffic Impact Study and will comply with the recommendations of the TIS. The PLUS response pre-dates the completion of the TIS. As a result, the TIS represents the final recommendations and requirements of DeLDOT for which this project will comply.*

Department of Natural Resources and Environmental Control – Contact Michael Tholstrup 735-3352

- The Department of Natural Resources and Environmental Control did not submit comments regarding this application. If the development of this property requires permits from a DNREC section, please contact the DNREC regulatory agency directly.

Response: *Acknowledged, we plan to work with Sussex Conservation District to ensure all applicable DNREC regulations are adhered to.*

State Historic Preservation Office – Contact Carlton Hall 736-7404

- The Delaware SHPO does not support development in a Level 4 area.
- There is an agricultural complex (S03294) located on the southeastern part of the parcel.
- There should also be sufficient landscaping between the agricultural complex (S03294) and the development, to block adverse noise and visual effects.

Response: *Acknowledged*

- If any project or development proceeds, the developer should be aware of the Unmarked Human Burials and Human Skeletal Remains Law (Del. C. Title 7, Ch. 54).



Response: *The developer is aware of Delaware's Unmarked Human Burials and Human Skeletal Remains Law, and will proceed accordingly if an unknown burial site, or remains be encountered during the development process.*

- If there is federal involvement, in the form of licenses, permits, or funds, the federal agency, often through its client, is responsible for complying with Section 106 of the National Historic Preservation Act (36 CFR 800) and must consider their project's effects on any known or potential cultural or historic resources. For further information on the Section 106 process please review the Advisory Council on Historic Preservation's website at: www.achp.gov

Response: *Acknowledged.*

Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.

This concludes our response. Please feel free to contact us if you should have any additional questions.

Sincerely,

BECKER MORGAN GROUP, INC.

A handwritten signature in blue ink, appearing to read "Chad D. Carter".

Chad D. Carter, RLA
Associate

CDC/rlh